

Fig. 1. The settlement and its environment; cadastral map of the site.

## CHAPTER I

### THE SITE

Until recently a small fen could be seen at a distance of about 1.5 km. to the north of the charming village of Wijster, municipality of Beilen, in central Drente. The fen was surrounded by a low narrow sand ridge, the eastern side of which bordered upon the extreme north-west corner of the Noorder Es, a complex of fields belonging to Wijster. This north-western part of the *Es* is a separate ridge running approximately east-west which is cut by the road from Beilen to Wijster; to the south-east it is bordered by the Helveen depression; its eastern end runs into the Emelange, originally an undulating terrain. The name Emelange has been taken to mean "along the Eem".<sup>1</sup> Eem or Eeme is the ancient designation of the little rivulet, which in more recent times was called the Leek. It flows along the eastern edge of the Emelange, turns from there in north-western direction and joins the Beiler Stroom at a short distance west of Beilen.

In 1926 the site attracted the attention of archaeology for the first time. Finds made in 1925 and again in 1926 by Mr. G. Stel and his sons who lived in the vicinity, persuaded Professor Dr. A. E. van Giffen to begin an excavation. The finds appeared to come from a cemetery<sup>2</sup> situated immediately south of the fen, between it and a low swampy patch.

In those days Van Giffen could still feel entitled to call the area an oasis: the fen still held water, the terrain south of it was covered with heather and had up until then escaped reclamation because of its roughness; a row of four barrows marked the southern edge of the fen. At the present time, after years of sand-digging and re-allotment activities, much of the original relief of the whole area from the fen to the Emelange has been lost – the fen itself was filled in – and, though all this may have contributed greatly to economic progress, no one could be tempted into speaking any longer of an oasis.

Since its first excavation, the site has been known in archaeological circles under the name Looveen; strictly speaking, however, this is a misnomer. On most maps at least, the recent (1954, 1 : 35 000) topographic map among them, this name appears further to the west on the other side of the railroad track, but there is no consistency in this respect: *e.g.* the 1932 edition (1 : 50 000) of the topographic map gives the name at a short distance south of the fen. In view of this uncertainty, we prefer to call the site after the neighbouring village of Wijster.



The excavation of 1926, which was continued in 1931,<sup>3</sup> was primarily concerned with the cemetery south of the fen, only part of which is contemporaneous and connected with the settlement. Some of the other elements found are older, *e.g.* the cremation-barrows and the cremations clustering around the rectangular ditch in the centre (pp. 495–8), while the actual *Reihengräberfeld* belongs to a later period. A few trial trenches dug north-east of the fen, however, at once revealed the existence of the settlement. Van Giffen assumed that it dated back to the Early-Imperial period, and supposed it to fill the whole time covered by the cemetery. Lack of means prevented him from pursuing this line of research and thus the settlement was reserved for future excavators.

In 1953 Van Giffen and his collaborators A. Bohmers, W. Glasbergen and W. van Zeist, investigated six cremation-barrows on the other side of the Beilen-Wijster road on the Emelange.<sup>4</sup> These barrows, lying on the uppermost of two superimposed podsols and dating from about the middle of the Pre-Roman Iron Age, are strongly reminiscent of those south of the fen. Thirty years earlier, in 1923, Beijerinck had noticed the destruction of an urn-field and possibly some barrows immediately west of the area of the 1953 excavation; he had also investigated a cremation-barrow, this one having an excentric cremation containing an iron pin (*Kropfnadel*).<sup>5</sup>

The investigation in 1956 by Waterbolk<sup>6</sup> of a sunken hut of the six-post type, dated by a glass bowl to the later 4<sup>th</sup>/early 5<sup>th</sup> century A.D., proved the occupation of the Emelange during the Late-Roman period, when the settlement on the fen was also in full swing. The distance of more than 600 m. between hut and settlement makes it difficult to imagine that both were part of one and the same uninterrupted village, but the 1956 find at least hints at a great occupation density in this region at the end of the Roman period. The original theory that the hut bore witness to the Anglo-Saxon invasion has to be abandoned in the light of the results of the later excavation.

Another find of great importance, which may be mentioned in this connection, was discovered 3 km. to the north of our site, on the same side, *i.e.* on the southern bank, of the Beiler Stroom. We refer to the already famous gold-hoard from Beilen<sup>7</sup> found in 1955 consisting of five neckrings, a bracelet and twenty-three Late-Roman solidi, which must have been hidden at the transition from the 4<sup>th</sup> to the 5<sup>th</sup> century. Nobody will ever know if its original possessor lived in our settlement on the fen; there may well have been contemporaneous occupation closer to the find-spot of the hoard.

If we now consider the settlement site, we begin once more by observing that, apart from a few trial trenches at the other side, the part excavated between 1958 and 1961 lay east of the fen on the western extremity of the ridge which forms the north-west corner of the Wijster Noorder Es.

The contour-lines<sup>8</sup> (Fig. 3) show the central and south-eastern parts of the investigated area to be the highest: above 15.00 m. up to 15.90 m. + NAP at one spot



Fig. 2. The site and its immediate surroundings (as shown on topographical map 1 : 25.000 of 1899).

(squares C<sup>kl</sup>-37/8). It was on this higher ground that the earliest occupation was concentrated. Moreover, a narrow ridge reaching the 15.30 m. + NAP level is present north-east of the fen in squares C<sup>cp</sup>-11/9.

On all sides the terrain falls off rather steeply. There is a steep-sided depression at the extreme south-eastern corner (squares E<sup>cl</sup>-45/9), which must be later than the

period of occupation because some traces (*e.g.* house LXXV) are cut by its edge.

The sloping ground at the south-western end (squares B<sup>v</sup>C<sup>m</sup>-50/68) is an original feature; this part has been avoided by the settlement, and the cemetery was placed a few metres further west, again on a somewhat higher but narrow ridge.

Also the deep trough in squares D<sup>o</sup>y-18/28 reaching to below 13.50 m. + NAP, which for the major part was left unexcavated, constituted a primary feature as far as the settlement was concerned and was never built over. The section (Fig. 5, section G) showed a heavy podsol at the bottom, the humus layer of which had a peaty character. On top of this rested a silted layer of 5 to 10 cm. thickness demonstrating that this original surface had been waterlogged. The silted layer in its turn formed the basis of a layer of blown sand leached in appearance, on which a second humus layer, again of rather moist character, had developed. Notwithstanding this gradual filling-up process, the depression remained in being until after the site had become an *Es*, when, probably again by a gradual process, arable soil was ploughed in.

Even though the whole northern half of the excavated area sloped down to below 14.00 m. + NAP, it was inhabited during the later phases of the period of occupation. At one spot the situation found during the time of the settlement has changed afterwards: the part in squares C<sup>q</sup>D<sup>e</sup>-19/26, where almost no settlement traces were found. However, the few huts (4-6) and the well (4) still present make it clear that this part was also occupied. The explanation must be that, in the area concerned, the upper layer of about 30 cm. containing the more superficial traces was blown away.

Curiously enough, the relief of the same area had in a period preceding the settlement been subject to more drastic alterations. Immediately north of it, a section could be drawn showing a double or even triple podsol (Fig. 5, section C; Pl. 1-3:1).

On a heavy podsol at the base rests a layer of drift sand up to 60 cm. thick, part of it containing infiltration veins; of the second podsol on top of the drift sand only remnants of the iron-pan layer have remained intact, the rest has been replaced by a homogeneous layer of greyish-brown colour, which may be considered to represent old arable land. In this arable soil two phases are to be distinguished. A post-hole of the settlement seems to cut through it but this may only concern the lower (and earlier) part of the arable layer. The top of the layer has been shown by Van Zeist to be younger than the settlement (pp. 568-71). The arable land is again covered by drift sand, this time by a very thin and lightly podsolized layer. The thinness of the layer of recent arable soil at the top shows that this peripheral part of the *Es* must be fairly recent.

The slight rise in southern direction of the basal podsol and its decapitation at the edge of the eroded area indicate that originally the terrain here must have been higher than that further north, which later became the highest point and in recent

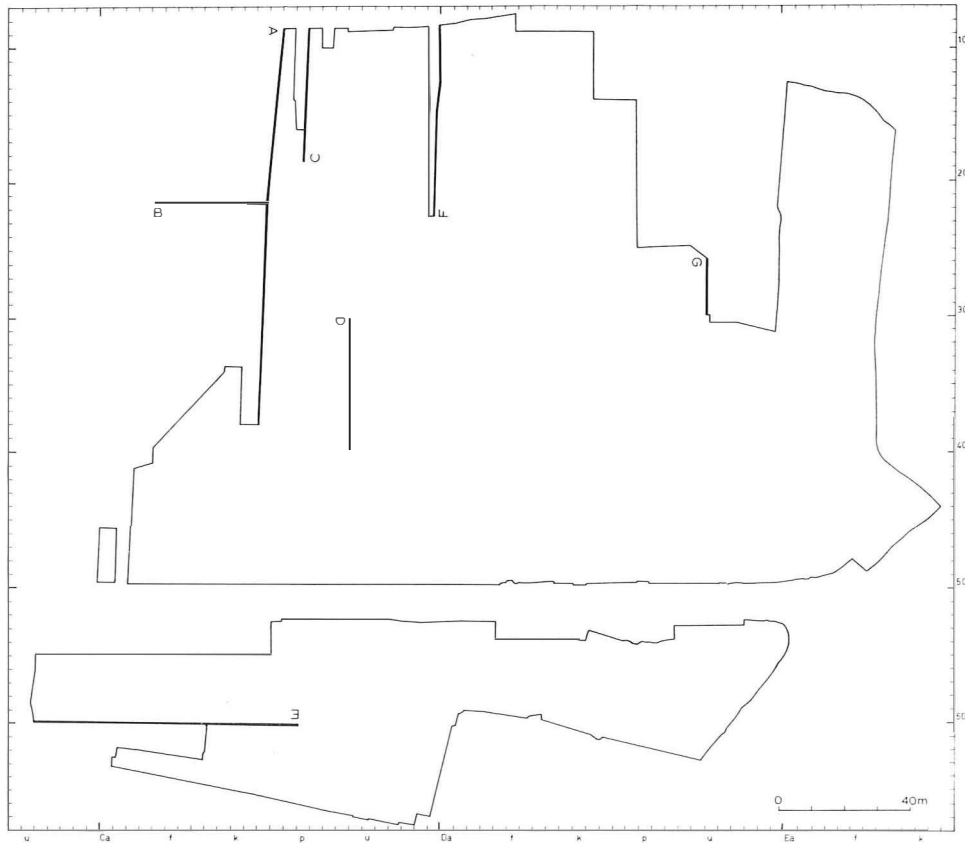
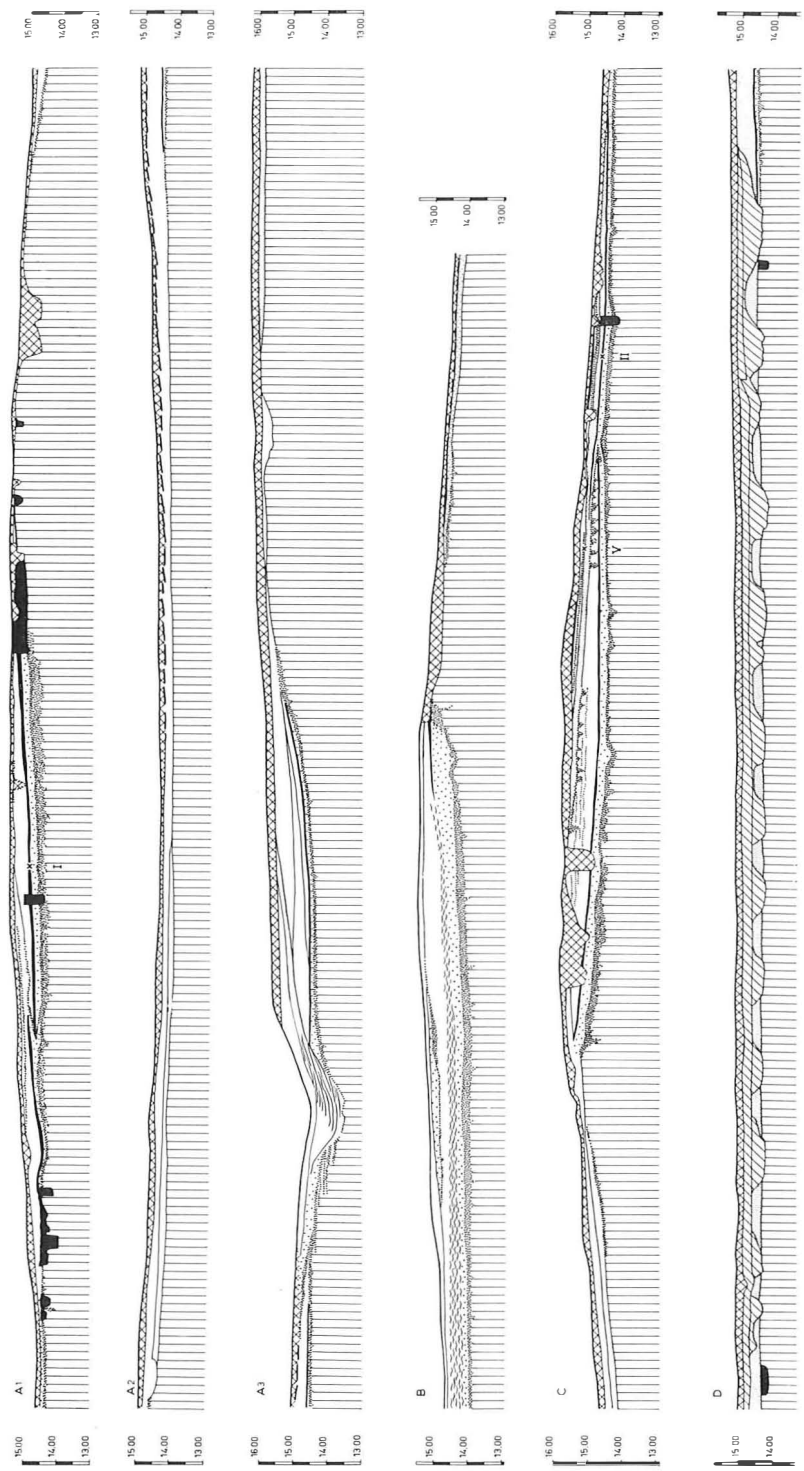


Fig. 4. Location of the sections.

times formed a high ridge.<sup>9</sup> It is possible that the drift sand layer on the first podsol is in fact the original filling of the present low-lying area. At any rate, this reversal of relief took place at a time preceding the occupation.<sup>10</sup> The second layer of drift sand resting on the old arable soil may represent the sand drift, with which the settlement traces were swept away. On the Emelange this second period of sand drift started only a few centuries ago.<sup>11</sup>

The break between the ridge north-east of the fen and the excessively high grounds in squares C<sup>io</sup>-36/40 is also secondary. This is shown in section B (Fig. 5) by the decapitation of the iron-pan at its eastern end. Consequently, originally this area (squares C<sup>kr</sup>-18/35) was also suitable for habitation, but here the settlement traces have almost completely disappeared. The western two-thirds of section B displays



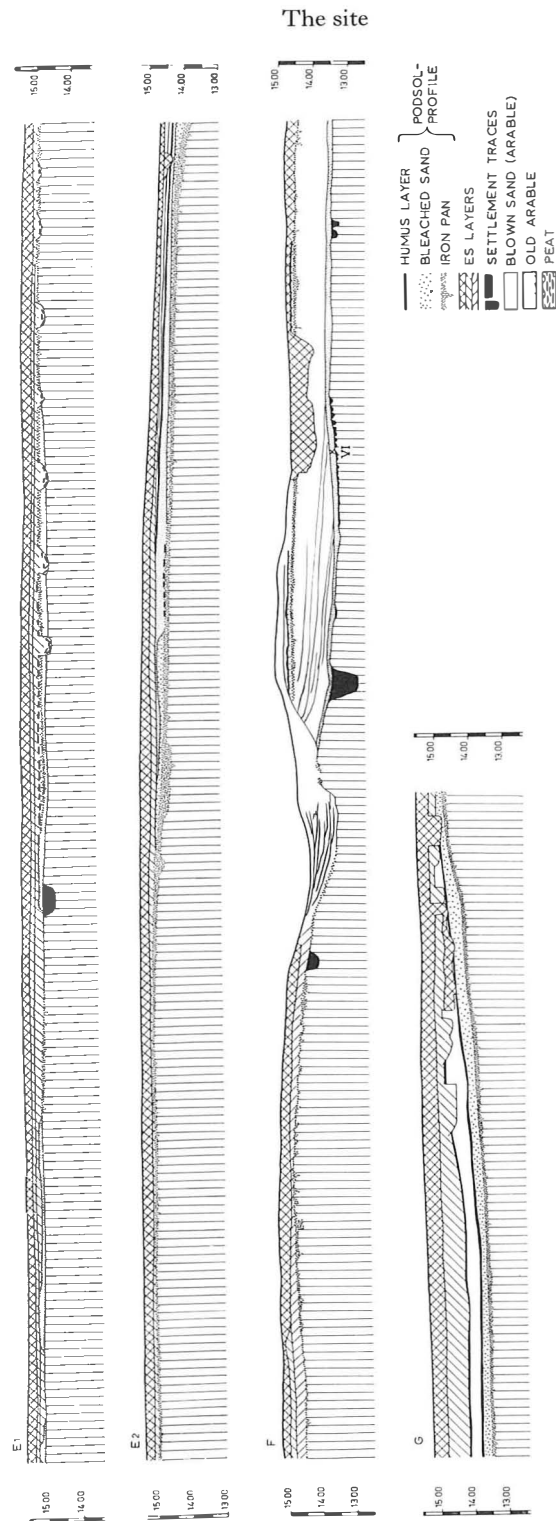


Fig. 5. The sections.

a thin peat layer, which continued into the fen, its marginal zone being covered by drift sand.

Settlement traces have also been destroyed by the sandy road in squares 51/2, recently made to serve the reallocation works.

According to Van Giffen, the water course drawn on older maps between the edge of the fen and the western border of the *Es* is a natural river and a tributary of the Leek.<sup>12</sup> Part of it was found during the excavation and it appeared to be definitely younger than the settlement: on its course from square D<sup>o</sup>-10 to C<sup>x</sup>-18 it cuts through several traces. Moreover, its straight course, also to be seen on the maps, makes one think of a ditch rather than a natural stream. It may have been intended to drain the waterlogged patch of ground south of the cemetery.

The settlement site underlies an *Es* and this situation has one unfortunate consequence: there is no good vertical stratigraphy. The original surface has been destroyed by ploughing; no house-floors or hearths have been preserved. This presents a special difficulty when trying to disentangle the different phases of occupation and establishing their relative chronology.

The thickness of the *Es*-layer varies: in general it fluctuates around 50 cm., occasionally it is even thicker (60 or even 70 cm.), but it can also be much less, especially in the peripheral north-western corner. At all points the *Es* consisted of two or more layers, the recent furrow being black, the middle zones grey or bluish-grey, while at the base a layer of brownish-grey arable could often be observed (Fig. 5). Underneath, at many places the bottom part of the iron-pan layer was still visible. Therefore the old surface, on which the settlement was erected, can be placed at about 20 cm. above the base of the *Es*, the greater thickness of the *Es*-layer being the result of sod-dunging.

A special study of the *Es*-layer has not been our aim. In conclusion, only one characteristic feature, the so-called reclamation trenches, has still to be mentioned. Trench systems in *Es*-layers, with minor local variations, occur commonly in Northern Holland and North-West Germany. At Wijster two systems were found. One type, encountered at many places in the excavated part of the *Es*, consisted of long narrow ditches, ca. 11 × 0.50 m., with rather steep sides and more or less flat bottom, which was furthermore characterized by rows of spade marks. The filling was mostly uniform and of a bluish-grey colour. These trenches, directed approximately north-south and closely spaced at distances of sometimes less than 50 cm., were arranged in bands with narrow intervals in between, the ditches of one band not always being in a direct line with those of the next. The original level from which the trenches were dug cannot now be established with precision because of subsequent ploughing. They appear some 20 to 30 cm. below the surface of the *Es* and must therefore be fairly recent. They often, though not always, reach down into the sandy subsoil where they do not penetrate very deeply, so that no serious harm

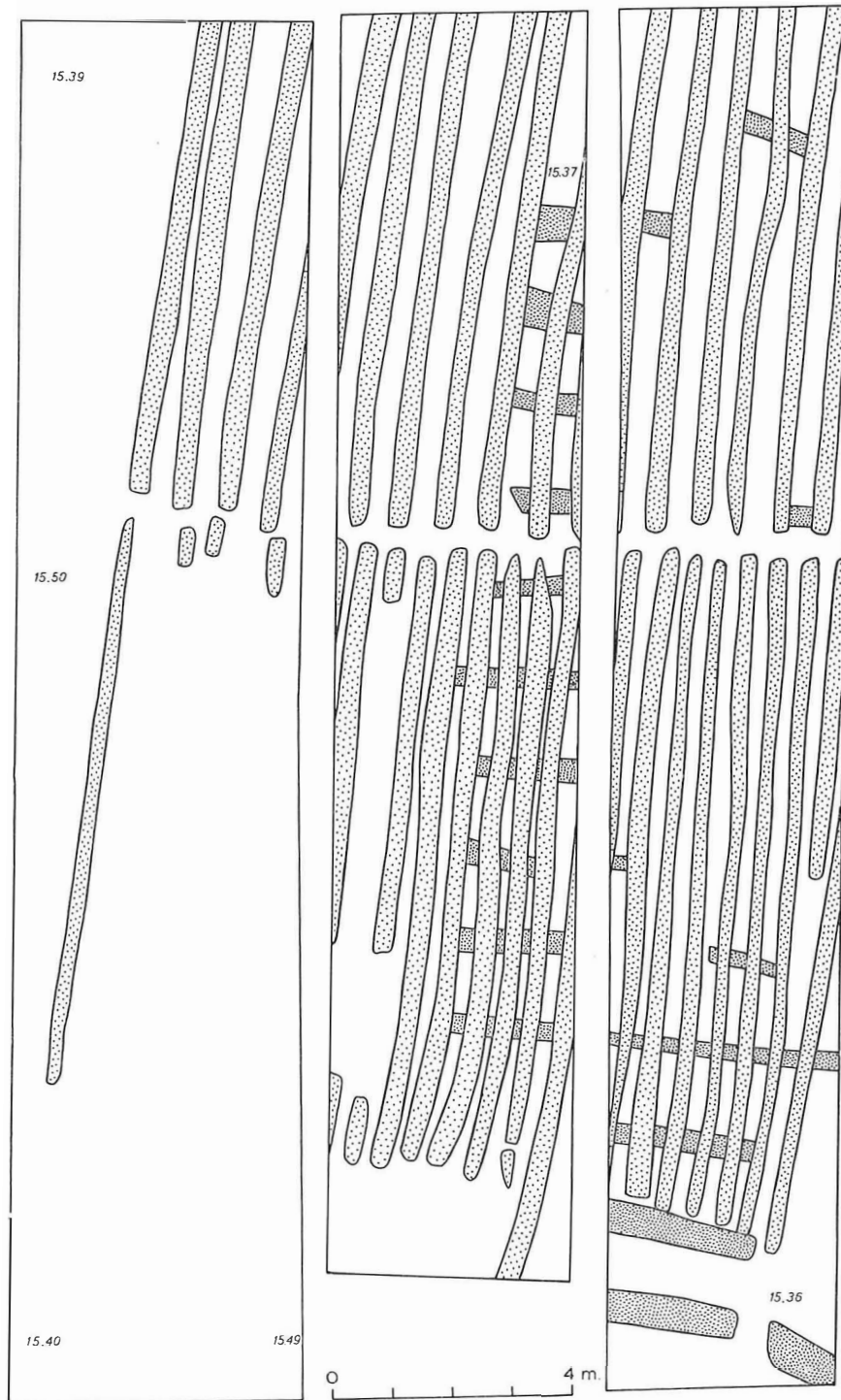


Fig. 6. Reclamation trenches (squares C<sup>qs</sup>-35/9).



has been done to the settlement traces (Fig. 5, section D). Only part of this system in squares C<sup>qs</sup>-35/9 has been drawn (Fig. 6). Here the north-south trenches are preceded by a somewhat more widely spaced system of east-west ones. Pl. 3:2 shows how the trenches followed the contour of the *Es*.

The other system has shorter ditches (length up to 7 m.) lying wider apart (intervals varying from 1 to 2.5 m.). The best examples have been observed in the south-west corner of the excavated area (squares C<sup>fm</sup>-56/60). These trenches with roughly north-south direction are again arranged in bands; in the intervals between the bands east-west ditches are met. On the bottom a 10 cm. thick layer of vegetable mould is found in which individual sods can be discerned.

Section E (Fig. 5) is of special interest in this connection. At its western end we see a brownish-grey old arable with a fragmentary, in some places even complete podsol, underneath. On the old arable, a vegetation horizon had developed showing that it had lain fallow for some time before the site came to be used as an *Es*; it was also covered with drift arable, as appears at the extreme western end. Here and there plough marks had been preserved at the base of the old arable. Its exact date is unknown, but it is probable that the patches of brownish arable observed at many places beneath the *Es* proper all date from the same period. Moreover, the plough marks cutting across the settlement traces and preserved in relatively low-lying parts throughout the excavated area probably have to be attributed to this first stage of cultivation after the settlement was left. We do not know, however, how much time elapsed in between.

Slightly further east in section E, the old arable with its vegetation horizon returns and here also six trenches of the system under discussion can be seen in section. It is perfectly clear that they were dug from the vegetation horizon on the old arable and that the sods thrown to the bottom of the trenches were stripped from this original surface. Apart from the vegetable mould on the bottom, the trenches are filled with material resembling the old arable, which it probably was, while higher up some of the *Es* material has sunk in.

On the whole, our trenches show a general resemblance to those found by Klungel in South-East Groningen.<sup>13</sup> In this region, as at Wijster and elsewhere in Drente, a cultivation phase represented by a greyish layer underneath the *Es* appears to precede the formation of the *Es* proper, which is characterized by the accumulation of dung mixed with sods. The trenches were used, according to Klungel, to revive these exhausted fields, which were also partially lying fallow. Without joining in the heated discussion regarding the function of the trenches, we must say that Klungel's explanation would also fit the facts at Wijster.

The trench system first described is likewise present in section E, at its eastern end, but, unfortunately, its stratigraphic position is not completely clear, though there can be no doubt that it is younger than the widely spaced trenches.

## NOTES

- <sup>1</sup> Waterbolk 1957, 2.
- <sup>2</sup> Van Giffen 1927; 1932.
- <sup>3</sup> Van Giffen 1932.
- <sup>4</sup> Van Giffen 1954 (2).
- <sup>5</sup> Beijerinck 1924.
- <sup>6</sup> Waterbolk 1957.
- <sup>7</sup> Waterbolk & Glasbergen 1955; Zadoks 1955.
- <sup>8</sup> The contour-lines are those of the excavation level: some 30 cm. will have to be added to obtain the original ground level.
- <sup>9</sup> This does not appear on the contour map because the contour lines are those of the excavation level, which lay beneath the basal podsol.
- <sup>10</sup> On the Emelange a comparable drift sand deposit is dated to the Late-Bronze or Early-Iron Age; Van Giffen 1954 (2).
- <sup>11</sup> Waterbolk 1957, 3.
- <sup>12</sup> Van Giffen 1954 (2), 161.
- <sup>13</sup> Klungel 1963. Cf. also Zoller 1958; Waterbolk 1965.

## CHAPTER II

### THE EXCAVATION

On 21 August 1958, the Biologisch-Archaeologisch Instituut (BAI) of the State University at Groningen, was informed by the late Dr. W. Beijerinck, who had received this information from Mr. G. Stel, a local inhabitant, that a dragline used in levelling slightly accidented terrain on the border of the well-known fen about 1.5 km. north of Wijster had turned up a wooden well. The levelling was part of the work connected with the re-allotment project "Spier-Wijster".

Professor Dr. H. T. Waterbolk, Director of the Institute, and Mr. H. Praamstra, draughtsman of the Institute, visited the site the following day. The workmen present told them that three wells had been discovered so far. These had not been destroyed, but covered over again with soil. The approximate find-spot was marked by a few oak planks, which had been turned up by the dragline; among them was a heavy oak beam which afterwards proved to be one of the four corner-posts of our well 2. Immediately to the east of the area already levelled, a low rise had been cut into. The vertical section showed a double podsol with three postholes and two pits cut down from the upper one. Wells, pits and post-holes undeniably represented a settlement, which might be supposed to have some connection with the nearby cemetery discovered thirty years earlier (*vide* p. 30) and this supplied sufficient reason for closer investigation.

The excavation was carried out in two campaigns, the first from 1.IX.1958 to 3.VII.1959 with an interruption from 7.I. to 26.II.1959 because of the wintery weather conditions, the second from 13.III. to 16.IX.1961. In the course of the excavation a total of 363 *are* (36300 square meters = *ca.* 9 acres) was investigated. A draughtsman, Mr. H. Praamstra, an assistant draughtsman, Mr. W. C. J. Mathlener, two technicians, Messrs. J. Lanting and A. Meijer, all members of the Institute's staff were present daily during the first campaign; a draughtsman, Mr. G. Delger, and a technician, Mr. A. Meijer, during the second. The scientific direction was in the hands of Professor Waterbolk. The writer, then an undergraduate-assistant at the Institute, assisted in the field-work during the first part of the excavation, working with his colleague Miss A. T. Clason; during the second campaign, having taken his degree, he was entrusted with the daily conduct of affairs in his function of scientific officer.

In the course of the first weeks, two of the three wells mentioned by the workmen were rediscovered (our nos. 1 and 2), the third one probably was an exaggeration. In

the meantime, a few trenches had been dug immediately east of the area already levelled, and here in squares O<sup>io</sup>-15/17 the trench belonging to Van Giffen's 1926 excavation (and even one of his measuring pegs) was refound.

At an early stage, work also began in squares C<sup>ab</sup>-46/50 in the corner lying south-east of the fen and north of the newly-made sandy track which runs east-west in squares 51/2 and separates the northern and southern parts of the excavation.

The excavation expanded south and east of these two starting points until at the end of the first campaign an area of 195 *are* north of the sand road between the fen and the D<sup>o</sup>/D<sup>p</sup> line had been explored. The strips at the eastern and southern sides totalling 168 *are* were added in 1961.

At the beginning of the 1961 excavation a few trial trenches were cut west of the fen, but no settlement traces or any traces belonging to the cemetery came to light.

The size of the excavation has been determined not so much by the extent of the settlement itself but by the time and money available. The settlement's boundaries have been reached at the south-western side and apparently at the northern side also. It expanded further to the north-west, east and south, but at these sides its limits have not been determined.

At first the trenches running north-south were made six metres wide. Soon, however, it became clear that in order to survey the often extremely intricate traces properly, it was absolutely vital that the trenches' width be increased to at least twelve metres. This could, of course, only be done at the cost of the vertical sections; in this case, these were readily sacrificed because as a result of the subsequent ploughing no useful stratigraphy was to be expected (*vide* p. 36). So almost the whole area north of the sandy road has been searched by means of broad trenches running north-south, while in the southern strip they were laid out east-west, parallel to the road itself.

At the end of April and the beginning of May 1961, Dr. A. Bohmers, BAI, investigated a concentration of Late-Palaeolithic Hamburgian artefacts found in squares C<sup>jm</sup>-62/5. The results of this "excavation within the excavation" will be published separately by Bohmers.

The disturbed top soil, the *Es*-layer with an average thickness of 50 cm., was removed by means of drag-lines and later on by a bull-dozer. The excavation levels were exposed by shovelling, the number of workmen averaging sixteen during the first and five during the second campaign. Usually two levels of each trench were charted (scale 1 : 40).

The last months of 1958 were damp and foggy, weather which proved beneficial to the work on the excavation, but not so healthy for the excavators. During the spring and summer of 1959 and 1961, the dry, windy weather brought dust-storms which greatly hampered operations, as the traces became blurred almost as soon as they were uncovered. Spraying the surface was an inadequate countermeasure.

The excavation was financed from 1.IX to 14.XII.1958 by the *Cultuurtechnische Dienst* (CD), which carried out the re-allotment, and from 15.XII.1958 to 3.VII.1959 by the *Rijksdienst voor de Aanvullend Civieltechnische Werken* (ACW); these authorities paid the wages of the workmen, who would otherwise have been unemployed. The Institute paid its own personnel and the additional costs. In 1961 this labour reserve was exhausted, but now the University granted the Institute a special sum for this excavation. The administration of the wages of the workmen rested with the *Koninklijke Nederlandsche Heide-Maatschappij* (KNHM). During the second campaign, the supervision of the labourers was in the hands of the Institute's own technicians, whereas previously it had been part of the task of the KNHM.

The digging that went on at the eastern edge of the fen near Wijster aroused such enormous interest from many quarters that it would be impossible to name all our visitors. It was a great honour when Her Majesty, the Queen, announced her wish to visit the excavation on 12.XII.1958. To our disappointment she was prevented from carrying out her intention owing to the fall of the Government on the night before. However, on the occasion of the Queen's visit to the University of Groningen at 25.VI.1959 Professor Waterbolk was able to give Her Majesty information concerning the progress of the excavation. On 19.IV.1961 Mr. H. Addens, Secretary of Groningen University, honoured us with a visit. Also the directors of the CD, Mr. J. Verkoren, the ACW district Noord, Mr. J. F. van Mansvelt and the *Provinciale Waterstaat van Drente*, Mr. W. J. C. van Veelen showed their interest. The contacts with the *Stichting voor Bodemkartering, afdeling Drente* were encouraging and fruitful. Apart from the staff members of the Institute, the excavation drew the attention of many Dutch and foreign colleagues, whose valuable advice helped greatly in the elucidation of difficult problems. With pleasure we remember the visits of the following scholars: Dr. C. Barrière Flavy, France; Mr. G. Beex, Eindhoven; Prof. Dr. A. E. van Giffen, Groningen; Prof. Dr. W. Glasbergen, Amsterdam; Dr. P. Glazema, Amersfoort; Dr. W. Haarnagel, Germany; Dr. H. Hayen, Germany; Dr. P. Jowel, England; Dr. S. Kiestra, Groningen; Prof. Dr. G. Kossack, Germany; Dr. J. V. S. Megaw, Australia; Dr. P. J. R. Modderman, Amersfoort; Dr. H. Roosens, Belgium; Dr. P. Schmid, Germany; Mr. J. Verheyleweghen, Belgium; Dr. Watts, Ireland; Mr. D. Zoller, Germany. On 2.XII.1958 we received the members of the *Sachse-symposium*; on 20.III.1959 the *Niedersächsisches Landesinstitut für Marschen- und Wurtenforschung*; on 24.III.1959 the *Comité Exécutif de l'Union Internationale des Sciences Préhistoriques et Protohistoriques*; on 10.VII.1961 the members of the *Nordsee Kolloquium*. The *Drents Praehistorische Vereniging* came to visit us on 27.IX.1958; the *Nederlandse Jeugdbond ter Bestudering van de Geschiedenis* on 26.III.1959 and 4.IV.1961. A most charming event was the excursion of the Professors' Ladies on 26.V.1961. The excavation was furthermore shown to pupils of the *Rijks H.B.S.* (Grammar school) of Assen and the *Heymanslyceum* at Groningen, and to the archaeological students of the Universities of Groningen, Utrecht, Amsterdam and Münster.

# THE SETTLEMENT TRACES

(CHAPTERS III-VII)

## CHAPTER III

### PALISADE TRENCHES

At this site, as with most settlements of the same period known from the sandy soils of Northern Holland, long narrow trenches, marked out against the virgin soil by their darker filling, provide the most conspicuous features.

They represent the boundaries of which, according to Tacitus, the Germans were so fond; often post-holes occurring at the bottom reveal that they were foundation-trenches holding a palisade or fence.

On plan I, all trenches found have been noted. The picture is obviously incomplete. Traces of trenches are missing especially in the eroded area (squares C<sup>ou</sup>-19/34; C<sup>u</sup>D<sup>d</sup>-19/27); the modern road present in squares 5 1/2 played havoc with them. Then there are also many loose ends which can only be followed for a short distance, but lead us nowhere. The main lines, however, seem to have been preserved and a number of complexes showing inner coherence and differing in orientation are to be distinguished.

A few general observations are valid for all trenches: their width seldom exceeds 30 cm.; their depth, even within the same trench, varies considerably from a few centimetres to sometimes more than 4 decimetres, and this is the reason for the gaps shown even in the best preserved trenches; the vertical section is V-shaped or trapezoidal, more or less rounded at the bottom.

We will now consider the different complexes separately.

A. In the south-east corner (squares C<sup>u</sup>D<sup>x</sup>-46/67) a rectangular enclosure of at least 50 × 120 m. stands out with its long axis pointing NE-SW (blue on plan I). The corners of the rectangle are sometimes square, sometimes rounded. There are some traces of a subdivision by transverse trenches. The surrounding ditches cannot all have been contemporaneous but point to successive alterations, but as the complex is insufficiently known, it is impossible to follow these in detail.

Post-holes in the trenches could only be observed at two places (C<sup>uv</sup>-66/7; D<sup>u</sup>-46/7): they are heavy and rectangular and reach 20-30 cm. below the bottom.

B. Another rectangular enclosure, this one of *ca.*  $40 \times 70$  m. and formed by a single trench, is seen in squares C<sup>q</sup>D<sup>b</sup>-42/59 (blue on plan I).

Its long axis runs N-S. No reliable post-holes were found in the trench.

C. Between A and B in squares C<sup>w</sup>D<sup>w</sup>-39/50 a number of trenches is met that do not constitute a recognizable pattern (blue on plan I). There is no fixed orientation; also in this respect it seems to be an intermediate form between A and B. Here and there postholes appear in the trenches (*e.g.* squares D<sup>eh</sup>-39/41).

D. The NNE-SSW orientation is characteristic for this complex. It occurs only in the south-eastern part of the excavated area (squares C<sup>l</sup>E<sup>g</sup>-27/62; red on plan I).

The complex, which is very incomplete, falls into a number of isolated square or rectangular enclosures of different dimensions: one in squares D<sup>ep</sup>-27/38 (approximately square? width *ca.* 39 m.); a small one in squares E<sup>ch</sup>-29/36 (rectangular? width *ca.* 25 m.); a large block in the centre (squares C<sup>u</sup>D<sup>o</sup>-41/64) showing traces of a development in three phases and of an interior division by transverse ditches (greatest possible size *ca.*  $65 \times 92$  m.); a smaller rectangular one east of it (squares D<sup>n</sup>E<sup>g</sup>-41/55; width *ca.* 50 m.), and fragments of two other ones in the extreme south-west and south-east corners of the excavated area. A few trenches having approximately the same direction in squares D<sup>s</sup>E<sup>g</sup>-32/45 cannot be interpreted with certainty; perhaps it was a rectangular enclosure.

It must be granted that this complex consisting of loose elements lacks a clear inner coherence. It remains uncertain whether all elements are strictly contemporaneous. There is indeed some overlapping (especially squares C<sup>uy</sup>-61/2) pointing to the contrary, but on the whole the separate elements avoid each other, while also the conformity of orientation makes it probable that the individual elements were not separated by a great lapse of time.

In general, the trenches are single; one does not see traces of comprehensive alterations and therefore one has to conclude that the fences represented by the trenches of this complex were used for a rather limited period.

Practically no post-holes were found: plank-holes in squares C<sup>wx</sup>-43/50, and tiny stake-holes in C<sup>ot</sup>-61.

E. This complex is not only large, present throughout the excavated area and also continuing outside it, but it is furthermore characterized by a high degree of inner coherence (green on plan I). Not all the palisades attributed to it can have been standing at the same moment. The complex betrays an evolution through a number of successive stages which may be followed, if not in all the details, at least in its main lines. Our view on this growth are expressed by plan II.

One of the nuclei of the whole complex is the roughly square enclosure directed



NNW–SSE with sides of somewhat more than 100 m., in squares CjDr–27/59 (green on plan II).

On three sides (S, W, N) it has multiple trenches, which need not always have been contemporaneous. Especially at the southern and western side it is probable that the trenches are of different dates and represent successive boundaries. At the northern side the situation is not as clear: here the multiple trenches seem to be contemporaneous; an 8 m. broad gap bordered by transverse trenches almost exactly in the middle of this side (squares CzDb–30/3 looks like an entrance).

The enclosed area was divided into three strips of almost equal width by two transverse ditches. The function of the trench running N–S in squares Dj–41/56 is obscure. Perhaps it indicates the original eastern boundary. In that case, the enclosure would have originally had a rectangular form.

In the north-western and north-eastern parts of the excavated area the same NNW–SSE orientation is found (squares Cjo–8/17; CPDd–10/8; Ech–14/31; also green on plan II). The trenches concerned belonged to smaller enclosures and it may be assumed that at least some of these were contemporaneous with the larger square one to the south. This seems to be especially probable for the rectangular one in the middle (squares CPDd–10/8).

At first, there was no connection between the different elements. After some time, the large enclosure extended its boundaries to the north. First a strip of 30 m. only slightly narrower than the three original ones, was annexed (brown on plan II). Later on, the large enclosure was extended yet again in northern direction and it now encroached upon the area where the small rectangular yard had lain (squares CPDa–10/8; green on map II). In the meantime, this one had been superseded by another even smaller square (?) enclosure (squares CPy–10/8), and with this the large enclosure came into contact: it was, so to speak, included in the larger unit. This fusion took place in several stages which cannot be retraced in detail (yellow on plan II).

Probably shortly after this the square northern yard, now a part of the larger unit, expanded to the east (black on plan II), and its eastern boundaries now again coincided with those of the original rectangular one. It would seem that at this stage there was an entrance in squares CyDa–15/6, but unfortunately the ditches here are rather fragmentary and the situation is therefore not very clear. This last northern yard already belongs to the second stage in the evolution of the whole complex.

The relation between the constantly growing large enclosure and the smaller ones in squares Cjo–8/17 and Ech–14/31 is impossible to establish, because too little is known about these smaller units. Regarding the yard in squares Cjo–8/17, which on plan II is coloured green in view of its orientation, it is even more probable that it did not belong to the earliest stage of the complex represented by this colour, but was added only after the great alteration took place and should therefore be coloured black.

When the originally square enclosure had grown so big that it filled the whole

central part of the excavated area, some important alterations were effected. These meant, in fact, a partial replanning of the settlement which now, for the first time beyond all doubt, can be seen to be a coherent whole with a lay-out planned and executed in one operation (black on plan II).

The northern, eastern and southern boundaries of the existing central part were preserved with only minor changes. It is therefore clear that the black system was not a completely new invention unrelated to the preceding phase, but the result of a continuous evolution.

At the western side the NNE–SSW fence was given up and replaced by a new one running N–S, which started at the original SW corner. To the west of the new trench a strip was fenced in which is exactly half the width of the modified original enclosure. Between both, a street of about 7 m. wide was laid out.

Unfortunately, only the southern half of the added western strip has been preserved. So it is difficult to see whether the interior was divided by means of transverse trenches. The E–W ditch in squares C<sup>jz</sup>–39/40 seems to belong to a later stage when the southern part was extended slightly to the west.

Obviously the new western strip ran up towards the trenches in squares C<sup>jo</sup>–8/17 and it is therefore probable that these belong to this later stage of after the great alteration, as already suggested above.

New parts were also added at the southern and south-eastern sides, again with streets, 6 to 7 m. broad running in between. Only a part of these has been discovered and nothing can be said about their extent and shape. The south-eastern one was apparently subdivided into narrow yards (width 22 m.).

No big entrances were found, unless the configuration in squares C<sup>yz</sup>–60/1 can be considered as such. A small entrance of the so-called cattle-sluice type is visible in squares D<sup>m</sup>–19/20, and another small gate may be recognized in squares C<sup>t</sup>–10/1.

That the black pattern was also subject to minor alterations (grey on plan II) after it was first laid out, can be seen at several places, the most interesting instance being the already-mentioned alteration of the southern part of the western strip.

A striking feature of the black pattern is the difference in orientation between the northern and southern parts. The shifting of its axis from the NNW–SSE direction of the preceding phase to N–S confined itself almost entirely to the southern half below the 33/4 line. The position of the northern part was more or less fixed by the fen and the deep depression in squares D<sup>oy</sup>–18/28, which was unsuitable for habitation (*cf.* Fig. 5, section G). There was room for expansion only at the southern and south-eastern sides. It may be assumed that here the conditions of the terrain also influenced the shape and orientation of the settlement. We are, however, ill-informed about these matters, because only part of the settlement has been excavated.

In the case of the last complex, it is absolutely certain that fences had stood in the trenches. Over long stretches, especially in the western and central parts, continuous

rows of closely spaced, mainly rectangular post-(or plank-?)holes are found at the bottom of the ditches. These holes reach a few centimetres below the bottom. They indicate a fence consisting of vertical planks or posts standing close together and probably joined by horizontal boards. For the parts where the post-holes are missing, one must assume that there the planks had not been rammed into the subsoil below the bottom of the trench.

Another type of fence was used in the south-west corner (squares C<sup>iu</sup>-60/2), where rows of tiny stake-holes representing a wattle construction were encountered.

In contrast, the other complexes are characterized by an almost complete absence of post-holes. It is true that a few can be seen in all of them, but never on such a scale as in the trenches of complex E. This is not due to faulty observation during the excavation, for this fact had already attracted our attention and a keen look-out was kept (perhaps it was sometimes too keen) for anything even remotely resembling post-holes in the ditches. Perhaps a wider use was made of the hurdled fence. The thin vertical stakes of such a light construction leave only tiny holes, which are difficult to recognize on the bottom of a trench. It is remarkable that such holes were only to be seen where trenches were not to be found (squares C<sup>iu</sup>-60/2).

On the other hand a few larger holes were found, so that the possibility that heavier fences were used cannot be excluded. In that case, apparently it was not usual to ram the posts into the subsoil. However, the traces of posts or stakes in the trenches of complexes A to D are so rare that the question arises whether some of these ditches had held fences at all.

The relative chronology of the complexes is probably the same as the order in which they were here described. At least, it would seem so from the not always completely convincing stratigraphical data available (overlappings).

Complex E is younger than D. In this respect the stratigraphical data are conclusive: E cuts D six times (squares D<sup>f</sup>-31, D<sup>fg</sup>-29, D<sup>l</sup>-28, D<sup>m</sup>-55, D<sup>n</sup>-28, D<sup>r</sup>-41/2, D<sup>s</sup>-42, E<sup>f</sup>-44). Against this, the two cases, in which the order seemed to be reversed (squares D<sup>k</sup>-28, D<sup>m</sup>-28), carry no weight.

E is also younger than C (squares D<sup>q</sup>-44, D<sup>r</sup>-41/2, D<sup>s</sup>-43, D<sup>s</sup>-47), than B (squares C<sup>r</sup>-44, C<sup>r</sup>-49, C<sup>x</sup>-60) and younger than A (squares D<sup>a</sup>-60, D<sup>j</sup>-55, D<sup>k</sup>-54/5, D<sup>k</sup>-55, D<sup>k</sup>-56, D<sup>p</sup>-59, D<sup>p</sup>-60, D<sup>t</sup>-57; contradicting D<sup>e</sup>-56, D<sup>r</sup>-48, D<sup>s</sup>-46).

D is younger than C (squares D<sup>g</sup>-42, D<sup>q</sup>-43, D<sup>t</sup>-42, D<sup>t</sup>-44; contradicting: D<sup>g</sup>-50).

The relation between C and B cannot be established; nothing contradicts their being contemporaneous.

C is younger than A (square D<sup>pq</sup>-48).

The stratigraphical data for the relation between D and A are contradictory: twice D/A, as expected (squares D<sup>k</sup>-55, D<sup>o</sup>-49), against three times A/D (squares C<sup>xy</sup>-62, C<sup>xy</sup>-63, D<sup>st</sup>-58).

Thus, on the whole, the stratigraphical evidence is clearly in favour of the relative chronology suggested above.

## CHAPTER IV

### PRINCIPAL BUILDINGS

Among the many traces, a total number of 86 ground-plans stands out, conspicuous by their elaborateness and regularity. For the most part they represent large farm-buildings, combining the actual house or dwelling with the byre. A small number are much shorter structures. These, or at least some of them, may not be principal buildings or houses in the strict sense, but outhouses, *e.g.* barns. However, in regularity, in some constructional details, and mostly also in their width, they resemble the longhouses and it is for this reason that they are incorporated in the same category.

Not all 86 ground-plans are complete. Some have only been partially excavated: V, XII, XIII, XXIX, XXX, XXXI, XXXII, XXXV, LXIII, LXVI, LXVII, LXVIII, LXIX, LXXIII, LXXVII, LXXVIII. Considerable portions of others are missing owing to fortuitous circumstances of preservation: II, IV, VI, IX, XI, XXXVII, XLVIII, LV, LVI, LXII, LXIV, LXV, LXXII, LXXX, LXXXII, LXXXIII. The others are complete but this does not mean that they are all neat and clear-cut plans, for most of them have smaller or greater blemishes and imperfections.

The house-plans presented here are the result of a prolonged and careful analysis of the traces carried out in the first instance in the field, and afterwards of the drawings at home. They emerged from many attempts at interpretation, checked, repeatedly corrected and weighed up against one another. However, it will be readily granted that subjectivity often played an important part in the disentanglement of the post-holes and other traces belonging to one and the same ground-plan, especially when two or more farms overlie each other (Pl. 4). This could hardly be avoided because, owing to the lack of real stratigraphy, an objective standard did not exist by which one could make a choice in doubtful cases. In general, a difference or similarity in the filling of the post-holes was of little help. More often the shape and occasionally the depth of the holes constituted a criterion. Also, some frequently recurring features could be used as guides, such as *e.g.* the fact that the double wall-posts, the roof-posts and the entrances in the long sides come in pairs, that the door-posts are usually slightly recessed and conspicuous by their size and sometimes their depth.

In several cases, the results attained do not satisfy us at all. Some of our plans, incomplete and sorted out of a tangle of post-holes as they are, are simply unreliable:

*e.g.* LV, LVI, LXII, LXIII, LXV, LXVIII, LXIX, LXXXI. These should be used with caution. With several others, different selections regarding sometimes important details, as *e.g.* the roof-posts, double-posts, and entrances, remain possible.

On the other hand, as far as the more important details are concerned, the plan of some houses could be established with certainty. Using these complete and reliable plans as a starting point, we were able to get an idea of the different sorts of buildings present at the site. The knowledge so gained came in very useful when disentangling other more intricate or confused situations.

Notwithstanding the obscurities of many individual plans, we feel convinced that the group of house-plans as a whole constitutes material sufficiently reliable to build upon.

To spare the reader, and also the writer, long and tiresome descriptions, we have tried to say as much as possible in the illustrations. The Figures 7 to 36 give each plan separately. In these drawings, black represents the traces we consider certain; white holes could perhaps belong to the plans; hatching indicates repairs; secondary annexes are marked by stippling; x marks the place, where one would expect to find a hole but where the hole may have been erased by later traces; entrances without entrance-pits are indicated by an arrow. To each plan a figure showing the depth of the post-holes below excavation level has been added. In these figures the intervals between the holes have been reduced, but the arrangement of the post-holes was maintained as far as possible. In the diagrams giving the measurements of the houses, a triangle marks the place of the entrances, dots indicate the roof-post intervals with double-posts; reliable measurements are given in black or stippling (secondary annexes), unreliable measurements in white.

Our reconstructions of the house-plans can be checked on the complete excavation plan scale 1 : 200 (plan X).

The Wijster house-plans can be divided into a number of different types. The first distinction to be made is that between long-houses, with a length of more than twice the width, and short-houses. The long-houses, constituting by far the larger group among the Wijster plans, all belong to the family of the so-called *dreischiffige Hallenhäuser*. Both groups have to be subdivided further.

#### A. LONG-HOUSES

At our site this family is represented by the following plans: II–IV, VI, VIII, XII–XXII, XXVI, XXVIII–XXXIII, XXXV–XLIX, LII, LIV–LXVI, LXVIII–LXXII, LXXIV–LXXVI, LXXIX–LXXXIII, LXXXV; the very incomplete plans V, IX, LXVII, LXXIII, LXXVII, LXXVIII should probably be included here too. This group comprises 72 out of the 86 houses.

When subdividing this large group further, we start from the manner in which the roof was supported because the principle chosen for the construction of the roof

was a major architectural decision. In some houses, two continuous rows of mostly closely spaced roof-posts are to be found stretching over the whole length of the building and dividing the interior into three aisles. In other cases, the two rows of roof-posts have been maintained in part of the house but they do not cover the whole length and are no longer continuous. In the long walls of these latter houses, we find double-posts always standing in pairs opposite each other and always in the part of the house where there are few or no roof-posts.

It goes without saying that the normal single wall-post also played its part in carrying the weight of the roof, but in this respect there is no difference between the various types of the Wijster plans.

### **AI. Long-houses with Roof-posts only**

Houses without double wall-posts, where the two lines of roof-posts were the principal roof supporting elements, are few and far between on this site. Only seven complete plans answering this definition have been found: XIV, XVI, XVII, XX, LXX, LXXIX, LXXXV. Among the incomplete ones, IV, IX, XXXVII, LXVI and LXXX may be judged with some confidence to fall into this category. XL seems to have had two continuous rows of roof-posts (the 4<sup>th</sup><sup>1</sup> pair must have been lost in the tangle of traces), and for this reason the house is included in this group; however, the long narrow wall-holes in its western part suggest double-posts and therefore the inclusion of XL is not completely justified.

#### **A1a. LONG-HOUSES WITH RHYTHMICAL DISPOSITION OF THE ROOF-POSTS** (Fig. 7, 8)

The type is represented by only one complete plan: XIV.

This is a broad three-aisled house divided in the breadth into two approximately equal parts by the two entrances just to the right of the 3<sup>rd</sup> pair of roof-posts. The door-posts themselves have not all been preserved, but the place of the entrances is absolutely certain. The eastern part is the byre, and consequently the western section must be the living area. The interior is divided lengthways by the roof-posts into a wide gangway (4 m.) and two narrow side-aisles.

There is a definite rhythm in the disposition of the roof-posts. Whereas in the byre the pairs stand at narrow, nearly equal intervals, the interval on the spot where the entrances were placed, between the 3<sup>rd</sup> and 4<sup>th</sup> pair, becomes a little larger. The most striking detail, however, is the double interval between the 2<sup>nd</sup> and 3<sup>rd</sup> pair in the living quarters, just to the left of the entrances. On the whole, the roof-posts go deeper into the ground than the other posts.

<sup>1</sup> The pairs of roof-posts are counted from west to east.

In the byre, the single post-holes set between each roof-post and the outer wall represent the dividing walls of double cattle stalls, 1.50–2.00 m. wide. No indication of an entrance in the short wall of the byre has been found.

No traces could be observed of a partition wall between living-part and byre. These may have been erased by the later houses XV and XVI.

A secondary characteristic of plan XIV are closely spaced oval holes for the wall-posts. The corners of the house were squared off: in three cases, one can still see how at the corners two post-holes were planted against each other at a right angle.

Primarily on account of their oval post-holes, we are inclined to see a connection between the fragmentary plans IV, IX, XXXVII, and perhaps also LXVI, and XIV. As far as the remaining features are concerned, there is insufficient evidence to prove that such an association exists. One encounters narrow side-aisles and rather wide central gangways. The roof-posts here do not reach much deeper than the wall-posts. The rhythmical disposition of the roof-posts, so characteristic for XIV, can only be recognized with difficulty. XXXVII must have been a building of considerable dimensions. A remarkable feature of its plan are the two shallow holes in the southern row of roof-posts opposite the extremely deep 5<sup>th</sup> roof-post in the northern row.

The houses XVII and XX are also closely related to XIV. Both show the same bipartition into a front part and a slightly longer byre, effected by a set of two opposite entrances placed just beyond the middle of the long sides. In XVII the roof-posts reach slightly deeper than the wall-posts; in XX both are of approximately the same depth. The disposition of the roof-posts is again rhythmical: closer spacing in the byre than in the front part. The distribution of the roof-posts in the byre part of XVII is not clear: their number seems too large for all of them to have been present at the same time. Apart from these similarities between XIV on the one hand and XVII and XX on the other, we come across some minor differences: in the front part of XVII and XX, only two pairs of roof-posts are standing instead of three, while the interval in which the two entrances lie is not appreciably greater.

Furthermore, the two plans show a number of new features:

- a.* A third entrance in the short wall of the byre.
- b.* A roughly rectangular or square pit in front of all entrances (except the northern one of XVII). On the bottom of the pit, in front of the southern entrance of XX, traces have been found of a square casing of narrow vertical planks. Traces of such wooden casings have been observed in a few other instances (VIII, XLIX), where the planks reached well beneath the bottom of the pits. In the other entrance-pits, the casing was almost certainly present but it probably rested on the bottom, so that no traces were left. The lining of the pit-walls with wood indicates that the pits remained open during the time the houses were inhabited.

*c.* Impressions of the thresholds are present in the northern and southern entrance of XVII.

*d.* The door-posts of the entrances in XVII are characterized by their exceptional depth.

*e.* In the byre part of XVII, we now find extremely narrow stalls (0.80–1.00 m.). They are placed in two rows on either side of the central gangway and, in addition, a small series is set against the partition wall that must have stood between the 5<sup>th</sup> pair of roof-posts, just behind the central entrances. The relation between roof-posts and stalls cannot be established in this case, because the disposition of the roof-posts themselves is not completely clear. Two or three stalls seem to lie opposite one another in every bay. A space of about 2 m. at the end of the byre remains free from stalls.

In the byre part of XX, only a very few poor traces of stalls came to light.

The cattle stalls are represented by the traces left by their dividing walls. These traces are narrow trenches and comparable to the impressions of the threshold balks. They probably come from sleeper-beams into which the actual wall (wattle-and-daub?) had been inserted. In any case, they cannot be considered foundation-trenches for individual posts, for post-holes were never found on the floor of the usually flat-bottomed trenches.

Narrow stalls of this type are a frequently recurring feature in the long-houses of Wijster and even in some of the short-houses.

*f.* In the front part of XVII, one encounters two posts placed along the long axis and roughly on the intersection of the diagonals of the last two bays. As far as their depth is concerned, they are equivalent to the surrounding roof-posts.

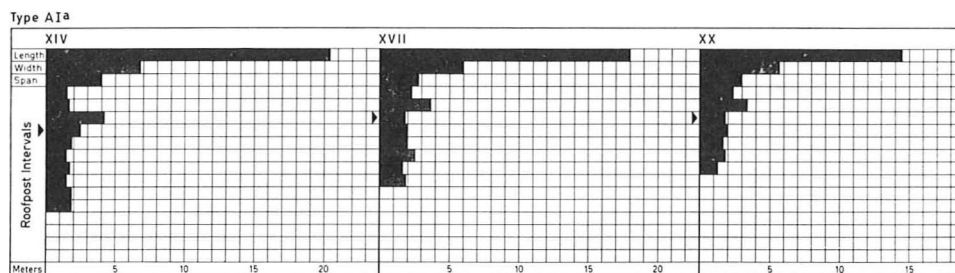


Fig. 7. Type A1a: measurements.



## A1b. LONG-HOUSES WITH RIGID DISPOSITION OF THE ROOF-POSTS (Fig. 9,10)

Characteristic plans answering this definition are rare: LXXIX and LXXX (?); and slightly less typical: XVI, XL, LXX, LXXXV. In LXXIX, the pairs of roof-posts are set at short regular intervals and close to the walls; the distance between the west wall and the first pair of roof-posts is rather large; the roof-posts reached only slightly deeper than those of the walls. In one respect the building differs fundamentally from the majority of the other Wijster houses: it is not divided across by sets of entrances in the long sides, the only entrance (threshold balk) being in the eastern short side. The two pairs of long post-holes at the western extremity of the building are remarkable.

LXXX could be a plan of the same type; absolute certainty on this point, however, cannot exist because the western part is missing. The span of the pairs of roof-posts is less than in LXXIX; the difference in depth between roof-posts and wall-posts is here more marked. The wall-posts stood in a foundation-trench.

The four remaining plans of long-houses with continuous rows of roof-posts, XVI, XL, LXX and LXXXV, are perhaps best incorporated in the present group. Though the roofposts were not laid out as rigidly as in LXXIX, their disposition does not show the typical rhythm of XIV.

The plans XVI and XL are related to some extent: both houses are divided into two almost equal parts by a set of entrances in the middle of the long walls (in XL both parts were apparently separated by a partition); both have four pairs of widely spaced roof-posts, the middle interval, in which the entrances occur, being somewhat larger than the others. XL has, moreover, a third entrance with threshold impression and pit in the middle of the eastern short side. In XL roof-

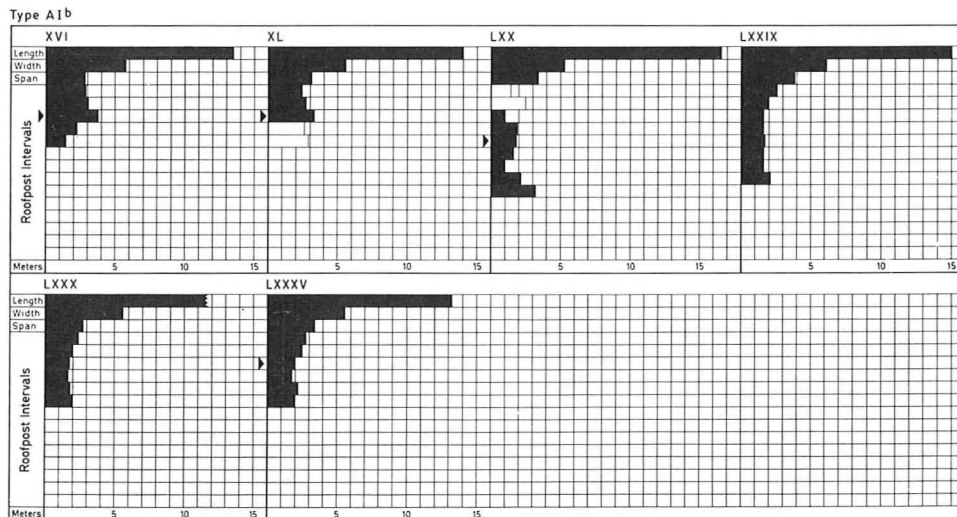


Fig. 9. Type A1b: measurements.

posts and wall-posts are of equal depth, in XVI the difference is slight. A peculiar feature are the long wall-posts of XL, especially in its western part. Their resemblance to double wall-posts has been taken as a superficial one, because double-holes have been observed nowhere else in the short sides.

Also LXXXV has two entrances almost in the middle of its long sides. The two pairs of roof-posts are somewhat irregularly spaced. There is no sign of an entrance in one of the short walls.

LXX is also bipartite, divided by two central entrances. The rows of roof-posts are rather irregular. They stop short at some distance from the eastern wall. The roof-posts themselves are of unequal depth. There do not seem to have been entrances in the short sides.

In none of the houses belonging to this type, except LXXXV, are the door-posts characterized by exceptional depth. An entrance-pit only occurs in XL.

## **AII. Long-houses with Roof-posts and Double-posts**

The vast majority of the Wijster long-houses are characterized by the use of double wall-posts: III, VIII, XV, XVIII, XIX, XXI, XXII, XXVI, XXVIII–XXXIII, XXXV, XXXVI, XXXVIII, XXXIX, XLI–XLVII, XLIX, LII, LIV, LVI–LVIII, LX, LXI, LXVIII, LXIX, LXXI, LXXIV–LXXVII, LXXXI–LXXXIII.

These double-posts occur only in the long walls, and are invariably placed in pairs opposite each other. They appear as real double-holes, or the two holes may have fused into a single long and narrow one. Mostly both holes are of equal depth and do not differ in depth from the surrounding single wall-posts.

Usually the double-holes are found in the front part of the buildings, only occasionally in the centre not far from the entrances; they never appear in the byre. Often several pairs of double-posts were placed side by side and formed, so to speak, a separate unit. In some houses the occurrence of such units is clearly connected with the absence of roof-posts: *e.g.* III, XXI, XXXVIII, XXXIX, XLIX, to mention only some of the more conspicuous examples. In other buildings double-posts and roof-posts go together, but then always in those parts where the latter are widely spaced. So the conclusion must obviously be that the double-posts partly took over the function of the roof-posts and shared in carrying the weight of the roof.

The extent to which the pairs of double-holes were used varies considerably. In some houses the double-posts were used lavishly, in others they are not such a prominent feature.

In this way, we are supplied with a useful criterion for a further subdivision of this large group.

Apart from a few buildings without visible crosswise division, we have up to now only met with houses which were divided into two almost equal parts by the entrances in the middle of the long walls. Among the houses with double-posts, bipartite and tripartite structures occur side by side. The latter are divided into three sections by two sets of entrances in the long sides. This differentiation between bi- and tripartite houses is fundamental to our subdivision of the AII buildings.

AIIa. BIPARTITE LONG-HOUSES WITH ROOF-POSTS AND A CLEARLY DIFFERENTIATED UNIT OF DOUBLE-POSTS (Fig. 11-19)

This type comprises fourteen plans, more or less complete: III, VIII, XV, XVIII, XXI, XXXVIII, XXXIX, XLII, XLVII, XLIX, LII, LVII, LXI, LXXVI. They are among the most beautiful specimens of the site.

In these houses we have come across a clearly defined type. All plans are closely related to each other and display many similarities.

The lay-out of the plans is mostly very regular, particularly as far as the front part is concerned. The houses are all of impressive dimensions: the length varies from 16.80 to 38.80 m.; the breadth is nearly always the same and averages about 6.00 m., except in XV (5.40 m.). The byre is often considerably narrower than the front part.

Each house has at least three entrances: one at the byre end (except XXI?) and at least two opposite each other roughly in the middle of the long walls.

The breadth of the entrances is generally between 0.90 and 1.20 m. (0.80 and 1.40 being the extremes) and there is no significant difference in this respect between the doors at the byre end and those in the centre. The door-posts are mostly recessed and conspicuous by their size.

The pit in front of the central entrances is now a regular feature (clear traces of wooden casing at VIII and XLIX!). A pit in front of the entrance of the byre is exceptional (XXXVIII first phase, LXXVI). Sometimes the remarkably deep impression of a threshold balk has been preserved. The post-holes of the door-posts often tend to be a little deeper than those of the neighbouring wall-posts.

One half of the building is occupied by the byre characterized by stalls and/or close-spacing of the roof-posts (the double roof-posts in XX are unique). The lay-out of the byre is often rather irregular: more than once it tapers towards the end; the wall-posts may show a curving line; span and interval of the roof-posts can vary within the same building.

When traces of stall-partitions have been preserved they invariably represent the narrow type of stalls first met with in XVI. The stalls are arranged in two rows at both sides of the gangway, in a fixed order: at each side two or occasionally three (XVIII) stand in every bay. The narrow trenches parallel to the rows of roof-posts

at the inner end of the stalls in XXXVIII and XLII could represent a *faucherinne*.

The rows of stalls may have filled the byre, or there was a free space left at the end. In XLVII, one here finds a separate room, which might, however, be a later addition. XLIX has a long rectangular pit in the rear part of its byre that actually seems to belong to the house. At the bottom of such a pit in one of the houses at Dalfsen, the impressions of four transverse balks were discovered indicating a wooden floor and characterizing the pit as a cellar.<sup>1</sup>

The part of the byre directly behind the central entrances shows special features. The two rows of stalls, if present, stop short at a certain distance from the entrances. In XXXIX, a long rather deep pit stretching over the whole width of the house seems to partition off the stalls from the rest of the building. In VIII and XXXVIII, the first three or four stalls are fenced in separately by a narrow trench, which is seen to be a foundation-trench for a wooden wall by the post-holes appearing in it. At the same time, these trenches reduce the broad gangway to a narrow passage.

The area behind the entrances is moreover characterized by a wide interval between the roof-posts. This feature can be observed in all houses and not only in those in which traces of stall-partitions were observed. XV is the only exception, a building remarkable in other respects also. In every house, a pair of roof-posts stands approximately on a line with the door-posts nearest to the front part. A large interval is always found between this pair and the following one standing at the point where the first stalls are found, or at the point where the close-spacing of the roof-posts begins. It is worth noting that the width of this interval is either about 4.50 m. (III, VIII, XVIII, XXI, XXXVIII, XLII, XLIX, LXXVI) or 4.80 m. (XXXIX, XLVII, LVII, LXI). Only LII has a wider interval here (5.40 m.); another exceptional feature of this house seems to be its pair of entrances at *both* ends of this area.

In this way an open space of considerable size was created, which in XXI, XXXIX, XLIX and LXXVI was left completely free; at least so it seems, but traces may have been lost. In other buildings, III, VIII (?), XVIII (?), XXXVIII, XLII, XLVII, LVII and LXI, the double wall-post makes its appearance at this spot. Two of them are set opposite each other, next to the doors and roughly in the middle of the interval between the roof-posts. XLVII has one shallow post placed approximately along the long axis of the building and in line with the double-posts. In XXXVIII a whole row of posts representing a partition wall is present. In III, VIII, XVIII, LVII and LXI one finds four holes in between the double-posts, two placed in the rows of roof-posts, the other two on either side of the long axis of the house. Except in LXI, these holes are rather shallow, at least when compared to those of the roof-posts. In III and VIII, the two holes in the middle form part of a rectangular configuration of four posts of about equal depth; the other two holes stand more to

<sup>1</sup> Van Beek & Van Es 1964.

the rear in the direction of the stalls. In XLII, the two holes in the middle are missing. Finally, LII does not seem to have had double-holes in its exceptionally large free space behind the central entrances. Only a pair of extremely shallow posts standing in line with the roof-posts was found, but the situation is not completely clear and it would not be surprising if some holes had been overlooked.

In general, both parts of the building are separated by a partition. This wall is either represented by the post-holes in line with the double-posts behind the central entrances, as indicated above (III, VIII, XVIII, XXXVIII, LVII; and perhaps XLII and LII too?), or by one or two posts placed in between the pairs of roof-posts on the other (front part) side of the entrances. Therefore the central entrances can have formed either part of the byre, or part of the front section. LXI has a row of posts on either side of the doors.

The front part itself is laid out more regularly than the byre. It allows for a great variety of detail, but all houses have in common the unit of double-posts and the bipartition of the front part; the latter being divided into a narrow room at the end and a broader one between this and the entrances. The two rooms are separated by a partition wall.

In the shorter buildings, the room at the end remains very narrow (length between 2 and 3 m.). When the length of the building increases (XVIII, XXXVIII, XXXIX, XLVII, LII), the room is also enlarged (length between 4 and 6 m.). It then acquires its own pair of entrances lying inside the room itself, except in XVIII, where the doors are constructed on the other side of the partition.

The ground-plan of VIII shows both the broad and the narrow room, a unique feature. It is possible that the broader one was added afterwards: its wall-posts are comparatively shallow and it overlaps a trench which seems to belong to the twelve-post granary erected at the same time as the house. In that case, however, the original front part would have been disproportionately short, though in itself it would have had a perfectly normal plan (*cf.* in particular LXXVI).

Further it strikes us that the corners of the front part are often markedly square (*e.g.* III), though this is by no means a general feature.

XXXIX has, in its broad front room, preserved fragments of a shallow and narrow trench along the inner side of the wall-posts, which was probably intended to hold a wall of planks. The trench surrounding the whole front part of XXI on the outer side may have been a drainage ditch. The two short trenches in the interior of XXXIX, starting from its western wall and enclosing a small square space, seem to be repeated by the two posts standing in corresponding positions before the eastern short side of XVIII.

The most conspicuous feature of the front part is the unit of double wall-posts. The double-holes are only found in the long walls; those in one wall always have a corresponding series in the opposite one. Apparently the double-posts come in pairs

exactly like the roof-posts. The units of double-posts consist of four, three or occasionally (XXXVIII, XLVII) two pairs. These stand usually side by side, the exceptions being XLVII (where a single post appears between them) and XVIII (where the third and fourth, or second and third, pairs of double-posts are separated by an entrance). In some cases (XVIII, XLII, XLIX, LII, LVII, LXI) one or more double-posts are incomplete, which may be due to fortuitous circumstances of preservation. Consequently, their exact number cannot always be fully established. The double-posts are not characterized by an exceptional depth.

The double-posts are not always found in the same place: they have been used in two ways. In the shorter buildings, two or more pairs appear behind the wall partitioning off the front room; sometimes another pair is found in the front room itself. In these houses, the above mentioned partition is "suspended" between a pair of double-posts. In the long structures, the double-posts can be used in the same way (VIII, XVIII, LII), *i.e.* they are placed behind the front room where an additional pair may be encountered, or else they are concentrated solely in the front room (XXXVIII, XXXIX, XLVII), where now at least two pairs are present.

Roof-posts are also present in the front parts, but compared with the byre their number is small and their disposition variable.

A feature recurring in all houses of the type is the pair of roof-posts standing on the dividing line between the front and rear parts, on the frontal inner side of the passage connecting the central entrances. In fact, this pair may be considered the termination of the rows of roof-posts found in the byre.

In the partition wall of the front room, two posts are usually found in line with the roof-posts of the byre. It is difficult to decide whether they had the same function of supporting the roof, but this is certainly not improbable, even though they are often somewhat shallower than the average roof-post in the byre. In many houses the partition, and consequently this doubtful pair of roof-posts, is set between a pair of double-posts.

In five of the shorter houses, III, XV, XXI, XLIX and LXI, the space between the entrances and the partition just mentioned remains free from roof-posts. Here their function has clearly been taken over by the double-posts. The possible pair of roof-posts included in the partition can in these cases only be of secondary importance. The fact that their holes are sometimes comparatively shallow points also in this direction.

LXXVI shows a second pair of rather shallow holes, probably roof-posts of secondary importance, between the first pair of double-holes.

The third pair of "roof-posts" which is present in the front part of LVII between the entrances and the double-posts need not be considered because of its extreme shallowness.

Also in the longer houses of this type, a pair of roof-posts has been included in

the partition of the front room; another pair stands next to the entrances. The situation of the remaining posts varies.

Three of these longer buildings, XXXVIII, XXXIX and XLVII, have broad front rooms with double-posts but no roof-posts. The long part between the front room and the entrances has been provided with one or two (XXXIX) pairs of roof-posts in the middle, which have left large and deep holes.

Three others, VIII, XVIII and LII, have a disposition of roof-posts reminiscent of the shorter houses. Here the double-posts are found in the part between the entrances and the front room and roof-posts have been combined with them.

VIII is the best parallel to the shorter buildings and it has already been thought that it originally belonged to this variety (see above). It has one pair of roof-posts in the partition of the original narrow front room, and a second between the third pair of double-posts, all with comparatively shallow holes. The broad front room which is probably later has no roof-posts, nor clear double-posts.

In LII two holes, conspicuous by their shallowness, are to be seen between the third pair of double-holes. In the front room we find roof-posts with deep holes, and at the very end a possible pair of double-posts.

The roof-posts combined with the third (or second) pair of double-posts in XVIII are not exceptionally shallow. The three pairs of additional posts to the left of the unit of double-holes are partly shallow and very closely spaced. They are probably not roof-posts, and their function remains obscure.

The distribution of the roof-posts in XLII is not known with certainty.

The conclusion must be that in the houses of this type roof-posts and double-posts are not always mutually exclusive. Where they are combined the holes of the roof-posts are often rather shallow and this is, in our opinion, explained in that the double-posts now also share in carrying the weight of the roof.

The roof-posts usually reach rather deeper than the average wall-post, but the depth of the individual wall-posts may vary considerably.

The chief characteristics of this type of house-plan can be summarized as follows:

- a. Bipartition in two approximately equal parts by two opposite entrances in the middle of the long walls.
- b. The rear part containing roof-posts; the front part with roof-posts in addition to a unit of double-posts.
- c. Close spacing of roof-posts over the greater part of the byre; a wide interval behind the entrances; wider spacing of roof-posts in the front part, where these are present.
- d. Subdivision of the rear part in a not always recognizable free space at the end, a section with narrow stalls on either side of the gangway and an area with a special lay-out behind the entrances.

- e.* Subdivision of the front part by partitioning off a front room.
- f.* A width of approximately 6 m.

The length of these houses varies. One is justified in distinguishing two varieties: a short- and a long-sized one, which differ not only in length but also in more or less important details of lay-out, especially of the front part. The long variety has, for instance, a broad front room with an additional set of entrances.

A number of incomplete plans in which some characteristic features can still be recognized is to be ascribed to this type.

LXVIII belongs indisputably to the short-sized variety. All principal characteristics are still visible.

In view of the treatment of their central parts, XLVI, XLVIII, LXII and LXXXIII should also be included here (in LXII, the two pairs of balk traces parallel to the building's long axis constitute an uncommon feature only to be compared with the single trace in III); the same probably applies to VI. They all have the wide roof-post interval and the pair of double-holes in the area behind the entrances. In XLVI, the configuration of the central part is more or less atypical, but here the double-holes of the front part have been preserved. In XLVI, LXXXIII and possibly VI, the holes that occur in the large roof-post interval are comparatively shallow.

Its middle part (wide interval with a post of the same depth as the surrounding roof-posts in the centre) and the unfortunately indistinct unit of double-posts at the western extremity make XXX a likely candidate for this group as well (long variety with broad front room?).

XXXVI is a house closely related to the long variety of this type and it may actually belong to it. All characteristics are present except that the unit of double-posts in the front room is no longer well-defined. Presumably, however, two pairs of double-posts were present. In the front part, three pairs of heavy roof-posts stand out. The many post-holes in the rear part, the function of which is not clear, constitute a unique feature.

XLV is a rather incomplete and shapeless plan and therefore presents some difficulties of classification, but there can be little doubt that it belongs to the group of the AIIa houses (long variety). Nothing is known about its rear part (remarkably enough there appears to be a pair of double-posts at its end). In the front section, two pairs of double-posts may be recognized to the west of the easternmost entrances and one directly on the other side. The many closely spaced and rather shallow roof-posts are here a curious feature. On the whole, the front part shows a striking similarity to that of LII and especially XVIII.

Another house, LXXV, though undoubtedly related to the AIIa buildings in its extensive use of double-posts, presents some features entirely its own. It is slightly



narrower than usual. The disposition of the double-posts in the front (western) part may not be completely clear, it is an exception to the rule in any case: the first pair is found directly beside the central entrances and the three(?) pairs seem to be separated from each other by a single wall-post. The partition between the front room and the rest of the front section shows little connection with the rest of the building: neither of the two outer posts nor any of the inner ones stand in a line with the roof-posts, as is usually the case. There is no pair of roof-posts at the frontal inner side of the central entrances. The unmistakable pair of double-posts at the eastern extremity finds its only possible parallel in XLV. The slightly wider gap between the two wall-posts in the middle could point to an entrance in the short eastern wall.

LXXI is in many respects closely related to the houses of AIIa type. The similarities are obvious and it would be tedious to dwell on them at length. There are, however, a few points of real difference: no certain indications of an entrance in the short side of the rear part were found; the disposition of the double-posts in the front part, where one pair is separated from the other two, is also unusual. Moreover, if the post-holes between the last pair of roof-posts in the front part have to be taken as evidence for a partition wall, the front room would become disproportionately large. A special difficulty presented by this house is the roundish pit in the central area paved with secondarily burnt sherds. At first glance it seems to be a hearth belonging to this building: it lies in the long axis between a pair of double-posts and on the intersection of the diagonals between the four surrounding roof-posts. Nevertheless, serious objections can be brought forward opposing this interpretation. It would be very strange indeed for a hearth to be found practically blocking the two central entrances. Moreover, in practically all other houses the hearths could not be retraced owing to the fact that the floors, on which they must have originally lain, have not been preserved. Also in this house no traces of a floor have been found, nor is the preserved depth of the post-holes exceptional. This means that if the pit is considered to be the hearth of this building, then it would have been lying at a considerable depth below the floor. In our opinion, this is impossible.

LXII has much in common with the AIIa houses, especially with those of the large variety. First, it has the great width usual in this type. Further, the lay-out of the rear part is the same: there is a large roof-post interval behind the central entrances containing a pair of double-posts and perhaps a middle-post; the short wall has an entrance. The two pairs of heavy roof-posts in the front part can be paralleled by some of the large houses of AIIa type, for instance, XLVII and XXXIX. The plan of the front room is unfortunately incomplete and not very reliable, so that one cannot be quite confident in making a judgement. It seems, however, to be underdeveloped in so far as it is relatively short and without clear double-posts and entrances.

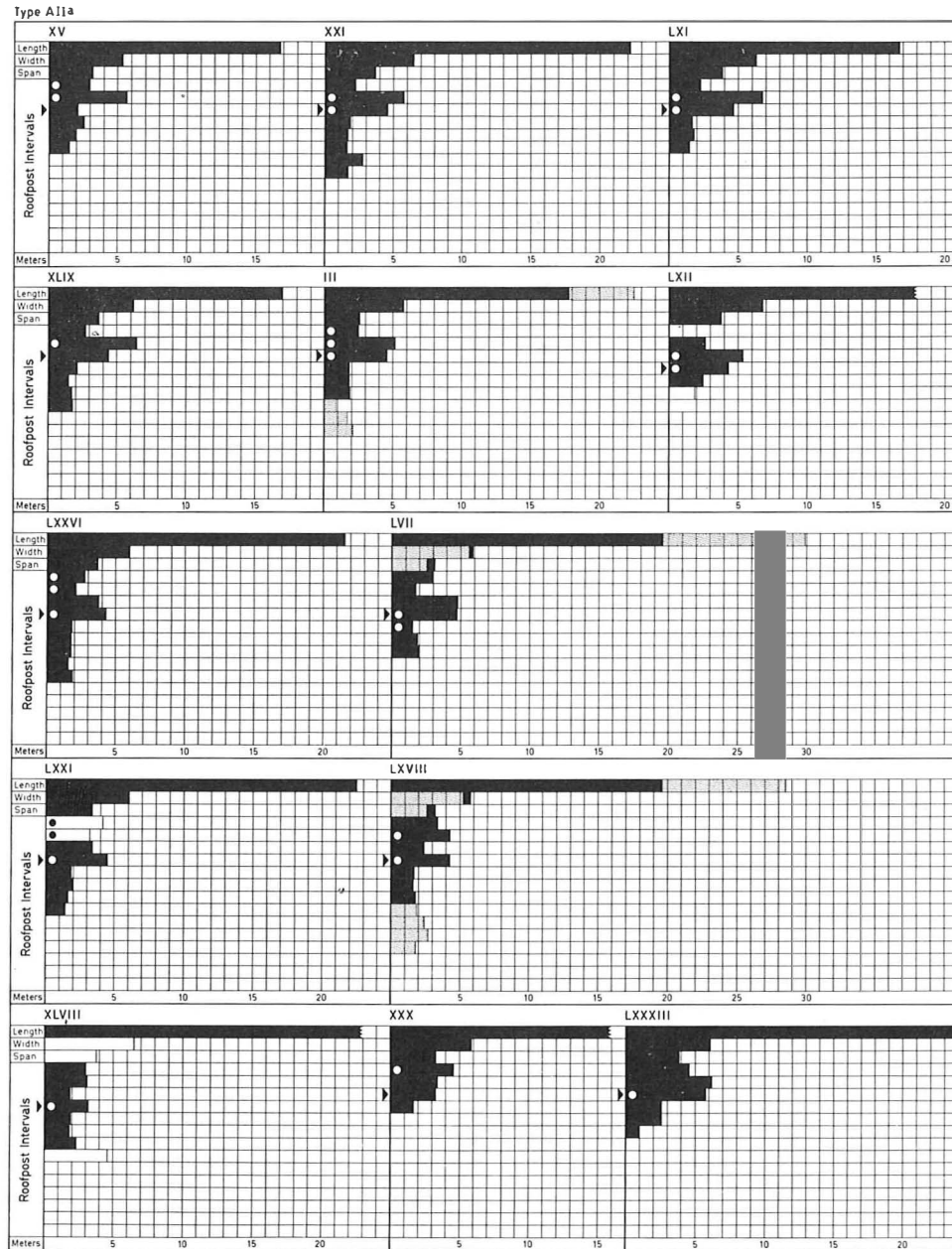


Fig. 11. Type AIIa (short): measurements.

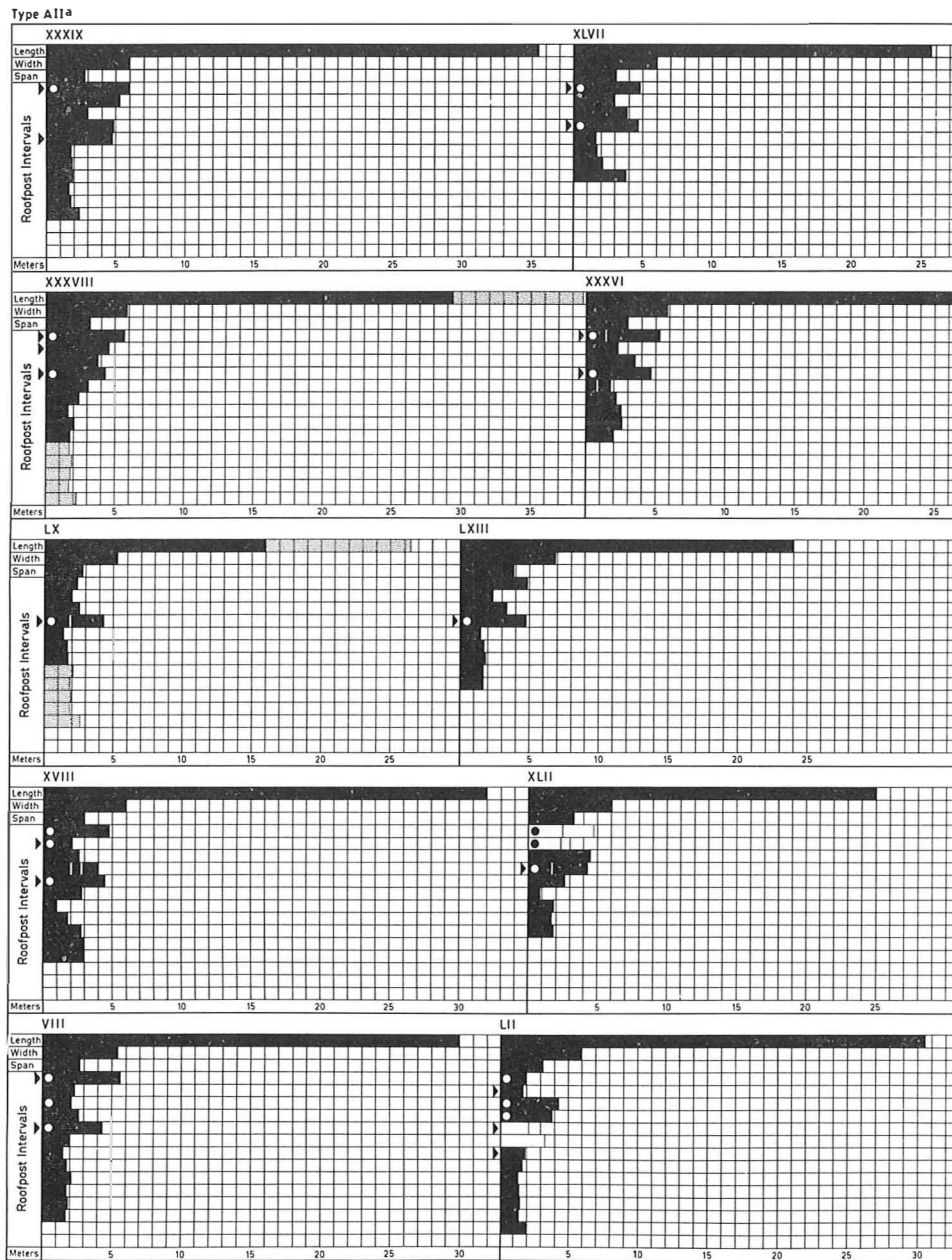


Fig. 12. Type AIIa (long): measurements.

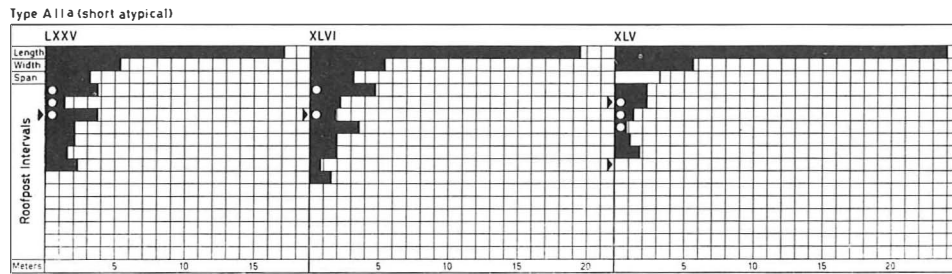


Fig. 13. Type AIIa (atypical): measurements.

This tendency to dispense with the front room is still more marked in LX, where it has completely disappeared. The house is also narrower than usual and was, if our interpretation is correct, afterwards enlarged with a rather long byre part.

AIIb. TRIPARTITE LONG-HOUSES WITH ROOF-POSTS AND DOUBLE-POSTS  
(Fig. 20-22)

Complete or almost complete plans to be included in this type are: XXVI, XXXIII, XLI, LIV, LVIII, LXXIV.

The major difference with the preceding type is the tripartition by two sets of opposite entrances in the long walls, but other discrepancies exist as well.

Plan XXXIII is the best representative of the type. When compared with the AIIa houses, this building is narrow: *ca.* 5 m. The front part and the middle part are of approximately equal length, the byre is slightly longer.

On one side of the byre the row of narrow stalls now comes up to the entrance, whereas the other row is much shorter. At the end of this row behind the door we find one transverse stall. The outer end of the byre remains free from stalls. No traces of an entrance in the short side were found. Three pairs of roof-posts are to be seen including the pair at the inner side of the westernmost entrances. The interval between the second and third pair is very large (*ca.* 5.30 m.), that is to say, larger than the interval in the corresponding area of most AIIa houses, and in the centre of this bay a middle post seems to have stood. The double-post next to the entrances, always present in the plans of the preceding type, has disappeared.

The middle part, separated from the byre by a partition wall, is characterized by three pairs of heavy roof-posts, the two outer pairs of which stand in line with the inner door-posts of the entrances flanking the middle part, while the third pair is placed approximately in the middle. One of the entrances has a rectangular pit in front of it.

In the front part, which in this case is extremely long, three (?) pairs of double-posts occur. The pairs of double-posts are separated by single wall-posts and have not been set side by side to form a unit as in AIIa houses. No roof-posts were found, but their absence may be due to the construction of hut 68, which belongs to a later period. The posts accompanying the long walls on the outside are a rare feature.

XXVI is identical with XXXIII. Insufficient is known about its front room; it had at least one pair of double-posts.

LXXIV also comes very close to XXXIII. It has the same narrow width, the pairs of double-posts set widely apart in the front room and the three pairs of roof-posts in the central part. The intervals between these roof-posts are rather large and the holes of the third pair have a different axis. The byre could not be recognized very clearly because of later superimposed traces. As far as can be judged, it was underdeveloped.

LVIII is closely related too. Here, the pair of double-posts known from the AIIa houses is present in the byre behind the entrances. A still more important difference is the absence of double-posts in the front part. However, they may have been lost because the remaining wall-posts are all very shallow. One post in the south-east corner might be considered evidence for the occurrence of roof-posts in this front part, but then it is difficult to account for the absence of its counterpart in the north-western corner.

LIV is undoubtedly a tripartite building, but its middle part only is characteristic. Although no stall traces have been preserved, the eastern part is to be regarded as the byre. It shows a pair of double-holes but this time rather far away from the entrances and more or less coinciding with the last pair of roof-posts. The large interval in the byre behind the entrances can still be recognized (the post lined up with the southern roof-posts between the third and last pair is extremely shallow), but here there is no post-hole in the centre. The front part is indistinct. Its length is not absolutely certain. No clear double-posts are to be seen: in any case there were no roof-posts. Only in the southern wall an entrance can be distinguished.

The plan of XLI is obscured by the roundish pits cutting across most of the post-holes. These were probably dug when the building was demolished to pull out the posts. So the question must be left unanswered whether or not a pair of double-posts stood behind the entrances in the rear (eastern) part but there seems to be a case for supposing that they did, judging from the long hole found to the right of the south-eastern entrance. In the western part (the front part) no distinct double-posts are recognizable. The situation in the field at this spot was extremely intricate and therefore one cannot be sure; other distributions of the available post-holes among XL and XLI may be possible.

The most striking feature of XLI is that the stalls have been transferred to the middle section. It is remarkable that the lay-out of these stalls is identical with that

in the preceding houses XXXIII, XXVI and LVIII. The southernmost transverse trace even seems to end in some sort of a middle-post, something completely out of place here. The two entrances to the west of the middle part made way for the stalls and do not directly flank the most westerly one of the three characteristic pairs of roof-posts. If, however, the two partition walls on either side of the western entrances do belong to this building, the outer posts of both walls would provide us with two more pairs of roof-posts, one on either side of the doors.

As we have seen, the significant features of this type are:

- a.* Tripartition by two sets of entrances in the long sides.
- b.* The rear part, mostly slightly longer than one-third of the building's total length, has a few pairs of roof-posts which leave a large interval behind the entrances. In this interval a pair of double-posts sometimes occurs. The rear part generally houses the narrow stalls which are arranged in a characteristic way. There is no entrance in the short wall.
- c.* The middle part shows three pairs of heavy roof-posts set at about equal intervals. In one house the stalls were found in this section.
- d.* The front part, sometimes with distinctly recognizable pairs of double-holes, never has roof-posts.
- e.* Width of *ca.* 5 m.

A number of less complete plans can also be attributed to this type. In the first place, XXXII and LXIV can be mentioned, both having very large post-holes. LXIV has the characteristic arrangement of the stalls first met with in XXXIII. No roof-posts were recognized in its rear part, only the now familiar post at the end of the transverse stall. In the middle part of XXXII, the three pairs of roof-posts have been planted against the walls so that they resemble double-posts. The same situation probably arises in LXIV but here the roof-posts cannot be fully distinguished. The front part of XXXII has been preserved in which at the most only one pair of double-posts (the pair of big holes) can have been present. A pair of roof-posts may have stood in front of the western doors.

As far as one is able to judge, the small fragment LXXVIII may be the front part of a similar building.

In XII, the rear part of a tripartite house may be recognized. It is interesting to see that the second pair of "roof-posts" is remarkably shallow, so that also here the well-known long interval is present, albeit in an atypical form (the next pair of roof-posts is standing behind and not, as is usual, in front of the entrances). Note the triangular "post-kernel" in one of the roof-post holes.

Plan XXIX is difficult to interpret. The best solution is to regard it as the rear

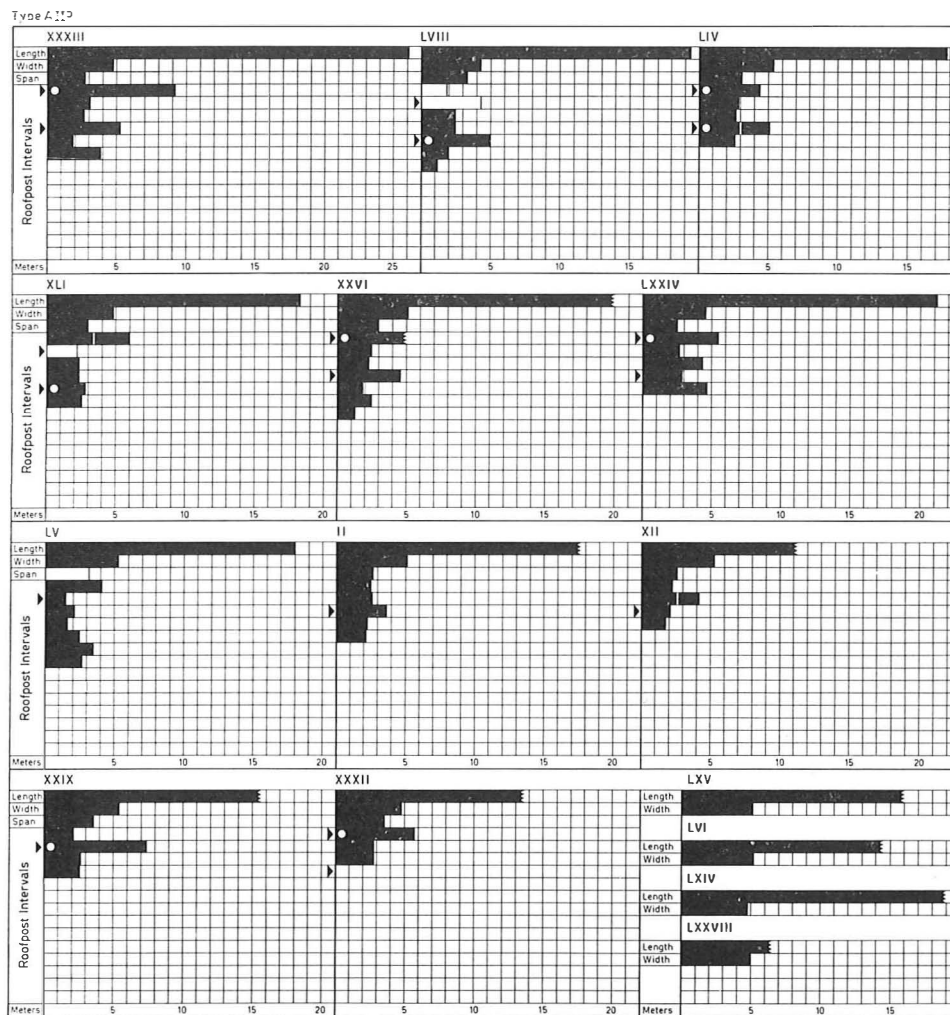


Fig. 20. Type A11b: measurements.

and middle part of a tripartite house. The lay-out of the middle section supports this view. The pair of double-holes in the rear part is not without its parallels, but the absence of roof-posts remains difficult to explain.

The very incomplete plans II, LV, LVI and LXV are likewise to be attributed to the group of tripartite houses, but their condition is too fragmentary for details to be distinguished.

## AIIa/AIIb. INTERMEDIATE FORMS (Fig. 23, 24)

Some plans showing features of both the AIIa (especially the long-sized variety) and AIIb houses have been grouped here as intermediate forms. They do not constitute a separate type because the way in which the characteristics of the two types are mingled varies from case to case.

XXVIII still stands very close to the AIIb type. In fact it displays all characteristics of the typical AIIb house, except that in the strict sense it is no longer a tripartite construction. The western pair of entrances has been placed approximately in the middle of the long sides and in this way the building resembles the long variety AIIa houses, where the broad front room has its own set of entrances. In the rear part, the post-holes of the long walls are missing and therefore they must have been very shallow.

In its original version without the western annex, XIX was a tripartite building. Many details are reminiscent of the AIIb type, but the width of the house, the layout of the cattle-stalls and the entrance in the short wall of the byre reveal AIIa influence. A peculiar feature is the occurrence of the two shallow holes in the centres of the two bays of the middle section. The disposition of the roof-posts in the byre is not clear. At the western extremity, one pair is present but one would expect to find a second pair on the spot where only a hole lying in the long axis is present.

The plan of XLIV is atypical in many respects. Few AIIb features can be recognized (*e.g.* the absence of a door at the byre's end). In the front part, or more exactly front room, the absence of double-posts could be due to faulty observation. The disposition of the roof-posts in the middle part is certainly not reminiscent of the AIIb houses. On the other hand, its width and the central place of the western entrances connect this building with the AIIa type.

Again LXIX is a good example of tripartition. As far as the incomplete plan allows one to judge, the front part would not be out of place in an AIIb house. The middle section, however, has more roof-posts than is usual in buildings of that type. In the long traces to the left of the western entrances, a pair of double-holes might be conceivably recognized. The large roof-post interval in the byre cannot be established with certainty. There was no entrance in the short wall. The width is that of the AIIa houses.

XXII is closely related to the AIIa type. Its front part has all the characteristics of a short-sized AIIa house: narrow front room, unit of double-holes, pair of roof-posts in front of the entrances. However, the building as a whole was tripartite. The byre part has been lost almost completely; in the field, its place seemed to be indicated by a rectangular spot of darkly coloured soil. The middle section had four pairs of roof-posts with comparatively shallow holes.

XXXI presents a very curious plan, but its incompleteness prevents a reliable



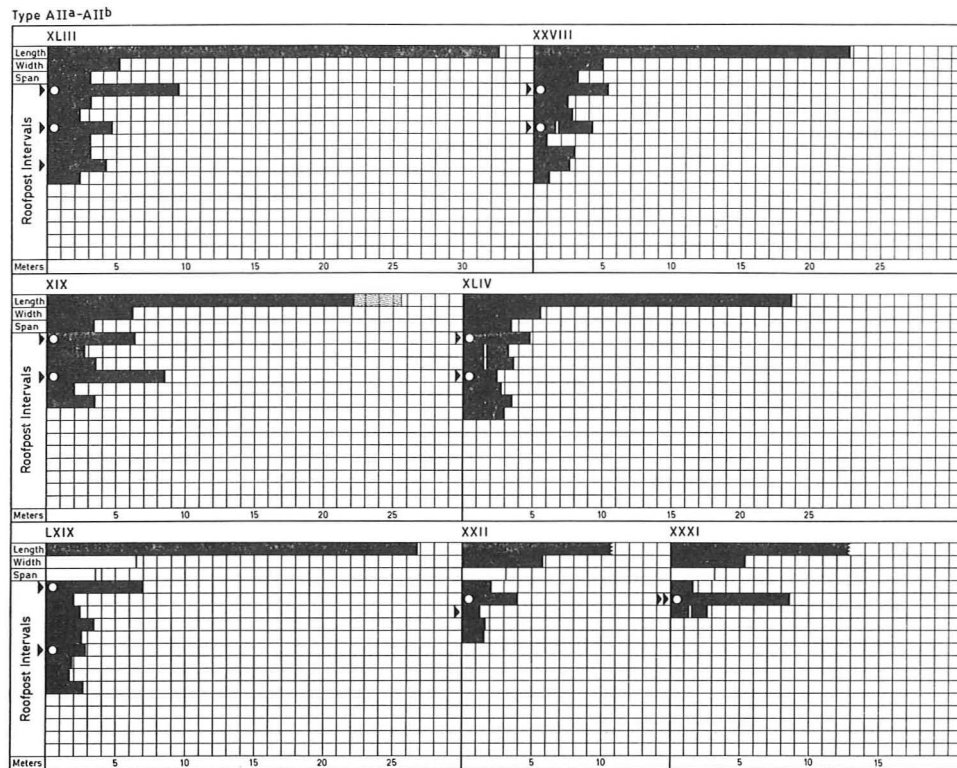


Fig. 23. „Type” AIIa/AIIb: measurements.

classification. It resembles the tripartite houses in its narrow width, but there is no method of telling if it really was tripartite. The western (front) part is absolutely without parallels. The unit of double-holes, in itself an AIIa characteristic, here appears at an unusual place. The narrow front room adjacent to a pair of entrances is another remarkable feature.

At first sight, house XLIII saddles us with a baffling plan. It ranks among the longest houses of the whole settlement and is only matched in that respect by the largest buildings of the AIIa group. However, there is no doubt that its different parts belong together and form one coherent plan. We can also find no clues for the supposition that one or more parts were later additions.

The building may be described as a bipartite structure: two entrances in the middle divide it into two halves, both again subdivided. The eastern half may be taken as the front part. It shows three pairs of heavy roof-posts and, at the front end, a room with two entrances of its own. The two posts standing in front of the short wall on the inside are reminiscent of XVIII. No double-posts are visible in the front room,

but instead it seems to have had a pair of roof-posts, a most uncommon, even unique, feature to be found in a front room. Behind the three pairs of roof-posts a long interval is present in which a pair of double-posts is found next to the entrances.

The other part also has three heavy pairs of roof-posts, and directly to their left probably a pair of entrances recognizable by somewhat recessed and relatively deep door-posts. One cannot be sure about the plan of the extreme western section: the situation in the field was here most confusing. There was a pair of double-posts close behind the entrances and it is quite possible that there were roof-posts as well.

Though XLIII is unique in many respects and is not exactly paralleled by any of the other buildings of this settlement, it can be attributed to this group of intermediate AIIa/b forms. It is linked to the tripartite houses by its narrowness (5.30 m.) and the three pairs of heavy roof-posts (here twice repeated), which are a common element in the AIIb buildings. On the other hand, XLIII is a bipartite structure and the three pairs of heavy roof-posts already occur in some of the long AIIa houses, especially in XIX, which is itself a transitional form.

### AIII. Unique Long-houses (Fig. 25,26)

We are left with two rather well-preserved plans which show such exceptional features that they cannot be attributed to one of the preceding groups or types: LXXXI and more especially LIX.

LXXXI is understandable only as far as its byre part is concerned. This could easily belong to an AIIa house, such as XLIX: entrance in the short wall; bigger interval between the third and fourth pair of roof-posts behind the "central" entrances, where in this case no double-posts are found but a pair of comparatively shallow posts standing in line with the roof-posts.

The front part defies any attempt at classification. The way it joins on to the rear part is not at all clear. We see no possible explanation for the absence of the intermediate wall-posts and it almost looks as though it were a separate building. In that case, however, the absence of the front part belonging to the byre, so magnificently preserved, would be even more difficult to account for.

In the front part, roof-posts and double-posts are combined in a way which in this settlement is completely unprecedented. A separate unit of double-posts does not occur.

The two clearly distinguishable entrances, called "central" entrances above, lie in fact behind the actual centre so that one might even think it to be a tripartite building, but no second set of entrances can be identified.

Although LIX presents a neat and clear-cut plan (the structure is bipartite with two central entrances and a third one in the short rear wall) nevertheless the general situation remains puzzling. Neither double-posts nor roof-posts were found. This

cannot be due to circumstances of preservation, for the area in which LIX is found is not overcrowded with traces; thus there is no reason why the holes of roof-posts would not have been found, had they been present.

One finds only a few holes on the long axis of the building, but these are comparatively shallow and their connection with the plan cannot be proved. Moreover, a house with only middle-posts to support the roof would be most surprising in this settlement. Perhaps the best solution is to assume that in this case the roof-posts were not sunk into the ground but perhaps were placed on stone foundations.

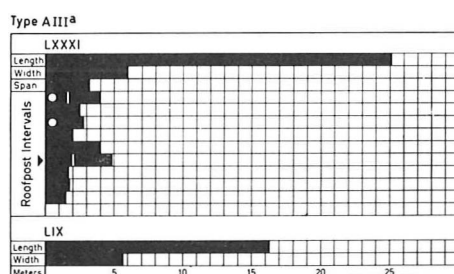


Fig. 25. AIII: measurements.

#### AIV. Incomplete and therefore Unclassifiable Long-houses (Fig. 27, 28)

In nine plans, the preserved part is too small or not characteristic enough to be classified with certainty: V, XI, XIII, XXXV, LXVII, LXXII, LXXIII, LXXVII, LXXXII.

In the case of XXXV it is not certain whether it is part of a long-house, the other part having been destroyed by the sheepfold, or whether it has to be considered as some sort of barn-like structure (possibly connected with the sheepfold).

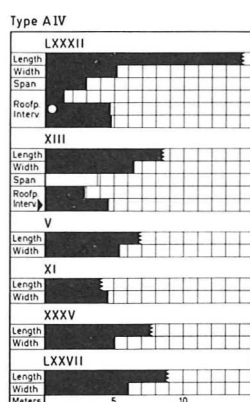


Fig. 27. AIV: measurements.

The interesting feature of LXXXII is that it is the only Wijster house in which the hearth has been preserved. The part behind the hearth contains a shallow post in the long axis and a pair of double-posts standing in close connection with a pair of roof-posts.

## B. SHORT-HOUSES

Thirteen buildings conform to the definition of a short-house, as formulated above, by having a length of less than twice their width: I, VII, X, XXIII, XXIV, XXV, XXVII, XXXIV, L, LI, LIII, LXXXIV, LXXXVI. The ground-plans show much variation.

### BI. Shortened AIIa Houses (Fig. 29, 30)

Three houses, I, VII and LI, fall into this category on account of their length only. In no other respects do they represent a new type with distinctive features but merely reproduce the characteristics of the shorter AIIa buildings. The houses are at least 6 m. wide. They are bipartite, the front part being slightly longer than the rear section.

It is obvious that the front part of VII and LI is similar in every particular to that of XLIX for example.

The rear parts of VII and LI show unmistakable similarities to the AIIa houses: pair of double-posts behind the central entrances, large interval between the pair of roof-posts in front of the entrances and the following pair. In VII, four shallow posts of a partition wall were found in between the double-posts. Two other shallow holes are lying in the long axis. In LI, the broad gangway has been reduced to a narrow corridor with narrow stalls on either side. The two stalls on the southern side parallel to the long axis of the building are a feature not of AIIa but of AIIb houses. Otherwise, the whole lay-out of the rear section of LI is very reminiscent of the area directly behind the central entrances in long AIIa buildings, like VIII and XXXVIII.

LI has a third entrance in its rear wall. In VII, the post-holes of the rear wall are doubled; even so, an entrance in the middle would not be impossible. Entrance-pits are found, but only in front of the central entrances.

Plan I does not show all characteristic details: no double-posts are visible in the front part, nor behind the entrances, but this may be due to the incompleteness of the plan. Nevertheless it seems to form a group with VII and LI, for it is of the same width and its rear wall is doubled in the same way as VII. It is not certain whether there was an entrance in the eastern short side. In I, a pair of roof-posts of equal

depth is found on either side of the central entrances. In this case, the rear part was so short that the easternmost pair of roof-posts was placed in the rear wall itself: the two holes are conspicuous by their size and are also of roof-post depth.

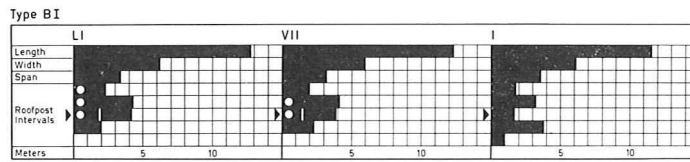


Fig. 29. Type BI: measurements.

The final conclusion must be that the three buildings here discussed are shortened AIIa houses. This shortening affected the rear part only. The front section remained unaltered. Of the normal AIIa rear part, only the area directly behind the entrances was retained; the actual byre with the two rows of narrow stalls on either side of the broad gangway was omitted.

### BII. Independently Designed Short-houses

Nine short-houses, X, XXIII, XXIV, XXV, XXVII, L, LIII, LXXXIV and LXXXVI are independent conceptions and not merely shortened long-buildings. The feature common to all nine plans is bipartition by means of a pair of opposite entrances into a short and a longer part; there are no indications of a third entrance in one of the short walls. But in other details there is less uniformity (*e.g.* the width varies from 4.60 to 5.80 m.) and a subdivision into two or three different types has to be made starting from the disposition of the roof- and double-posts.

On the other hand, it must be stressed that, though one may speak of specially designed short-houses, the constituents of their plans are exactly the same as those of the long-houses. One meets roof-posts and double-posts; the entrances (again characterized by the slightly recessed and comparatively large holes of the door-posts) come in pairs and sometimes have a rectangular pit outside. In this case, also, the firm connection with the long-houses remains, though no individual part is copied.

#### BIIa. SHORT-HOUSES WITH DOUBLE-POSTS ONLY (Fig. 31, 32)

This type includes: X, XXVII, LXXXVI and probably also LXXXIV and XXV.

There are no roof-posts, only two pairs of double-posts: one next to the entrances at the side of the short part, the other at the outer end of the longer section.

The type is best represented by X and XXVII, which are almost identical.

The two pairs of double-posts are also to be recognized in LXXXVI, but this plan shows in addition double-holes in the short wall of the smaller part, while between the pair at the western end a post-hole is found in the long axis of the building.

In LXXXIV, the pair at the western end has not been found. It has double-holes in the short side of the smaller part and possibly in the opposite one as well.

The plan of XXV is incomplete and therefore difficult to classify. Traces of roof-posts are missing. The left door-post of the southern entrance seems to belong to a double-hole. If so, this double-post would have been placed at the side of the longer section, where it does not normally occur.

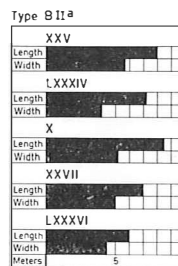


Fig. 31. Type BIIa: measurements.

#### BIIb. SHORT-HOUSES WITH ROOF-POSTS AND DOUBLE-POSTS (Fig. 33, 34)

The type comprises three plans: XXIII, L and LIII.

In L, the two pairs of double-posts are still present in the same disposition as in the preceding type. A new element is the two pairs of heavy roof-posts, one of which stands in line with the door-posts on the side of the longer section.

In XXIII, only one pair of roof-posts was necessary; it does not stand precisely in line with the door-posts. In the short part we here meet with two pairs of double-holes.

LIII has even three or four pairs of double-posts, but now they are placed in the longer part; the pair next to the entrances is not very distinct. The unit of double-holes strongly resembles that in AIIa houses. Of the two pairs of roof-posts, present in the longer part as well, the western one is so shallow that it is difficult to regard it as a pair of roof-posts at all. The other one is also rather shallow and is not exactly in line with the door-posts.

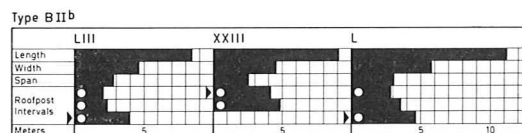


Fig. 33. Type BIIb: measurements.

## BIIc. UNIQUE SHORT-HOUSES (Fig. 35, 36)

The plan of XXIV gives the impression of being complete. If this is true, it represents a third type of short-house without roof-posts or double-posts.

XXXIV is a very curious structure: no roof-posts; three pairs of double-posts in the western half and double-holes in the western short wall; no clear entrances. It is, however, by no means certain that XXXIV is a truly separate and independent structure. Its position makes it more probable that it was a part of XXXIII, but we cannot see how these holes could be fitted into that already complete plan. Perhaps the holes, here grouped to form plan XXXIV, are evidence of a rebuilding of part of XXXIII.

Two plans, which have been included in the category of the sheds because of their narrow width, show much resemblance to XXXIV (Fig. 43:1 and 44:7).

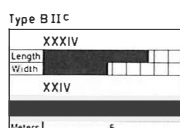


Fig. 35. BIIc: measurements.

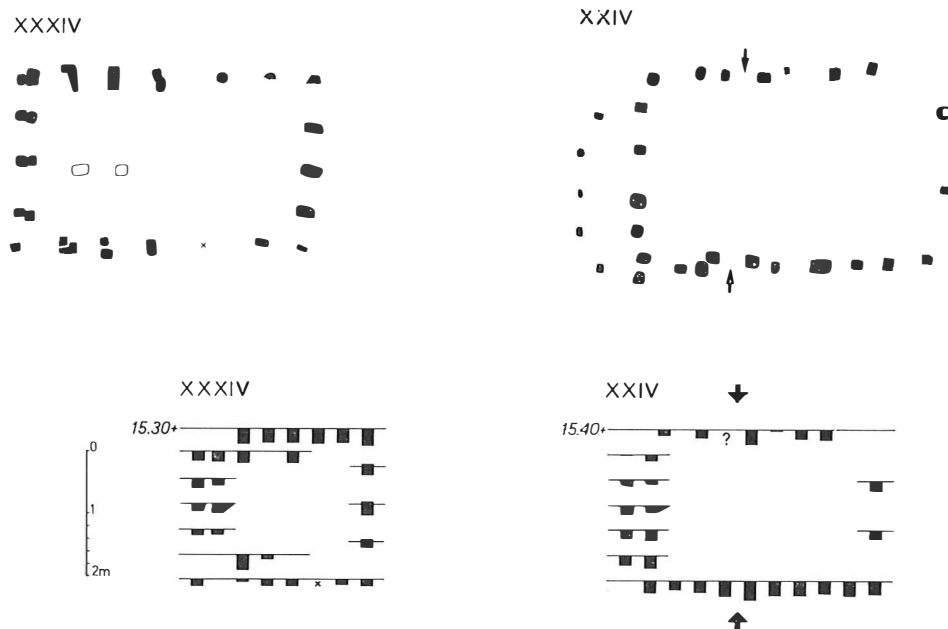


Fig. 36. BIIc: plans (scale 1 : 200), depths of post-holes.

## CHAPTER V

### OUTHOUSES

Sunken huts, granaries and sheds are to be discerned among the outhouses. Also the one or two cattle enclosures may be considered to fall within this category.

#### A. SUNKEN HUTS

The commonest and most conspicuous kind of outhouses is the sunken hut (*Gruben-hütte*). One hundred and forty certain specimens were counted, but there may have been a few more. In squares C<sup>op</sup>-17 *e.g.* a row of three rectangular pits was found filled with recently disturbed soil. On one of his visits to the excavation, Mr. Stel told us that in 1925/6 he had dug out a few pits in this area. In one of these pits, which to judge from their size and shape were probably huts, he found the probably Late-Roman razor (Fig. 279). In theory, it is furthermore possible that some very shallow pits have escaped our notice.

Three different types occur:

- a.* six-post,
- b.* two-post, and
- c.* exceptionally large huts.

#### **a. Six-post Huts** (Fig. 37, 38; Pl. 5)

By far the greatest number, one hundred and eighteen out of one hundred and forty, belong to this type:

1 (C <sup>n</sup> -15)	9 (D <sup>l</sup> -24)	17 (D <sup>kl</sup> -30)	25 (C <sup>op</sup> -41)
2 (C <sup>no</sup> -15/16)	10 (D <sup>mn</sup> -24)	18 (E <sup>e</sup> -27/8)	26 (C <sup>pq</sup> -40)
3 (C <sup>jz</sup> -13/4)	11 (D <sup>k</sup> -22)	19 (C <sup>i</sup> -37)	27 (C <sup>qr</sup> -40/1)
4 (C <sup>uv</sup> -21)	12 (E <sup>de</sup> -27)	20 (C <sup>i</sup> -27/8)	28 (C <sup>v</sup> -36/7)
5 (C <sup>tu</sup> -25)	13 (E <sup>a</sup> -21/2)	21 (C <sup>hi</sup> -38)	29 (C <sup>v</sup> -38/9)
6 (C <sup>v</sup> -25)	14 (C <sup>ij</sup> -31)	22 (C <sup>hi</sup> -38/9)	30 (C <sup>wx</sup> -37)
7 (D <sup>j</sup> -25)	15 (D <sup>ij</sup> -29)	23 (C <sup>f</sup> -40/1)	31 (C <sup>xy</sup> -39/40)
8 (D <sup>lm</sup> -24/5)	16 (D <sup>i</sup> -29)	24 (C <sup>lm</sup> -39)	35 (D <sup>de</sup> -39/40)



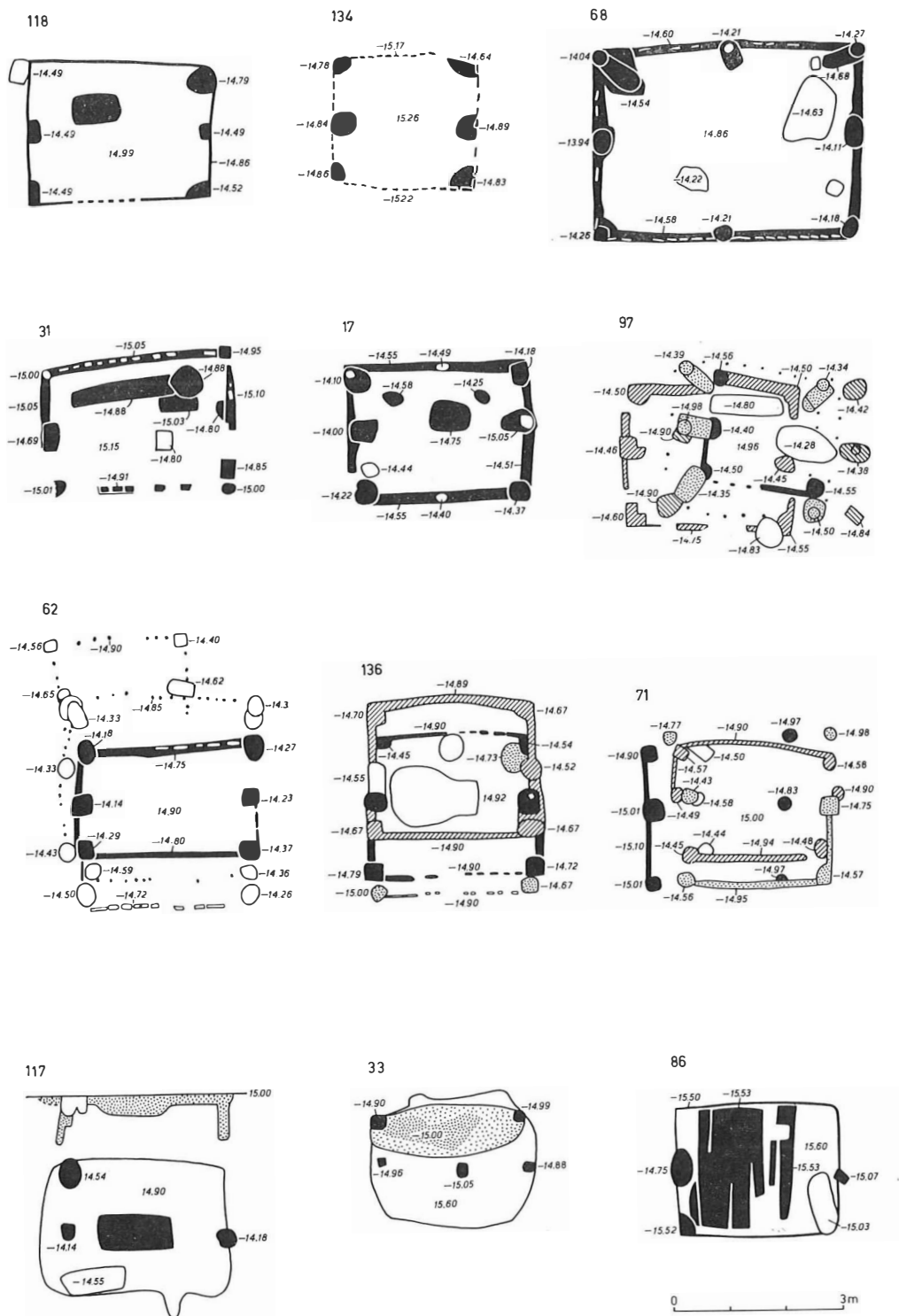


Fig. 37. Sunken huts: six-post and two-post huts.

36 (D <sup>f</sup> -36/7)	62 (D <sup>u</sup> -40/1)	88 (D <sup>wx</sup> -48)	113 (D <sup>l</sup> -59/60)
37 (D <sup>fg</sup> -38)	63 (D <sup>x</sup> -43/4)	89 (E <sup>ab</sup> -48)	114 (D <sup>no</sup> -55)
38 (D <sup>hi</sup> -37)	64 (D <sup>xij</sup> -45)	91 (E <sup>cd</sup> -47)	116 (D <sup>op</sup> -58/9)
39 (D <sup>hi</sup> -35/6)	65 (D <sup>xij</sup> -46)	92 (E <sup>cd</sup> -46)	118 (D <sup>pq</sup> -58/9)
40 (D <sup>hi</sup> -35)	66 (E <sup>b</sup> -44)	93 (E <sup>de</sup> -46)	119 (D <sup>qr</sup> -60/1)
42 (D <sup>o</sup> -35/6)	67 (E <sup>cd</sup> -44)	94 (E <sup>f</sup> -46)	120 (D <sup>st</sup> -55)
43 (D <sup>pq</sup> -36)	68 (E <sup>cf</sup> -40)	95 (E <sup>g</sup> -45/6)	122 (D <sup>uv</sup> -53/4)
44 (D <sup>p</sup> -36/7)	69 (E <sup>fg</sup> -41)	96 (C <sup>rs</sup> -54/5)	123 (D <sup>uv</sup> -54/5)
48 (C <sup>t</sup> -45)	70 (E <sup>h</sup> -40)	97 (C <sup>st</sup> -57)	124 (D <sup>vw</sup> -55)
49 (C <sup>uv</sup> -42/3)	71 (E <sup>hi</sup> -42)	98 (C <sup>tu</sup> -54)	126 (D <sup>wx</sup> -54/5)
50 (C <sup>x</sup> -42)	72 (C <sup>u</sup> -47/8)	100 (C <sup>ij</sup> -59)	127 (D <sup>x</sup> -53)
51 ? (C <sup>ij</sup> -43)	73 (C <sup>st</sup> -48/9)	101 (D <sup>cd</sup> -54/5)	129 (D <sup>uv</sup> -61)
52 (C <sup>ijz</sup> -43)	74 (C <sup>tu</sup> -49/50)	102 (D <sup>b</sup> -59)	130 (C <sup>l</sup> -61)
53 (C <sup>ij</sup> /D <sup>a</sup> -43)	75 (C <sup>wx</sup> -50)	104 (D <sup>c</sup> -59)	131 (C <sup>rs</sup> -62)
54 (D <sup>bc</sup> -42)	76 ? (C <sup>ijz</sup> -50)	105 (D <sup>e</sup> -58)	132 (C <sup>t</sup> -64)
55 (D <sup>cd</sup> -43/4)	77 (C <sup>z</sup> /D <sup>a</sup> -50)	106 (D <sup>fg</sup> -58)	133 (C <sup>uv</sup> -64/5)
56 (D <sup>c</sup> -44/5)	78 (D <sup>ab</sup> -50)	107 (D <sup>h</sup> -58/9)	134 (C <sup>u</sup> -65)
57 (D <sup>d</sup> -44/5)	79 (D <sup>ab</sup> -47/8)	109 (D <sup>j</sup> -57)	135 (C <sup>v</sup> -65)
58 (D <sup>ef</sup> -43/4)	82 (D <sup>k</sup> -48/9)	110 (D <sup>jk</sup> -59)	136 (C <sup>vw</sup> -63/4)
59 (D <sup>fg</sup> -42)	84 (D <sup>k</sup> -50)	111 (D <sup>j</sup> -59/60)	139 (C <sup>tu</sup> -67)
60 (D <sup>p</sup> -41)	85 (D <sup>n</sup> -50)	112 (D <sup>k</sup> -60)	140 (C <sup>w</sup> -67)
61 (D <sup>rs</sup> -36/7)	87 (D <sup>u</sup> -48)		

Usually these huts first appeared as more or less rectangular pits with dark filling. In a few cases the pit had been intentionally filled in with mixed earth (*e.g.* 61), but generally it had silted up gradually. The silting process was often temporarily arrested when the pit was only partially filled: such a “rest-phase” could be seen in the sections as a black humus band curving up at the sides. In 44, a small floor of red baked clay was lying halfway up the filling in such a “rest layer”. The filling of 124 showed a bowl-shaped depression lined with red-burnt clay, which on a higher level appeared as a square band of clay.

In the next stage of excavation six post-holes showed up beneath the flat-bottomed pit, three on both short sides, generally surrounded by a narrow rectangular foundation-trench in which walls had stood, or with other traces of the walls between them. Still deeper, only the posts were left.

Occasionally, when the huts were shallow or when the excavation level was situated exceptionally far below the original surface, as for example in the eroded area in squares C<sup>t</sup>/D<sup>g</sup>-19/28, they were cut beneath the floor of the pit: 3-7, 10, 28, 53, 66, 82, 87, 91, 92, 93, 102, 119, 130. But, even then, the configuration of six post-holes with or without a surrounding trench was easily recognizable.

The huts were small:  $2.70 \times 2.00$  m. being the average dimensions. The individual measurements can be read from Fig. 38 (the measurements were taken between the centres of opposite post-holes and are averages). A precisely fixed relation between length and width does not appear to exist: some huts are square or nearly so, but most of them are markedly rectangular. However, a general relation between length and breadth can be observed, namely, the longer the hut, the broader it becomes.

Identical dimensions: 2, 3, 4; 30<sup>a</sup>, 31, 66<sup>b</sup>; 57, 106, 107; 119, 124, 126; 66<sup>a</sup>, 69; 51, 104<sup>a</sup>, 123<sup>b</sup>; 6, 42; 103<sup>a</sup>, 127; 39, 53, 67; 14, 22, 44, 88, 122; 55, 98<sup>a</sup>; 9<sup>a</sup>, 17, 63<sup>a</sup>; 52, 72; 10, 97<sup>d</sup>; 97<sup>a</sup>, 136<sup>b</sup>; 27, 87, 100, 105; 43, 54; 7<sup>c</sup>, 89<sup>b</sup>; 48, 71<sup>d</sup>.

The exact depth of the pits can no longer be ascertained, because the original ground level is not known. So much is certain, however, that it varied considerably. This becomes clear if one compares a number of huts lying closely together and which therefore must have been dug from roughly the same level. In the little group 110–113, to mention only one example, the difference in depth between 110 and 111 is half a metre. The average depth below the highest excavation level is about 25 cm.

Also the depth of the posts beneath the bottom of the pit is liable to variation. The average is here 40 cm. (extremes: 30 and 70 cm.). Moreover, the posts of one hut are practically never of uniform length, but the differences are not usually very great. There seems to be little system in this respect. In the following examples the middle-posts tend to be somewhat longer: 2, 3, 7, 16, 17, 29, 31, 35, 39, 40, 49, 50, 52, 53?, 55?, 56?, 57, 58, 59?, 61?, 62<sup>d</sup>, 63?, 65, 67, 68, 69?, 71<sup>d</sup>, 72, 77, 78, 79?, 89, 92, 93, 94?, 95, 96, 97<sup>a</sup>, 98, 100?, 103, 108, 109?, 114, 120?, 122?, 123, 124, 127?, 130, 131, 132, 133?, 135, 136, 140. But there are just as many cases where no significant differences are to be observed. The middle-posts can be even shorter than one or more of the corner posts.

In eighty-seven of the one hundred and eighteen six-post huts, traces were found of a rectangular foundation trench surrounding the floor and in which the walls had stood: 1, 3, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30?, 31, 35, 36, 37, 39, 40, 49, 50, 51?, 52, 53, 54?, 55, 56, 57, 58, 59, 60, 62<sup>d</sup>, 63, 64, 66, 68, 70, 71, 72, 75, 76?, 77, 78?, 79, 82, 84, 86, 89, 91, 92, 93, 95, 96, 97<sup>ab</sup>, 98, 100, 102, 105, 106, 107, 109, 112, 113, 114, 116, 119, 120, 122, 123, 124?, 126, 127, 130, 133, 135, 136, 140.

Of the remaining thirty-one huts, 4, 6 and 19 were cut below their floors, so that in these cases a foundation-trench may also have been present. The other twenty-eight huts showed no traces of a trench and most of them probably did not have one.

As far as could be seen, the posts stood on the inside of the trench; they stood in the corners and roughly in the middle of the short sides, and the spacing of the post-holes and consequently of the posts themselves was often rather irregular. Only a few huts had a pair of additional post-holes in the middle of the long sides, smaller and shallower than the other six: 15, 17, 24, 27, 28, 35, 40, 68, 95?, 98 and perhaps 87.

The trench is nearly always rectangular; in only a few cases (*e.g.* 16) do its long sides curve slightly outwards. The trenches reached between 10 and 25 cm. below the floor of the pit.

In thirty-four cases, 3, 5, 7, 9, 14?, 15?, 16, 25, 31, 35, 36, 37?, 39, 40, 49, 50, 55, 56, 57, 59, 60, 62, 63, 64, 68, 72, 82, 98, 100, 114, 120, 127, 135, 136, the impressions of planks (width 10–30 cm. ?) were revealed on the bottom of the trench. The planks did not reach much deeper than the trench itself, and thus only when the circumstances were favourable and when exactly the right level was cleaned could the impressions be observed.

The traces of the walling are nowhere complete, but where more than only a few disconnected impressions were found, as *e.g.* in the case of 68, it becomes clear that the planks were set side by side with little or no space in between.

A few small stake-holes were found in the southern wall of 106; the northern wall of 124 seems to have been made of planks, whereas the southern one consisted of stakes. However, 124 did not show a distinct foundation-trench and therefore it remains a rather unreliable representative of the type under discussion. The few and shallow stake-holes of 106 are not very reliable either.

So on the whole, if traces of the actual walling are found, only impressions of planks are to be seen in the foundation-trenches. In forty-three out of the eighty-seven trenches no traces whatsoever of the walling were discovered; this is easily explained by assuming that in principle the planks rested on the bottom of the trench, while only occasionally and by chance were a few pushed in a little deeper. The conclusion must be that the wall, which consisted of vertical planks joined together, was a feature of the six-post huts with foundation-trench.

There are, however, six-post huts without foundation-trenches: 2, 11, 18, 21, 38, 42, 43, 44, 48, 61, 65, 67, 69, 73, 74, 85, 88, 94, 103, 104, 110, 111, 118, 129, 131, 132, 134, 139; to these twenty-eight examples some phases of the multi-period huts 62 and 97 may be added. No certainty about 4, 6 and 19 can be obtained in this respect (*vide supra* pp. 32, 80).

Two methods of constructing the wall occur in these huts. First, the already familiar wall consisting of vertical planks is found: 2, 21, 43, 44, 61, 73, 103, 104, 110, 118, 134. It is either represented by rows of separate plank impressions (134) or sometimes by an uninterrupted narrow dark band (73, 110, 118). The impressions of the planks are always narrow and in one case (61) partly resemble stake-holes, which may be due to the fact that the very pointed ends appear in the excavation level. If indeed 124 did not have a foundation-trench (only a few uncertain indications were found, *vide supra*), then it could be best included here.

Apparently the planks of these walls were not just resting on the bottom of the pit, but went down a little deeper (not more than 10 cm.). They were probably rammed in intentionally. This explains why now if one hits upon exactly the right

level, the complete line of the wall appears (43, 73, 103, 104, 110, 118, 134).

The walls of the trenchless huts 11, 18, 62<sup>a</sup>, <sup>b</sup>, <sup>c</sup>, 85, 88, 97<sup>d</sup> and 132 were constructed differently. In these cases, a row of tiny pin-prick holes standing some 20 cm. apart and reaching about 10 cm. below the bottom of the pit was found around the edge of the floor. The small holes were evidently left by the vertical stakes of a wattle-and-daub wall.

The last method is not common; apparently the wall of planks was preferred. Chronologically, no clear division between both constructions can be established: 62 has two or three phases with stake walls and is followed by a hut with trench and planks, whereas the order is reversed in 97.

Finally, we are left with a few six-post huts, 38, 42, 48, 65, 67, 69, 74, 94, 111, 129, 131, 139 (only partially excavated and therefore imperfectly known), where no traces of the wall at all were discovered. They may have had a wall of planks or one of wattle-and-daub construction: the traces of both types can be easily missed because they are so shallow. But this much is certain, that they could not have had a foundation-trench: in all these huts the first excavation level lies above their floor level and if a foundation-trench had been present, it would not have escaped our notice. Two of them, 38 and 129, show the pair of additional post-holes in the middle of the long sides, a feature occurring sometimes in the huts with trenches (*vide supra*: p. 80).

A hearth was found in 12, 17, 20, 22, 29, 35<sup>?</sup>, 67, 69, 73, 105, 136<sup>c</sup> (?). It consisted of a patch of dark earth speckled with coal, the subsoil burnt to a yellow-red underneath. The hearth generally lies off-centre. In 17 it was paved with sherds.

Below the floor of many huts, post-holes and pits came to light: (3), (5), 8, 9, 12, 13, 14, 17, (19), 20, 22, (24), 25, 26, 27, (28), 29, 31, 35, (36), (37), 38, 39, 48, 49, 50, 51, 52, (53), 54, 58, 59, 63, 64, (66), 68, 73, 75, 79, (82), 84, (89), 97<sup>d</sup>, (102), 106, 109, 110, 112, 113, 114, (118), (120), 129, 132, 136, 139.

In principle, holes emerging below the floor must be either older than or contemporaneous with the hut in question. In practice, however, a hole, especially a small post-hole cutting through the frequently mixed filling of the hut, may not have been noticed. It remains curious that so few overlappings of post-holes with huts were observed. Nevertheless, it should be accepted as a working hypothesis that traces appearing underneath the huts (or other pits) are older, or may be contemporaneous. It goes without saying that traces in huts cut exactly at floor level or below (numbers between brackets) can also be younger.

In general, it is impossible to distinguish older from contemporaneous traces. In a few instances, it is clear that post-holes beneath a particular hut belonged to another building (*e.g.* (36), 63, 79, 82, 112, 113), but often there is no clue whatever. Frequently, however, there seems to be no connection at all between the pits or post-holes and the huts.

Only one exception has to be made: in 5, 8, 9, 14, 31, 37, 38, 54, 59, 75, 84?, 97, 112 narrow rectangular pits were found lying always in the northern half. There can be no doubt that these pits belong to the huts. Their length varies between 1 and 2 m., their width between 30 and 50 cm., and they reach from 10 to 20 cm. below the floor. In 25, 27, 49 and 118 one smaller pit or a row of smaller pits appears at the same place.

The entrance has left no traces. The most natural place would be in one of the short sides and then most probably in the southern half, because the pits mentioned above lie consistently at the northern side.

The orientation of the huts is approximately west-east varying between WNW-ESE and WSW-ENE.

Many huts have been repaired, often several times, or completely rebuilt, keeping to their original place and orientation: 3, 5, 7, 8, 9, 12, 20, 25, 27?, 29, 30, 43, 44, 50, 53?, 55, 62, 63, 66, 71, 78?, 82, 89, 97, 98, 103, 104, 109, 116, 120, 123, 130, 135, 136, 140. The most spectacular cases are 62, 71, 97 and 136 which were reconstructed three or even five times.

The six-post hut seems to be fond of company. Often two or more are lying closely together in small groups, but it is difficult to tell whether the huts of such a group are all strictly contemporaneous.

A curious structure 142 (D<sup>xy</sup>-53), is best mentioned here. It seems to be a six-post hut with a large, oval, round-bottomed pit projecting beneath its floor. The pit is flanked on one side by the western middle-post, on the other by an additional pole.

#### b. Two-post Huts (Fig. 37, 38)

This type is represented by only sixteen huts:

32 (C <sup>wx</sup> -40/1)	80 (D <sup>gh</sup> -46/7)	115 (D <sup>op</sup> -57)	128 (D <sup>u</sup> -61)
33 (D <sup>cd</sup> -36)	81 (D <sup>ij</sup> -48/9)	117 (D <sup>pq</sup> -57/8)	137 (C <sup>ijz</sup> -64)
34 (D <sup>d</sup> -39)	86 (D <sup>st</sup> -49/50)	121 (D <sup>tu</sup> -56)	138 (C <sup>t</sup> -66)
41 (D <sup>kl</sup> -35/6)	101 (C <sup>z</sup> -56/7)	125 (D <sup>wx</sup> -54)	141 (D <sup>z</sup> -47/8)

The two-post hut can only be recognized when its pit lies in the excavation level. Below the bottom of the pit merely two post-holes remain visible, and this, in contrast with the six posts of the preceding type mostly combined with surrounding trench, is not a distinguishable configuration. Consequently the original number may have been slightly higher, but probably not appreciably so. About 15% of the six-post huts was cut below floor level, and if the same figure were valid for the two-post hut, their original number would have been eighteen or nineteen.

These huts are characterized by usually rectangular pits and two post-holes placed in the middle of the short sides and protruding below the bottom of the pit.

The pits have approximately the same dimensions as those of the six-post type: average  $2.80 \times 2.24$  m. (Fig. 38, the measurements were taken between the edges of the pits). Here the connection between length and width is even more marked. The pits still had an average depth of 20 cm. beneath the highest excavation level.

The average depth of the two post-holes beneath the bottom of the pit is 50 cm. (extremes: 20 and 85 cm.). There may be differences in length up to 20 cm. between the posts of one and the same hut.

Sometimes posts were found in one or more corners of the pit (3 in 138). These are, however, always much shallower than those in the middle and never of equal length as in the preceding type. They presumably supported the walls and one may have stood at each corner, but then apparently they were so shallow that they left no traces.

Only scanty remains of the walls have been preserved. In 115, part of a foundation-trench seems to be present, but it is anything but certain. Plank impressions were not observed anywhere and it is likely that the wall of planks did not belong to this type with, perhaps, the one exception of 86 where a dark contour line seems to indicate such a wall. Instead of this, the wall of stakes was used, as is testified by 41 and 125.

Hut 86 had a floor partly covered by heavy planks.

The rectangular narrow pit known from the six-post type appears again beneath the floor of 117, where it now lies in the main axis; and perhaps in 80, where it occurs again on its usual spot. In 33 and 81, it is more irregular and fills the whole northern half of the hut. The one of 33 is flanked by two posts of the same depth as the two in the middle of the short sides; a pole in the centre of the hut seems to belong to it. These pits are shallow: 10–20 cm. The one in 117 had a flat bottom.

A large patch filled with charcoal in 138 and a smaller round one in the north-western corner of 115 may be hearths.

The orientation is again approximately E-W, between the extremes NE-SW (137 and NW-SE (125).

Except in 80, no traces of repairs were noticed.

The two-post huts occur generally in an isolated position.

In the one case in which a two-post hut is in contact with a six-post one, the latter is the younger.

### c. Large Huts (Fig. 39; Pl. 6)

Four huts, 83, 90, 99, 108 are singled out because of their size, but as far as their

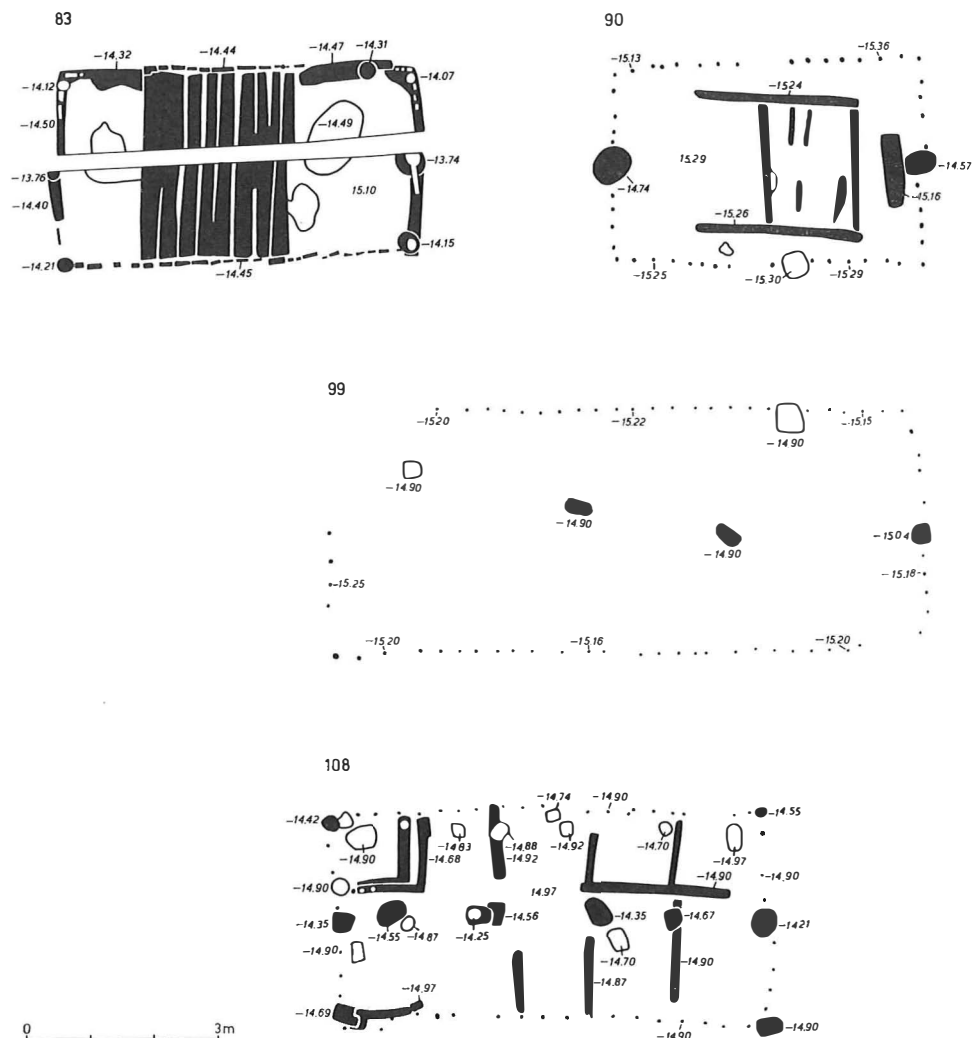


Fig. 39. Sunken huts: large huts.

principal constructional details are concerned they do not form a separate or uniform group but share the characteristics of both preceding types.

83 is a splendidly preserved hut of  $5.60 \times 2.80$  m. showing the features of type *a*: six posts and a wall of narrow vertical planks set side by side in a shallow foundation-trench. Its pit reaches 70 cm. below the highest excavation level. The posts in the middle go down to 80 cm. below the floor, which is 25 cm. more than the others in the corners. The planks of the walls protrude 20 cm. below floor level.

On the higher levels, the pit showed a rectangular protuberance of about 80 cm. wide and 1.20 m. long at its south-western end, which went down for approximately



40 cm. On floor level, no plank impressions were found behind it and, instead of the foundation-trench, a separate somewhat broader and deeper trace, resting at one end against the middle-post, was to be seen; this probably represents a threshold. It is clear that the entrance has to be assumed here, the door swinging from the middle-post.

In the interior behind the entrance a few centimetres above the floor, a round patch with traces of fire was observed; this probably forms part of the filling. The actual hearth showed itself in the main axis as a patch of *Branderde* and charcoal.

The middle part of the floor was covered with heavy planks, about 20–30 cm. wide, going from wall to wall. On this platform several fragments of a large pot were found. Only part of the floor was covered, and this is paralleled in the small hut 86 and to a certain degree also in 90.

Along the eastern end of the northern wall, a balk trace was established (depth 20 cm. below floor level) and in this corner an additional post-hole showed itself. Probably the configuration must be interpreted as a second entrance.

At the eastern side of the platform, a rather deep pit was observed. Also at the eastern side of the platform and resting against it, a second patch appeared a few centimetres above the floor and reached just beneath it.

The orientation of this hut is WNW–ESE.

Hut 90 was lying in a shallow depression filled in with black earth, under which plough marks had been preserved. Except 90, the smaller hut 89 and the well 12 appeared underneath.

This hut belongs to type *b*: it has only two posts set in the middle of the short side, reaching 66 and 83 cm. below the floor. Its pit of  $5.00 \times 3.20$  m. had a depth of 40 cm. beneath the highest excavation level. Along its northern wall runs a row of round or oval pits; the rectangular one in the middle overlaps the other pits and the hut itself.

The undoubtedly wattle-and-daub wall was represented by a row of small stakes (depth 10–20 cm.) without clear indication of the entrance.

In the interior, a narrow rectangular round-bottomed pit (depth 20 cm.) was found in front of the eastern middle-post. Behind it, in the eastern part of the hut, traces of a U-shaped platform appeared. It consisted of a frame of balks (12 cm. broad and 15 cm. deep), open on the west side; the eastern half was filled in with planks. The narrow pit mentioned above seems to have some connection with this platform.

The orientation of the hut is nearly NW–SE.

Hut 99 is overlapped by palisade trenches and partly by a well; some of its details remain obscure. With its two posts, one 21 cm. deep, the other of unknown depth, it has to be associated with type *b*.

The dimensions of the pit are enormous:  $9.40 \times 3.80$  m.; the floor was only 15 cm. below excavation level.

Again a row of stake-holes (depth 5–10 cm.) indicates a wattle-and-daub wall.

Two posts, both 35 cm. deep, could represent a row of middle-posts, which, considering the length of the hut, were absolutely indispensable, if the structure was roofed over.

The floor showed spade-marks on a few spots and was not flat: rather deep (30 cm.) irregular pits jut out beneath it.

Orientation W–E.

Hut 108 is again related to type *a*: it has six posts, the two in the middle being deeper (75, 90 cm.) than the others (45 cm.).

The pit of  $6.80 \times 3.20$  m. had a depth of only 15 cm. below excavation level.

The wattle-and-daub wall left stake-holes with a depth of 20 cm. In the southwestern corner, a balk impression with a post-hole of around 30 cm., indicates the place of the entrance. On the highest excavation level the pit protruded slightly at this spot. It must be a coincidence that a small rectangular pit lies in front of the entrance; its axis shows a certain deviation from that of the hut.

The pit's length made a row of middle-posts necessary. They were set at rather irregular intervals: depth between 40 and 85 cm.

A row of posts runs along the inside of the northern wall (depth 25 cm.).

The interior is divided up by balk traces into two rows of partitions resembling cattle-stalls, between 1.20 and 1.40 m. wide. As is to be expected, the area behind the entrance remains free.

Orientation WNW–ESE.

## B. GRANARIES

In many Roman period or earlier settlements unearthed in the northern part of this country, square or rectangular configurations of four or six posts occur which in Dutch archaeological literature are referred to as *spiekers* (*Speicher*; *spicaria*). They are considered to represent outhouses serving as storage places for crops or hay.

At our site, also, both types belong to the common features. The twelve-post configuration is new to our region and was found only three times. In our opinion, it falls within the same category.

The very simple ground-plans formed by four or six holes are not always easily recognizable, especially where post-holes and other traces crowd each other out. There is reason to fear that some have been overlooked. On the other hand, it is well possible that in some cases we have been too eager to recognize granaries. During the excavation "granary making" was one of the favourite sports. However, in most cases no reasonable doubt can exist.

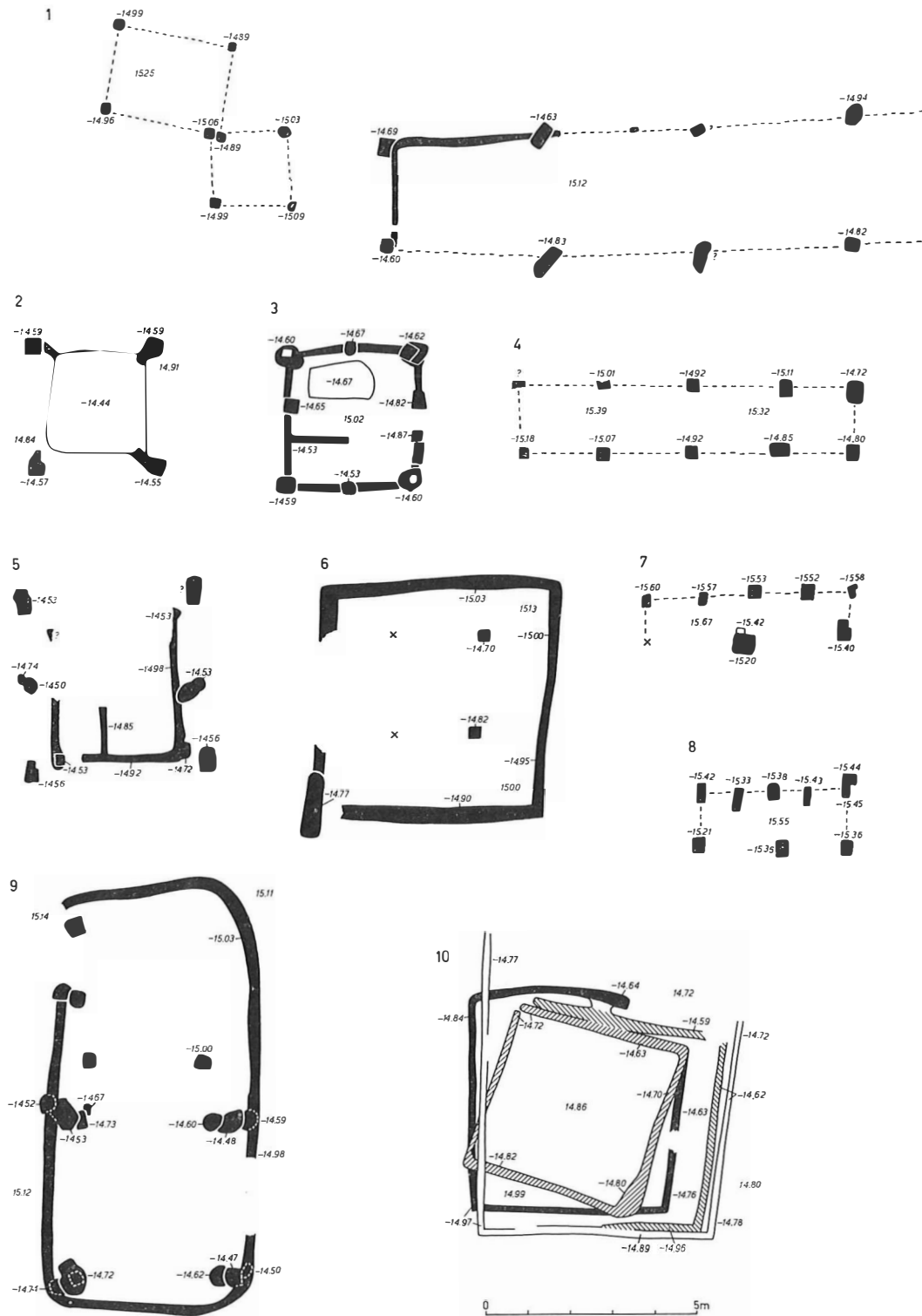
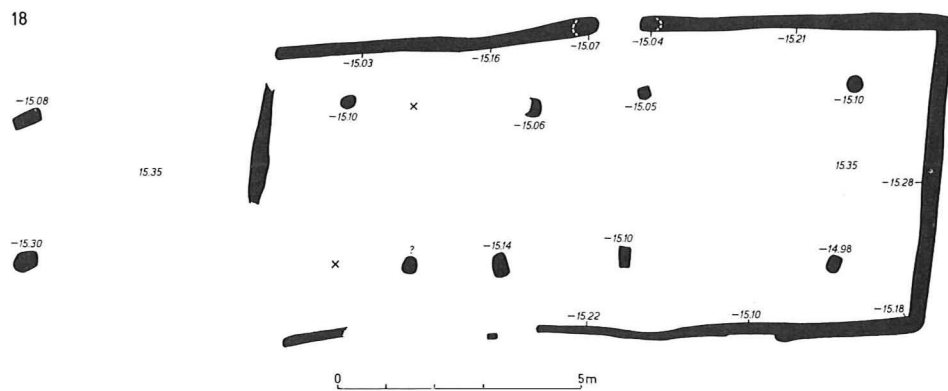
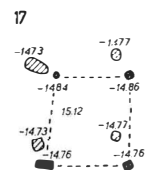
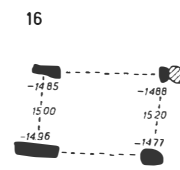
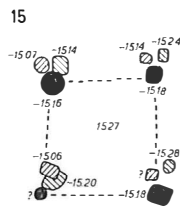
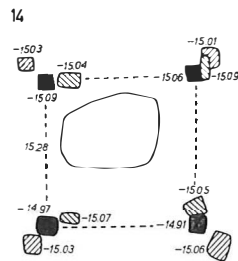
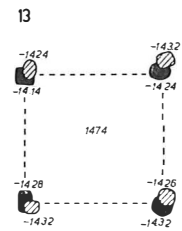
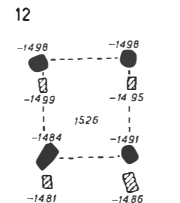
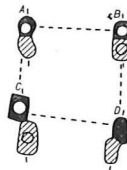
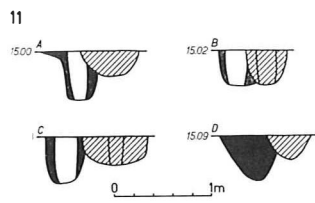
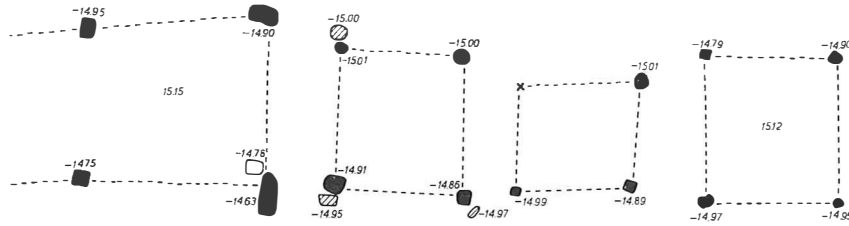


Fig. 40. Granaries: four-post granaries. 1: C<sup>x</sup>D<sup>b</sup>-46/8, 2: C<sup>n</sup>-48, 3: C<sup>o</sup>-47/8, 4: D<sup>qr</sup>-39/41, 5: C<sup>lm</sup>-47/8, 14: C<sup>uv</sup>-39/40, 15: D<sup>lm</sup>-37/8,



7: D<sup>vw</sup>-47/8, 8: D<sup>xy</sup>-47/8, 9: C<sup>no</sup>-45/6, 10: D<sup>gh</sup>-30/2, 11: C<sup>p</sup>-54/5, 12: E<sup>a</sup>-34, 13: D<sup>h</sup>-17, 14: D<sup>f</sup>-43/4, 17: D<sup>yz</sup>-33/4, 18: D<sup>lo</sup>-42/4.

### a. Four-post Granaries (Fig. 40)

Simple ground-plans of four post holes only betray their presence when they are characterized by some degree of regularity, *e.g.* when the holes have the same filling or shape or are lying at regular intervals. Such configurations may be considered certain, as far as certainty goes in this case, and were found a hundred to hundred and ten times.

The structures represented by these plans appear to have been approximately square. Very few are exactly square. Often the sides differ by 10 cm. or occasionally by 20 cm. in length (measured between the centres of the post-holes). Some were clearly rectangular (like *e.g.* those in squares C<sup>f</sup>-43/4, C<sup>s</sup>-40/1, C<sup>st</sup>-41, C<sup>vw</sup>-47, C<sup>xy</sup>-64/5).

There is a wide variation in size: the sides of most granaries are between 1.50 and 3.50 m. (average around 2.50 m.) long. Only one or two (C<sup>uv</sup>-39/40, D<sup>ef</sup>-17/8) are larger.

The post-holes are not of uniform depth. Differences of more than 20 cm. within the same configuration are not exceptional. The average depth below excavation level lies at around 30 cm.

In squares C<sup>lm</sup>-47/8 and C<sup>o</sup>-47/8, we meet with two more elaborate structures, where foundation-trenches between the four posts testify to a wooden wall (Fig. 40: 3,5). The best preserved one shows a door in the middle of one side and an additional post-hole in the middle of the opposite wall. Both are divided into two rooms of different size. In the bigger room of the granary in squares C<sup>o</sup>-47/8 lies a pit that may belong to it.

The structures in squares C<sup>hk</sup>-46/8, which also consist of post-holes with interlying trenches, could have been granaries too. Their plan, however, is incomplete and not fully clear.

In squares C<sup>ik</sup>-46/7, a probable four-post granary was surrounded by a square ditch perhaps representing a fence (Fig. 40: 6). A sequence of four such square trenches occurs in squares D<sup>st</sup>-30/2, but here without a configuration of post-holes in the centre (Fig. 40: 10). Its function remains obscure.

In squares C<sup>no</sup>-45/6, a four-post (or six-post?) granary lies in the southern half of a subrectangular enclosure, which has its entrance in the north-western corner (Fig. 40: 9).

The granary in square C<sup>n</sup>-48 seems to have been set over a deep square flat-bottomed pit (Fig. 40: 2). Sometimes a pit is found within a configuration of post-holes, but this may be a coincidence.

Additional holes often give evidence of repairs. A complete double or even triple set of post-holes showing that the granary was rebuilt once or twice on the same spot is by no means exceptional, *e.g.* C<sup>p</sup>-54/5, C<sup>uw</sup>-39/40, D<sup>h</sup>-17, D<sup>lm</sup>-37/8, D<sup>yz</sup>-33/4, E<sup>a</sup>-34 (Fig. 40: 11-7).

# Outhouses

91

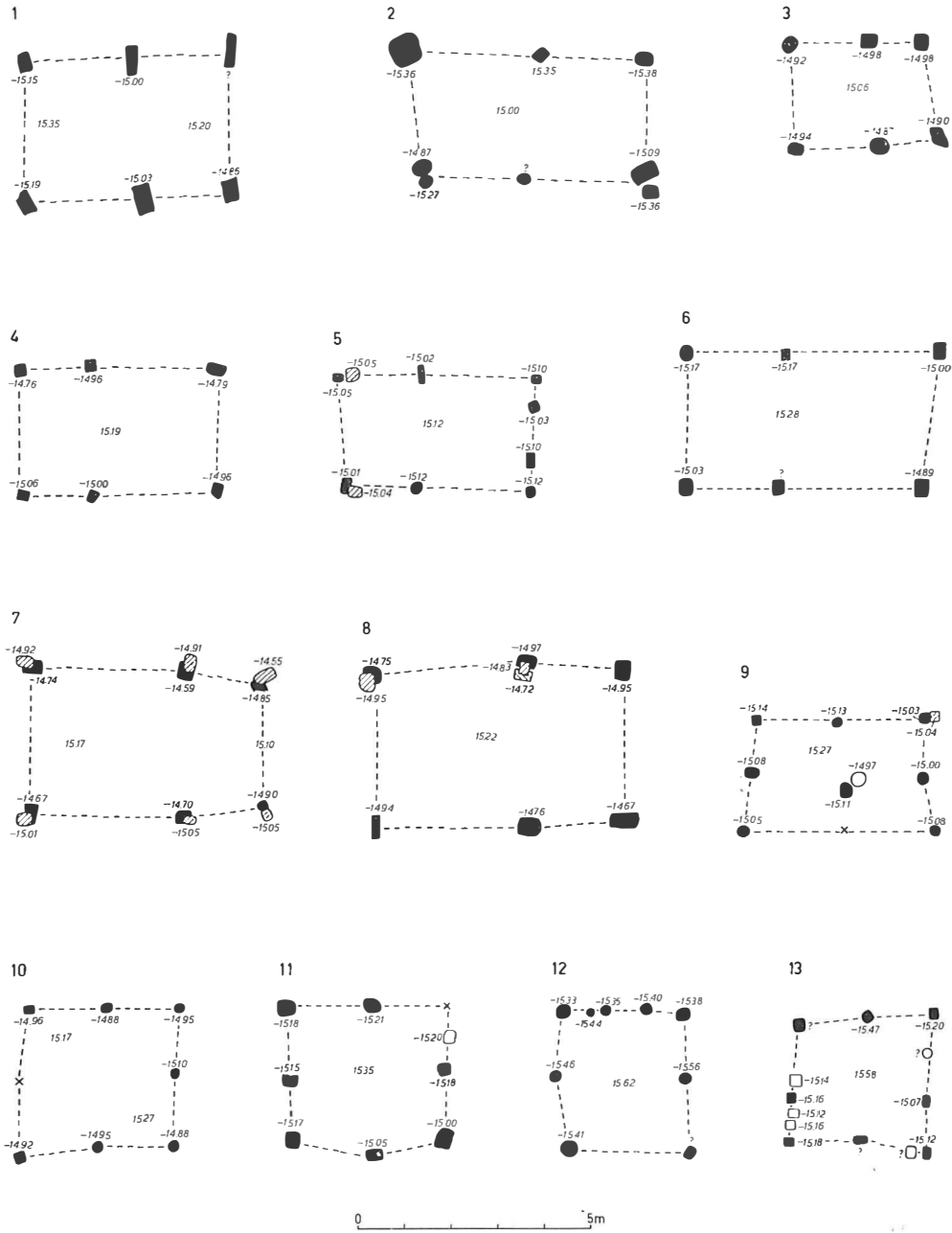


Fig.41. Granaries: six-post granaries. 1:  $D^{op}$ -55/6, 2:  $D^{tu}$ -46/7, 3:  $D^{hi}$ -39/40, 4:  $D^{jk}$ -29, 5:  $D^{ab}$ -41, 6:  $C^{tv}$ -39/40, 7:  $D^{gh}$ -29/30, 8:  $D^{ef}$ -30/1, 9:  $D^{bd}$ -30/1, 10:  $E^{de}$ -38, 11:  $C^{xy}$ -62/3, 12:  $D^{tu}$ -47/8, 13:  $C^{jk}$ -40.

The four-post granary is omnipresent at this site. Isolated specimens are rare; it occurs practically always in groups or rows of two or more. The granaries have the same orientations as the houses, fences, *etc.*: NW-SE, NNW-SSE, W-E and WNW-ESE.

It is clear that the type is too simple to allow for much further subdivision. It is, however, worth noting that many, though by no means all, granaries with NW-SE and NNW-SSE orientation and some of those with WNW-ESE direction have round and often small post-holes: CP-48, CPq-56/7, CPq-57/8, Cqr-57, Cs-39/40, Cs-40/1, Cst-56, Ctu-41/2, Ctu-56/7, Cuv-43/4, Cv-45, Cuv-44, Cw-45/6, Cwx-43/4, Cv-44, Dc-14/5, Dd-13, Dg-28/9, Dgh-28/9, Dgh-45/6, Dh-18, Dkl-46/7.

The rows of paired posts found in C<sup>x</sup>D<sup>b</sup>-46/8 (*ca.* 1.8 × 3 m.; depth 36 cm.) and Dqr-39/41 (*ca.* 7.70 × 1.60 m.; depth 35 cm.) can best be understood as a series of four-post granaries linked together (Fig. 40:1,4). The one in C<sup>x</sup>D<sup>b</sup>-46/8 is included in a row of four granaries and is therefore clearly of the same class. Two configurations in D<sup>vw</sup>-7/8 and D<sup>xy</sup>-47/8 seem to be related (Fig. 40:7,8).

#### b. Six-post Granaries (Fig. 41)

Rectangular configurations consisting of six posts and representing a more elaborate type of granary are much more rare. We counted *ca.* twenty-five specimens only. These configurations are sufficiently conspicuous not to be overlooked in the field.

Here a subdivision into two sub-types is possible. One can be described as a four-post granary with two additional posts: four out of the six posts are placed in a more or less exact square and the remaining pair always follows at a shorter, but otherwise varying, interval (Fig. 41:4-8).

In its typical form it occurs nine times: C<sup>tv</sup>-39/40, C<sup>wx</sup>-16/7, D<sup>ab</sup>-49, D<sup>de</sup>-28/9, D<sup>ef</sup>-17, D<sup>ef</sup>-30/1, D<sup>gh</sup>-29/30, D<sup>jk</sup>-29, D<sup>op</sup>-45/6.

Dimensions vary from 4.20 × 2.70 or 4.50 × 2.40 to 5.50 × 3.40 m. (average 4.90 × 3.10 m.). The depth of the post-holes is again not uniform (average depth below excavation level, 32 cm.). Some of these granaries show traces of repairs.

Among the granaries of this sub-type only the W-E and WNW-ESE orientation are found. They lie isolated or in rows (*e.g.* in squares D<sup>ek</sup>-29/30), sometimes together with four-post specimens.

With the second sub-type, the intervals between the three pairs of post-holes are mostly unequal also (a few times almost equal), but the bigger interval always remains considerably shorter than the width of the structure (Fig. 41:1-3).

Fifteen specimens have been recognized: C<sup>r</sup>-56, D<sup>ef</sup>-30/2, D<sup>hi</sup>-14/5, D<sup>hi</sup>-39/40, D<sup>hi</sup>-54/5, D<sup>op</sup>-55/6, D<sup>op</sup>-56/7, D<sup>p</sup>-37/8, D<sup>pq</sup>-38/9, D<sup>qr</sup>-38, D<sup>s</sup>-47/8, D<sup>t</sup>-44/5, D<sup>tu</sup>-46/7, D<sup>tu</sup>-47/8, E<sup>f</sup>-35/6. Four of these (D<sup>hi</sup>-14/5, D<sup>hi</sup>-54/5, D<sup>p</sup>-37/8, D<sup>s</sup>-47/8) are

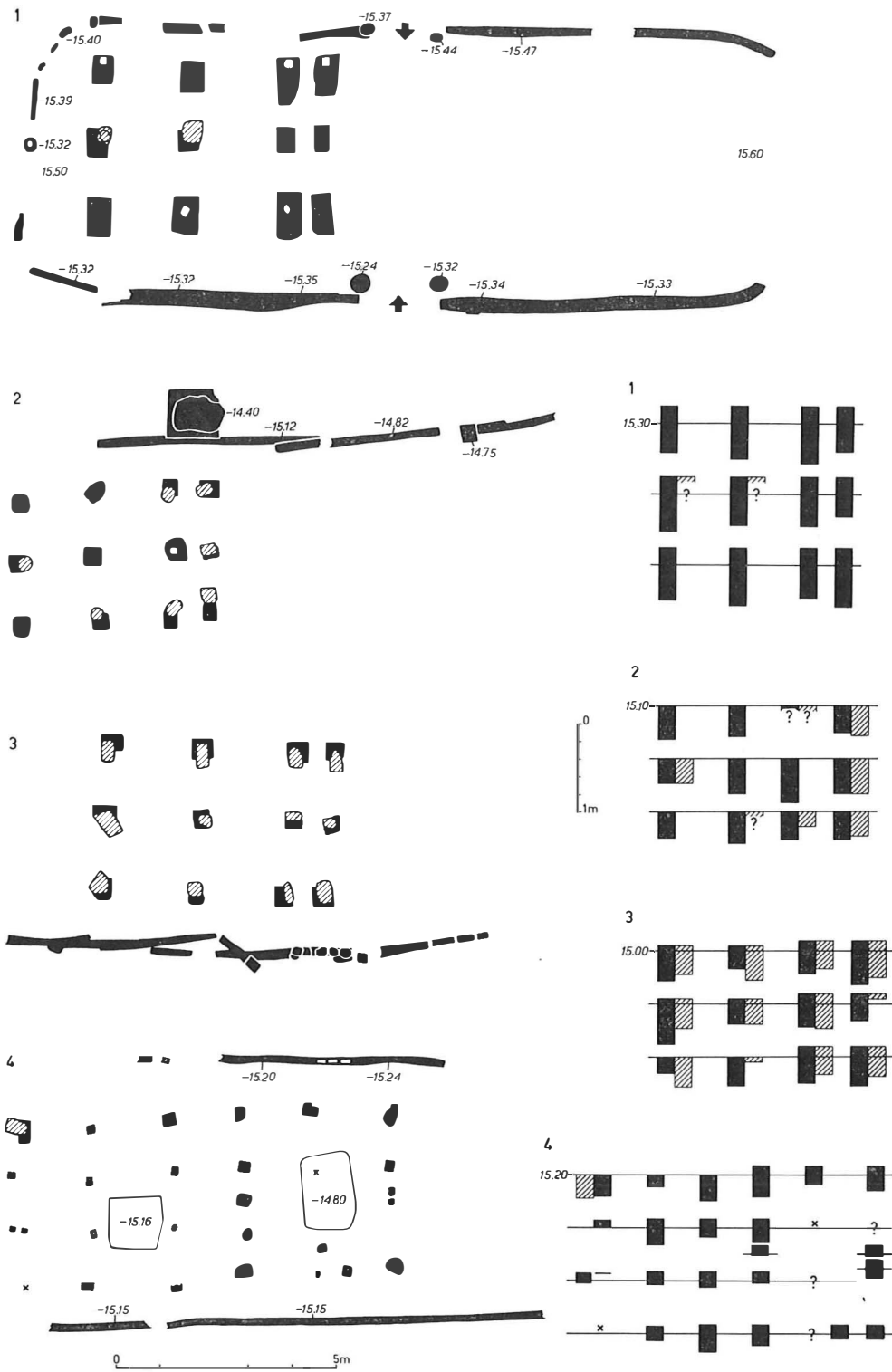


Fig. 42. Granaries: twelve-post granaries. 1: C<sup>lm</sup>-40/1, 2: D<sup>cf</sup>-26/7, 3: C<sup>uv</sup>-36/7, 4: D<sup>j</sup>-36/7.



rather irregular and therefore uncertain. A characteristic specimen is the granary in squares D<sup>op</sup>-55/6 (Fig. 41:1). The six posts in squares C<sup>lm</sup>-47/8 might represent a separate six-post granary but more probably they have some connection with the four-post granary with its trench, which they surround.

Again one notes much variation in size: some are square or nearly so (D<sup>qr</sup>-38:  $2.40 \times 2.40$  m.), others rectangular (average  $3.40 \times 2.60$  m.; a large one in D<sup>tu</sup>-46/7:  $5.10 \times 2.90$  m.). The average depth of the post-holes is 27 cm. Here and there extra posts point to repairs.

The sub-type is only found in the eastern part of the excavated area, where it lies alone or belongs to small groups. It does not form part of the long rows of granaries. It furthermore shows a predilection for the NE-SW, NNE-SSW and NNW-SSE directions. Only once has a configuration of this type an E-W orientation (D<sup>op</sup>-56/7).

Two somewhat irregular settings of six posts (C<sup>tu</sup>-32, C<sup>yz</sup>-44/5) may be granaries or six-post huts. Three or four times one finds a square setting and once a rectangular setting of six posts (C<sup>ik</sup>-40?, C<sup>xy</sup>-62/3, D<sup>bd</sup>-30/1, D<sup>tu</sup>-47/8, E<sup>de</sup>-38): these are probably granaries too (Fig 41:9-13).

### c. Twelve-post Granaries (Fig. 42; Pl. 7)

A neat and regular configuration of twelve large rectangular post-holes occurs three times: C<sup>lm</sup>-40/1, C<sup>uv</sup>-36/7, D<sup>cf</sup>-26/7. The posts are arranged in four rows of three with equal distances between the posts in each row; two of the intervals between the four rows are equal, the third much smaller.

The granary in squares D<sup>cf</sup>-26/7 (Fig. 42:2) measures  $4.30 \times 2.80$  m. ( $180 + 160 + 90 \times 140 + 140$ ); the other two (Fig. 42:1,3) are of identical dimensions:  $5.10 \times 3.30$  m. ( $210 + 210 + 90 \times 160 + 170$ ). The depth of the holes beneath excavation level is 36, 58 and 87 cm. respectively. All three show traces of repairs.

These granaries were lying separately, two of them in close combination with a farm. The one in squares C<sup>lm</sup>-40/1 was surrounded on three sides by a fence represented by a subrectangular trench with two opposite entrances in the middle of the long sides. In the other two, minor traces of such a trench have been preserved.

The configurations have the same orientation: E-W; in two cases a small deviation occurs.

In this connection, we may mention also the rectangle formed by six rows of four posts each in squares D<sup>ij</sup>-36/7 (Fig. 42:4;  $8.40 \times 3.50$  m.; average depth of post-holes, 24 cm.). Its meaning is not completely clear: it could perhaps also be interpreted as two square buildings standing side by side. Two fragments of foundation-trenches seem to indicate that the structure was fenced in.

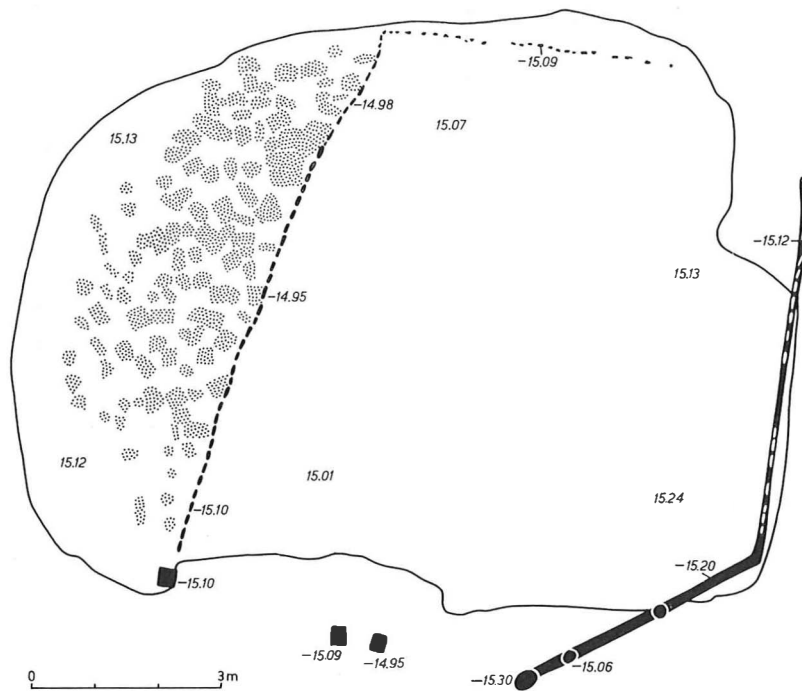


Fig. 43. Sheepfold (D<sup>r</sup>E<sup>c</sup>-40/2).

#### C. SHEEPFOLD (Fig. 43)

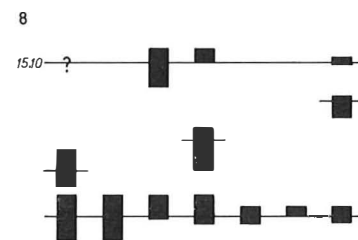
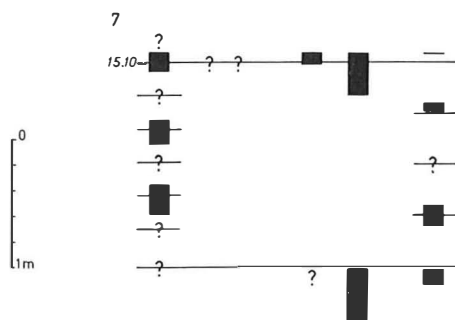
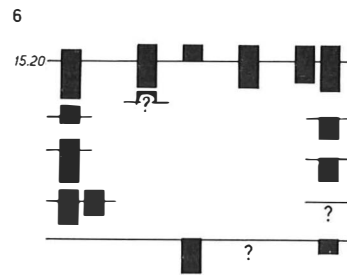
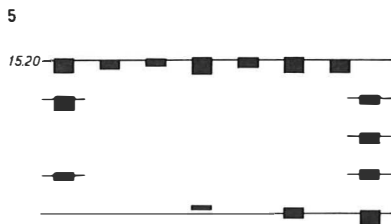
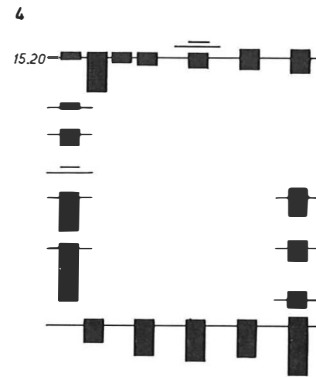
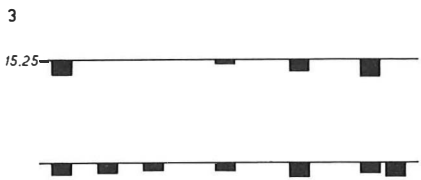
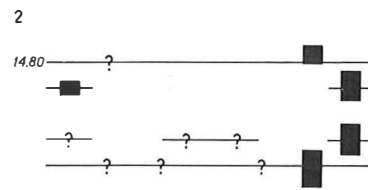
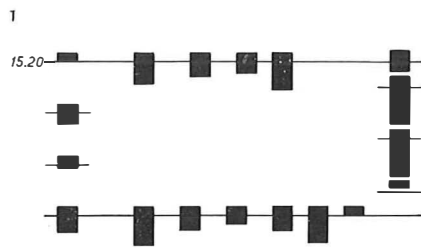
The pentagonal enclosure in squares D<sup>r</sup>E<sup>c</sup>-40/2 may have been a sheepfold or cattle-pen.

It first appeared as a large roundish patch of dark soil in which some plough-marks had been preserved. This dark soil happened to be the filling of a depression, roughly bowl-shaped at the bottom, surrounded by a pentagonal fence of narrow planks (width *ca.* 5 cm.). At the eastern and south-eastern sides these planks were set in a foundation-trench; at the northern and western sides no such trench was found, but here the rows of plank-impressions stand out very clearly. At the southern side there was no fence, but four post-holes were revealed representing some sort of gate construction. Outside the western fence a semicircular pattern of sods, no doubt the base of an earthen bank, caught the eye. The enclosure measures between 8 and 9 m. across.

There is some evidence that this structure was not as unique as it seemed at first sight. A straight row of plank-impressions starting from the north-western corner of house XXVI and standing in a line with its western wall can be followed for about 5 m. It then makes an angle with a trench, some 2.50 m long and running NW. These could be the last remnants of a similar (but smaller?) enclosure partly erased by huts 39 and 40.



Fig. 44. Sheds: plans, depths of post-holes. 1: E<sup>ac</sup>-34/5, 2: C<sup>jk</sup>-64, 3: C<sup>zD</sup><sup>a</sup>-38,



4: C<sup>u</sup>-41/2, 5: D<sup>eg</sup>-56/8, 6: E<sup>cd</sup>-35/6, 7: C<sup>tu</sup>-44/5, 8: E<sup>d</sup>-36.

## D. SHEDS (Fig. 44, 45)

The term shed is applied to fifteen small square or rectangular configurations of post-holes.

The configurations do not conform to a fixed plan and are mostly rather irregular. They clearly represent flimsy structures used for many different purposes. The irregularity of the plans makes them difficult to recognize and some may have been overlooked.

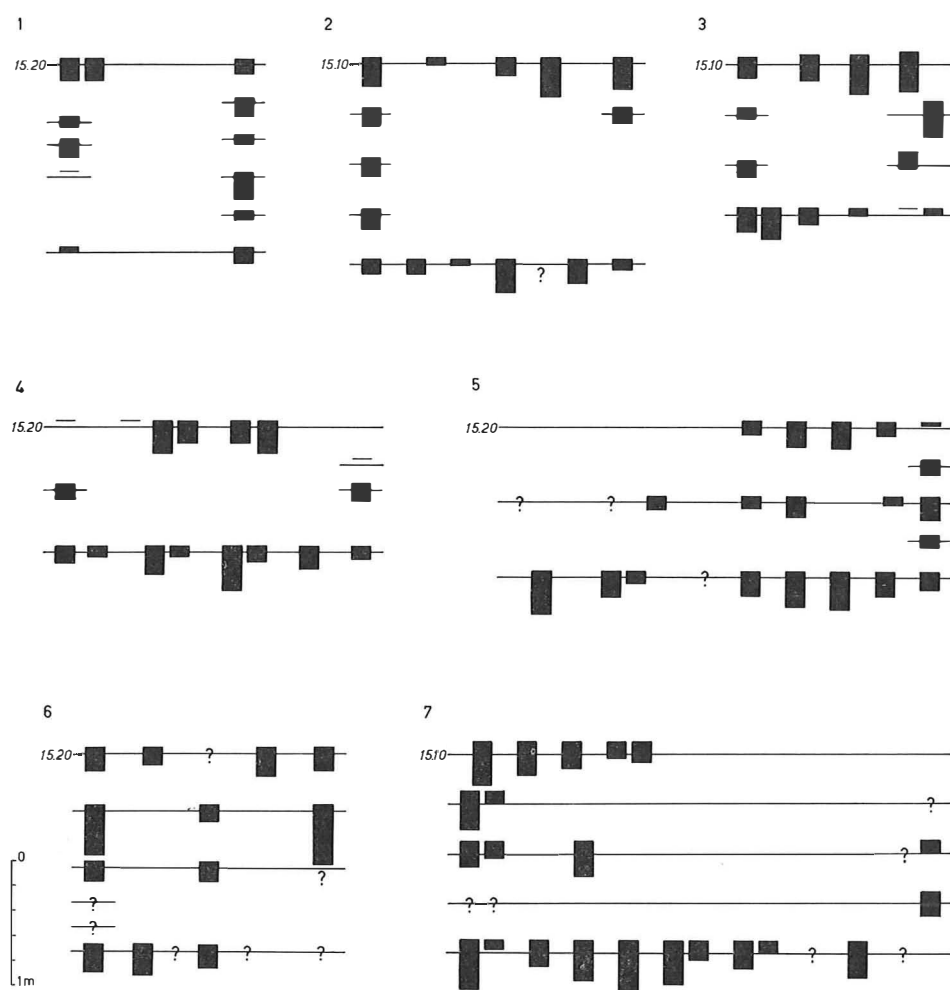


Fig. 45. Sheds: plans, depths of post-holes. 1: C<sup>u</sup>-42/3, 2: E<sup>ef</sup>-33,

The size is variable: length from 3.00 to 7.00 m.; width from 2.50 to 4.00 m. There are no internal posts.

Two (Fig. 44:1 and 45:7) have a more regular appearance and strongly remind one of some of the houses, such as LXXXIV and XXXIV.

Another remarkable structure is the more or less oval shed in squares C<sup>jk</sup>-64 showing an entrance in the middle of its southern wall (the opposite post-holes in the northern wall were destroyed accidentally when excavating the palaeolithic site).



3: D<sup>vw</sup>-39/40, 4: C<sup>u</sup>-42/3, 5: D<sup>km</sup>-39/40, 6: C<sup>tu</sup>-44/5, 7: C<sup>no</sup>-42/4.

## CHAPTER VI

### WELLS

A total number of thirteen wells has been discovered. They consisted of a wooden casing placed in a large pit. Under ground-water level, the wood has been preserved; above, it has disappeared as a result of rotting. When found, the wells were filled up completely: the lower part with silt which seemed to have come in gradually, the upper part with mixed earth which had fallen in after the wooden casing had collapsed.

On the grounds of the method used to construct the casing, two types can be distinguished. Twice, no. 3 and 5, a hollowed tree-trunk was used; in the other wells, the casing is made of planks.

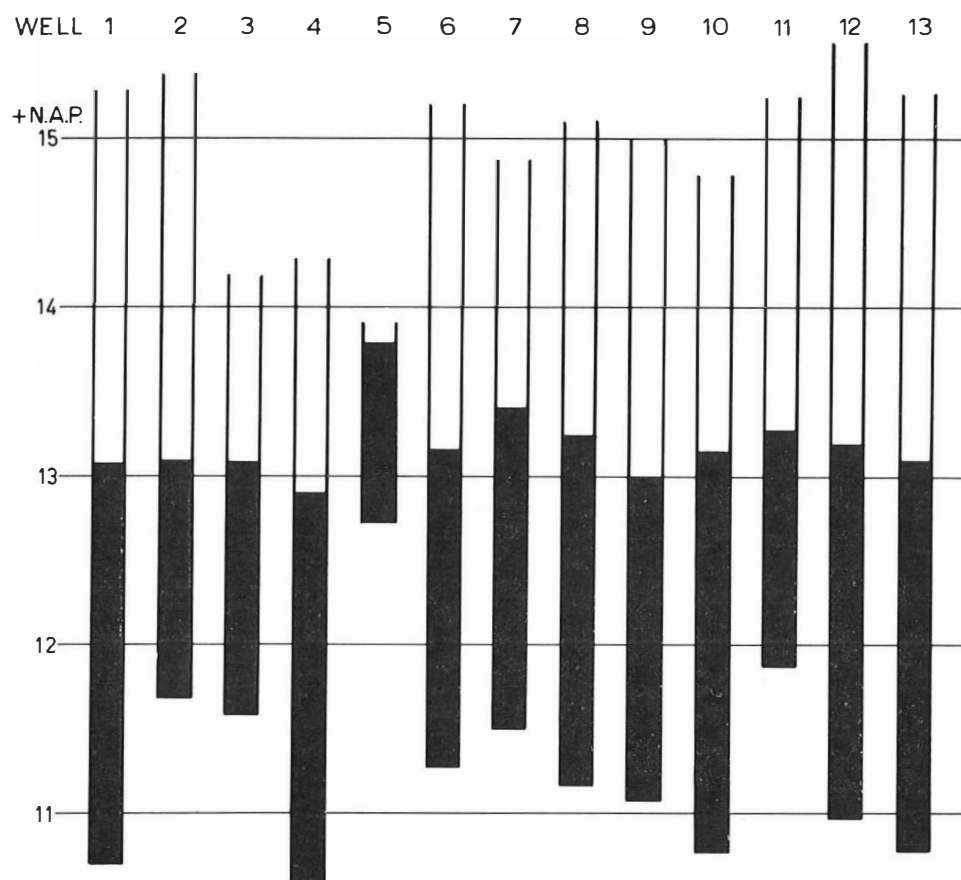


Fig. 46. Depth of the wells.

## A. WELLS MADE OF A TREE-TRUNK (Fig. 46, 47; Pl. 8)

For the construction of both wells of this type (3 and 5) an oak trunk was used. In 5, it was placed in a small quadrangular pit ( $1.50 \times 1.50$  m.); in 3, in a larger oval one ( $2.00 \times 1.60$  m.). The pits narrow towards the base. The depths can be read from Fig. 46.

The trunk of 3 was preserved for about 1.50 m. (it was lifted out for closer inspection). In the case of 5, the topsoil had already been removed before the excavation, and part of the trunk was protruding. It was at least 1.20 m. long (it was not taken out). The bark had been removed before the trunks had been sunk into their pits. The wood was still in excellent condition. Decay had set in only in the thick (*ca.* 2 cm.) outer layer of alburnum.

The hollowing had been effected by means of fire and chopping in the case of 3, by means of chopping alone in the case of 5. The walls have a thickness from 5 to 8 cm. The interior diameter is between 50 and 60 cm. Well 5 had been cut vertically at one side; a plank had been placed on the outside to seal the seam. Well 3 was sawn into two halves; only one seam had been stopped with planks.

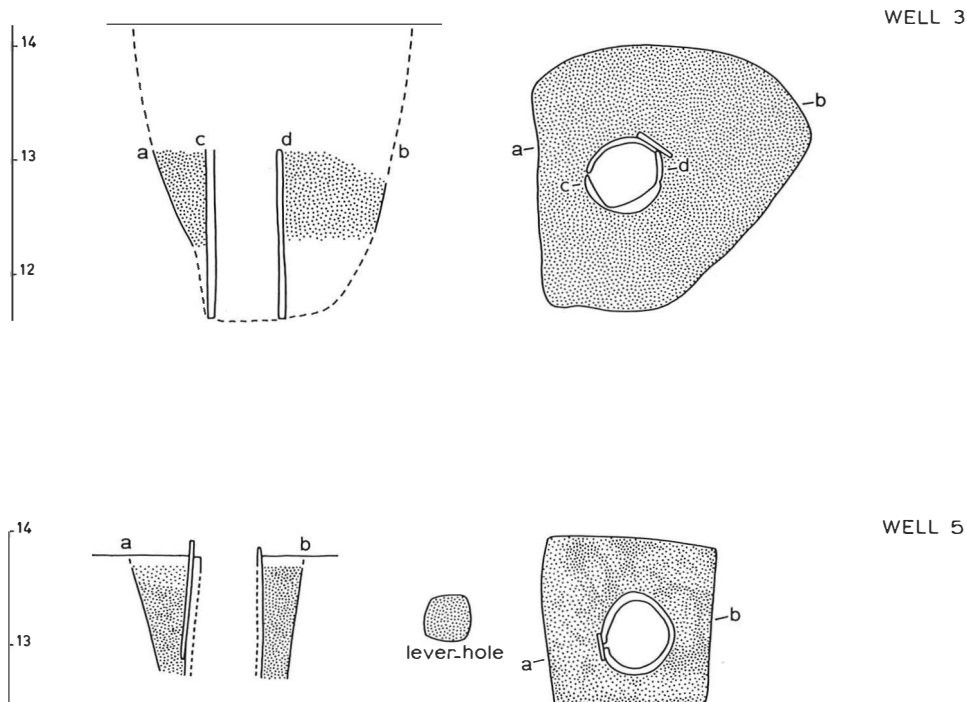


Fig. 47. Wells made of a tree-trunk.



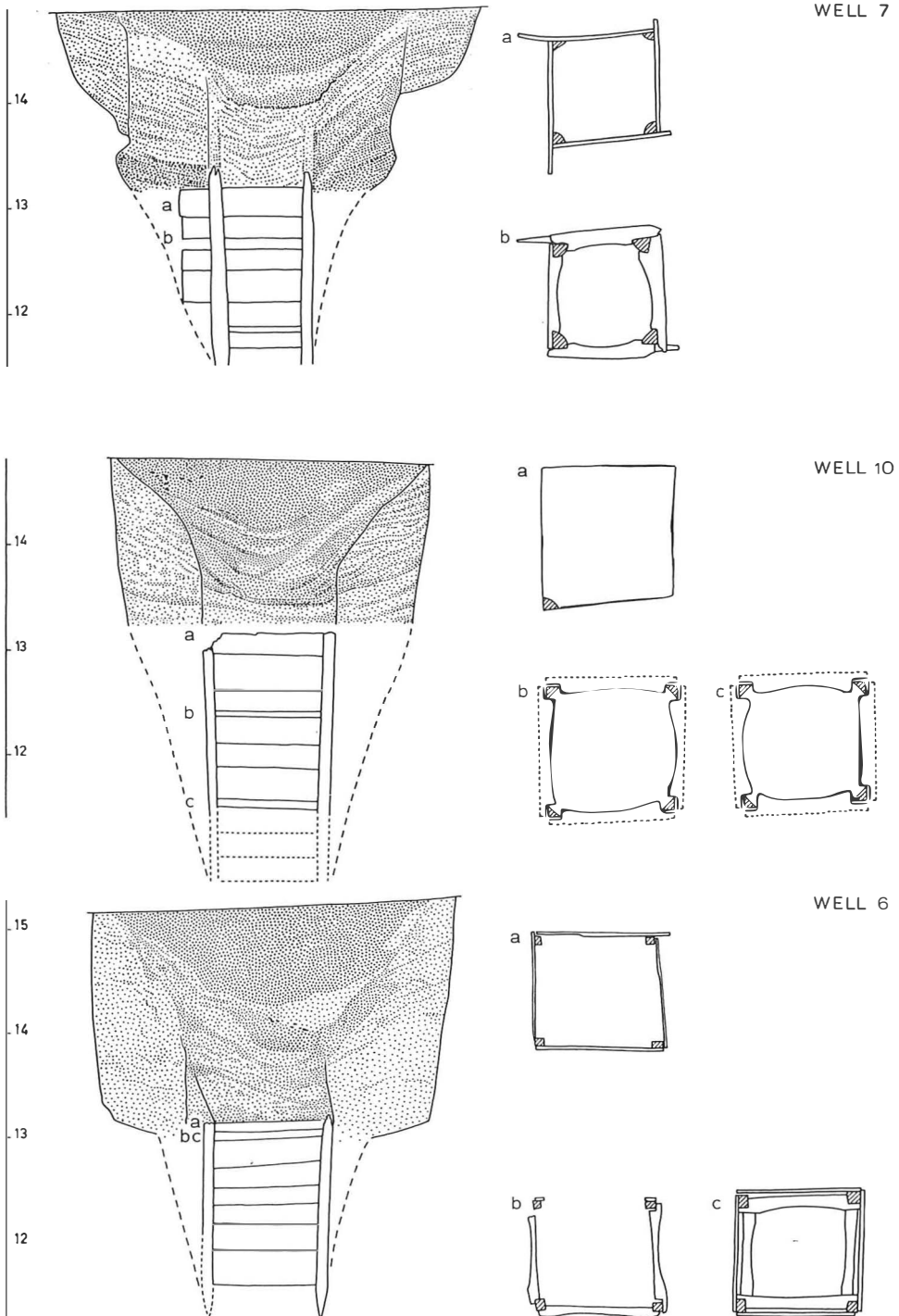
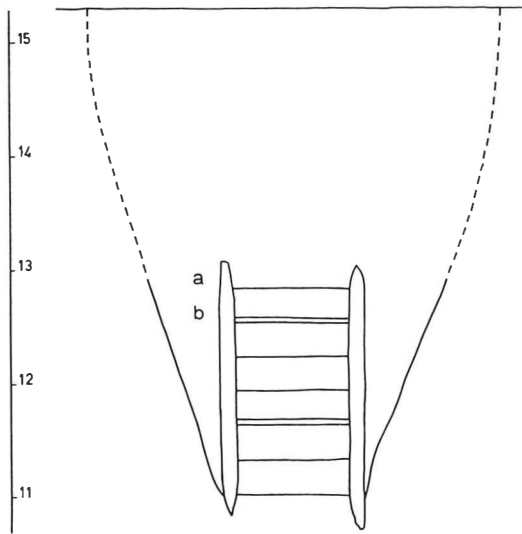
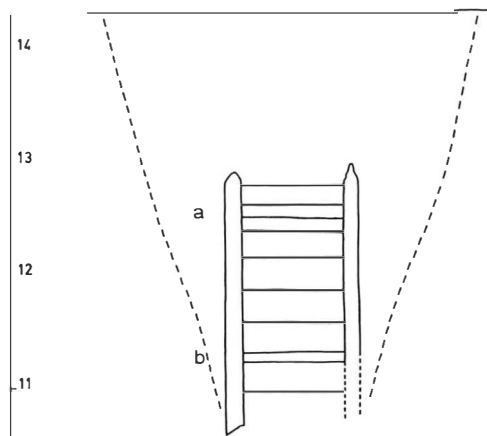
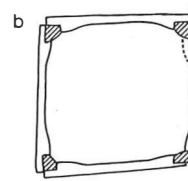
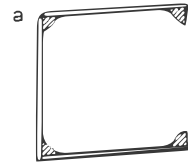


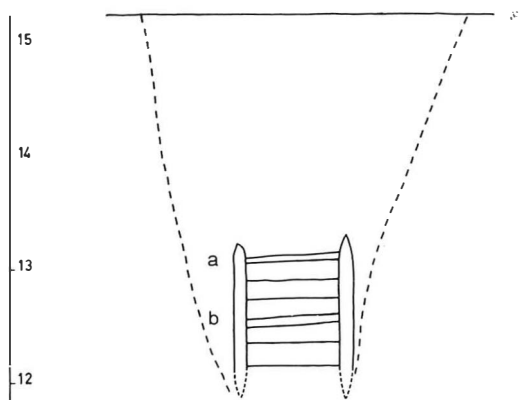
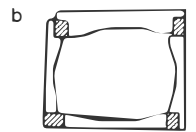
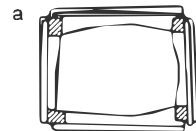
Fig. 48. Wells made of planks.



WELL 1



WELL 4



WELL 11

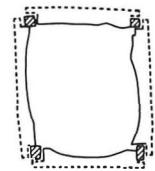
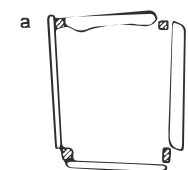


Fig. 49. Wells made of planks.

The large quadrangular post-hole (depth not noted), lying west of well 5 at a distance of 1.70 m. from its centre, must represent the lever. The roundish projection at the south-western side of the pit of 3, which is 2.20 m. away from the well's centre, probably indicates a lever too.

#### B. WELLS MADE OF PLANKS (Fig. 46, 48-51; Pl. 9)

The remaining eleven wells are made of planks. They all have essentially the same construction with only minor difference.

The wells are set in the centre of more or less round pits, again tapering downwards. Their diameter as found on the highest preserved level varies from 2.00 to 4.50 m. This variation is to be explained by the fact that the pits are funnel-shaped and are cut at different levels. The wells showing excessively narrow pits for example (1, 2 and 4) were cut considerably below the original surface: 1 and 2 are lying in the terrain which had been levelled before the excavation, 4 in the eroded area. So on the original ground-level the pits will have differed less, probably between 4.00 and 4.50 m.

Fig. 46 illustrates the depth of the wells. It first appears that the level beneath which the wood has been preserved (modern ground-water level) lies around 13.00 + N.A.P. Only the tree-trunk of 5 reaches much higher (80 cm.), as a result of its situation in the peat.

In the whole central area, the wells (6-13) appeared at approximately the same level. The differences are not more than 60 cm., and on the original surface probably even less (in the area, where the wells 8-11 are lying, the excavation level lost at least 20 cm. by frost action). While in the cases of 1, 2, 4 and 5 it is impossible to judge, 3 must have descended from a definitely much lower surface than the others.

It is furthermore clear from Fig. 46 that there is no relation between the level of the original surface and the depth of the wells. On the other hand, it appears that the bottom lies most frequently between 11.30 and 10.70 + N.A.P. It may be assumed that this depth was necessary if the well was also to provide water in times of summer drought. It is striking that both of the much shallower wells (2 and 11) lie in the vicinity of a deeper one (1 and 10) and the conclusion seems justified that 2 and 11 dried up in a period of drought, and were therefore replaced. It may have been much easier to build a new well than to deepen an already existing one.

The dimensions of the wooden casings are not strictly uniform. Most of them are practically square in horizontal section, their interior width lying between 92 cm. (7) and 1.30 m. (9). Two have a clearly rectangular ground-plan: 4 (0.96 × 1.22 m.) and 11 (1.00 × 1.22 m.). Sometimes the wells are slightly narrower at the bottom than higher up.

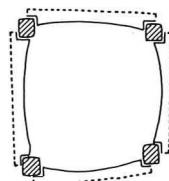
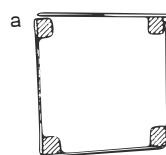
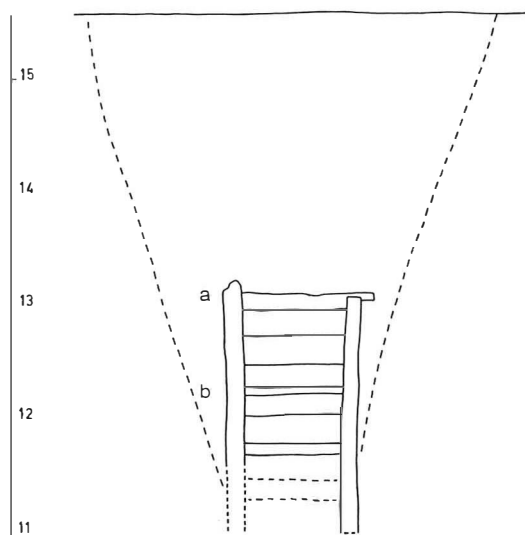
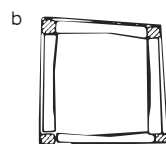
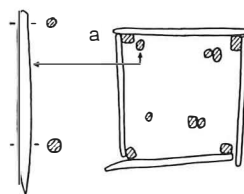
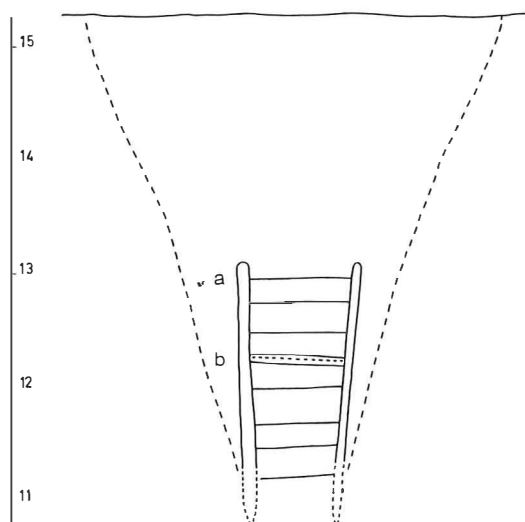
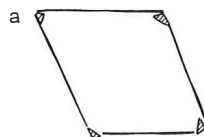
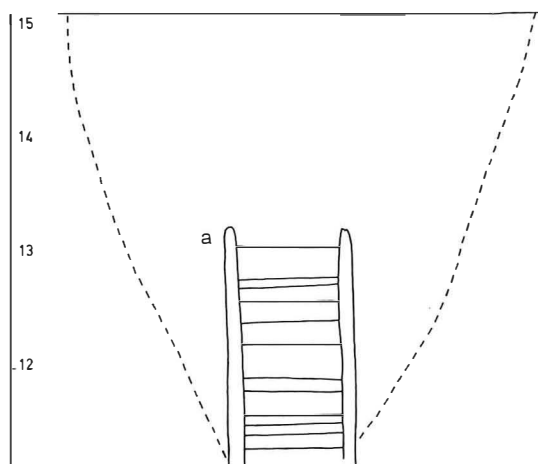


Fig. 50. Wells made of planks.

In all cases the material used is oak. The constructional skeleton is formed by four vertical posts placed in the corners and held apart by a number of square frames, each consisting of four horizontal barks, 5–10 cm. thick. These barks have a stud on the inside at either end which are clamped around the corner posts to hold them in place.

The corner posts are pointed and, where it could be observed, protruded about 30 cm. beneath the bottom of the well. Their section is either square to rectangular, or triangular with rounded base (well 1, 7, 8, 10). They were consequently real barks dressed on all sides or wedged sections of a tree-trunk.

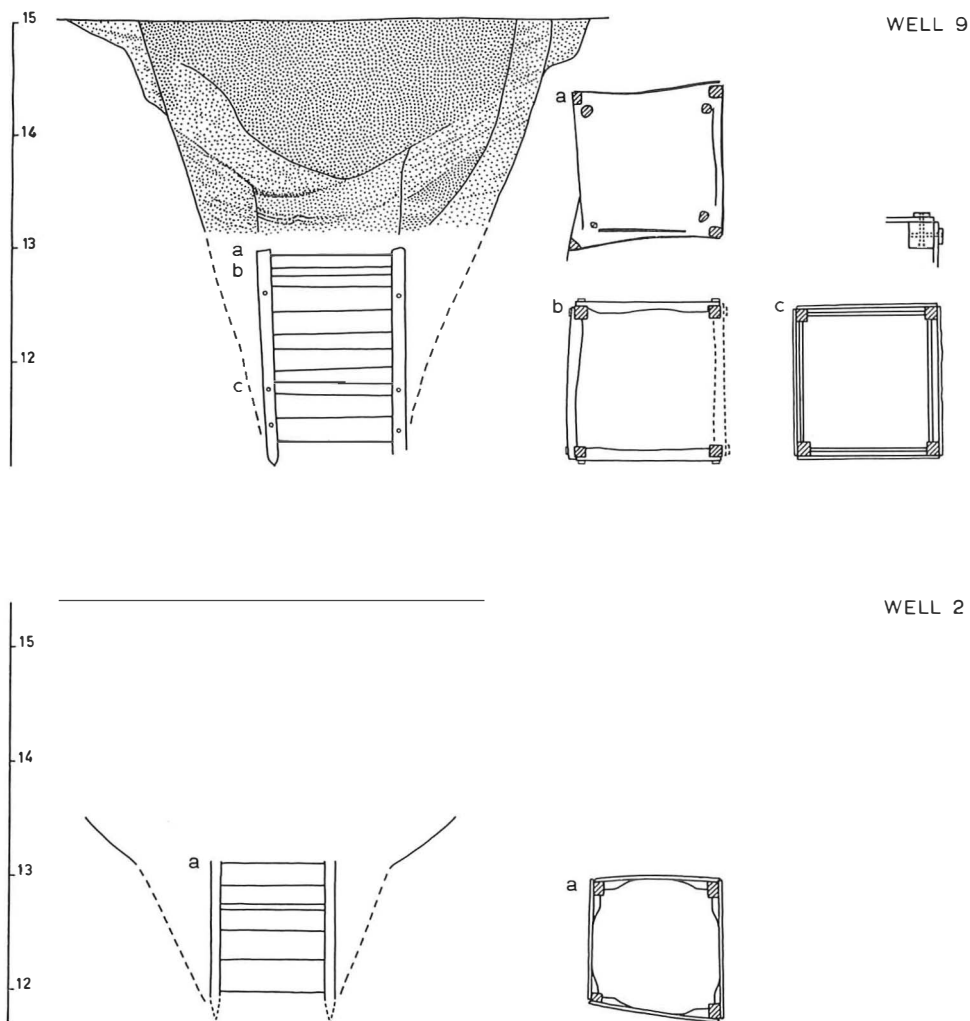


Fig. 51. Wells made of planks.

The planks of the casing were placed horizontally against the corner posts. The frames of studded balks were inserted between them at varying intervals. Their original number cannot be established because those in the upper part of the well have disappeared. The lowest frame sometimes lies 30 cm. above the bottom (4, 9, 11), sometimes 1.40 m. (6, 8); in the other cases, it lies in between these extremes. When more than one has been preserved, as in 1, 4, 9, 10 (even 3!) and 11, the intervals between them vary from 60 cm. (11) to 1.40 m. (4). The inner surface of the individual balks is concave so as not to protrude more than necessary and thus turn over the bucket when it was hauled up.

In well 13, this fine construction appears in a very debased form: here no neatly shaped balks are clamped around the corner posts and inserted between the planks, but four balks are jammed in between the upright posts. They are still slightly concave on the inside, but this is here completely senseless because now the whole plank juts out into the well. The solution in 9 is more efficient: the uppermost frame consists of the usual studded balks, but here at *ca.* 40 cm. from the bottom, four planks 3 cm. thick and 10 cm. broad are set on their narrow side between the corner posts; they fit into a hole cut into the posts and are fastened by a wooden peg.

The walls consist of horizontal planks dressed in shape by adzing and sawing. They are generally not fastened to each other or to the vertical posts. Only in 2 had the planks of the two lowest sections been joined in pairs by means of wooden pegs; moreover, the four lowest planks were sharpened on the underside, so that they could be pushed more easily into the soil. In 9, the planks were pinned in place by narrow vertical planks on the outside and sealed to the corner post by means of wooden pegs. Generally, the planks did not jut out beyond the vertical posts. 7 is an exception, where it seems to have been done intentionally. The planks are mostly *ca.* 5 cm. thick; their width varies between 15 and 30 cm. The wells had no floor.

The wooden casing was carried right up to the surface. This is apparent not only from the fact that the well in the peat (5) has been preserved for 80 cm. above ground-water level, but also from the sections of the others as far these could be drawn (usually they collapsed before one could measure them). The sections of 6, 7, 9 and 11 show a thin line extending for some distance beyond the preserved wood, marking the place where the walls had stood. Nearer the surface these traces are lost because they were destroyed by the earth which poured in when the rotted casing collapsed.

A few of the wells discovered early on in the excavation were taken to pieces to get a better idea of their construction. One of them (2) was labelled and taken away for study. In most cases, however, the wells were left in situ and then sometimes a few details were not seen. It was, however, not thought worth while to go to the considerable trouble of dismantling each well completely.

A number of wells show some peculiarities. 8 has been deformed by the weight of the soil; 9 and 13 show additional posts in the corners. In 9, their length was not

recorded; in this case they may be remnants of the higher parts of the well that fell in when the wood had partly rotted away. In 13, however, these additional posts had a pointed end and reached almost to the bottom of the well; they were therefore standing in the filling and can best be taken as indications of repairs.

The lower parts of the wells had silted up with a greyish filling often interspersed with branches, leaves, and other vegetable remains.

## CHAPTER VII

### PITS

As at all settlement sites, pits of different shapes and dimensions abound. Their function is mostly difficult to establish. We will here only deal with the more characteristic types. A vast number of pits, often irregular or very small, is left out of consideration.

#### A. OVEN-PITS (Fig. 52, 53; Pl. 10)

The pits grouped under this head are only found in the eastern and south-eastern parts of the excavated area: C<sup>w</sup>-62/3, C<sup>y</sup>-61 (?), C<sup>z</sup>D<sup>a</sup>-62, D<sup>a</sup>-59/60, D<sup>d</sup>-34, D<sup>jk</sup>-33/4, D<sup>kl</sup>-31/2, D<sup>l</sup>-49, D<sup>o</sup>-60/1, D<sup>pq</sup>-57, D<sup>q</sup>-35, D<sup>qr</sup>-45/7, D<sup>qr</sup>-48/9, D<sup>qr</sup>-61 (?), D<sup>r</sup>-33, D<sup>rs</sup>-55, D<sup>t</sup>-48/9, D<sup>vw</sup>-53/4, D<sup>x</sup>-33, D<sup>y</sup>-45/6, D<sup>z</sup>-36/7, E<sup>a</sup>-28, E<sup>a</sup>-37, E<sup>cd</sup>-35, E<sup>f</sup>-37/8, E<sup>fg</sup>-19/20.

They are pear-shaped, oval, or subrectangular. The vertical section along the longitudinal axis presents in all cases the same characteristics which makes it clear that all these pits, even though their shape varies a little in horizontal section, belong to the same type and served the same purpose.

The section shows a steep wall at one end, while the other side slopes up much more gently. Thus, the profile is asymmetrical: the deepest point of the pit does not lie under the centre but more towards one end (if the pit is pear-shaped, it always lies under the broader part) and in this way a kind of bowl is formed with a rather long ramp descending to it. In the bowl-shaped part, charcoal is usually found in one or more thin layers that follow the contours of the pit, the lowest layer lying on the bottom or, more often, at some distance above it. Under and above the charcoal, the filling mostly contains lumps of burnt red soil (*Branderde*); this is not present in the pits in squares D<sup>qr</sup>-61, D<sup>rs</sup>-55, E<sup>fg</sup>-19/20. The rest of the pit is filled with greyish or brownish earth without any structure. There is only one exception: the pear-shaped pit in D<sup>jk</sup>-33/4, where the ramp also contained coal and burnt soil (Fig. 53: 1).

In two pits D<sup>jk</sup>-33/4, E<sup>f</sup>-37/8 a floor of loam was found (Fig. 53: 2, 3). It consisted of a *ca.* 6 cm.-thick layer of green loam, partially burnt red. The floor rested almost on the bottom of the pit with only some *Branderde* beneath it. In the pit in squares E<sup>f</sup>-37/8, the floor turns up at the sides, showing that it must have been completed with loam walls.



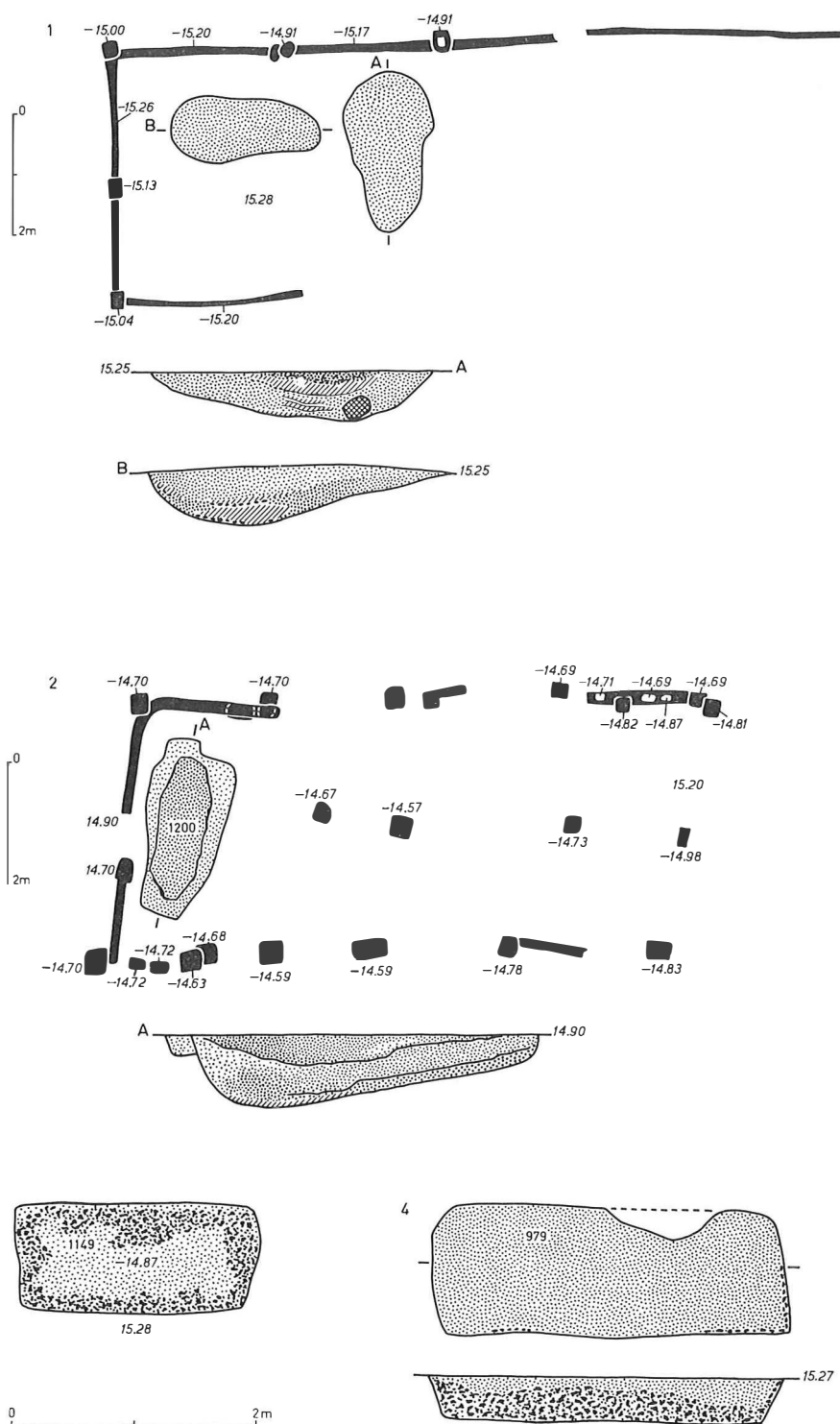
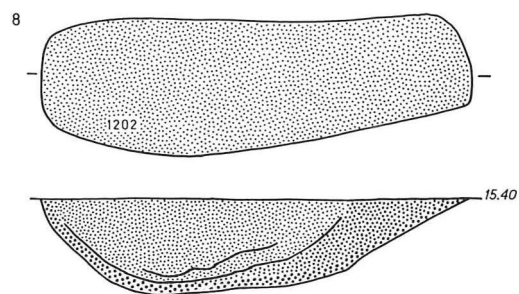
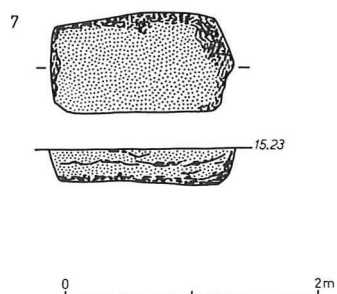
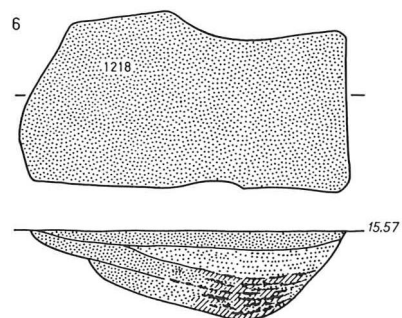
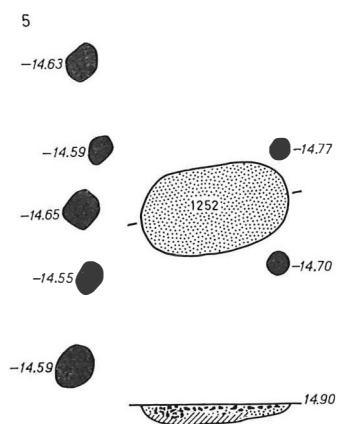
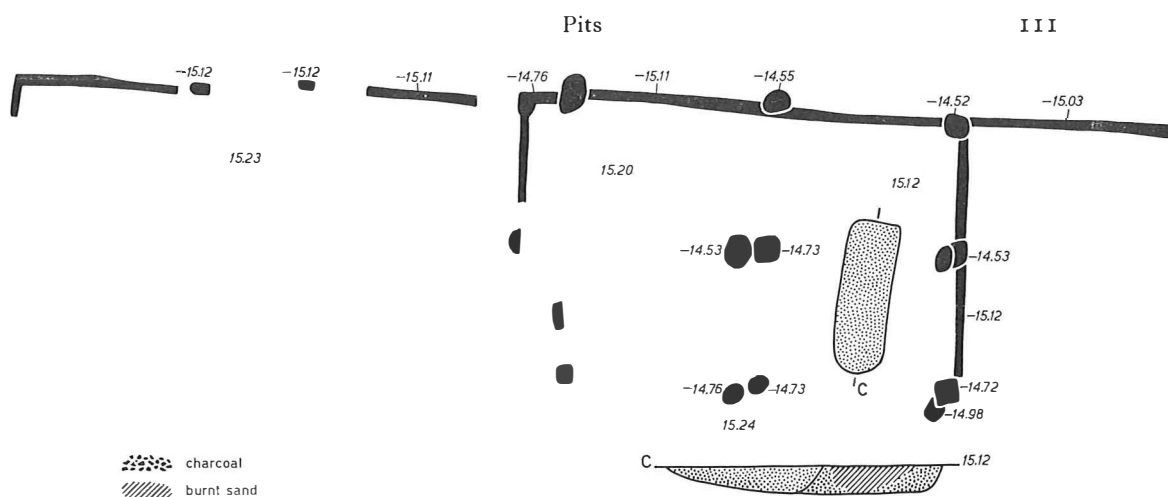


Fig. 52. Oven-pits. 1: D<sup>k-r</sup>-31/3, 2: D<sup>xz</sup>-32/3, 3: D<sup>v</sup>-54/5,



4: C<sup>w</sup>-66, 5: E<sup>a</sup>-28, 6: C<sup>w</sup>-62/3, 7: C<sup>w</sup>-66, 8: D<sup>z</sup>-36/7.

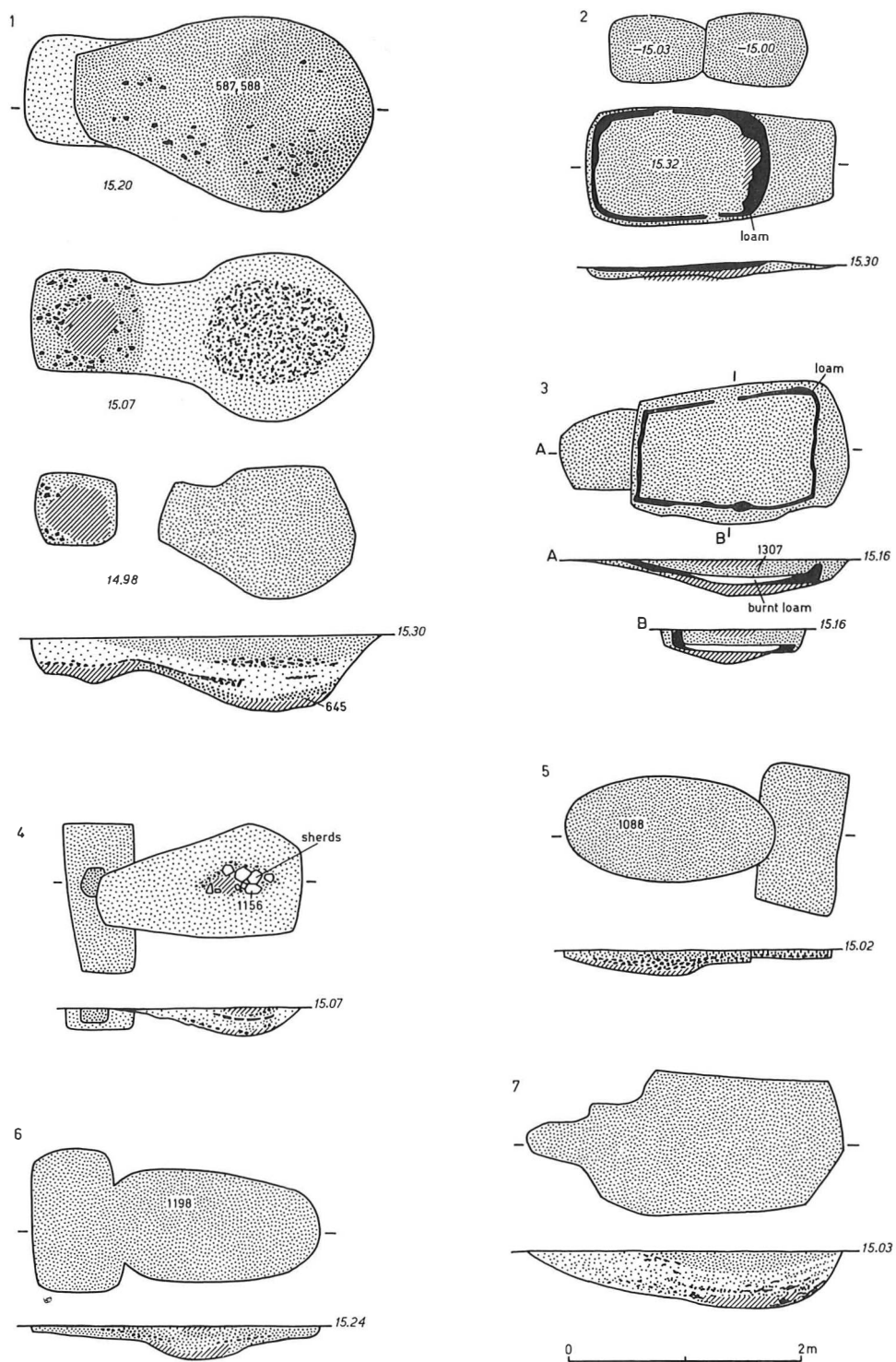


Fig. 53. Oven-pits. 1: D<sup>ik</sup>-33/4, 2: D<sup>ik</sup>-33/4, 3: E<sup>f</sup>-37/8, 4: E<sup>cd</sup>-35, 5: D<sup>o</sup>-60/1, 6: E<sup>a</sup>-37, 7: C<sup>tu</sup>-63.

In one case, E<sup>cd</sup>-35, an oval floor of pottery sherds with charcoal and *Branderde* was observed in the filling (Fig. 53:4).

Three times, D<sup>o</sup>-60/1, E<sup>a</sup>-37, E<sup>cd</sup>-35, a shallow rectangular pit lies under the sloping part of the pit at a right angle to its long axis (Fig. 53:4-6).

The dimensions vary considerably: length between 1.70 and 3.00 m.; depth between 15 and 70 cm. below excavation level. Originally, the measurements may have been much the same, for in pits of this shape the dimensions are very dependent on the level at which they are discovered, and these levels were not the same in every case.

The pits are nearly always orientated NNE-SSW or at a right angle to this direction. The basin-shaped part with its traces of fire lies at the eastern (7 times), western (6 times) or northern end (11 times) and only twice, D<sup>jk</sup>-33/4, E<sup>cd</sup>-35, at the southern side (Fig. 53:1, 4). Of the last two pits, the one in D<sup>jk</sup>-33/4 is exceptional in so far as it has traces of fire at both ends. Neither of the two pits with somewhat divergent orientation, C<sup>y</sup>-61, D<sup>qr</sup>-61 is a very clear representative of the type (indistinct sections; no *Branderde* in the pit of squares D<sup>qr</sup>-61); they have the fire part at their south-eastern end.

The pits often occur in small groups. Sometimes, two are set at a right angle to each other.

A few are surrounded by post-holes and a rectangular trench: D<sup>kl</sup>-31/2, D<sup>r</sup>-33, D<sup>xz</sup>-32/3 (Fig. 52:1, 2). It seems they were placed in some kind of structure. One, E<sup>a</sup>-28, lies within a configuration of posts (Fig. 52:5).

An indication of the function of these pits is provided by the coal and *Branderde* in their filling. It may be assumed that a fire reaching rather high temperatures was stoked in the basin-shaped part. The multiple layers of coal in some of the pits testify that this action could be repeated more than once. It is possible that an oven made of loam was standing above the pits. The sloping part of the pit which normally points in the direction of the prevailing winds, S., E. and W., probably served as a vent hole. No clues were found for a reconstruction of the shape of the ovens. The loam floors of the pits in squares D<sup>jk</sup>-33/4 and E<sup>f</sup>-37/8 are difficult to explain. They cannot be part of the oven itself. No fire could be stoked underneath; it probably burned on top of them (the fire itself has to be concluded from the *Branderde*). It may be that in these two cases the stoke-hole was lined with clay, an exception to the rule.

A pit lies at right angles to the oven in square E<sup>a</sup>-37; in shape and section it is clearly related to the oven-pits, but it contains neither coal nor burnt soil. Perhaps here the ashes were taken out, after which the pit silted up gradually.

A few times, C<sup>y</sup>-61 (?), D<sup>a</sup>-59/60, D<sup>pq</sup>-57, an oven is found together with other pits which were themselves certainly not ovens. The combination may be intentional, but the function of the latter pits remains obscure.

The only fact recorded about the pits in C<sup>x</sup>-37 and D<sup>a</sup>-41 is that they contained coal and *Branderde*; they cannot be recognized as ovens with any certainty.

A group of rectangular pits in square C<sup>t</sup><sup>w</sup>-65/6 is remarkable. They are characterized by thick layers of coal on the bottom and through the filling (Fig. 52:4, 7). Two, C<sup>t</sup>-65/6, C<sup>u</sup>-66, supplied masses of iron slags.

Another rectangular pit with a thick charcoal layer on its floor occurs in squares D<sup>v</sup>-54/5 (Fig. 52:3).

One of the three pits in C<sup>u</sup><sup>x</sup>-9/10 had held charcoal and burnt soil at the bottom, the other two coal and iron slags.

The iron slags found in a rectangular pit in C<sup>x</sup>-31 were introduced after it had for the greater part already silted up.

#### B. ANIMAL GRAVES (Fig. 54; Pl. 13)

Sixteen or twenty rectangular pits containing animal bones may be considered to be animal graves: C<sup>t</sup>-40/1, C<sup>t</sup>-54, C<sup>t</sup>-65, C<sup>u</sup>-37, D<sup>cd</sup>-46, D<sup>h</sup>-39, (D<sup>ij</sup>-47), D<sup>k</sup>-57/8, D<sup>qr</sup>-56/7, D<sup>r</sup>-40/2, (D<sup>x</sup>-55), D<sup>y</sup>-55 (2 graves), E<sup>c</sup>-25, (E<sup>e</sup>-47), E<sup>ef</sup>-47/8 (2 graves), E<sup>f</sup>-45/6 (2 graves), (E<sup>fg</sup>-30/1).

The bones themselves had decayed almost completely; at the most, tiny fragments were left which were not always identifiable. Often, however, the more or less complete silhouette of an animal skeleton drawn in fine brown lines could be recognized on the bottom of the pits. Apparently the animals had been deposited intact and with some care. Therefore these pits, at least most of them, are more than just pits containing stray animal bones and we may conclude that here we have come across genuine animal interments or, more exactly, offerings.

The "grave" character of the pits in squares D<sup>ij</sup>-47 and E<sup>fg</sup>-30/1 remains somewhat questionable; here the skeletal fragments were not found on the bottom, but higher up in the filling, especially in the first case. Only the younger of the paired pits in D<sup>y</sup>-55 and E<sup>f</sup>-45/6 supplied a few scraps of bone; nothing of the kind was observed in the underlying pits, so that these are also doubtful. Nor do the small pits in squares D<sup>x</sup>-55 and E<sup>e</sup>-47 seem to be individual graves.

Bone fragments could be determined in seven cases (*vide* Appendix II): C<sup>t</sup>-40/1, C<sup>u</sup>-37, D<sup>h</sup>-39, D<sup>qr</sup>-56/7, D<sup>y</sup>-55, E<sup>ef</sup>-47/8, E<sup>fg</sup>-30/1. In all single graves, apart from the uncertain one in squares D<sup>ij</sup>-47 containing cowbones, horses appeared to have been interred. Also the undermost grave of the pair in E<sup>ef</sup>-47/8 contained a horse; the upper one, however, was the grave of a cow! It is remarkable that among the bones found in the other pair of graves, in square D<sup>y</sup>-55, again horse and cow were represented. Thus, the cow is a rare exception in the genuine graves. This is the

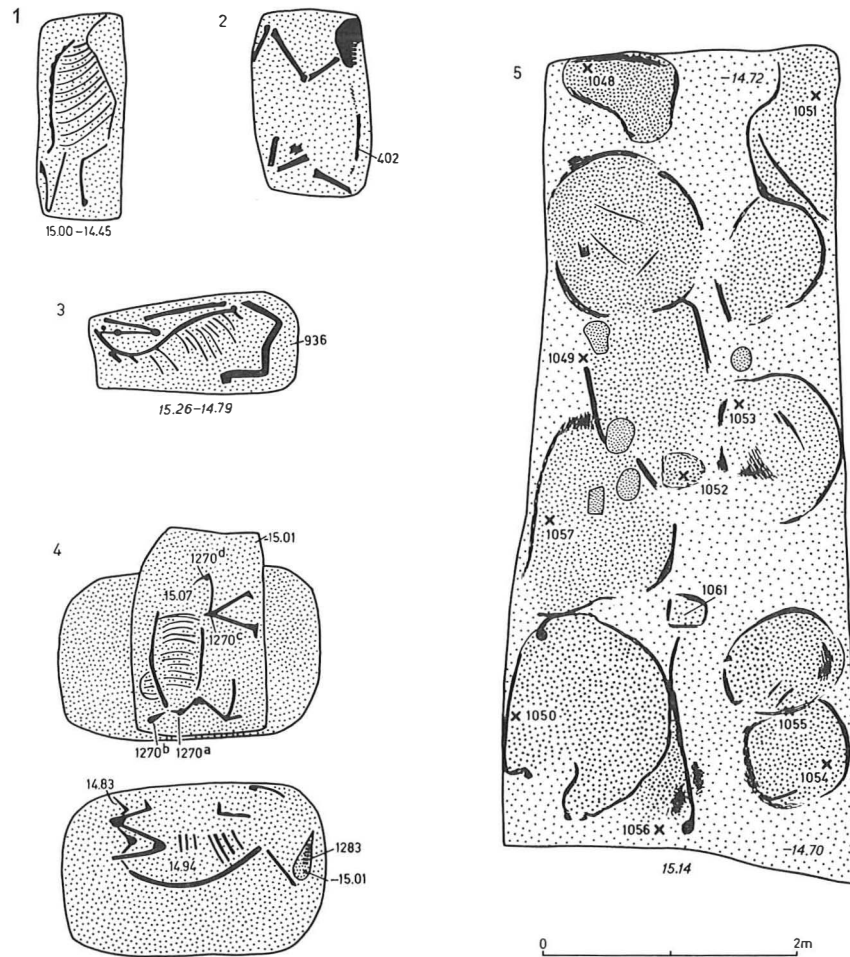


Fig. 54. Animal graves. 1: C<sup>t</sup>-54, 2: C<sup>u</sup>-37, 3: D<sup>k</sup>-57/8, 4: E<sup>ef</sup>-47/8, 5: D<sup>r</sup>-40/2.

more significant because among the bones found in other pits (*e.g.* huts, post-holes, cellars), *i.e.* among the kitchen refuse, the cow is predominantly represented.

The dimensions of the pits range from 1.00 × 0.50 m. to 2.20 × 1.40 m.; the pits reach 20 cm. to 1.30 m. below excavation level.

The graves have different orientations: NNW-SSE, N-S, NNE-SSW, WNW-ESE and W-E. That the direction is not fortuitous is shown by the careful lay-out of the three paired pits, where the underlying W-E grave is cut at right angles by the upper N-S one. Where it could still be established, the head of the animal appeared to rest at the northern end (4 times) or western end (4 times), only once at the eastern side.

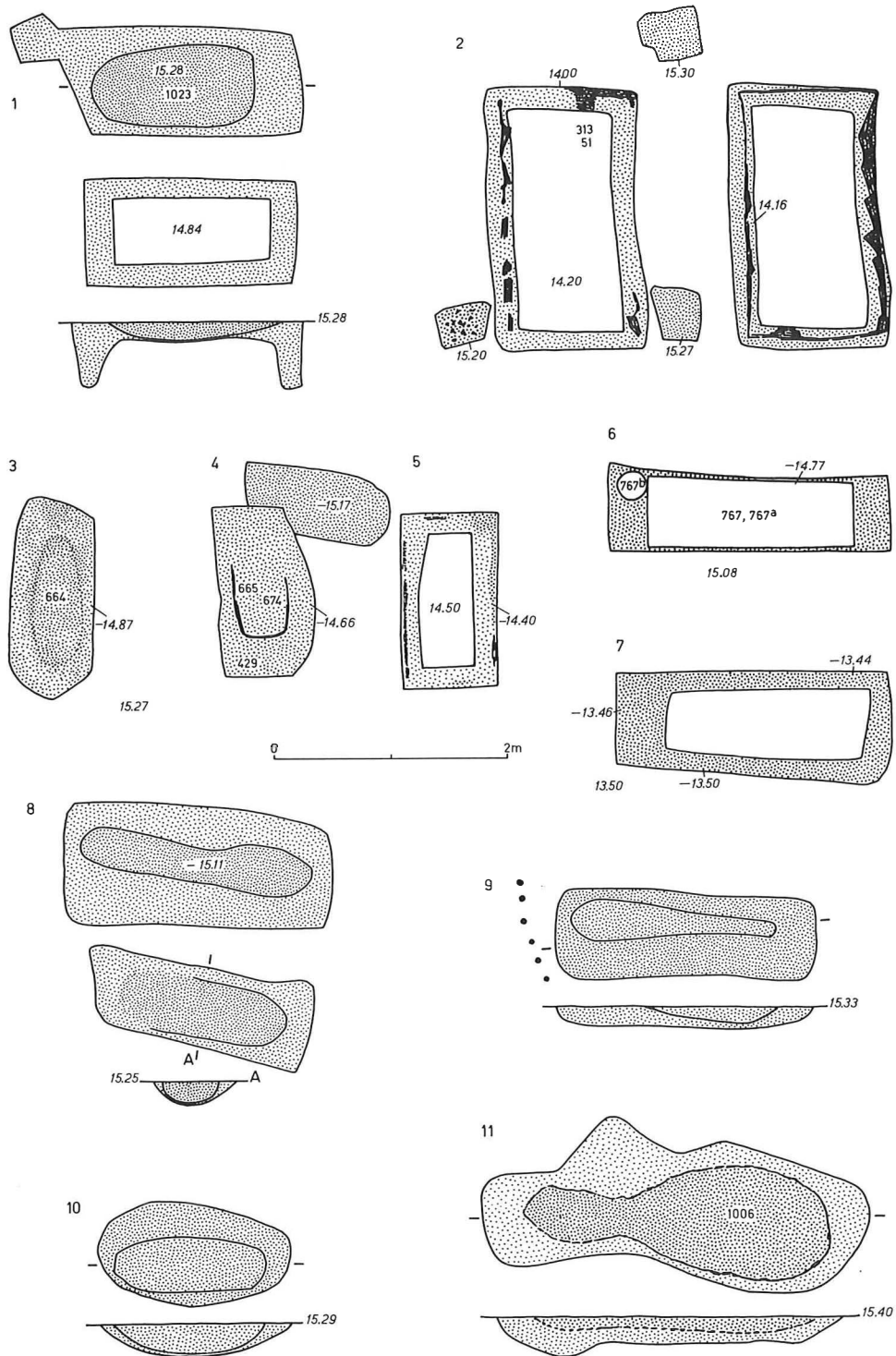


Fig. 55. Storage-pits. 1: D<sup>a</sup>-45, 2: C<sup>ij</sup>-39, 3, 4 and 5: D<sup>bc</sup>-39, 6: D<sup>cd</sup>-48, 7: C<sup>v</sup>-12, 8: D<sup>a</sup>-44,

Behind the pair of graves in E<sup>ef</sup>-47/8 lies a small pit (E<sup>e</sup>-47) in which a few bones were found. A small pit in square D<sup>x</sup>-55 not far from the pair in D<sup>y</sup>-55 also contained some scraps of bone (cow).

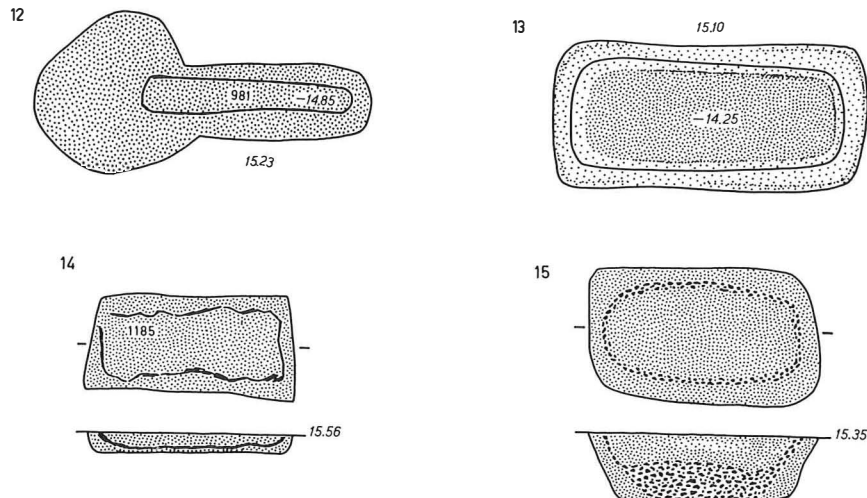
The large rectangular pit more than 6 m. long and 2.50 m. wide in squares D<sup>r</sup>-40/2 is exceptional. It contains the skeletal remains of several – perhaps six – animals. The determinable bone fragments are mostly of cow, but a few fragments of horse occur also.

### C. STORAGE-PITS (Fig. 55; Pl. 11, 12)

A number of rectangular or subrectangular pits characterized by traces of a wooden construction which had been standing in them were recognized as cellars or storage-pits. The wooden constructions are of two types.

Four or five times a storage-pit was encountered showing traces of a wooden casing, the way it was built being reminiscent of sunken huts with foundation-trench: C<sup>ij</sup>-39, C<sup>y</sup>-12, D<sup>c</sup>-39, (D<sup>cd</sup>-48), D<sup>q</sup>-45 (Fig. 55: 1-7). Here also a narrow trench follows the contours of the neat rectangular pit reaching 10-20 cm. beneath the flat bottom. The plank-impressions, observed twice in the trenches, indicate that the walls of these pits were lined with narrow vertical planks. The cellar was probably closed with a wooden lid.

The smallest of them (Fig. 55: 6; wrong scale!), which is not a completely certain representative of this type, measures 1.20 × 0.40 m., the other ones *ca.* 2.00 × 1.00 m



9: D<sup>p</sup>-44/5, 10: D<sup>q</sup>-43, 11: D<sup>q</sup>-46/7, 12: C<sup>ws</sup>-66, 13: D<sup>no</sup>-49, 14: D<sup>v</sup>-45/6, 15: D<sup>q</sup>-42.



and  $2.35 \times 0.90$  m. The depth below excavation level of the best preserved pit, in squares C<sup>j</sup>-39, is still 1.25 m. This one is also surrounded by four posts at the corners which may have carried a roof.

The cellar in square D<sup>c</sup>-39 lies in alignment with two other flat-bottomed pits of about the same dimensions; they are, however, less rigidly rectangular and do not have a foundation-trench. A striking feature is the more or less oval patch in the centre of the middle one, partly surrounded by a narrow brownish band. Such pits with oval or subrectangular patches of sometimes darker soil, often surrounded by a brown band showing up in horizontal section, are much more common than the type just described. Their combination with the cellar in square D<sup>c</sup>-39 indicates that they had the same function.

Mostly these pits lie in groups or rows, sometimes along the fences, as in squares C<sup>tu</sup>-41/7, D<sup>oq</sup>-42/9, C<sup>h</sup>-39/40, or more isolated: C<sup>r</sup>-35/6, C<sup>x</sup>-47, C<sup>x</sup>-65, C<sup>wx</sup>-66, D<sup>cd</sup>-29/30, D<sup>g</sup>-40/1, D<sup>gh</sup>-37/8, D<sup>kl</sup>-36, D<sup>n</sup>-27, D<sup>t</sup>-42 (?), D<sup>v</sup>-45/6, D<sup>xy</sup>-48, D<sup>y</sup>-48/9 (?).

The type has best been studied in squares D<sup>oq</sup>-42/9. Here the central oval was outlined by a brown band, a few centimetres wide, that stood out clearly against the greyish-purple filling of the pit; the filling here had the same colour inside and outside the band. Elsewhere the outlines of the central patch were not always as clear; it sometimes had a somewhat darker filling than the rest of the pit.

Vertical sections were only drawn of the pits in D<sup>pq</sup>-42/7 and D<sup>v</sup>-45/6, and in these sections the brown band is also clearly recognizable. It has a rounded base lying on or a few centimetres above the floor of the pit. It reminds one strongly of the traces of the wooden tree-trunk coffins found in Bronze Age graves, and may be interpreted in the same way as a discolouration caused by decayed wood. Its narrow and uniform width, its rounded shape in both vertical and horizontal section can, however, best be understood if one thinks of a basket of wattle work. (Fig. 55 : 8-11, 14, 15).

In one case (D<sup>q</sup>-42) the basket must have been destroyed by fire: the brown band is replaced by a band of charcoal, and a thick layer of coal is lying on the bottom of the pit (Fig. 55 : 15). Traces of fire (coal and *Branderde*) were also observed in the pit in square C<sup>u</sup>-43.

Pits of this type have no standard dimensions: length 1.20 to 3.30 m., width 0.50 to 1.10 m., depth varying.

One pit of this type seems to have lain within a configuration of four posts, but the case is not completely convincing: C<sup>tu</sup>-43/4.

In a large number of more or less rectangular flat-bottomed pits (three are round-bottomed and subrectangular: D<sup>a</sup>-30/1, D<sup>j</sup>-16, E<sup>f</sup>-36/7), varying in size and depth, no inner structures have been observed. Their filling indicates a gradual silting up.

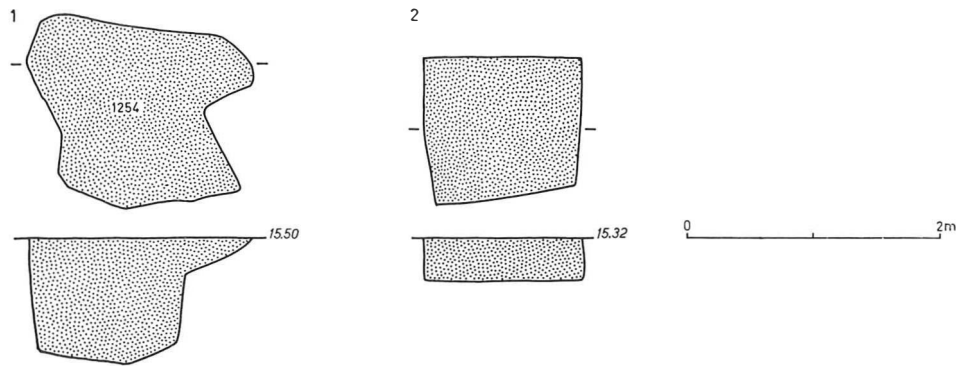


Fig. 56. Square pits. 1: D<sup>u</sup>-55/6, 2: D<sup>v</sup>-56.

Sometimes they lie in line with pits, showing the characteristic traces of basket-work described above, *e.g.* C<sup>t</sup>-40/2. They often occur in the same way concentrated in groups or rows, *e.g.* D<sup>m</sup>-46/9, sometimes along the palisade trenches. It is therefore assumed that they served the same purpose and were storage-pits as well. Of course, we do not mean to imply that all rectangular pits were cellars. Some certainly had another function, as for instance the pits in squares E<sup>c</sup>-37 and E<sup>fg</sup>-38/9 which are grouped together with oven-pits and those mentioned on p. 114 filled with coal and iron slags. Most of them, however, seem to have been storage-pits.

It must be stressed that all these cellars lie outside the houses. Once only is a long rectangular pit found within a house, XLIX, and then placed in such a way (in the rear part exactly along the long axis) that the connection is beyond reasonable doubt. In a few other cases, (*e.g.* house III and XVII), when pits are found within a house, the connection is not as certain. The pits in XVII and XLIX may have been cellars.

#### D. SQUARE PITS (Fig. 56)

Square pits may be found in front of the entrances to the houses but apart from these, they are very rare.

The sections drawn show steep walls and a flat bottom. No special function can be ascribed to them.

#### E. ROUND PITS (Fig. 57)

Round or roundish pits were found all over the terrain. Their width and depth varies considerably; only those with a diameter of more than 1 m. are here taken into consideration.

The vertical sections, as far as they were drawn, show mostly steep, sometimes

even vertical sides. The bottom may be flat, hollow or irregular. Occasionally, the filling is uniform, more often it consists of hollow layers of different colour interleaved with one or more dark humus bands corresponding to rest phases in the process of silting up, which must then have been gradual.

Three deep pits ( $D^c-31/2$ ,  $D^{jk}-15$ ,  $D^r-55/6$ ) have a funnel-shaped section, the filling betraying a gradual silting up. Their shape is similar to the much larger and deeper wells. In the narrow lower part of one of them ( $D^r-55/6$ ) the last remnants of decayed wood were found.

The distribution of the round pits over the site is not significant: they are present everywhere. Now and then, two round pits seem to belong together; four in squares  $D^r-55/6$ . There is no clear connection with pits of other types.

No clues were found to establish their function. It is most improbable that all

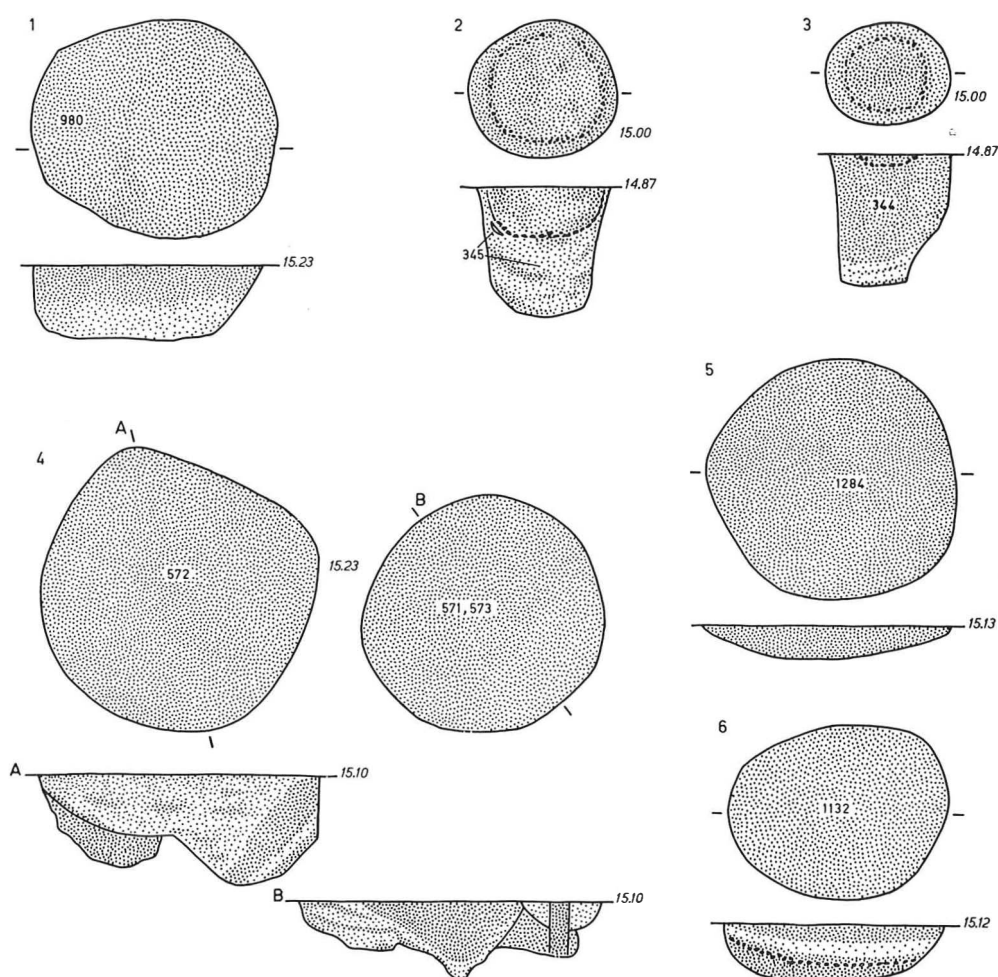
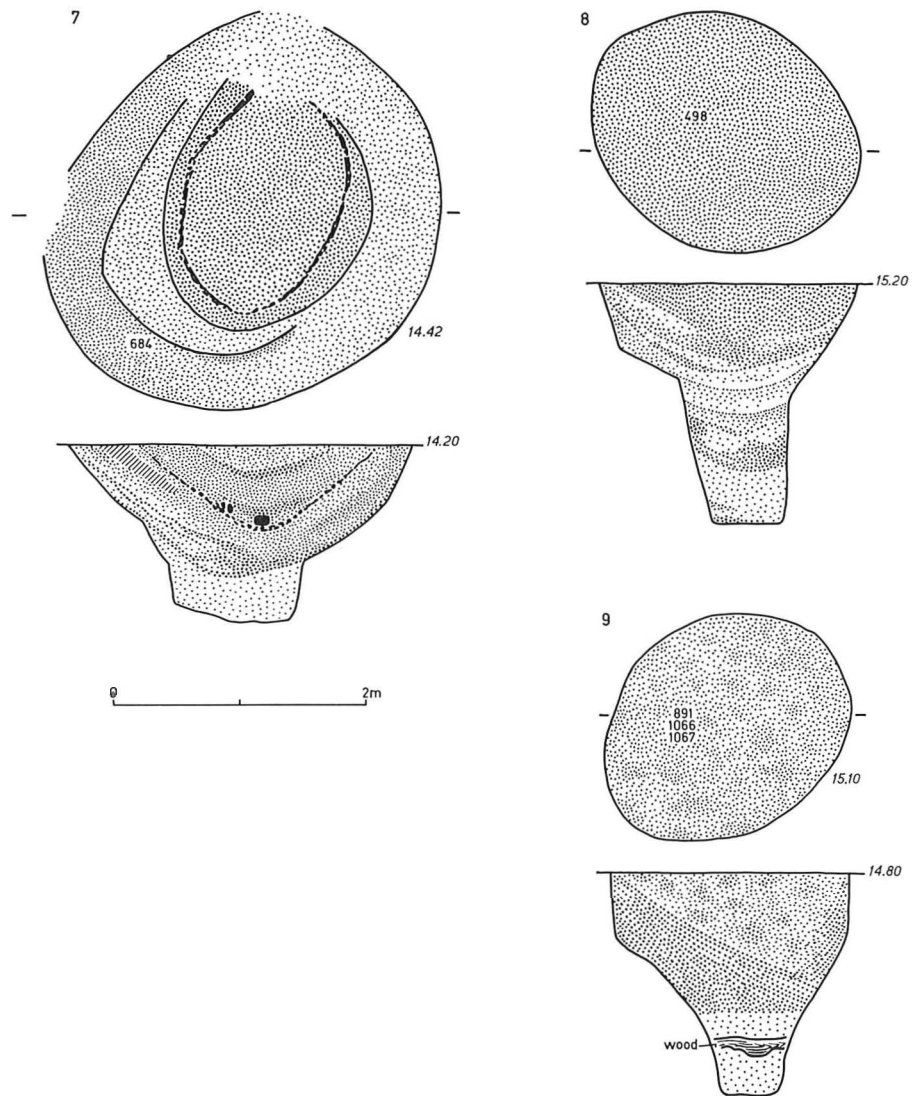


Fig. 57. Round pits. 1:  $C^w-66$ , 2 and 3:  $C^p-43/4$ , 4:  $D^{jk}-38/9$ ,

served the same purpose; they must rather have had a number of different functions (refuse-pits, storage-pits, *etc.*).

F. IRREGULAR PITS (Fig. 58: 1, 3, 4)

Pits with irregular outlines occur frequently. They are found within as well as outside the settlement, the ones outside being practically without finds and possibly rather recent.



5: E<sup>cd</sup>-25, 6: D<sup>r</sup>-55, 7: D<sup>jk</sup>-15, 8: D<sup>c</sup>-31/2, 9: D<sup>r</sup>-55/6.

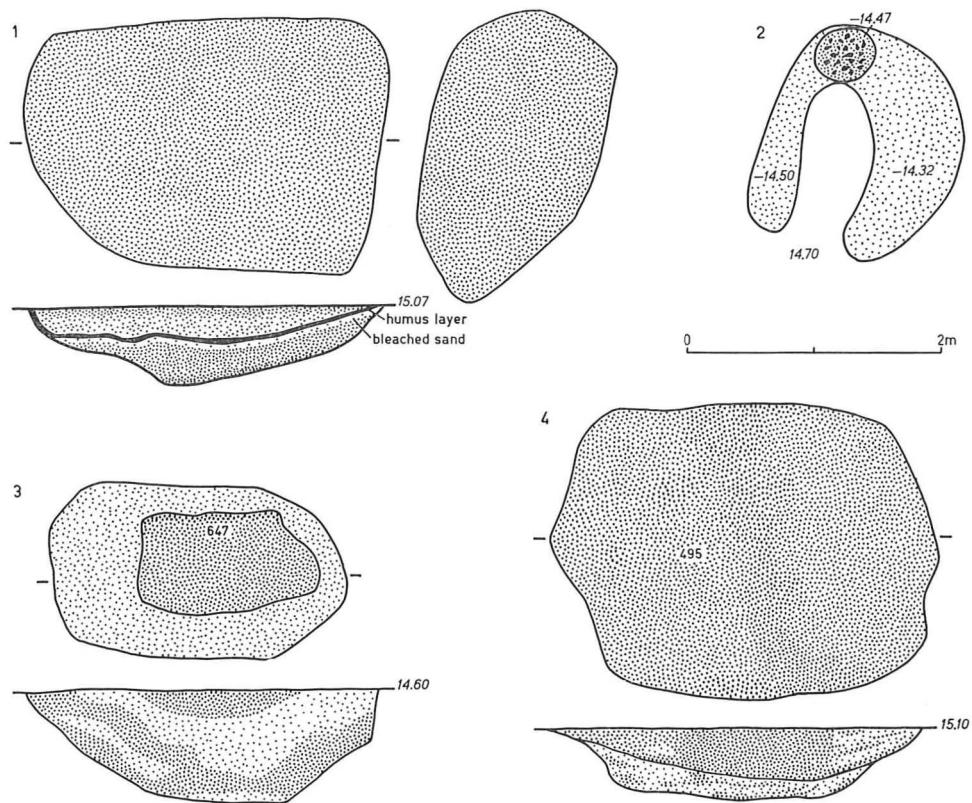


Fig. 58. Irregular pits and horseshoe-shaped pit. 1: E<sup>2</sup>-36/7, 2: C<sup>x</sup>-29, 3: D<sup>j</sup>-16, 4: D<sup>a</sup>-30/1.

The larger specimens are mostly lying in groups: B<sup>v</sup>C<sup>i</sup>-56/9, C<sup>no</sup>-55/7, C<sup>op</sup>-28/9, C<sup>pr</sup>-36/8, C<sup>qr</sup>-47/8, C<sup>u</sup>-35/6, C<sup>ux</sup>-33/5, C<sup>wx</sup>-65/6, C<sup>x</sup>-46/7, C<sup>z</sup>D<sup>a</sup>-63/4, D<sup>gh</sup>-59, D<sup>h</sup>-58, D<sup>kl</sup>-41, D<sup>kl</sup>-42/3, D<sup>mn</sup>-56/7, D<sup>op</sup>-56/7, D<sup>pq</sup>-28/9, D<sup>gh</sup>-55/6, D<sup>u</sup>-57/8, D<sup>wx</sup>-65/6.

A large irregular pit at a lower level often splits up into many smaller ones.  
The function does not emerge.

#### G. HORSESHOE-SHAPED PIT (Fig. 58:2)

The horseshoe-shaped pit underlying house VII in square C<sup>x</sup>-29 is unique at our site. It was rather vaguely outlined and had a yellowish-grey filling. The broader end is *ca.* 20 cm. deeper than the narrow leg. It is not only cut by a post-hole of house VII but seems also to be older than a small round pit of the type to be described next.

Comparable pits are well known from other sites in the province of Drente: Anlo<sup>1</sup>,

<sup>1</sup> Waterbolk 1960, 89-90.

Schipborg and Angelslo.<sup>1</sup> There they were dated to the end of the Neolithic period or the Early Bronze Age and the Wijster specimen may be even much earlier. It does not belong to the settlement in any case.

#### H. SMALL ROUNDISH PITS (MESOLITHIC HEARTHS) (Pl. 14)

A characteristic type of small oval or roundish pits occurs especially in the north-eastern and south-western parts of the excavated area (diameter between 0.30 and 1.10 m.). Their total number amounts to more than two hundred and fifty. They have a filling which is often, though by no means always, interlarded with particles and lumps of charcoal. The centre of the pit is frequently a deep black, while the outer parts have a more purple or olive-green colour. They are invariably shallow and have a more or less rounded bottom.

These pits are sometimes difficult to distinguish from ordinary post-holes. The most characteristic specimens, however, can be recognized by their rounded form, the colour of their filling and their size (small, but bigger than the average post-hole). They normally occur in groups. Moreover, a fairly large number of pits is found which are often grouped together with the typical specimens and show every resemblance to them in shape, but do not have the characteristic filling.

Apart from the lumps of charcoal, finds are extremely scarce. In nine pits (C<sup>j</sup>-41, C<sup>m</sup>-42, D<sup>t</sup>-39/40, E<sup>c</sup>-30, E<sup>d</sup>-32, E<sup>e</sup>-32, E<sup>g</sup>-30) fragments of calcinated bone were found. In three instances cow remains could be recognized among these bones (find no. 24, 177, 178); in one, a cow or horse was represented (find no. 179) and in two cases the remains were human (find no. 1250, 1521; *vide* Appendix II). It is to be stressed that not only very few pits have yielded bones, but also that in the few pits where calcinated bones were found, it generally only concerned tiny scraps which were dispersed through the filling and were mostly no longer identifiable. Sometimes a few sherds occurred in addition to the bones. Also a number of pits without bones contained one or two sherds (find no. 24, 85, 178, 232, 355, 369, 370, (686), (687), 736, 881, 882, 1012, 1042, 1251, 1286, 1287).

Calcinated bones (find no. 1203; undetermined) were also found in one small rectangular pit (square E<sup>c</sup>-34). A few other comparable but findless pits seem to belong together with the roundish on account of their filling and situation (*e.g.* the group in squares C<sup>ho</sup>-61/4).

The pits are not distributed evenly over the terrain. They were neither observed in the north-western nor in the south-eastern parts of the excavated area. Even if we assume that in the eroded area in squares C<sup>o</sup>D<sup>e</sup>-19/27 they had originally been present as well, it is clear that they concentrate most densely in a diagonal strip running NE-

<sup>1</sup> Van der Waals 1962, 243-6.

SW. In fact, there are two concentrations and the determining factor in their distribution is not the altitude of the soil (they are not lying exclusively on the higher grounds) but the vicinity of extremely low lying parts: they seem to cluster around the fen to the west of the settlement and around the small depression in squares D<sup>oz</sup>-19/29. Small groups and rows are to be observed within the bigger concentrations.

During the excavation the roundish pits of greenish and violet colour were interpreted as mesolithic hearths because of their resemblance to the hearths which have been discovered at mesolithic sites excavated in this country.

We toyed with the idea later that these pits or at least part of them, as well as some of the smaller rectangular pits, might be cremation graves dating from the Pre-Roman Iron Age and the Early-Roman period, because one such pit seemed to cut through the horseshoe-shaped pit mentioned above, because of the finds of sherds and calcinated bones (though these are extremely scarce) and because of their similarity to some north-western German *Brandgruben* (e.g. those excavated by Zoller at Wehnen).<sup>1</sup> In this case they might have belonged together with the rectangular trenches found underneath the settlement and at the cemetery site, where we observe one surrounding five cremation graves. In this connection we also recall the curious pit, its bottom paved with sherds, found in squares C<sup>wx</sup>-56 (cf. p. 64). Its meaning and date will be dealt with later on (p. 498). Another pit with pavement of sherds is present nearby in square C<sup>t</sup>-53. Three small pits containing coal and *Branderde* were discovered in squares D<sup>i</sup>-60, D<sup>l</sup>-60 and D<sup>lm</sup>-61.

However, the analysis (made by Dr. J. C. Vogel, Physics Laboratory Groningen) of three charcoal samples collected from pits of the type under discussion proved that the original interpretation was justified:

GrN 4574 (find no. 518)	8400 ± 80 B.P.
	6450 B.C.
GrN 4577 (find no. 581)	7980 ± 60 B.P.
	6030 B.C.
GrN 4575 (find no. 836)	7660 ± 50 B.P.
	5710 B.C.

Another sample taken from a small rectangular pit (?) proved to be much later:

GrN 4576 (find no. 841)	970 ± 35 B.P.
	980 A.D.

It dates from after the period of the settlement and may be connected with the earliest phases of the *E.s.*

<sup>1</sup> Zoller 1958.

# THE FINDS FROM THE SETTLEMENT

(CHAPTERS VIII-XV)



## CHAPTER VIII

### WOOD<sup>1</sup>

Wooden objects have only been preserved in two pits on the eastern edge of the fen west of the settlement (find no. 43, 308) and in well 10 (find no. 676).

At the institute, the wooden objects were impregnated with methyl cellulose. This method turned out to be satisfactory when used to preserve the more solid objects. It proved disastrous to one of the "loom-weights" and the delicate, thin-walled plate and bowls; only the photographs made shortly after their discovery, record their original shape.

It is interesting to note that most objects are unfinished. In fact, all those found in the two pits at the edge of the fen, apart from perhaps the plate and the "loom-weight", clearly needed the final touch, and this leads us to suppose that they were left there to soak. The same phenomenon is to be observed in a pit in the peat near Taarlo<sup>2</sup> and in the Bolleveen near Zeijen<sup>3</sup> both near Vries in Northern Drente.

#### A. SEGMENTS OF FELLOES (Fig. 59-63)

At least eighteen segments of felloes of spoked wheels, all made of oak come from the two pits. They are unfinished in that the holes for the spokes and those at the ends for holding the pegs intended to join the segments have not been made.

All segments have a wedge-shaped section with the greater thickness at the inside. Wedge-shaped section was also observed in the planks of the wells, and shows that the boards were detached from the tree by means of cleaving. On the surface of the best-preserved felloes, the marks left by the adze used in dressing the blocks into shape are still visible.

Three segments of equal dimensions were lying together in the small pit (Fig. 61). Among the fifteen specimens found in the larger pit three groups can be distinguished, the segments of each group having approximately the same dimensions, general appearance (same block of wood) and state of preservation.

Six are broad and heavy (Fig. 62: 1-6); they were lying together in a heap at one side of the pit.

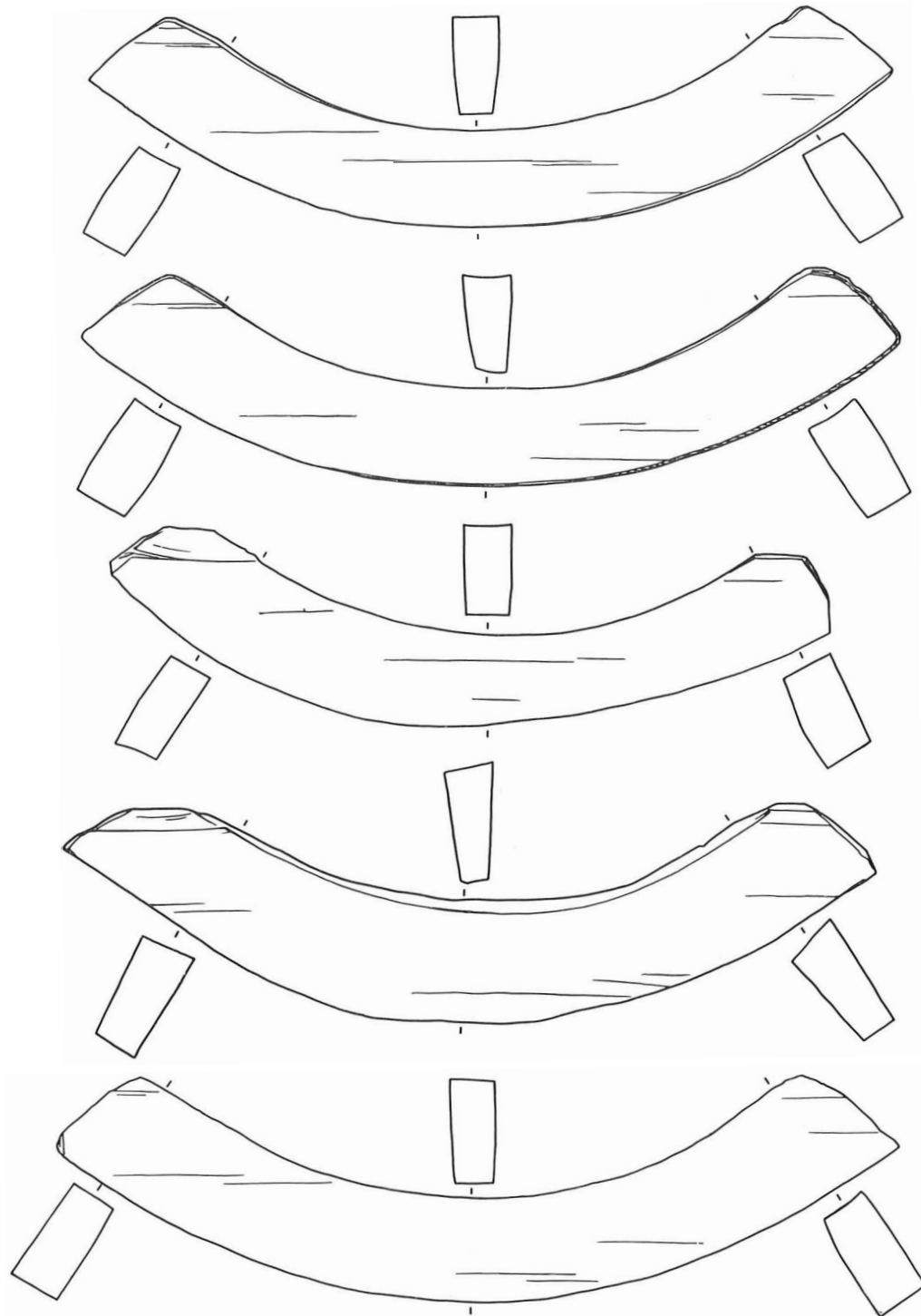


Fig. 59. Segments of felloes of oak-wood (no. 43). Wijster. Scale 1 : 7.

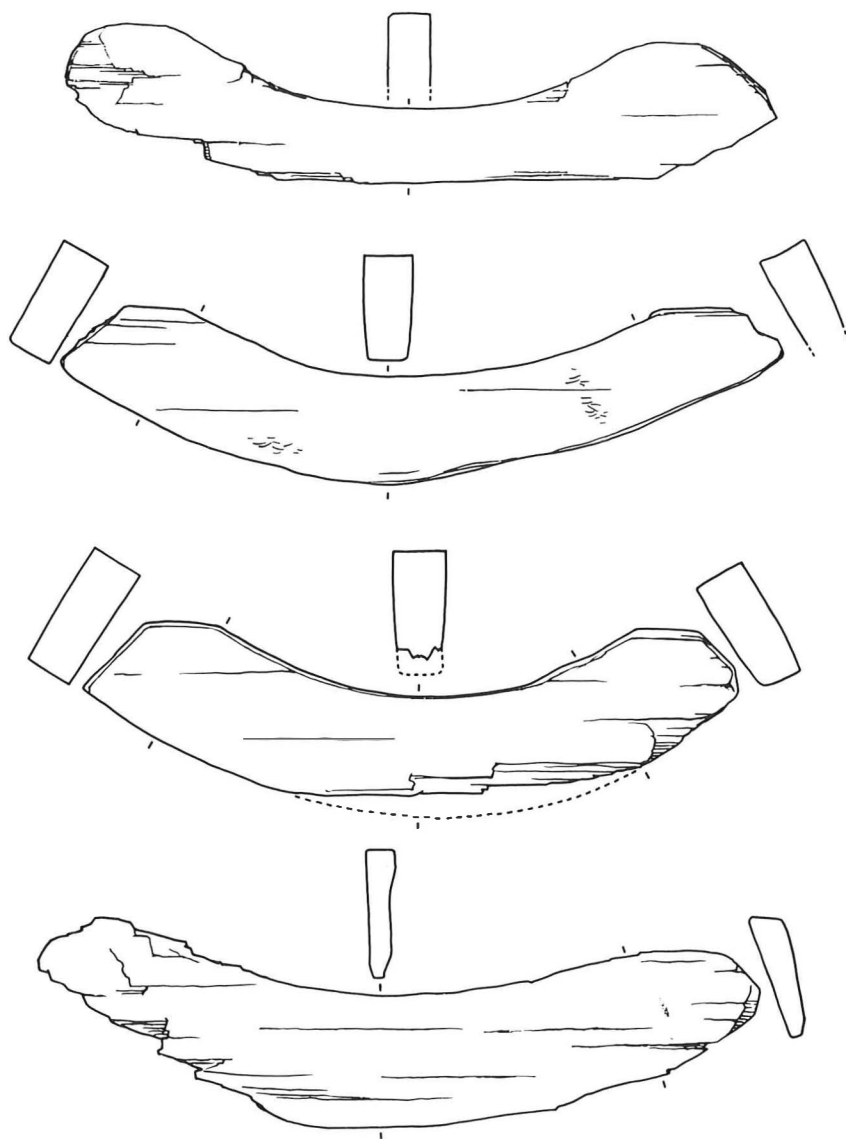


Fig. 60. Segments of felloes of oak-wood (no. 43) Wijster. Scale 1:7.

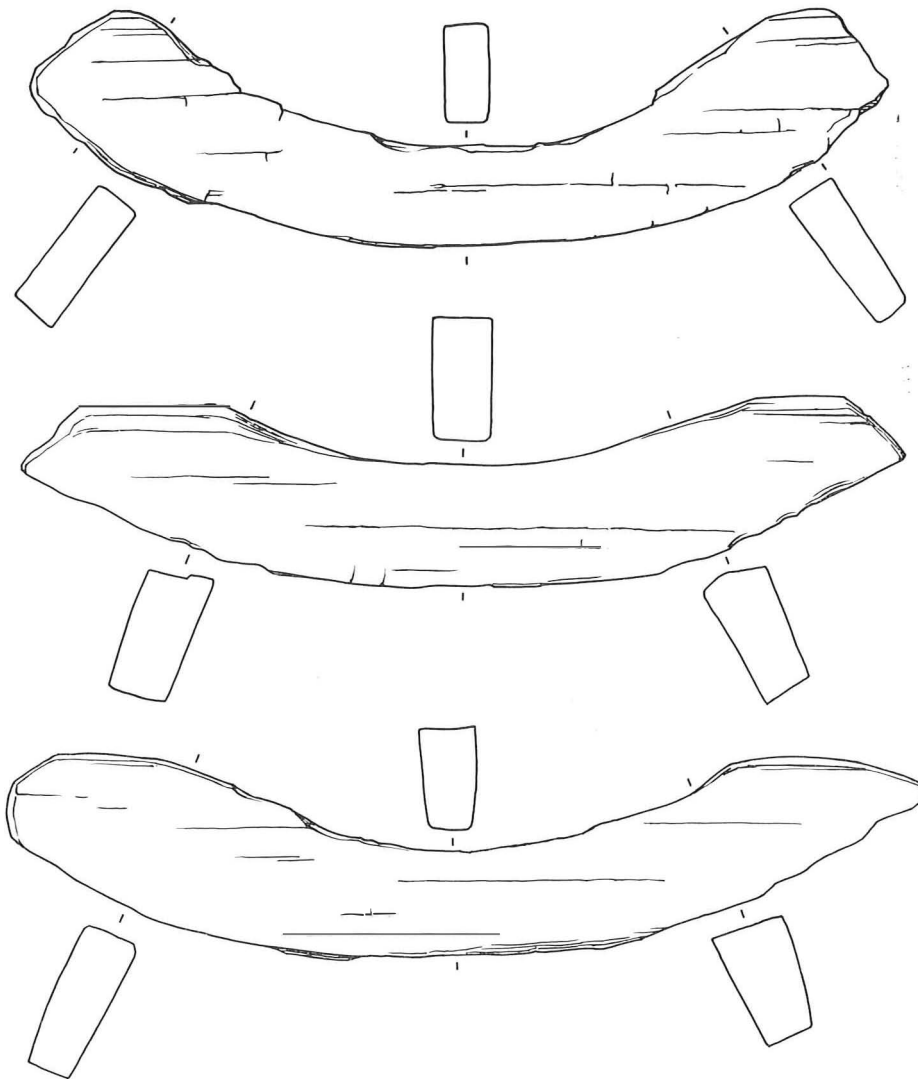
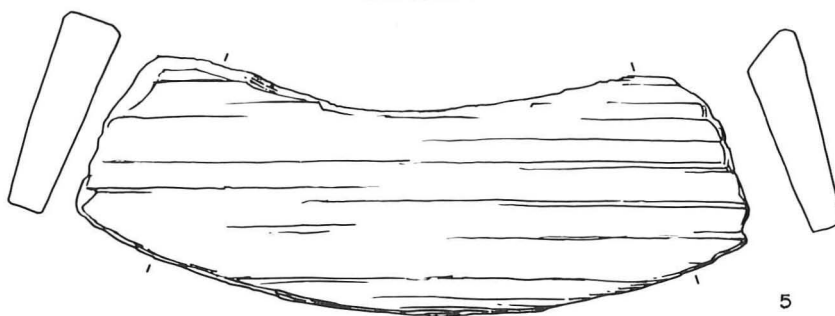
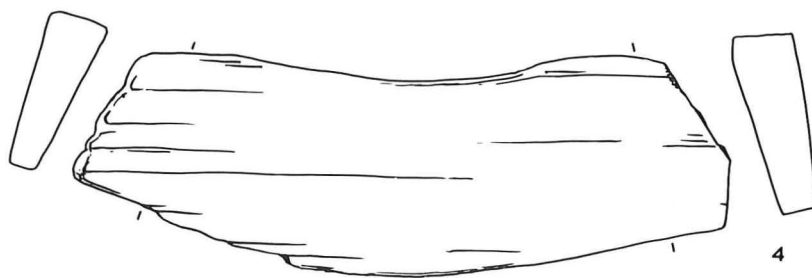
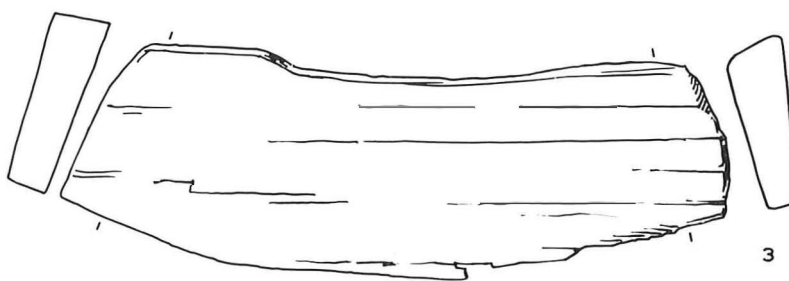
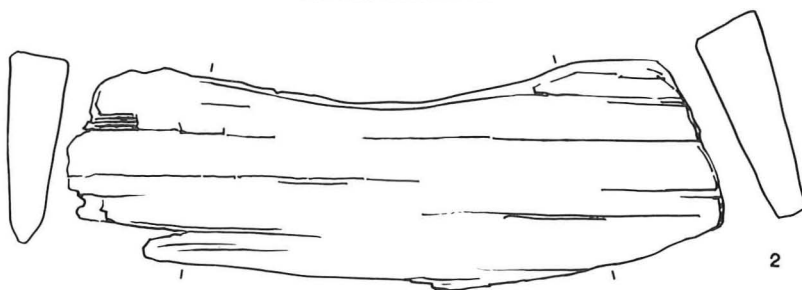


Fig. 61. Segments of felloes of oak-wood (no. 308).Wijster. Scale 1:7.



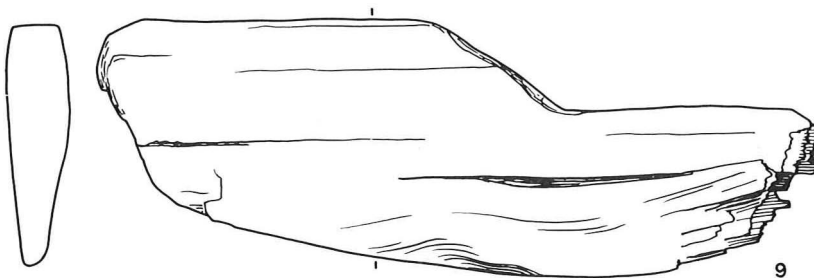
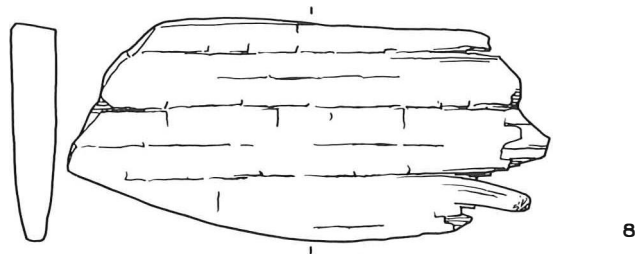
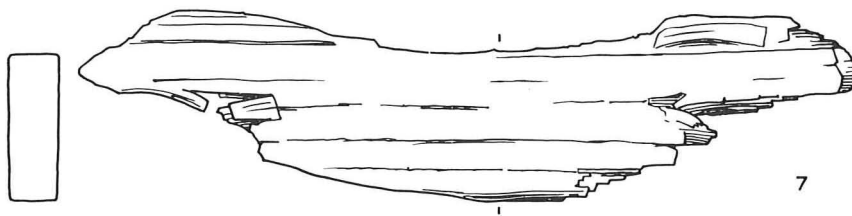
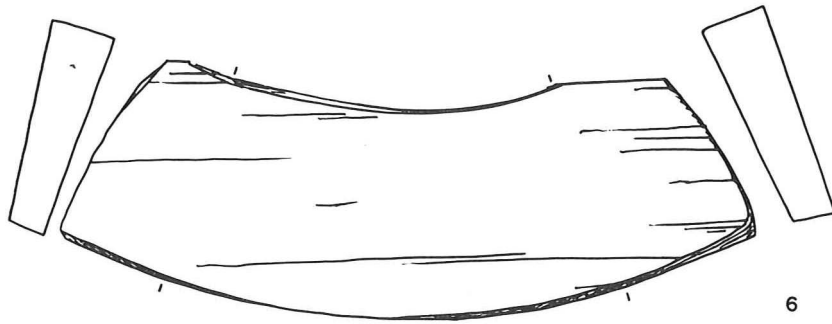


Fig. 62. Segments of felloes of oak-wood. Wijster (no. 43). Scale 1:7.

The remaining nine were dispersed throughout the filling at different levels. Of these, five have a narrow slender form and are beautifully preserved (Fig. 59).

The other four are of the same slender model but much smaller; whereas three of them undoubtedly belong together, one is markedly thinner (Fig. 60).

Three badly decayed fragments of oak wood have no distinguishable form (Fig. 62:7-9). Two may also be felloe segments at perhaps an earlier stage of manufacture. One of them, however, reminds us of the composite disc-wheels, as known from Ezinga (Fig. 62:9). If this is true, then this piece must also be regarded as un-

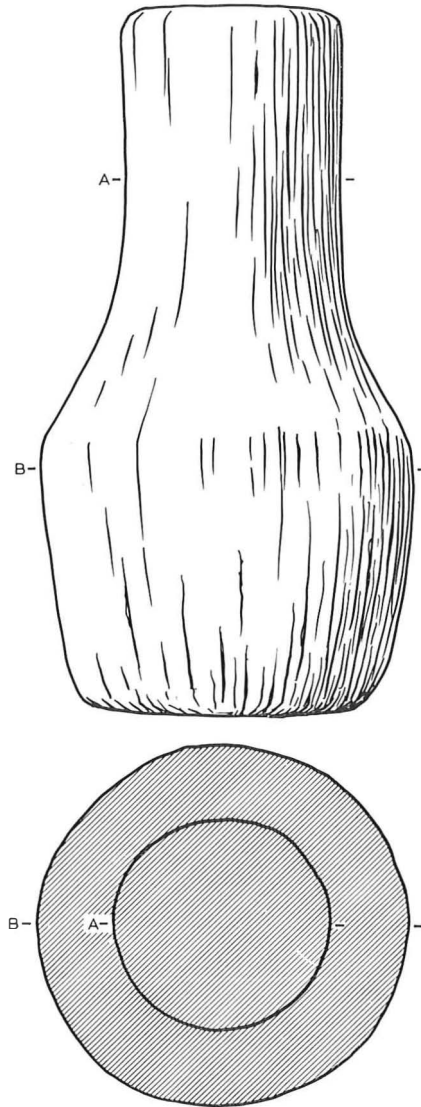


Fig. 63. *Rough-out* for a nave of oak-wood (no. 43). Wijster. Scale 1 : 5.

finished, for the grooves intended to hold the transverse laths for joining the planks cannot be seen.<sup>4</sup>

The segments of equal size and made from the same block of wood were undoubtedly meant to be used for one particular wheel, or the same set of wheels. It is interesting to see that there were no standard measurements and that every wheel was constructed individually. The number of segments used in one wheel can be four, or five, or six. The odd number of five prevented opposition of two seams, which probably made a more solid construction. The few complete wheels known from this country consist of five segments, but elsewhere, where the material is more plentiful, no preference for the wheel made of five segments can be observed.<sup>5</sup> It is remarkable that the individual groups of identical segments, which could be distinguished among the material from the large pit at Wijster, also consist of four, five, or six segments.

However, in their present form the segments of none of these groups can be assembled to form one wheel. To do so they would have to be cut down in size. It is, however, unprofitable to dwell on this point, because there is absolutely no guarantee that the entire wheelwright's stock has come down to us. Some of the segments are partially already rotted away and, had others been lying higher up in the filling of the pit, these would have decayed completely.

Comparable segments, or complete spoked wheels, are not uncommon in the northern part of this country: Hijum<sup>6</sup> and Nijenga<sup>7</sup> in Friesland, Ezinge,<sup>8</sup> Paddepoel,<sup>9</sup> Maarhuizen<sup>10</sup> and Leens<sup>11</sup> in Groningen, Zeijen<sup>12</sup> and Taarlo<sup>13</sup> in Drente. The datable ones span the Roman period (Taarlo, Zeijen) and the Early Middle Ages (Leens).

The heavy club-like object of oak wood illustrated in Fig. 63 may be mentioned in this connection as it seems to be a *rough-out* for a nave.<sup>14</sup>

#### B. WOODEN VESSELS (Fig. 64, 65:2, 3; Pl. 15)

In the larger pit were found a flat-bottomed, oblong plate with horizontal handles at either end, a *rough-out* for a similar plate in the very first stage of working and two unfinished round bowls, all made of alder. Well 10 yielded a small bottom fragment, also of alder-wood.

Van Giffen mentions parallels for the plate from Zeijen, and Joeswerd near Ezinge.<sup>15</sup> Unfinished bowls comparable to the Wijster ones were discovered by Haarnagel at Feddersen Wierde.<sup>16</sup> These have a circular foot, which in our specimens is missing or had not yet been modelled.



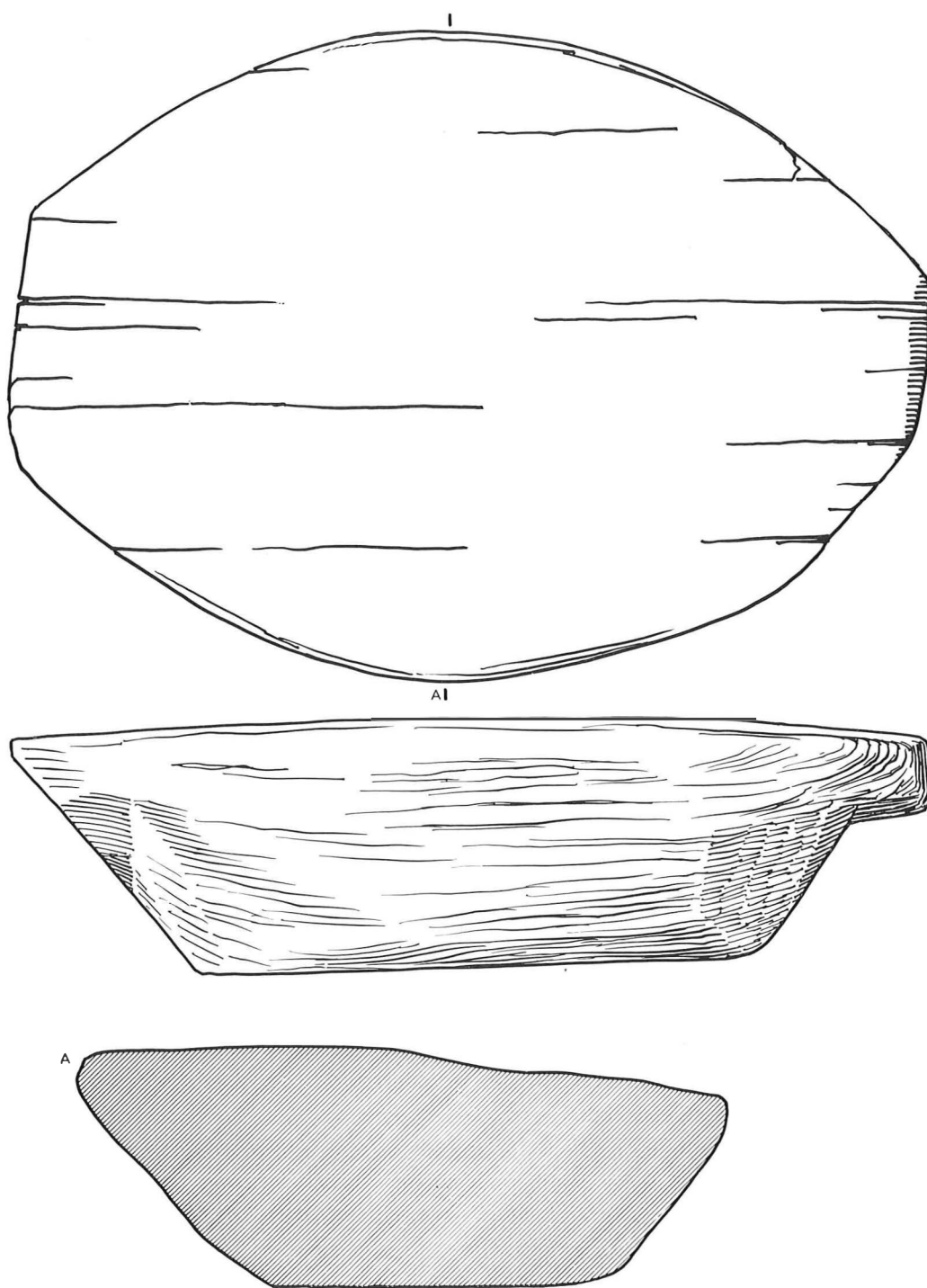


Fig. 64. *Rough-out* for a plate of alder-wood (no. 43). Wijster. Scale 1 : 5.

## C. "LOOM-WEIGHTS" (Fig. 65:4; Pl. 16:1)

Two conical objects with a horizontal hole at the upper end are made of alder-wood; in one case, the bark was still present near the base. They were discovered, one in the large pit, the other in well 10. The objects match the form of type B loom-weights of baked clay, but it is questionable whether they were not too light to serve the purpose of a loom-weight. Grohne<sup>17</sup> suggests another function for this kind of object.

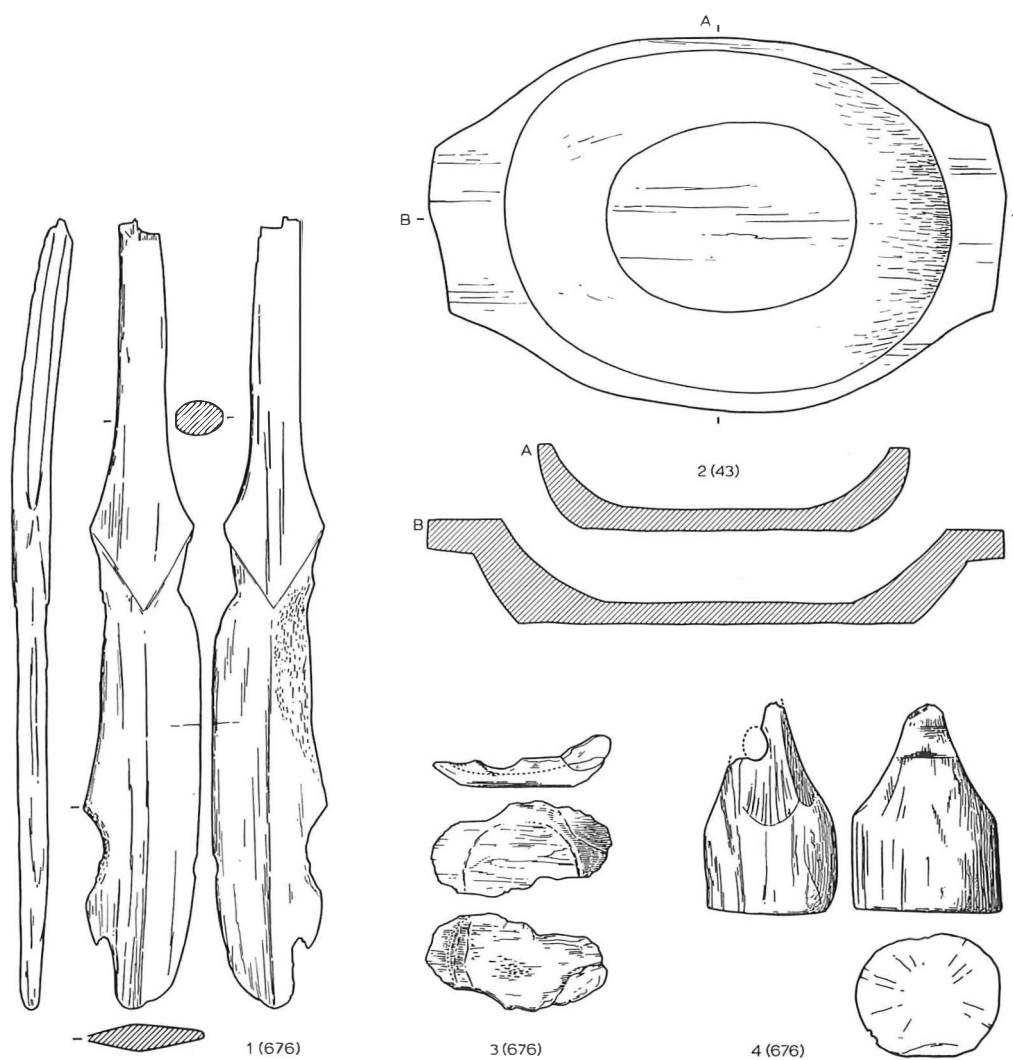


Fig. 65. 1: Weaving sword of oak-wood, 2, 3: plate and fragment of bowl of alder-wood, 4: "loom-weight" of alder-wood. Wijster. Scale 1: 5.

## D. WEAVING SWORD (Fig. 65:1; Pl. 16:2)

A sword-like object comes from well 10. It has a flat blade with rounded point, blunt, rounded sides, and a cylindrical handle. The material is oak-wood. The object may be interpreted as a weaving sword.

## E. VARIOUS OBJECTS (Fig. 66)

A round stick of oak-wood (Fig. 66:3) with one thin end (the stick is broken off at the thick end and perhaps part of the thin end is also missing) is reminiscent of the hoisting apparatus found in a well at Hamburg-Farmsen.<sup>18</sup>

We are at a loss to explain the function of a curved piece of oak-wood from the large pit (Fig. 66:1): horse collar? The curvature is not necessarily original. In the middle it has a rectangular hollow on one side and three grooves on the other; the centre is flanked by two round holes with remnants of a peg and at one end there is another similar peg-hole.

A thin, narrow strip of oak-wood has a hole at the rounded end (Fig. 66:5).

Of the many, mostly indeterminable fragments of wood, found in well 10, we illustrate a disc and two parts of discs of oak-wood, one of them with a hole in the centre (Fig. 66:2, 3, 7); they may have been bottoms of barrels.

Furthermore there is a fragment of a handle (Fig. 66:8) and a broken-off part of a small, narrow plank of ash wood having two burnt-in, round hollows at the well-preserved end and three square "teeth" along one side (Fig. 66:6); handle and plank probably belonged together.

A rectangular piece of oak wood has a square indentation at one end; the other end is broken off at a hole (Fig. 66:9).

## NOTES

<sup>1</sup> We have to thank Dr. W. van Zeist for the identification of the kinds of wood.

<sup>2</sup> Clason 1963, 232.

<sup>3</sup> Van Giffen 1950, 92.

<sup>4</sup> Van der Waals 1964, 69-74, Fig. 24-5.

<sup>5</sup> Von Post, Oldeberg & Fröman 1939.

<sup>6</sup> Pleyte 1877-1902, Pl. 4: 5.

<sup>7</sup> Pleyte 1877-1902, Pl. 27: 10.

<sup>8</sup> Van der Waals 1964, 72-3.

<sup>9</sup> Excavation 1964 B.A.I. (W. A. van Es); Van der Waals 1964, 72-3.

<sup>10</sup> Collection S.S. Mensonides, Warffum, Inv. no. 1962/IV 130.

<sup>11</sup> Van Giffen 1936-40, 42, Afb. 23-4.

<sup>12</sup> Van Giffen 1950, 92.

<sup>13</sup> Clason 1963, 232.

<sup>14</sup> Cf. the one from the Bolleveen near Taarlo: Clason 1963, Fig. 25.

<sup>15</sup> Van Giffen 1950, 92; cf. also Clason 1963, Fig. 25.

<sup>16</sup> Haarnagel 1958, Abb. 4.

<sup>17</sup> Grohne 1938, 107.

<sup>18</sup> Westhusen 1953-5, 206-7, T. 55, 70.

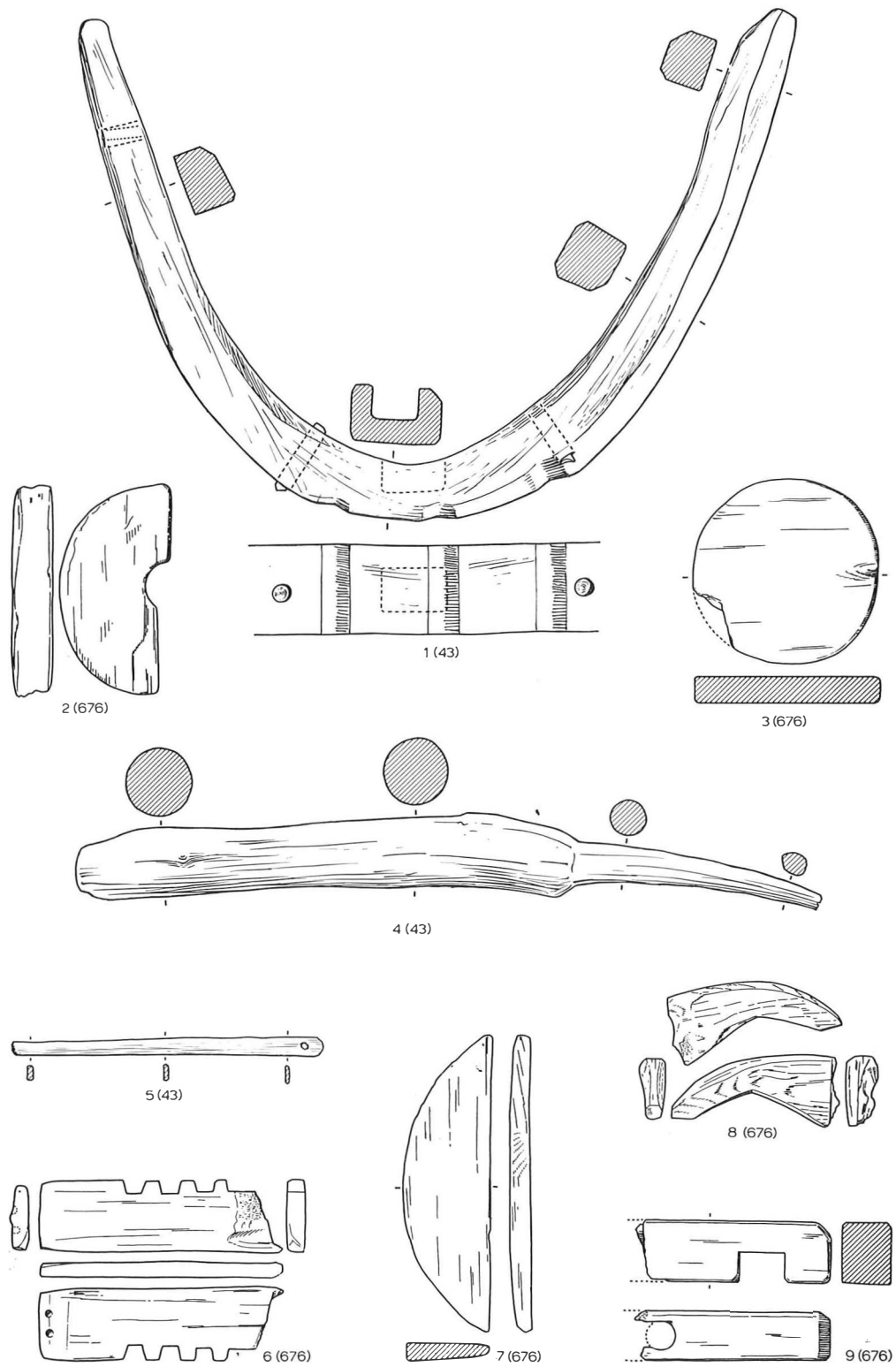


Fig. 66. Various wooden objects. Wijster. Scale 1 : 5.

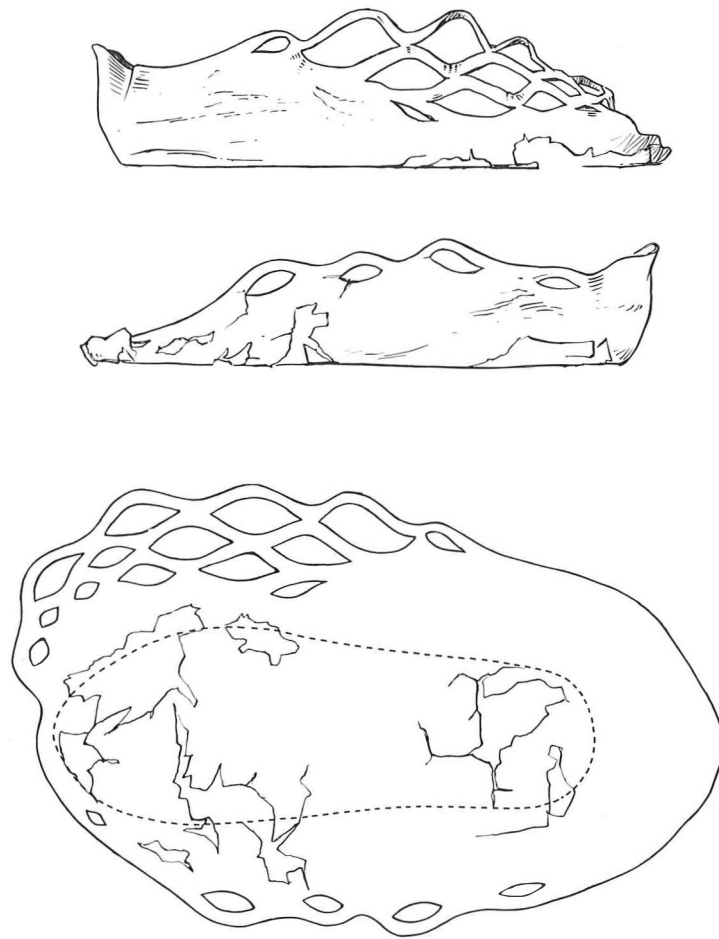


Fig. 67. Leather bindshoe (no. 676). Wijster. Scale 1 : 4.

## CHAPTER IX

### LEATHER

Well 10 contained some leather fragments, all of cow-hide (find no. 676). Among these there is a fairly complete bindsheo made out of one piece. The other fragments for the greater part belong to one or more shoes, which were decorated with some sort of "chip-carved" ornament.

The fragments were submitted to Dr. K. Schlabow, Industrie-Museum der Stadt Neumünster, who kindly undertook the preservation and presented us with the photographs Pl. 17–20 and the following description.

#### BUNDSCHUH (Fig. 67; Pl. 17:1)

Rindleder:

Die überlieferten Lederreste zeigen einen Bundschuh im Zerfall. Auf einer Fussform konnten die Teilstücke wieder montiert werden, sodass die Form des Bundschuhs klar in Erscheinung tritt.

#### TEILSTÜCK EINES BUNDSCHUHES (Pl. 18: 1)

Rindleder:

Verzierung durch Ausschnitte und Falzlinien.

Die Ausschnitte zeigen an den Ecken Einschlüge mit einem Halbrund-Hohleisen.

Die Falzlinien sind durch Einschnitte vorgezeichnet und mit einem Gerät, ähnlich dem heutigen Falzbein verbreitet. Die zwei gleichen Lederstücke sind irreführend, da es sich nur um 1 Teilstück des Schuhs handelt. Hier liegt ein Gerbfehler vor. Der Gerbstoff ist von beiden Seiten nicht tief genug in die Haut eingedrungen. In der Mitte wurde eine dünne Schicht von dem konservierenden Gerbstoff nicht erfasst und ging während der Lagerung in Fäulnis über. Dadurch hat sich das Leder gespalten, was durch das Vorhandensein von nur einer Narbenseite bestätigt wird.

## DREI TEILSTÜCKE VON BUNDSCHUHEN (Pl. 18:2)

## Rindleder:

Nur das mittlere Stück zeigt den typischen Narben des Rindleders.

Bei dem grösseren Stück handelt es sich um eine abgespaltene Unterschicht.

Obgleich das gleiche Muster in der Verzierung vorliegt, gehören die beiden grossen Teilstücke nicht aufeinander.

## DREI TEILSTÜCKE VON BUNDSCHUHEN? (Pl. 16:2)

## Rindleder:

Auch hier ist eine Spaltung des Leders bereits eingetreten, die Teile liegen aber noch aufeinander. Die Verzierungstechnik ist die gleiche wie bei den Reststücken auf Pl. 18.

ZWEI RESTSTÜCKE, WAHRSCHEINLICH VON SCHUHSOHLNEN  
(Pl. 19:2)

## Rindleder:

Der Narben des Leders ist verschlissen, wahrscheinlich abgetragen.

Grobe Nahtspuren deuten auf eine primitive Befestigung der Sohlen hin. Man darf vermuten, dass eine durchgelaufene Sohle am Bundschuh mit diesen Lederstücken geflickt wurde.

## DREI RESTSTÜCKE VON LEDER (Pl. 19:1)

## Rindleder:

An allen drei Stücken kann man beobachten, wie sich der Narben des Rindleders in dünner Schicht ablöst. Es ist ein Zeichen von einer unvollkommenen Gerbung.

Es dürfte sich bei allen drei Stücken um Teilstücke von Schuhen handeln.

## DREI RESTSTÜCKE VON LEDER (Pl. 20:1)

## Rindleder:

Die drei Teilstücke zeigen Einschnitte, doch ist die Zugehörigkeitschwer zu deuten.

## DREI RESTSTÜCKE VON LEDER (Pl. 20:2)

Rindleder:

Drei in bestimmter Form zugeschnittene Teilstücke mit Nahtspuren am Rande. Die Zugehörigkeit ist bei allen drei Stücken in Frage gestellt.

The complete one-piece shoe fits well into the picture of the cobbler's craft of the Roman Period, as outlined by Marschallek.<sup>1</sup> It is a Germanic type and shows Roman influence in its open-work upper.

Also the "chip-carved" decoration as found on the other shoe fragments, which abounds both within the Empire and in Germanic territory, is regarded by Marschallek as of Roman origin. No complete shoe can be reconstructed from these fragments, but part of the sole still seems to be attached to one of them (Pl. 18:2) which would again make it a one-piece shoe. A row of holes runs along the border of the sole indicating that a separate piece of hide had been sewn to it. Among the fragments a few can be interpreted as parts of soles (Pl. 19:2), and Schlabow thinks (*vide supra*) that these were used to repair a worn-out shoe. Thus everything suggests that all Wijster shoes were of Germanic type, some of them repaired but quite different from the Roman footgear, in which the upper and sole were made separately and thereafter sewn together.

The shoes cannot be dated accurately on their own evidence.

<sup>1</sup> Marschallek 1959, especially 80–1; with literature.



## CHAPTER X

### BONE

Practically no bone objects have been preserved.

There is one bone spindle-whorl (*vide* p. 283; Fig. 171).



Fig. 68. Fragment of bone comb. Wijster. Scale 1 : 1.

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A fragment of a comb was found in well 2: it is the end of the row of teeth (Fig. 68). The piece is too small to provide a completely reliable reconstruction, but it seems to have belonged to a comb with sloping sides, similar to the types with a semi-circular plate or especially to those with a triangular plate. This would fit in with the Late-Roman date assigned to the well by the Roman sherds found in its filling.<sup>1</sup>

The animal bones are described in Appendix II.

<sup>1</sup> Roes 1963, 7-13, Pl. 2-13.

## CHAPTER XI

### METAL

The sandy soil of our site was unfavourable to the preservation of metal. Consequently, apart from the iron slags, the harvest of metal objects is poor: some few pins, brooches and coins, and a collection of corroded, often unrecognizable iron fragments.

#### A. HAIRPINS (Fig. 69, 70)

A beautiful bronze pin was found on the bottom of well 1. It is covered with a golden bog patina (42). The pin has a disc-shaped, slightly arched head. The upper part of the shaft is decorated with faceted zones alternating with ribbing; some of the ribs are serrated. The shaft, originally straight, is now bent.

Fragments of a similar pin with flat disc-shaped head come from a pit (532).

Finally there are two fragments of silver (?) pin shafts without decoration, but possibly belonging to pins of the same type (709, 964).

This type of pin is well-known and is to be dated around 400 A.D. Its distribution area reaches from the Seine to the mouth of the river Elbe (Fig. 289).<sup>1</sup>

#### B. BROOCHES (Fig. 69)

An enamelled disc-brooch (1074) comes from hut 137. The upper side of the bronze plate with a narrow upstanding rim is covered with a checkered pattern in enamel: square fields, consisting of little blue and white squares surrounded by a red border, alternating with fields made up of still smaller blue and white squares bound by a blue border. The needle construction was of the *Armbrust* type. Needle and needle-catch, which were both of bronze, have broken off. The bronze spiral with seven or eight coils has been preserved; it is held in the middle by a vertical strip of bronze caught into a hole in the plate of the brooch.

According to Exner,<sup>2</sup> this type is one of the latest offshoots of the enamelled brooch industry which flourished in the north-western provinces of the Roman Empire (Mainz, Trier, Köln, Entre-Sambre-et-Meuse district, England), especially during the second half of the 2<sup>nd</sup> century. Our type appears to belong to the late 2<sup>nd</sup>

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Metal

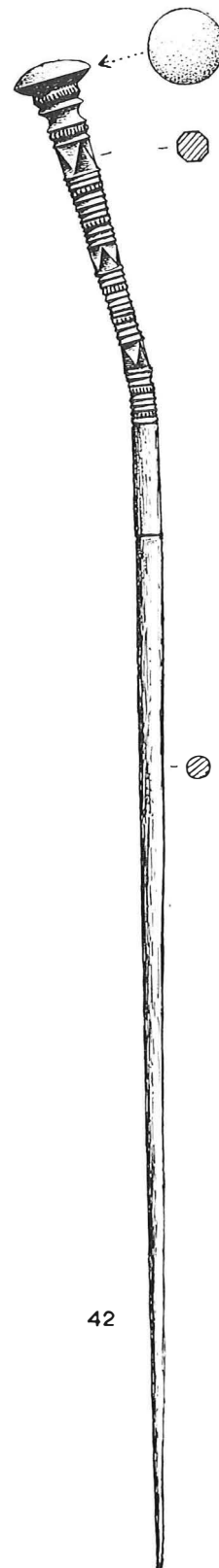
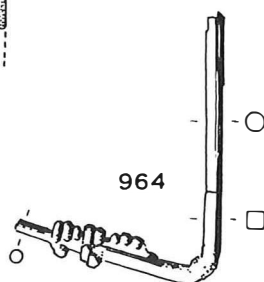
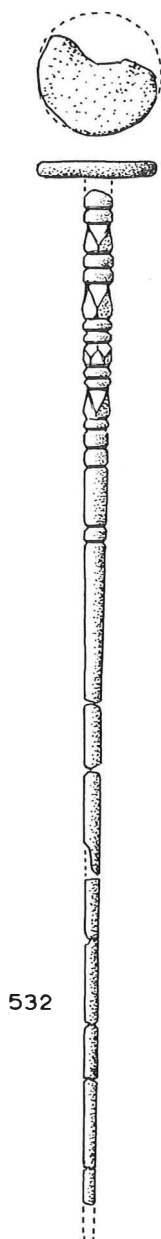
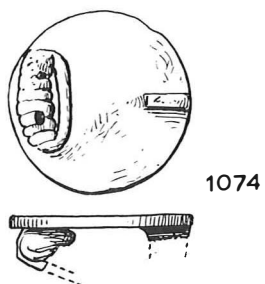
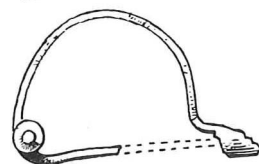
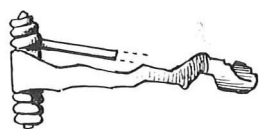


Fig. 69. Bronze brooches and hairpins. Wijster. Scale 1 : 1.

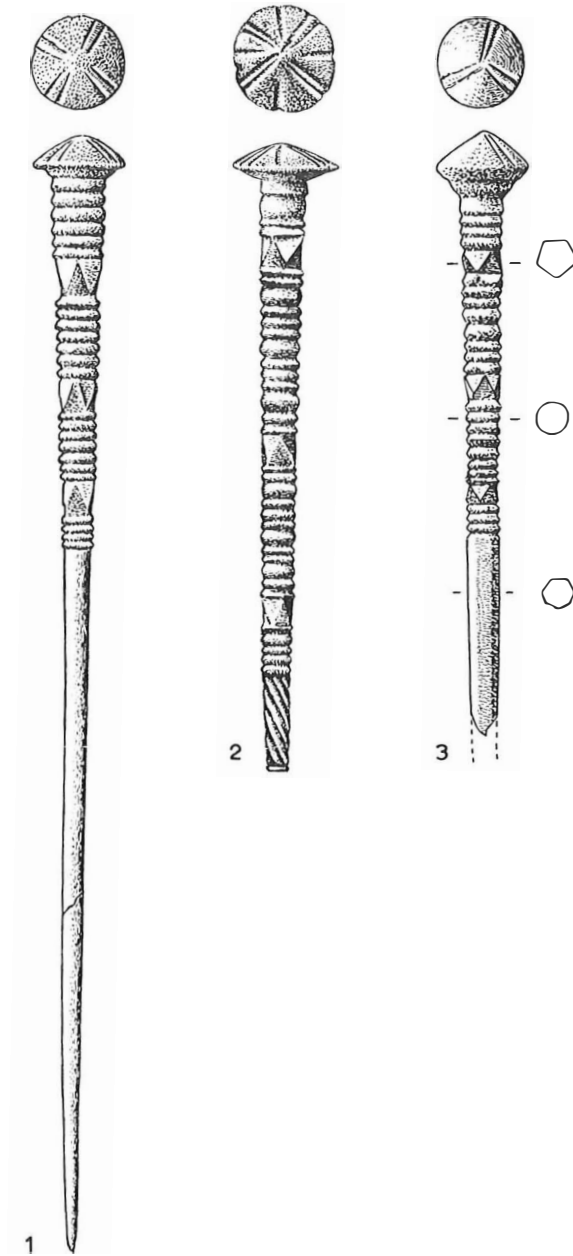


Fig. 70. Bronze hairpins. 1: Cuyk, 2: Maas near Maren, 3: Rossum. Scale 1 : 1.

and early 3<sup>rd</sup> century. It has been supposed that the Early Medieval Irish *millefiori* ornament is descended from this provincial Roman industry, but no intermediate forms are known.<sup>3</sup>

Identical brooches were found on Free Germanic territory at Spannum in Friesland,<sup>4</sup> at Paddepoel near Groningen,<sup>5</sup> Feddersen Wierde<sup>6</sup> and Hodorf.<sup>7</sup>

Two fragments of a small bronze fibula, bow and spiral, seem to represent the 3<sup>rd</sup> century type with long catch (965).

A small, badly corroded, bronze brooch (1208) has a flat band-shaped bow which with its full width clasps the bronze axis holding the spiral of six coils (three at either side). The *Sehne* which passed underneath the bow and the end of the needle have broken off. The needle-holder is U-shaped, but the rear end is damaged so that it is not possible to tell whether it was closed by a lid, which would make it box-shaped (*Dosenförmig*). No traces remain of any ornament, incised or faceted.

Von Uslar shows that the type already existed early in the 3<sup>rd</sup> century. On the other hand it continues at least until the end of the 4<sup>th</sup> century.<sup>8</sup> It is a poor relative of the brooches discovered in graves 67, 74 and 93 of the Wageningen cemetery, which belong to a complex of brooch types dating from about 400.<sup>9</sup>

### C. COINS

Among the finds there are two Roman coins. First a DIVVS ANTONINVS – CONSECRATIO (eagle on altar) denarius (find no. 673) issued by Marcus Aurelius after 160 A.D. (Mattingly *et al.*, RIC Marcus Aurelius 430).

The other one (broken into eight pieces) is of very debased copper material (find no. 806). Judging by flan and material it must be an antoninianus of the second half of the 3<sup>rd</sup> century. The emperor's portrait is no longer recognizable; on the reverse the VIRTUS AVG type is depicted (Soldier, Virtus or Mars standing to right with vertical spear in right hand and resting left hand on shield). This reverse is frequently used after about 250 A.D. on antoniniani of the military emperors.

### D. VARIOUS OBJECTS (Fig. 71)

Iron objects were found at many places in the settlement, most of them, however, so seriously corroded as to defy every attempt at determination.

Recognizable are: a number of nails with flat round heads (926, 988, 1103, 1167, 1184, 1235, 1253), an iron angle (593), pointed bars (296, 1268), a fragment of a strip with nail holes (984), part of the blade of a saw (1010), a part of a ring (821) and a spear-head with long oval blade and tubular socket (730).

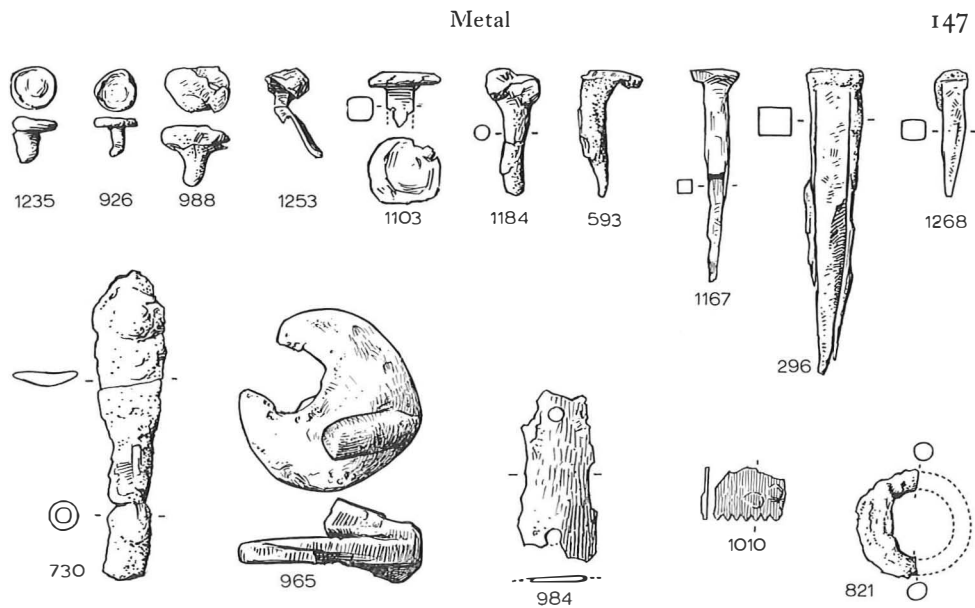


Fig. 71. Iron objects. Wijster. Scale 1:3.

#### E. SLAGS

A great number of slags testifies to an intensive iron industry: find ncs. 13, 19, 27, 41, 60, 89, 95, 180, 239, 269, 302, 312, 330, 380, 387, 401, 407, 417, 438, 452, 474, 495, 500, 552, 715, 730, 748, 772, 801, 802, 805, 851, 852, 855, 858, 871, 894, 897, 899, 902, 913, 917, 958, 962, 971, 473, 974, 977, 979, 980, 983, 984, 1003, 1027, 1037, 1041, 1044, 1071, 1074, 1076, 1077, 1078, 1079, 1085, 1087, 1120, 1121, 1129, 1141, 1148, 1150, 1151, 1156, 1183, 1184, 1190, 1199, 1217, 1218, 1219, 1220, 1223, 1225, 1230, 1238, 1248, 1256, 1280, 1281, 1284, 1292.

#### NOTES

<sup>1</sup> Werner 1962, 151, Abb. 2 (symbols changed: the black dot stands for pins with head); Ypey 1960-1, 562-5; Van Beek & Van Es 1964, 22, Fig. 13. The same ornament also occurs on other objects: *e.g.* on a key from Rhenen (Glazema & Ypey 1956, Pl. 54) and on *Kerbschnitt* belt fittings (Glazema & Ypey 1956, Pl. 6; *Mainzer Zeitschrift* 33, 1938, 9, T. 2: 2; Abbeville-Homblières: Roeder 1930, T. 6: 6, *etc.*) which only confirms the date of the pins around 400 A.D.

<sup>2</sup> Exner 1939, 63-4, 71-2.

<sup>3</sup> Henri 1963, 82-3.

<sup>4</sup> Pleyte 1877-1902, 77, Pl. 26: 4fi e; Boeles 1951, Fig. 34: 1.

<sup>5</sup> Excavation 1964, B.A.I. (W.A. van Es).

<sup>6</sup> Oral information from Dr. W. Haarnagel, Wilhelmshaven.

<sup>7</sup> Haarnagel 1937, 70.

<sup>8</sup> Von Uslar 1938, 106.

<sup>9</sup> Van Es 1964(1), 280-1, with literature.

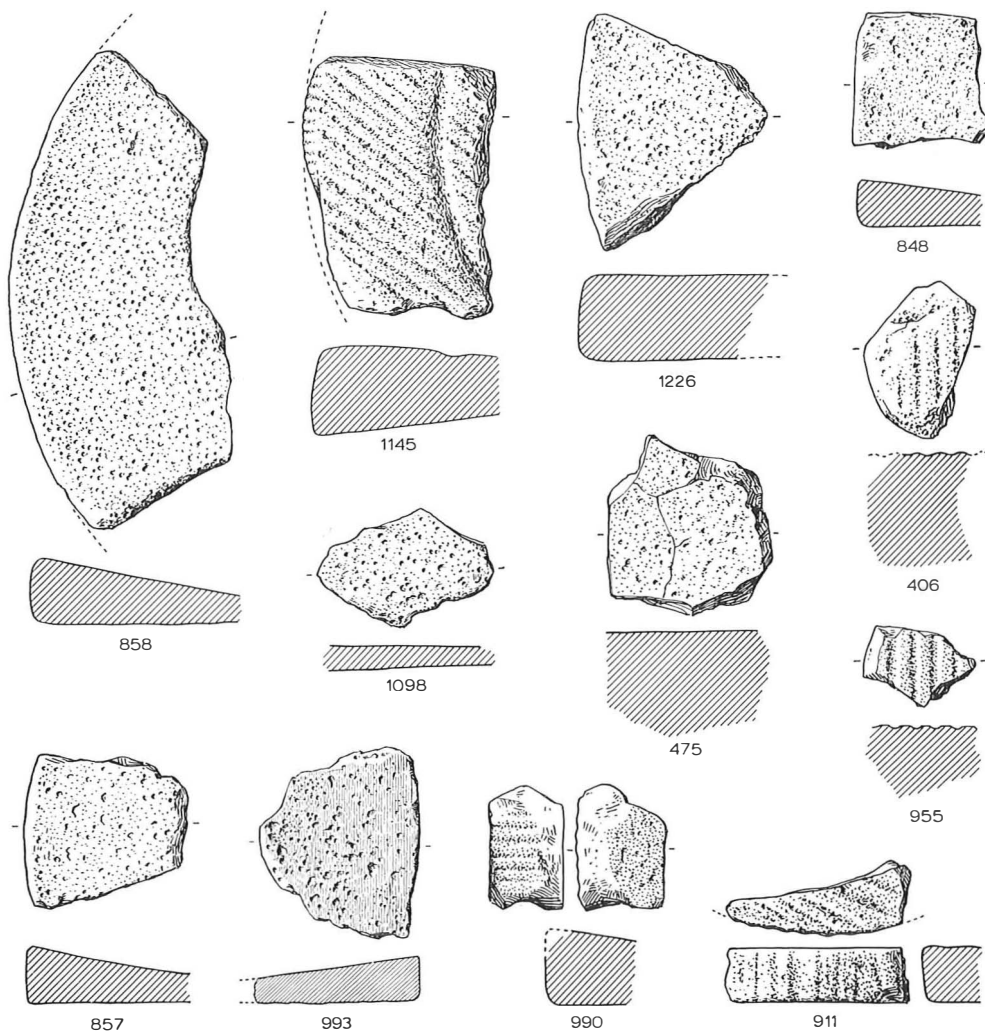


Fig. 72. Querns of basalt lava. Wijster. Scale 1 : 4.

## CHAPTER XII

### STONE

The objects of stone comprise fragments of basalt lava querns, a few querns of other material, whetstones, lapstones and worked flints.

The querns and whetstones, at least for the greater part, can safely be attributed to the settlement. For the objects of flint and the lapstones, the connection with the settlement is less probable.

#### A. QUERNS OF BASALT LAVA (Fig. 72)

There are very many fragments of querns made of the basalt lava quarried at Mayen, but most of them are very small, shapeless and often badly crumbled. As far as the complete model of the querns is concerned, even the larger pieces (Fig. 72) do not tell us much more than that they belonged to round flat stones.

The Mayen quern types of the Roman period are well-known.<sup>1</sup> Some of their features, as *e.g.* the raised rim around the upper stone, cannot be recognized in any of the Wijster fragments. It must therefore be assumed that either all our rim-parts come from lower stones, or that rimless upper stones were already used before Early Medieval times. However, the grooving, which is reported to be characteristic of the Roman period and should have gone out of use after that time, is still preserved on a few pieces. This grooving, "spiral" on the face of the lower stone (1145) and vertical at the sides (911), was intended to give the quern a sharper bite, although this was pointless in view of the porous nature of lava.

The thickness varies greatly. In most cases the surface has lost its grooving and is more or less smooth; sometimes the stone has been ground down to "paper" thinness (1098), thereby betraying intensive use.

#### B. QUERNS OF OTHER ROCKS (Fig. 73)<sup>2</sup>

The other querns (or grindstones), all in fragmentary condition, are made of sandstone (273), gneiss (1038), granite (860) and dioritic rock (913).



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Stone

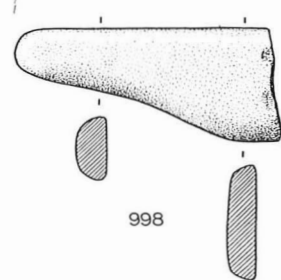
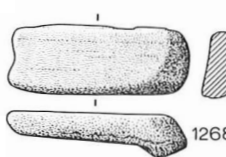
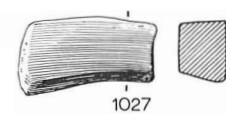
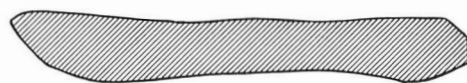
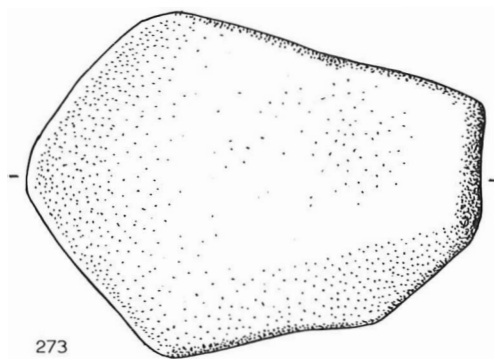
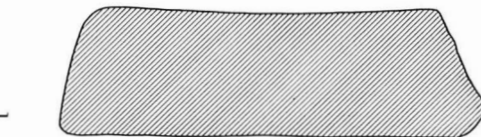
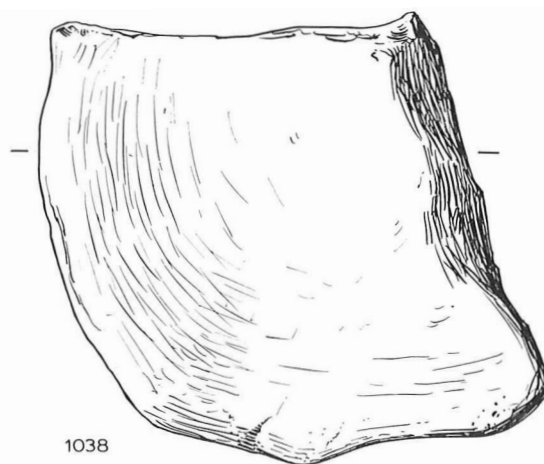
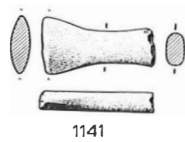
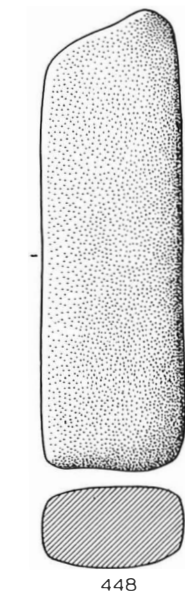
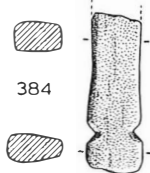
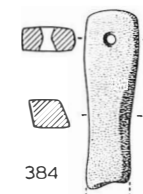
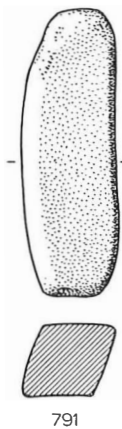
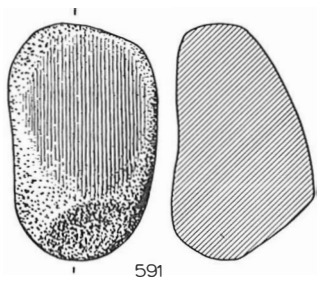
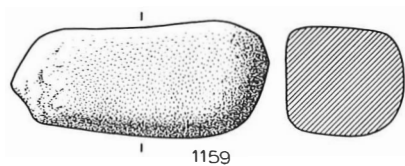


Fig. 73. Querns and whetstones of various rocks. Wijster. Scale 1 : 3.

C. WHETSTONES (Fig. 73)<sup>2</sup>

Most of the whetstones are made of some kind of sandstone: 85, 193, 448, 879, 913, 998, 1141, 1159. Other rocks used are: amphibolite? (791), dioritic material (598), quartzite (1268), Schist (591), grauwacker (752).

The whetstones are mostly flat and elongated. The broken one (284) has a perforation at one end and two notches at the other.

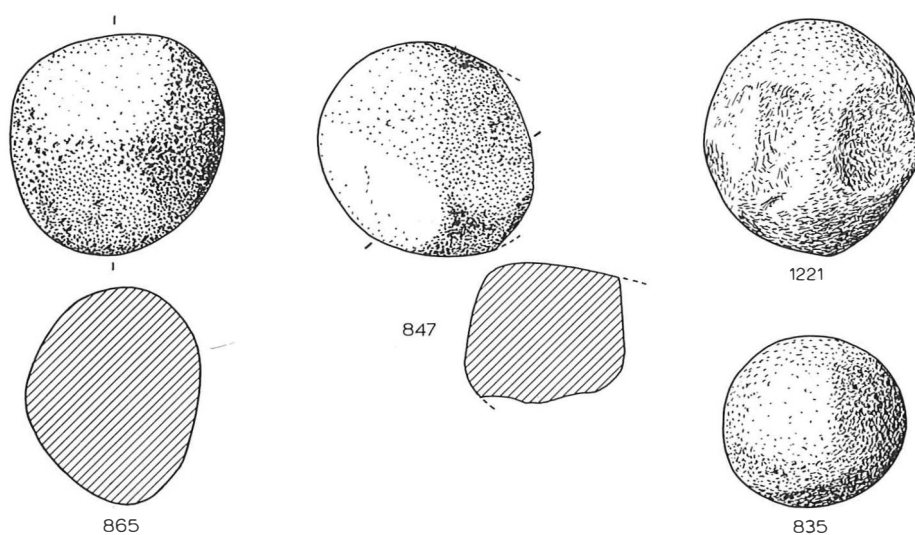


Fig. 74. Lapstones. Wijster. Scale 1 : 3.

D. LAPSTONES (Fig. 74)<sup>2</sup>

The four bulbous or egg-shaped lapstones are of sandstone (847, 1221), granitic material (865) or quartzite (835). A small egg-shaped stone (858) is of burned silex.

The stones are more or less faceted. 865 has dents in a broad zone around the stone.

The date remains uncertain. None of them occurs in a settlement context. One (847) was found in a pit associated with pottery of the Zeijen culture. They may also be much older: two were discovered not far from the concentration of Hamburg artefacts (835, 1221).

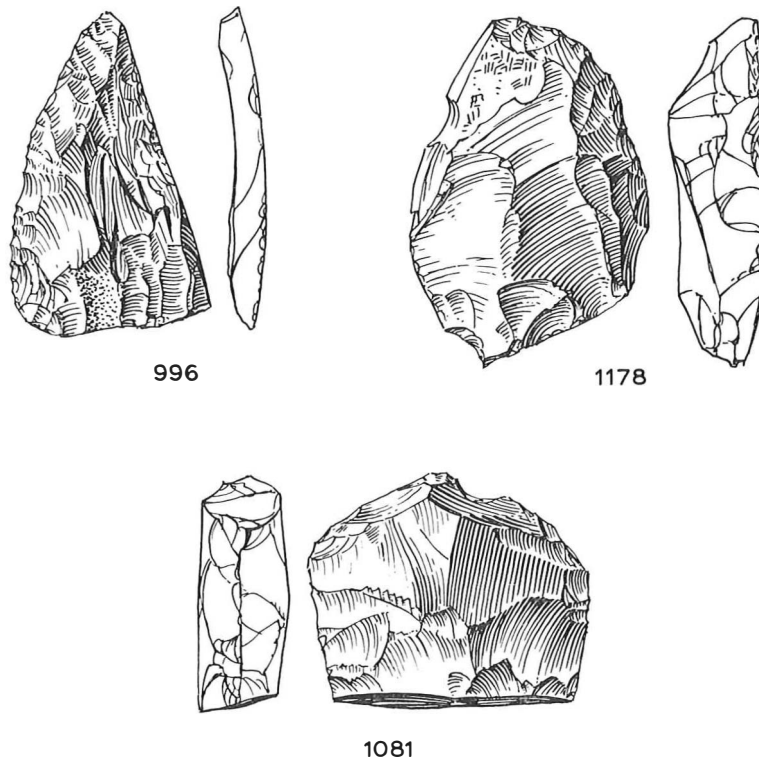


Fig. 75. Flint artefacts. Wijster. Scale 1 : 1.

#### E. FLINT ARTEFACTS (Fig. 75)

The three pieces of worked flint are certainly older than the settlement even though one was found in a post-hole (996) and another one (1178) in a sunken hut.

The stray find (1081) is a fragment of a flint sickle; the sickle had been broken and one end had been reshaped into a scraper. The fragment shows faint traces of polishing in the middle of one side. These sickles are dated to the Bronze Age and Early Iron Age.<sup>3</sup> According to Dr. A. Bohmers, the way in which the retouch of the other two pieces has been executed suggests a Neolithic date.

#### NOTES

<sup>1</sup> Hörter, Michels & Röder 1950-1; 1954-5; Crawford & Röder 1955; Röder 1956; Röder 1958; cf. Lacroix 1963.

<sup>2</sup> Determinations by Dr. A. Bohmers, B.A.I. Groningen.

<sup>3</sup> Groenman-van Waateringe & Van Regteren Altena 1961; Brunsting 1962.

## CHAPTER XIII

### GLASS

The finds of glass comprise thirty-one fragments of Roman glass vessels, not counting the smallest splinters, and six beads.

Most sherds clearly betray their Late-Roman origin by their poor quality. Apart from one sherd (263) which is also exceptional for its indented decoration, the material shows a marked impurity with many bubbles, some of which are very large. It is practically always a greenish colour with shades varying from bottle-green to a very light brownish- or bluish-green. The sherd 263 mentioned above is tinted a bright bluish-green; 1158 displays streaks of a smoky violet colour, and one is violet (1074). The thickness varies between 0.1 and 0.5 cm.

In some cases the form of the complete vessel can be determined.

#### A. UNWORKED RIMS (*Abgesprengter Rand*) (Fig. 76)

Five sherds present an unfinished sharp rim (56, 451, 797, two without find no.).

The unworked rim is not restricted to one form of vessel but occurs throughout the 4<sup>th</sup> and well into the 5<sup>th</sup> century in many types, such as flasks, beakers, bowls, and cups.<sup>1</sup> Our sherds are too small to make a determination of the complete form absolutely certain. For three of them (451, 797, one of the sherds without find no.) it is quite feasible that they belonged to an egg-shaped cup with or without foot-ring,<sup>2</sup> or to a more shallow type of bowl, as found in a hut on the Emelange in the immediate vicinity of our site (Fig. 76: second row, left).<sup>3</sup> Another possibility is the conical beaker again with or without foot.<sup>4</sup> We have not been able to find exact parallels for the bowl from the Emelange. There is, however, no reason to suppose that it was earlier than its near relative, the egg-shaped cup, which along with the conical beaker seems to be more characteristic for the second half of the 4<sup>th</sup> and the early 5<sup>th</sup> century than for the earlier Constantinian period.<sup>5</sup>

The other two rather thick sherds (56, and one without find no.) might perhaps come from another model with unworked rim: the conical bowl with indentations, the dated specimens of which are again mostly from after 350 A.D.<sup>6</sup>

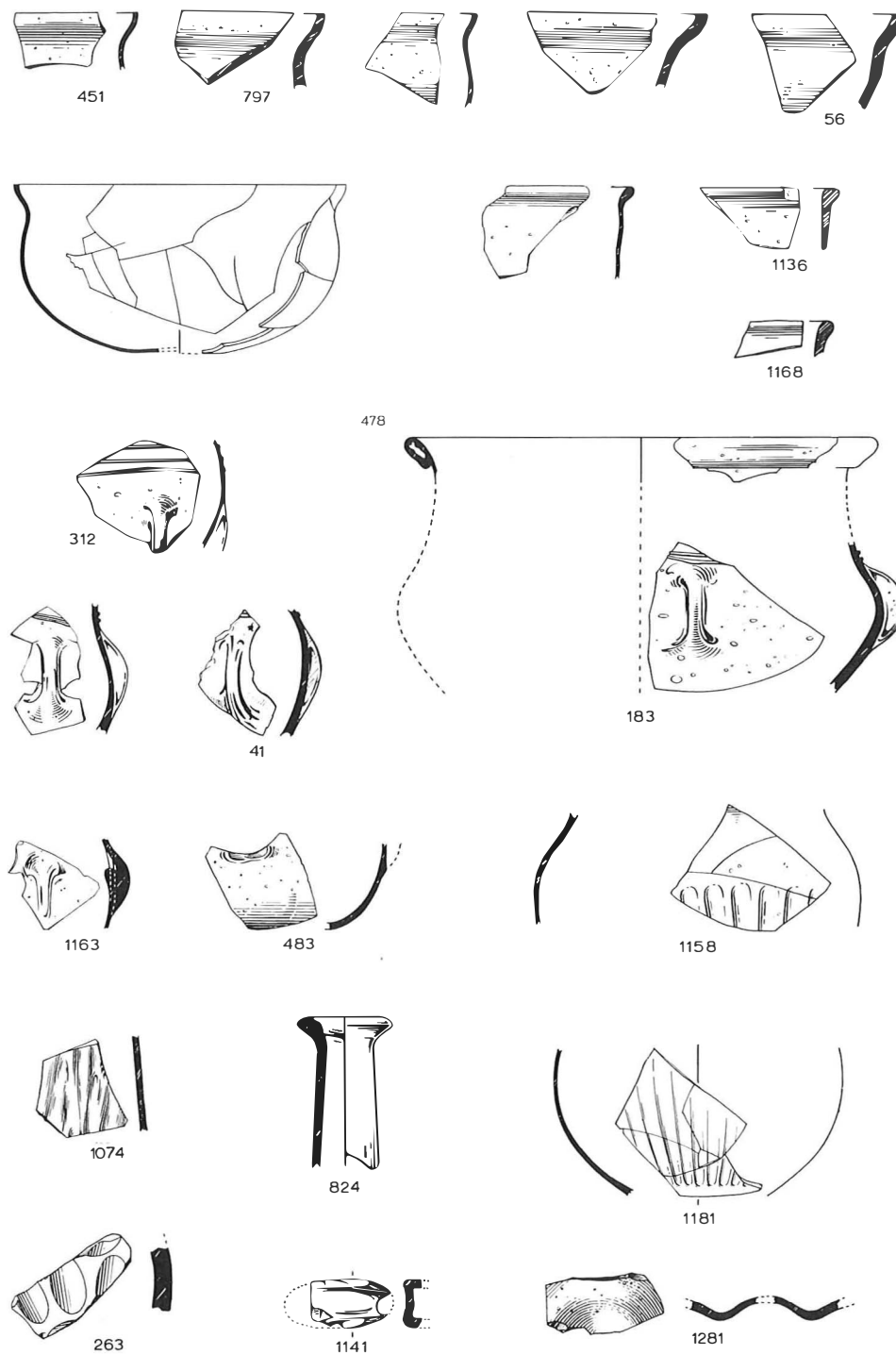


Fig.76. Roman glass vessels. Emelange (second row: left), Wijster. Scale 1 : 2.

#### B. ROUNDED RIMS (Fig. 76)

Three very small sherds present a simple, slightly thickened, rounded rim: 1136, 1168, without find no. (the last one from a beaker???<sup>7</sup>).

#### C. CUPS OF HELLE TYPE (Fig. 76)

The cup, characterized by applied horizontal threads on the shoulder, a row of vertical pinched knobs around the belly and often having a turned-down rim, was named by Werner after Helle in Oldenburg (Germany) where a vessel of the type in question was found among the contents of an inhumation grave. It is represented at our site by one rim-sherd (478) and six knobbed sherds (41, 183, 312, 483, 1163, without find no.).<sup>8</sup>

In four cases, part of the zone with applied horizontal threads between rim and knobs has been preserved.

The Helle cup is not found before 300 A.D.; most dated contexts in which it appears even belong to the period between 350 and 425 A.D.<sup>9</sup>

#### D. SHERDS WITH VERTICAL RIBBING (Fig. 76)

Two fragments (1158, 1181) are decorated with shallow vertical ribbing. One of them (1158) shows moreover streaks of a smoky violet colour which, according to Haberey,<sup>10</sup> is not an intentional decoration, but due to imperfections of manufacture.

The curvature of both sherds makes it probable that they come from the body of a globular flask, a popular type especially during the 4<sup>th</sup> century (1181 from just above the bottom; the other one from the shoulder?).<sup>11</sup> It cannot be decided whether they belonged to the model with funnel-shaped neck or to the one with cylindrical neck. Mayen grave 16 provided a bottle with cylindrical neck which has exactly the same ribbing as the Wijster sherds, another one from grave 7 has similar violet streaks as our sherd no. 1158.<sup>12</sup>

A small flat sherd of violet glass decorated with shallow ribbing (1074) cannot be determined with certainty.<sup>13</sup>

#### E. RIM-SHERD OF A BOTTLE (Fig. 76)

The fragment 824 probably belongs to a bottle of Isings Form 101, a 3<sup>rd</sup>/4<sup>th</sup> century type.<sup>13</sup>

## F. SHERD WITH OBLONG INDENTATIONS (Fig. 76)

The sherd 263 may come from a thick-walled bowl or beaker, but a bathing bottle is also possible.<sup>13</sup>

## G. BOTTOM (?) SHERD (Fig. 76)

The sherd 1141 might be a fragment of the bottom of a flat bathing bottle and in that case should be dated to the 3<sup>rd</sup> or 4<sup>th</sup> century, probably not much later than 300 A.D.<sup>13</sup>

## H. BOTTOM SHERD (Fig. 76)

Among the remaining sherds there is one of a convex bottom (1281).

## I. BEADS (Fig. 77)

There are six beads, not counting the very small fragments of blue, red, and white glass, found under no. 1296, which may also have come from a bead.

1. Flat round little bead of opaque glossy greyish-white glass (181).
2. Globular bead of opaque mat whitish glass (349).

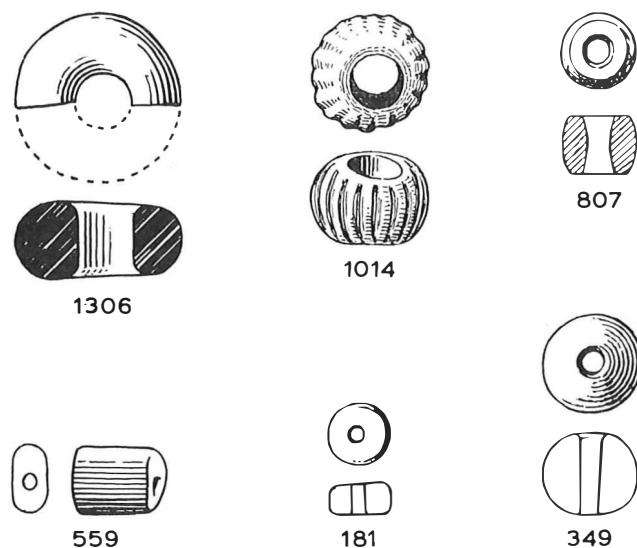


Fig. 77. Beads. Wijster. Scale 1 : 1.

3. Rectangular bead with rounded sides of opaque mat brick-red glass (559).
4. Barrel-shaped bead of opaque mat brick-red to yellow glass (807).
5. Ribbed, so-called melon bead, of opaque glossy light-blue glass (1014).
6. Half of a ring-shaped bead of translucent light bluish-green glass with bubbles (1306).

## NOTES

<sup>1</sup> For the different models with unworked rim see: Haberey 1942; Isings 1957; Vanderhoeven 1958.

<sup>2</sup> Vanderhoeven 1958, no. 1–18; Haberey 1942, 255–6: *Glockenbecher, und eiförmige, fusslose Becher*.

<sup>3</sup> Waterbolk 1957.

<sup>4</sup> Isings 1957, forms 106, 109; Vanderhoeven 1958, no. 63, 47.

<sup>5</sup> See the drawings by Haberey, Isings and Vanderhoeven. Earlier egg-shaped cups are identifiable by a straighter profile, the neck not being curved in: Haberey 1942, 256.

<sup>6</sup> Haberey 1942, 256–7: *Faltenschüssel*; Isings 1957, form 117; Vanderhoeven 1958, no. 19.

<sup>7</sup> *E.g.* Vanderhoeven 1958, no. 46.

<sup>8</sup> Werner 1958, 387, 389, Abb. 11, 13, T. 87–9; Isings 1957, 133 (form 96b), Vanderhoeven 1958, no. 59. Eggers 1951, 61, 80, T. 15, 207.

The rim-sherd has exactly the same bluish-green colour as the sherd with vertical knob (183): probably from the same cup.

<sup>9</sup> For dated specimens see: Isings 1957; Vanderhoeven 1958; Werner 1958.

<sup>10</sup> Haberey 1941, 259.

<sup>11</sup> Isings 1957, form 101, 103, 104.

<sup>12</sup> Haberey 1942, 258.

<sup>13</sup> The sherds no. 263, 824, 1074 and 1141 were studied by Dr. C. Isings, Utrecht. In a letter dated 15.X.1963, she informed us of the following results:

no. 263: “sherd of the wall of a bowl, beaker or small pot of greenish, very thick glass (thickness 3 mm.), decorated with incised oval facets. The type can no longer be established. It may have been a thick-walled beaker, but also a bathing bottle. The latter are usually made of thick glass. The date remains the same for all possibilities: 3<sup>rd</sup>–4<sup>th</sup> century”.

no. 824: “sherds of the rim and neck of a small bottle of greenish glass. Rather impure glass with many bubbles. Rim bent outwards and folded-down inwards. Probably from a bottle type 101. Date: 3<sup>rd</sup>–4<sup>th</sup> century”.

no. 1074: “Flat sherd of violet glass, dull on one side (partly as a result of weathering), decorated on the other side with a pattern of interlaced ribs. Probably still Roman, the model is uncertain. In the Late-Roman period coloured glass comes back into fashion”.

no. 1141: “Small bottom (?) sherd of green, rather pure glass, vertical walls, base apparently oval. Might perhaps have been a flat bathing bottle, as the similar green bottle given by F. Fremersdorf, *Römisches Buntglas in Köln*, Taf. 68, which he dates to the 3<sup>rd</sup>–4<sup>th</sup> century. Judging by the form, it does not seem to me to be later than the beginning of 4<sup>th</sup> century”.



## CHAPTER XIV

### POTTERY

Pottery constitutes by far the greater part of the finds. It is mostly in a very fragmentary condition, as is to be expected at a settlement site.

Almost the whole material consists of hand-made and mostly local ware. There is, however, some wheel-made Roman pottery with which we will deal first. It allows a further subdivision according to make and shape.

#### A. WHEEL-MADE ROMAN POTTERY

Among the Roman sherds many different techniques are represented. One meets with terra nigra-like pottery, terra sigillata, imitation sigillata, different sorts of heavy and rough ware, *etc.* The sherds are grouped first according to their fabric. Formal criteria take second place because it is often difficult to determine the shapes of the complete pots owing to the small number of sherds which have been preserved.

##### **a. Terra Nigra-like Pottery** (Fig. 78-83; Pl.21, 22)

The ware is thin-walled and shows a fine smooth interior and outer surface with only very faint turning-ridges. It is coloured different shades of grey: light-grey, grey-black, bluish-grey, sometimes with a metallic hue. The surface is now mostly dull, only occasionally slightly glossy. It is, however, difficult to establish how far the original aspect and colour have been altered by the circumstances of preservation. In section, the paste shows greyish or white; it can also have a dark-grey or grey-black core between two lighter outer layers. The paste is slightly porous; no tempering material is visible.

The ware is present at the site with *ca.* 150 sherds, all, as far as can be seen, belonging to the same type of pot: a small or medium sized (diam. between 11 and 18 cm.), slender, footed cup with gently curved, S-shaped profile.

The differences between the individual pots remain within rather strict limits and concern only minor details. Thus, the bent-out rim is always rounded but now

and then somewhat thickened as well. The short neck presents a slightly curved profile; it may stand almost vertical but can also have an oblique position, so that it becomes funnel-shaped. The shoulder is invariably rounded and narrow; the transition from neck to shoulder is mostly sharp but sometimes gradual. The lower part narrows down in a fairly straight line to a comparatively small foot. The foot is

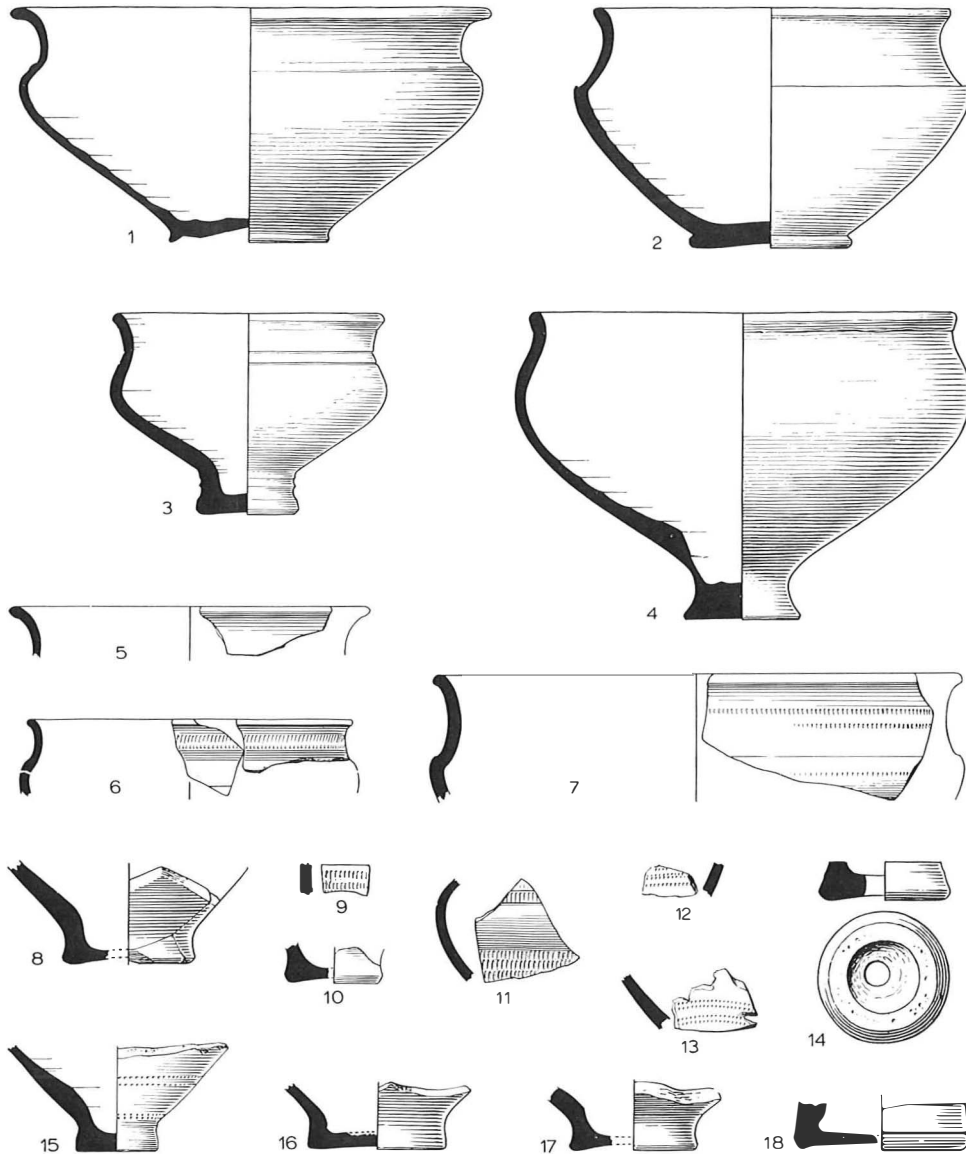


Fig.78. Terra nigra-like pottery. 1: Rossum, 2: Wychen, 3: Cuyk?, 4: Hooghalen, 5, 7, 16: Rhee, 6, 8, 9, 11, 17: Aalden, 10: Varsen, 12, 13: Peelo, 14: Tzum, *terp* De Parel, 15: Garderen, Beumelerberg, 18: Zweelo. Scale 1 : 3.

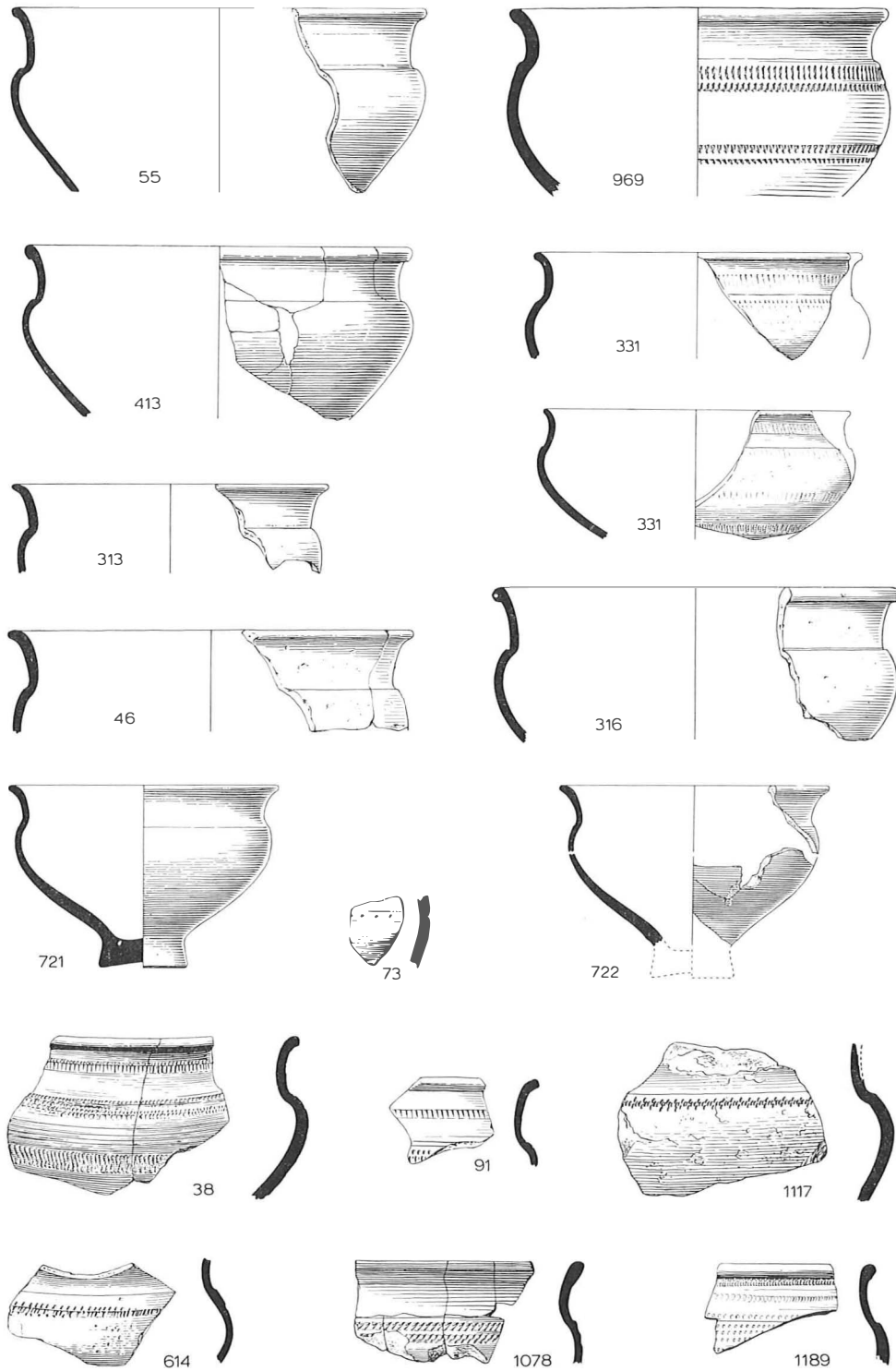
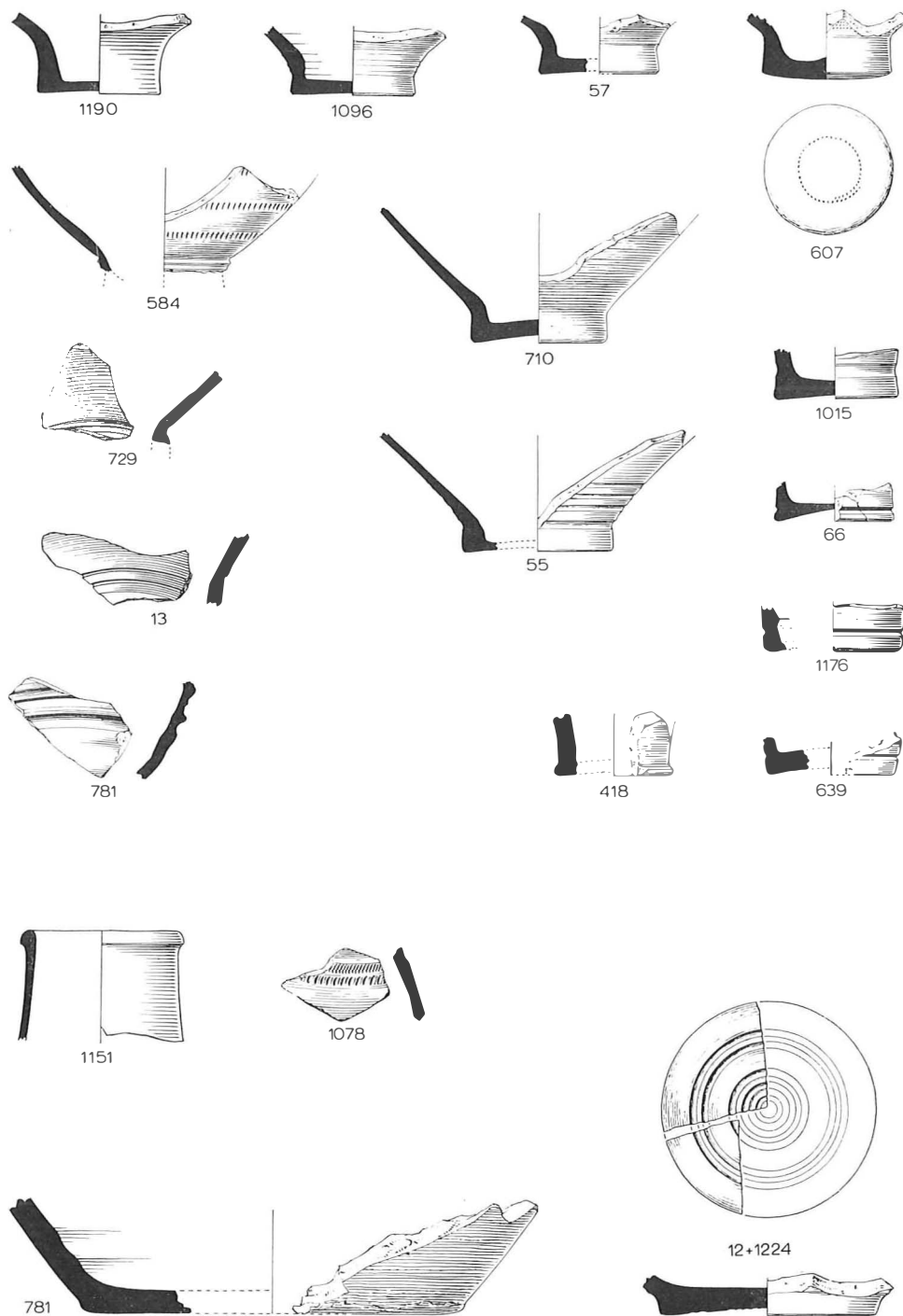


Fig.79. Terra nigra-like pottery, black varnished pottery

# Pottery

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and smooth thick-walled black pottery. Wijster. Scale 1 : 3.

cylindrical or slightly conical, always low, hollow on the inside, the bottom often very slightly convex; its outside is either smooth or decorated with a groove.

Some of the cups have a rolled decoration consisting of horizontal rows of small impressions of variable shape: simple vertical or slanting little grooves; roundish, square, or pointed roughly oval impressions; in one specimen a row of small dots occurs between horizontal grooves. These rows are concentrated in bands occurring on neck and/or shoulder and lower part, sometimes to just above the foot; ornament is found once under the base. The distribution of the ornament over the pot is, however, difficult to judge because of the fragmentary character of the material. Apart from the grooves on the foot, one occasionally finds them higher up above the foot; ribs marking the transition to the foot are likewise exceptional. Not all cups are decorated, but again owing to the incompleteness of the material it is difficult to establish the exact proportion between decorated and undecorated specimens. Of the larger fragments and of the rim-sherds, about one-third carry a decoration.

The ancestry of our type can be traced back to La-Tène forms.<sup>1</sup> The 1<sup>st</sup> and 2<sup>nd</sup>-century links in the chain are known from *e.g.* Arentsburg,<sup>2</sup> Hees<sup>3</sup> and several German sites (Flörsheim, Nassau (Lahn), Worms).<sup>4</sup> Characteristic for these early models is their broad shallow form and their wide bottom without a real foot. The profile of shoulder, neck, and rim, on the contrary, was even then completely similar to that of the Wijster cups. A specimen from Rossum (Fig. 78 : 1) is a good representative of this early group.

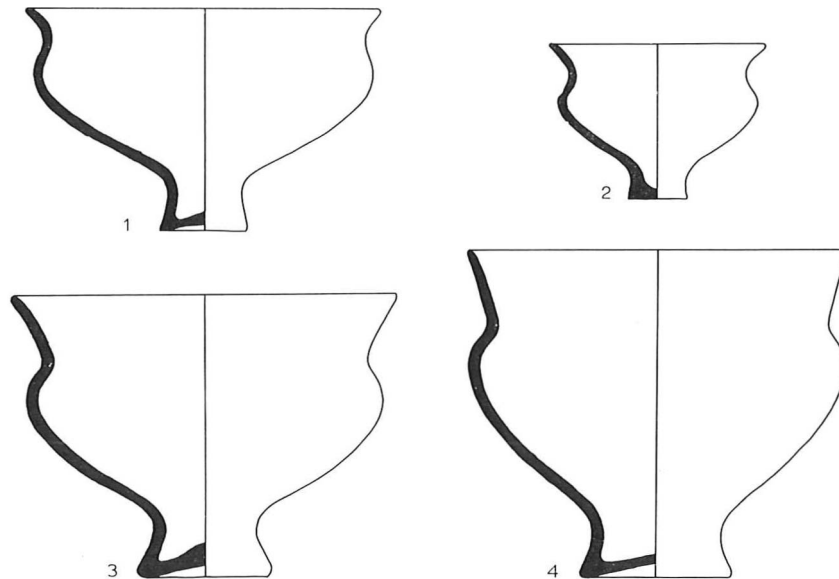


Fig. 80. Terra nigra-like pottery. Tongeren. Drawing W. Vanvinckenroye. Scale 1 : 3.

The trail becomes weak during the 3<sup>rd</sup> century and it is only in the course of the 4<sup>th</sup> century that it becomes easy to follow again.

West of the Middle Rhine we come across 4<sup>th</sup>-century terra nigra models, some of which are certainly related to our type though the differences are not to be overlooked.<sup>5</sup> The wheel-turned Germanic ware found across the Roman border in Westphalia and Central Germany shows close resemblance<sup>6</sup> to this provincial Roman pottery. On account of this, an influence from that quarter on this Germanic pottery cannot be discounted, but also other factors, like local traditions and impulses from the east, may have played an important role.<sup>7</sup> The best parallels to our model are to be found among Von Uslar's Holzhausen-Oldendorf type and among the smoothly profiled bowls without ridges from Leuna and Weissenfels-Beudfeld.<sup>8</sup> According to Von Uslar, the Holzhausen-Oldendorf forms could still belong to the 3<sup>rd</sup> century. Some of them already have a real foot and show rolled decoration comparable to that of the Wijster cups. The Central German ware is dated by Schulz to after 300 A.D. The Leurda cups have the same shoulder/neck profile as ours, but they are still broad and shallow with a very low foot. In these respects they strongly remind us of the 1<sup>st</sup>/2<sup>nd</sup> century provincial Roman prototypes. It is also to be noted that the rolled decoration is not found in Central Germany.

Exact parallels are found elsewhere: in the Argonne district of Northern France. Among the provincial Roman pottery from that region recently published by Chenet, his type 342 has all the characteristic features of the Wijster model: slender form, clearly defined foot, rolled decoration; the neck, however, is here usually straight (*cf.* the Belgian specimens of Fig. 80 and Pl. 22, 23).<sup>9</sup> In Chenet's opinion, the type continues a Gallic tradition starting in Pre-Roman times but he does not indicate the intermediate links. According to him the foot was an addition of the Constantinian period. Cups of this kind (one still had a flat base) were found in the *sépulture A* which is dated around 360 A.D. From the occurrence among them of a "waster", Chenet deduces local production. The variety in red pottery mentioned by Chenet is not found at Wijster.

The type appears in several dated contexts, especially outside the Roman territory.

Nearest home, it was found in the cremation graves in the western part of the Looveen cemetery: graves II, VII, XI, XIX and XXI. Most of them, especially the almost complete cup of grave XIX, show traces of secondary burning (on the pyre). Only grave VII is securely dated to the end of the 4<sup>th</sup> century by its tutulus brooch.<sup>10</sup> The others are difficult to date individually, but this part of the cemetery as a whole belongs mainly to the 4<sup>th</sup> and early 5<sup>th</sup> century (*vide* p. 499–500).

Also in some of the cremation graves representing the first phase of the cemetery of Mahndorf near Bremen, sherds of the type under discussion occur: *Brandgrube* 28, 43, *Brandfläche* 8, 9 (?), *grössere Steinsetzung*.<sup>11</sup> According to Schoppa, the terra nigra-like material from Mahndorf is typical for the 4<sup>th</sup> century.<sup>12</sup> *Brandfläche* 8 is

dated by sherds of Alzey types 3, 10 and 33 possibly to the last quarter of the 4<sup>th</sup> century.<sup>13</sup> *Brandfläche* 9, containing a small terra nigra rim-sherd which cannot be recognized with certainty from the description, also belongs to the late 4<sup>th</sup> century on account of the fragmentary silver *Stützarmfibel*.<sup>14</sup> The pin of a buckle and the fragmentary strap-end from the *grössere Steinsetzung* belong to the late 4<sup>th</sup>-century *Kerbschnitt* horizon.<sup>15</sup> *Brandgruben* 28 and 43 are not individually datable within strict limits. 28 contains among other things fragments of a Hemmoor bucket. On the whole, the Mahndorf cremation graves undoubtedly belong to the 4<sup>th</sup> century. Among their contents, however, a few 3<sup>rd</sup> century objects are found: *e.g.* the fragments of Hemmoor buckets.<sup>16</sup> It is not improbable that these were interred in the course of the 4<sup>th</sup> century, but Grohne is wise in not precluding the possibility that a few cremations could have dated from before 300 A.D.<sup>17</sup>

An Anglo-Saxon urn from Midlaren in North-eastern Drente contains among other things a few sherds of a terra nigra cup, some of which show that they were burnt on the pyre.<sup>18</sup> The Midlaren urn represents Plettke's type A6, Grohne's type E, dated by both to the 4<sup>th</sup> century.<sup>19</sup> The type abounds at Westerwanna, where Zimmer-Linnfeld also places it in the 4<sup>th</sup> century.<sup>20</sup> It not only occurs in North-

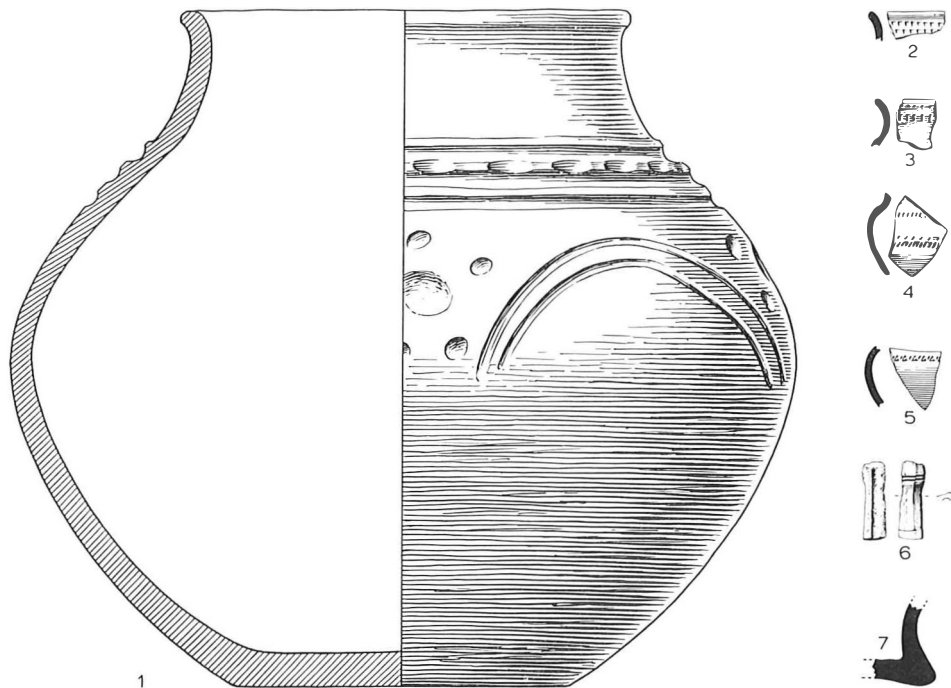


Fig.81. Anglo-saxon urn containing sherds of terra nigra-like pottery (nos. 2-5, 7) and fragment of worked bone (no. 6). Zuidlaren. Scale 1 : 3.

western Germany between Weser and Elbe (*e.g.* Cuxhaven-Galgenberg<sup>21</sup>, Westervanna,<sup>22</sup> Blumenthal, Brinkum, Mahndorf,<sup>23</sup> Dingen,<sup>24</sup> Wehden,<sup>25</sup> Gudendorf, Hemmoor-Warstade<sup>26</sup>), but is moreover one of the more common Anglo-Saxon forms in Holland, while it is found in England as well, as already pointed out by Plettke. The affinities of the Dutch and English material are not as exclusively Anglian as stated by Myres and Tischler.<sup>27</sup> The occurrence of our type in England and Northern Holland, where it was brought by the Anglo-Saxon invaders, shows that it was still in use around the middle of the 5<sup>th</sup> century.

In the Late-Roman cemetery under the old centre of Nijmegen, excavated by Brunsting in several campaigns between 1947 and 1963, the type Chenet 342 appears among the grave-gifts. The cemetery as a whole belongs to the 4<sup>th</sup> century (no earlier graves were found) and continues into the early 5<sup>th</sup>. The associations in which the goblet here appears date to the later 4<sup>th</sup> and beginning 5<sup>th</sup> century.<sup>28</sup>

The situation in the cemetery of Rhenen is similar. The footed terra nigra cups occur in a few graves which, as far as they are datable, belong to the late 4<sup>th</sup>/early 5<sup>th</sup> century.<sup>29</sup>

At Furfooz, the only specimen found forms part of the inventory of the late 4<sup>th</sup> century grave III.<sup>30</sup>

At Wageningen, a number of stray sherds come from a settlement probably contemporaneous with the earliest phase of the cemetery and are to be dated around 400 A.D. The type furthermore occurs in two inhumation graves: 172, 198. In the former it is associated with a small carinated bowl, precursor of the Frankish bi-conical urn and datable to the second half of the 5<sup>th</sup> or early 6<sup>th</sup> century. Grave 198 contains nothing except the cup which presents the heavy shallow form already met with at Rhenen. The grave does not belong to the oldest phase of the cemetery.<sup>31</sup>

Steeger publishes two goblets from Krefeld-Gellep: graves 406, 541. He considers the type characteristic for the 5<sup>th</sup> century, which, considering the form of the cups in question, seems a rather late date. Grave 406 must be placed as late as the end of the 5<sup>th</sup> century, but in this case the goblet may well be an older relic, as is also probable for the buckle in the same grave.<sup>32</sup> According to Renate Pirling, the Krefeld specimens date from the first half of the 5<sup>th</sup> century; grave 1248, containing among other things an undecorated goblet, is dated to the early 5<sup>th</sup> century.<sup>32a</sup>

In Köln-St. Severin grave 65, the type appears in a context of around 450 A.D.<sup>33</sup>

Fremersdorf dates the boy's grave Köln-Müngersdorf 148 with footed cup and the adjoining cremation grave (?) 147 containing a closely related footless bowl to the second half of the 6<sup>th</sup> century. This seems rather late and we propose a slightly earlier date, namely late 5<sup>th</sup>/early 6<sup>th</sup>.<sup>34</sup>

In Schwarzhofendorf grave 80, a footed cup of heavy shallow form is still present in an early 6<sup>th</sup> century context.<sup>35</sup>

The dated finds here collected demonstrate with perfect clarity that the footed cup



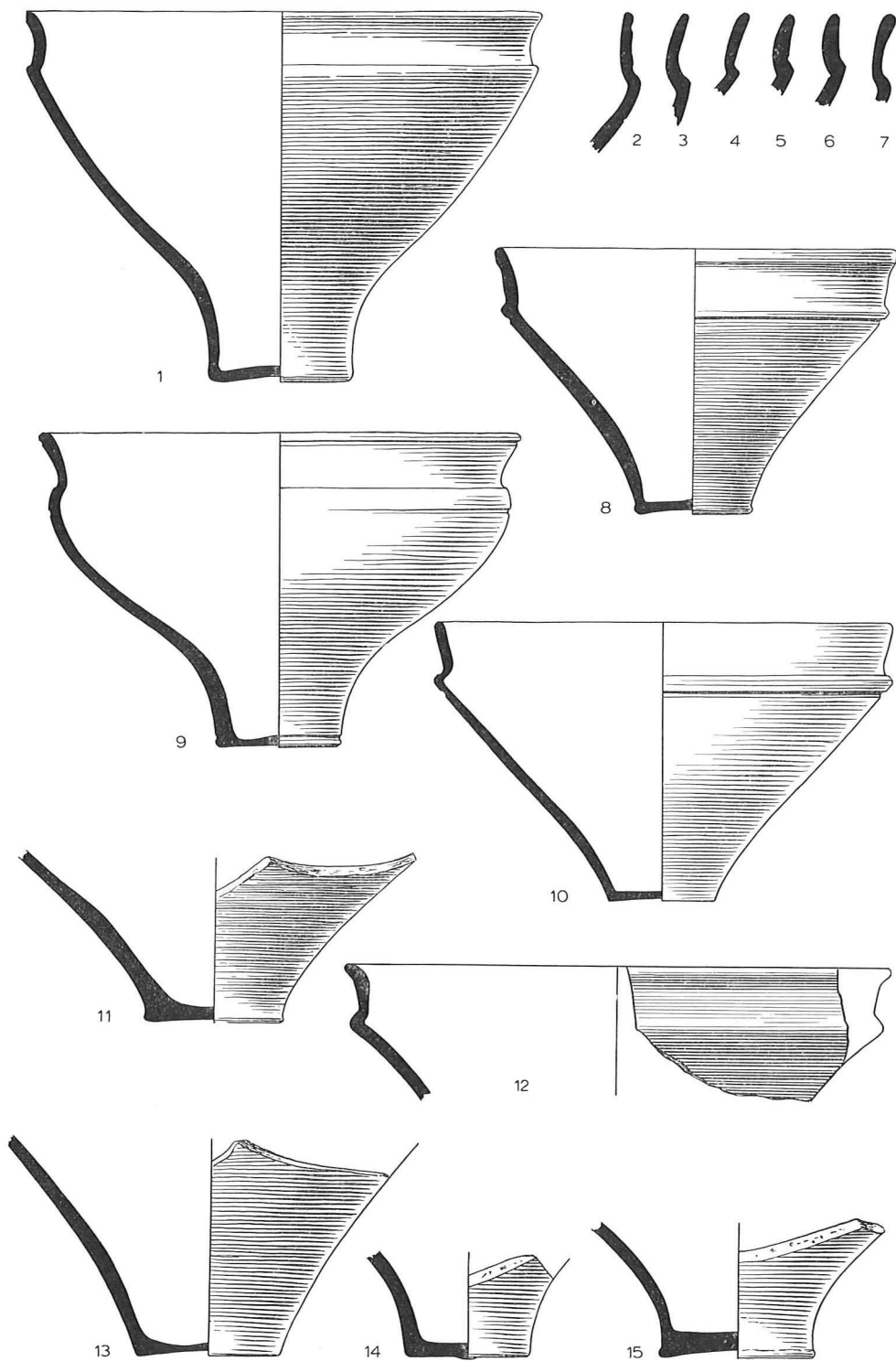


Fig. 82. Black wheel-made pottery from Northern Holland. 1: Tzum, *terp* Het Klaverblad, 2-6, 15: Arum, 7: Kimswerd, Juffersterp, 8: Teerns, 9: Blija, *terp* Vaardeburen, 10, 14: Kimswerd, *terp* Anema, 11: Ezinge, 12: Joeswerd, 13: Pingjum. Scale 1 : 3.

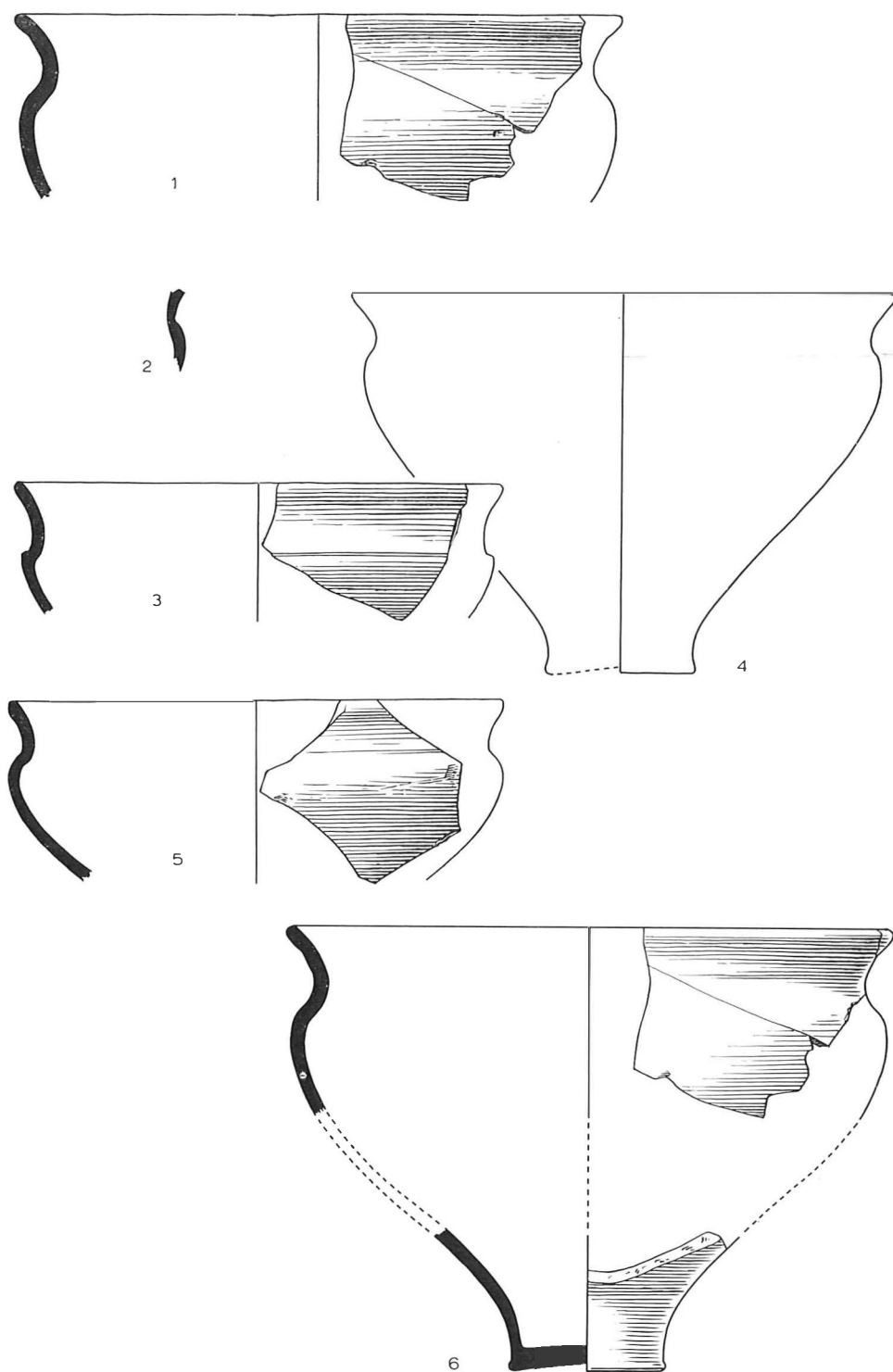


Fig. 83. Black wheel-made pottery from Northern Holland. 1,3,6: Arum, 2: Dronrijp, *terp* Hatsum II, 4: Wijnaldum, *terp* Voorrijp, 5: Tzum, *terp* De Botertobbe. Scale 1 : 3.

of terra nigra-like ware, as found at Wijster, is mainly a 4<sup>th</sup> century model. Without any doubt its production continued into the 5<sup>th</sup> century, though some of the cups appearing in late 5<sup>th</sup>/early 6<sup>th</sup> century contexts may be *pièces de remploi*. The heavy shallow specimens of Wageningen grave 198 and Rhenen grave 156 are considered to be late forms on typological grounds, which is confirmed by the associated finds in Schwarzhofendorf grave 80. It may be asked whether there is some connection between these late footed cups and the small carinated bowls starting the evolution of the Frankish biconical urn.<sup>36</sup> According to Böhner, these derive from Late-Roman forms like Alzei type 25, which is indeed more probable. Their production centre was Mayen. As yet no evidence has been found for the production of the footed cup Chenet 342 outside the Argonne district. Our supposition that it might have been produced at Mayen remains without proof.<sup>37</sup>

The earliest occurrence of our type is at present difficult to establish. According to Chenet, the foot is a feature of the Constantinian period, but one cannot be sure as long as the gap between the 2<sup>nd</sup> and 4<sup>th</sup> century forms remains unbridged by dated specimens. It has already been pointed out that at Wijster the profile of the neck is usually curved in exactly the same way as that of the 2<sup>nd</sup> century forms from Arentsburg and Hees, while the Argonne specimens nearly always have a straight neck. Though it is still too early to evaluate the exact significance of this phenomenon, it could mean that the Wijster sherds are closer in date to the early forms than the Argonne material. We therefore think it prudent not to preclude the possibility that the 3<sup>rd</sup> century also is represented among the terra nigra-like sherds of Wijster, the more so, because the fragmentary condition of our material does not allow us to establish with certainty whether all Wijster cups really had a clearly defined foot.<sup>38</sup>

An interesting group of wheel-made terra nigra-like cups, though closely resembling our type, must not be confused with it (Fig. 82, 83). In fact they are strikingly similar to the native cups of our B and C types (*vide* pp. 187–205) and this is in accordance with their distribution area: Northern Holland and North-western Germany. The native cups are not made on the wheel, but are often of such superb workmanship that it becomes difficult to distinguish between hand-made or wheel-turned. A date in the 3<sup>rd</sup> century for the wheel-made form, already probable on account of its similarity to the hand-made B and C cups, is furthermore indicated by its association with two 3<sup>rd</sup> century egg-shaped beakers, decorated *à la barbotine* with animal representations, in *Brandgrube* I at Dingen.<sup>39</sup> The origin of this wheel-made ware is still unknown; perhaps it is provincial Roman.

Apart from the dated finds enumerated above, the type Chenet 342 is known from many other sites. Its distribution is shown in Fig. 289.

### **b. Black-varnished Pottery (Fig. 79)**

The group is very small: four sherds. The black varnish covers an orange paste.

One is a rim-sherd of a beaker with high conical neck and thickened lip (1151). Of the other three, one (1078) shows the transition from neck to shoulder with beneath it two rows of rolled decoration and traces of white paint (or flaked-off barbotine decoration?); they represent a similar beaker.

The type occurs from the late 2<sup>nd</sup> until the end of the 4<sup>th</sup> century.<sup>40</sup>

### **c. Smooth Thick-walled Black Pottery (Fig. 79)**

There are a few sherds of a smooth black ware which shows much resemblance to the terra nigra-like material of the goblet described above, but this ware is thicker. The outside, and mostly the inside as well, has a smooth surface, greyish or bluish-black in colour. In section the sherds display a dark black paste with small whitish specks between two thin lighter layers.

The complete model cannot be reconstructed. The sherds apparently represent rather wide-bottomed pots with low and not very distinct protruding foot. On the inside, coarse turning-ribs remain (781). The bottom can have concentric grooves at the underside (12 + 1224).

Two bottom sherds clearly belonging to one and the same pot (12 and 1224) were found at opposite ends of the settlement.

### **d. Rough Mayen Ware (Fig. 84)**

Among the imported rough pottery *ca.* thirty sherds occur of a well-fired material of homogeneous paste speckled with comparatively large lumps of stone; both outer and inner surfaces are rough and porous with the tempering constituents showing through; the colours are a vivid orange, a greyish-brown, a bluish-grey and shades in between; on the inside, coarse turning-ribs are visible.

Most of the sherds here grouped together must have come from the potters' centre of Mayen in the Eifel.<sup>41</sup> It is, however, sometimes difficult to retrace the Late-Roman coarse ware to its exact place of origin by means of outward macroscopic characteristics; all descriptions given so far tend to be somewhat subjective. Here only a petrographic analysis, as done by Frechen for a number of pots from the Trier region, could give completely reliable results. The possibility that some of our sherds were not baked in the kilns of Mayen but at some other potters' centre not far away,

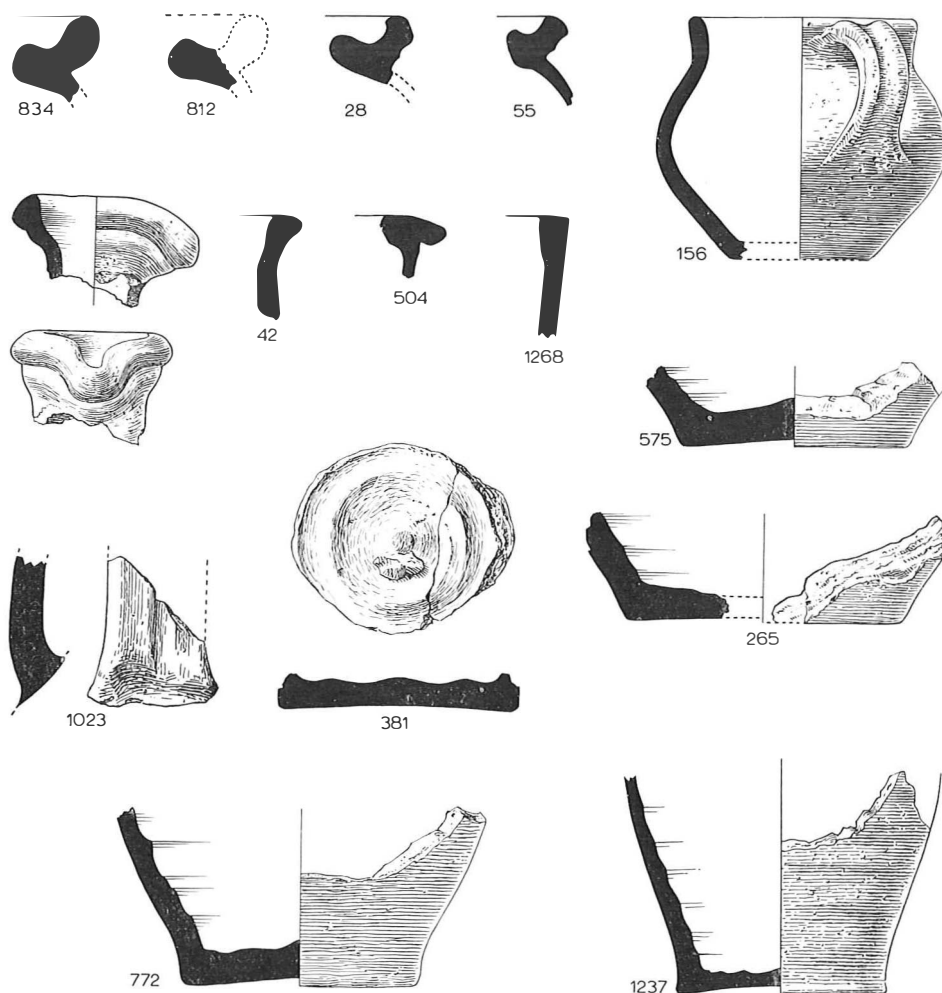


Fig. 84. Rough Mayen ware. Wijster. Scale 1:3.

*e.g.* Speyer or Trier, is therefore not to be excluded.

As far as they are of Mayen origin the sherds under discussion cannot be earlier than the 4<sup>th</sup> century, for Mayen did not start its activities much before that time.<sup>42</sup>

Four rim-sherds (28, 55, 812, 834) represent the common Mayen type Alzei 27: egg-shaped with thick grooved rim.

Tracing the development and dating the different forms of the rim of this type has already attracted the interest of many scholars.<sup>43</sup> Two of our rim-sherds belong to variety *c* (28, 55) and two to variety *e* (812?, 834) of the typology worked out by Von Petrikovits for the Qualburg material.<sup>44</sup> The stratigraphy at this site suggested that

both these varieties occurred throughout the whole 4<sup>th</sup> century, while after about 350 A.D., type *e* became predominant, to develop further into the degenerated profiles of the beginning of the 5<sup>th</sup> century.

Fellmann recently questioned the reliability of the Qualburg stratigraphy and proposed a new and more detailed typological classification starting from the material found in the Late-Roman Swiss Rhine castles and also using recent finds from elsewhere.<sup>45</sup> His classification and dating of the different varieties strike one as very well founded. But he errs slightly when he draws a parallel between his own varieties and those of Von Petrikovits. Fellmann's variety (Alzei) A = Niederbieber 89 must not be identified with Von Petrikovits (Alzei) 27*a*, but is labelled 27 by the latter. The rims of Von Petrikovits' types 27*a* and *b* show the clear-cut profiles (*Scharfkantigkeit*) considered characteristic by Fellmann for his variety B. Fellmann must therefore be wrong in regarding them, even together with Von Petrikovits 27*c*, as *blosse Varianten im Rahmen der Gruppe 27A*. They definitely already belong to the 4<sup>th</sup> century and can be held to be two contemporaneous varieties (the difference between both being so slight!) which are the logical evolution of Niederbieber 89. The rounded *Kehlstab* of the latter had then developed into the sharp triangular or trapezoidal one of Von Petrikovits 27*a-b*, and this fits in with the preference for sharp profiles in the first half of the 4<sup>th</sup> century, which is observed by both authors.

Fellmann would even assign Von Petrikovits 27*c* with its degenerate ridge on the outside beneath the rim to the 3<sup>rd</sup> century. There is, however, every reason to believe it to be the degeneration of Von Petrikovits 27*a-b* = Fellmann 27B: it already shows the general characteristics of Fellmann 27C (somewhat rounded profile with hollow groove for the lid). Moreover, it can be proved to be still in existence around 355: *e.g.* it occurs three times among the sherds recently found in a well in Köln-Cäcilienstrasse.<sup>46</sup> So we conclude that this variety, to which two of the Wijster sherds belong (28, 55), may have started before 350 A.D., but has continued until after that date. The absence of the type in the Swiss Rhine castles built under Valentinianus would indicate that it became extinct somewhere in the third quarter of the 4<sup>th</sup> century.

Von Petrikovits's variety *e* clearly coincides with Fellmann 27D. The two Wijster sherds (812, 834) belonging to this type are therefore to be dated to the second half of the 4<sup>th</sup> century. The early 5<sup>th</sup>-century variety Fellmann 27E has neither been found at Qualburg nor at Wijster.

The rim-fragment of a *Kleeblattkanne* (without find no.) is undoubtedly of Mayen origin. A rough patch on the neck below the rim opposite to the spout shows the place where the broad, probably flat, handle has broken off. The type continuing Niederbieber 97<sup>47</sup> does not seem to be one of the forms which were already produced at Mayen early in the 4<sup>th</sup> century. Fellmann states that only gradually in the course of this century did the Mayen stock of types become more differentiated. Only one sherd of the type was found at Alzei.<sup>48</sup> It does not occur among the material from

the sites of before 355 A.D.,<sup>49</sup> nor was it met with at Qualburg<sup>50</sup> or Breisach.<sup>51</sup> The material known from the later Swiss castles is too small to conclude much from its absence there.<sup>52</sup> The earliest real Mayen specimens<sup>53</sup> known to us come from a few graves at Mayen itself and at Grappenach, dating from the end of the 4<sup>th</sup> century.<sup>54</sup> The type also figures among the finds from the Barbarathermen at Trier,<sup>55</sup> and is therefore to be dated to the late 4<sup>th</sup>/beginning 5<sup>th</sup> century.

The small pot with simple rounded rim and grooved flat handle (156) cannot be closely dated.

The rim-sherd 42 (is it real Mayen ware?) represents a pot with a diameter of at least 20 cm. at the mouth: the “wide-mouthed cooking-pot” of Hussong (??).<sup>56</sup> Its association in well 1 with the bronze pin with faceted ornament shows it to be of late 4<sup>th</sup>/early 5<sup>th</sup> century date.

The rim-sherd 1268 will have come from some sort of cup or bowl.<sup>57</sup>

For the rim-sherd 504 we have not been able to find exact parallels; its diameter at the rim was *ca.* 12 à 13 cm.

#### e. Rough Grey Pottery with Black Core (Fig. 85)

Eight sherds of greyish or greyish-black material (one is more brownish) present in section a dark-black kernel between thin, light outer layers. In this respect they are related to the smooth black ware, especially the thicker variety (p. 169). In the present case, however, the outer and inner surface is rough, only slightly less so than the Mayen ware. The paste is speckled with rather large stones partly showing through the surface; the surface is moreover enlivened by particles of mica. The material is rather soft.

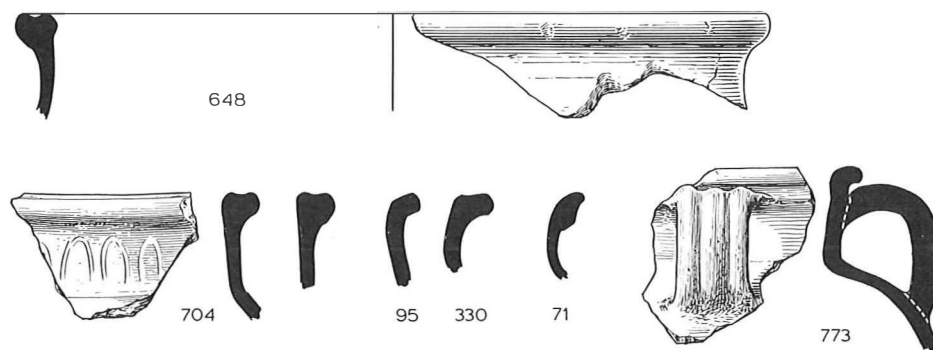


Fig. 85. Rough grey pottery with black core. Wijster. Scale 1 : 3.

In this group we also include three sherds (62, 330) of slightly different light-grey ware which in section is more homogeneous.

Of these eleven sherds, eight are rim fragments but these are too small to allow a reliable reconstruction of the complete pots.

Three sherds (648, 704, one without find no.) have a thickened rim with groove on top and must come from shouldered pots with large diameter at the rim (27–32 cm.); one of them shows a shallow grooved ornament (704).

Four others have a turned-over rim (95, 330, 773). One represents a jug (or amphora?) with double-grooved flat handle (rim diameter *ca.* 12 cm.; 773). 95 could belong to a straight-walled bowl (rim diameter *ca.* 25 cm.). The two rim-sherds of more homogeneous material (330) belong to one pot which must have been a shouldered form (rim diameter *ca.* 19 cm.).

The remaining sherd (71) belonged to a shouldered pot with elegantly profiled rim (rim diameter *ca.* 15 cm.).

A reliable dating of this incomplete material is not possible.

#### f. Homogeneous Hard-baked Grey Pottery (Fig. 86)

Of another small group of eleven sherds of grey pottery, the surface is only slightly rough. The ware is very hard-baked and has a cinder-like appearance. The section shows a homogeneous grey paste in which no tempering ingredients, at least no

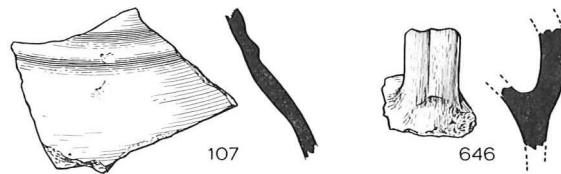


Fig. 86. Homogeneous hard-baked grey pottery. Wijster. Scale 1 : 3.

lumps of stone, are to be seen. On the inside, the turning-ridges are mostly clearly visible without being noticeably coarse.

Practically nothing is known about the complete models. They must have been fairly big pots. One sherd shows part of a handle (646), another a plastic rib (107).

Also in this case the date cannot be established.



**g. Smooth Heavy Pottery (Fig. 87)**

Only five sherds can be included in this category. One (844) is a rim-sherd of a mortar. The grey paste is homogeneous without visible tempering ingredients; it is covered by a very thin, somewhat lighter surface-layer of greyish-brown colour.

The high stand-up rim already occurs at Niederbieber but there it is still combined with a much thinner and more elegant collar.<sup>58</sup> In the second half of the 3<sup>rd</sup> century the collar becomes heavier,<sup>59</sup> but, especially as far as the slightly inverted rim is concerned, our sherd finds better parallels among the forms of the first half of the following century.<sup>60</sup> But even then the collar remains still somewhat lighter than the one of the Wijster specimen. So typology points to a date after the middle of the century, when the collar becomes really heavy. Later on a tendency becomes

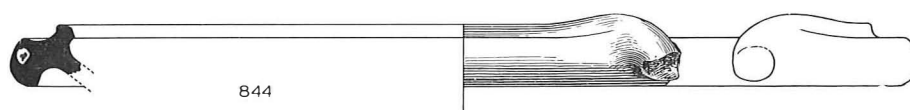


Fig. 87. Smooth-walled heavy pottery. Wijster. Scale 1 : 4.

visible to suppress the stand-up rim<sup>61</sup> and, moreover, in the second half of the 4<sup>th</sup> century the heavy smooth ware of which our mortar is made disappears, to be replaced by the Mayen pottery<sup>62</sup>; the mortars illustrated by Gose and Hussong<sup>63</sup> were already made of the so-called red-painted ware. A date not long after 350 A.D. therefore seems the most probable.

A second sherd (1035) of exactly the same material comes from the belly of a mortar. The quartz fragments on the inside are much the worse for wear. The sherd was discovered not far from the rim-sherd which was found when the dragline removed the top soil; they could belong to the same mortar.

A third sherd (1266) is of closely related material, but not as thickly-walled as both preceding ones.

The two remaining sherds (786) are of different make. The paste is homogeneous (no tempering ingredients are visible) and has a grey kernel between pinkish-orange outer layers. The material is very soft: the sherd stains the hand when rubbed. On the inside, which shows a vivid orange colour, broad turning-ribs were left. The smooth outer surface shows traces of a whitish slip. The sherds probably represent a large amphora. A fragment of a large amphora which is, however, made of different material was found at Garnwerd in Groningen.<sup>64</sup> A sherd of the same material as our sherds is known from Brillerij, not far from Garnwerd.<sup>65</sup>

### h. Fine White Pottery

Only once was a sherd found of a fine smooth yellowish-white pottery (1152). It is very thin-walled and probably comes from a jar.

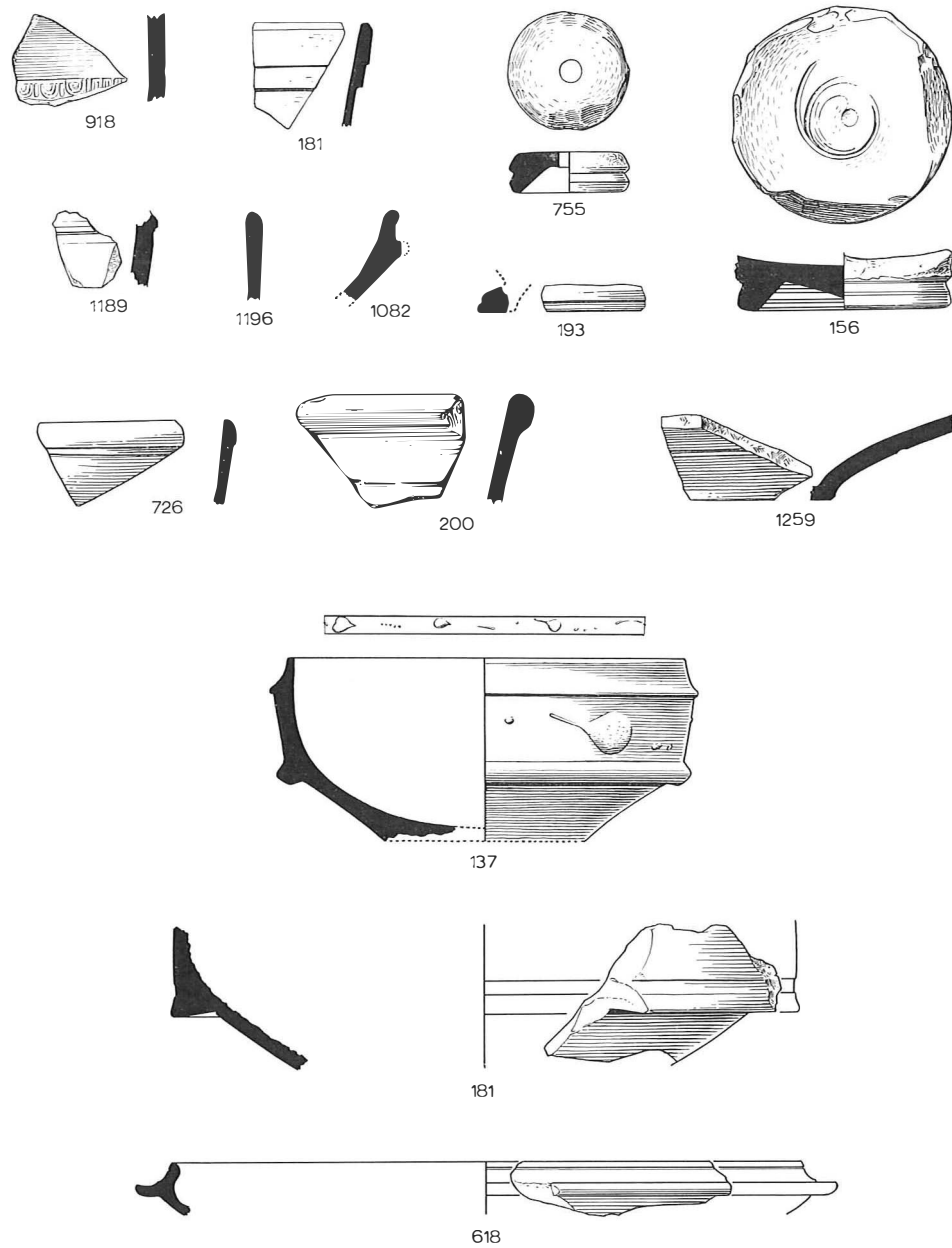


Fig. 88. Terra sigillata and red-painted ware. Wijster. Scale 1:3.

### i. *Terra Sigillata* (Fig. 88; Pl. 23)

An almost complete bowl and eight or nine sherds can, without undue risk, be called sigillata. The ware must be late on account of the rather poor but, however, not completely uniform manufacture. The bowl and sherds have a soft orange or orange-brown paste (it stains the hand easily). The glaze is a vivid orange, a vivid red, a somewhat darker red or a reddish-brown.

The manufacture of most Wijster sigillata sherds in itself points to a late date, not much before the 4<sup>th</sup> century, with only one possible exception: sherd 918 (*vide infra*). It is, however, well known that it is dangerous to attempt a precise dating by means of quality alone: good and bad ware have always been used together.<sup>66</sup> Moreover, there is difficulty of establishing the degree to which the aspect of a sherd may have been altered by the working of the soil. It is not improbable that at least part of the differences in quality between the individual Wijster sherds are to be attributed to the different surroundings in which they had lain: the most excellent sigillata fragment found at the site, the base 156, happens to come from the deeper, and therefore damper, layers of the pit dug for well 7, whereas the others were lying in drier surroundings.

In some cases, a more exact dating is made possible by typological arguments.

Apart from the bowl (137), decoration is only present in an uncharacteristic form on the already mentioned sherd (918). This sherd, a fragment of a bowl Drag. 37, is moreover the only one which by its material strikes one as being comparatively early. We must admit that it is not possible to judge with full certainty, because the material has been altered by secondary burning: the paste has turned black; only traces of a good, now wine-red glaze survive. The whole appearance, however, suggests a date in the 2<sup>nd</sup> century or first half of the 3<sup>rd</sup>; this is not contradicted by the ovolo with plain terminal, which according to Oswald & Pryce becomes "more frequent throughout the second century".<sup>67</sup>

The other sherds cannot be as early. Two (726, 1196) and probably also a third one (1189), are rim-sherds of one or other of the types with moulded lip (*à baguette*): Chenet 318, 319, 320 (= Alzey 1), 321 and 324 (= Alzey 5), most probably of the very common bowl Chenet 320 (= Alzey 1).

The sherds are small and without decoration, but if the bowls they represent had been decorated at all, then the ornament was probably executed in the characteristic rouletted technique of the 4<sup>th</sup> and earlier 5<sup>th</sup> century. In any case, the flat broad lip-moulding is not possible before the 4<sup>th</sup> century.<sup>68</sup>

One rim-sherd with broken-off flange (or collar?) just below the rim (1082) perhaps represents the type Chenet 315; also some sort of *plat à collerette* (*vide infra*) is possible.

The somewhat larger fragment 181 may come from a bowl Chenet 324 *f, g*, or

more probably from a mortar Chenet 328–30 (= Alzei 4); the inner surface of the sherd has disappeared. Here the brownish paste and glaze most clearly point to a late date. A peculiar rim-sherd (181; Fig. 88, upper row), apparently of sigillata also, was found in the same pit; the outside of the lip seems to have been tooled secondarily. We have not been able to determine the type of pot from which it comes.

Of the two bases (156, 755) the smaller one is perforated in the centre; the broken-off sides are tooled. It could belong to a cup Chenet 310 (= Alzei 14). The bigger one, a piece of comparatively good quality, was found in well 7 (*vide supra*).

Obviously, the almost complete bowl 137 (its foot is missing; a large irregular hole in the middle of the bottom), constitutes the pride and glory of the excavation. It had been deposited on top of a handmade cup (Fig. 104 : 137), probably as a foundation deposit, in a post-hole next to the south-western entrance of house XXXVIII (Pl. 23). The damage to the foot must be old.

This type of bowl, Chenet 325, decorated *à la barbotine* with a frieze of ivy leaves between two flanges, already occurs earlier during the Antonine period<sup>69</sup> and is found at Niederbieber.<sup>70</sup> There can be no doubt (contra Oswald & Pryce and Oelmann) that the form continues into the 4<sup>th</sup> century.<sup>71</sup> According to Chenet, there is no difference between the 4<sup>th</sup> century specimens and the earlier ones. We think, however, that in the case of the Wijster bowl its straight carinated form, its simple flanges and its degenerate decoration plead for a date after 300 A.D. The type is also known from other sites in the northern part of this country: a sherd from Wierum (Gr.)<sup>72</sup> and a fragment from Ferwerd (Fr.)<sup>73</sup> both of good sigillata, are older than our specimen. A bowl from Putten<sup>74</sup>, however, presents a striking parallel to the one under discussion: it has the same rigid profile and stiff degenerate ornament; to judge from Pleyte's drawing, it also seems to be of late orange ware.

#### j. Red-painted Ware (Fig. 88)

A rim-sherd (200), a bottom-sherd (1259) and two other sherds (873, 1148) are of a material which can no longer be called sigillata. The paste is whitish or a brownish-orange and contains very small pieces of glittering stone (mica), which are also visible on the surface. The surface has a brown or reddish-brown colour and is granular, almost rough in texture. In a vague way the material reminds one of sigillata, as the profile of the rim-sherd also does, and is clearly a derivate or imitation thereof. It may be compared, we think, with the so-called *rotbraun gestrichene Keramik* known from the Barbarathermen at Trier. Our rim-sherd belongs to a bowl Chenet 320, a type among other forms also manufactured in this ware.<sup>75</sup> This pottery belongs to the late 4<sup>th</sup>/early 5<sup>th</sup> century.

Six other sherds (193 – part of a foot?; 35, 1136) are very similar and must either be considered very poor quality sigillata or some sort of imitation.

Still another fragment falls within this group: rim-sherd 618. Its paste is whitish and its slightly rough surface, partly grey, partly wine-red in colour, gives a strong impression of having been painted. It represents an undoubtedly late model: the so-called *plat à collerette* which is not found before the end of the 4<sup>th</sup> century (Thermen at Trier) and later on occurs in the cemeteries of Haillot, Rittersdorf and Schwarzhendorf.<sup>76</sup> The graves IV, VIII and IX at Haillot with *plat à collerette* are dated by Breuer & Roosens to after 450 A.D.<sup>77</sup> Thus the type is documented for the end of the 4<sup>th</sup> and the whole of the 5<sup>th</sup> century. In Schwarzhendorf grave 16, it still figures in a 6<sup>th</sup>-century context,<sup>78</sup> while in Rhenen a *plat à collerette* occurs in a grave also containing an Hahnheimer brooch.<sup>79</sup>

While the dishes from Haillot are made of sigillata (the one from grave IV is praised as being the best sigillata object found in the cemetery<sup>80</sup>), the specimens discovered in the Barbarathermen at Trier and at Rittersdorf were of so-called red-painted ware.<sup>81</sup> The *plat à collerette* from Schwarzhendorf has a yellow paste.<sup>82</sup>

#### k. Brown-marbled Pottery

One very small sherd is to be attributed to Oelmann's *braun marmoriertes Geschirr*.<sup>83</sup> It seems to be of rather poor quality, which could be an indication of a 4<sup>th</sup> century date.<sup>84</sup>

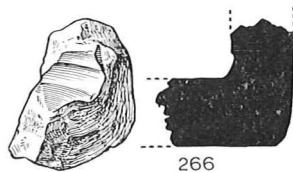


Fig. 89. Fragment of pantile. Wijster. Scale 1 : 3.

#### l. Roman Pantiles (Fig. 89)

The finds comprise two fragments of Roman pantiles.

Roman pantiles are also known from other Northern Dutch sites: especially Hattum near Dronrijp in Friesland<sup>85</sup> and Rhee in Drente.<sup>86</sup>

## NOTES

- <sup>1</sup> Unverzagt 1916, 27-9; Brunsting 1937, 121-2; Chenet 1941, 91-2.
- <sup>2</sup> Holwerda 1923 (1), 124 Pl. 58: 133-4.
- <sup>3</sup> Brunsting 1937, 122, Pl. 6: 10*b*.
- <sup>4</sup> Unverzagt 1916, 28, Abb. 17.
- <sup>5</sup> Alzey type 24/5: Unverzagt 1916; pottery from Worms: Unverzagt 1916, Abb. 18: 1-7.
- <sup>6</sup> Schulz 1933; 1953; Von Usler 1935; Svoboda 1962.
- <sup>7</sup> For the different opinions on this matter *cf.*: Schulz 1933, 38; 1953, 56-7; Von Usler 1935, 254-5; Svoboda 1962, 93.
- <sup>8</sup> Schulz 1953, T. 1: 2, 15: 3, 20: 2, 3; 1933, T. 23: 2.
- <sup>9</sup> Chenet 1941, 91-4.
- <sup>10</sup> Werner 1950-1, 25-6, 28-9, Karte 6. The fibula from Looveen belongs to Werner's type 1 and not, as indicated on his map, to type 2. It is damaged, especially at the top, by the heat of the pyre. Apart from the specimens of Vermand, Fécamp, Villers-sous-Ercquery, Vert-la-Gravelle, Westerwanna and the Galgenberg near Cuxhaven mentioned by Werner, there are two small, not clearly definable fragments from Mahndorf (Grohne 1953, 121).
- The tutulus brooch from Feerwerd does not belong to Werner's type 2*b*. The simple form with its low cone surrounded by a broad flat rim suggests an earlier date, still in the 3<sup>rd</sup> century.
- <sup>11</sup> Grohne 1953, 7-67.
- <sup>12</sup> Cited by Grohne 1953, 32.
- <sup>13</sup> Grohne 1953, 30 and 32.
- <sup>14</sup> Grohne 1953, 35.
- <sup>15</sup> Grohne 1953, 37, Abb. 10*a*, *d*.
- <sup>16</sup> Werner 1936, 400; Eggers 1951, 54-6.
- <sup>17</sup> Grohne 1953, 53.
- <sup>18</sup> The urn was found together with a few others in the spring of 1856, and must come from an Anglo-Saxon cemetery. The site has not been investigated systematically: the pots were discovered by a farmer, when digging his field to a greater depth than usual. There is no reason to doubt the association of the Anglo-Saxon urn and the Roman sherds; the inventory of the Assen Museum where the finds are kept (PMD 1856/IV 2*a-d*) mentions explicitly that they were found together. Apart from the terra nigra sherds, the urn contains another probably Roman sherd (thick-walled and porous from secondary burning), a piece of worked bone and a melted bronze fragment (perhaps from a tubular-sided attachment-plate?). The Anglo-Saxon urns from Midlaren have already been published by Pleyte (Pleyte 1877-1902, 49-51) and were recently illustrated again by Tischler (Tischler 1954 (1956), Abb. 43-4). The sherds of the footed cup were only mentioned by Ypey (Ypey 1959, 108; here also earlier literature about Midlaren), who describes it as "a peculiar bluish terra nigra-like Merovingian wheel-made ware".
- <sup>19</sup> A. Plettke 1921, 44, T. 29-30; Grohne 1953, 81-7.
- <sup>20</sup> Zimmer-Linnfeld, Gummel & Waller, 1960, 9.
- <sup>21</sup> Waller 1938.
- <sup>22</sup> Zimmer-Linnfeld, Gummel & Waller 1960.
- <sup>23</sup> Grohne 1953.
- <sup>24</sup> F. Plettke 1940.
- <sup>25</sup> Waller 1961 (1).
- <sup>26</sup> Waller 1959.
- <sup>27</sup> Myres 1948, 455; Tischler 1954 (1956), 181.
- <sup>28</sup> The information on the Nijmegen cemetery was kindly given to us by the excavator, Prof. Dr. H. Brunsting, for which we here wish to thank him. For further details we refer to the final publication which is being prepared by Prof. Brunsting. Part of the results have

already been published in a number of smaller papers: *Nieuws-Bulletin Koninklijke Nederlandse Oudheidkundige Bond* 10, 1957, \*97, \*108, \*130, \*183, \*227; 13, 1960, \*36, \*267; Brunsting 1952; Brunsting 1953; Zadoks 1961.

The goblet Chenet 342 is found in three graves excavated between 1949 and 1952: 45, 58 and 86. Furthermore there are two closed finds, bought by the Gemeente Nijmegen for its collection, which come from the same cemetery and contain the type Chenet 342: "Mariëenberg 1946" (inv. no. Ma 1946/11-4) and "Hertogstraat 1953" (inv. no. 1953/1-3).

In grave 45 the goblet is associated with a so-called Gallic glass beaker, Morin-Jean *forme* 113-6.

In grave 58 it goes together with a small glass bowl with *abgesprengtem Rand* datable to the second half of the 4<sup>th</sup> and the early 5<sup>th</sup> century (Vanderhoeven 1958, 10; Haberey 1942, 256).

One of the four jugs found in grave 86 has the same decoration as *e.g.* the jug from Mayen grave 21 (350-400: Haberey 1942, 279).

In both finds "Mariëenberg 1946" and "Hertogstraat 1953", the footed cup is accompanied by a cup Gose 551 (4d/5a) and a flask in coarse ware. The same type of flask is in Nijmegen grave 144 associated with a glass bowl of Helle type (4d/5a: Werner 1958, 389, T. 77, 2; 78, 2). "Mariëenberg 1946" moreover contains a small tulip beaker Chenet 333a.

<sup>29</sup> We thank Mr. J. Ypey, ROB, for the following information. Also in this case the final publication is awaited giving a detailed survey of the material. The type is present in graves 156, 312B, (356), 819, 829, 845 (and maybe in a few more). Among these, 819 and 829 are dated by bronzes with chip-carved decoration, especially the latter (Glazema & Ypey 1956, Pl. 6). In grave 845, the cup is associated with a fragmentary saucer brooch. The atypical cup of grave 356 goes together with a pair of composite saucer brooches and a beautiful silver hairpin (Glazema & Ypey 1956, Pl. 22). The Rhenen cups are without decoration, apart from the typologically late specimen (low broad model on heavy massive foot) from grave 156. It is only associated with a single oval buckle of iron which is consistent with a date in the 5<sup>th</sup> or even 6<sup>th</sup> century.

<sup>30</sup> Nenquin 1953, 88-9, Fig. 10: A47.

<sup>31</sup> Van Es 1964 (1), 260-2.

<sup>32</sup> Steeger 1937, Pl. 10; 1943.

<sup>32a</sup> Pirling 1960, 88.

<sup>33</sup> Fremersdorf 1941; Böhner 1958, 167.

<sup>34</sup> Fremersdorf 1955, 50. Fremersdorf bases his view on the fact that both graves are lying within the oldest grave group of the cemetery, the earliest datable graves of which belong to the 6<sup>th</sup> century. It should be noted however, that 148 together with two other graves nearby within the same group, 106 and 53, are the only graves of the whole cemetery with S-N direction, a circumstance probably indicating that they were the oldest graves within the earliest grave group. The contents of these graves are poor and their date therefore remains somewhat obscure. The francisca of 148, however, shows much resemblance to the one in Köln-St. Severin grave 64 (second half 5<sup>th</sup>/early 6<sup>th</sup> century; Fremersdorf 1941). The francisca in 106 can be compared to the one in the rich Flonheim grave (Koehl 1886, T. 6: 6), and is also clearly related to the specimens in Haillot graves VII, VIII and XI (Breuer & Roosens 1957: *ca.* 425-500).

<sup>35</sup> Behrens 1947, Abb. 70: 4. For the date of the biconical bowl (Behrens 1947, Abb. 70: 3) *cf. e.g.*: Köln-Müngersdorf grave 149 (Fremersdorf 1955, 102), or Wageningen grave 153 (Van Es 1964 (1), Fig. 74: 17).

<sup>36</sup> Böhner 1949, 187-9.

<sup>37</sup> Van Es 1964 (1), 262.

<sup>38</sup> That also footless specimens may be late is shown, however, by Chenet 1941, Pl. 19: 342a.

<sup>39</sup> F. Plettke 1940, 22-31, T. 1; 2: 1; 5: 5-7. *cf.* Chenet 1941, Fig. 31; Boeles 1951, 187.

<sup>40</sup> Oelmann 1914, 40-2, type 33; Chenet 1941, 89-90, type 340; Gose 1950, 17-8, no. 200-12; (Faider-Feytmans 1962, 47-8).

<sup>41</sup> Cf. descriptions of Mayen ware by Unverzagt (1916, 31-3), Nierhaus 1940 (2), Gose (1950, 40), Böhner (1958, 49-50), J. Frechen (in: Böhner 1958, 63-8).

<sup>42</sup> Lately Fellmann 1955, 133-4.

<sup>43</sup> Unverzagt 1916, 34 (who is still rather pessimistic); Hussong 1936, Beilage 2; Von Petrikovits 1937, 333-4, 338; Nierhaus 1940 (1), 45-6; 1940 (2), 49, 51-2; Fellmann 1952, 164-9; cf. recently Binsfeld 1960-1, 76-7.

<sup>44</sup> Von Petrikovits 1937, 333-4, Abb. 25: 12, 14-5.

<sup>45</sup> Fellmann 1952, 164-9, Abb. 54: 1-17.

<sup>46</sup> Binsfeld 1960-1, Abb. 2: 12-4.

<sup>47</sup> Oelmann 1914, 75; cf. Brunsting 1937, 151-2.

<sup>48</sup> Unverzagt 1916, 35, Abb. 22: 11.

<sup>49</sup> Literature in Binsfeld 1960-1, 78-9.

<sup>50</sup> Von Petrikovits 1937.

<sup>51</sup> Nierhaus 1940 (1).

<sup>52</sup> Fellmann 1952.

<sup>53</sup> To judge from the description the three small jugs from Köln-Müngersdorf (Gutshof), sarcophagus E (Fremersdorf 1933, 971, T. 55: 10-2) are not Mayen ware.

<sup>54</sup> Haberey 1942, 264, Abb. 4: 7d, T. 40: 3.

Rest 1941, 334, Abb. 70: 5.

Gose 1950, 44, no. 514-5.

<sup>55</sup> Hussong 1936, 78, T. 1: 4-5.

Also some of the jugs found at Furfooz may be of Mayen ware (Nenquin 1953, 34-8).

<sup>56</sup> Hussong 1936, 78.

<sup>57</sup> Something like Qualburg Von Petrikovits 1937, Abb. 25: 22?

<sup>58</sup> Oelmann 1914, 69, Abb. 53: 4, 5, 7.

<sup>59</sup> Cf. Gose 1950 no. 462.

<sup>60</sup> Gose 1950 no. 463; Binsfeld 1960-1, 76, Abb. 2: 32; Binsfeld cites comparable specimens from Cond, Qualburg, Dachstein and Strassburg.

<sup>61</sup> Gose 1950 no. 464; Hussong 1936, Beilage 1, bottom row extreme left.

<sup>62</sup> Unverzagt 1916, 11, 24; Fellmann 1955, 131.

<sup>63</sup> Gose 1950 no. 464; the fragment Hussong 1936, Beilage 1, bottom row second from left, is closely related in profile to our sherd.

<sup>64</sup> Groninger Museum 1910/I 337.

<sup>65</sup> Groninger Museum 1941/I 2.

<sup>66</sup> Oelmann 1914, 11.

<sup>67</sup> Oswald & Pryce 1920, 100. The ovolo type is not sufficiently characteristic to provide a clue for a more precise dating.

<sup>68</sup> Unverzagt 1916, 17: "*Der Rundstab hat sich wulstartig verplattet*"; 1919, 11: "... *rundstabartige Bandlippe* ...". At Niederbieber, the lip-moulding is still round (Oelmann 1914, 25). Also in the 4<sup>th</sup> century a roundish form still occurs side by side with the flat one.

<sup>69</sup> Oswald & Pryce 1920, Pl. 42: 2.

<sup>70</sup> Oelmann 1914, 29.

<sup>71</sup> Unverzagt 1929, Abb. 5: 1 (associated with Abb. 5: 3!); Chenet 1941, 75.

<sup>72</sup> Glasbergen 1940-4, 328, Afb. 69: 14: "Dateering: IIB."

<sup>73</sup> Leeuwarden Fries Museum inv. no. 101/1536 (Ferwerd, Burmania terp).

<sup>74</sup> Pleyte 1877-1902, Gelderland 75, Pl. 22: 1. It comes from a settlement site near Halvinkhuizen (Geld.) dating from the Roman until the Carolingian period.

<sup>75</sup> Hussong 1936, 77, T. 1 Abb. 1: 12-3.

<sup>76</sup> Breuer & Roosens 1957, 240; Hussong 1936, T. 1; Abb. 1: 9; Abb. 1: 391; Pl. 1 Abb. 2: 12.

<sup>77</sup> In one case, their only argument for dating the grave (IV) as late as this date is the *plat à collerette* (Breuer & Roosens 1957, 283; cf. also 284). We do not agree, however, in restricting the type to the second half of the 5<sup>th</sup> century, given the fact that it already occurs among the



finds from the Thermen at Trier. They may have been deceived by the dating of the Trier material by Hussong, which, as Nierhaus (Nierhaus 1940 (2), 52) has pointed out, is about 50 years too late.

<sup>78</sup> Behrens 1947, 7, Abb. 16: the glass beaker (*Sturzbecher*) with knob below the bottom found in the same grave is a 6<sup>th</sup> century type (Rademacher 1942, 307–9). The *plat à colerette* from Rittersdorf illustrated by Hussong (1936) forms part of a group which he dates between 450 and 550 A.D.; there are no clues for a closer dating.

<sup>79</sup> For this information we are indebted to Mr. J. Ypey, ROB Amersfoort. The variant with chip-carved decoration, to which the Rhenen brooch belongs, is dated by Kühn (1940, 151–6) to the second half of the 6<sup>th</sup> century.

<sup>80</sup> Breuer & Roosens 1957, 236.

<sup>81</sup> Hussong 1936, 77, 80.

<sup>82</sup> Behrens 1947, 7.

<sup>83</sup> Oelmann, 1914, 45–53. Identified by Prof. Dr. H. Brunsting, RMO Leiden.

<sup>84</sup> Oelmann, 1914, 51.

<sup>85</sup> Boeles 1951, 152, 175.

<sup>86</sup> Assen, PMD 1935/V 3.

## B. HAND-MADE POTTERY

Different types are to be distinguished on formal criteria.

## I. Funnel Cups

One of the most characteristic types among the hand-made pottery is the wide-mouthed cup *c.g.* bowl (diameter at rim approximately equal to diameter at shoulder), of medium size (very small specimens are rare) with high shoulder and more or less conical belly. Variation in detail makes a subdivision necessary.

## TYPE IA (Fig. 90–93)

The type is characterized by a clear-cut profile with straight bent-out neck, clearly differentiated from the comparatively broad oblique shoulder (the shoulder has at least the same length as the neck), and with a rather sharp division between shoulder and straight conical belly.

Two sub-types can be distinguished.

*IA1 (Fig. 90, 91)*

The neck has the same over-all thickness. The one complete pot (354) has a small slightly convex base. Its material is stone-tempered; the wall is thin with smooth outer and inner surface of a patchy predominantly bluish-black colour.

The form is rare; only a few rim-sherds, mostly not very characteristic, could be ascribed to it.

*IA2 (Fig. 92, 93)*

This model is also rare. The distinction from A1 is not always very clear. The neck becomes thicker towards its base; consequently its section is triangular or shows at least a tendency to be so. Characteristic is the sharp transition from neck to shoulder on the inside. The fragment 354 has a vertical pinched handle reaching from rim to shoulder. Another sherd (1256) is decorated with a frieze of pendant arcs alternating with tree patterns just below the shoulder.

The material is stone-tempered. The wall of most sherds is rather heavy and the surface irregularly smoothed. The lower part of the pots may be intentionally roughened (354). Colours are patchy but predominantly bluish-black. A few finer sherds (1134, 1264) show a greyish-black colour and a carefully smoothed surface. 1256 has been burnt secondarily.

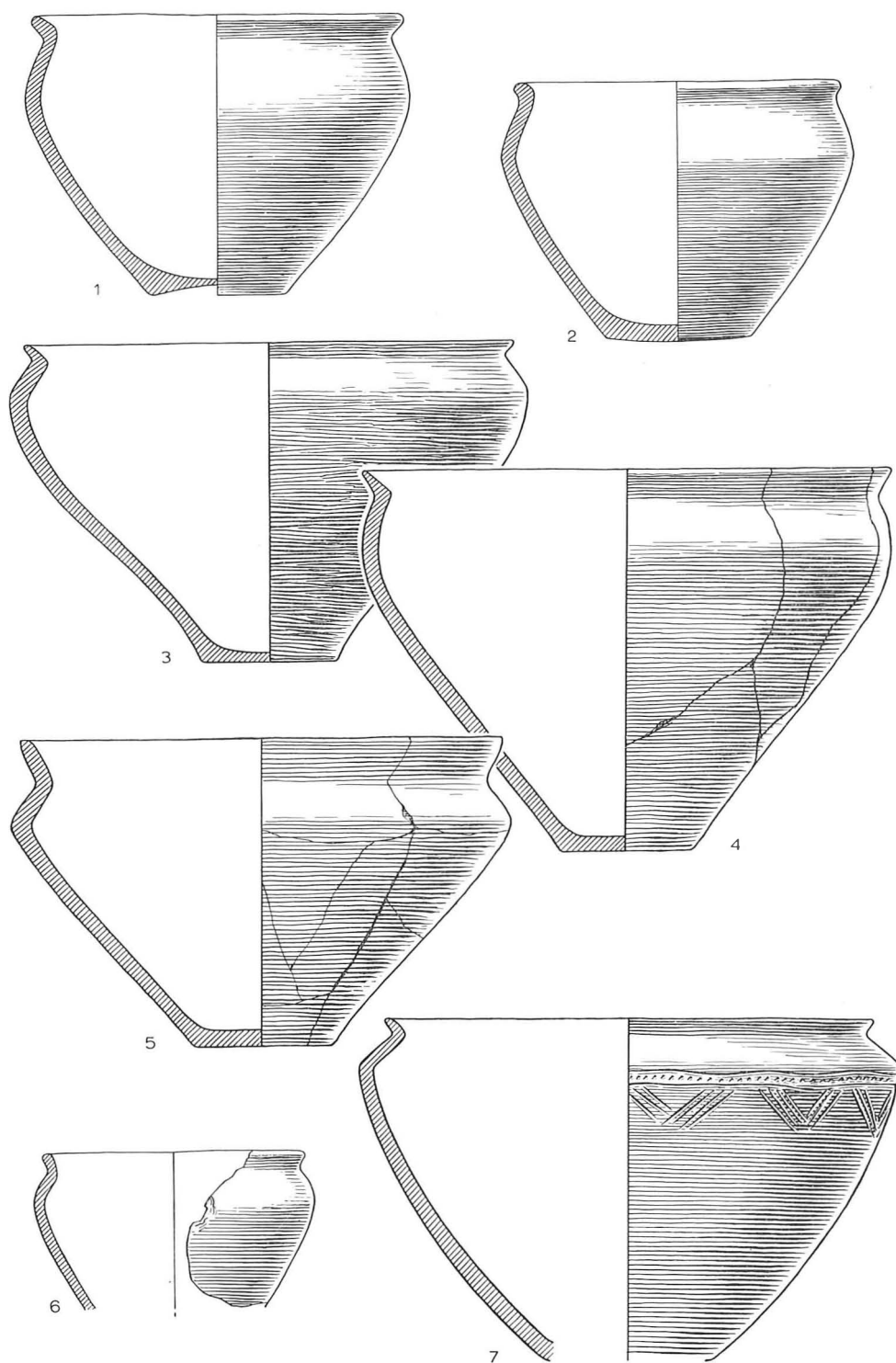


Fig. 91. Type IA1. 1, 2, 4: Ezinge, 3: Oosterwijtwerd, 5: Rhee, 6: Erm, 7: Brillerij. Scale 1 : 3.

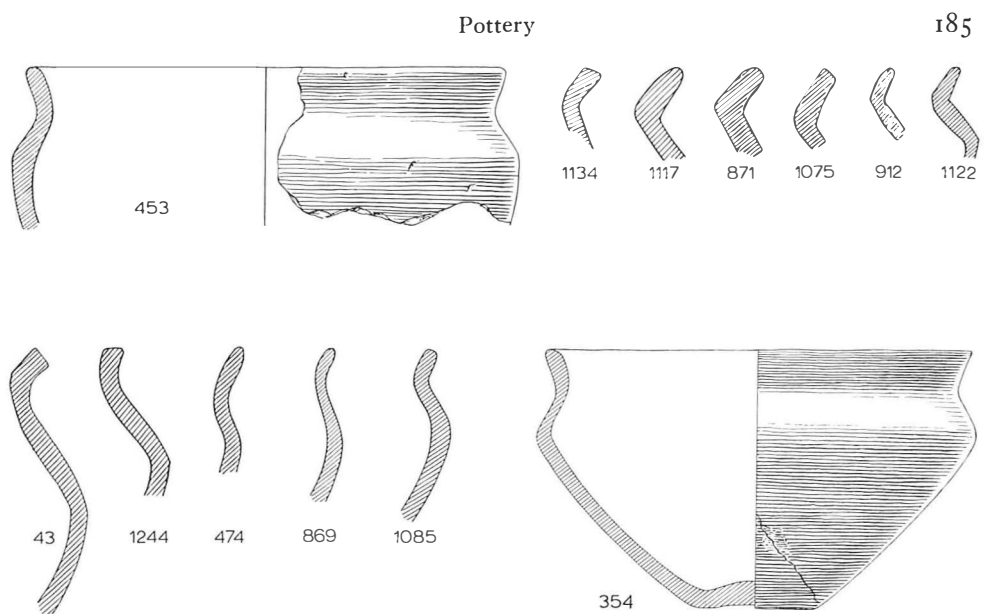


Fig. 90. Type IA<sub>1</sub>. Wijster. Scale 1 : 3.

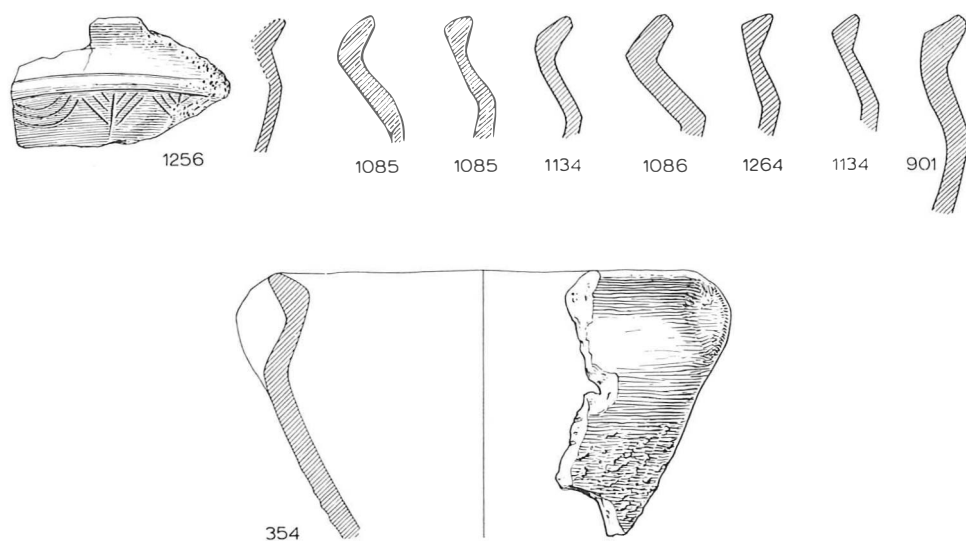


Fig. 92. Type IA<sub>2</sub>. Wijster. Scale 1 : 3.

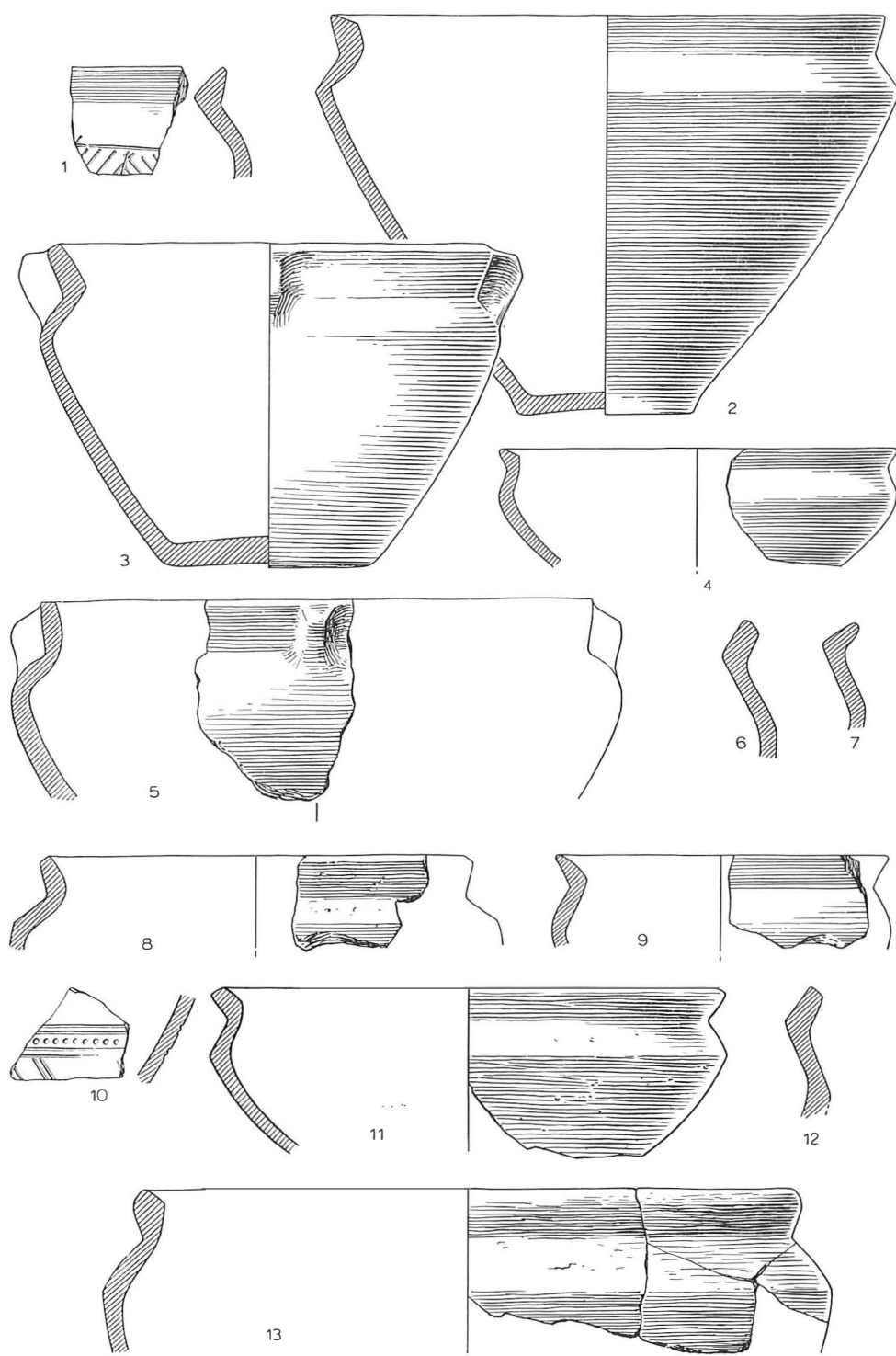


Fig. 93. Type IA2. 1, 2, 4, 7, 9, 12: Fochtelo, 3: Eext, Vijzelkampen, 5, 8, 13: Peelo, 6: Erm, 10: Stiens, 11: Spannum. Scale 1 : 3.

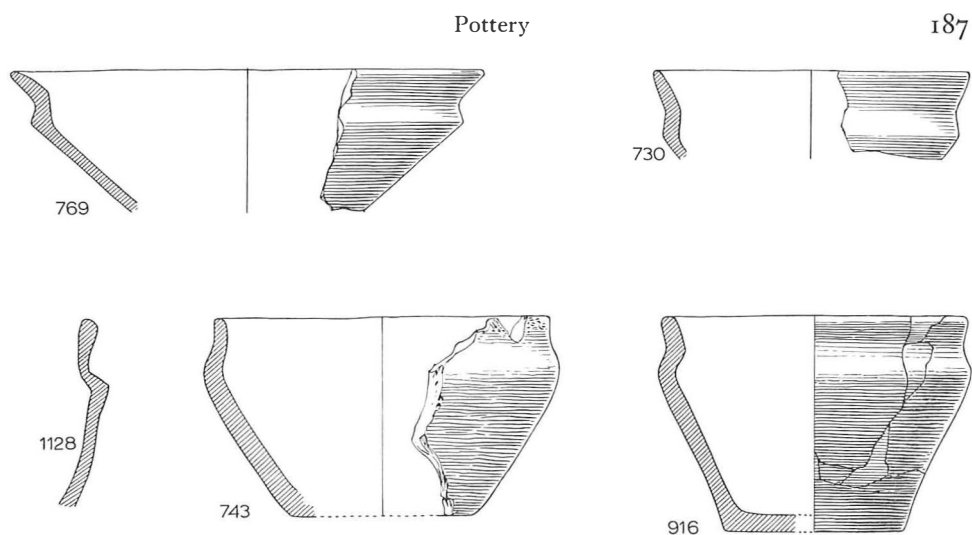


Fig. 94. Type IB1. Wijster. Scale 1 : 3.

#### TYPE IB (Fig. 94–99)

The chief point of contrast with the preceding type is the narrow shoulder. The other features, straight bent-out neck, mostly straight conical belly and small flat base, are very much the same.

There are three sub-types.

#### *IB1* (Fig. 94, 95)

This model is characterized by a neck which in section has approximately the same thickness everywhere. One sherd (769) shows a tendency for the neck to become thicker towards its base. The same is to be observed in some parallels from elsewhere (Fig. 95). The Wijster specimens, along with most of its parallels, have a sharp transition from shoulder to neck and from shoulder to belly. The belly has straight conical sides, while, as far as can be seen, the bottom was flat and narrow. Decoration is absent at Wijster and rare elsewhere: frieze of oblique brooch spiral impressions (*Fibelspiraleindrücke*) between horizontal grooves just below the shoulder (Fig. 95 : 2).

The fine stone-tempered paste has a smooth, sometimes glossy outer and inner surface, which has a bluish-black or yellow-brown colour.

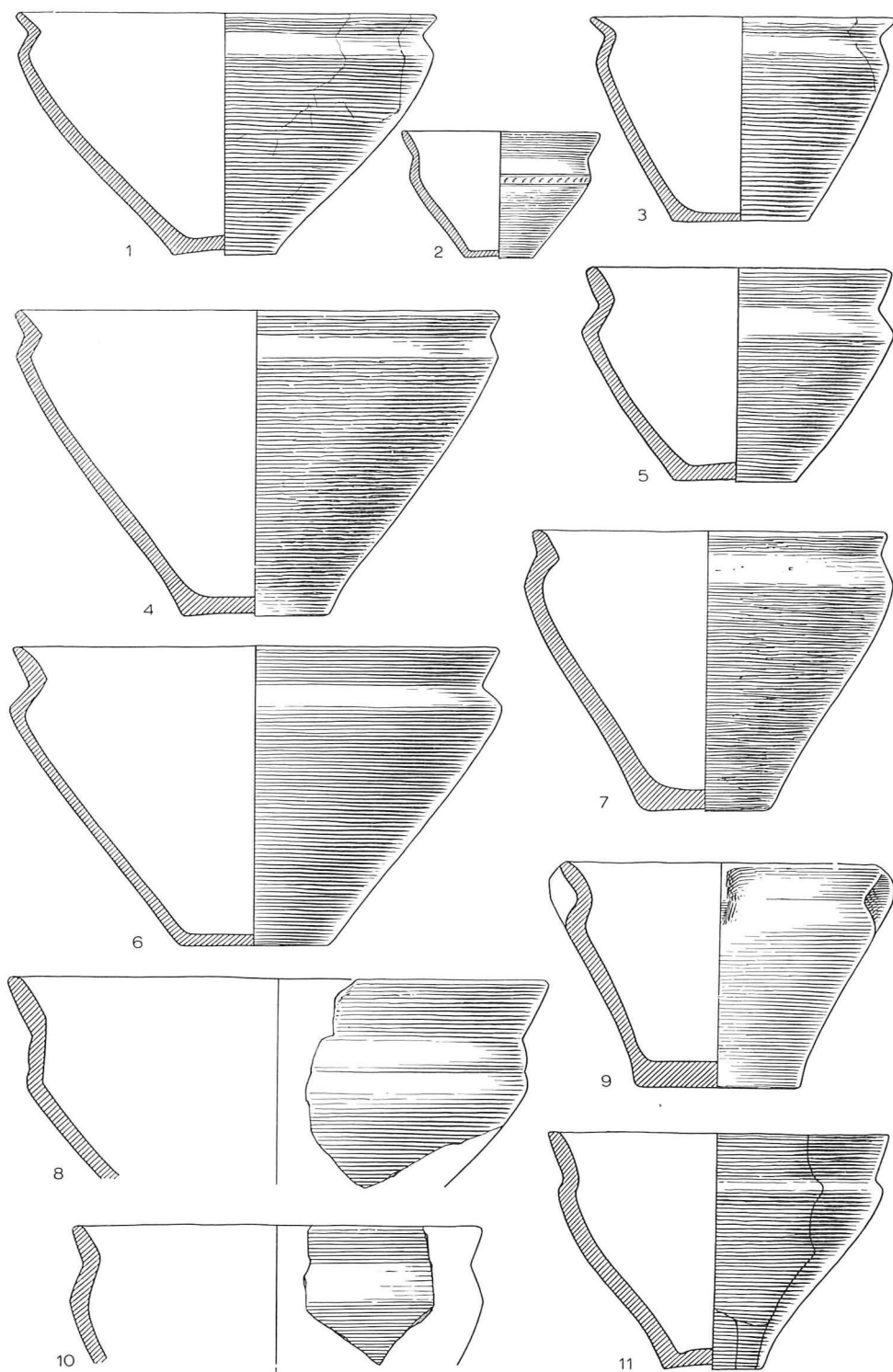


Fig. 95. Type IB1. 1, 6, 8, 11: Rhee, 2: Hijken, cemetery, 3: Feerwerd, 4: Ferwerd, Kloosterterp, 5: Usquert, 7: Westeremden, 9, 10: Peelo. Scale 1 : 3.

*IB2 (Fig. 96, 97)*

There are no clear traces of the model among the Wijster material. This gap is filled in by specimens from elsewhere.

The neck has a clearly triangular section with a sharp ridge in the inside halfway up the neck, where the wall is thickest. The neck may be thick and its section an equilateral triangle or, if the neck is thinner, the section has the shape of an isosceles triangle. The transition from shoulder to belly is often sharp, but not always. Especially the specimens with a thick neck may have a definitely rounded shoulder; these features are also found in combination with an elaborate ornament (Fig. 97: 1–8). The belly has more or less straight conical sides. The bottom is narrow and flat.

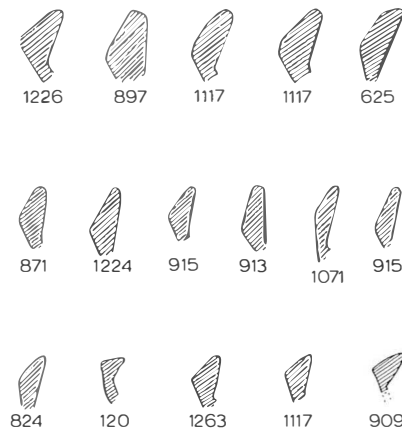


Fig. 96. Rim-sherds with triangular section (type IB2?). Wijster. Scale 1 : 3.

In its most elaborate form, the ornament, if present, consists of a frieze of tree patterns outlined by rows of dots which hangs down from a double groove with a row of dots in between, marking the transition from shoulder to neck. Also other, simpler ornaments occur: horizontal grooves on or below the shoulder (Fig. 97: 9, 10), rows of dots separated by grooves (Fig. 97: 8).

As said above, our site did not produce recognizable fragments of this type. There are, however, a number of rim-sherds with triangular section, some of which – especially the thicker ones – may come from pots of the model in question (Fig. 96). On the other hand, the A2 type also remains a possibility for these sherds, while one could also attribute those with a more elongated triangular section to B3.



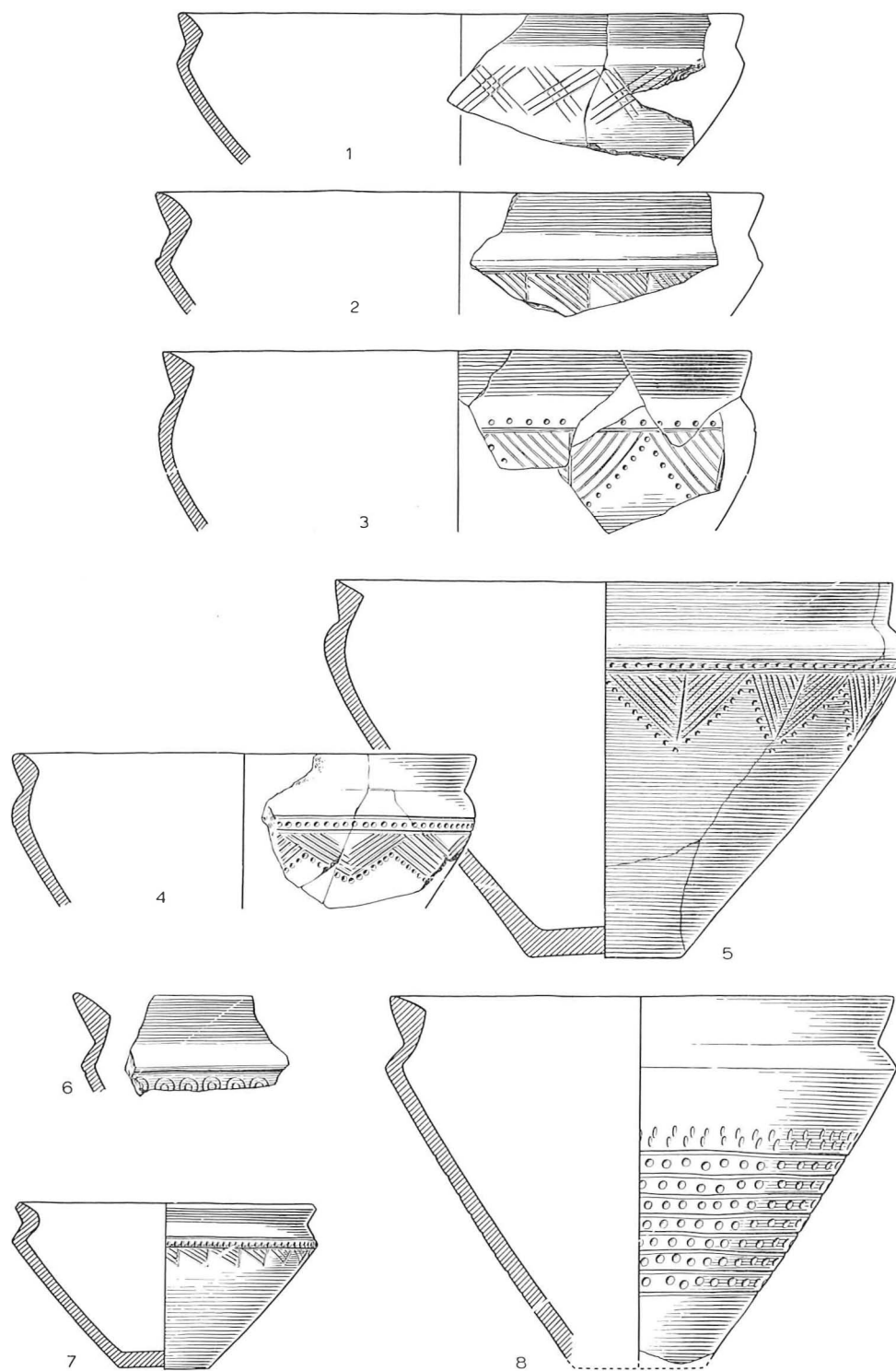
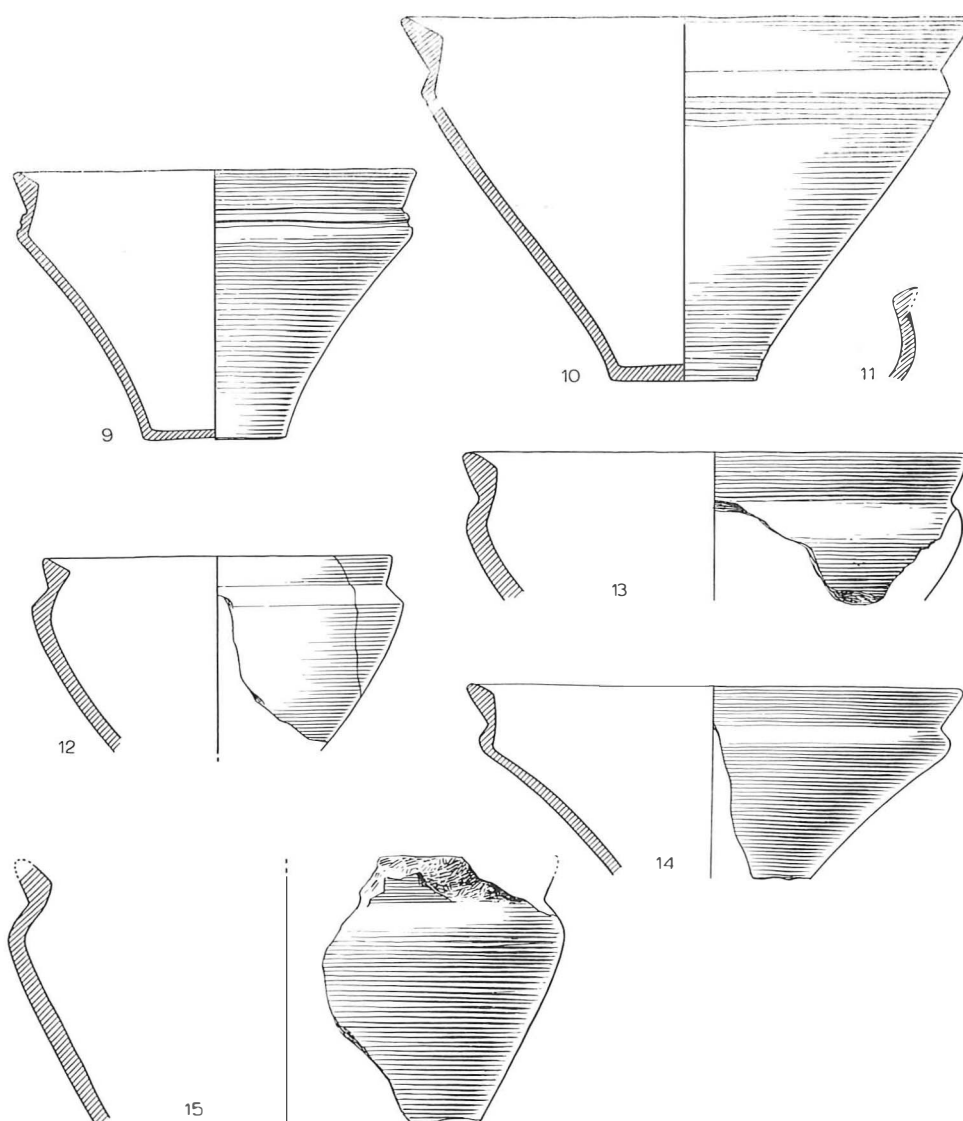


Fig. 97. Type IB2. 1, 2, 6, 10, 13-5: Fzinge, 3, 4: Rhee, 5: Norg, 7: unknown provenance,

*IB<sub>3</sub>* (Fig. 98, 99)

Here the section of the neck has the shape of an elongated triangle or, if the ridge at the inside is less sharp, of a circle segment. The three finest specimens (922, 1090, 1229) have a separate rim lip. The shoulder is mostly rounded, but can also be



8: Bolleveen near Zeijen, 9, 12: Peelo, 11: Fochtelo. Scale 1: 3.

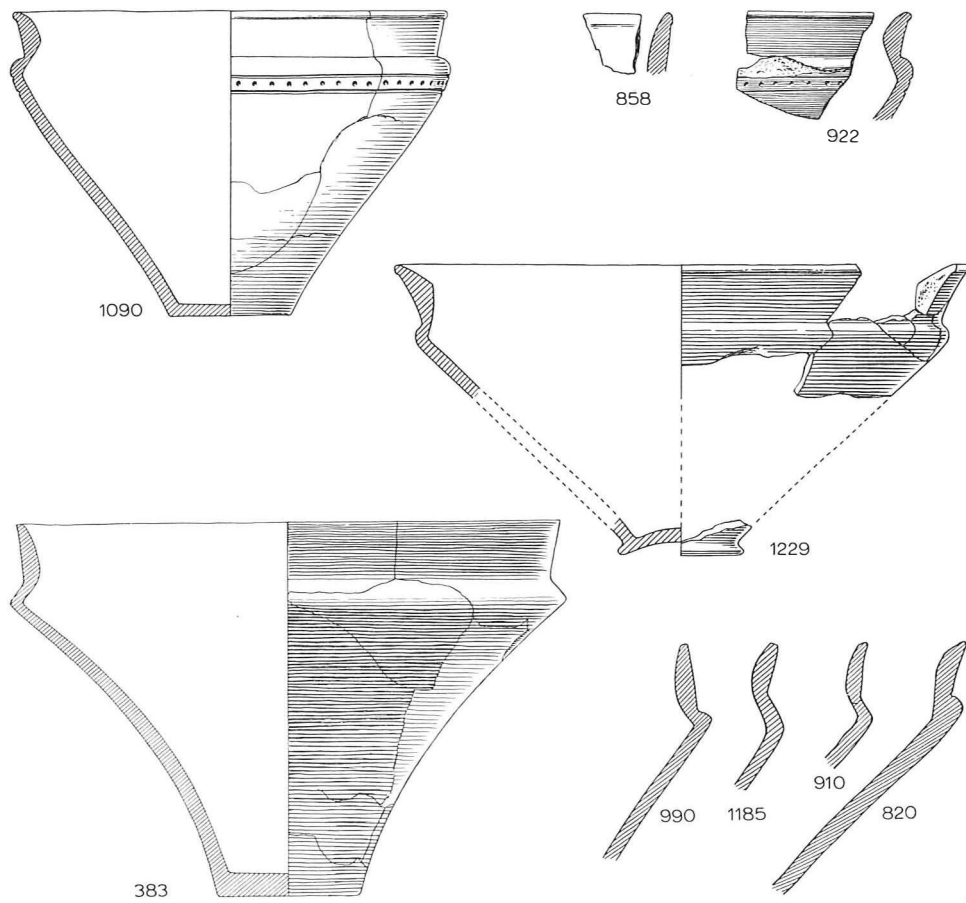
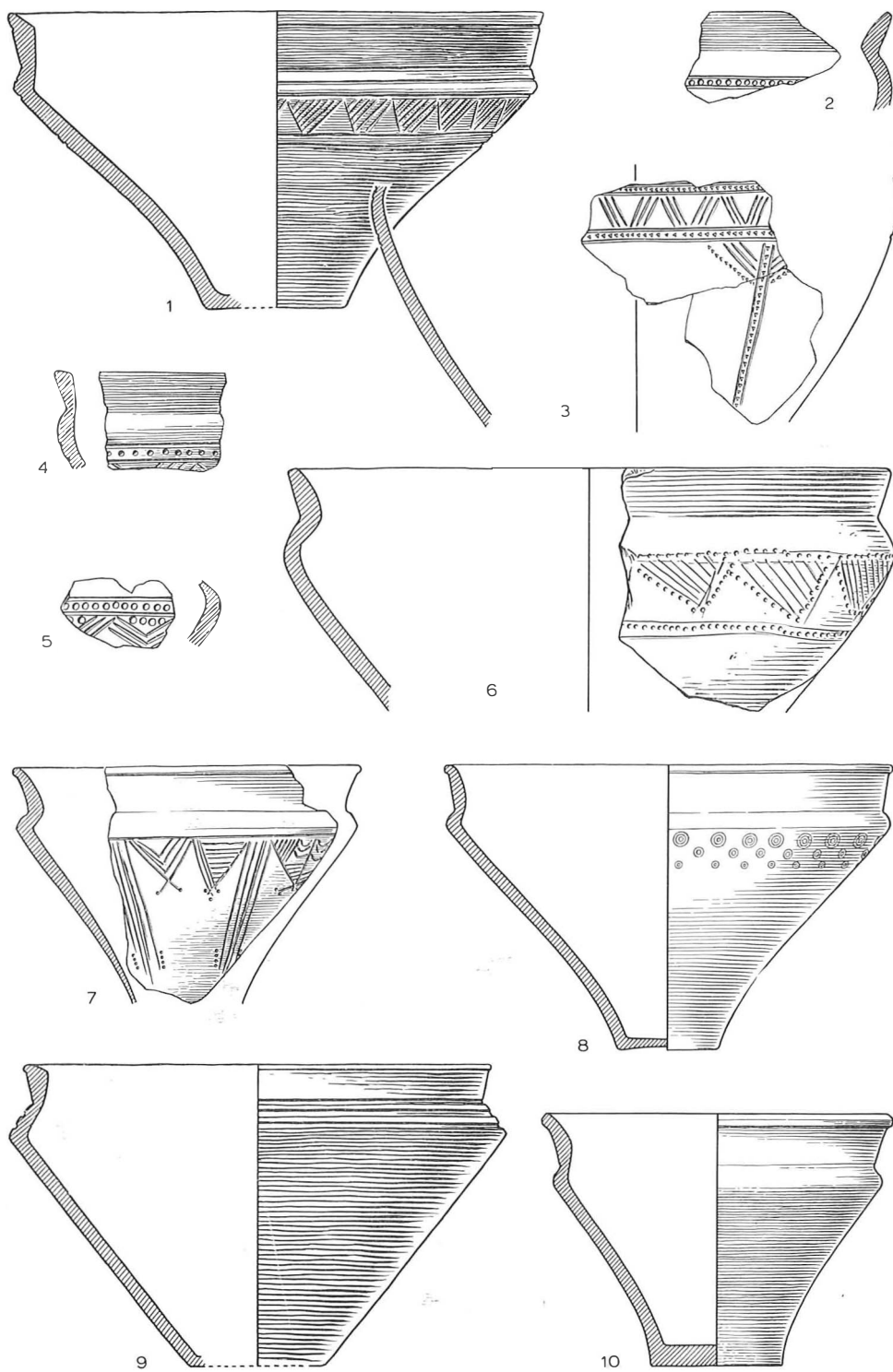


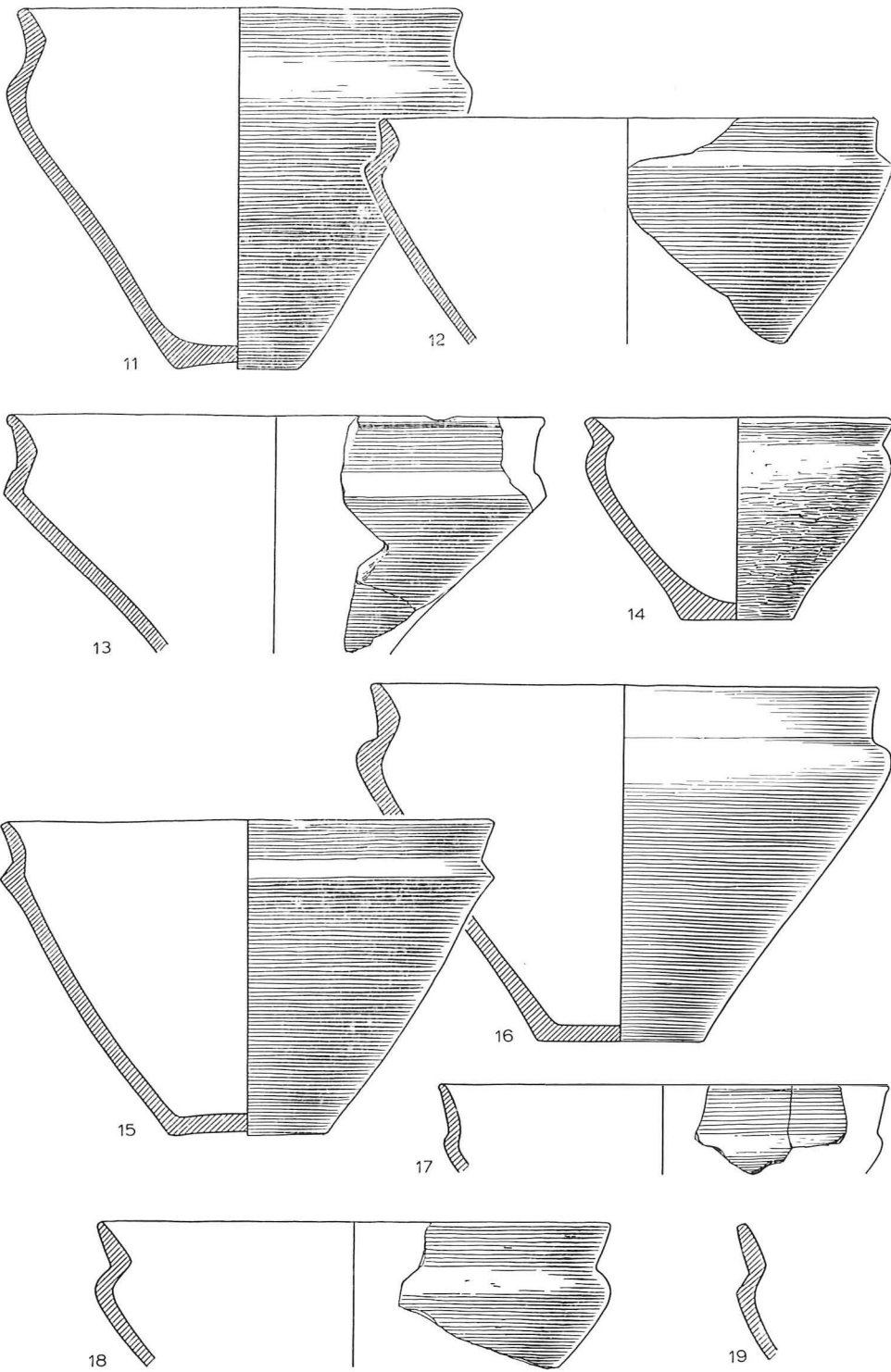
Fig. 98. Type IB<sub>3</sub>. Wijster. Scale 1 : 3.

angular. The belly normally has more or less straight sides: however, one (383) shows a marked inward curve. The one small and slightly convex protruding foot (1229) seems to be exceptional; the other two Wijster bases and those from elsewhere (Fig. 99) are flat.

Two of the more elegant pieces (922, 1090) are decorated with a row of dots between grooves below the shoulder. Outside Wijster, more elaborate ornamental patterns occur also (Fig. 99: 1-8, 20, 21).

The material is thin-walled with smooth, sometimes glossy outer and inner surfaces; it is stone-tempered and bluish-black or yellow-brown in colour.

Fig. 99: 1-10. Type IB<sub>3</sub>. Scale 1:3.



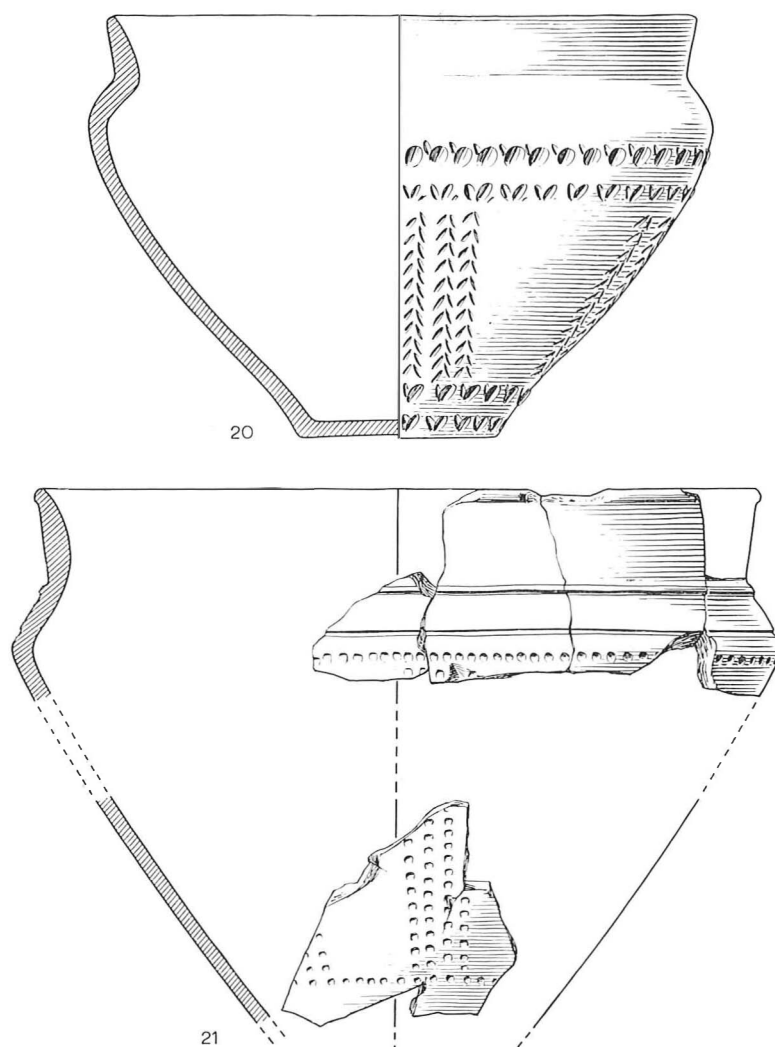


Fig. 99. Type IB3. 1: Joeswerd, 2, 3, 5: Fochtelo, 4, 7, 8, 11, 13, 21: Ezinge, 6: Enumerhoogte, 9: Wierumerschouw, 10, 14: Oosterwijtwerd, 12: Peelo, 15: Eext, Vijzelkampen, 16: Holwierde, 17, 18: De Panzer near Zoutkamp, 19: Witmarsum, Hoogterp, 20: Aalsum.  
Scale 1 : 3.

#### TYPE IC (Fig. 100, 101)

The special feature of the C model is the complete or almost complete absence of a separate shoulder, of which, at best, only a slight suggestion is left. Shoulder and neck have become fused and present a smoothly curved profile. The angularity characteristic of the profile of the preceding types has disappeared. The wall of the

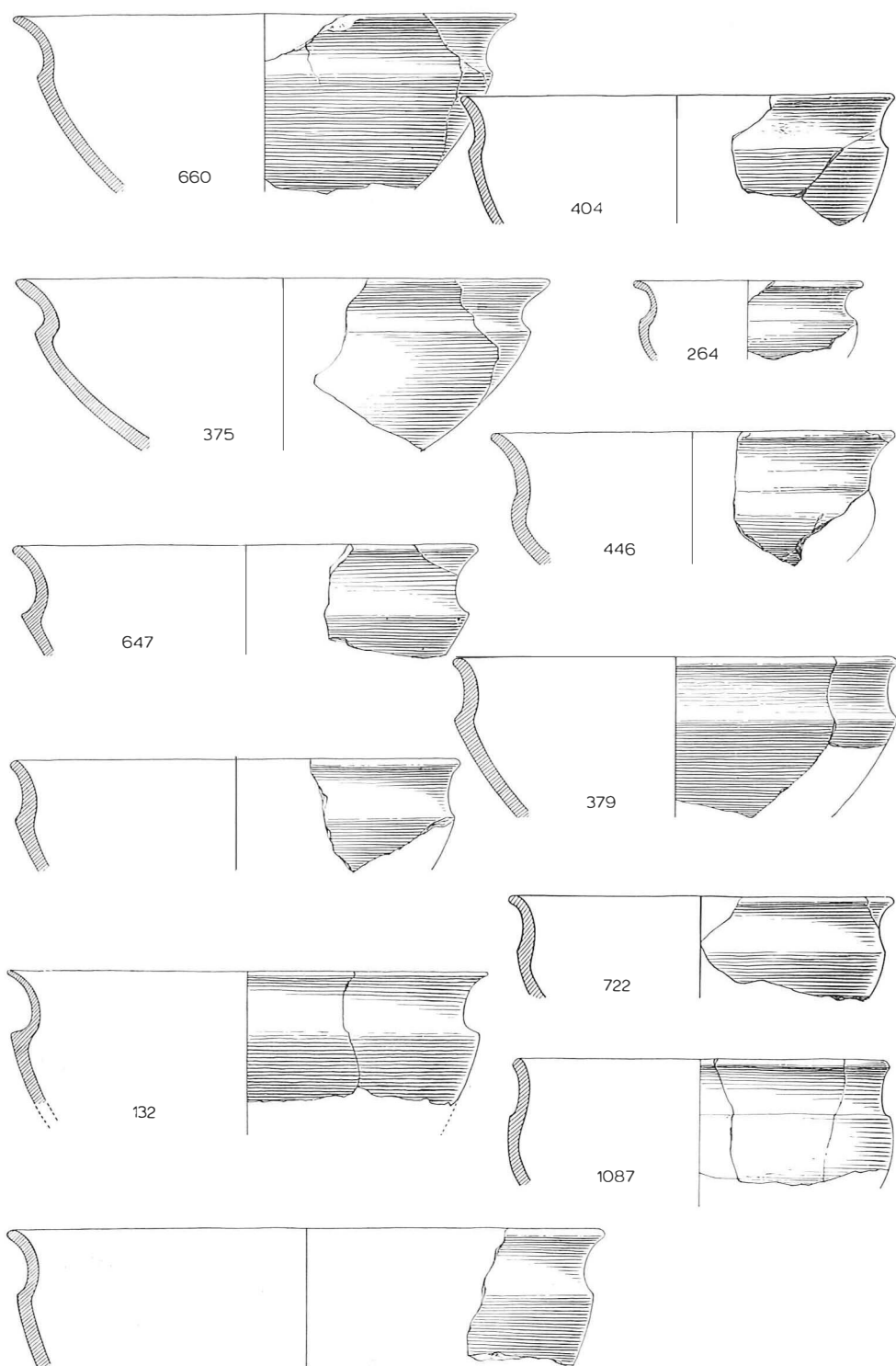
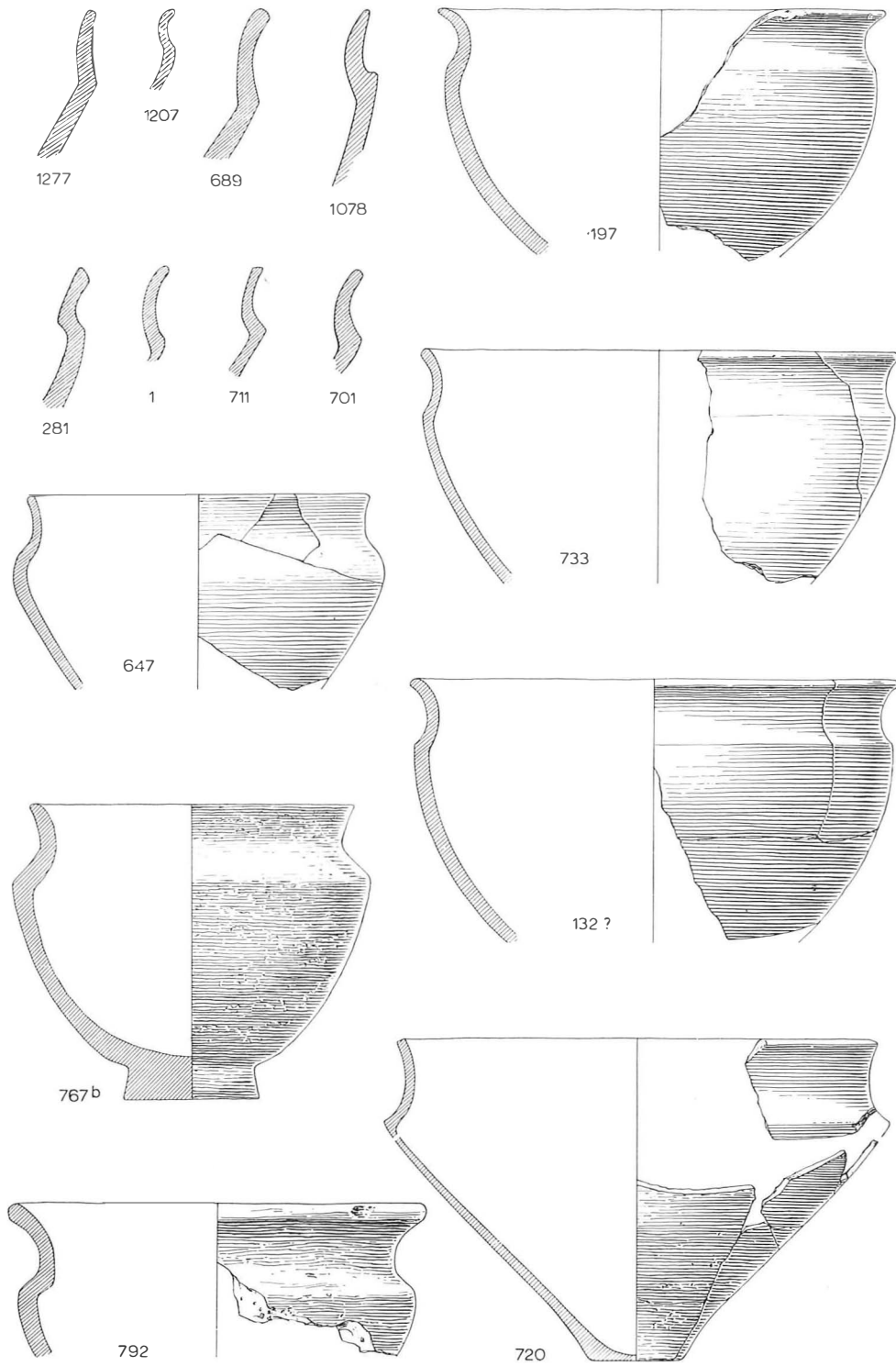


Fig. 100. Type IC.





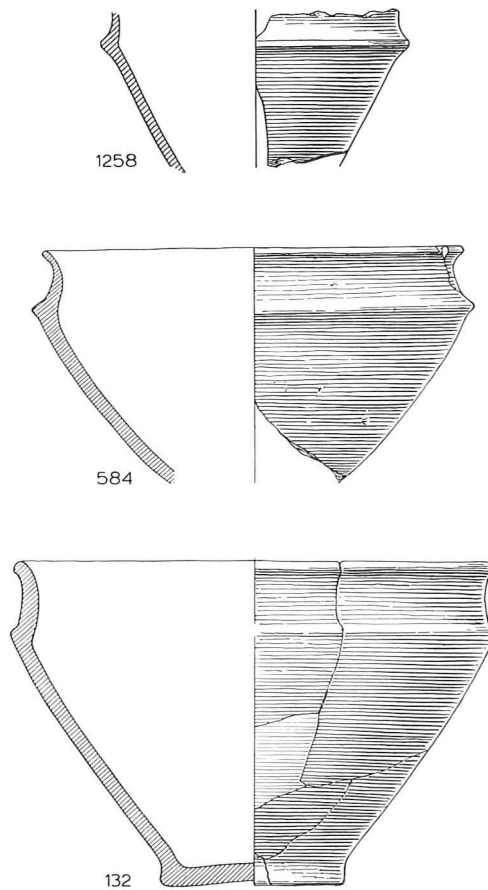


Fig. 100. Type IC. Wijster. Scale 1 : 3.

shoulder/neck has approximately the same thickness everywhere; the sharp edge at the inside is missing and therewith every indication of triangularity in section. The sharp, ridge-like transition from shoulder/neck to belly is very typical. The straight conical belly with flat bottom is documented among the Wijster material (132, 720), but also a more or less globular lower part on a massive protruding foot is found (767*b*, 132?, 197, 733). Outside the settlement complex, flat-bellied specimens on high massive or hollow feet occur also (Fig. 101: 16–21). A few Wijster fragments (264, 375, 379) could belong to the latter variety. Decoration is completely absent.

The paste is stone-tempered; the smooth outer and inner surfaces, sometimes still glossy, have a yellow-brown, black or bluish-black colour.

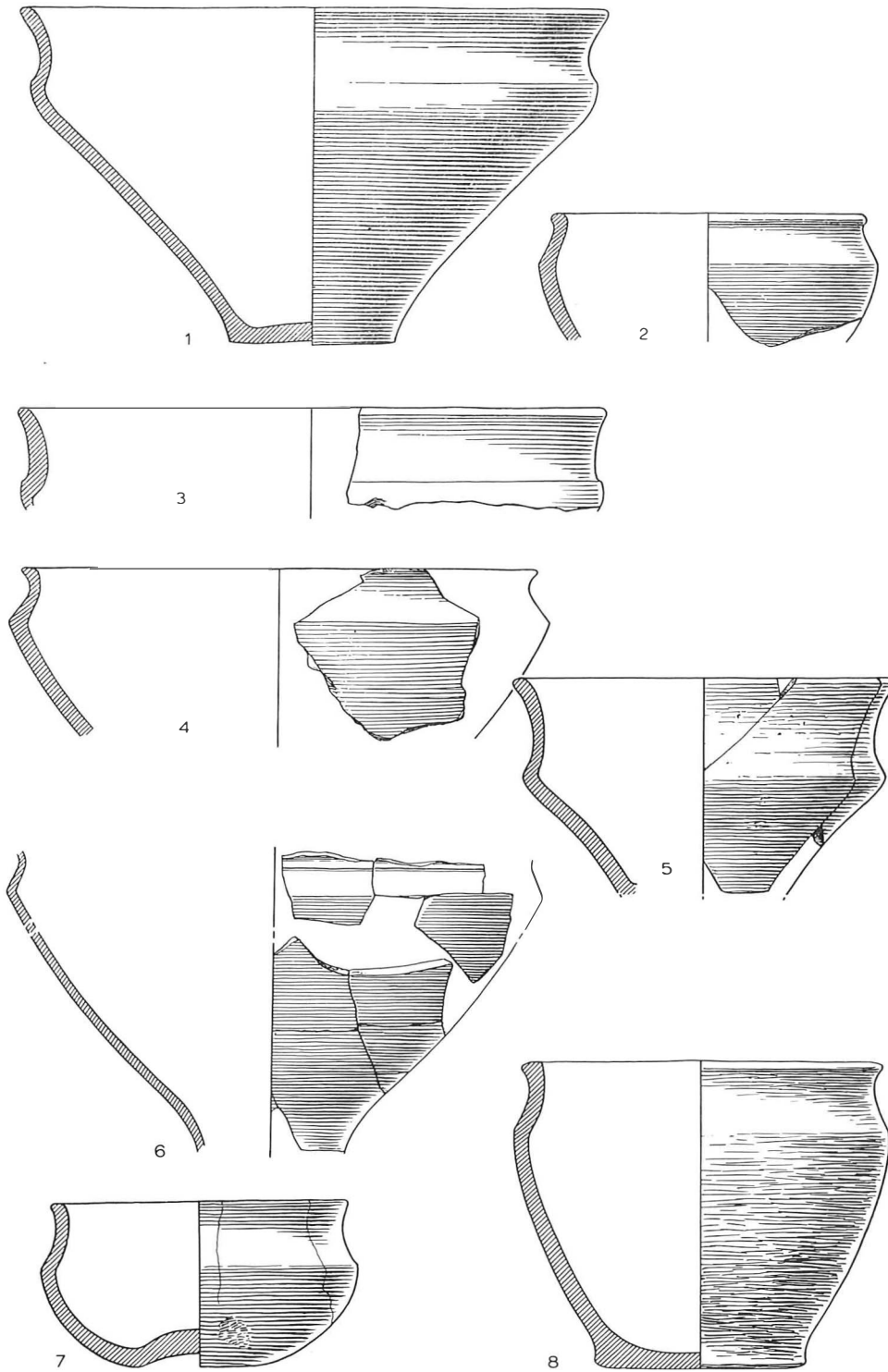


Fig. 101: 1-8. Type IC. Scale 1:3.

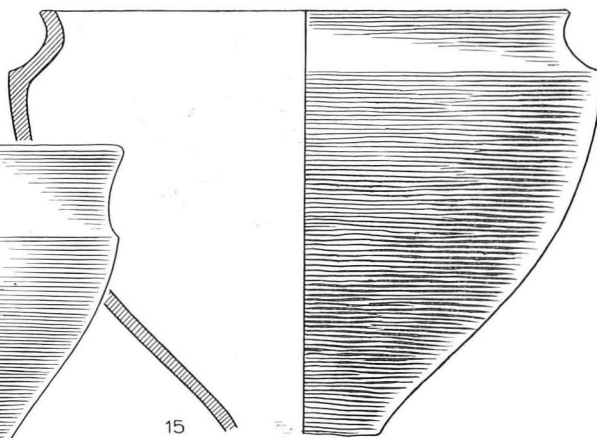
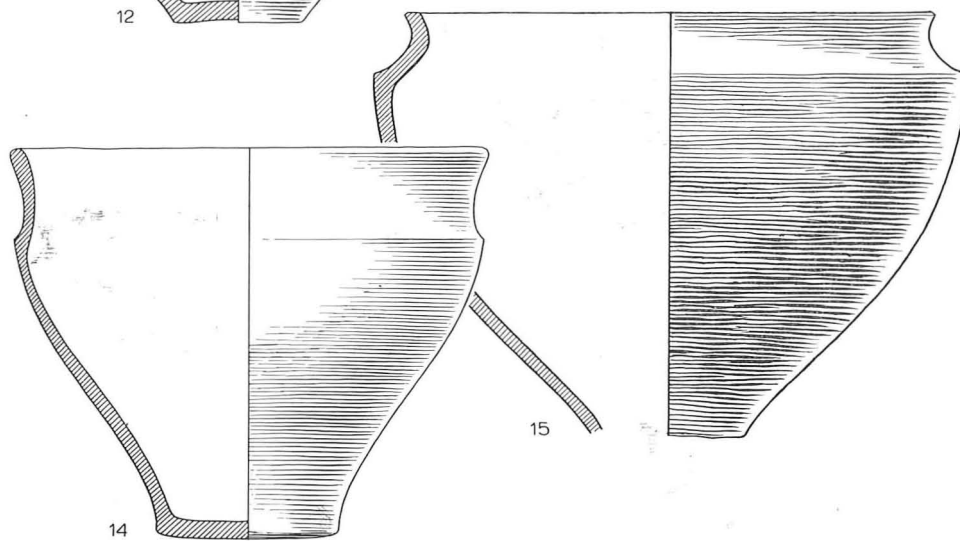
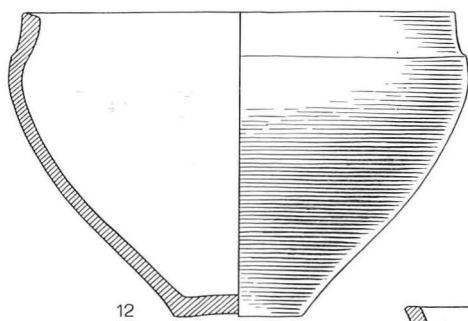
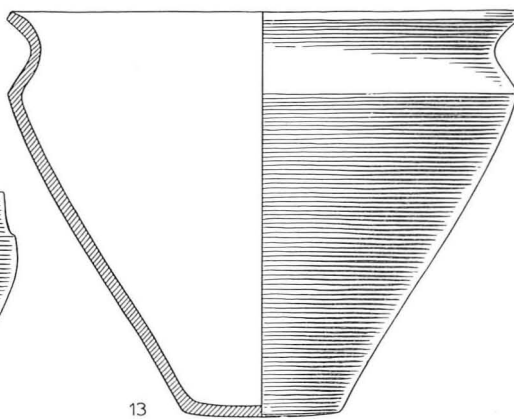
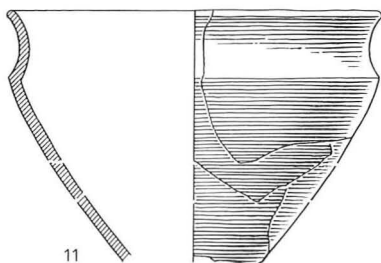
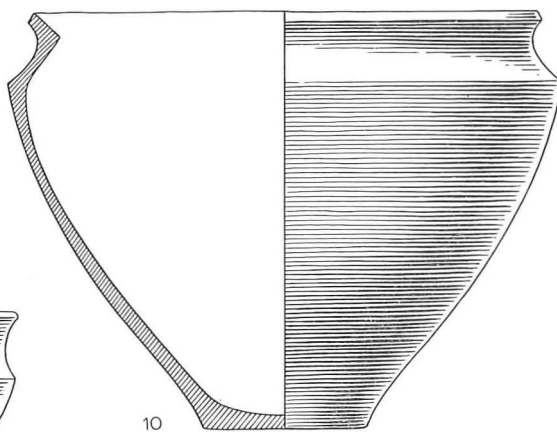
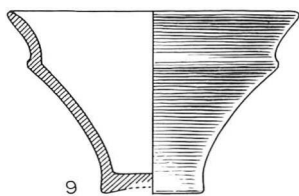




Fig. 101. Type IC. 1: Ommen, 2, 4, 14: Peelo, 3: Groningen, Martinikerkhof, 5: Zeijen, cemetery, 6: Eext, 7: Rhee, 8: Bolleveen near Zeijen, 9: Garnwerd, 10: Hichtum, *terp* Sieswerd, 11: Hijken, 12, 13: Fochtelo, 15: Brillerij, 16: Wijster, cemetery, 17: Hichtum, 18: Kubaard, *terp* Barkwerd, 19: Beetgum, *terp* Besseburen, 20: Rinsumageest, Klaarkamp, 21: Goutum. Scale 1:3.

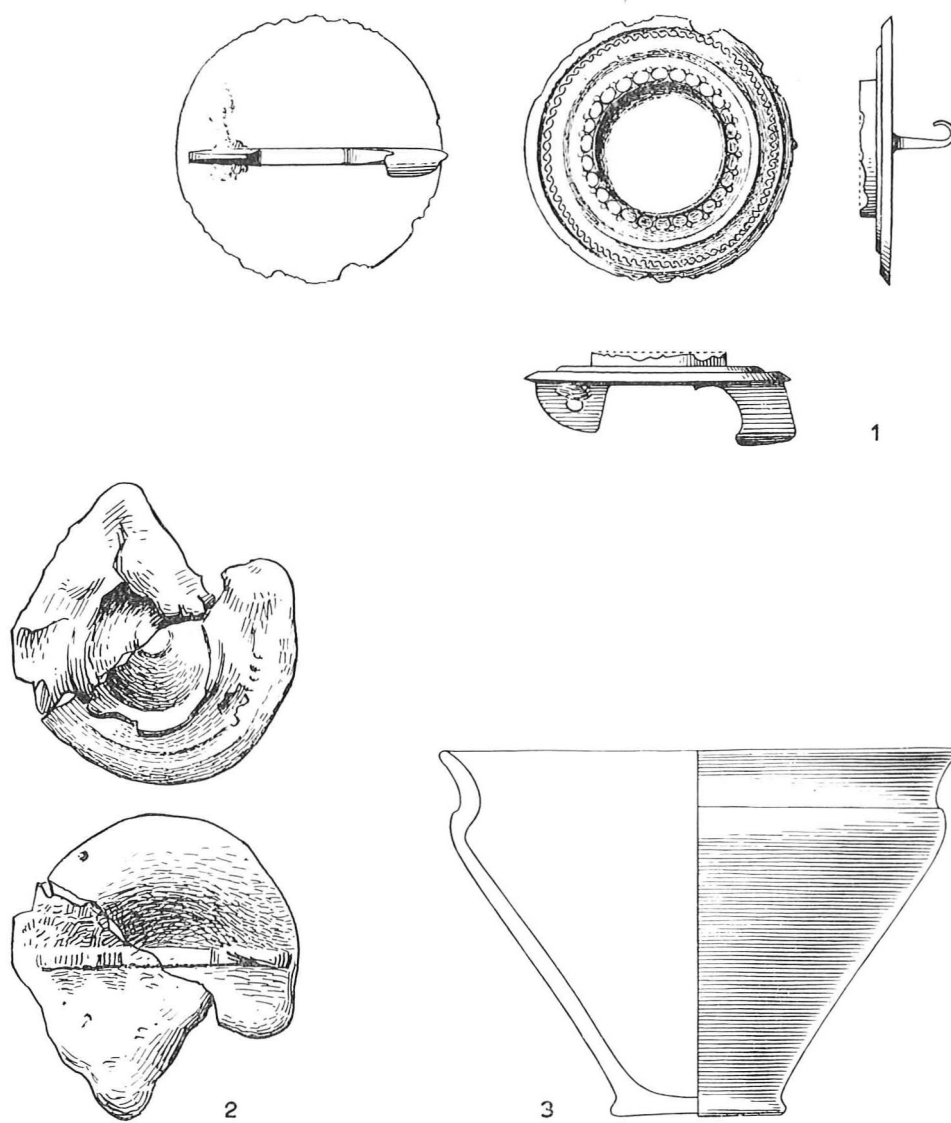


Fig. 102. Grave from Enter. Scale 1 : 1 (no. 1, 2), 1 : 3 (no. 3).

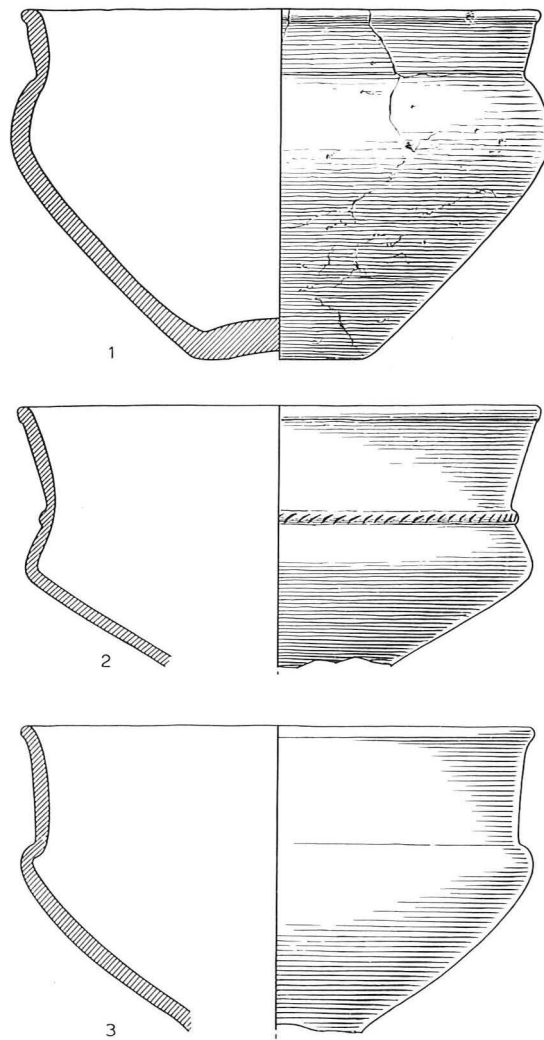


Fig. 103. Cups resembling von Uslar's Type II. 1: Garderen, Beumelerberg, 2: Aalden, 3: Wijster, cemetery. Scale 1 : 3.

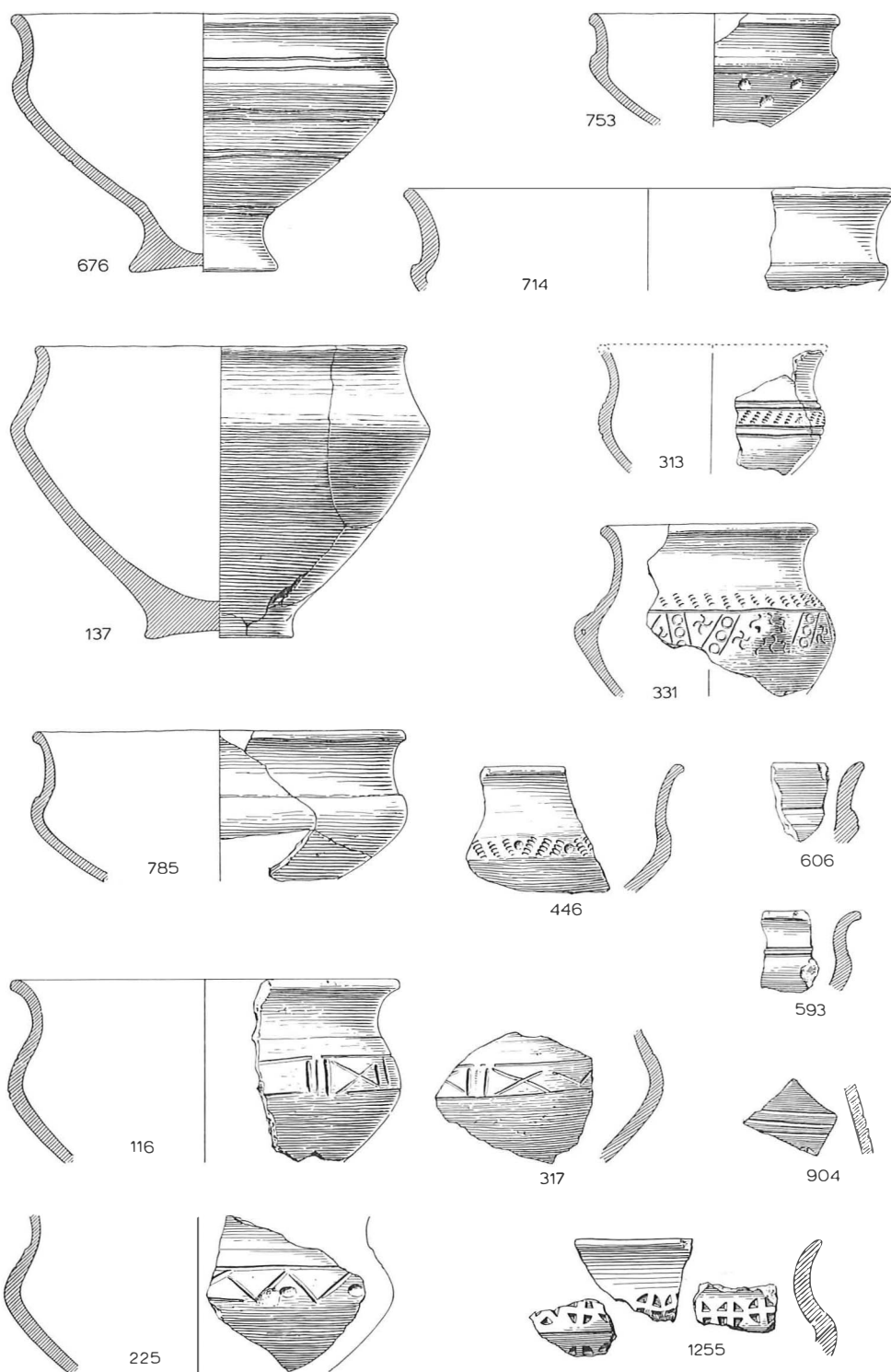


Fig. 104. Type ID. Wijster. Scale 1 : 3.

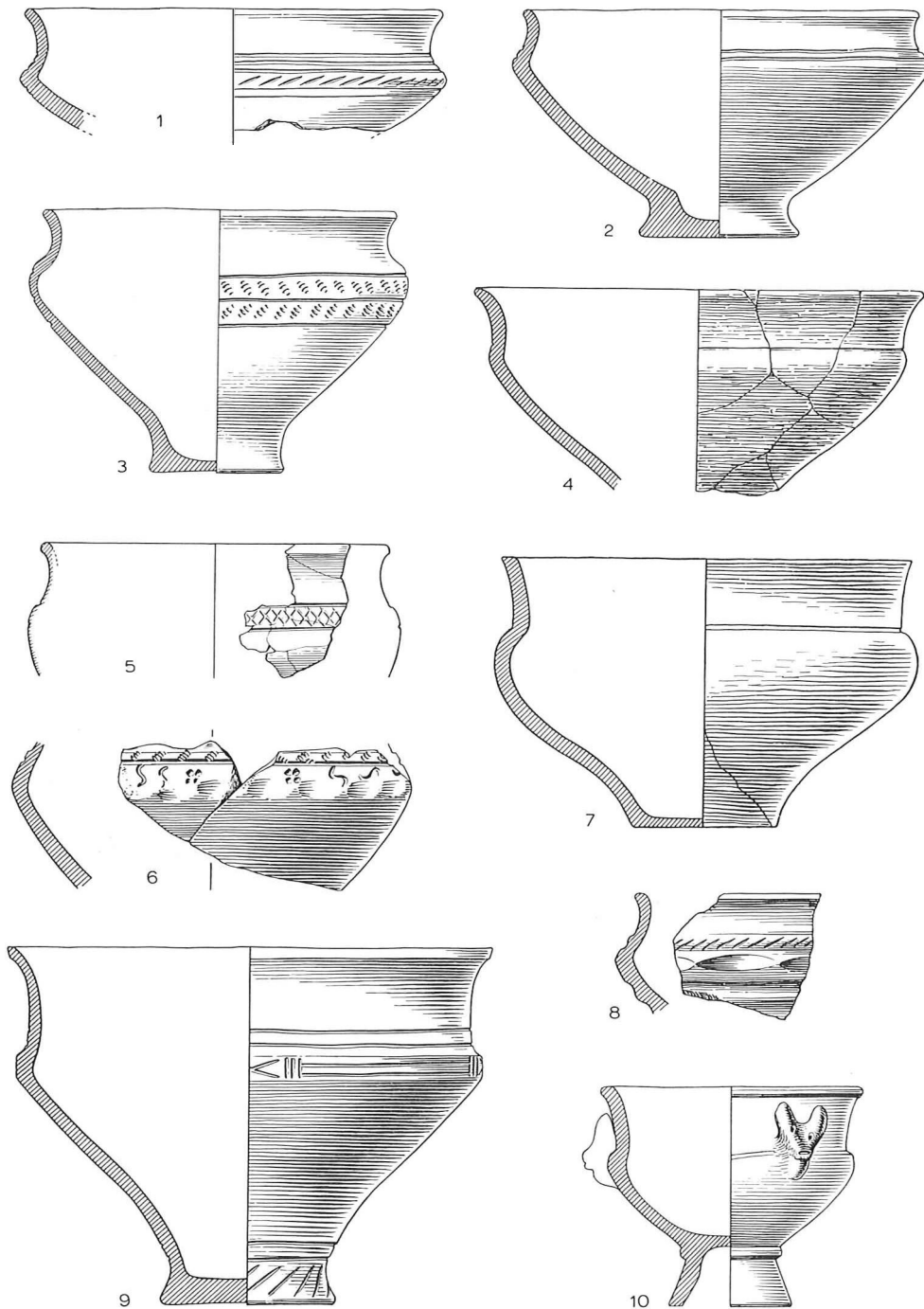


Fig. 105. Type ID. 1: Marsum, 2: Oostum, 3: Hooghalen, 4: Wijster, cemetery, 5: Varsen, 6, 7: Rhee, 8: Ezinge, 9: unknown provenance, 10: Loppersum. Scale 1 : 3.



## TYPE ID (Fig. 104–106)

The type is closely related to the preceding one, but here the transition from shoulder/neck to belly is rounded; a narrow ridge reminiscent of the shoulder is found occasionally (714, 753, 785). The model is flat-bellied and stands on a hollow splayed

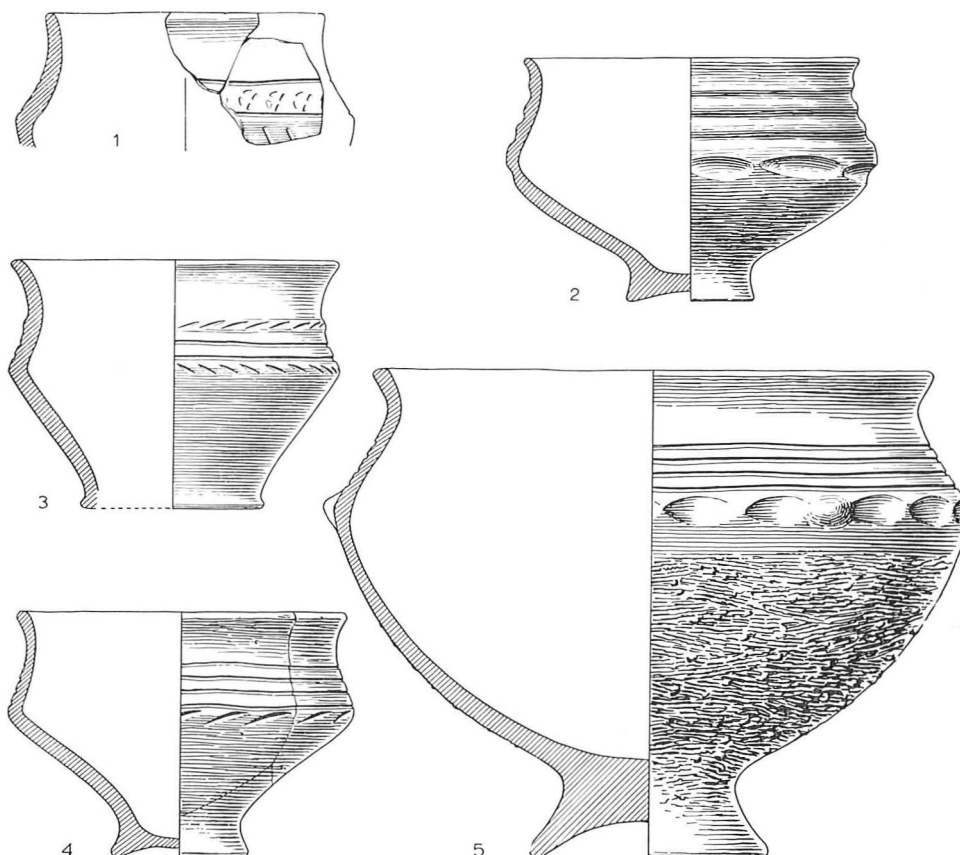


Fig. 106. Type ID (typologically late specimens). 1, 2, 4: Aalden, 3: Ezinge, 5: Haren near Groningen. Scale 1 : 3.

foot, which is rather short and broad (676). Perhaps the flat base was also a possibility : 331???

This model shows a particular preference for decoration which is mostly placed at the transition from neck to belly: apart from different kinds of linear ornament (116, 225, 676; Fig. 105: 1, 2, 5, 9) we find little holes in groups of three (753) and

especially rows of brooch spiral impressions (313, 331, 446; Fig. 105 : 3, 6). The fragment 331, which is already conspicuous for its three (or four?) perforated knobs, moreover presents a unique frieze consisting of impressed circles, S-shaped ornaments and swastikas (*cf.* Fig. 105 : 6). Three sherds with stamped decoration (1255) are included here because of the related profile.

The stone-tempered paste has smooth, sometimes still glossy outer and inner surfaces; colours are yellow-brown, black or bluish-black.

#### DETACHED BASES (Fig. 107)

Among the detached bases there are some which in view of shape and dimensions probably come from a medium-sized cup. The small flat base, common to the A and B cups, is not characteristic enough and has not been taken into consideration.

The simple low protruding foot with oblique side is well represented; only occasionally is it somewhat higher (379, 389, 397, 412, 584, 661, 676, 931, 1114, 1117, 1207, 1264).

A series of low, slightly convex feet (2, 469, 756, 1036, 1079, 1141, 1196, 1254, 1278, 1311) leads on to a few rather high conical foot-rings (730, 1083, 1091, 1094, 1255, 1256, 1318).

The tallest one (1256) has a perforated bottom; a slightly curved sherd of cracked greenish glass is stuck into the hole. The upper rim of the fragment has been carefully cut down.

Four cylindrical feet hollow on the inside and decorated with horizontal grooves make up a separate group (291, 676, 1067, 1282).

The majority of these feet probably belonged to C cups. Apart from the one low convex foot of the B2 cup (Fig. 98: 1229), only flat bases are found associated with A and B types.

## II. Dolia

This family comprises the different types of large storage vessels. As far as the models IIB, C and D are concerned, there is a marked resemblance to the preceding cup types. The dolia are, however, generally much larger and of coarser fabric. Roughening of the lower part seems to be the rule.

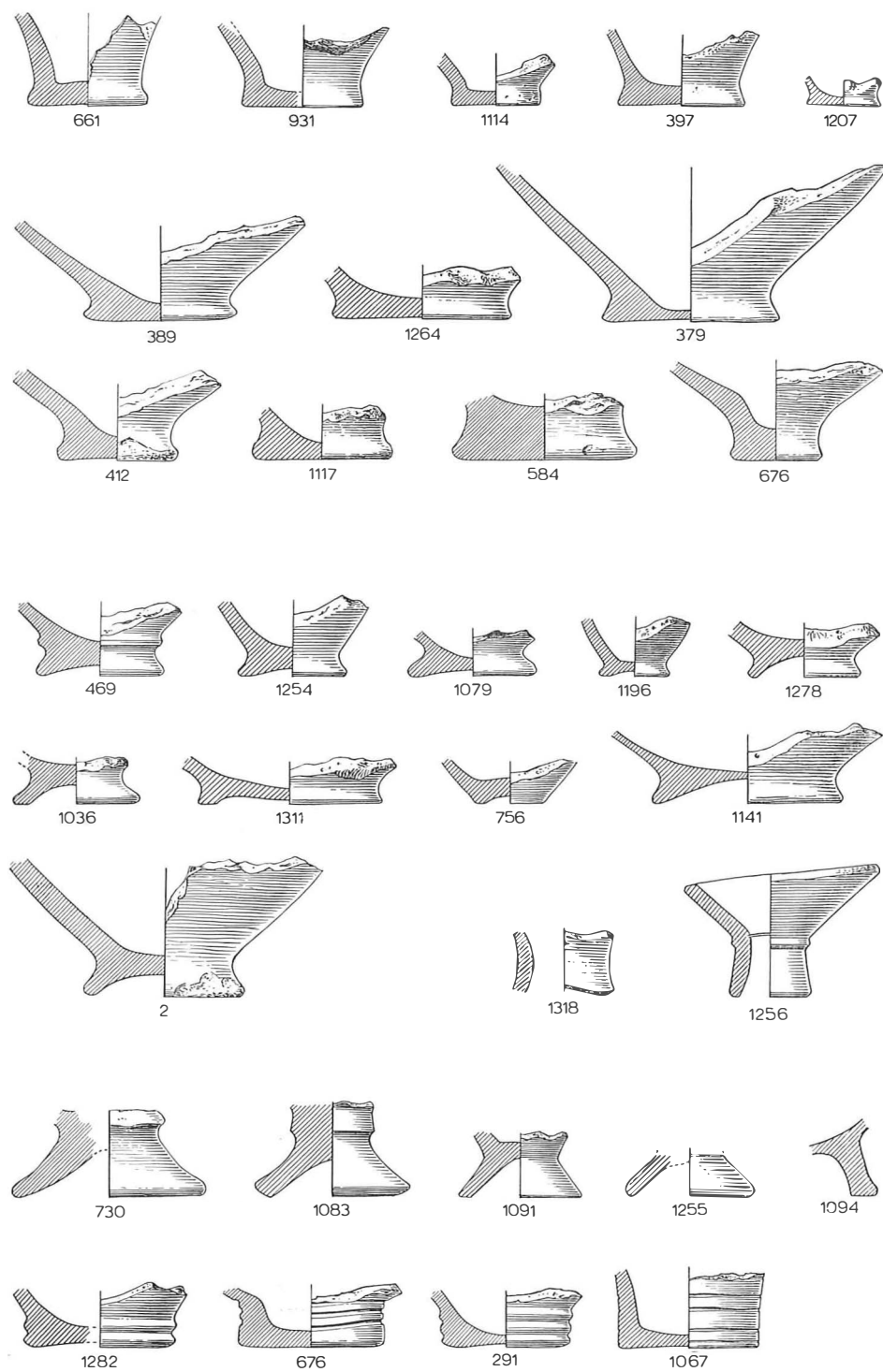


Fig. 107. Detached cup bases. Wijster. Scale 1 : 3.

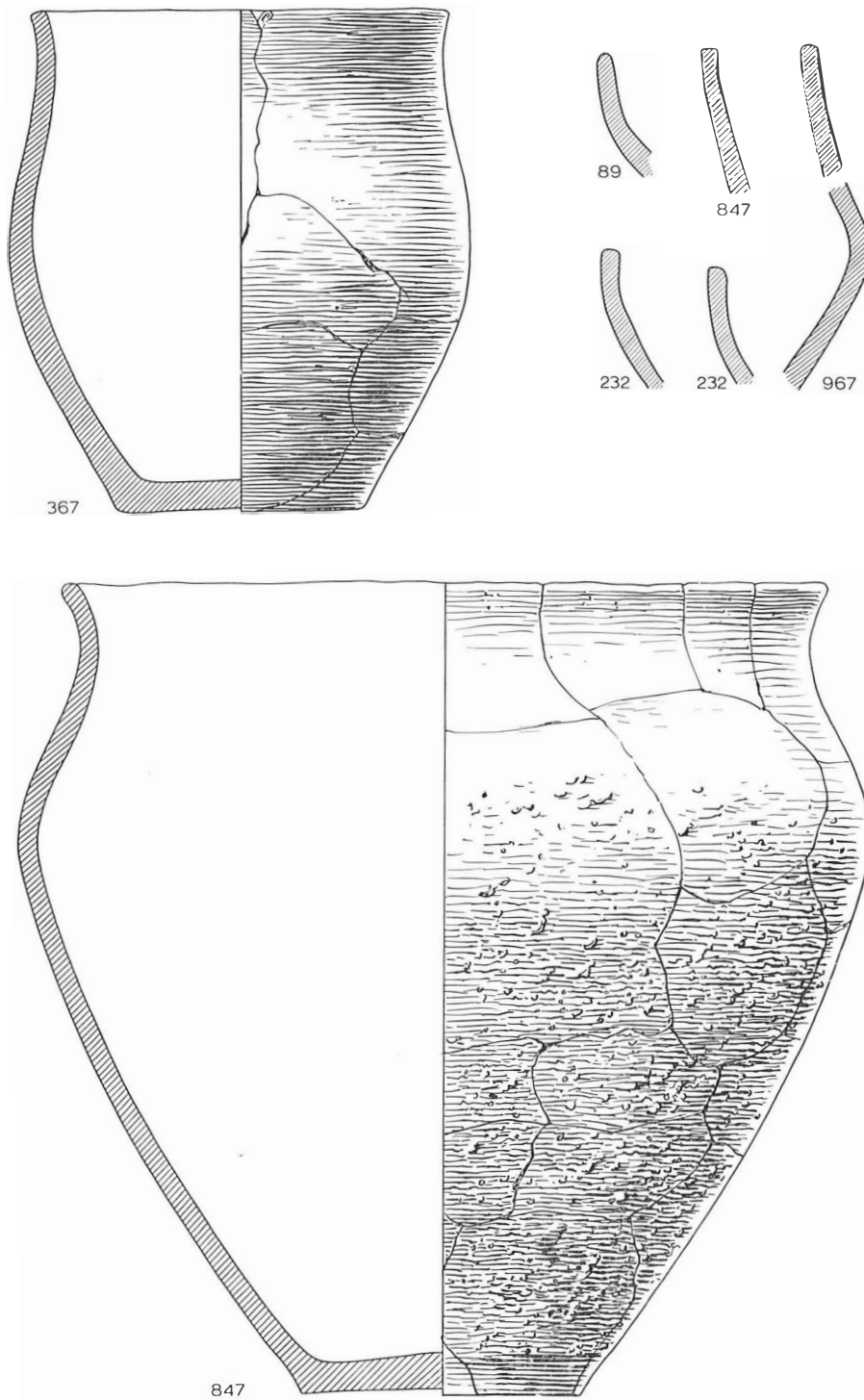


Fig. 108. Type IIA. Wijster. Scale 1 : 3.

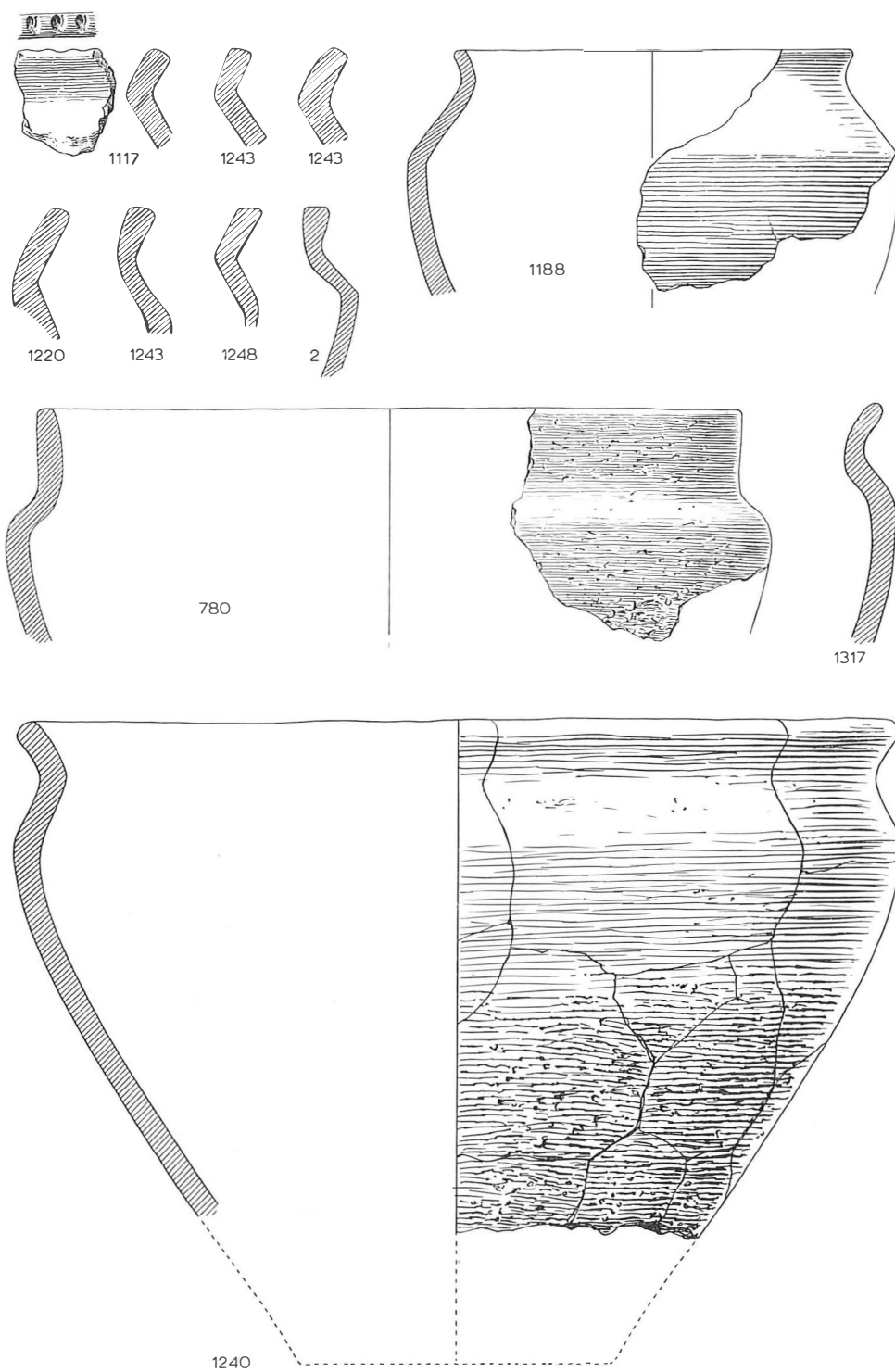


Fig. 109. Type IIB1. Wijster. Scale 1 : 3.

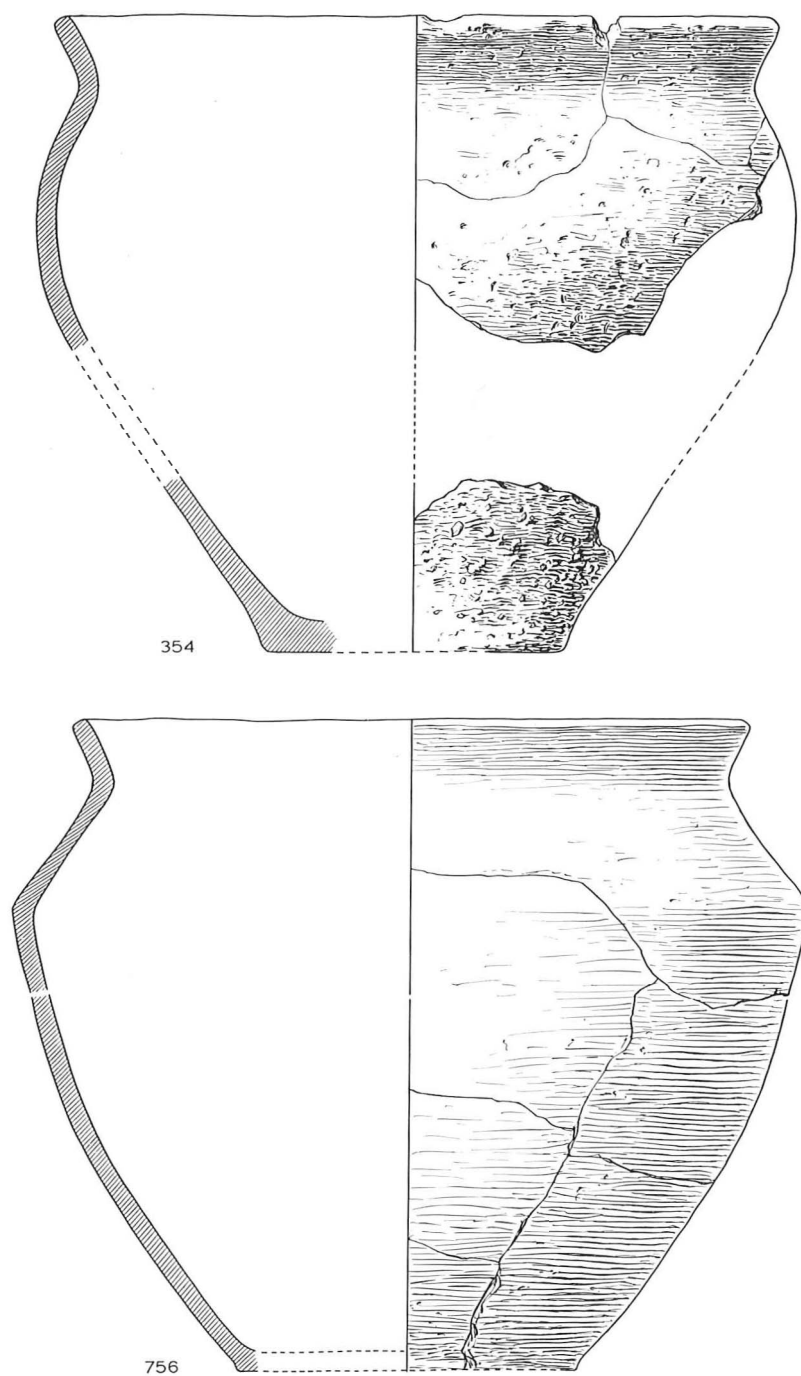


Fig. 110. Type IIB1/IIB3. Wijster. Scale 1 : 4.

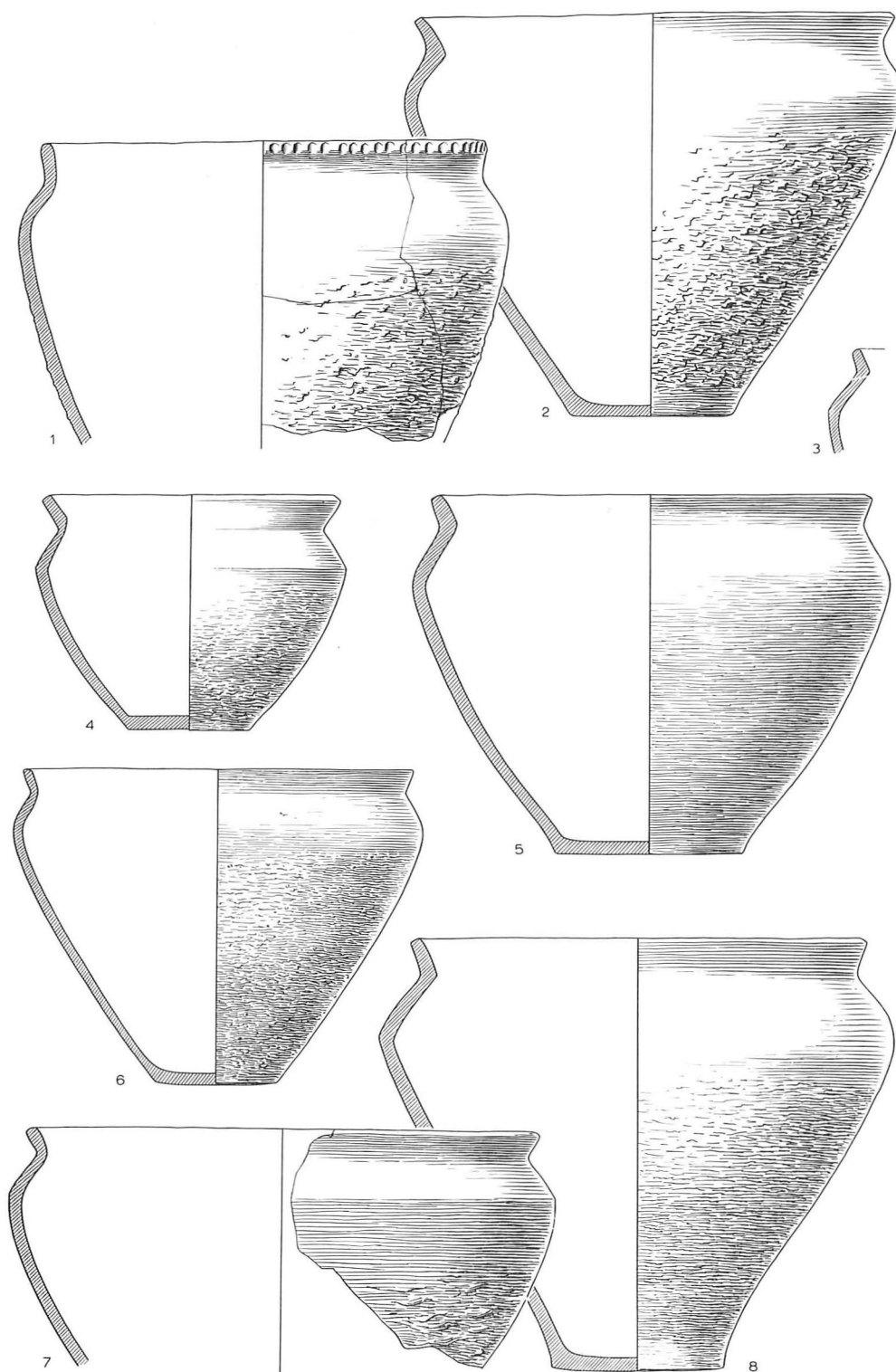


Fig. 111. Type IIB1. 1, 2, 4-6, 8: Eext, Vijzelkampen, 3: Erm,

## TYPE IIA (Fig. 108)

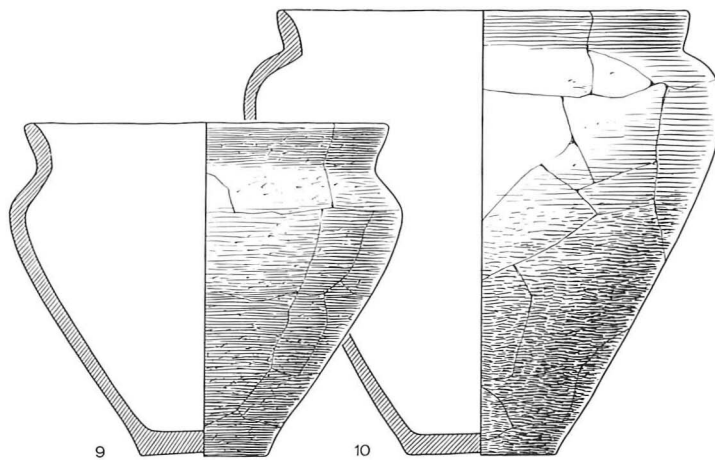
The type is represented with certainty by only two pots. This rarity may be partly due to the fact that the rather weak profile of this model prevents a recognition of smaller (rim)-fragments.

There is no clear distinction between the slightly bent-out neck and the broad sloping shoulder; the transition from shoulder to egg-shaped belly with flat base is rounded.

The sherds of the more characteristic pot (847) were used to pave the floor of a pit and show traces of secondary burning. The colour is now a yellowish-brown. The upper part was smoothed, while the belly was roughened. The paste is stone-tempered.

## TYPE IIB (Fig. 109 – 115)

The sub-types are closely related; the main point of difference is the shape of the neck. There is moreover a great similarity to the preceding type, but now the shoulder is rounded and slightly bulging. The diameter of the rim is somewhat smaller than that of the shoulder.



7: Fochtelo, 9, 10: Ezinge. Scale 1 : 5.



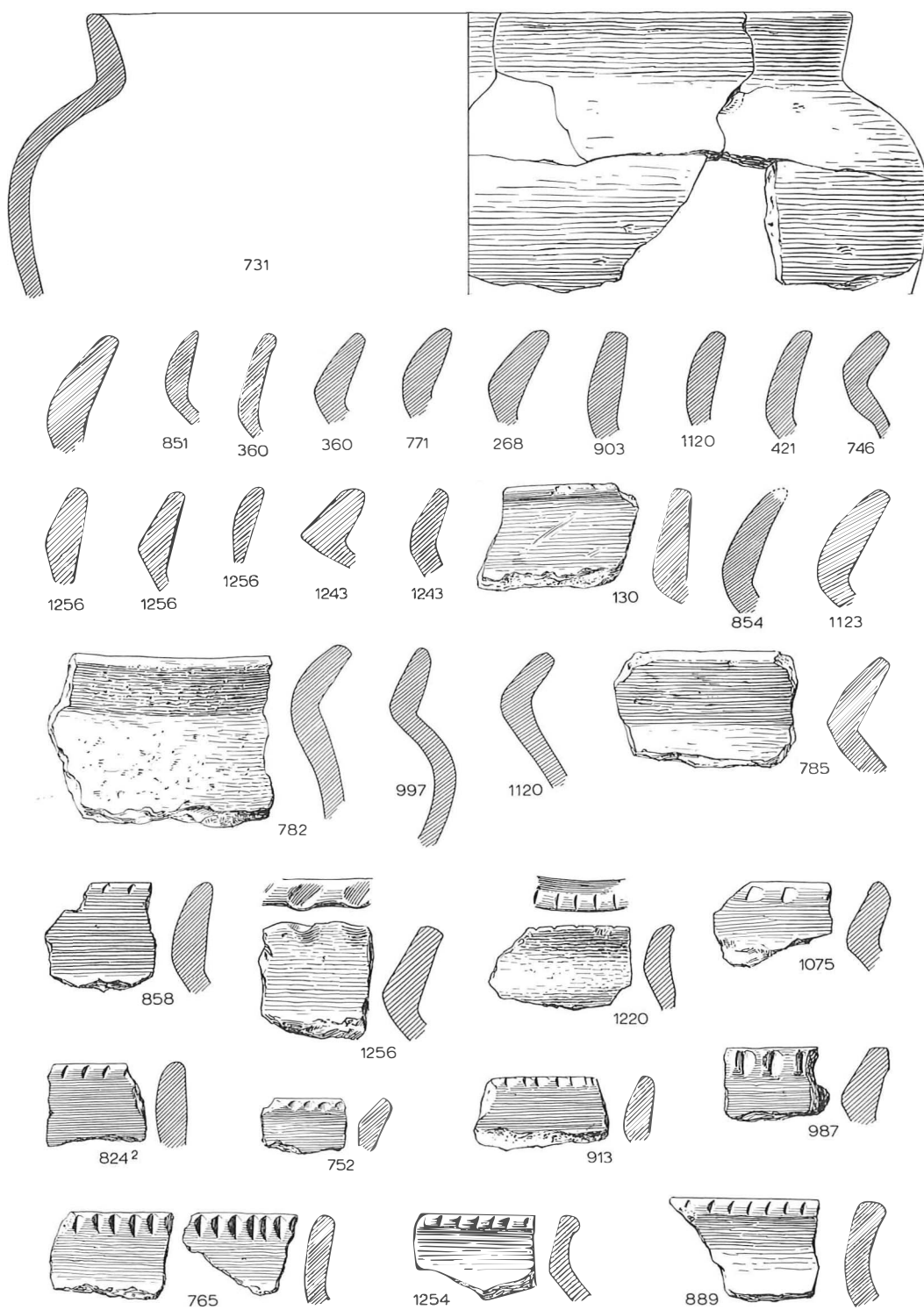


Fig. 112. Type IIB2. Wijster. Scale 1 : 3.

*IIB1 (Fig. 109–111)*

This model has a comparatively short bent-out neck with the same thickness over-all, a high, straight, comparatively narrow, oblique shoulder, and a lower part with straight conical sides ending in a flat base. The transition from shoulder to belly is rather sharp. The diameter of the mouth is nearly equal to that of the shoulder. The lower part may be roughened. One Wijster sherd (1117) shows decoration: fingertip impressions on top of the rim. The paste is stone-tempered. The colour is greyish or brownish.

Wijster yields only one characteristic fragment (1240). The other sherds assigned to this type are uncharacteristic or too small to be certain. Two pots (354, 756; Fig. 110) are not very characteristic and stand halfway between types B1 and B3.

*IIB2 (Fig. 112, 113)*

The neck is comparatively short and has a triangular or segment-shaped section; the greatest thickness of its wall mostly occurs approximately halfway down. The necks with segment-shaped section tend to be longer and thinner, and sometimes the inward curve at the inside is so slight that the section becomes almost parallel-sided (*cf.* Fig. 113: 13, 15, 18, 19). The somewhat convex shoulder flows over with a smooth curve into the straight conical belly with its flat base.

Among the Wijster material, apart from one larger fragment (731), a number of rim-sherds occur (mostly broken off at, or just below, the transition from neck to shoulder), which have the triangular or segment-shaped section. Indeed this kind of neck is also found with other types (IIC2, IIIA2). The rim-sherds grouped here, however, practically all come from large wide-mouthed pots (diameter at rim at least 20 cm. and mostly considerably more), whereas at Wijster, as far as could be established, the C2 model is of much smaller size. An attribution to the narrow-mouthed type IIIA2 is likewise out of the question. On the other hand, a few of the sherds under consideration may come from the large globular type IIC2, as it occurs elsewhere but could not be recognized among our material.

The rims may be decorated with fingertip impressions or sharp incisions, an ornament also found on some of the Wijster bowls. A few sherds decorated in the same way, but without the characteristic thickened section, have been included here also. However, on account of their parallel-sided section they should perhaps be attributed to the preceding type.

The paste of these pots is stone-tempered; the upper part presents a smooth and even surface, whereas the belly may be roughened; the colour varies from yellowish-brown to greyish or bluish shades.

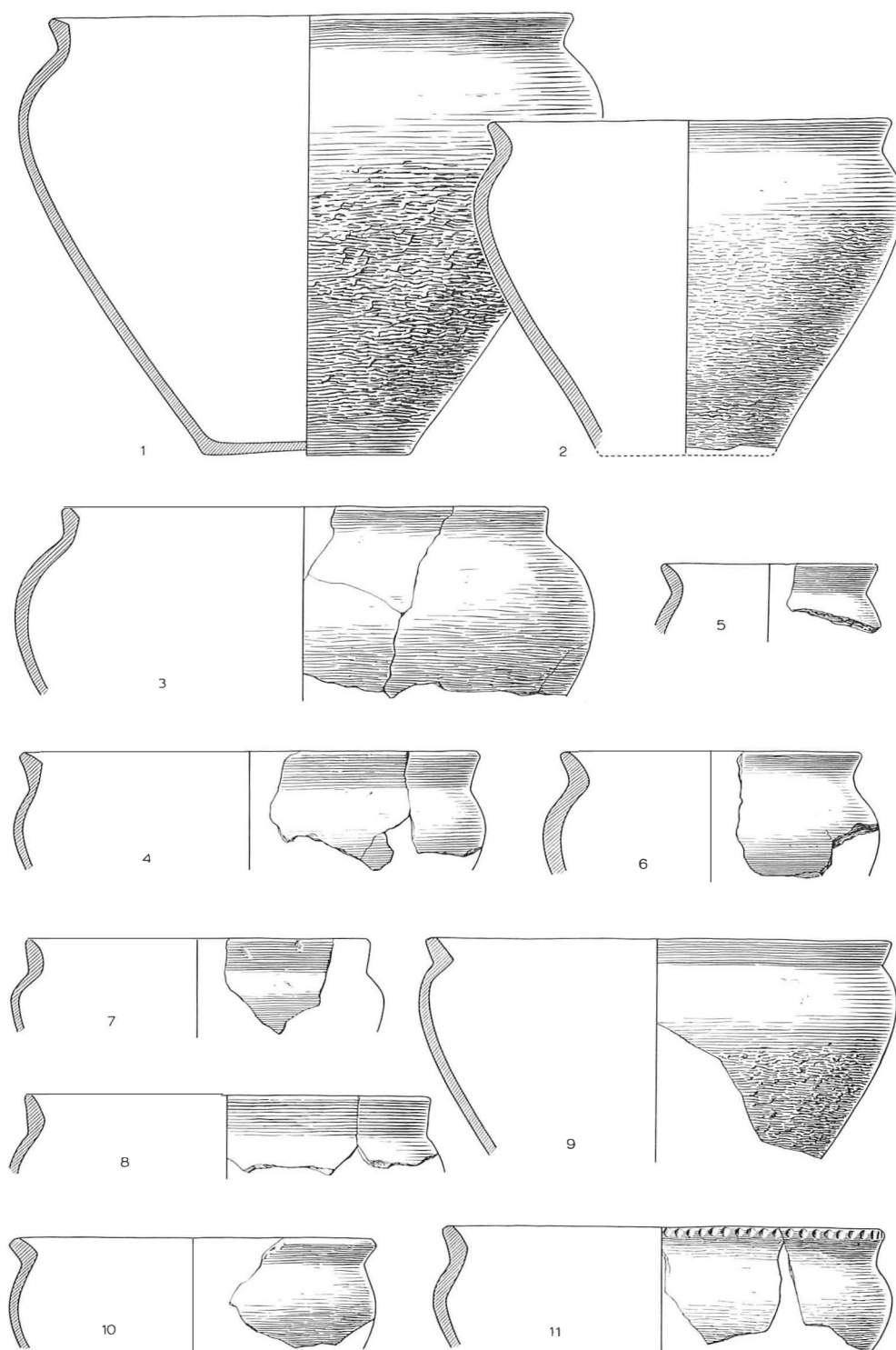
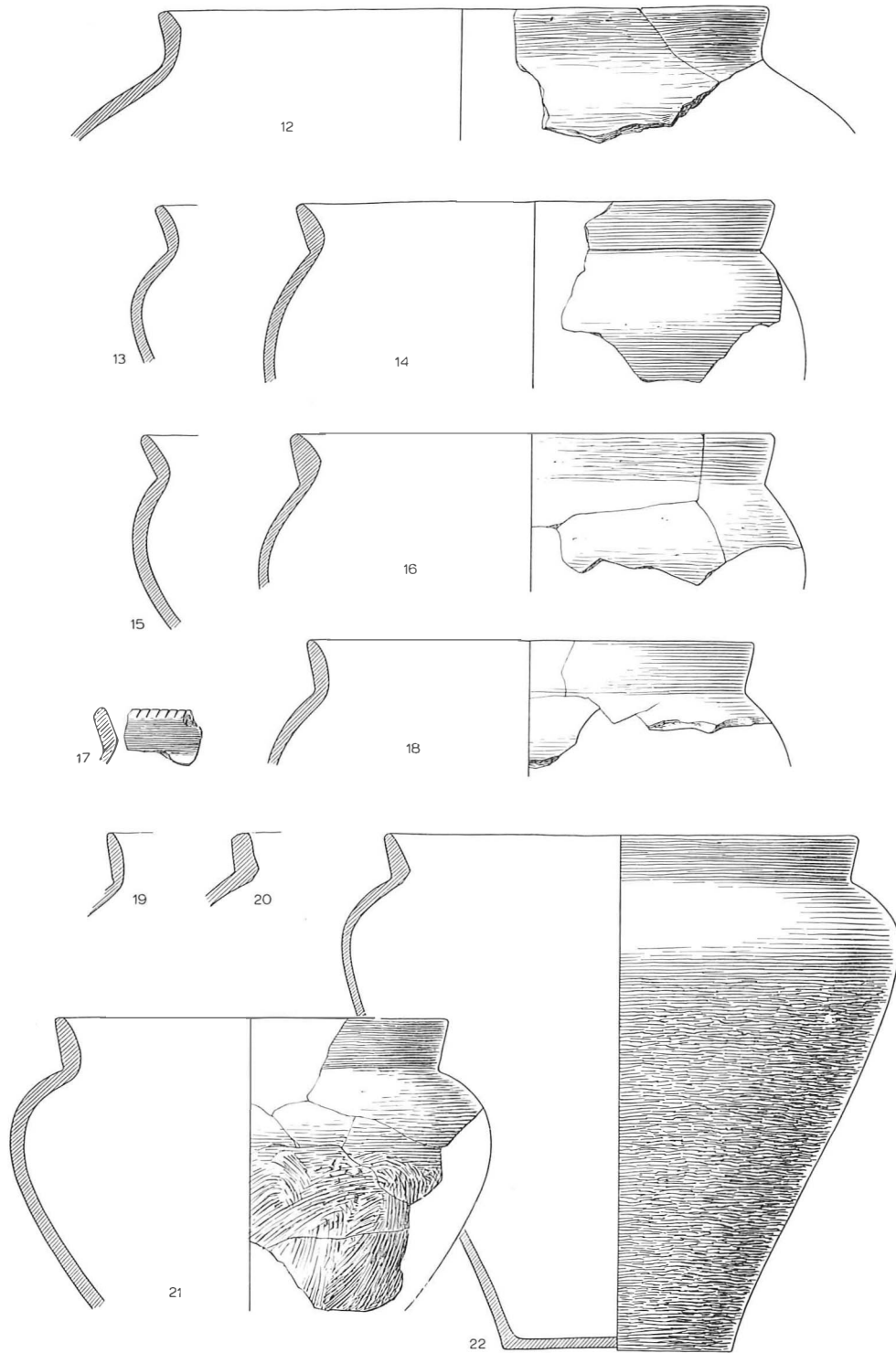
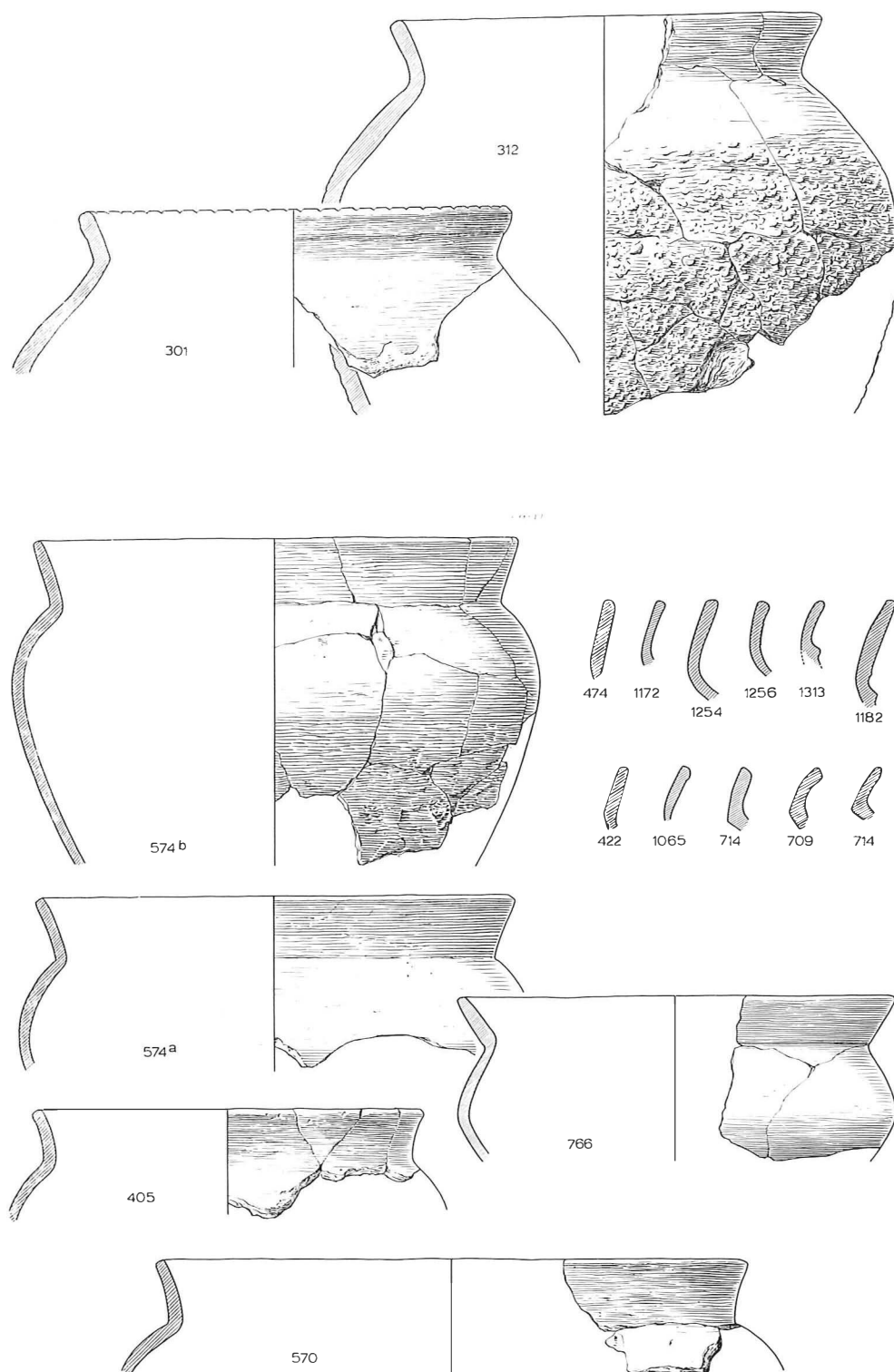
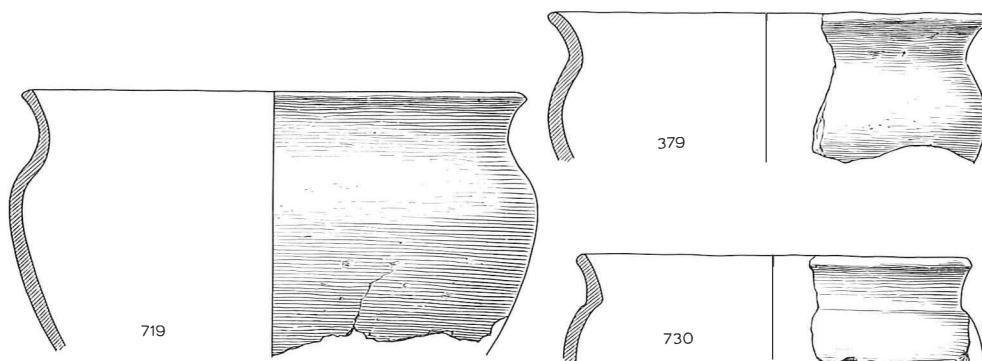
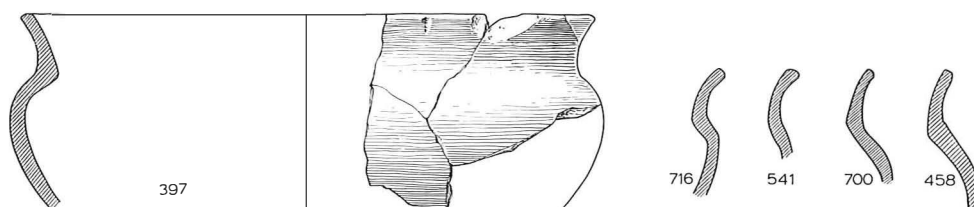
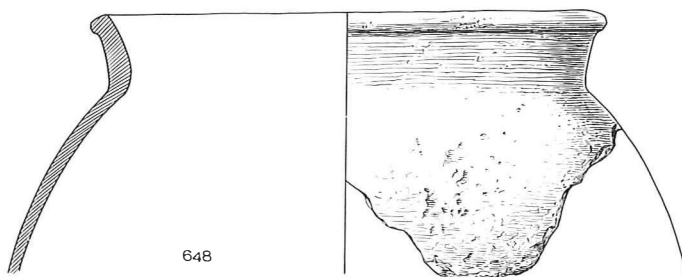


Fig. 113. Type IIB2. 1: Fochtelo, 2, 11, 18: Eext, Vijzelkampen, 3, 5, 7, 10, 12: Erm, 4, 6,



8, 19: Groningen, Martinikerkhof, 9: Fochtelo, 13-6, 20, 22: Peelo, 17, 21: Rhee. Scale 1 : 5.

Fig. 114. Type IIB<sub>3</sub>.



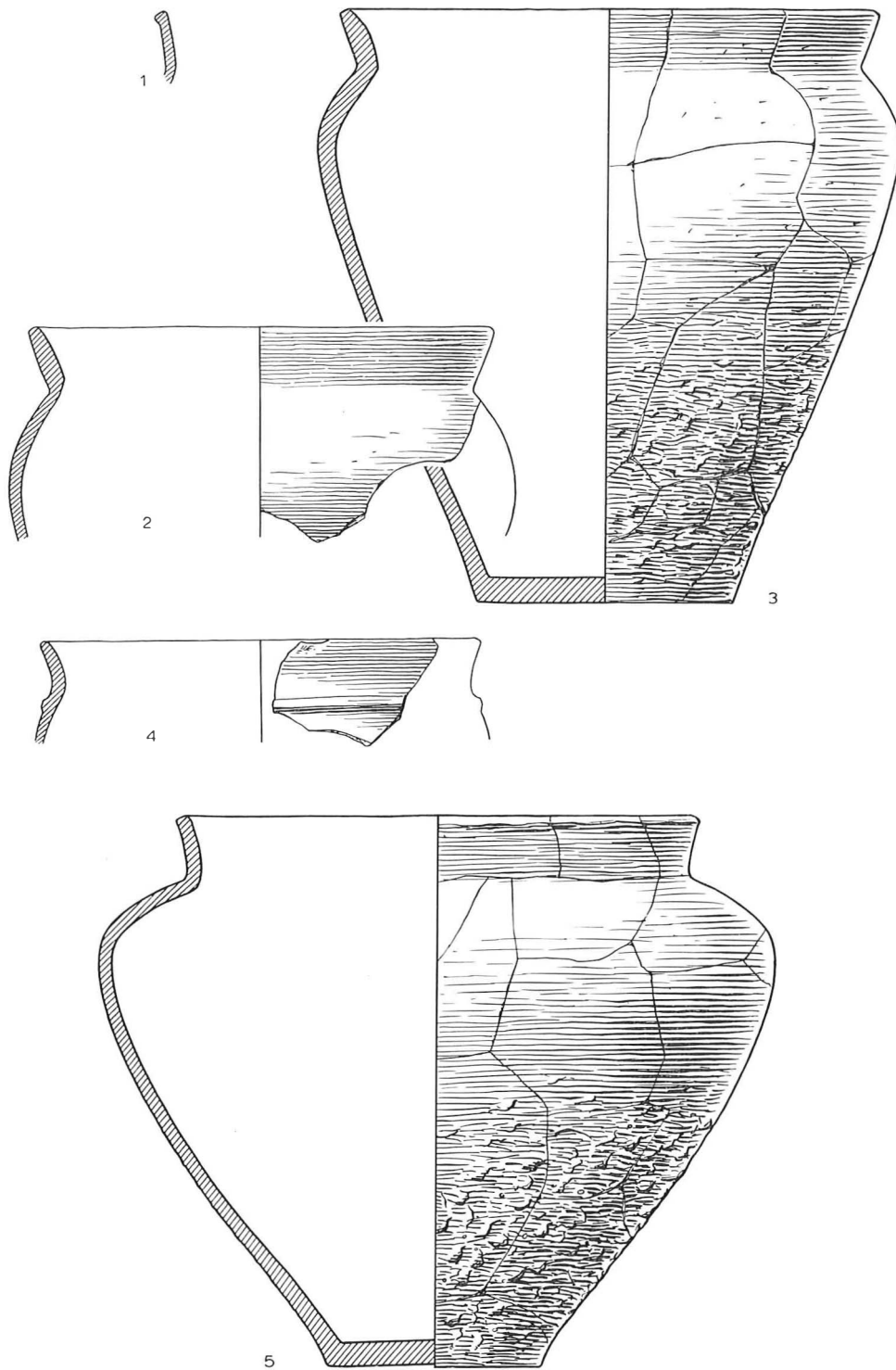


Fig. 115. Type IIB3. 1, 2, 4: Peelo, 3, 5: Ezinge. Scale 2 : 5.

*IIB3 (Fig. 114, 115)*

The difference from the preceding form lies especially in the shape of the neck, which is here longer and thinner with parallel-sided section, though there may be some thickening at the base on the inside of which a sharp ridge is sometimes present. In general, the neck is straight but occasionally it shows a tendency to curve. Side by side with specimens having the usual straight conical and high rounded shoulder, a more globular model occurs (301, 312). The bottom was probably flat.

On the Wijster sherds no decoration is found apart from an occasional ridge marking the base of the neck (1182, 1313; *cf.* Fig. 115: 4).

The paste is stone-tempered and sometimes rather coarse; neck and shoulder have a smooth, often more or less glossy, outer surface; the belly can be roughened. Colours vary from a yellowish-brown to a greyish and bluish-black.

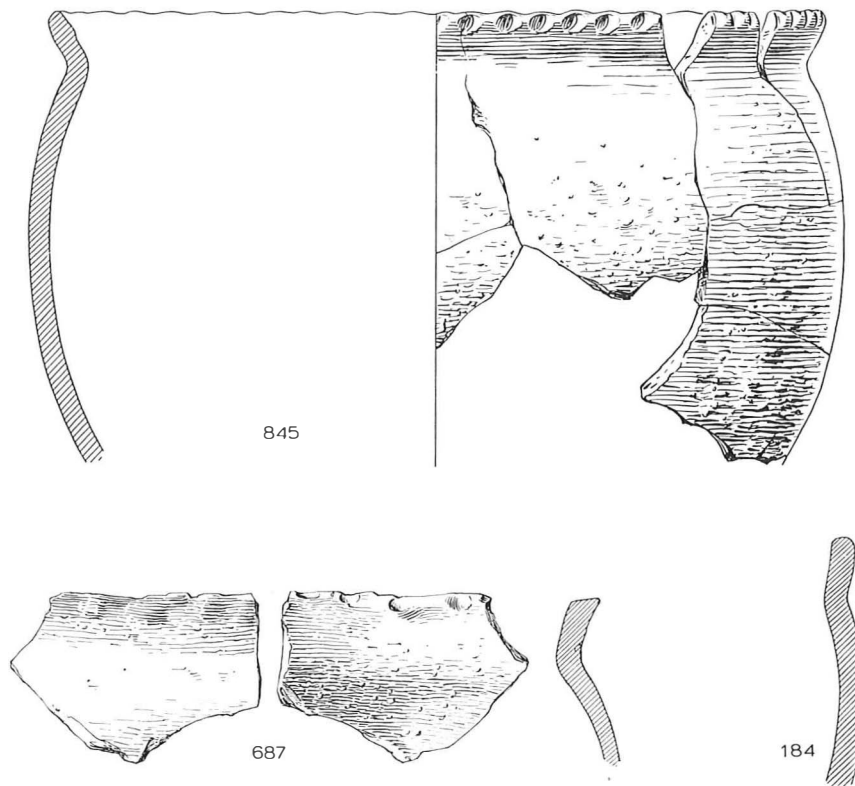


Fig. 116. Type IIC1. Wijster. Scale 1 : 3.



## TYPE IIC (Fig. 116 – 119)

The C type can be characterized as a more globular variant of the foregoing B model. Shoulder and belly are not clearly separated but curve upwards in one fluent line from the (flat?) bottom to the short bent-out neck. Also here the shape of the neck gives a possibility for subdivision.

*IIC1 (Fig. 116, 117)*

Of this type, the neck of which has a parallel-sided section, Wijster produces only one characteristic fragment (845). Its rim is decorated on the outside by a row of fingertip impressions.

The paste is stone-tempered and coarse, with an irregular, and lower down an intentionally roughened surface; the colour is a greyish-brown.



Fig. 117. Type IIC1. 1, 3: Fochtelo, 2: Peelo, 4: Rhee. Scale 1 : 4.

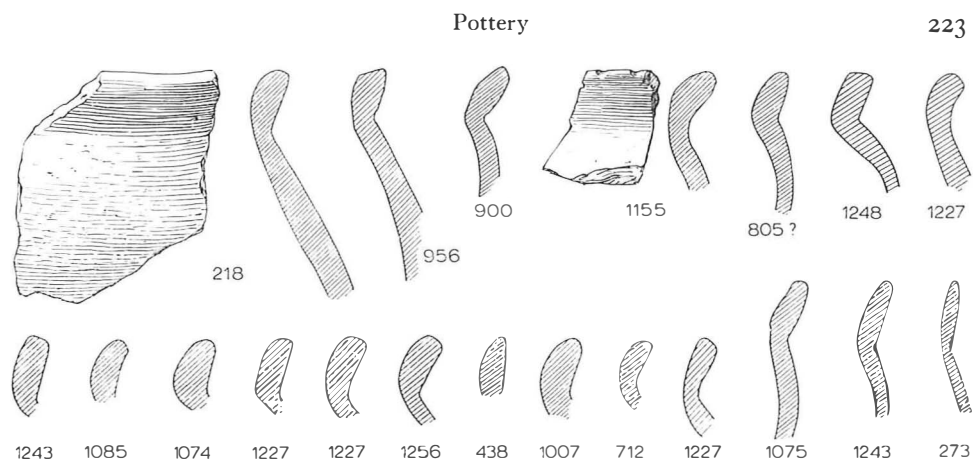


Fig. 118. Thickened rims (Type IIC2?). Wijster. Scale 1 : 3.

#### *IIC2 (Fig. 118, 119)*

This model having a neck with triangular or segment-shaped section cannot be recognized at all among the Wijster sherds. However, a few rim-sherds of C2 pots may hide among the fragments attributed to type IIB2.

The model is well represented by an almost complete pot from Peelo (Fig. 119:1).

A number of rim-sherds with thickened and slightly bent-out short necks have been included here, though the pots from which they come must have been rather small. One (1155) has fingertip impressions at the rim. The paste of these sherds has been tempered with sometimes rather large pieces of stone. The surface is mostly not smooth, but more or less irregular. Colours vary from brown to yellowish-grey and greyish-black.

#### TYPE IID (Fig. 120)

In this rather small-sized model, neck and shoulder have become one fluent curve; the rim can be slightly thickened and one example shows a light undulation. The transition from the shoulder to the straight conical belly is rather sharp. No base can be associated with the rim fragments representing this type: it must have been narrow and was probably flat. In two specimens, a row of closely spaced rounded impressions mark the shoulder/belly transition (413, 417/615).

The upper part has a relatively smooth surface, while the belly can be roughened. Colours vary from yellowish-brown to greyish or bluish-black. The paste is stone-tempered.

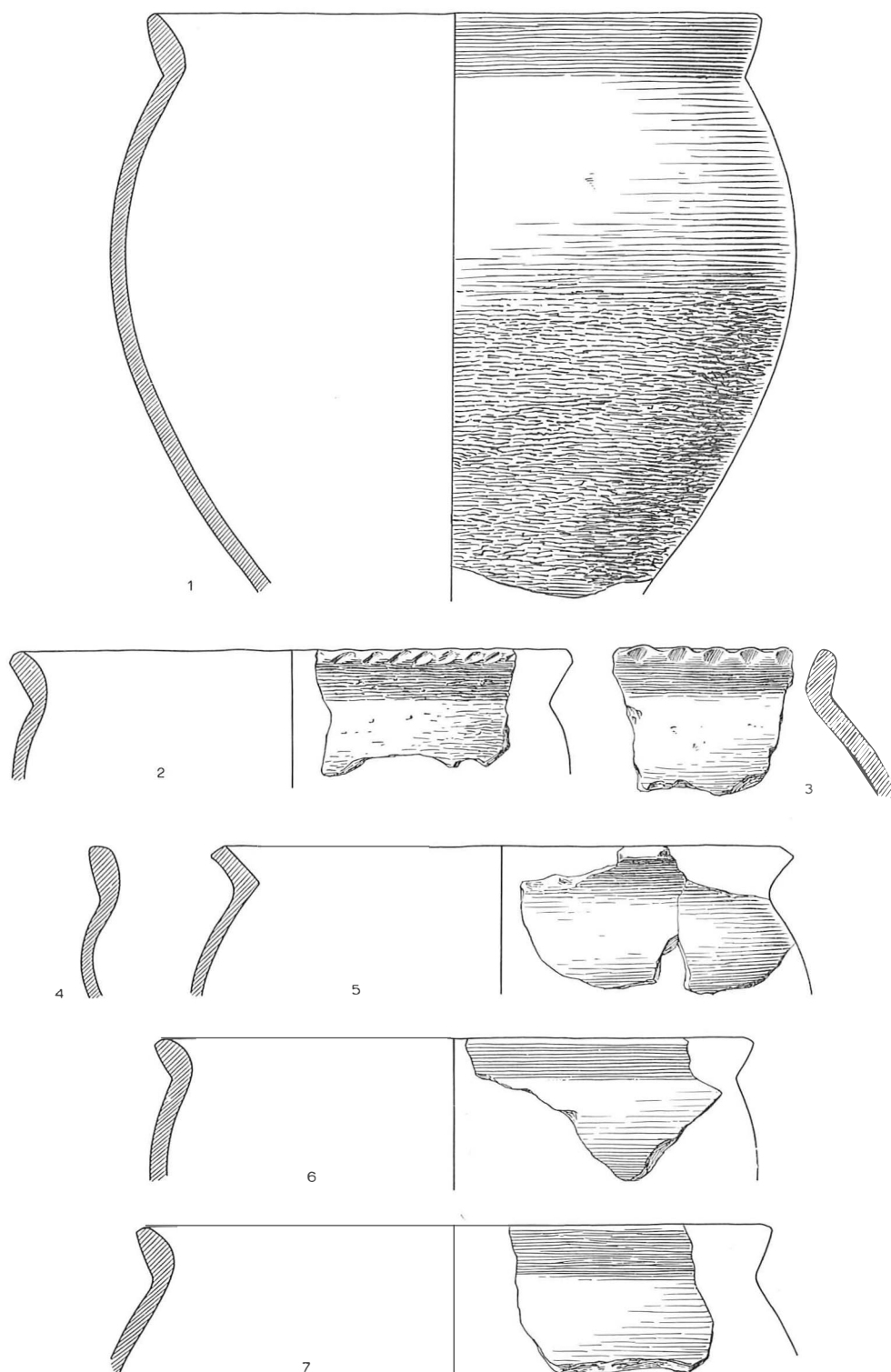


Fig. 119. Type IIC2. 1: Peelo, 2, 3: Groningen, Martinikerkhof, 4, 5: Rhee, 6, 7: Fochtelo.  
Scale 1: 4.

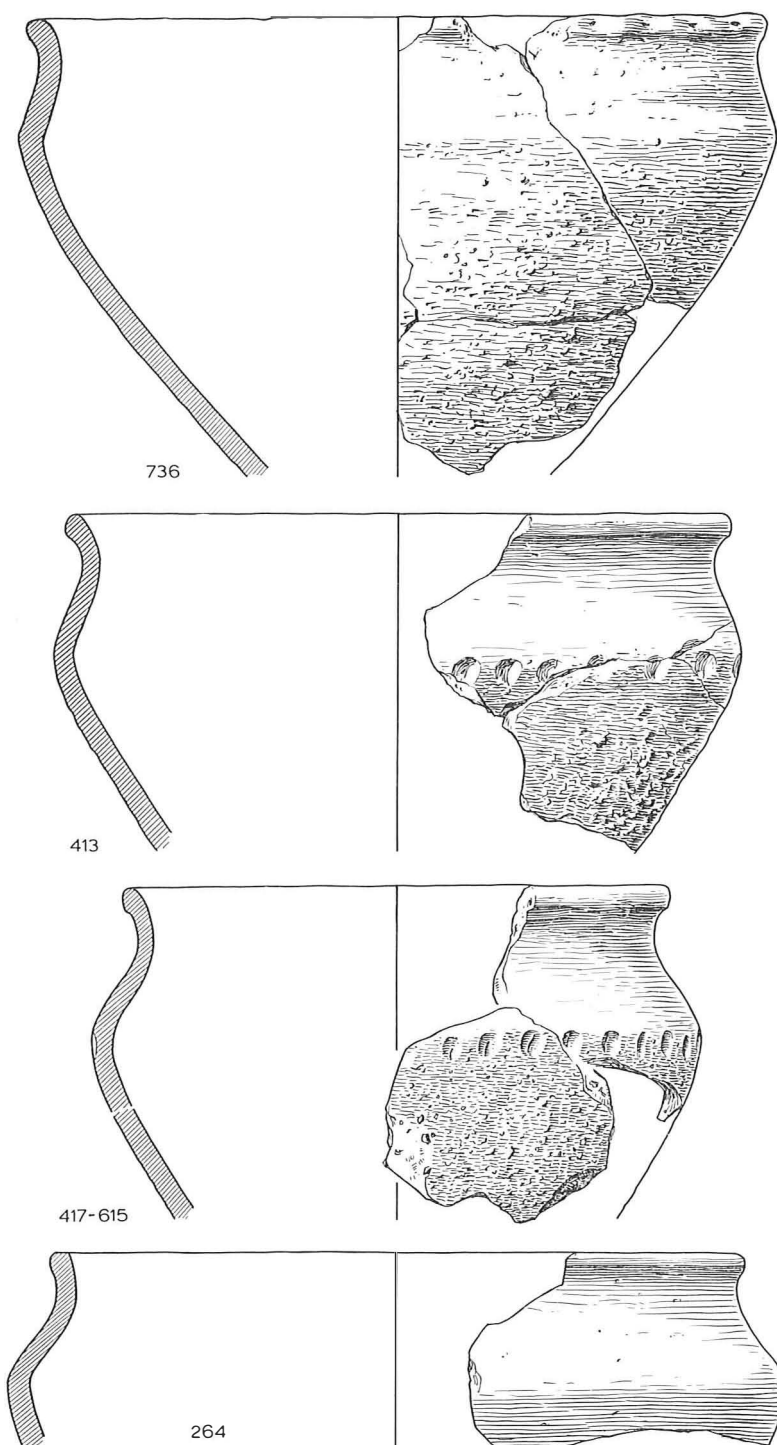


Fig. 120. Type IID. Wijster. Scale 1 : 3.

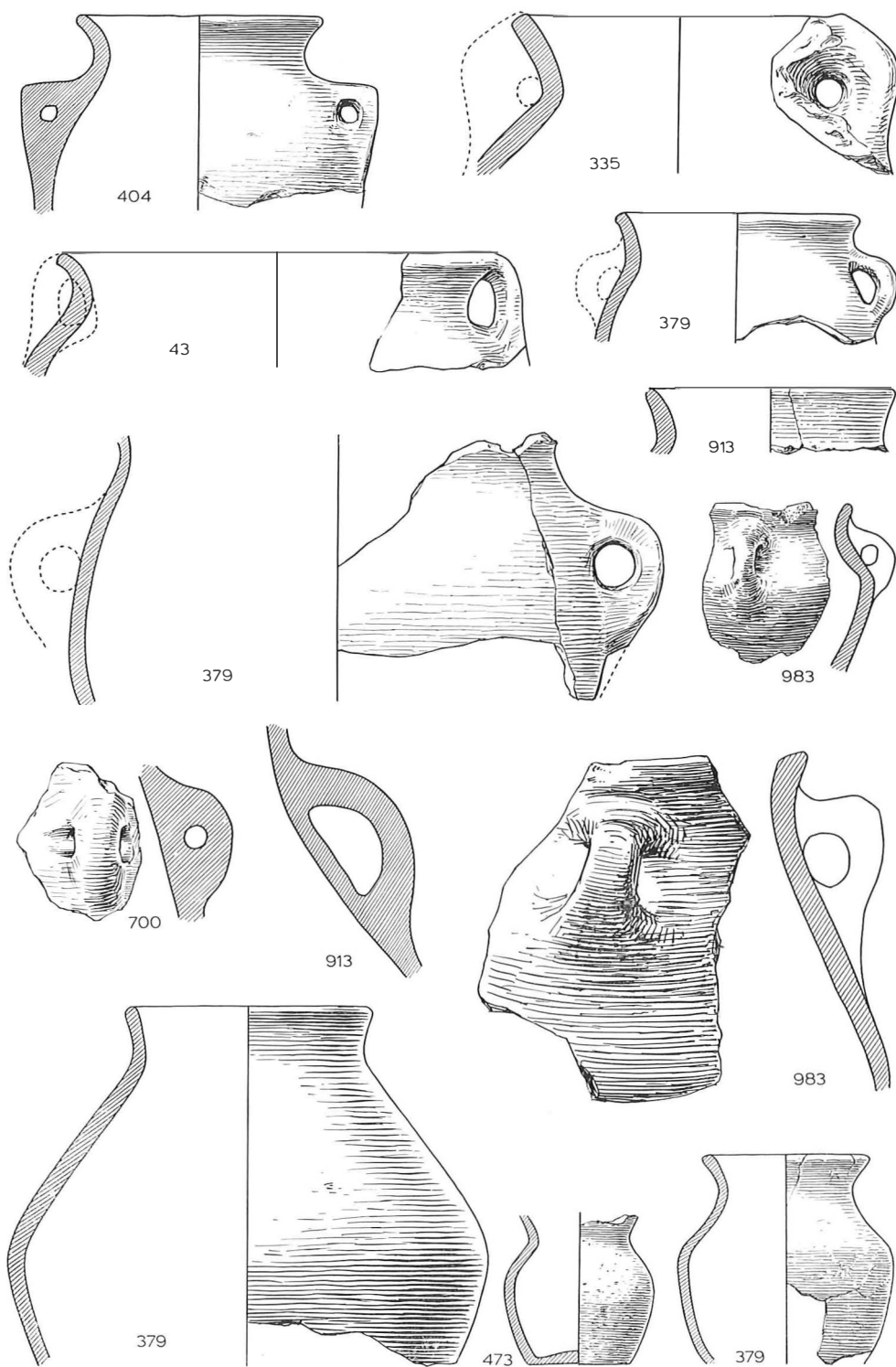
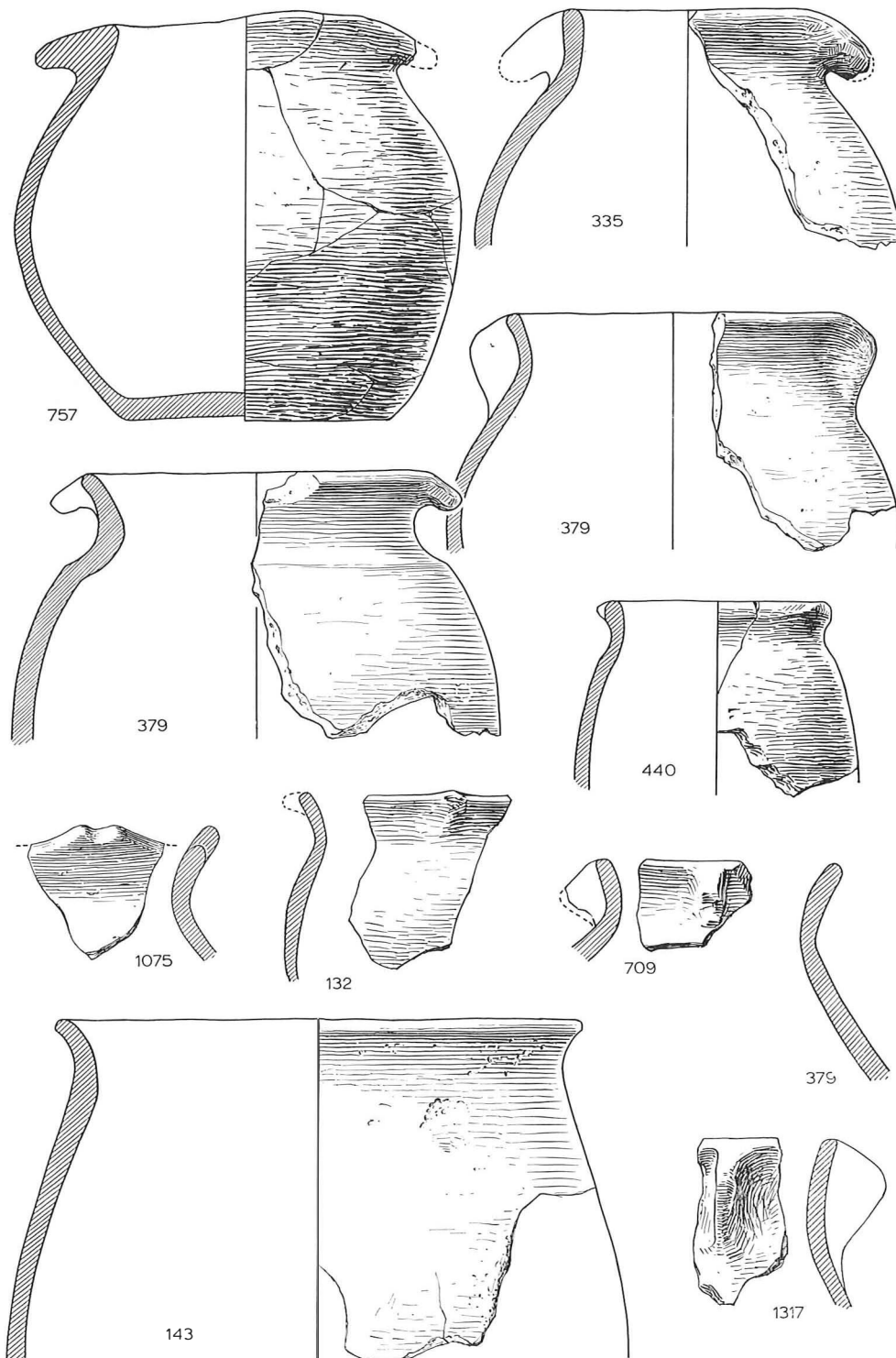


Fig. 121. Type IIIA1.



Wijster. Scale 1 : 3.

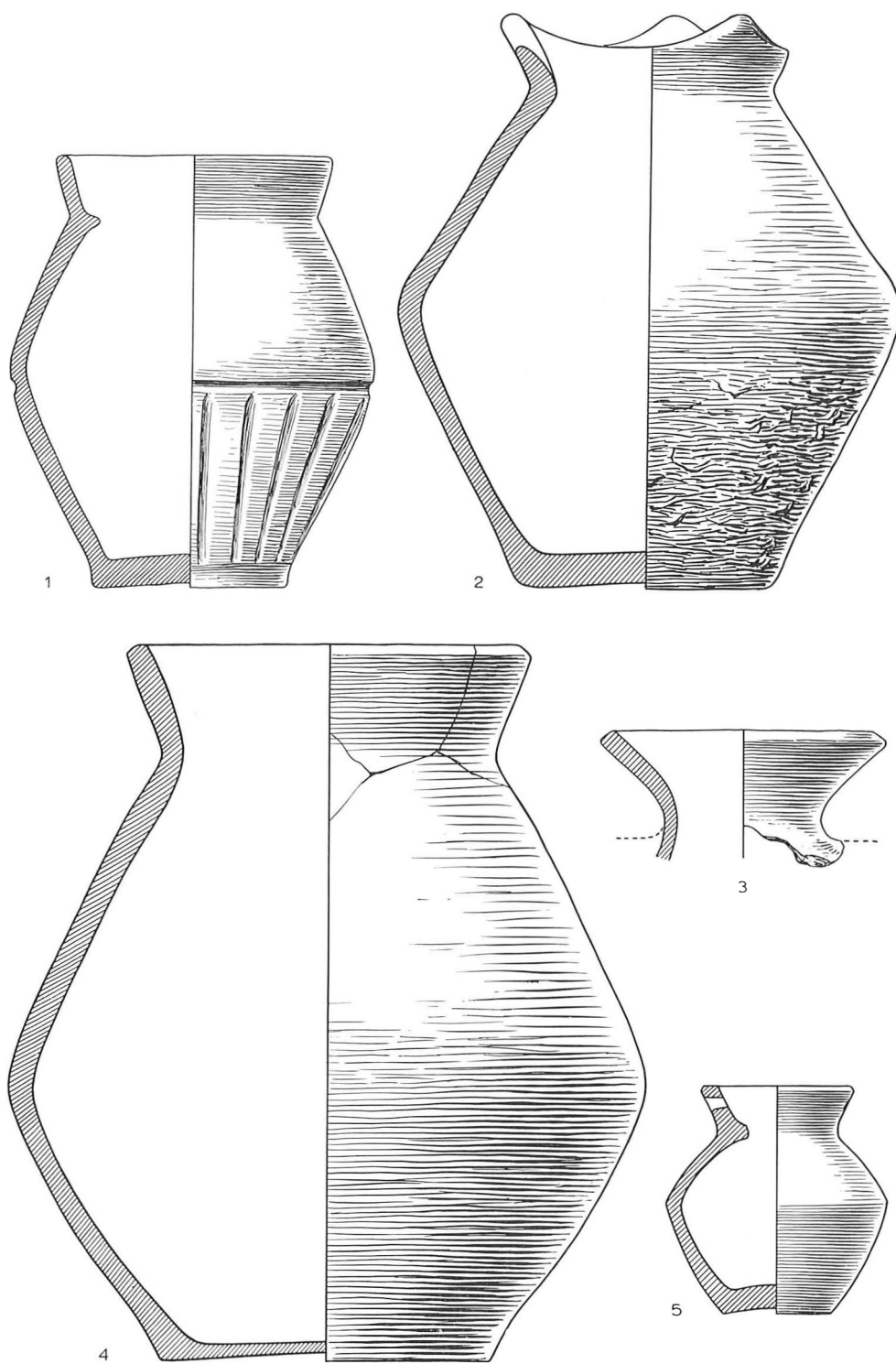


Fig. 122. Type IIIA1. 1: Peelo, 2: Brillerij, 3: Rhee, 4: Joeswerd, 5: Oostum. Scale 1 : 3.

### III. Narrow-mouthed Biconical Pots

In their most characteristic form these high flat-bottomed pots have a slender biconical body. The transition from the body's upper part (shoulder) to the lower one (belly) is usually not very sharp, and also more globular models with a softly rounded transition are put into this category. The neck with clearly marked base is bent out and, not infrequently, two handles face each other on shoulder or neck. The diameter at the rim is always less than at the transition from shoulder to belly.

Again, the shape of the neck is the major criterion for subdivision.

TYPE IIIA (Fig. 121–125)

*IIIA1* (Fig. 121–124)

The neck is straight and at Wijster rather short; it has a parallel-sided section. The handles, if present, overspan the base of the neck, sometimes reaching up to the rim (335), or are placed just below the transition from neck to shoulder (404, which has the peculiar sharply cut handles, also known elsewhere: Fig. 123: 1, 3).

One further meets with pairs of horizontal or slightly oblique handles opposite to each other against the rim (335, 379, 757; *cf.* Fig. 124: 2, 5), and with unperforated vertical knobhandles reaching from rim to shoulder (379, 709, 1317). Occasionally, the rim is drawn out into (three or more?) points, which may have an incision at the top (132, 440, 1075; *cf.* Fig. 122: 2; 124: 6, 7).

At Wijster, no decoration is found (*cf.* Fig. 123: 4).

The paste is stone-tempered with mostly smooth, but sometimes irregular surface; the colour may be a yellowish-brown, a yellowish-grey or a greyish- or bluish-black.

*IIIA2* (Fig. 125)

The existence of this model, characterized by a straight bent-out neck with segment-shaped or triangular section, is proved by pots from other sites shown in Fig. 125. The model does not seem to have been very common. There is no evidence for its occurrence at Wijster, but we thought it useful to mention it here to complement the Wijster material.



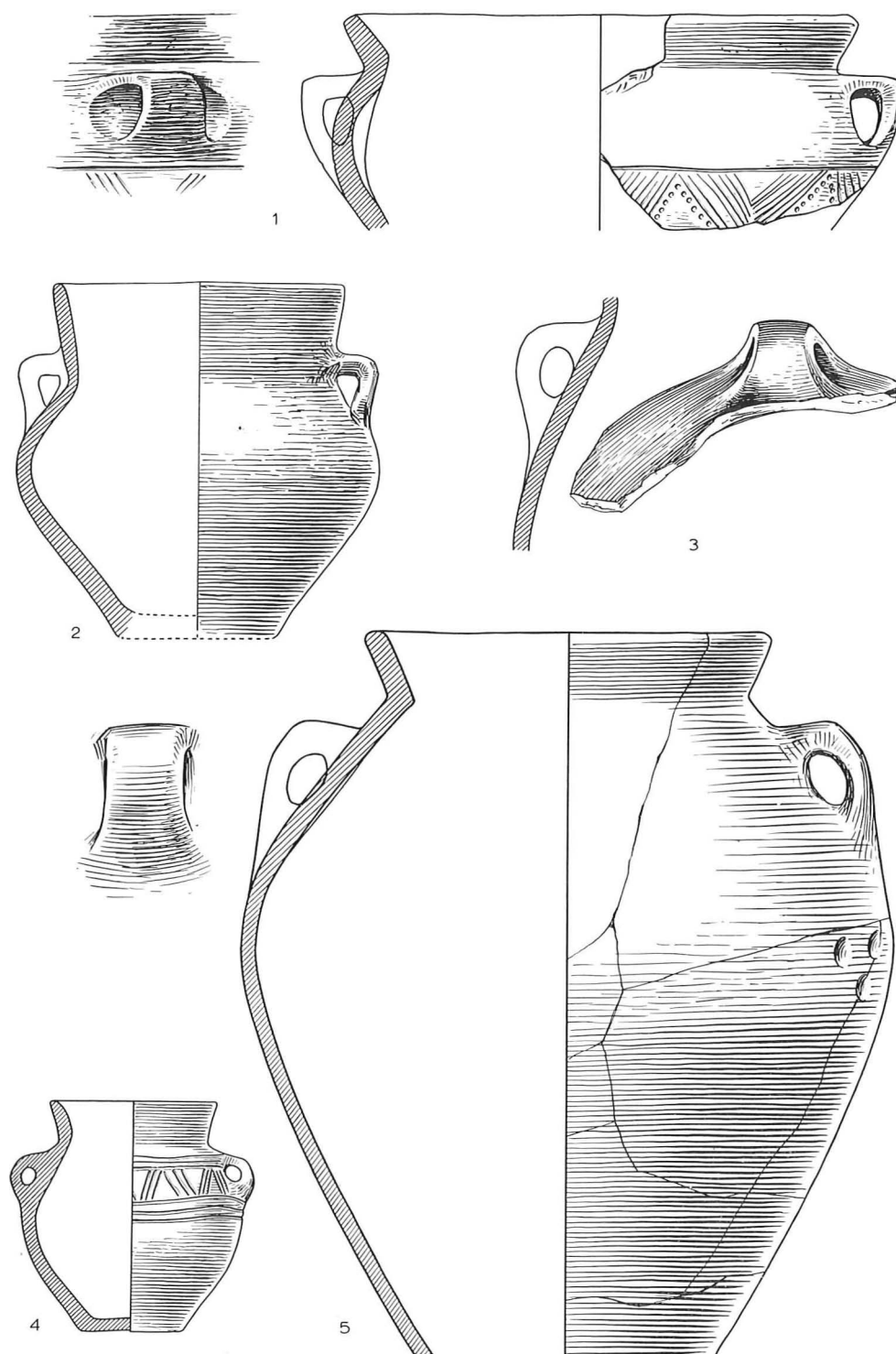


Fig. 123. Type IIIA1. 1: Schipborg, 2: Erm, 3: Groningen, Martinikerkhof, 4: Nieuw-Weerdinge, 5: Ezinge. Scale 1 : 3.



Fig. 124. Type IIIA1. 1: Erm, 2, 4, 6: Rhee, 3: Antum, 5: Fochtelo, 7: Peelo, 8: Bolleveen near Zeijen, 9: Ezinge, 10: Brillerij. Scale 1 : 4.

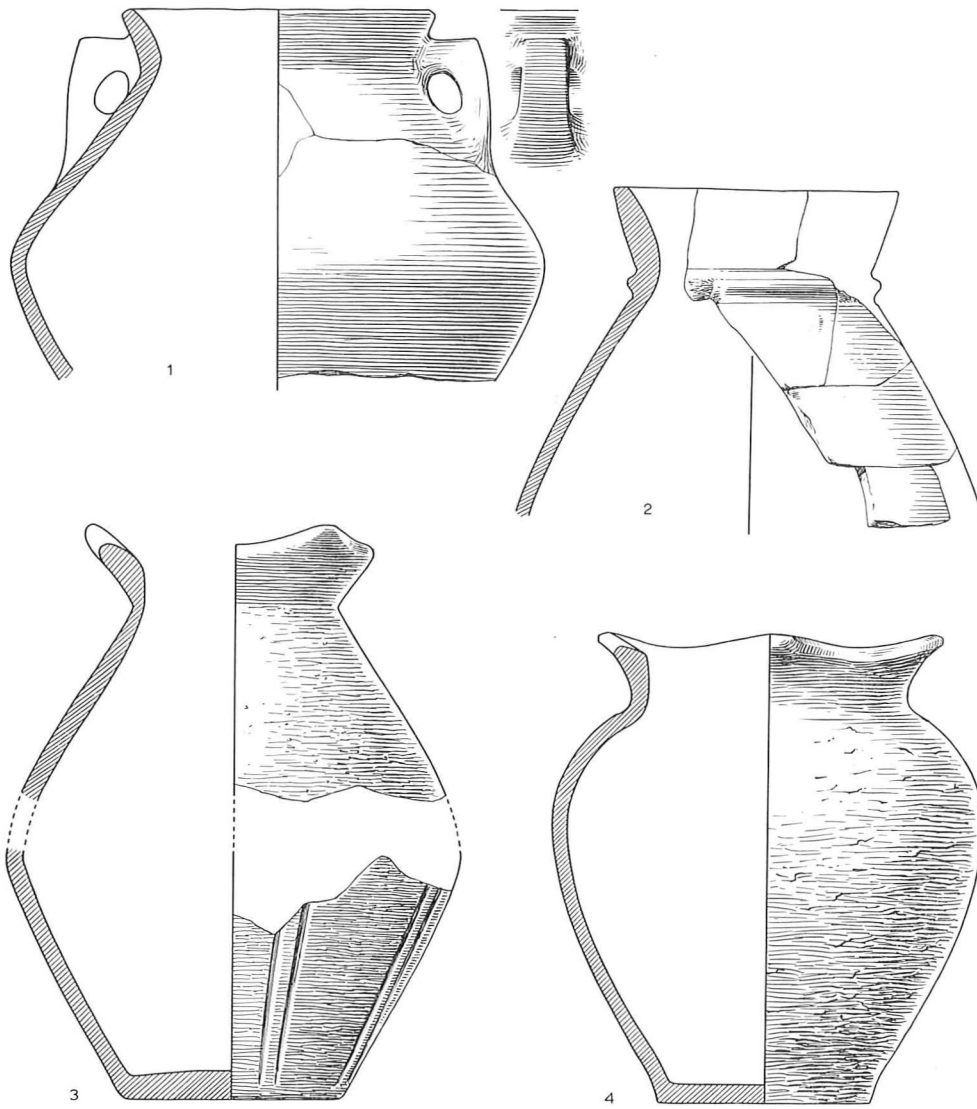


Fig. 125. Type IIIA2. 1, 2: Peelo, 3: Eext, Vijzelkampen, 4: Ezinge. Scale 1 : 4.

#### TYPE IIIB (Fig. 126–128)

The neck is comparatively long and shows a slight tendency to curve. Around its base a ridge may be present. All sherds presenting such a ridge have been included here, but in fact not all ridged sherds need come from this type, as is shown by the fragment 494. The distinction from type IIB3, ridged variety (Fig. 114: 1182, 1313)

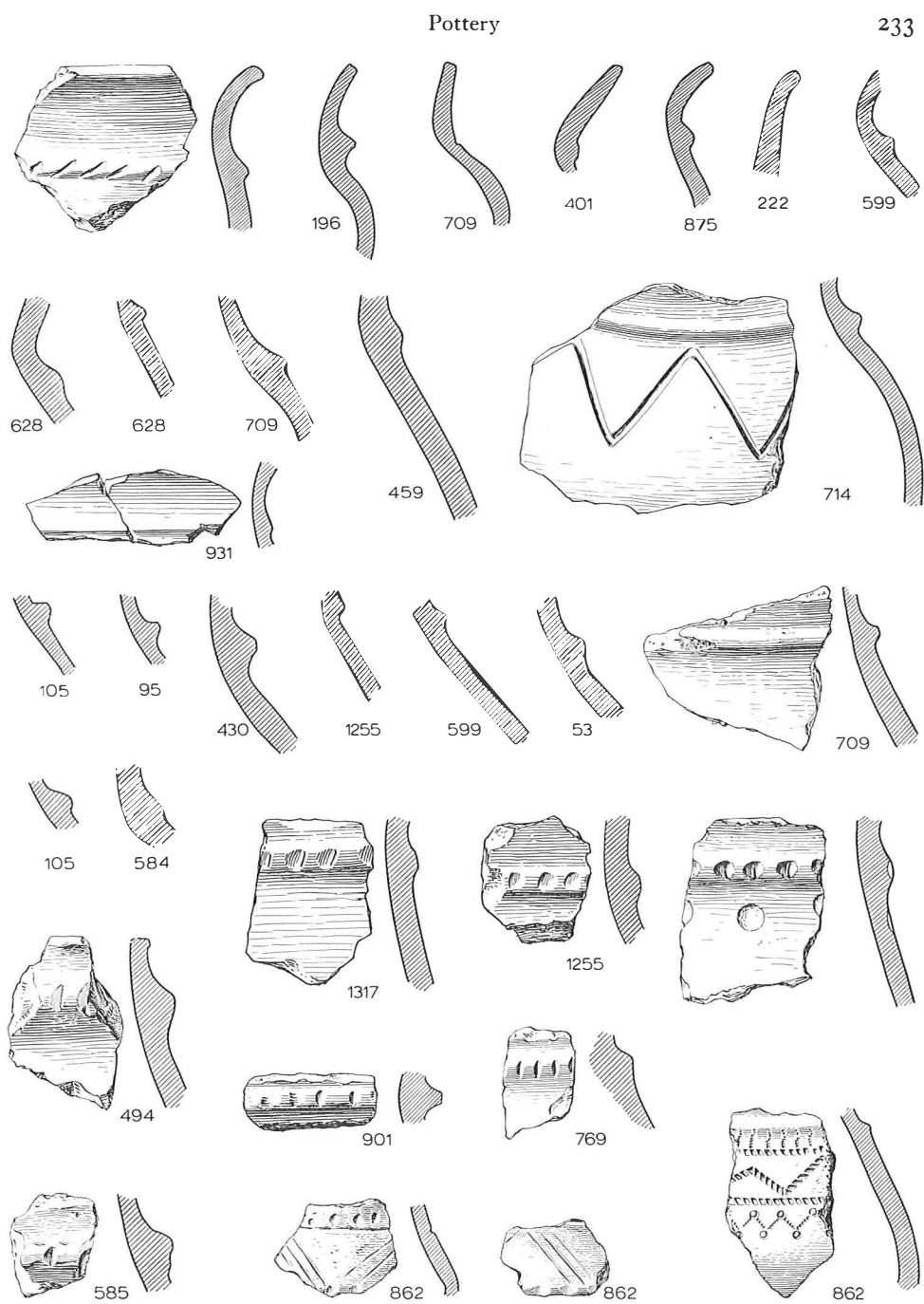


Fig. 126. IIIB. Wijster. Scale 1 : 3.

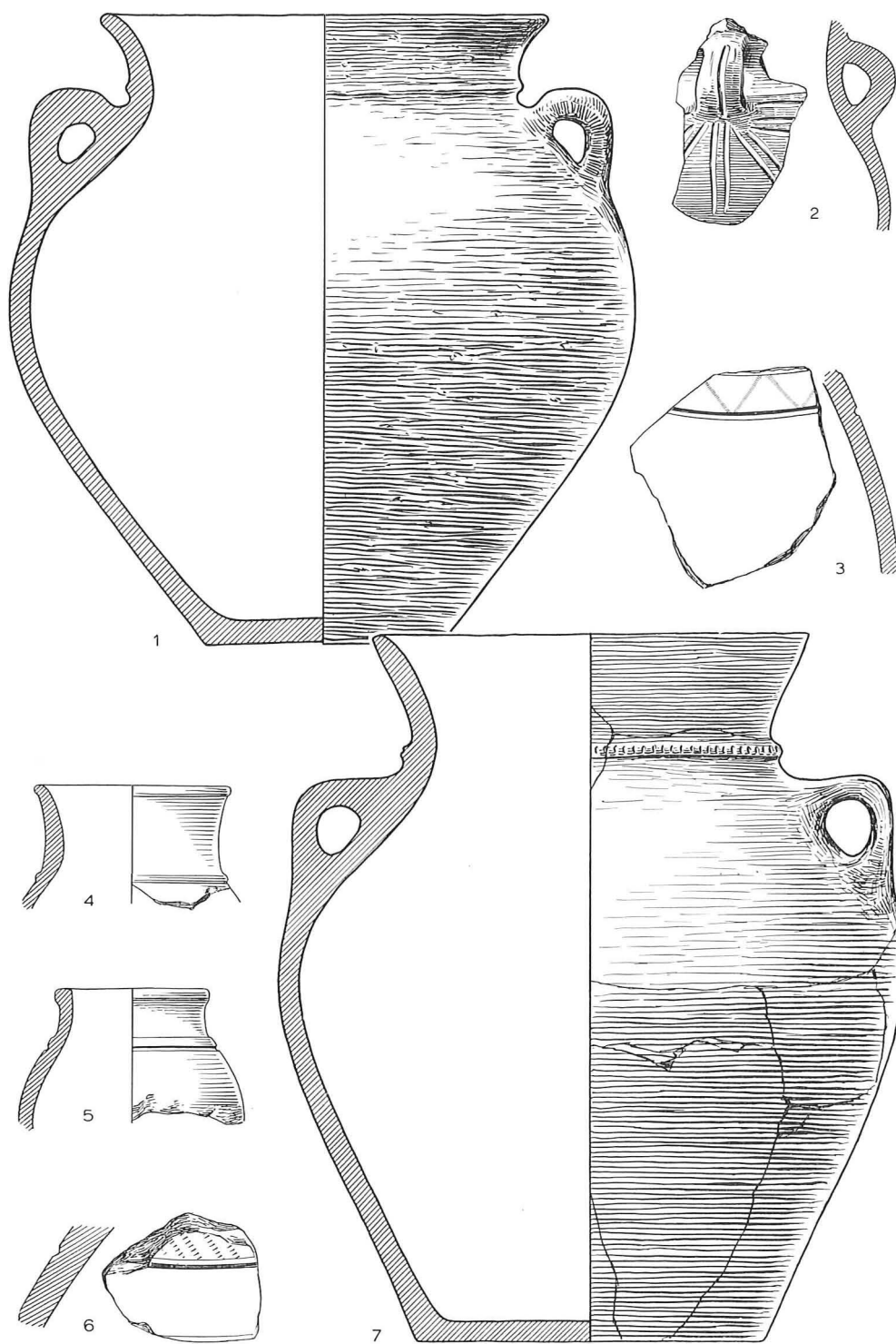


Fig. 127. Type IIIB. 1: Hoogeteintum, 2-6: Peelo, 7: Wierumerschouw. Scale 1 : 3.

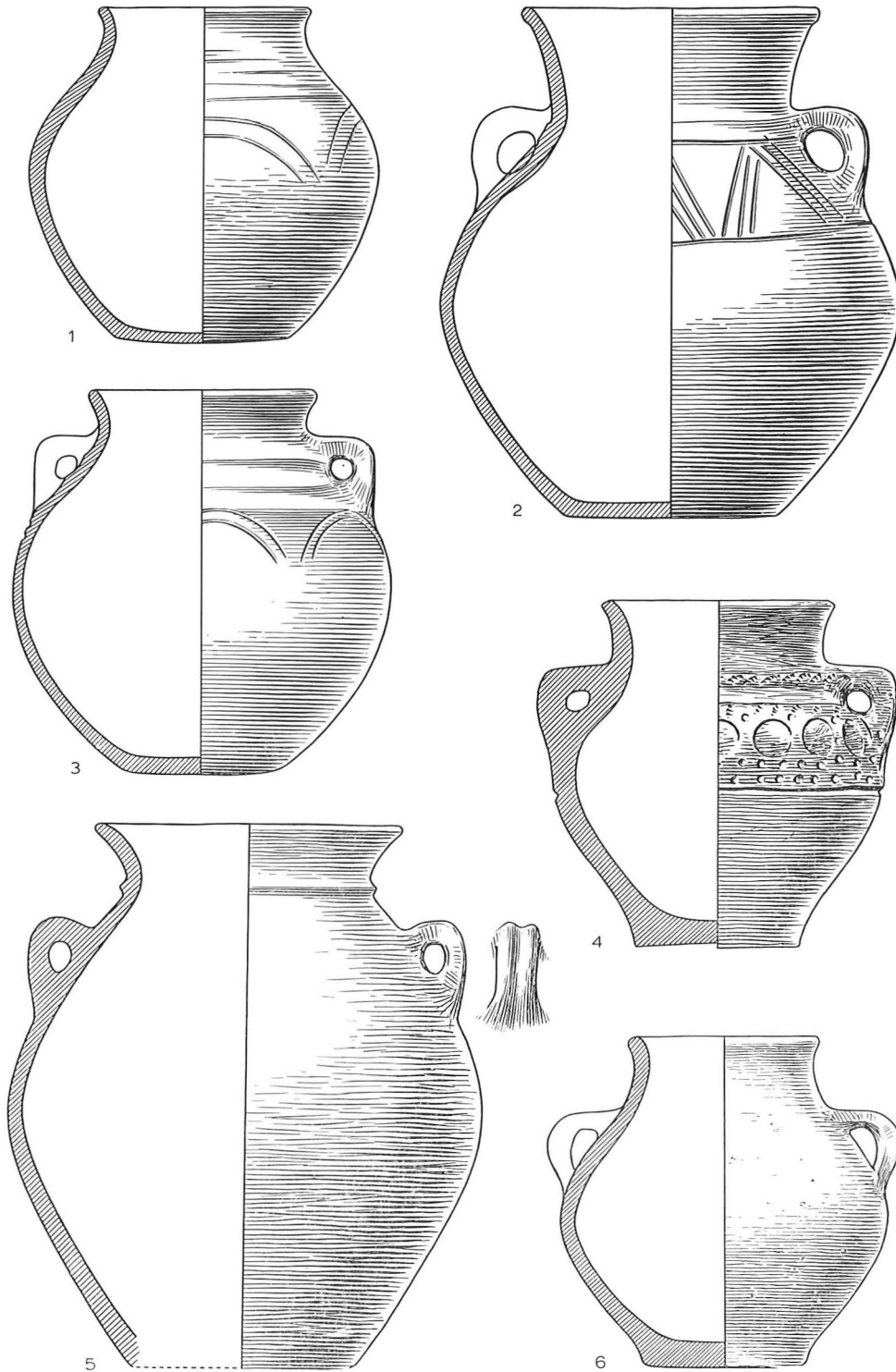


Fig. 128. Type IIIB. 1: Antum, 2: Oostum, 3: Marsum, 4: Ter Apel, 5: Wierhuizen, 6: Hooghalen. Scale 1 : 3.

is a matter of size, and from the smaller sherds the size of the complete pots cannot be decided with certainty. It is therefore not impossible that a few fragments held to represent this type in fact come from pots of different shapes.

No handles are found on the Wijster sherds; elsewhere, we see pairs of elbow-shaped handles implanted on the shoulder below the base of the neck (Fig. 127, 128).

A number of ridged sherds, probably coming from pots of this type, are decorated with notches or fingertip impressions. On one specimen there seems to be a row of widely spaced round impressions below the ridge (without find no.). Another sherd ornamented with a very elaborate stamped pattern may also represent the type under discussion (862; *cf.* Fig. 127: 6). A zigzag groove below the ridge is also possible (714).

The paste is stone-tempered and has a smooth surface with yellowish-grey or greyish-black colour.

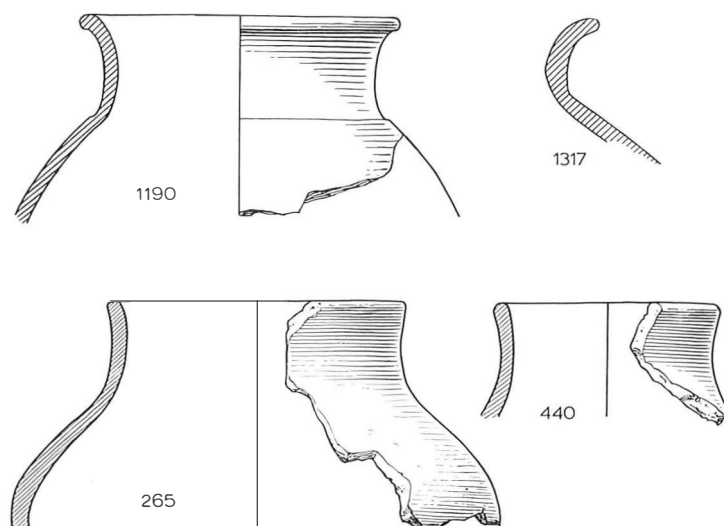


Fig. 129. Type IIIC. Wijster. Scale 1 : 3.

#### TYPE IIIC (Fig. 129)

A few fragments show a long cylindrical slightly curved neck, the base of which can be marked by a sharp ridge (1190). The profile is very closely related to the one of type IVF. The complete model is unknown; the body was probably more globular than high-biconical.

The fine paste is stone-tempered; the smooth surface has a glossy brown or black colour.

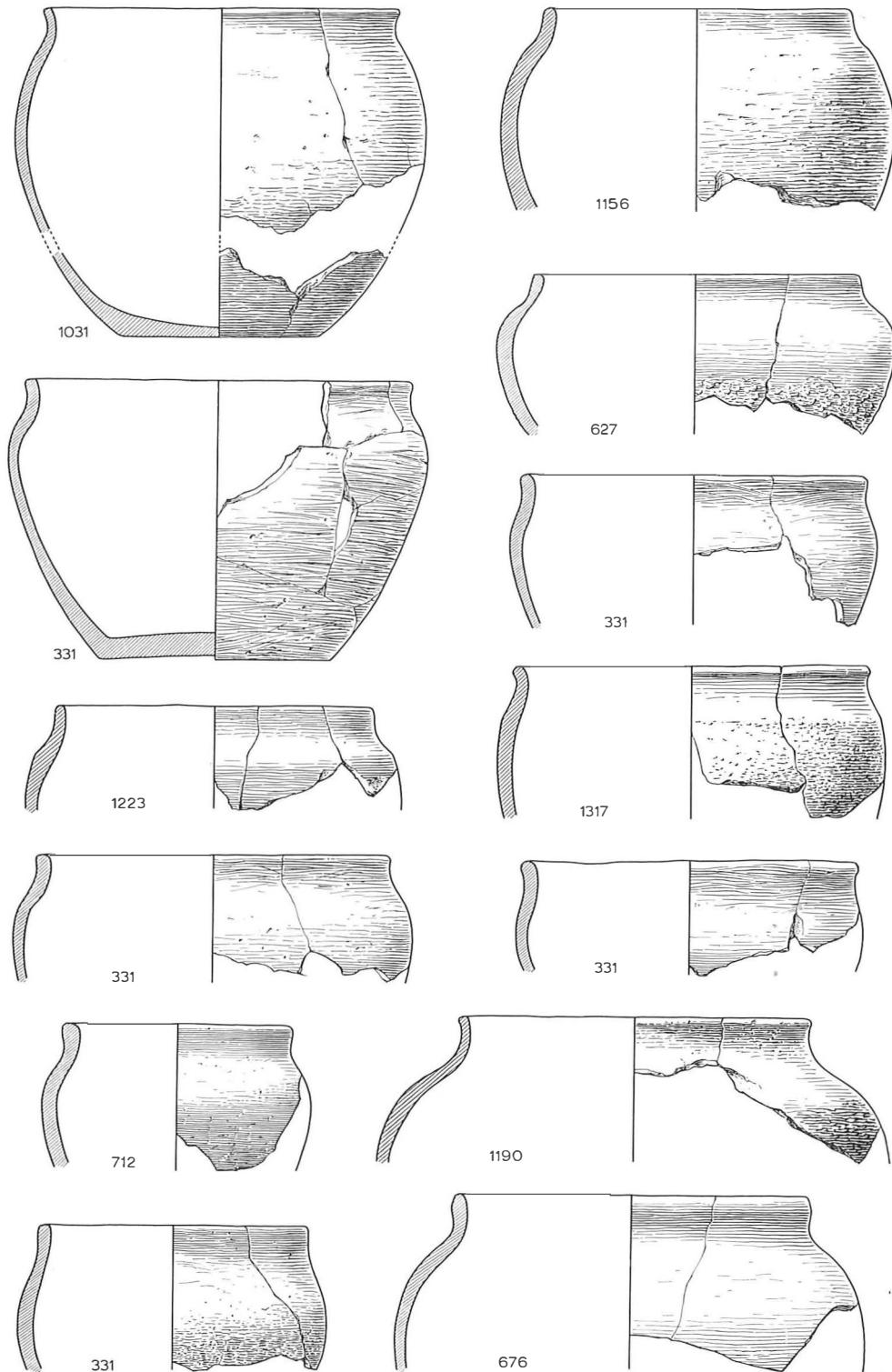


Fig. 130. Type IVA. Wijster. Scale 1 : 4.



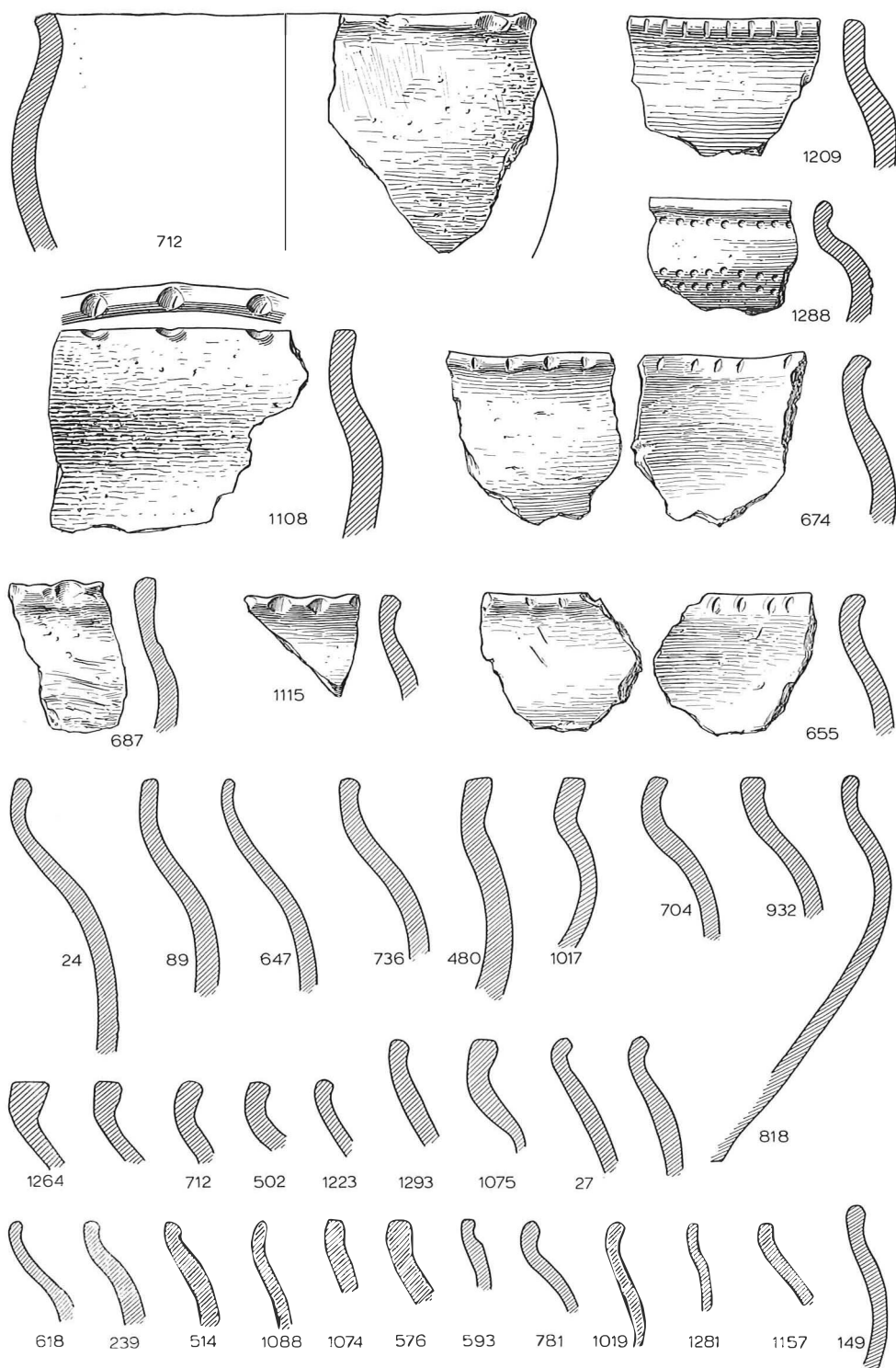
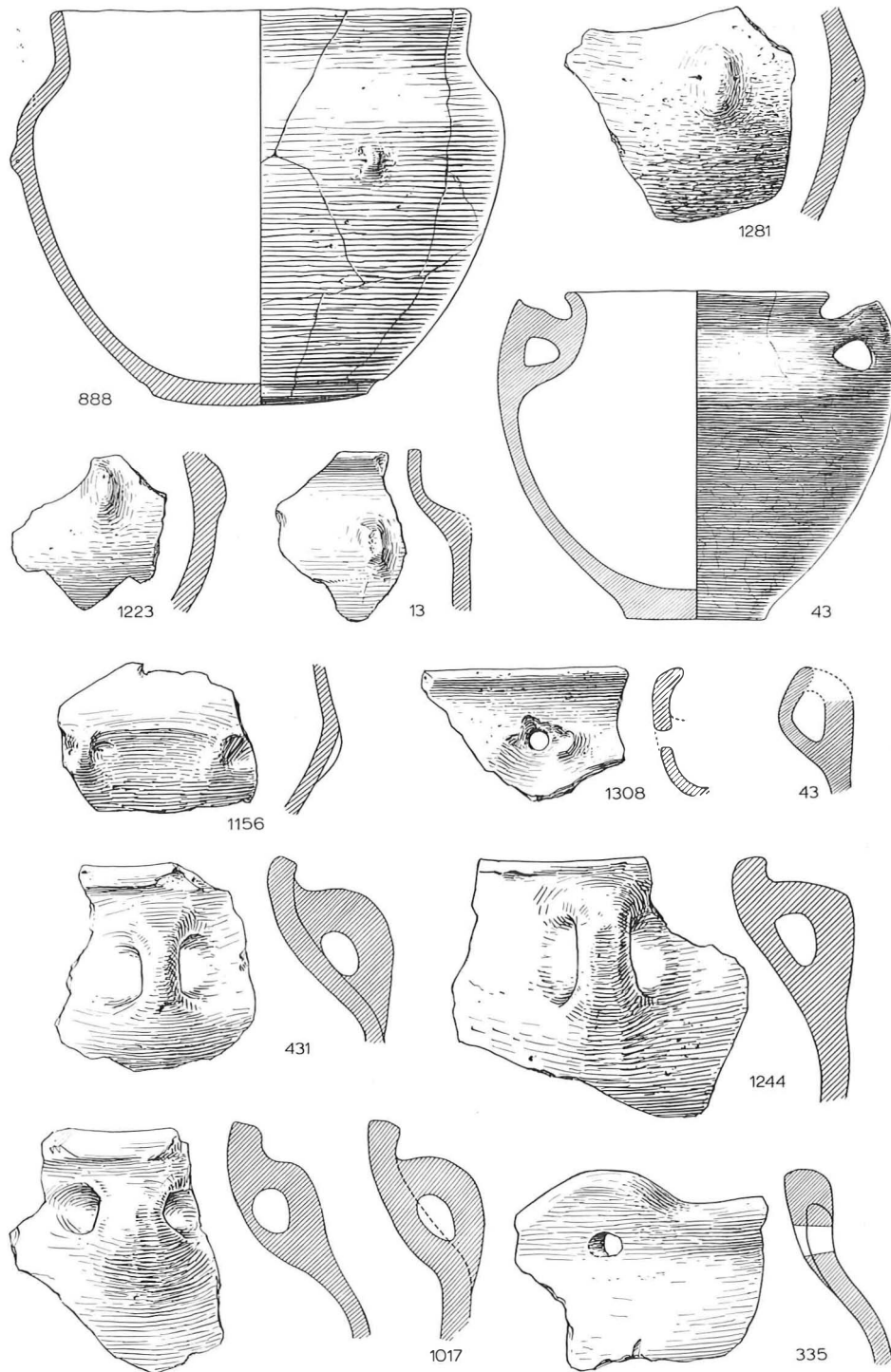


Fig. 131. Type IVA.



#### IV. Necked Bowls

The series comprises a number of types, which show rather great differences.

##### TYPE IVA (Fig. 130-131)

The type may be described as a shouldered bowl with more or less globular body and short cylindrical neck; the shoulder is not always well defined. We have not tried to draft a strict definition, for this would mean creating a large number of varieties which, moreover, would be difficult to recognize among the often small fragments.

The common elements of the rim-sherds here grouped together are the comparatively short neck and the more or less globular body. Within these limits there is much variation: the neck can be extremely short (37, 217) or somewhat longer; the shoulder is mostly narrow but sometimes a bit broader (1190); the body can be really globular (1031) but also more straight conical (331).

Decoration is rare. Occasionally, we find fingertip impressions or notches on the side of the rim (687, 1115, 1209), twice, on the outside as well as on the inside (655, 674) and once, on top of the rim (1108). One sherd (1288) is decorated with rows of small round impressions. On another fragment, a rounded triangular vertical protuberance perforated at its base, has been added to the neck (335).

A few sherds with large handles stretching from the base of the shoulder to just below the rim (43, 431, 1017, 1244, 1308) can perhaps best be classified here, along with the beautiful glossy black pot 43. The latter has two pointed handles, gently curved at the top, on the shoulder.

888 also takes a special place in view of its rather long somewhat bent-out neck and the three perforated knob-handles just below the shoulder. Comparable small knobs, with or without perforation, are found on a few other sherds (13, 1156, 1223, 1281) and on two little cups (Fig. 150: 1130, 1238); a knob handle is furthermore found on a pot of type IVD (Fig. 136: 367).

The upper part of these pots is usually fairly smooth, the belly may be roughened. The paste is stone-tempered with colours varying from yellowish or brownish tints to different shades of grey and black.

##### TYPE IVB (Fig. 132-134)

Essentially, the model is the same as the preceding one, and here, also, allowance has been made for a certain amount of variation within the type. The only point of difference concerns the shape of the rim, which is here squeezed out to form a pro-

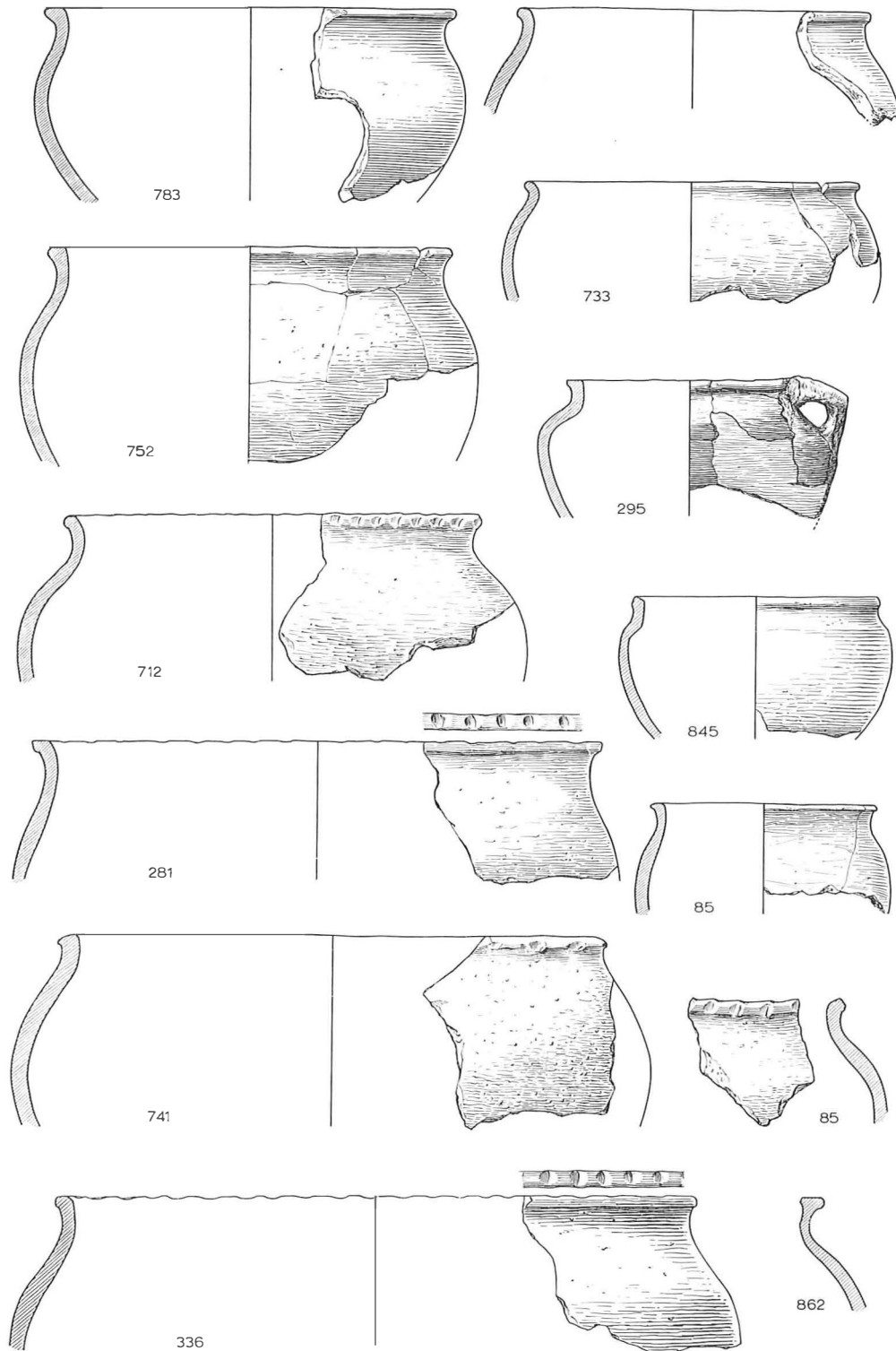


Fig. 132. Type IVB. Wijster. Scale 1 : 4.

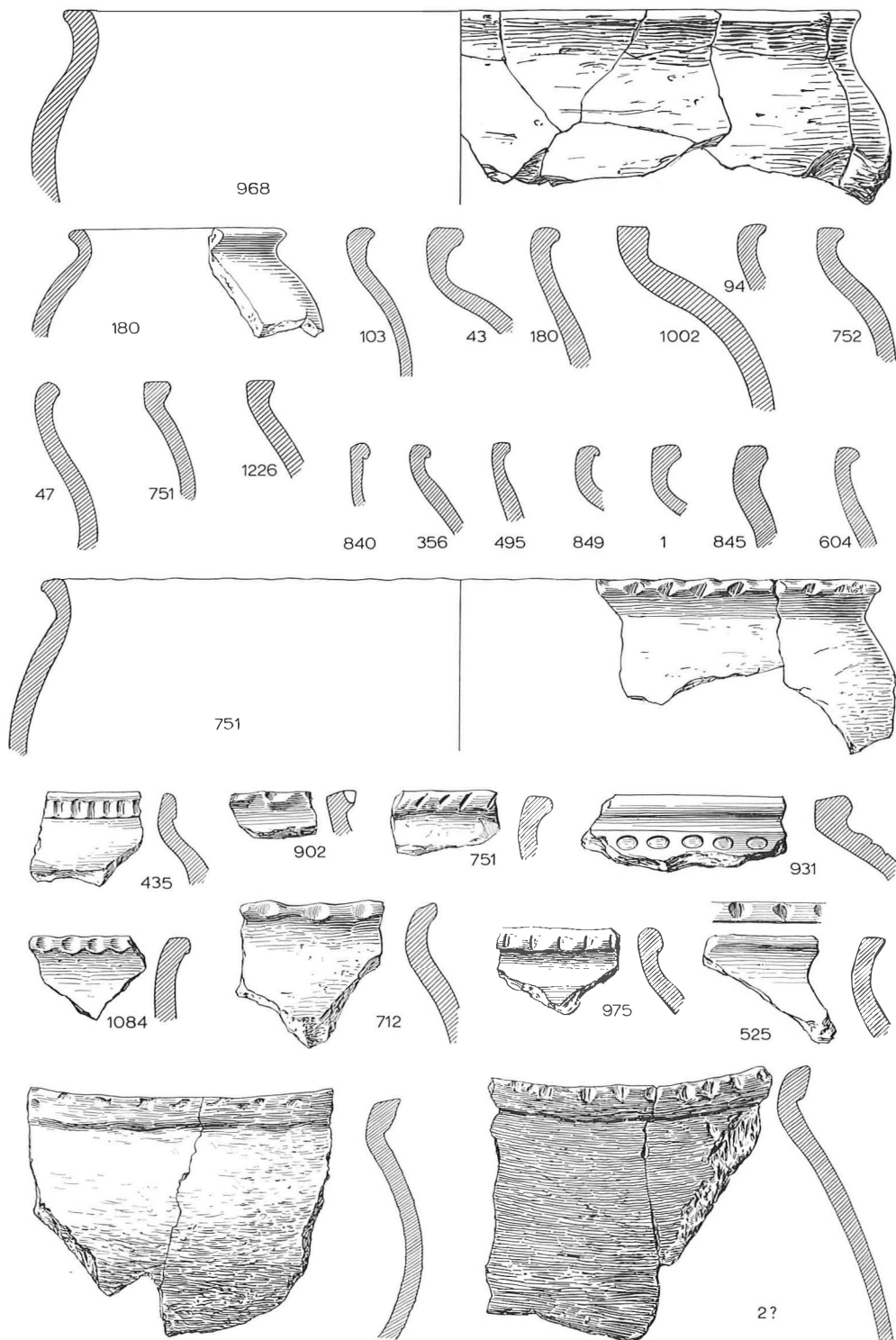


Fig. 133. Type IVB. Wijster. Scale 1 : 3.

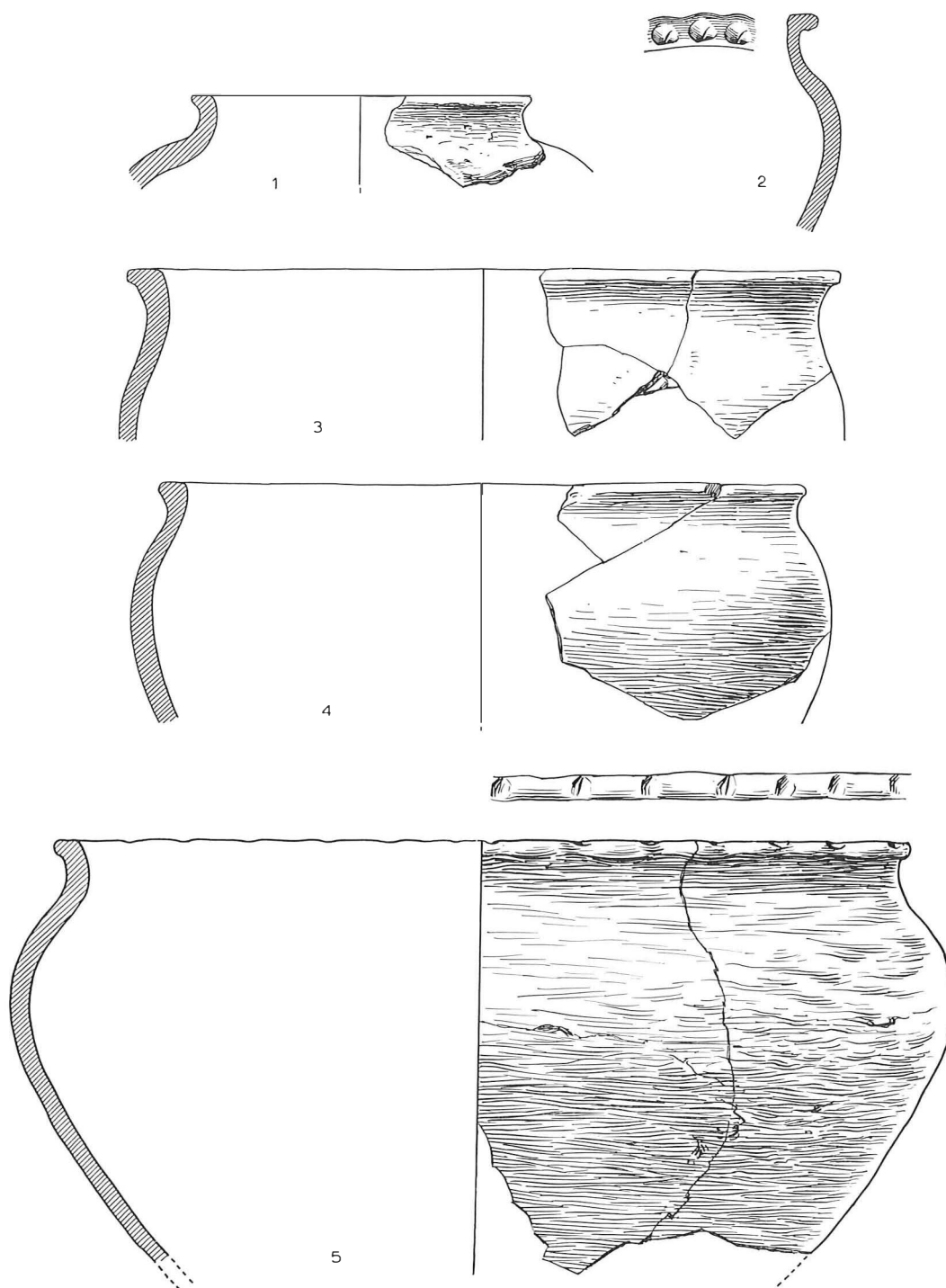


Fig. 134. Type IVB. 1-4: Fochtelo, 5: Rhee. Scale 1 : 3.

truding lip. The upper side of the rim is flattened or rounded. Occasionally handles occur between rim and shoulder (295, 1306). Fingertip impressions, mostly roundish or oval and not of the sharp-cut variety, on top of the rim (281, 336, 525, 598, 1255) or on the outside (2, 712, 751, 845, 908 *etc.*) are a not uncommon feature.

The material is stone-tempered. The upper part of the pots has a relatively smooth, sometimes even polished, surface, while the lower part can be roughened. Different colours: yellow, brownish, greyish-black *etc.*

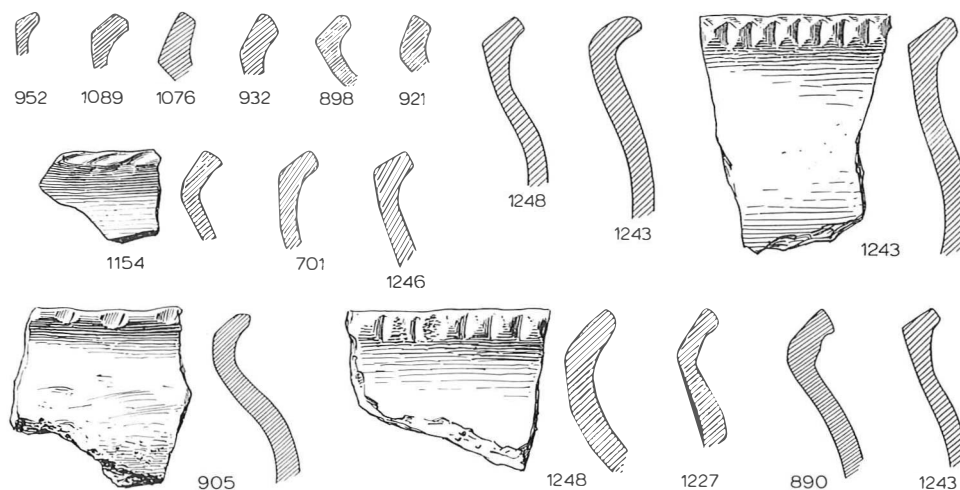


Fig. 135. Type IVC. Wijster. Scale 1 : 3.

#### TYPE IVC (Fig. 135)

A special group is formed by a few rim-sherds with protruding lip probably also belonging to short-necked globular pots. Here the lip is much longer, and one could say that the whole upper part of the neck has been bent obliquely outwards. On the outside, the transition from lip to neck is fluent; on the inside, the broad flat lip ends abruptly. Some rims are faceted (898, 1089). The side of the rim may be notched (905, 1154, 1243, 1248).

The material is tone-tempered. The surface is smoothed or irregular, with colours varying from yellow to brownish and greyish-black.

## TYPE IVD (Fig. 136-138)

Three rare fragments of wide-mouthed pots combine a globular or more biconical body with a long cylindrical neck. In two of them (367, 847) the upper part of the neck shows the slightest tendency to curve outwards. The base of the neck is strongly marked by a ridge. The body is globular with rounded transition from shoulder to belly (367) or seems to be more biconical with a sharper shoulder/belly transition,

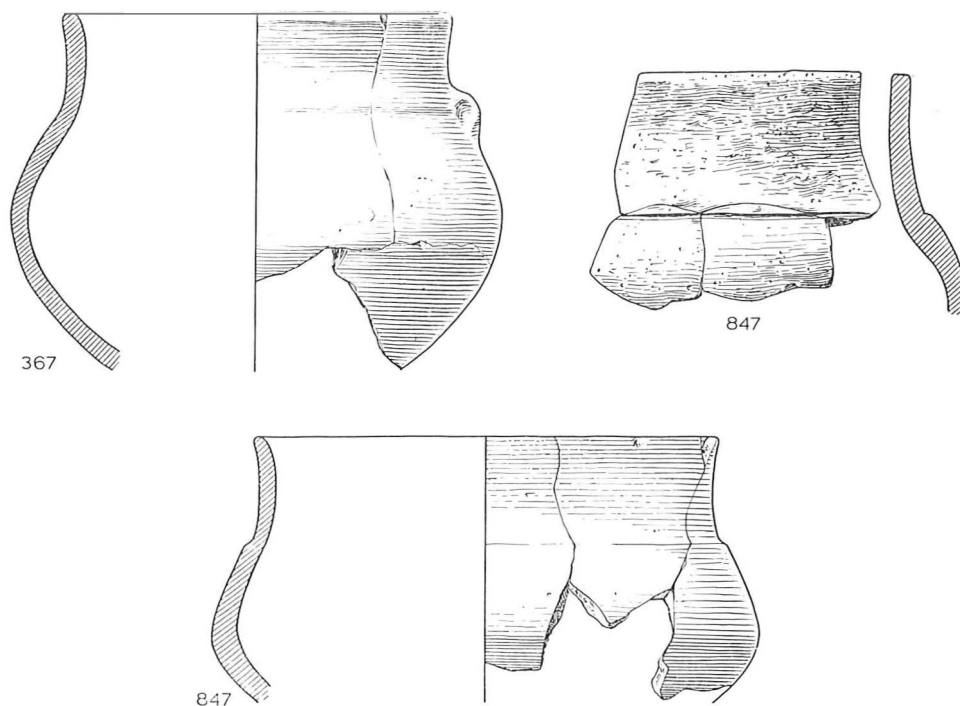


Fig. 136. Type IVD. Wijster. Scale 1 : 3.

while the belly probably had straight-conical or perhaps even somewhat inward curved sides (847). The upper part of the body (shoulder) is long and oblique. The base will have been rather small and flat.

The fragment 367 presents a small unperforated knob-handle at the base of the neck.

The material is fine and stone-tempered; it has a smooth, even glossy polished surface with a colour varying from yellow to black. Some sherds of 847 have been burnt secondarily.



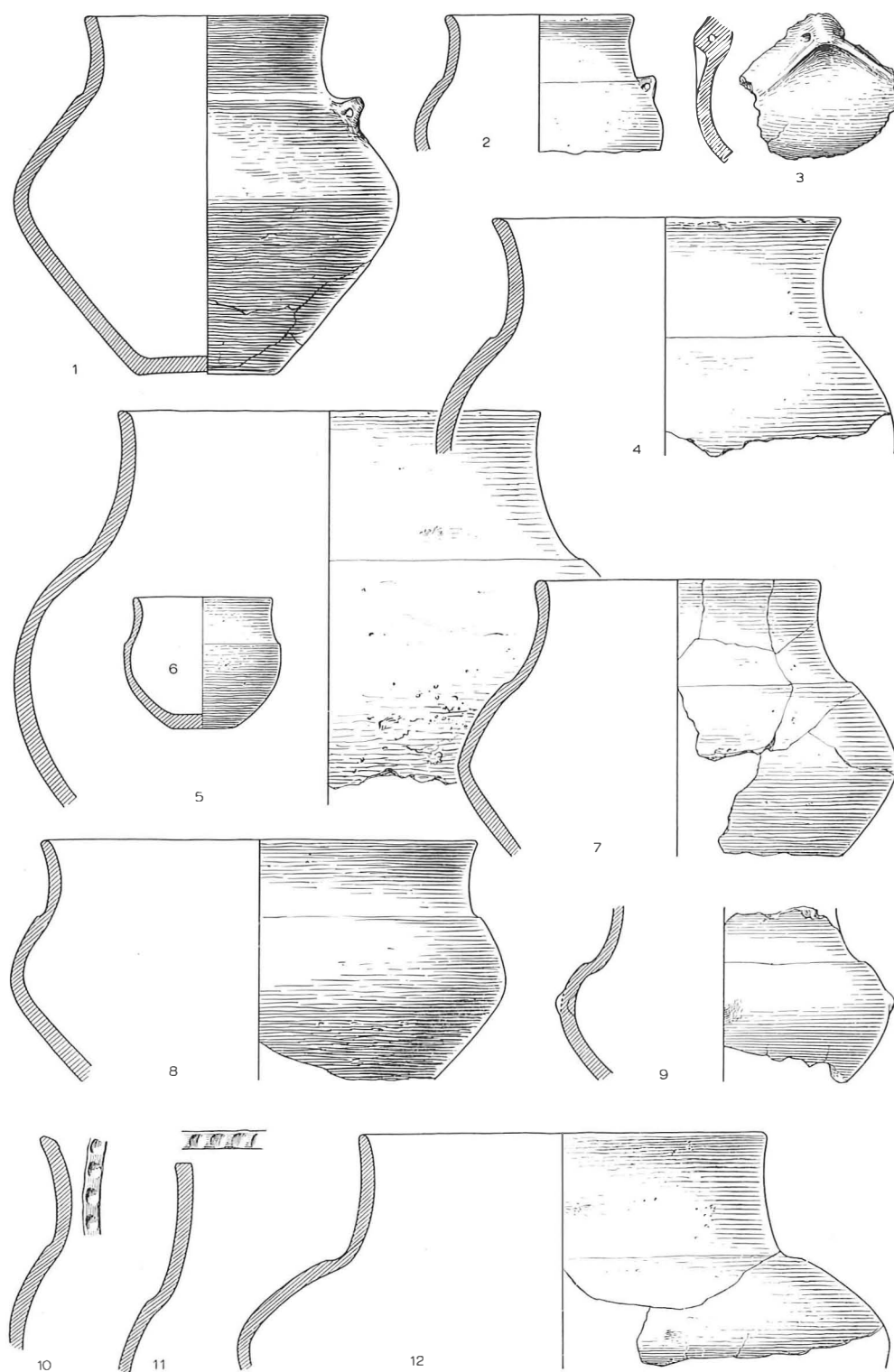


Fig. 137. Type IVD. Rhee. Scale 1 : 4.

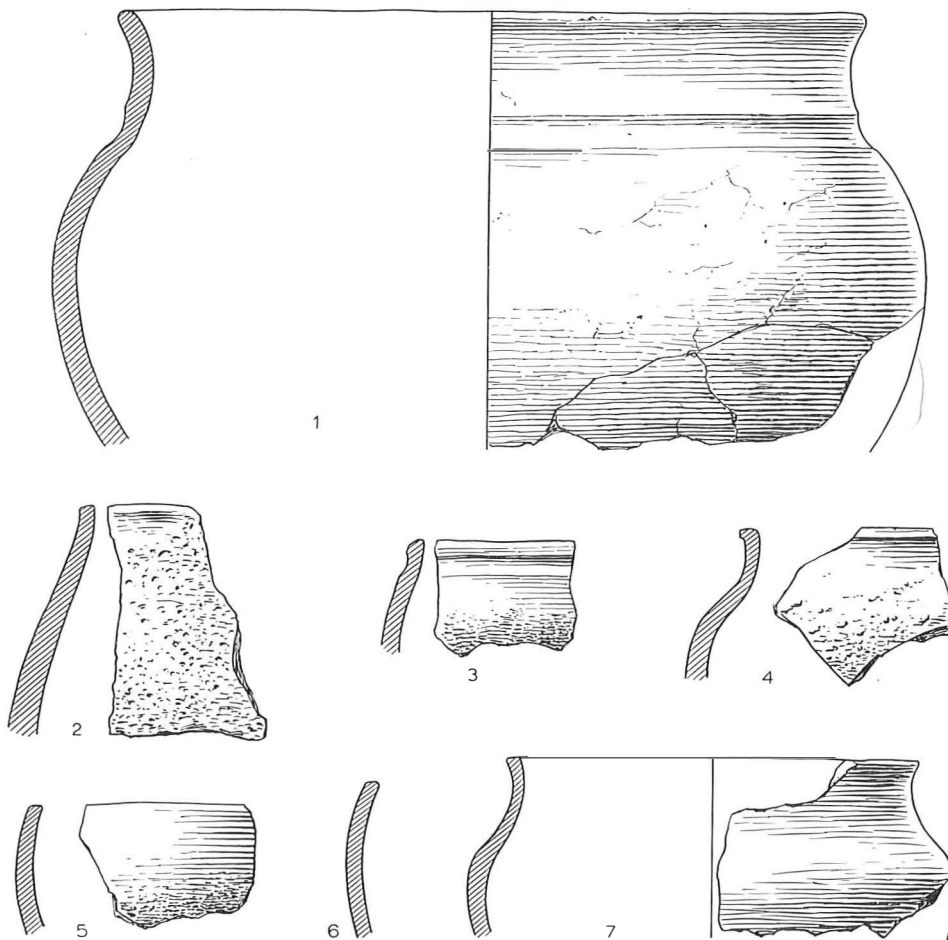


Fig. 138. Sherds from a post-hole at Rhee. Scale 1 : 3.

#### TYPE IVE (Fig. 139)

The distinguishing feature is the short curved neck. The transition from neck to shoulder is very sharp; the transition from shoulder to belly is rounded. The globular or more egg-shaped body has a flat bottom or a very low protruding foot (356).

One sherd, which with some reservation may be included here, shows rounded impressions against the rim and a row of larger ones at the base of the neck (1002).

The upper part of these pots is relatively smooth, the lower part can be rough. The material is stone-tempered; colours vary from yellow to brownish or greyish-black. 356 has been burnt secondarily.

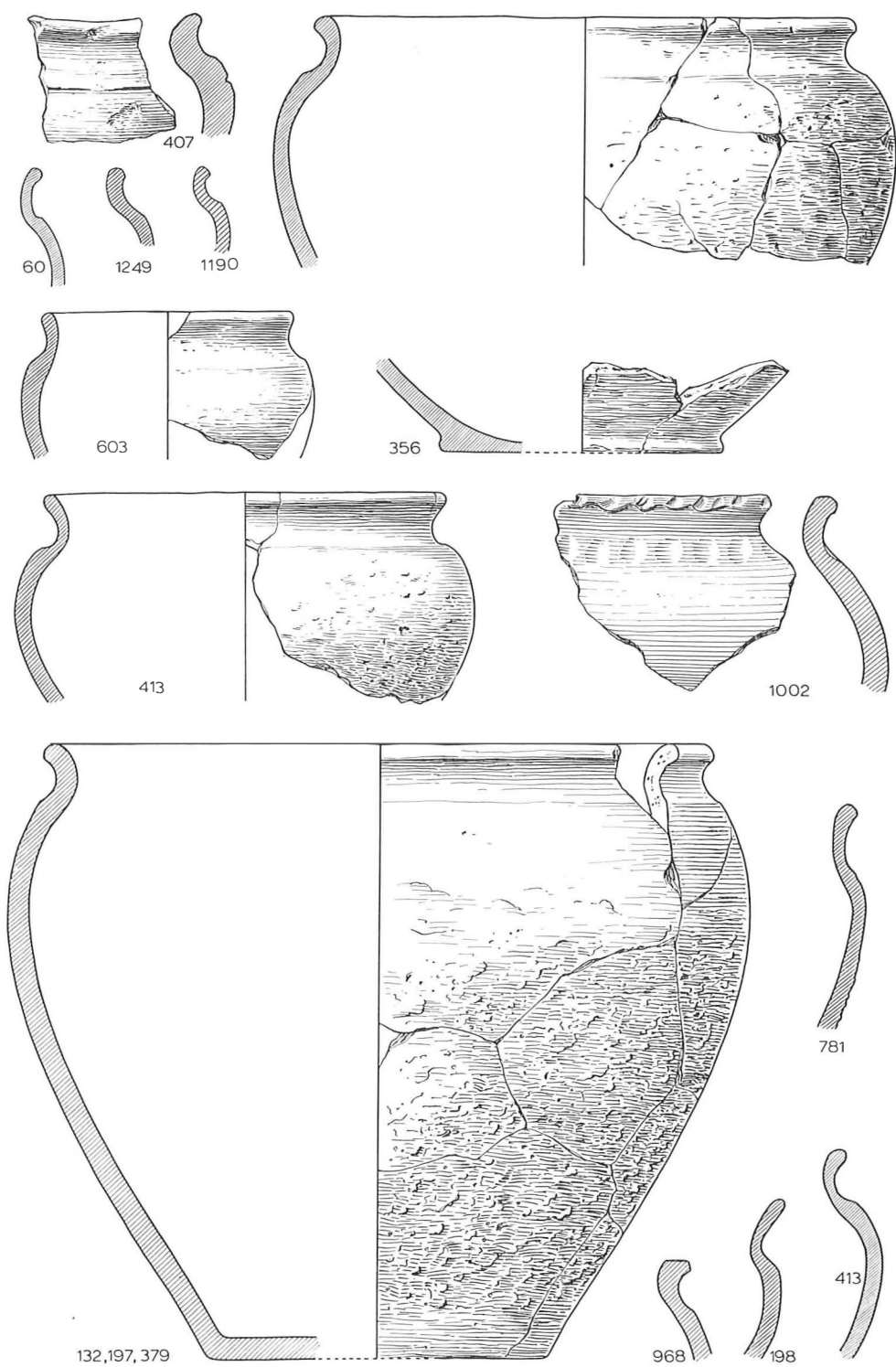


Fig. 139. Type IVE. Wijster. Scale 1 : 3.

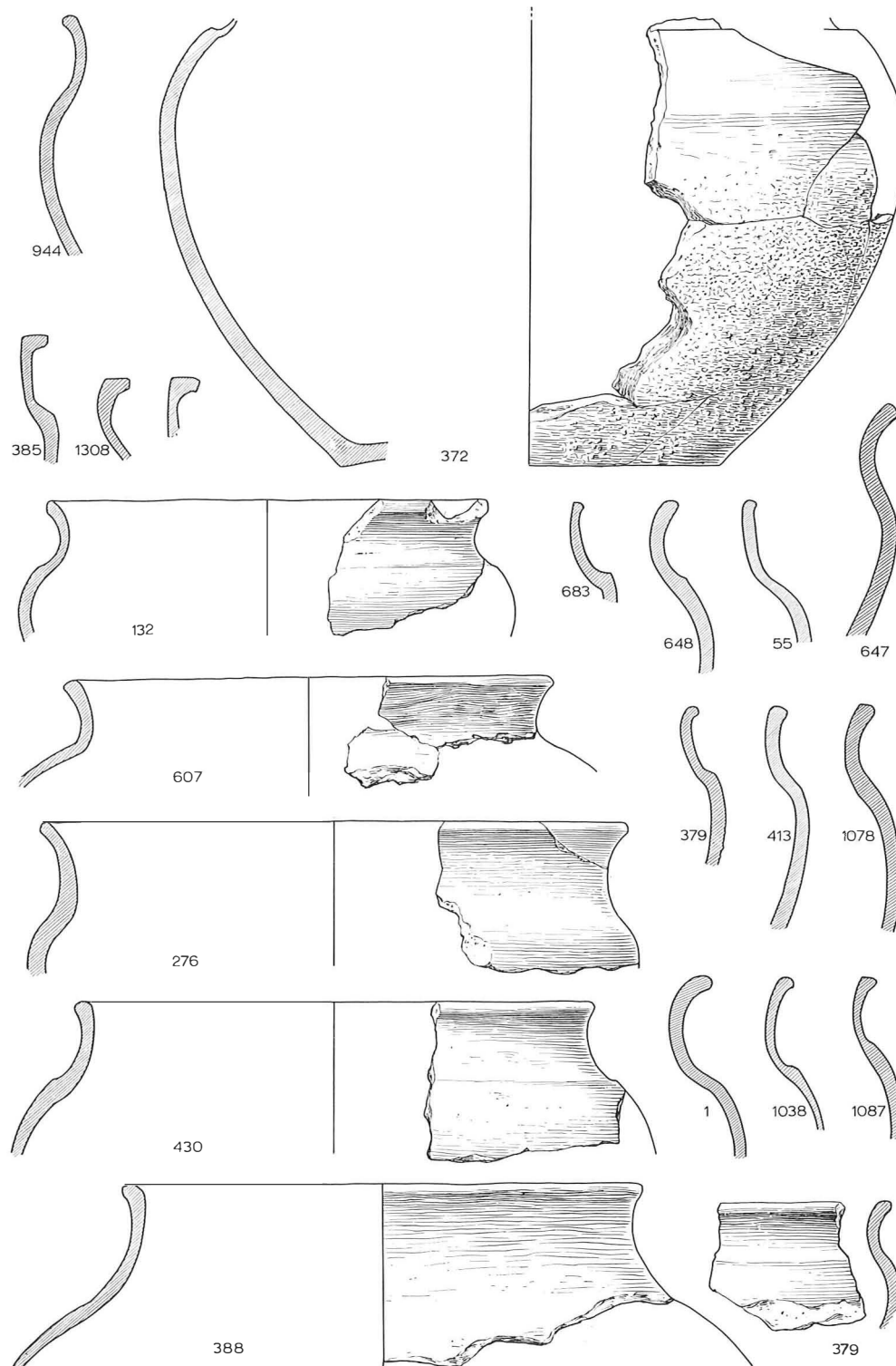


Fig. 140. Type IVF. Wijster. Scale 1 : 4.

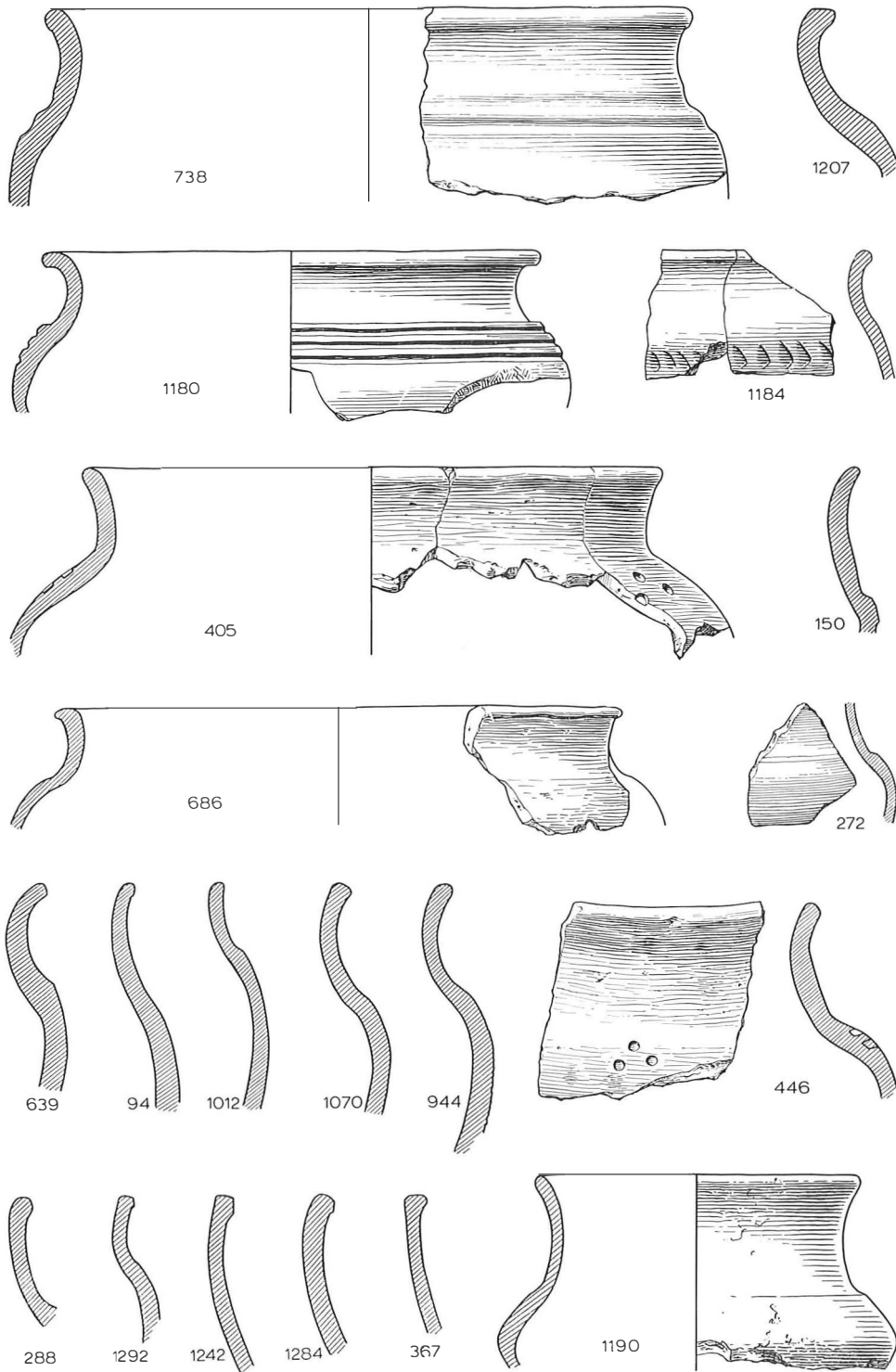


Fig. 141. Type IVF. Wijster. Scale 1 : 3.

## TYPE IVF (Fig. 140, 141)

Here the long neck has a gently curved profile. The rim has often been flattened and slightly drawn out to form a small lip. The three sherds with the extremely large horizontal lip (385, 1308, without find no.), however, should perhaps not be included in this type. The globular body with sharp division between neck and shoulder and rounded transition from shoulder to belly reminds one of type IVE. Most pots represented by our fragments had a rim diameter almost equal to the widest circumference of the body; in this case, the shoulder is narrow and not very well-defined. Other specimens were not as wide-mouthed, and then the shoulder was broader. The type probably had a flat base (372).

As decoration, we find triangular formations of three small round impressions on the shoulder (405, 446), a row of sharp triangular impressions below the base of the neck (1184), and a low broad ridge accompanied by two broad shallow grooves marking the base of the neck (738). A fragment with three sharp grooves on the shoulder (1180) has also been attributed to this type.

The upper part is smooth; the belly can be roughened. The material is stone-tempered and yellowish-brown, greyish or bluish-black in colour.

## TYPE IVG (Fig. 142)

Too little is known about the complete form. It was certainly big-bellied and in general shape probably resembled the preceding model.

The sherds have been grouped according to ornament. Only the decorative pattern of the largest fragment (1146) is known in full: horizontal grooves on the shoulder with shallow roundish impressions between the lowest two grooves, and below them a row of large *Buckel*, enclosed by groups of two oblique grooves. The ornament on the other smaller sherds may be part of comparable patterns, but then without the *Buckel*.

The paste is stone-tempered; the surface is smooth and has a yellow, brownish or greyish-black colour.

## TYPE IVH (Fig. 143, 144)

A large number of rim-sherds represent medium-sized bowls with apparently more or less globular body and bent-out neck. The profile is mostly not angular but more or less S-curved with rounded transitions from belly to shoulder and from shoulder to neck. There is variation in the length of the neck, the breadth

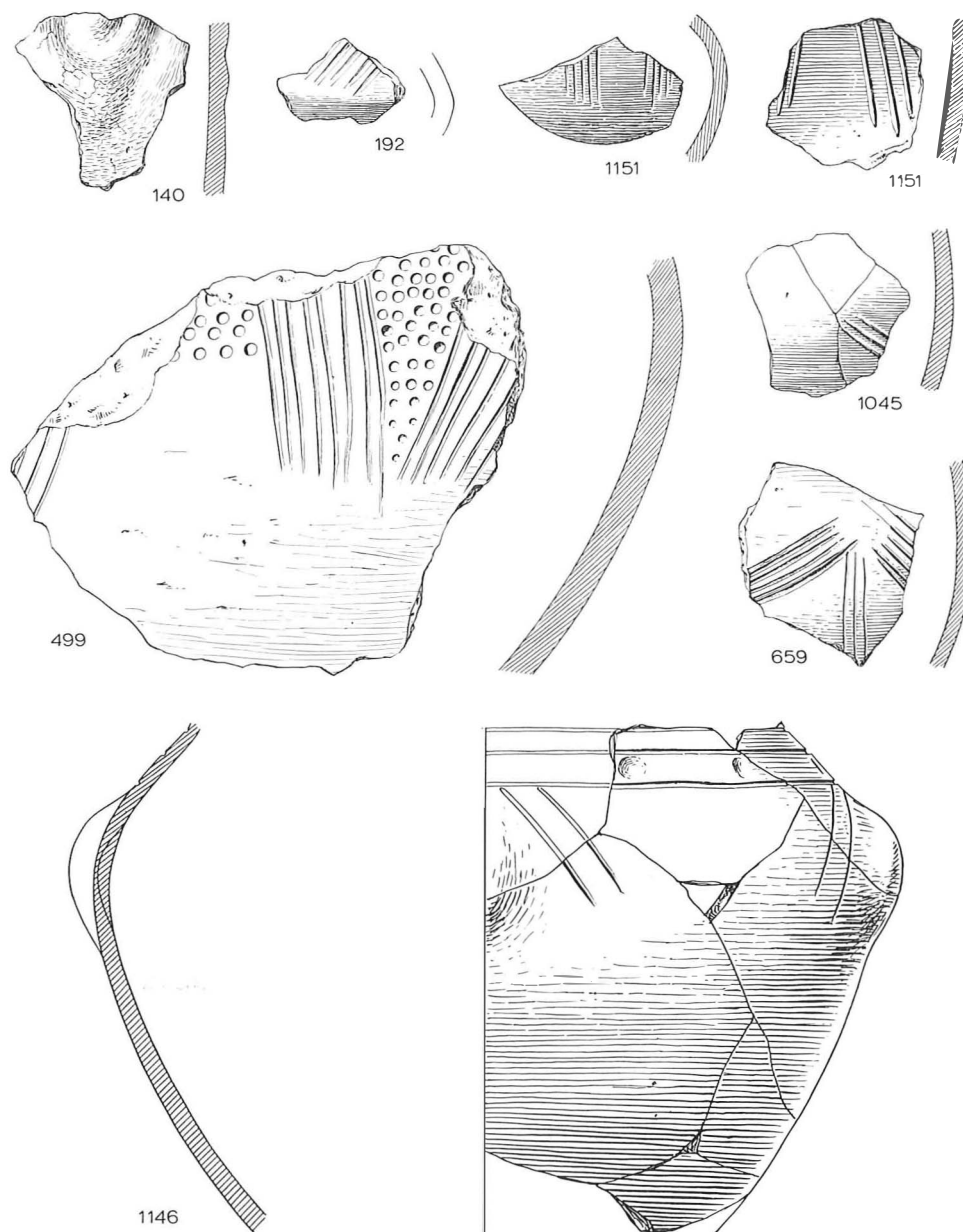


Fig. 142. Type IVG. Wijster. Scale 1 : 3.

of the shoulder and probably also the shape of the lower part, about which not much is known, however. The difference between types IVA and H is often not very great. As in the case of types IVA and B and for the same reasons, we refrained from subdivision.

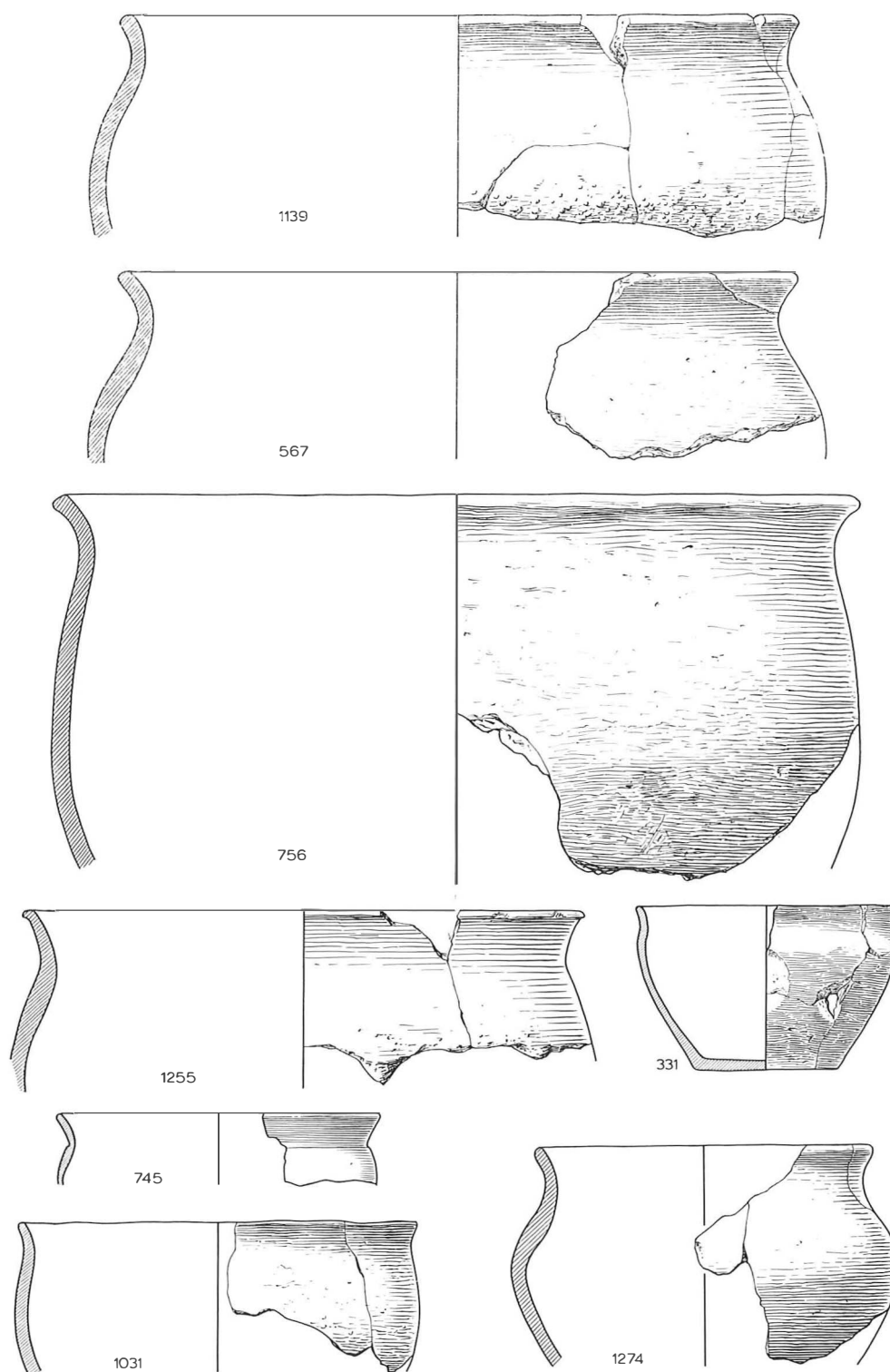


Fig. 143. Type IVH. Wijster. Scale 1 : 4.



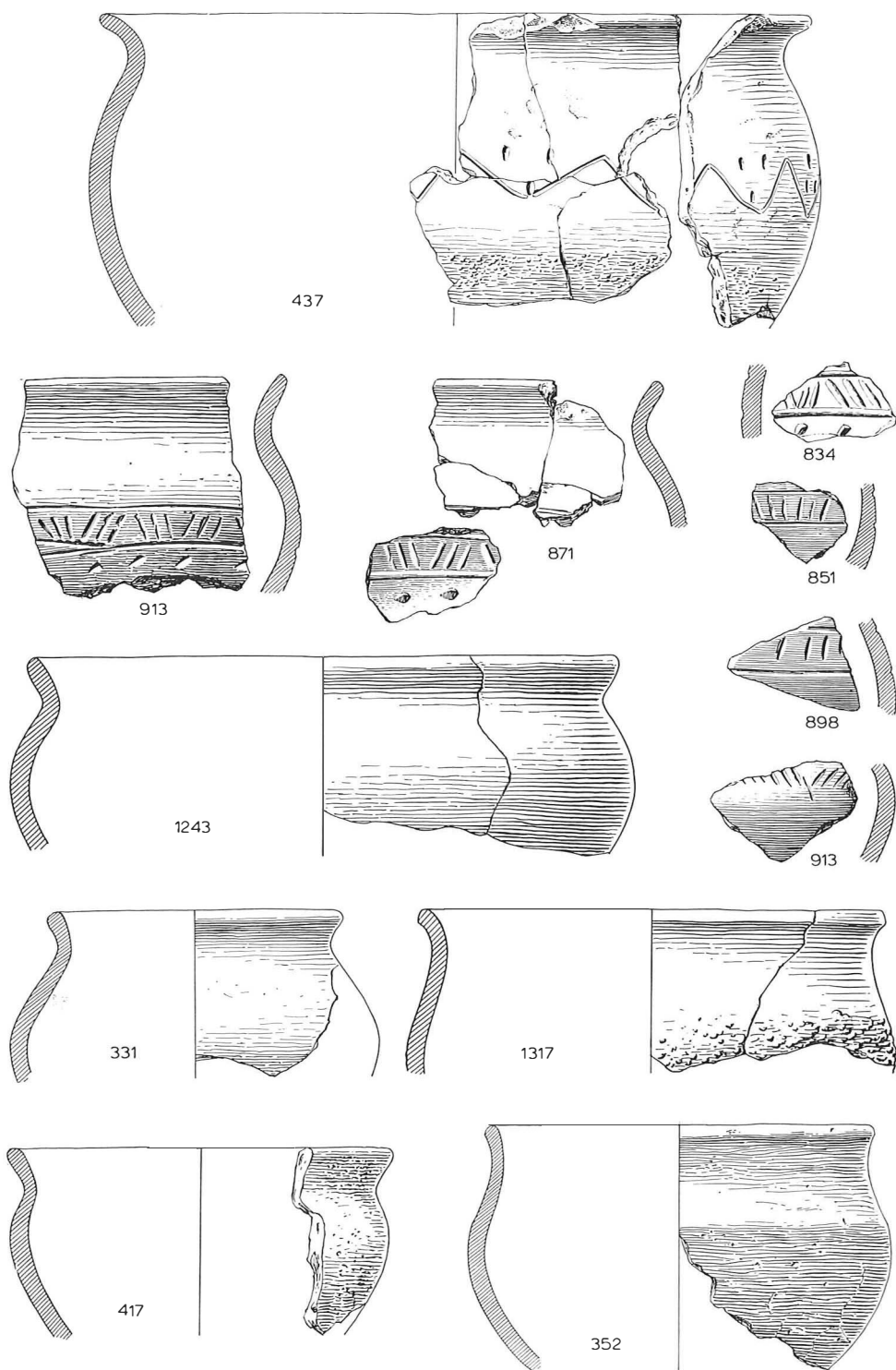


Fig. 144. Type IVH. Wijster. Scale 1 : 3.

Two rim-sherds (871, 913) are decorated at the base of the shoulder by groups of three oblique grooves, directed alternatively to left and to right, between two horizontal lines; below this frieze runs a row of pointed impressions. A few sherds with comparable ornament (834, 851, 898) may come from similar pots. On one specimen, the decoration (again at the base of the shoulder) consists of a zigzag groove with groups of three oval impressions, arranged in triangle formation, in some of the hanging fields (437).

The paste is stone-tempered. The surface is more or less smooth, at least on the shoulder and neck, while the belly can be roughened. Colours vary from yellowish- or brownish-grey to a greyish-black.

## V. Plates

The plate family comprises three different types.

### TYPE VA (Fig. 145, 146)

The type has long oblique and straight sides. It stands on a comparatively small flat bottom. The simple unthickened rim can be decorated on top with roundish fingertip impressions (851, 1103). The one nearly complete fragment (847) has a perforated vertical knob-handle just below the rim.

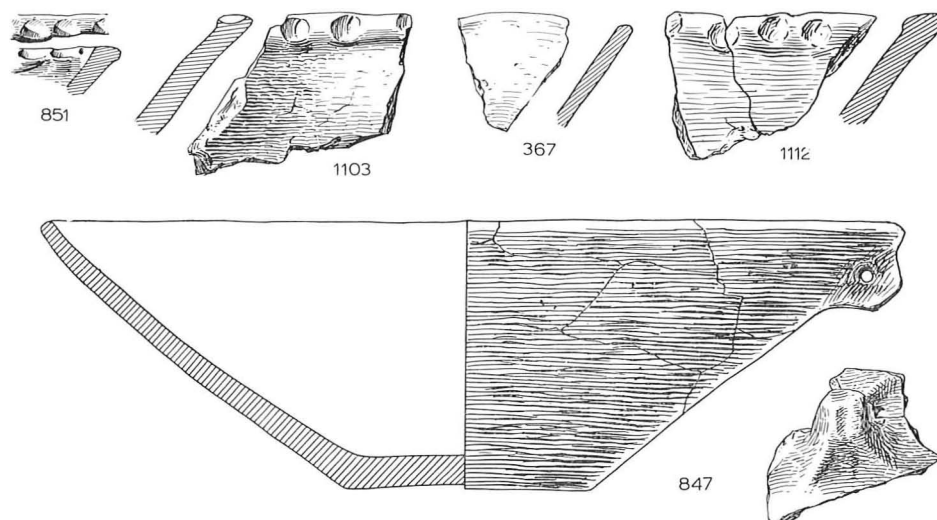


Fig. 145. Type VA. Wijster. Scale 1 : 3.

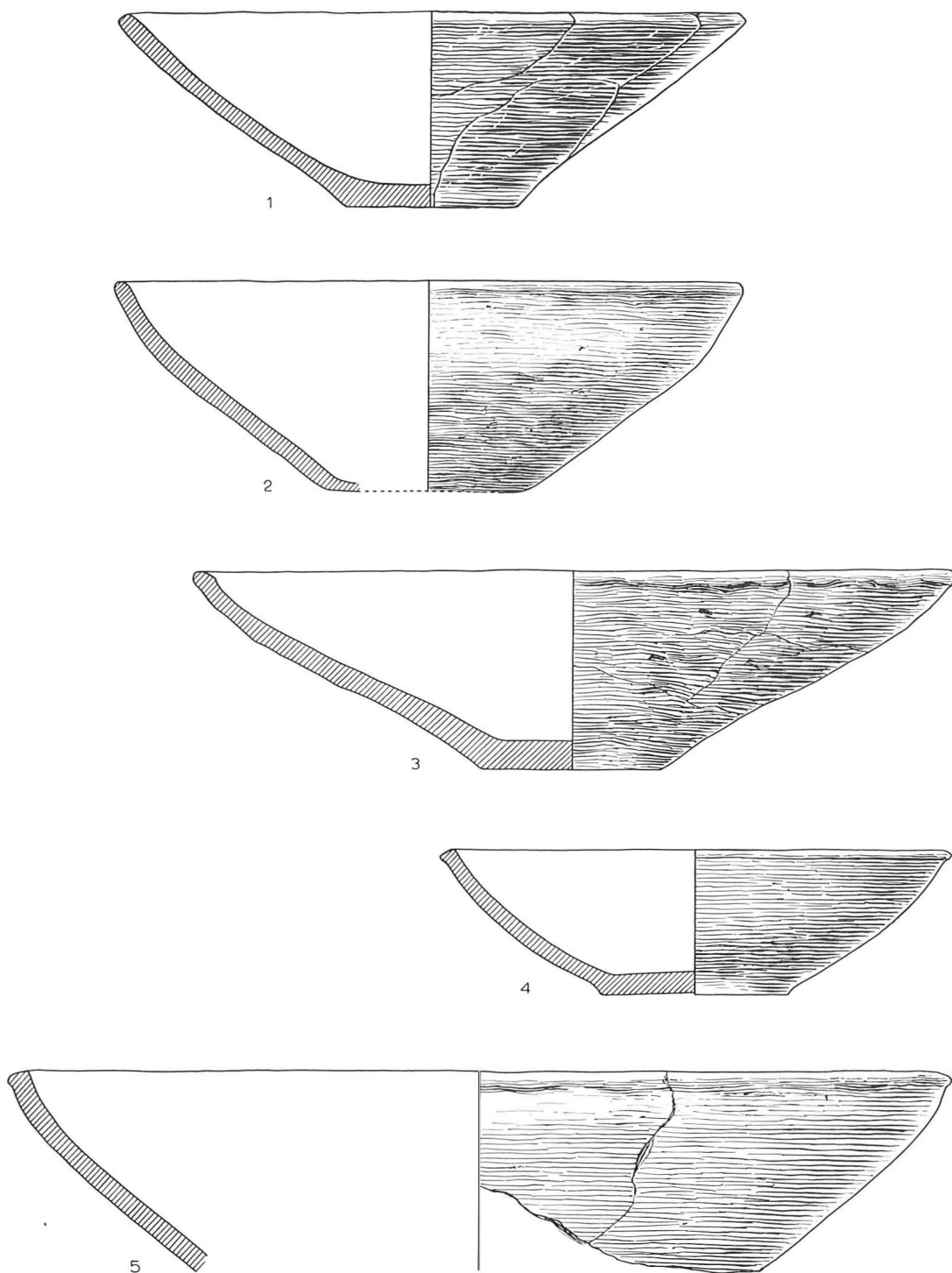


Fig. 146. Type VA. Rhee. Scale 1 : 3.

The outer surface of the complete plate is rather irregular, while the inside is smooth. The material is stone-tempered, and yellowish-grey or greyish-black in colour.

#### TYPE VB (Fig. 147)

The complete form of this type is not known. The sides are not straight, but the upper part curves slightly inwards or, perhaps more accurately, upwards. The rim is flattened and slightly thickened.

The surface is fairly smooth. The paste is stone-tempered; the colour is brownish, brownish-black or greyish-black.

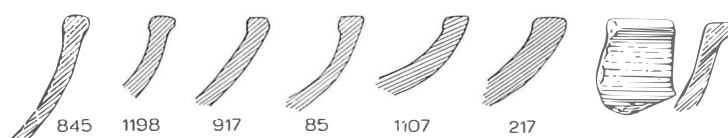


Fig. 147. Type VB. Wijnster. Scale 1 : 3.

#### TYPE VC (Fig. 148, 149)

The short steep, sometimes almost vertical, sides of the third type are straight or just a little curved. It has a wide, flat base.

Two small specimens have also been included here (550, 1151).

The outer and inner surfaces are more or less smooth. The paste is stone-tempered. The colours are yellow, yellowish-grey, greyish or bluish-black.

### VI. Small Straight-sided Cups

#### TYPE VIA (Fig. 150, 151)

This model has straight, steep, almost vertical sides and a flat base. Some sherds have horizontal or vertical knobs projecting from the rim (657, 853, 1062). Two

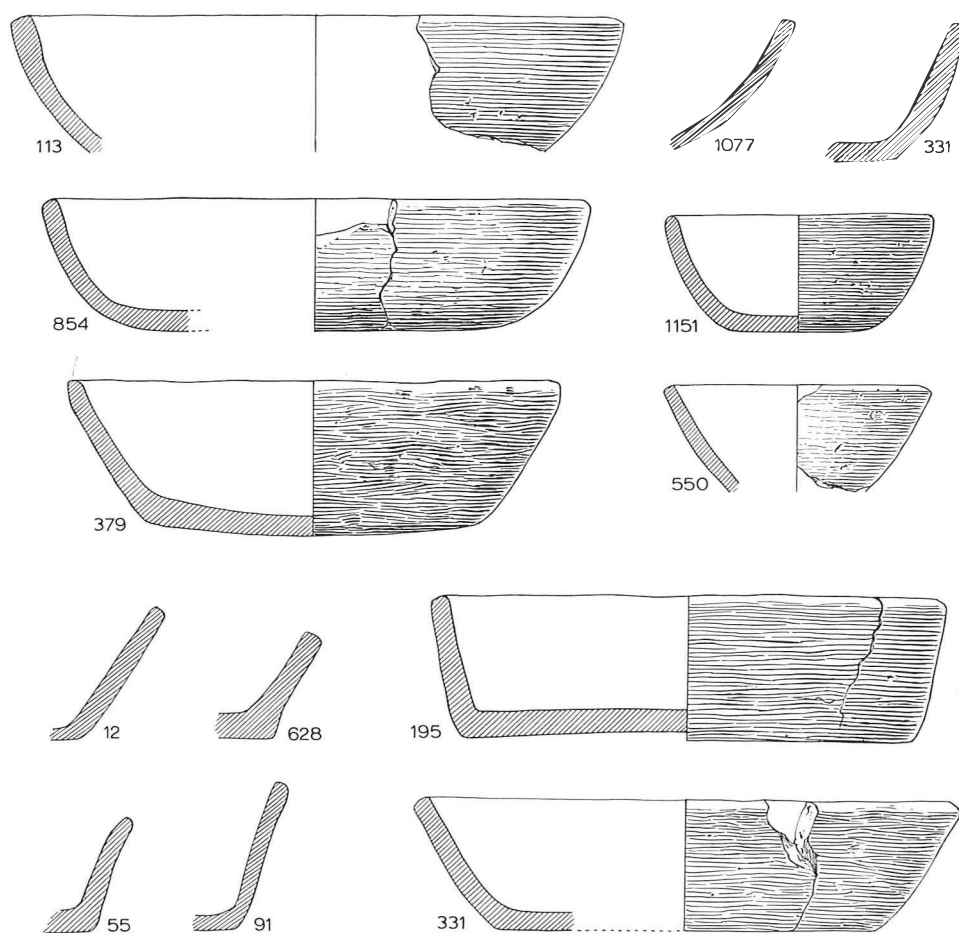


Fig. 148. Type VC. Wijster. Scale 1 : 3.

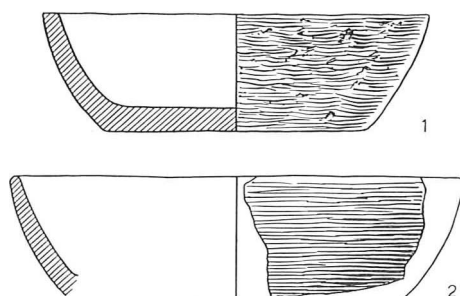


Fig. 149. Type VC. Rhee. Scale 1 : 3.

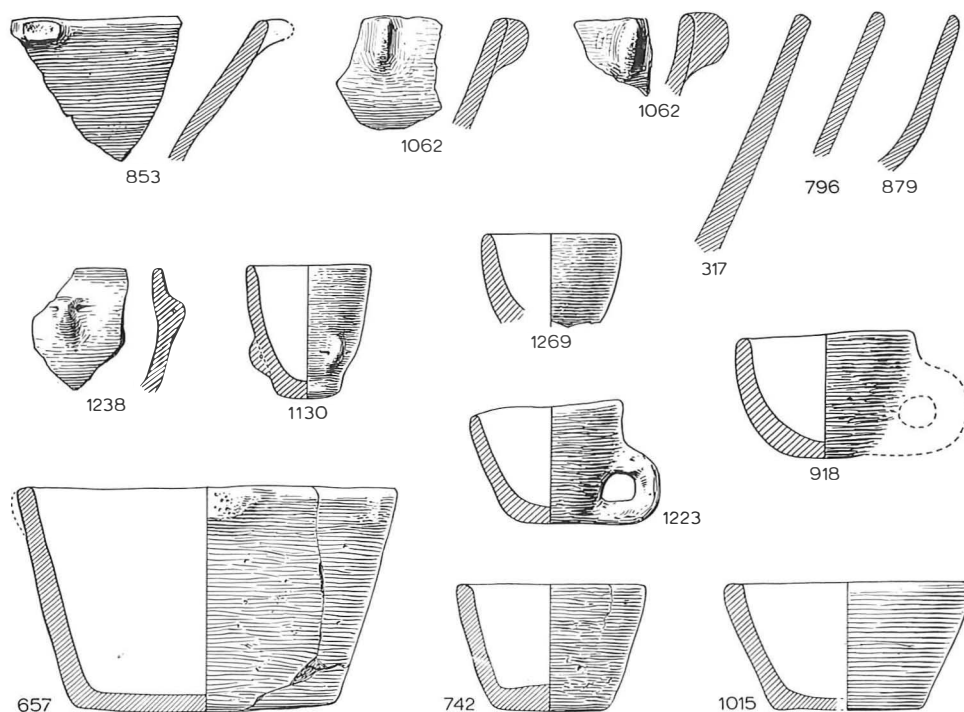


Fig. 150. Type VIA. Wijster. Scale 1 : 3.

small cups with large handles in line with the base have also been included here (918, 1223). Two other cups (1130, 1238) have another special feature in their small perforated knob-handles.

Outer and inner surfaces are more or less smooth. The paste is stone-tempered. The colours are yellowish-grey, greyish or bluish-black.

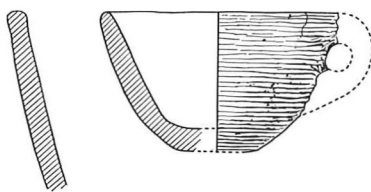


Fig. 151. Type VIA. Rhee. Scale 1 : 3.

## TYPE VIB (Fig. 152)

The elegant cup 225, with its slightly curved sides and neatly profiled foot is the only representative of its kind. Outer and inner surfaces are relatively smooth. The paste is stone-tempered and greyish-black in colour.

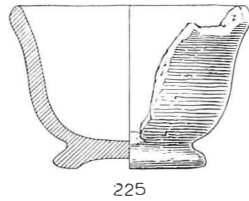


Fig. 152. Type VIB. Wijster. Scale 1 : 3.

## VII. Neckless Bowls

## TYPE VIIA (Fig. 153)

The type has a biconical, probably flat-bottomed, body. The rather broad and straight oblique shoulder is sharply divided from the conical belly, which has practically straight sides. The rim can be slightly thickened.

Three fragments show sharp-cut notches on the outside of the rim (731, 902). One of them (902) was also ornamented on the belly.

The shoulder has a fairly smooth surface, while the belly can be roughened. In the case of 731 the roughening is brought about by scratching (*Besenstrich*). The paste is stone-tempered. Colours are yellowish or greyish-black.

## TYPE VIIB (Fig. 154-157)

## VIIB1 (Fig. 154, 155)

The sub-type is very common at our site. In its most characteristic form it can be described as a rather deep flat-bottomed bowl with globular body and inverted rim. Normally its breadth is slightly more than its height; extremely shallow specimens (498) are exceptional. Allowance has been made for a certain variability as far as the rim is concerned: also a few bowls with a rim which does not curve in at all but stands vertically (222, 602, 893, 1142) were included here.

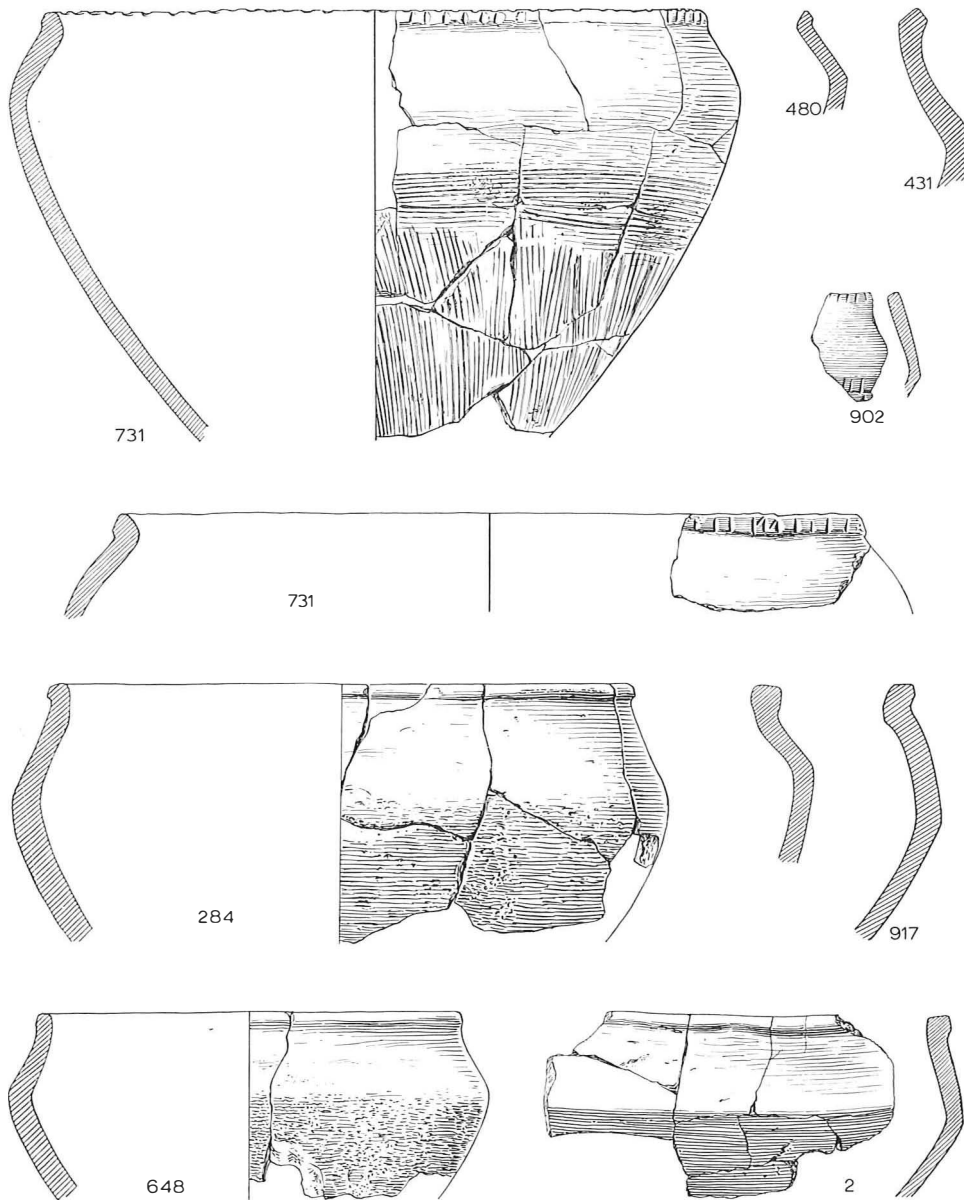


Fig. 153. Type VIIA. Wijster. Scale 1 : 3.



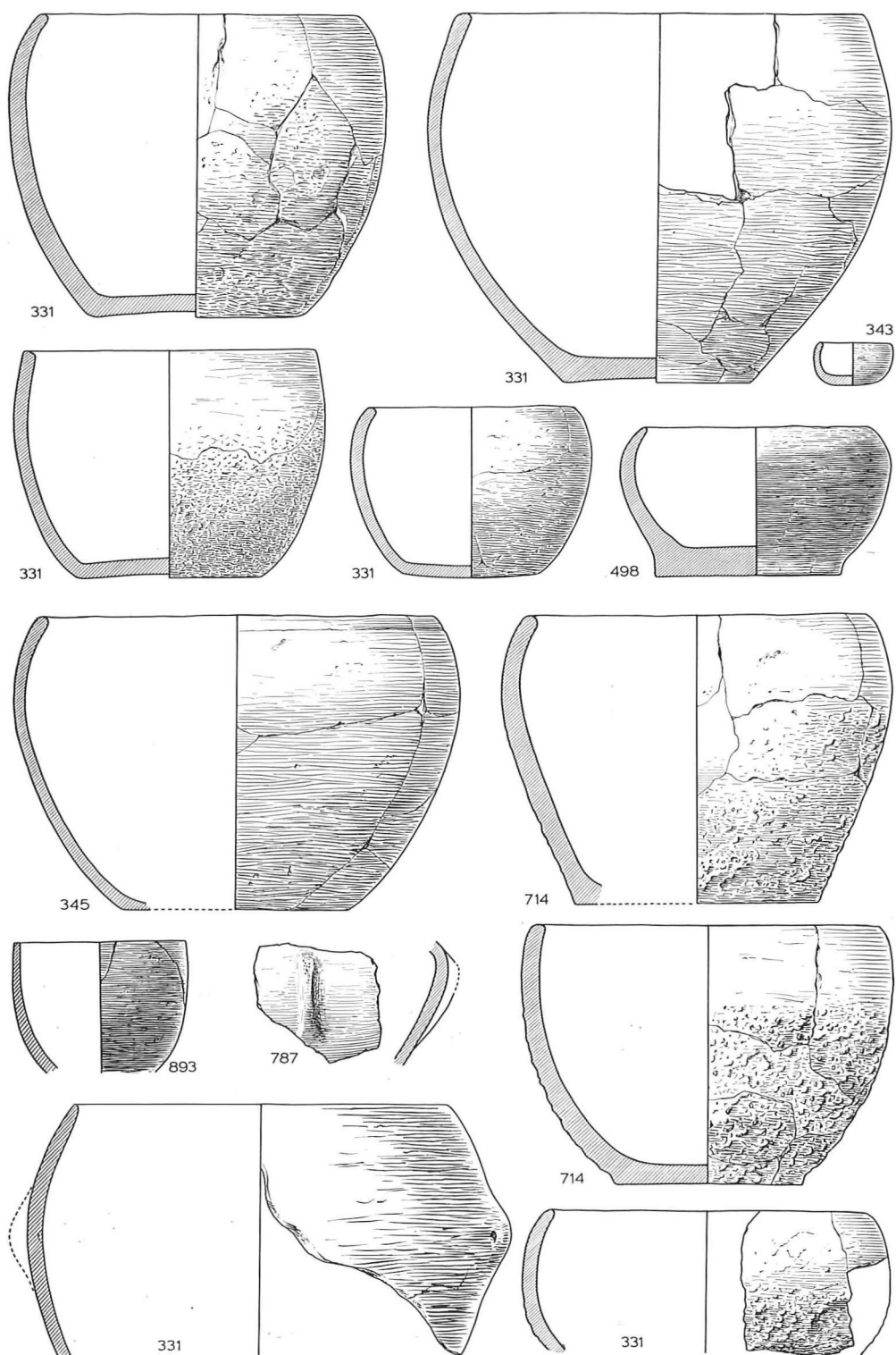
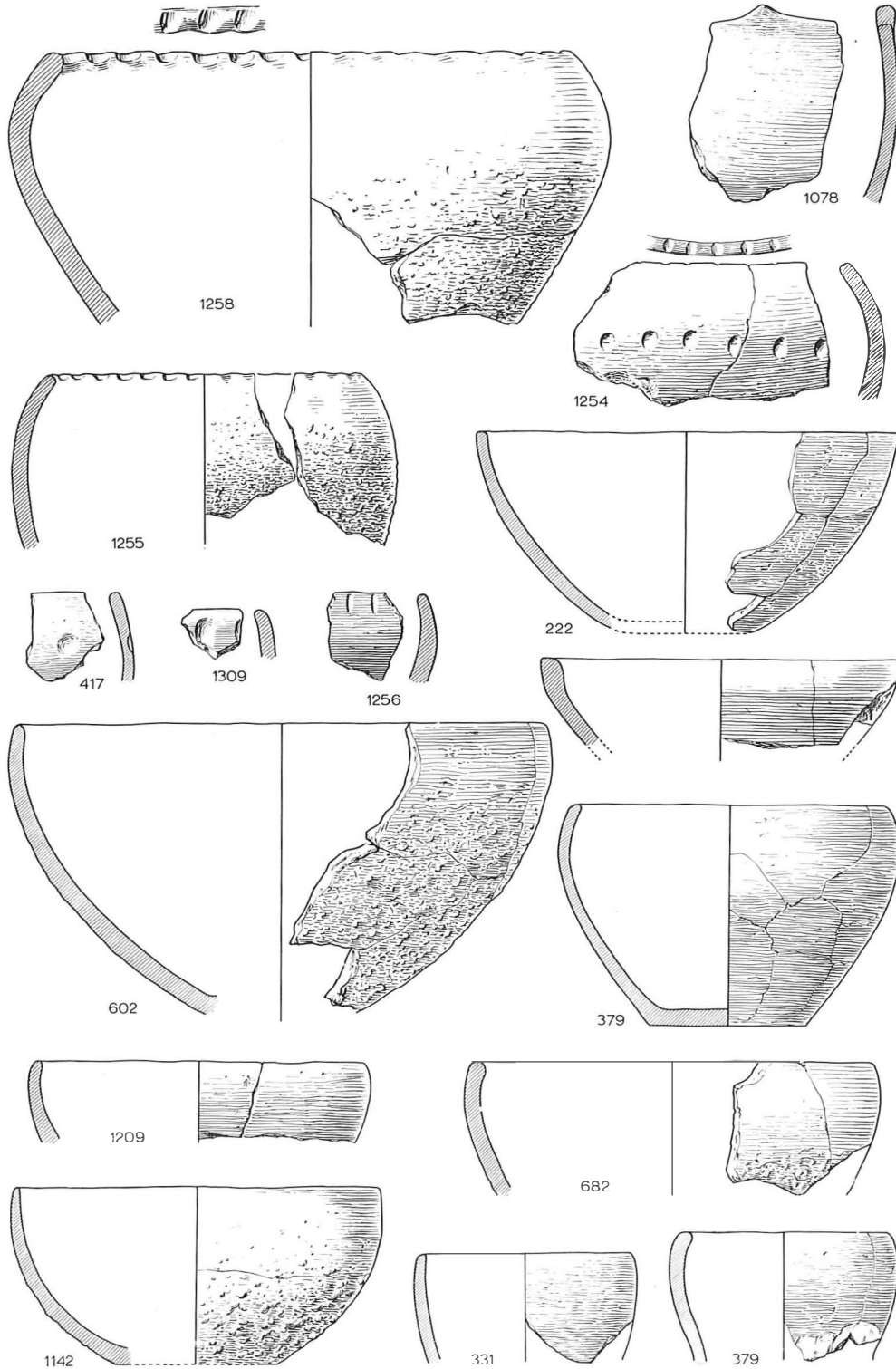


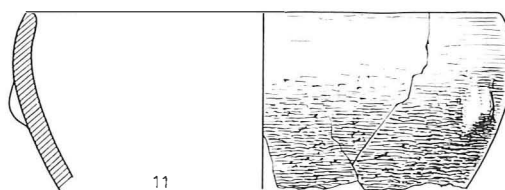
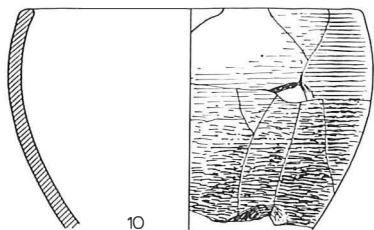
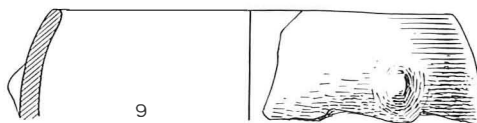
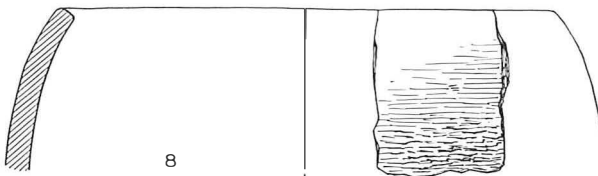
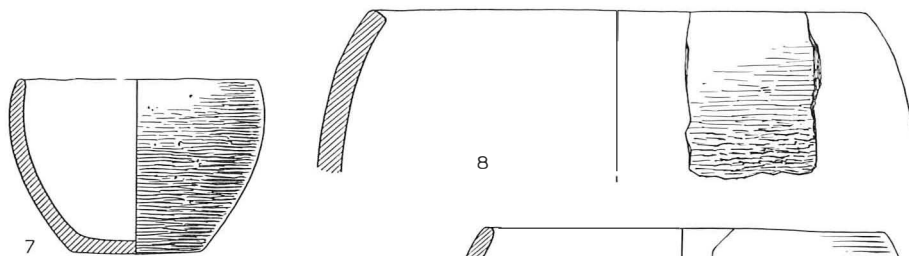
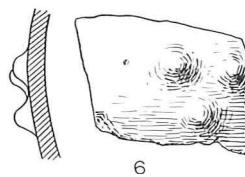
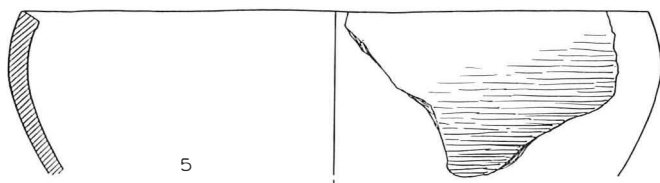
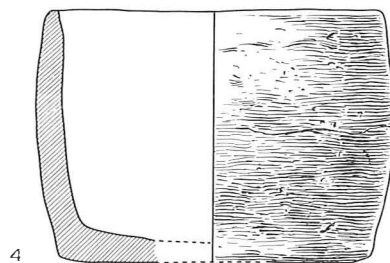
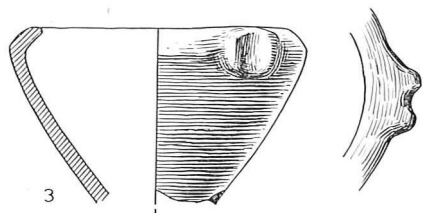
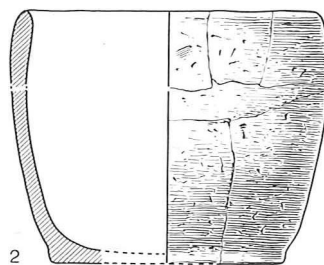
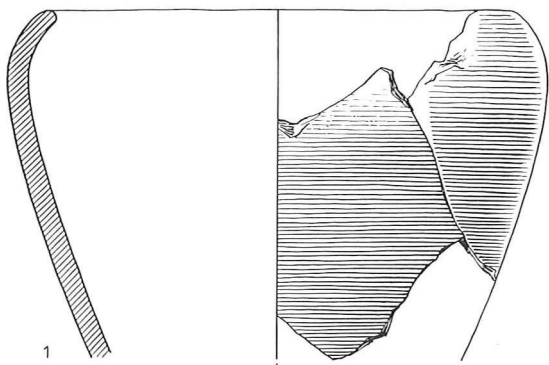
Fig. 154. Type VII B1.

Pottery

263



Wijster. Scale 1 : 4.



Ornament is rare. Occasionally the rim may be decorated on top with fingertip impressions (1254, 1255, 1258); in one specimen, the rim is notched by short vertical grooves (1256); rows of roundish impressions are found just below the rim or slightly lower down (417, 1254, 1309). Also among the Northern Dutch parallel material lavish ornament is uncommon (*cf.* Fig. 155 : 13-5).

Often the whole wall is smooth, but frequently the part below the largest circumference has been roughened. The paste is stone-tempered. The colours are yellowish, greyish or blackish.

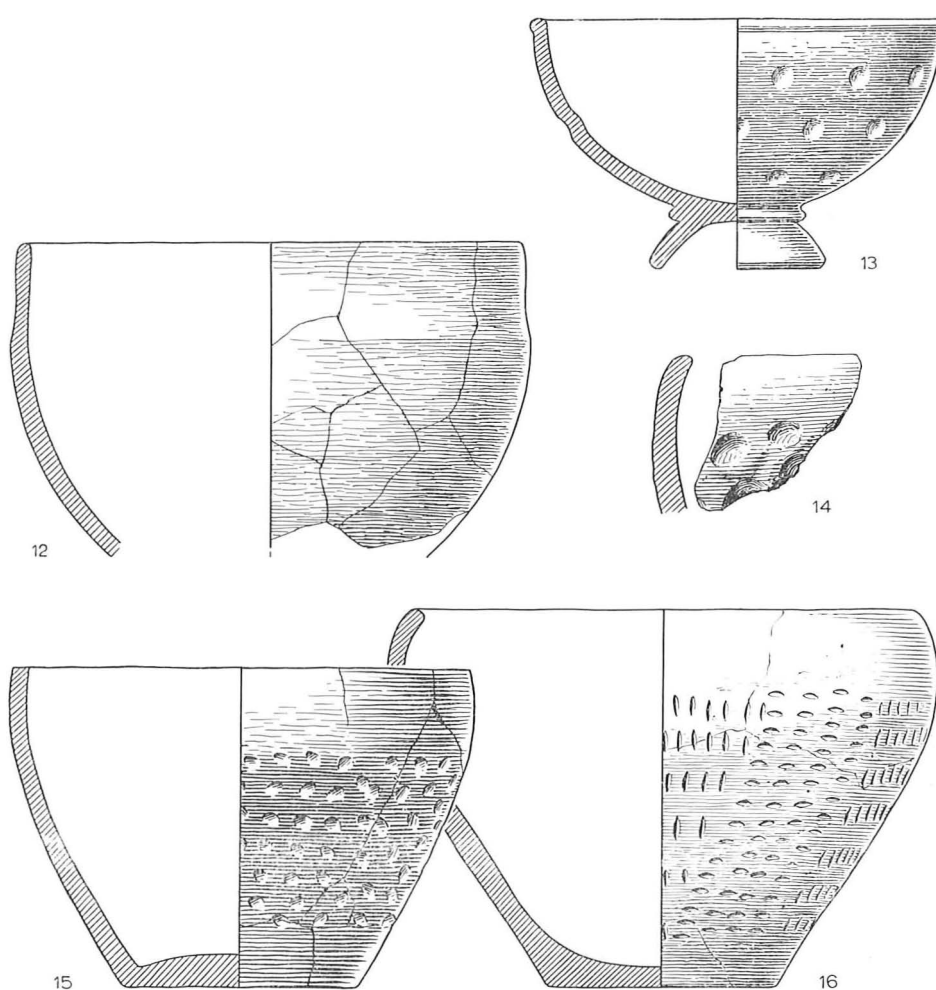


Fig. 155. Type VIIB1. 1: Groningen, Martinikerkhof, 2, 4: Farmsum, 3: Province of Groningen, 5: Fochtelo, 6, 9, 11, 14, 15: Rhee, 7: Aalden, 8: Peelo, 10: Hijken, 12: Bolleveen near Zeijen, 13: Wijster, cemetery, 16: Garderen, Beumelerberg. Scale 1 : 3.

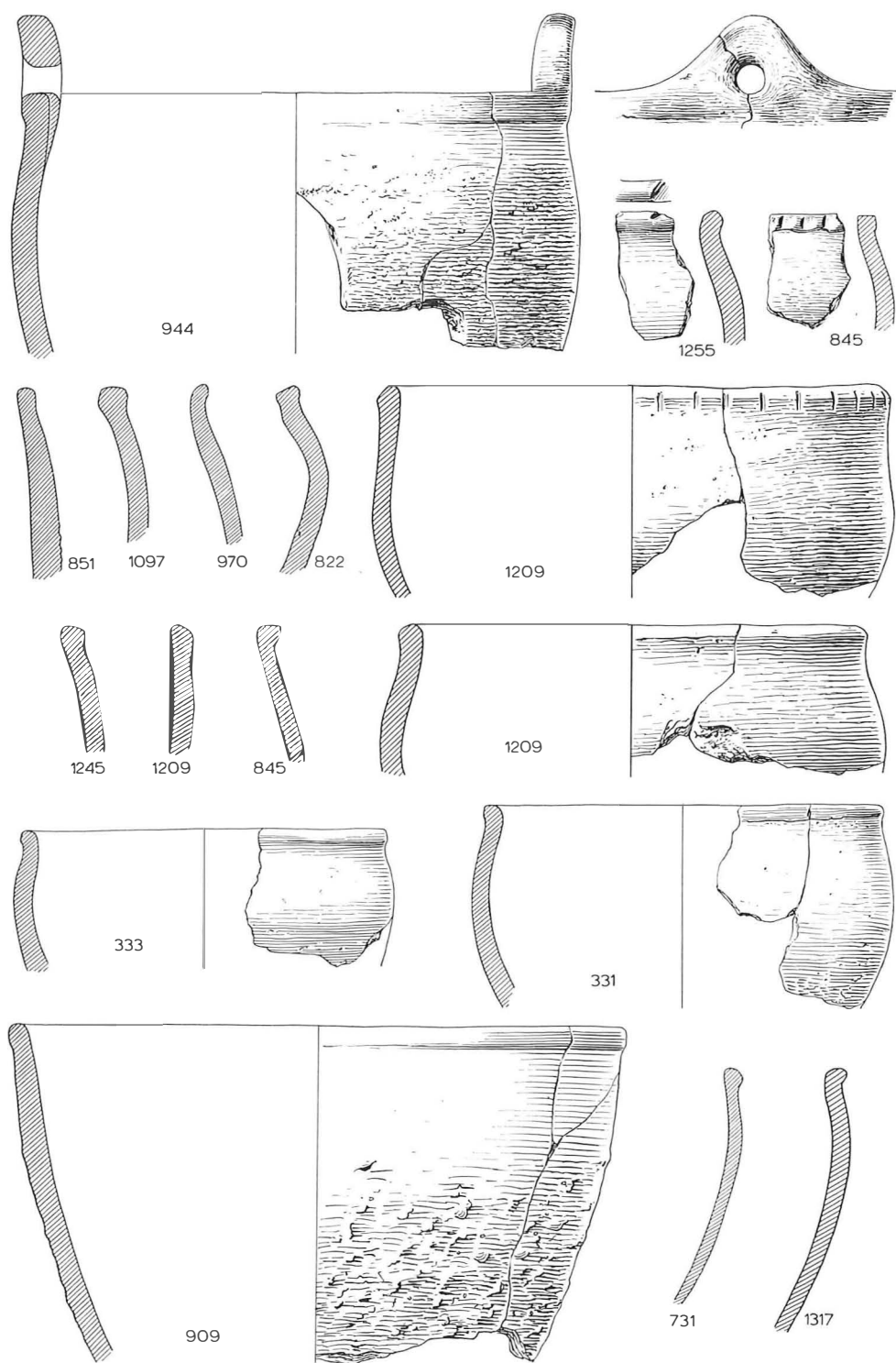


Fig. 156. Type VII B2. Wijster. Scale 1 : 3.

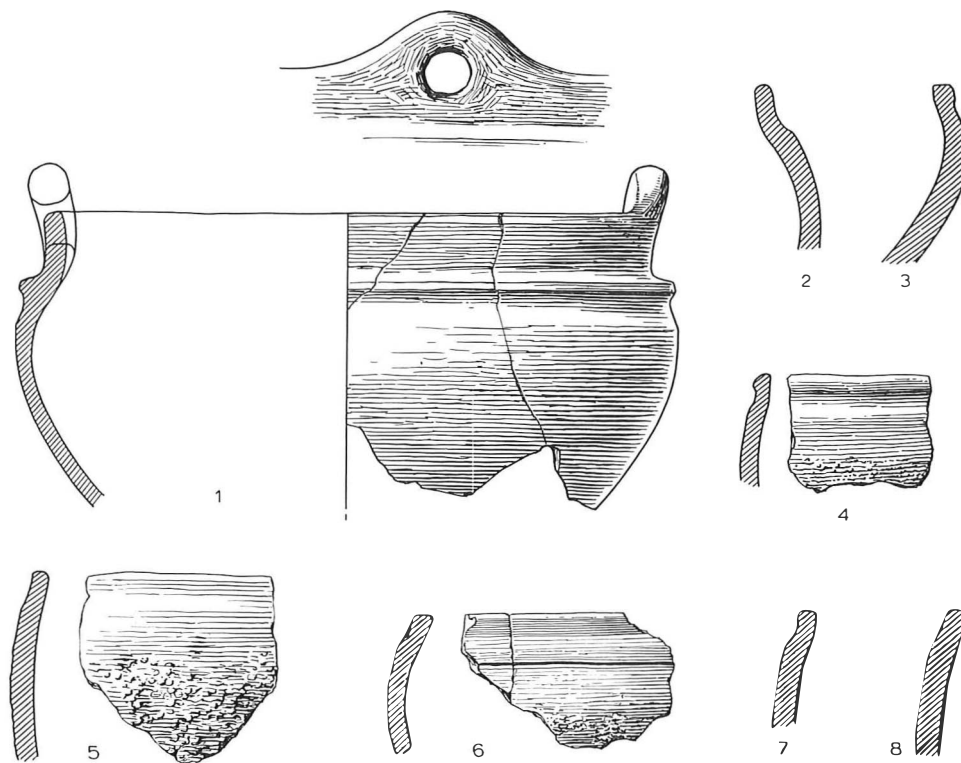


Fig. 157. Type VIIB2. 1: Groningen, Martinikerkhof, 2: Peelo, 3: Hijken, 4–8: Rhee. Scale 1 : 3.

#### VIIB2 (Fig. 156, 157)

The only difference with the preceding sub-type consists in a slight thickening of the rim, which is now stressed as a separate element and sometimes shows tendency to turn into a very short cylindrical neck.

One sherd (1255) has fingertip impressions on top of the rim, another on the outside (845); also a notched rim occurs (1209). Two perforated vertical and triangular projections placed opposite to each other on top of the rim (944) remind one of metal work (*cf.* Fig. 157: 1).

Also in these pots, the lower part of the wall can be roughened.

#### VIII. Schalenurnen

At Wijster, the *Schalenurne* is rare. It betrays its presence by a few decorated sherds. The distinction of two types is mainly based on differences in the style of the ornament.

## TYPE VIIIA (Fig. 158, 160)

The body of the small elegant bowls is biconical with a sharp transition from the belly to the broad and straight oblique shoulder; the base was probably flat. They usually have a short slightly bent-out neck, but the neck may also be less well-defined (784, 834, 1249).

The ornament is complex and diversified. On the shoulder, we see a group or groups of horizontal grooves; below these grooves, often still on the shoulder but

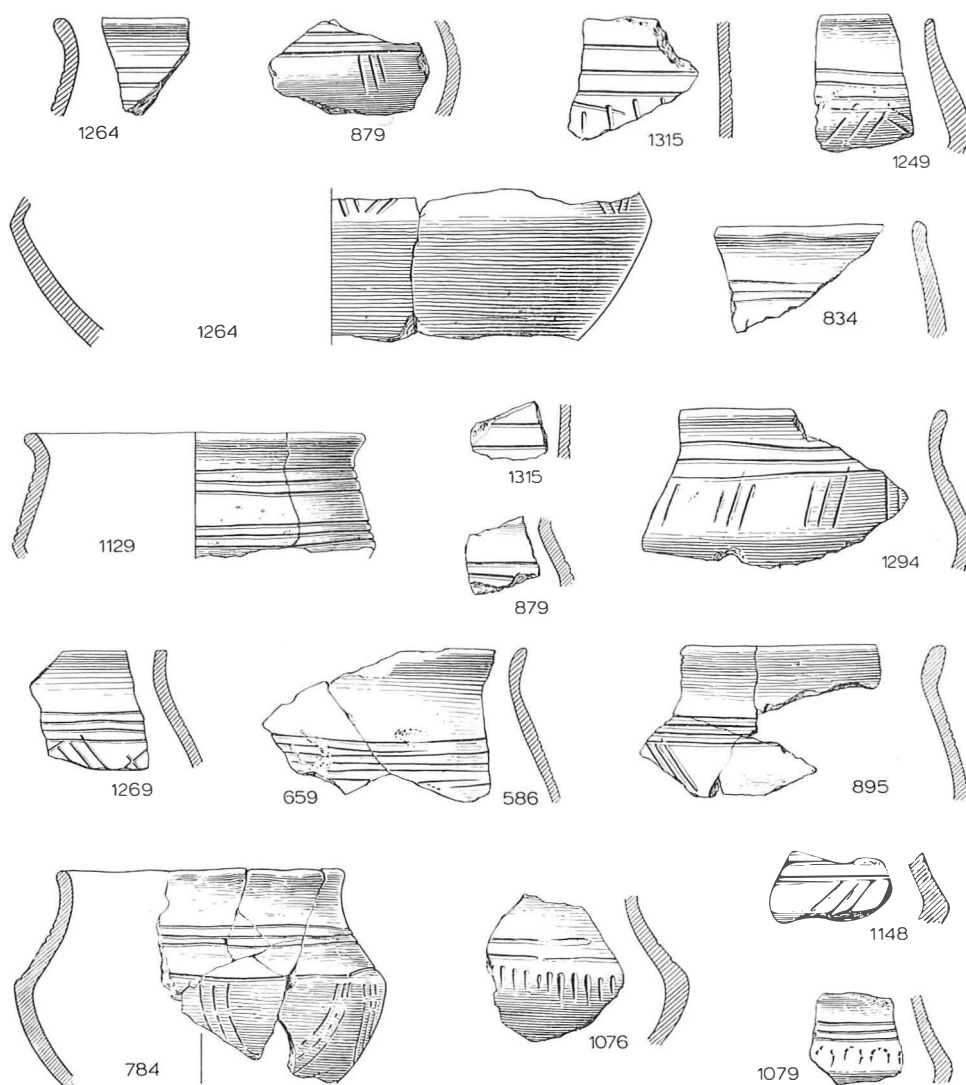


Fig. 158. Type VIIIA. Wijster. Scale 1 : 3.

also lower down on the belly, one finds different elements: groups of short oblique grooves; a zigzag pattern consisting of grooves; pendant arcs; a row of horseshoe-shaped impressions. The decoration on a fragment from Wijster cemetery (Fig. 160: 18) is closely related to the ornament with pendant arcs on 784.

The paste is fine and stone-tempered; the surface is smooth and more or less glossy; the colour is mostly black or greyish, but a yellowish colour also occurs.

#### TYPE VIIIB (Fig. 159, 160)

A few sherds showing another style of ornament, less linear and more plastic, also come from bowls. The shoulder again is grooved, but often the grooves are broader and the zones between them may carry ornament in the form of small vertical or oblique grooves, zigzag grooves, brooch spiral impressions and oblong indentations. Also stamped motifs occur (rosettes, concentric circles: 618, 676). The rounded transition from shoulder to belly can be ornamented with oblique or vertical broad, shallow grooves which may be separated by sharper ones (30, 353, 1230, without find no.).

The complete model cannot be reconstructed from the fragmentary Wijster material. Sherds from Mahndorf<sup>1</sup> with comparable ornament indicate that it differs

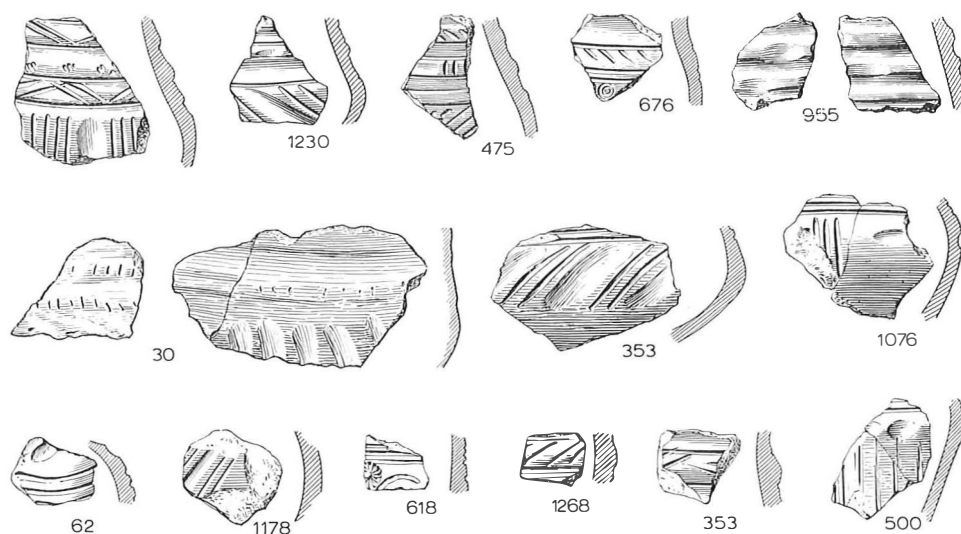


Fig. 159. Type VIIIB. Wijster. Scale 1 : 3.



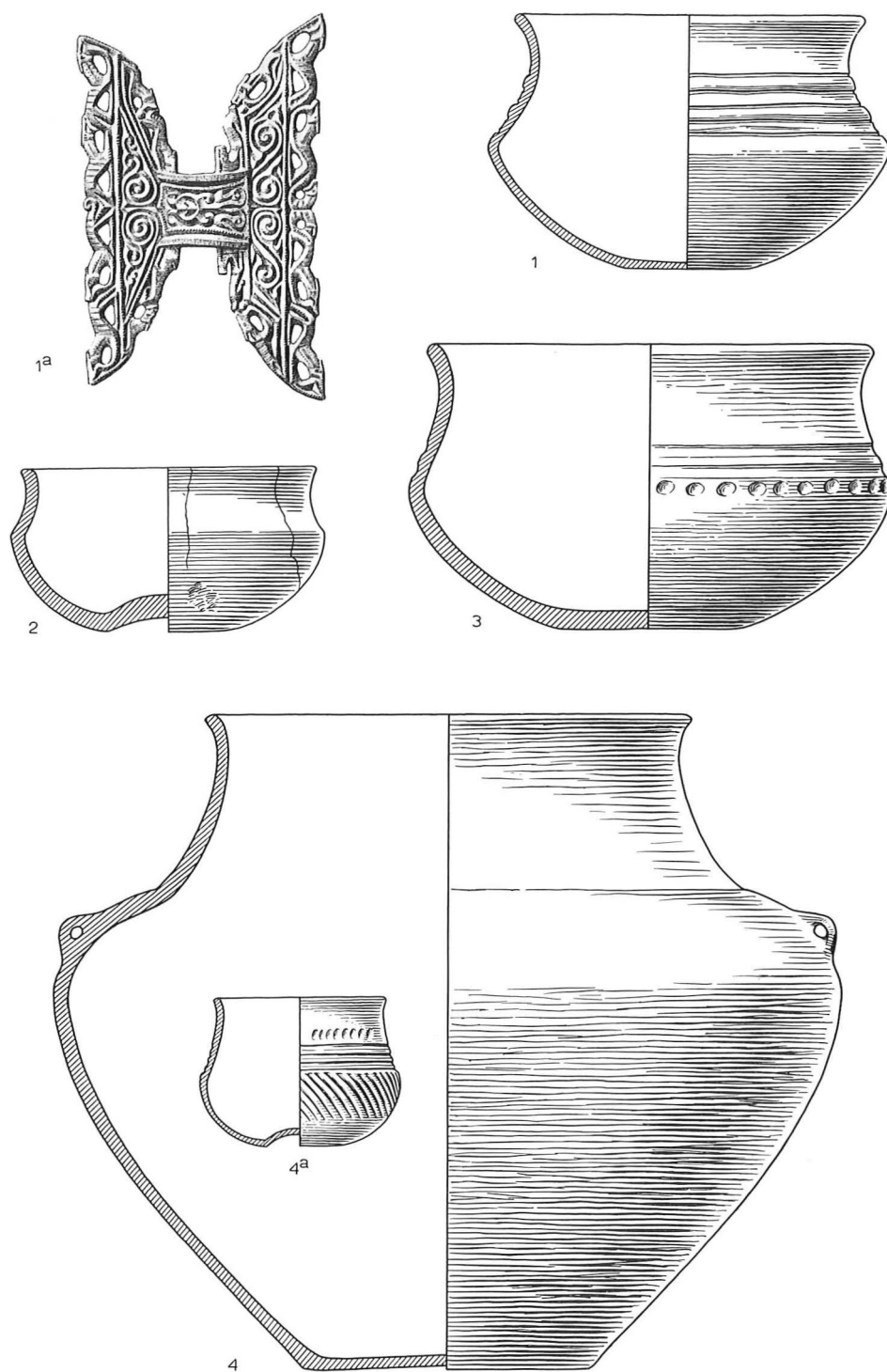
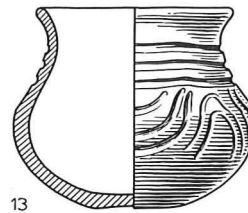
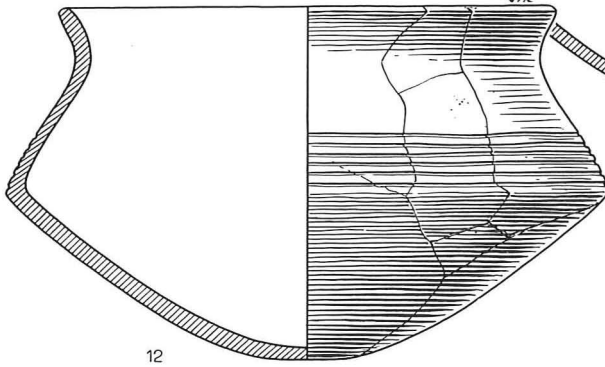
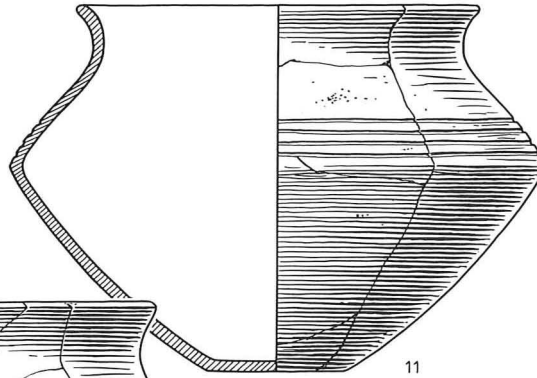
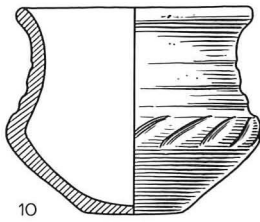
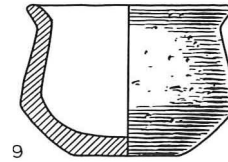
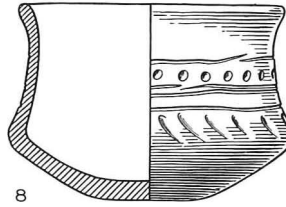
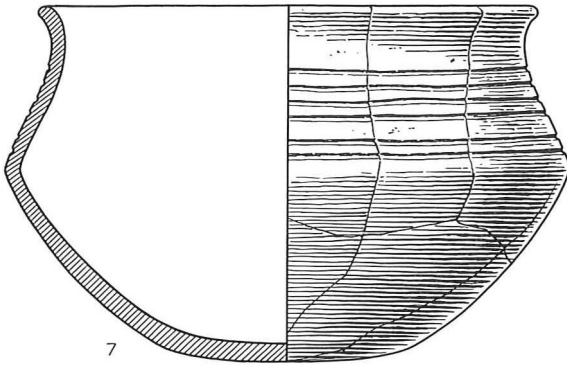
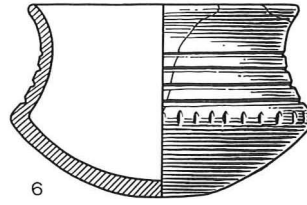
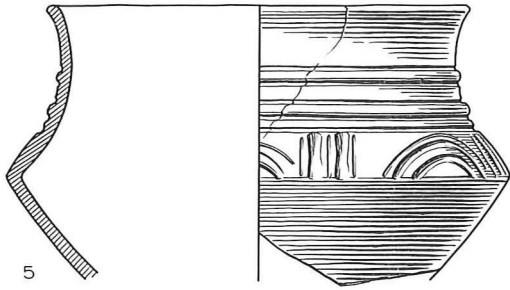


Fig. 160: 1-13. Types VIIIA



and B. Scale 1 : 3.

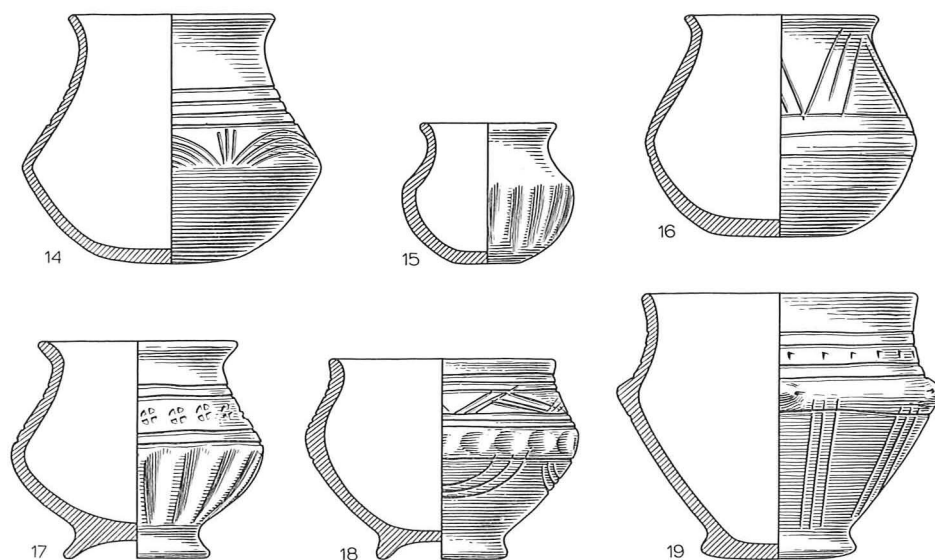


Fig. 160. Types VIIIA and B. 1: Zweelo, 2, 16, 17: Rhee, 3: Borger, 4: Zuidlaren, 5-7, 9, 11-13: Ezinge, 8: Bolleveen near Zeijen, 10: Valkum, 14, 15: Aalden, 18, 19: Wijster, cemetery. Scale 1 : 3.

only slightly in form from the preceding type, in that it was perhaps less angular. A sherd from Wijster cemetery representing a different model has exactly the same stamped rosettes as 618<sup>2</sup>.

The paste is fine and stone-tempered; the surface is smooth and yellow or black in colour.

### IX. Ornamental Patterns

Apart from the roughening of the pot's surface which, when brought about intentionally by application of slip (*Schlickung*), is to be considered as an ornamental device,<sup>3</sup> decoration is rare among the Wijster material. Moreover, if it is found at all, it is generally rather simple.

All decorated sherds, and not only the rim-sherds, have been included in the study of the ornament, but owing to the fragmentary character of the material it is often impossible to get an idea of the decoration of the pot as a whole. Still, a number of patterns formed by the combination of individual elements can be distinguished.

Instead of basing our description of the decoration on these ornamental elements, which are for the greater part rather simple (all varieties of impressions and grooves), we prefer to attempt a classification on the basis of the different patterns made from them, even though it is not always possible to establish the patterns in their complete form. For the terminology, extensive use was made of the fine work done in this field by Von Uslar.<sup>4</sup>

Four groups of patterns can be discerned: the first one (A) comprises the area patterns covering large portions of the pot's surface, the other three (B, C, D) include those patterns which emphasize separate parts of the pot. The distinction of the three last groups rests on the difference of the elements from which the patterns are composed: impressions (B), predominantly grooved decoration (C) and ornament with a more or less plastic character (D). There is also some painted ornament (E).

A distinct line can not always be drawn between these groups. Not only is the material too fragmentary, but the same elements are also used in more than one pattern, while moreover the different patterns do not exclude each other but may be combined on the same pot.

#### IXA. AREA PATTERNS (Fig. 161-163)

Large parts of the surface are completely covered by the ornament which consists of the usually monotonous and haphazard repetition of the same simple element.

It is to be noted that the surface of the pot is never completely covered. This kind of decoration is only found on the lower part and the shoulder or, if the model does not have a well-defined shoulder, as *e.g.* in the case of the bowl types VIIA and B, a zone below the rim remains free.

##### IXA1. *Intentional Roughening (Schlickung)*

The most widely practised way of covering a surface with „decoration” was by using slip (*Schlickung*).<sup>3</sup> At Wijster it is indeed a very common device restricted principally to the larger and coarser models. It is found on types: IA2, IIA, IIB1, IIB2?, IIB3, IIC1, IID, IVA, IVB, IVC?, IVE, IVF, IVH, VIIA, VIIB1, VIIB2. It occurs in combination with patterns B1a (Fig. 116: 845; 120: 736; 132: 741), B1b (Fig. 154: 1255, 1258) and B2 (Fig. 120: 413, 417).

Because of this general practice and the resulting impossibility to use it for chronological purposes,<sup>5</sup> we will not devote further attention to it.

*IXA2. Scratched Patterns (Besenstrich) (Fig. 161)*

The covering of the surface can also be effected by fine, closely spaced grooving, the so-called *Besen-* or *Kammstrich* ornament. It can be used in many different ways, as a definite over-all ornament or in bands with free spaces in between.<sup>6</sup>

At Wijster, this kind of decoration is extremely rare. Also here it was used in different ways. We find it applied in more or less even distribution (111, 208, 731; cf. Fig. 153:731). The ornament can only be associated with type VIIA (Fig. 153:731), without probably being the exclusive right of this model. The bowl in question clearly shows that the grooves were applied in groups; below the shoulder the vertical grooves are bordered by a zone of horizontal ones; the rim of the pot bears pattern B1a.

A less even, more criss-cross distribution is perhaps represented by one sherd (975). A few sherds (85) are a not completely convincing indication for a distribution in bands with free spaces in between.

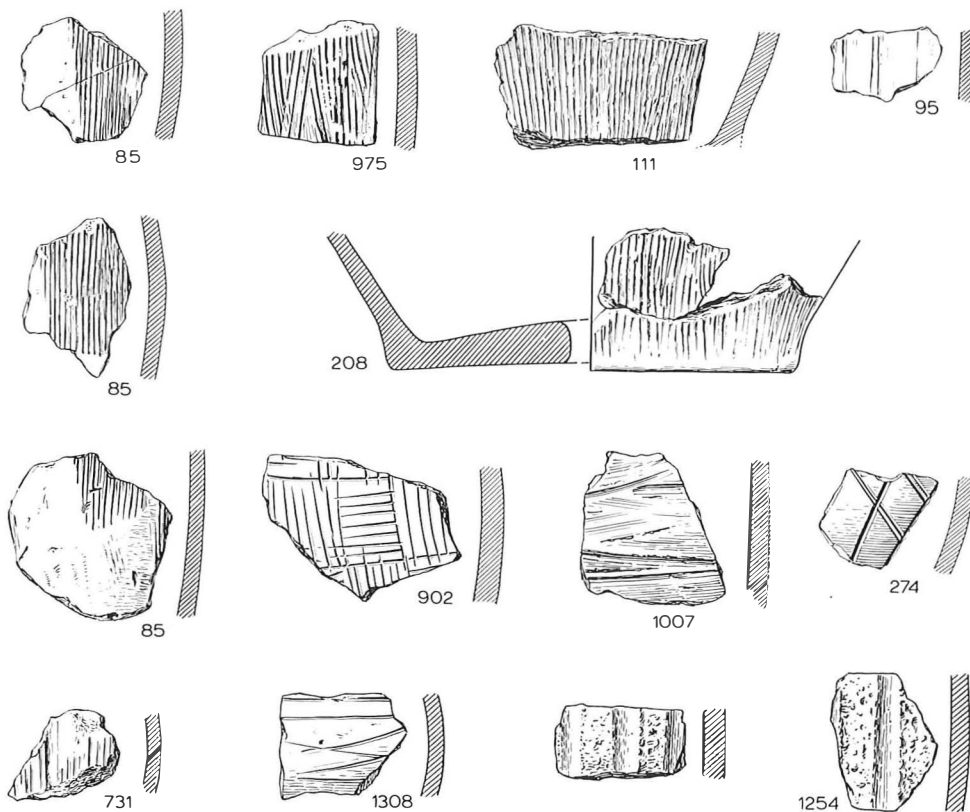


Fig. 161. Pattern IXA2. Wijster. Scale 1 : 3.

Also a few sherds covered with more widely spaced parallel grooves (95, 1254), or criss-cross grooves (274, 1007, 1308), and also one decorated by a checkered pattern (902),<sup>7</sup> have been illustrated here, though, of course, these ornaments can no longer be termed *Besenstrich*.

*IXA3. Impressions as Covering Ornament (Fig. 162)*

Impressions of different kinds can also be used as an over-all ornament. Again, at Wijster this decoration is rare; it appears on only a few sherds. On the other hand, even among these few sherds a great variation of the constituting elements is to be observed. We have one example of the *Gruben mit seitlichem Wulst*<sup>8</sup> (1230). Furthermore, we find shallow roundish depressions or *Tupfen* (751, 930) and narrow oval, or roughly triangular, impressions or incisions (*Eindrücke, Einstiche*; 618, 917, 1059, 1145).

In the Wijster complex, this ornament cannot be associated with any definite model; elsewhere, it occurs on bowls of VIIIB1 type (*cf.* Fig. 155: 15, 16).

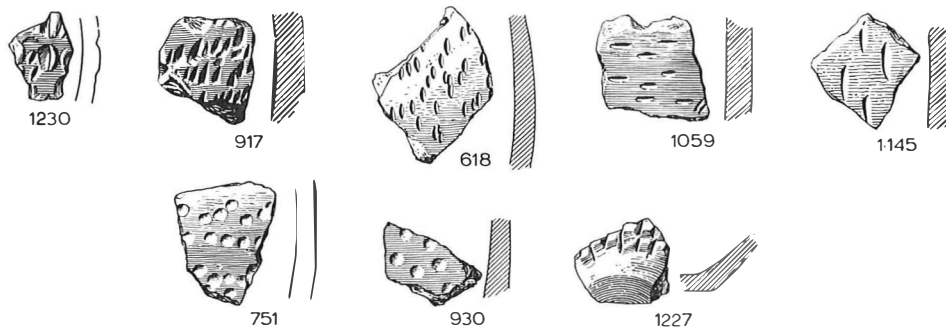


Fig. 162. Patterns IXA3 and A4. Wijster. Scale 1 : 3.

*IXA4. Warzen (Fig. 162, 163)*

The more plastic *Warzen* ornament is also used to cover large parts of the pot's surface. At our site it occurs only once (1227).

It is also rare elsewhere in the Northern Dutch provinces.

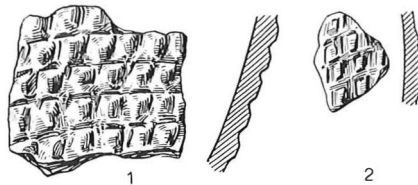


Fig. 163. Pattern IXA4. 1: Winsum, *terp* Bruggeburen, 2: Peelo. Scale 1 : 3.

## IXB. ZONAL PATTERNS COMPOSED OF IMPRESSIONS (Fig. 164-166)

Three types of zonal patterns consisting of impressions are to be distinguished, partly by the way in which they are composed, partly by their place on the pot.

*IXB1a, b. Impressions at or on the Rim (Fig. 164)*

Not infrequently a row of impressions decorates the rim. Following the rule when describing the types, we have usually called this pattern "a row of fingertip impressions", without, however, applying this term too strictly. For the greater part these impressions belong to the category of the *Gruben mit seitlichem Wulst*, some of which may indeed have been caused by pressing with the fingertips; more often some kind of instrument will have been used. A sharp-cut variety, especially in type IIB2, should be noted.

The pattern appears in two different ways: the impressions may be on the outside of the rim (B1a), or they are found on top of the rim, sometimes even inside (B1b).

B1a is the more frequent variety. It is known from types IIB2, IIC1, IID, IVA, IVB, IVC, IVE, IVH?, VIIA, VIIB2. It is found in combination with pattern A1 and once with A2 (Fig. 153:731).

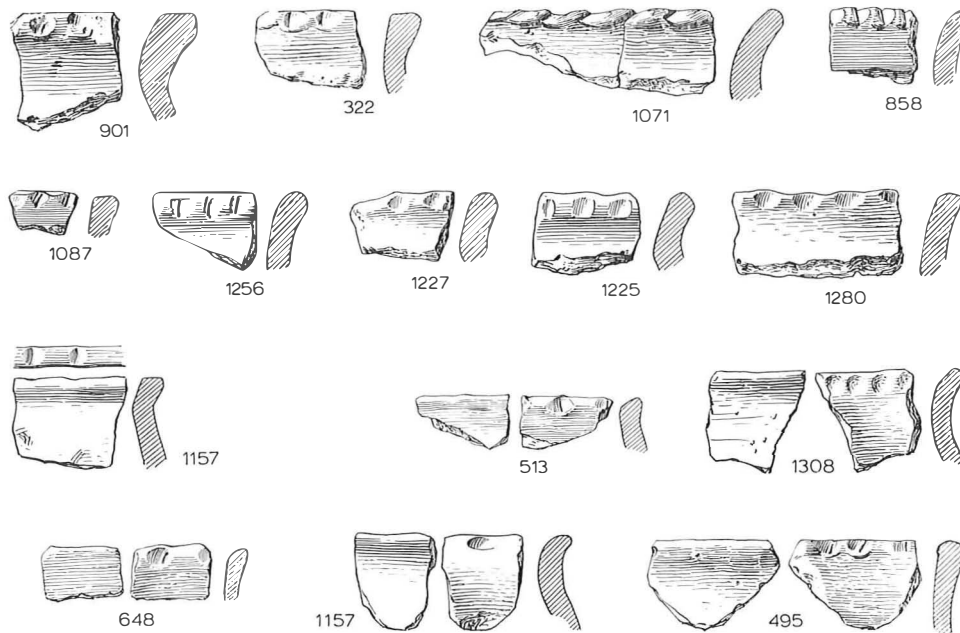


Fig. 164. Patterns IXB1a and B1b. Wijster. Scale 1 : 3.

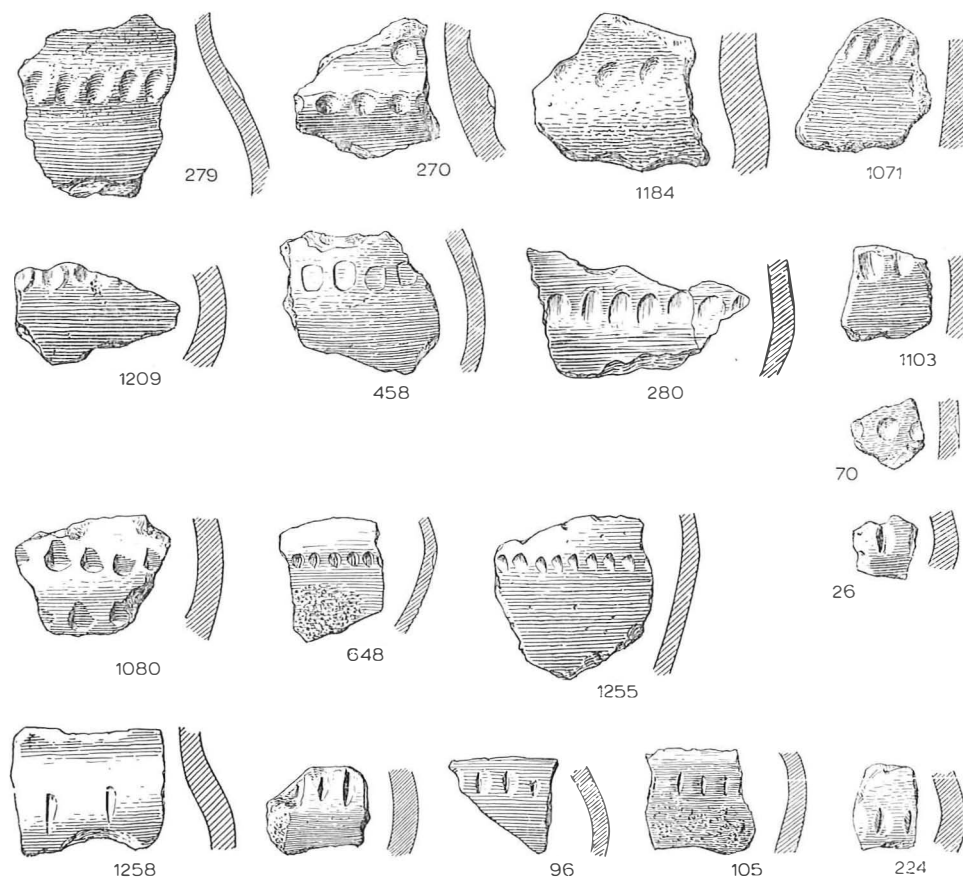


Fig. 165. Pattern IXB2. Wijster. Scale 1 : 3.

The second variety, B1b, is present on type IIB1, IIB2, IIB3, IIC1, IVA, IVB, VA, VIIB1, VIIB2?. It is sometimes combined with a roughening of the belly, and on a bowl of type VIIB1 it appears side by side with pattern B2 (Fig. 154: 1254).

*IXB2. Rows of Impressions below the Rim (Fig. 165)*

A horizontal row of impressions can also be found lower down on the pot. Again the impressions are of different kinds: *Gruben mit seitlichem Wulst* (279, 1209), *Tupfen* (70), narrow or rounded triangular *Eindrücke* (96, 105, 224, 1258, without find no.; resp. 648, 1080, 1225). Sometimes there may have been a double row (270?, 1080?). The roughly ring-shaped impressions on 931 (Fig. 133) are unique.



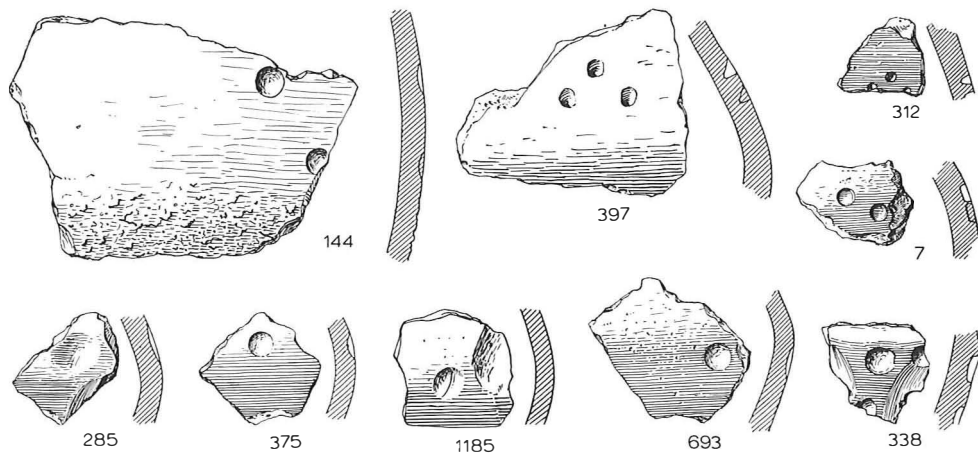


Fig. 166. Pattern IXB3. Wijster. Scale 1 : 3.

This pattern seems to have been preferred to mark the transition from belly to shoulder (96, 105, 224, 458, 648, 1080, 1209, 1255, 1258), or the base of the neck (279, 1184). It can be combined with *Schlickung* (105, 648) and with pattern B1b (Fig. 154: 1254). At Wijster, it is found on types IID, IVA, (IVB? Fig. 133: 931), IVE, IVF, VIIB1.

#### *IXB3. Impressions in Triangle Formation (Fig. 166)*

Another pattern is formed by the repetition in horizontal rows of groups of three impressions arranged in triangle formation. The impressions are normally rather large and rounded and shallow, occasionally small and deep (312: *Einstiche*) and sometimes narrow (Fig. 144: 437).

The ornament has a preference for the shoulder or the shoulder/belly transition (144, 397) and can occur together with *Schlickung* (144). It is met on types with ID and IVF, while the combination of our motif with a zigzag groove on a pot belonging to type IVH (Fig. 144: 437) is also included here.

#### IXC. ZONAL PATTERNS OF LINEAR ORNAMENT (Fig. 167, 169)

The patterns are very divergent and most of them are rather rich, as far as one is able to judge from the small fragments preserved.

*IXC1. Simple Grooves (Fig. 167)*

Occasionally the decoration is limited to one or more horizontal grooves. A single groove is found on the shoulder of a sherd attributed to type IVE (Fig. 139: 407); single or multiple grooves occur again on the shoulder in type IVF. Cups of type ID have grooves not only on the shoulder but also on the belly (Fig. 104: 593, 606, 676; *cf.* Fig. 107: 291, 676, 1067, 1282).

More often, horizontal grooving (on the shoulder) is only part of the general decoration of the pot (*cf.* patterns C2–C6, D2). Consequently, if the fragments decorated with horizontal grooving are small, they may have been part of more complicated patterns and cannot be classified with certainty. The small sherds are, however, shown in Fig. 167 to give an impression of the different styles of grooving: broad or narrow, sharp or shallow, *etc.*

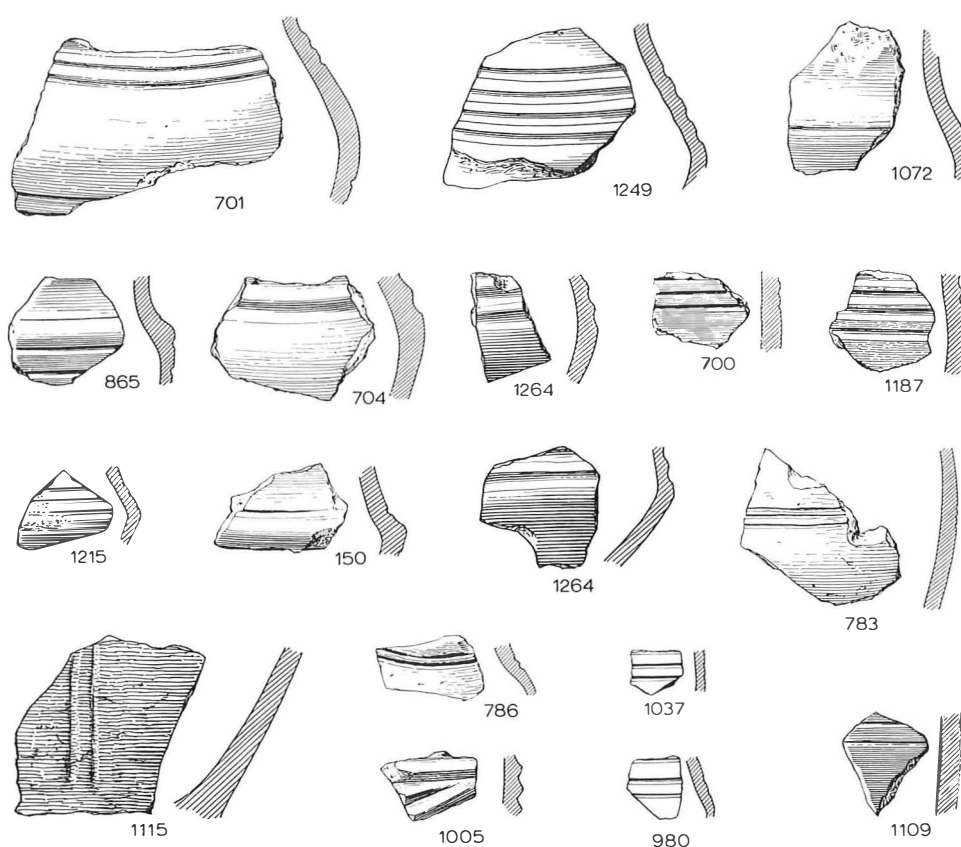


Fig. 167. Pattern IXC1. Wijster. Scale 1 : 3.

One sherd shows a pair of vertical grooves decorating the lower part of the belly just above the base (1115). Such pairs of vertical grooves are also found on a pot of type IIIA2 from Eext-Vijzelkampen (Fig. 125: 3).

*IXC2. "Tree" Patterns (Fig. 168)*

A characteristic type of linear ornament is the one in which the tree pattern plays a predominant role. There is much variation in detail: the "trees" hang from horizontal grooves or from a row of dots (*Einstiche*) between grooves, the "trees" may be outlined by rows of small impressions (*Einstiche*), etc.

At Wijster, the pattern is only found associated with type IA1 and it occurs on IB3 in a simplified form without the "trees". It is placed on the upper part of the belly just below the shoulder.

A sherd decorated with horizontal and vertical rows of concentric circles and rosettes (379) also belonged to a cup of IB type, as is shown by parallels from Ezinge (Fig. 99: 8).

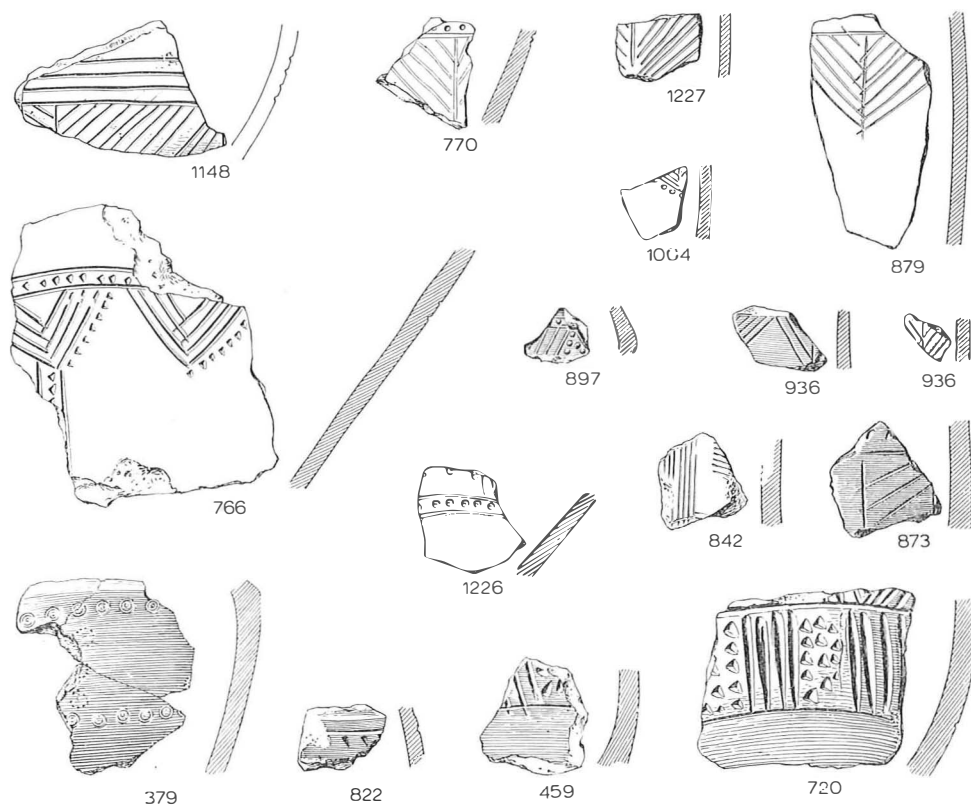


Fig. 168. Pattern IXC2. Wijster. Scale 1:3.

*IXC3. The Patterns on the Bowls of Type VIIIA*

The complicated patterns of linear ornament which are found on type VIIIA (Fig. 158) show much variation in detail. The essential features are, however, the same: a zone of more vertical elements is placed under a zone of horizontal grooves. The whole ornament may be concentrated on the shoulder or it can spill over on to the belly.

*IXC4. Narrow Bands at the Shoulder/Belly Transition*

The patterns on a few sherds of type ID (Fig. 104: 116, 225, 317) and IVH (Fig. 144: 834, 851, 871, 898, 913) show a certain relationship: a band composed of horizontal and vertical elements, which taken as a whole has a horizontal effect emphasizing the shoulder/belly transition.

*IXC5. Anglo-Saxon Patterns*

Also the ornament of type IVG has a mainly linear character; plastic features (*Buckel*) are exceptional (Fig. 142: 1146). The decoration on the sherds grouped together on Fig. 142 can be recognized as parts of the patterns occurring on the globular Anglo-Saxon urns.

*IXC6. Patterns with Stamped Impressions*

A few sherds, all attributable to type ID (Fig. 104: 313, 331, 446, 904, 1255), have patterns in which stamped impressions predominate over the genuine linear ornament. We note brooch spiral impressions, circles containing an equal-armed cross, rings, S-curved scrolls, two of which sometimes cross to form a swastika. In this connection we also mention the sherd of a IIIA<sub>3</sub> pot with its unique ornament (Fig. 126: 862), though it is not exactly similar.

A few sherds with fragments of patterns probably related to C<sub>3</sub>–C<sub>6</sub>, but too small to be classified, are illustrated in Fig. 169.

*IXC7. The Patterns on the Bowls of Type VIIIB*

The most conspicuous element in the decoration of the sherds assembled on Fig. 159 is a certain plasticity effected by broad grooves and oblong indentations. Relationship to C<sub>3</sub> and especially C<sub>6</sub> is to be observed. The ornament is placed on the shoulder or directly below. The complete patterns cannot be reconstructed.

## IXD. PLASTIC ORNAMENT

Plastic ornament is extremely rare. In fact only the *Warzen* (A4) decoration, which has been classed with the area patterns, can rightly be called plastic. Plastic elements are present in patterns C5 and C7 (sometimes also C1), but always in a subordinate position.

IXDI. *Plastic Ribs at the Base of the Neck*

A very simple plastic ornament is formed by the ribs which sometimes encircle the neck of type IIB3 (Fig. 114: 1182, 1313) and IIIB (Fig. 126). These ribs may be notched. There is one combination of such a rib with a zigzag groove (Fig. 126 : 714).

A number of sherds illustrated together with type IIIB, though they probably do not all come from pots of that type (Fig. 126: 494, 585, 769, 901, 1255, 1317, without find no.) ,show that ribs decorated with rounded or vertical narrow impressions also occur.

## IXE. PAINTED ORNAMENT

Some sherds show traces of a violet or blackish paint. This painted decoration consisting of vertical strokes on the lower part of the pot, or of short streaks starting from the handles, is well known from the *terp* district.

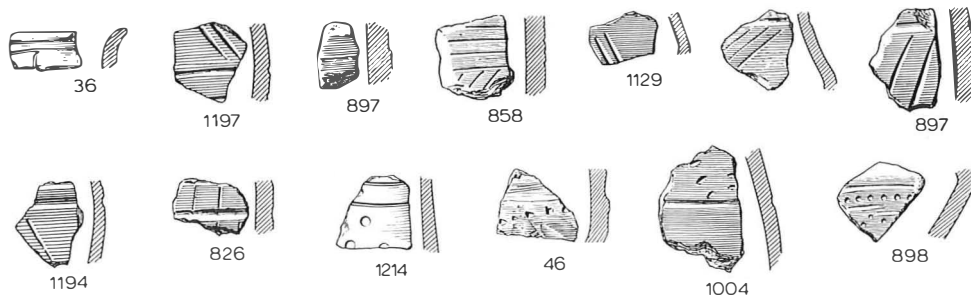


Fig. 169. Small unclassifiable decorated fragments. Wijster. Scale 1 : 3.

### X. Perforated Sherds (Fig. 170)

There is one sherd of a sieve (without find no.) and one with a single perforation. Perforated bases are also rare: central hole (Fig. 161 : 208).

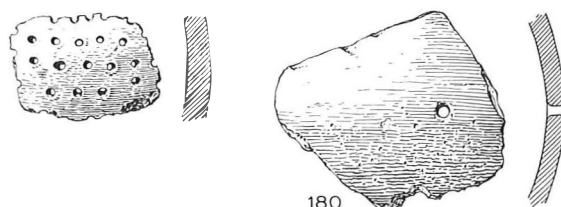


Fig. 170. Perforated sherds. Wijster. Scale 1 : 3.

### XI. Spindle-whorls

With only one exception (Fig. 171: 608; bone), all spindle-whorls are made of clay. They are of the same fabric as the average hand-made pottery. The paste is stone-tempered. The colours are mostly greyish or blackish, but shades of brown and yellow also occur. The surface is always fairly smooth, often painstakingly so as in the case of type C.

Three models can be distinguished.

#### TYPE XIA. DISC-SHAPED SPINDLE-WHORLS (Fig. 171: three upper rows)

The type comprises spindle-whorls, also the bone one (608), which are roughly disc-shaped. There is some variety: side by side with some extremely flat ones (176; made from a sherd) thicker specimens are found which sometimes approximate to type B (e.g. 1125, 1224). The section is rectangular or roughly oval. Two bear a simple decoration (950, 1027).

#### TYPE XIB. BULBOUS OR BARREL-SHAPED SPINDLE-WHORLS (Fig. 171: middle row)

A few spindle-whorls are bulbous or barrel-shaped. The group is not very uniform and, as said above, the distinction from the preceding type is not always sharply marked.

Two are decorated (860, 1179).

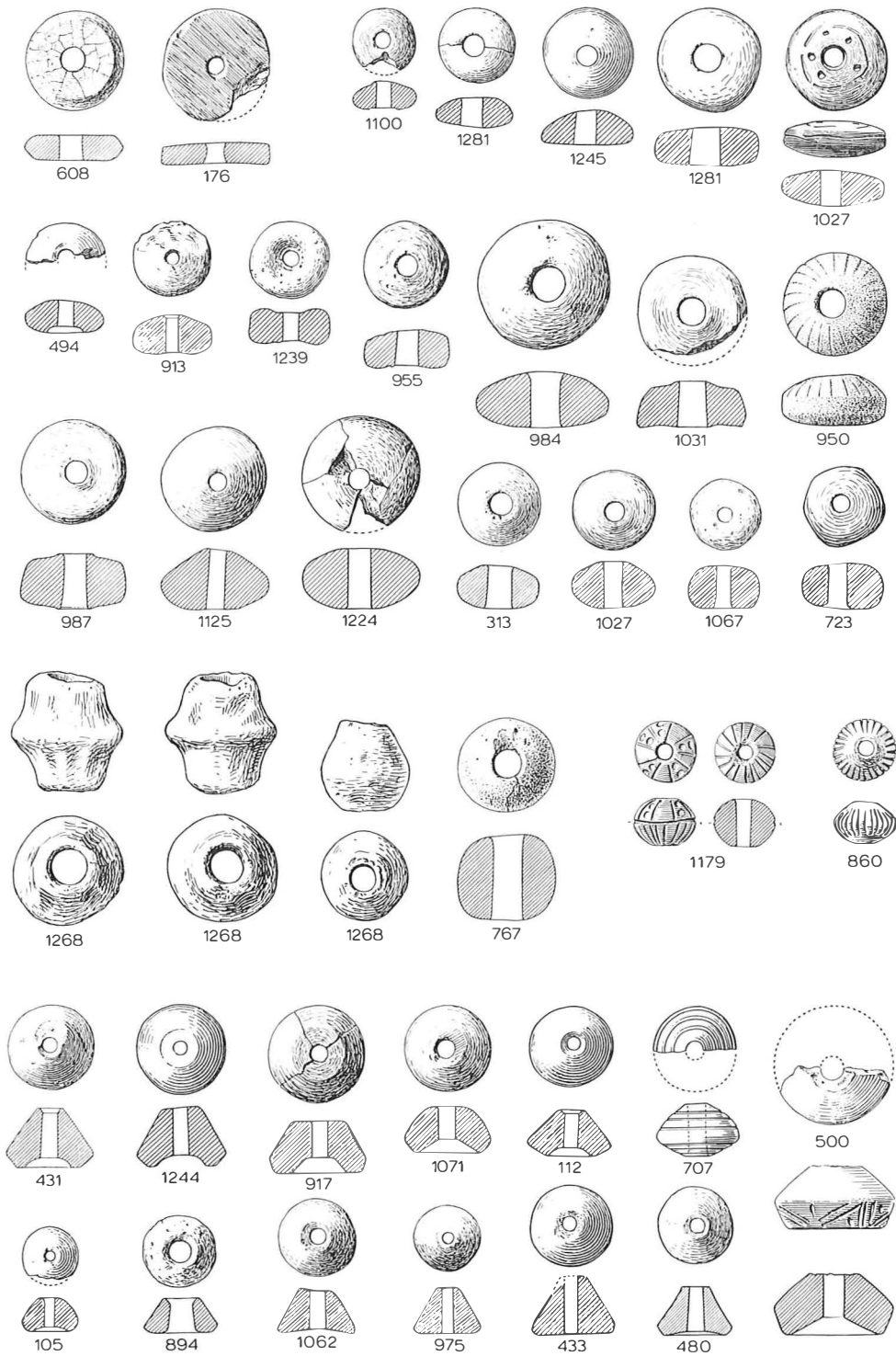


Fig. 171. Spindle-whorls of types XIA-C. Wijster. Scale 1 : 3.

## TYPE XIC. CONICAL SPINDLE-WHORLS (Fig. 171: two bottom rows)

The spindle-whorls belonging to this type are always neatly modelled and have a carefully smoothed surface. They can be conical or tend to be biconical; in the latter case, the lower (broader) part is much shorter than the upper.

One is decorated (500).

The specimen of somewhat divergent model decorated with horizontal grooves (707) does not belong to the settlement complex: it is made of very hard-baked medieval pottery (*Steingut*).

**XII. Loom-weights**

The loom-weights are also hand-moulded and made of clay. Two wooden objects of a form similar to the loom-weights of type B (Fig. 65:4; Pl. 16:2) are themselves possibly no loom-weights.

Four models occur.

## TYPE XIIA. RING-SHAPED LOOM-WEIGHTS (Fig. 172)

Rings of soft-baked clay constitute the more common type of loom-weight (1134, 1150, 1151, 1178, 1179–84). Because of the extreme softness of their fabric these rings easily crumbled to pieces, and many of the small fragments of baked clay occurring among the finds may have come from such loom-weights. The rings are shaped in a careless fashion.

The surface is rather coarse and uneven. The colours are greyish, yellowish or brownish.

## TYPE XIIB. CONICAL LOOM-WEIGHTS (Fig. 172)

Three loom-weights are of conical shape and have a hole about halfway up (741, 1085, 1134).

The fabric is somewhat less soft than in the previous type. The surface is uneven. Colours are greyish or brownish.

•



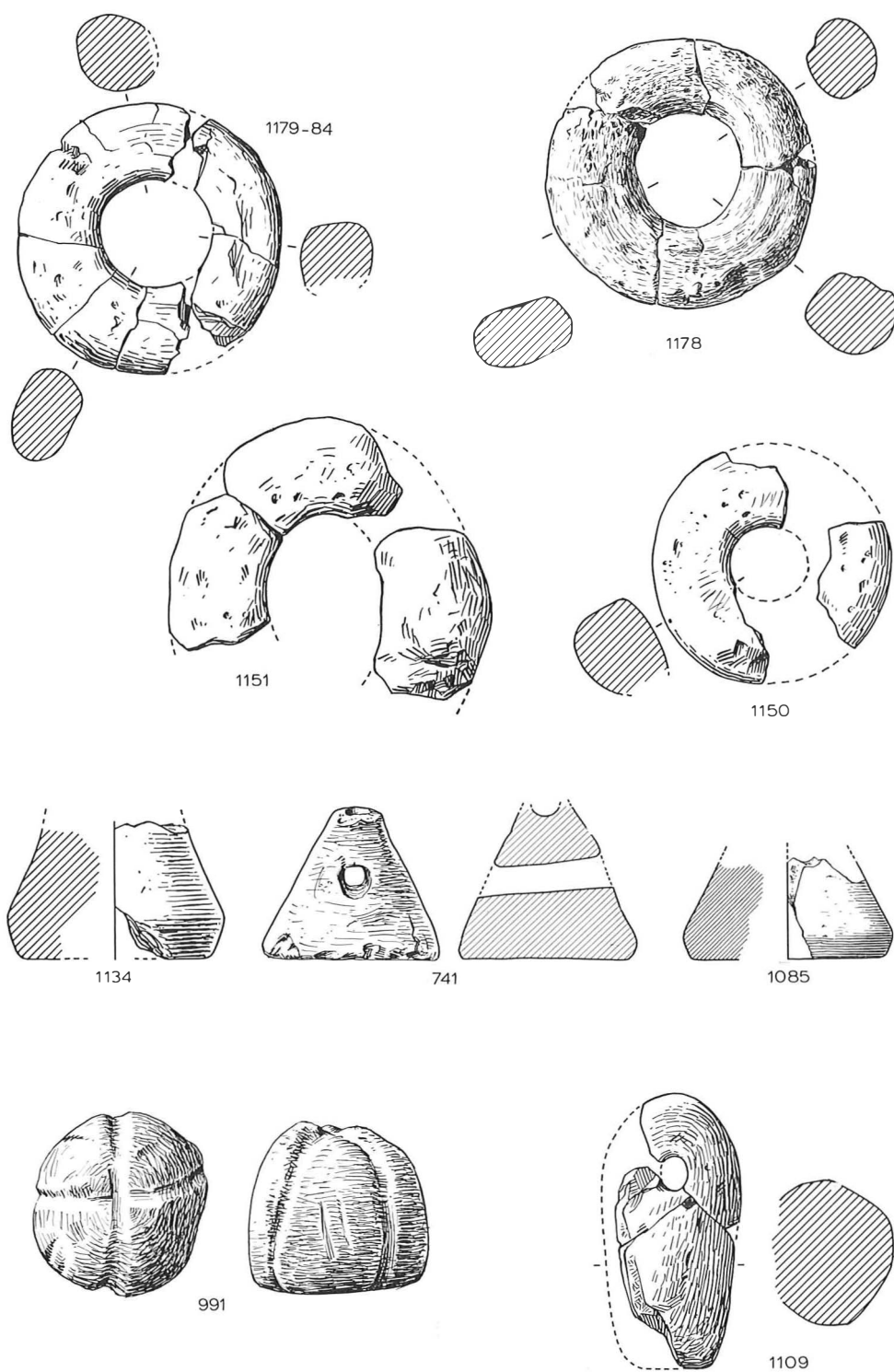


Fig. 172. Loom-weights of types XHIA-D. Wijster. Scale 1 : 3.

## Pottery

## TYPE XIIC. BULBOUS LOOM-WEIGHT (Fig. 172)

A unique loom-weight has a more globular form with flattened base. It has, moreover, two grooves clearly intended to hold cords (991). A parallel is known from Ten Boer<sup>10</sup>.

The loom-weight is rather soft-baked and has an uneven surface with yellowish colour.

## TYPE XIID. CYLINDRICAL LOOM-WEIGHT (Fig. 172)

A roughly cylindrical pendant of rather soft-baked clay with uneven greyish to reddish surface with a hole at one end, is probably also a loom-weight (1109).

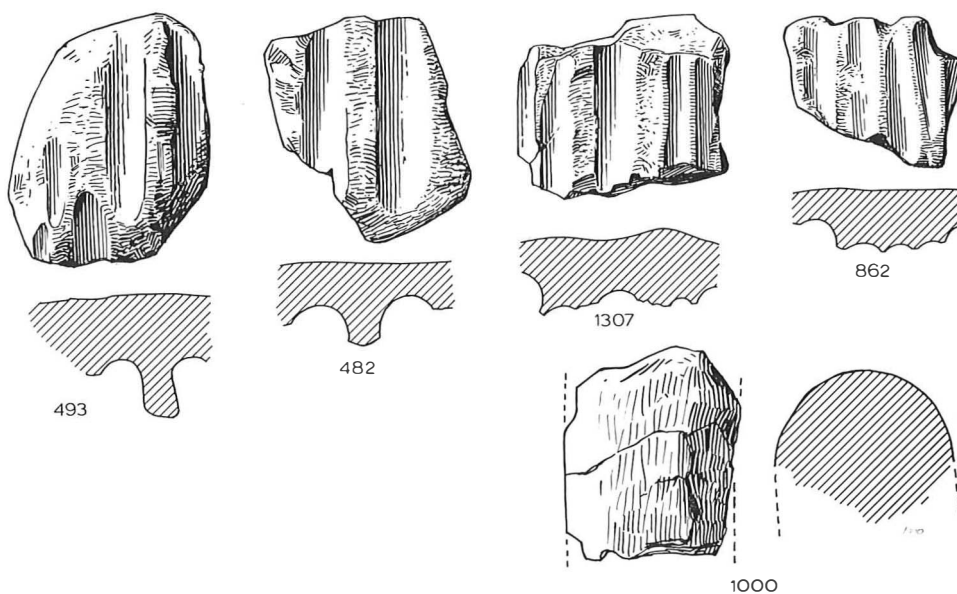


Fig. 173. Fragments of clay plastering. Wijster. Scale 1 : 3.

## XIII. Fragments of Clay Plastering (Fig. 173)

Among the numerous fragments of soft-baked loam, several clearly betray their origin from a wattle- and daub-wall by the practically flat outer side and the impression of twigs on the inside.

One piece (1000) looks like a rim-fragment and might come from an oven ; it was found in an oven-pit.

## NOTES

<sup>1</sup> Grohne 1953, Abb. 3e, 4.<sup>2</sup> Van Giffen 1927, Pl. 9: 3 (our Fig. 278:2).<sup>3</sup> Von Uslar 1938, 24-5.<sup>4</sup> Von Uslar 1938, 24-53.<sup>5</sup> Von Uslar 1938, 34-5.<sup>6</sup> Von Uslar 1938, 25.<sup>7</sup> Cf. Von Uslar 1938, T. 20: 6.<sup>8</sup> For the terminology we refer to Von Uslar 1938, 26-30.<sup>9</sup> Von Uslar 1938, 26-7.<sup>10</sup> Collection S.S. Menonides, Warffum, no. 1962/IV 728.

## C. MEDIEVAL POTTERY (Fig. 174)

The scarce medieval material from the site has no longer any connection with the settlement. Most of it was probably brought here in the sods mixed with manure used to dung the *Es*. It appears as stray finds, occasionally in a ditch (366), a cultivation ditch (999) or a cart-track (830).

We mention the small *Kugeltopf* (5), three rim-sherds of the same pottery type (1, 50, 249) and a hollow cylindrical handle of a pan belonging to the *Kugeltopf* complex (403). The fact that the small complete pot 5 was found in a „posthole” at the end of a piece of trench may be accidental.

The other sherds are of *Steingut* (27, 725, 999, without find no.) or brown glazed ware (366, 830).

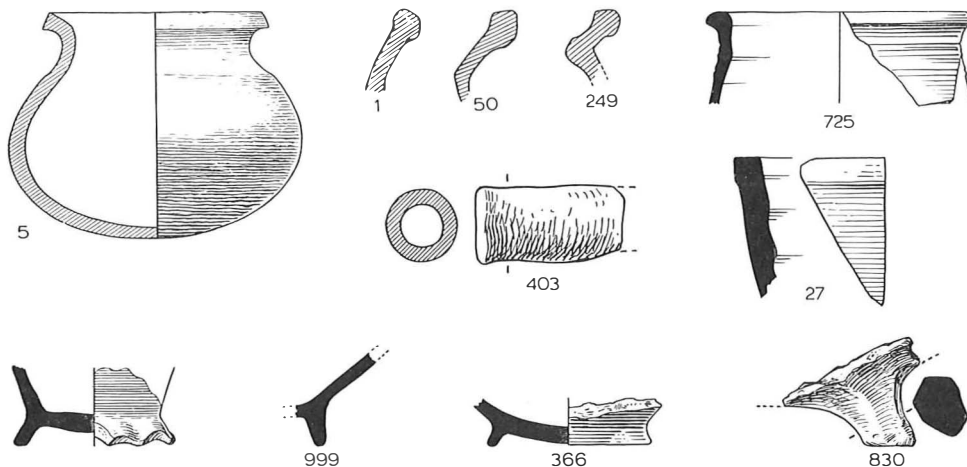


Fig. 174. Medieval pottery. Wijster. Scale 1 : 3.

#### D. DATING THE HAND-MADE POTTERY

Given the prolonged occupation of the site, which is proved by the complexity of the traces left in the subsoil, it may be assumed beforehand that not all types occurring in the Wijster complex are of the same date. In this chapter it is our intention to split up the complex and establish the date of the individual types.<sup>1</sup> This undertaking is, however, hampered by a number of special difficulties.

The description of the types has already shown that the fragmentary character of the material often prevents a clear definition of the models. The features of some types are insufficiently known; others would certainly have to be subdivided had the pots attributed to them been found complete. Though we ruled out the small and atypical sherds, the attribution of those which we have attempted to classify is not always conclusive. This does not affect the classification as such, but it is certain to raise difficulties as soon as we try to plot the different types or draw conclusions from find associations. It is clear that only the better known and more distinct types can be used with confidence.

For dating purposes the interior evidence of the Wijster complex is weak, mainly because we have no vertical stratigraphy at our disposal. Moreover, the apparently protracted occupation of the site with its several phases of habitation succeeding each other cannot have failed to cause a mixing of later material with what was already present. Consequently, the prospects for a significant horizontal stratigraphy or clear-cut associations are not very good.

For these reasons we will begin by trying to assemble a few chronological fix-points from outside the complex, and then seek some kind of corroboration from the inside.<sup>2</sup> It is sad to have to realize that in this country, as well as elsewhere, securely dated finds are few and far between. It must be borne in mind that in looking for parallels we have not made an exhaustive investigation.

#### I. Funnel Cups

The funnel cups have always attracted much attention and played an important role, for instance, in the discussions about the Chauks and early Saxons. We think it of the utmost importance that the different models should be clearly distinguished.

The three types of funnel cups discerned among the Wijster material constitute a typological series in the order in which they were described, as far as the evolution of shoulder and neck is concerned. The shoulder, still comparatively broad in A, becomes very short in B, and disappears almost completely in C. The neck of A and B shows a parallel-sided variety and one with triangular section, both of which may be contemporaneous: *e.g.* the association of A1 and A2 in one pit (Fig. 90: 354; 92:

354). The thick triangular section of the neck of A2 and B2 takes on a thinner, more rounded shape in B3. The straight bent-out neck of the A and B types becomes elegantly curved in C and D, where shoulder and neck have fused.

Other writers have also observed this evolutionary process, in the course of which the shoulder is gradually suppressed, the neck becomes less stiff and the whole pot loses its angularity.<sup>3</sup>

The evolution of the lower part of the pots is more difficult to establish from the fragmentary Wijster material. As far as can be seen at Wijster, as well as from the parallels elsewhere, the A and B cups were usually deep with straight-sided belly and small, flat base. In the C type, a small foot becomes a more regular feature; in D, a foot probably was the rule. Both latter types tend to become more and more shallow with curved sides. A number of small feet (Fig. 107) undoubtedly come from funnel cups, though it is difficult to associate them with a particular type. Perhaps most of them belonged to C and D cups. Nearly all Wijster feet are very low: most of them are low, solid, protruding feet (*Standplatte*), a few somewhat higher, more spreading feet are hollow underneath (*Standring*), while some conical ones are hollow on the inside. Exceptionally high feet are not found at Wijster, and only very rarely elsewhere in the northern part of this country. Only the foot with inserted glass sherd (Fig. 107 : 1256) is really high and could be termed a *Stengelfuss*.

#### TYPE IA (Fig. 90-93)

The A cup shows the sharp profile which is universally considered characteristic for the Early-Imperial period, to which we have no hesitation in dating our model.

Von Uslar pointed out that during the first centuries of our era the same pottery styles were used over large territories in the north-western part of the continent.<sup>4</sup> In a general way the A cup is related to the group of varieties which he grouped together under his *Form I*, and which can be documented for the 1<sup>st</sup> and 2<sup>nd</sup> centuries A.D. There is also an unmistakable resemblance to Asmus's type D from Mecklenburg, which should probably be dated to the later 2<sup>nd</sup> century.<sup>5</sup> Two footed cups with A type profile from the settlement of Nørre Fjand and its cemetery cannot be later than the 2<sup>nd</sup> century: the settlement was abandoned before the end of the Early-Roman Iron Age.<sup>6</sup> Such beakers are common in Southern Denmark during the Early-Imperial period. A footed cup with geometric decoration on the shoulder from Naesbjerg, which on typological grounds seems to be a little younger and is very near to our cup of B type, is placed in the Late-Imperial period after 200 A.D. by Brøndsted.<sup>7</sup> It is compared to a cup from Sneumgaard by Mackeprang and dated to the 3<sup>rd</sup> century.<sup>8</sup>

At Wijster the type is rare, but in the northern parts of this country it is of com-

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mon occurrence. The best parallels come from the nearby sandy regions of Drente. We illustrate some sherds from Erm<sup>9</sup> and Fochtelo,<sup>10</sup> where the A1 and A2 varieties are also found side by side (Fig. 91: 93). The typical linear ornament of Fig. 92: 1256 is also present at Fochtelo and on a sherd from Borger in the Leiden museum. The complete pot (Fig. 90: 354) has a good parallel in a stray find from Rhee (Fig. 91: 5).<sup>11</sup> The vertical knob handles of Fig. 92: 354 are also found at Peelo<sup>12</sup> and Eext<sup>13</sup> (Fig. 93: 3,5).

None of the Dutch finds provides us with a definite date. The complexes from Fochtelo, Peelo and Eext are roughly dated by Van Giffen to the first centuries of our era. A sigillata sherd from Peelo ("2<sup>nd</sup> century, perhaps still Traianus-Hadrianus") and one from Eext ("end 2<sup>nd</sup>-early 3<sup>rd</sup> century"),<sup>14</sup> neither of them found in close association with the A pots, give us at least some clue.

The harvest is richer in the adjacent territory of Germany. Niquet found sherds in a pit (*Stelle 1/I*) in the Roman Period settlement site of Gielde, Kr. Goslar, some of which can be attributed to our type A.<sup>15</sup> The bent-out necks are more or less thickened and somewhat shorter than at Wijster. Partly on this criterion, but also on account of the *knieförmige Fibel* which is associated with the sherds, Niquet bases his dating of the contents of the pit to the first half of the Early-Imperial period.

A-cups belonging to the 1<sup>st</sup> century with extremely short, thickened and faceted necks are known from Westerwanna<sup>16</sup>; later in the 2<sup>nd</sup> century the neck becomes longer.<sup>17</sup>

In Hodorf, *Siedlungsschicht I* (1<sup>st</sup>/2<sup>nd</sup> century) a few sherds show clear A type features.<sup>18</sup> A group of cups leads over into type B.<sup>19</sup>

At Tofting, the stratigraphy of the *terp* makes a reliable dating of the pottery of the 2<sup>nd</sup> and 3<sup>rd</sup> centuries possible. Among the models characteristic for the 2<sup>nd</sup> century the A profile, often with neck with triangular section, occurs frequently.<sup>20</sup> Sometimes the shoulder is so short, that one may speak of a B model.<sup>21</sup>

Sherds representing the same transitional phase between A and B are found at Barward; they are dated by Asmus to the 2<sup>nd</sup> century.<sup>22</sup>

At Feddersen Wierde, the stratigraphy relegates the A type to the 2<sup>nd</sup> century.<sup>23</sup>

A sharply profiled cup with broad shoulder and very low, faceted rim from the Silberberg at Sahlenburg is dated by the associated brooch to the early 2<sup>nd</sup> century.<sup>24</sup>

A comparable situla from Oxstedt belongs to the (early) 1<sup>st</sup> century on account of the brooches found with it.<sup>25</sup>

Another pot from the Silberberg with geometric decoration on the relatively broad, but somewhat rounded shoulder, which is also related to the Wijster A cups, is dated by a brooch fragment to the end of the 2<sup>nd</sup> century.<sup>26</sup>

A characteristic A cup was excavated by Zoller at Gristede on site "*Hof 1961*". He dates it to the 2<sup>nd</sup> century; a denarius of Traianus was found in the neighbourhood.<sup>27</sup>

The urns no. 500 and 505 from Dingen, of which especially the first one shows A cup features, are dated by Tackenberg on account of their relationship to the Seedorf pottery to the 1<sup>st</sup> or beginning of the 2<sup>nd</sup> century.<sup>28</sup>

Our type can also be recognized among the pottery from the Stickenbütteler Brunnen.<sup>29</sup> Two small sigillata sherds which cannot be dated very closely provide, however, a *terminus ante quem* of 300 A.D.<sup>30</sup>

We only mention Mahndorf–Diinenfussiedlung as being one of the sites where the type is present in undated contexts because, here, the A1 cup is represented by very characteristic specimens.<sup>31</sup>

Some of the so-called *Chaukische Fusschalen* have a neck and shoulder with A type profile. A beautiful specimen with extremely high foot, found in the cemetery of Driefel (no. 13), has a broad shoulder and an A1 neck. The same cemetery supplied another footed cup which has a narrower shoulder and A2 neck (no. 11), and also a flat-bottomed cup with knob at the shoulder, again with A2 neck (no. 7). None of these pots can be dated individually, but on the strength of a brooch found in one of the graves the gravefield as a whole is placed in the 2<sup>nd</sup> century.<sup>32</sup> Michaelsen, agreeing with Waller and Plettke, believes that the foot evolved from the flat bottom by contraction of the belly, until in the last stage the foot became a separate element, hollow underneath.<sup>33</sup> If this view, for which there is as yet no definite proof, is correct, the urn no. 13 would be younger than no. 11, which in its turn would come after no. 7.

Two urns from Elmelage (nos. 2 and 3) and one from Siedenbögen (no. 1) can also be compared to the Wijster cups, though the knob at the shoulder, which was already observed at Driefel (no. 7), has no parallels here, nor elsewhere in Northern Holland. Michaelsen dates them to the 2<sup>nd</sup> century,<sup>34</sup> even though some finds from the Elmelage cemetery indicate that it continued until after 200 A.D.: Hemmoor bucket, bone needle, and especially the swastika brooch.

We began by saying that the stylistic features of the A cup are found spread over a large area. Within this A style district it will probably be possible one day to define individual provinces characterized by local varieties of the A cup. It is already evident that the best parallels for the Wijster cups, especially for the triangular section of the neck of the A2 variety, are to be found in a broad zone along the southern coast of the North Sea from across the river Elbe to Fochtelo in the west. Waller has pointed out that already as early as the 1<sup>st</sup> century the coastal region differed from the territory farther south not so much by the form of its pots, but by their decoration.<sup>35</sup>

After the chronological evidence reviewed above, there can be no doubt that the Wijster A cups belong to the 2<sup>nd</sup> century.

The dated finds from Westerwanna, Gielde, Oxstedt and the Silberberg near Sahlenburg, dating to the 1<sup>st</sup> or early 2<sup>nd</sup> century, show that, in those regions at least, the situla then still had a very short and faceted neck. Schmid<sup>36</sup> points out

that the faceting of the rim is a reliable chronological tracer and characteristic for the transitional period between Late-La Tène and Early-Imperial. The finds mentioned above tend to show that it can still be found at the end of the 1<sup>st</sup> century A.D. The faceted rim occurs abundantly in the Elbe region and, though it is not completely absent, it is rare in the northern part of this country. Unfortunately, the Northern Dutch material from the Late-La Tène and the beginning of the Imperial Period has not yet been studied in detail. An attempt to fill in this gap lies outside the scope of our present study. In the meantime, however, it may be assumed that also in our country the 1<sup>st</sup> century stage in the evolution of the A cup is characterized by a very short, if not faceted neck and by a shoulder which is still somewhat broader than at Wijster. We advance the tentative suggestion that two cups from Ezinge (Fig. 91: 1,2) are possibly early 1<sup>st</sup> century forms; more detailed studies on the Ezinge material are needed to prove or disprove this suggestion.

If the other cup types are also taken into consideration, a marked tendency to suppression of the shoulder (very narrow in the B cups and completely or almost completely missing in the C and D models) can be observed. It is probable that this development was a gradual one and had already started within the A type. Though the available chronological evidence is not strong enough to prove such subtleties beyond all doubt, there is good reason for supposing that at the end of the 2<sup>nd</sup> century the shoulder was generally much shorter than earlier on; this does not assume, however, that it is true in all cases.<sup>37</sup>

At Wijster, and also among much of the parallel material (*e.g.* at Eext and Tofting), the shoulders are often rather short, even to the point that makes a distinction between the A and B type difficult. That no great lapse of time occurred between the Wijster A and B cups is also apparent from the fact that both can have the same decoration and triangular section of the neck. The Wijster A cups are therefore to be dated to the later part of the 2<sup>nd</sup> century.

#### TYPE IB (Fig. 94-99)

Particularly characteristic features are the generally rounded (sometimes angular), extremely narrow shoulder and the straight, bent-out neck, the section of which is parallel-sided (B1), triangular (B2), or segmental (B3). From a typological point of view, B3 might have evolved from B2, which in its turn evolved from A2.

In view of their fundamental similarity, the difference in time between the three B varieties is probably not so great and, if they are separated by a small time interval, there is little chance that this would appear from the present dated material. We shall not, therefore, try to find a separate date for each variety but deal with them as



a group, also as far as their distribution is concerned. In older literature sections are often not given; then a distinction between the three was impossible.

The B type is again rare at Wijster and there is even no clear evidence for the B2 variety. The Northern Dutch parallel material (Fig. 95, 97, 99) shows that the decoration consisting of hatched triangles and tree-patterns accompanied by rows of dots, which was found already on A cups, is also found on the B type. The same decoration also occurs on a hybrid pot from Schipborg (p. 304), but most of the few sherds from Wijster decorated in this style (Fig. 168), must have come from either A or B cups. The concentric circles on Fig. 168: 379 are closely matched at Ezinge (Fig. 99 : 8). Pots from the Bolleveen near Zeijen (Fig. 97 : 8), Aalsum (Fig. 99 : 20), and Ezinge (Fig. 99 : 21), show other decorative elements, such as round or squarish impressions and corn-ear pattern. The decoration of the two latter pots is arranged in a way similar to the more typical linear ornament: horizontal rows below the shoulder and vertical bands descending from these to the bottom.

The B type occurs fairly frequently in the north-eastern parts of this country, and is often found in the same sites as the A cup. The Dutch material, as far as it has been studied up until now, does not give reliable grounds for an absolute chronology of the type. A closed find from a hut at Ezinge comprises two B cup sherds<sup>38</sup> together with Anglo-Saxon pottery and a sherd of Late-Roman terra sigillata. This gives a date around 400 A.D., which fits in badly with the dated material from North-western Germany, reviewed below, and forces one to ask if the Ezinge association is indeed reliable.

Elsewhere the type has been observed to belong to the later 2<sup>nd</sup> century and is seen to continue into the 3<sup>rd</sup>.

At Tofting, it is among the contents of the 2<sup>nd</sup> century layer. It should be noted, however, as Bantelmann himself also observed,<sup>39</sup> that the B cup in its most characteristic form (*Trichternapf*, our B3) does not occur at Tofting. Most sherds can best be attributed to A cups or be said to have come from transitional forms with a still rather broad shoulder, but we feel entitled to incorporate a few in our B type.<sup>40</sup>

Fine parallels, especially to the B3 variety, were found in Hodorf layer Ia which is dated from around 200 until after 250 A.D.<sup>41</sup>

The Feddersen Wierde chronology assigns the evolved B3 model to the 2<sup>nd</sup>–3<sup>rd</sup> century.<sup>42</sup>

In a closed find from Cuxhaven, a B cup (B2 or B3?) is dated by the associated sigillata bowl to between 150 and 200 A.D.<sup>43</sup>

A B3 fragment found at Westerwanna belongs to the same period, together with a brooch of the type *ohne Fuss* and a pot of Eddelak type.<sup>44</sup>

Probably also a B cup (B2 or B3?) is another pot from Westerwanna, dated to the beginning of the 3<sup>rd</sup> century.<sup>45</sup>

Waller originally dated the Westerhamm fragment too late and this was immedi-

ately corrected by Tackenberg.<sup>46</sup> Afterwards<sup>47</sup> Waller grouped it with cups of C type, whereas we would consider it a characteristic B3 form.

Michaelsen mentions a pot from Dreisielen which, though it does not have the typical B shape, shows the neck with thick triangular section of the B2 variety; it is dated by a Roman coin to the end of the 2<sup>nd</sup> century.<sup>48</sup>

Two cups from the 3<sup>rd</sup> century cemetery at Helzendorf may perhaps also be included here.<sup>49</sup>

In one of his earlier publications, Waller already dated the urns from the cemeteries of Cuxhaven, Galgenberg and Altenwalde, among which B profiles are found, from about 100 A.D. until the beginning of the Late-Imperial Period.<sup>50</sup> In his later work, he still draws B3 profiles as being typical for the 2<sup>nd</sup> century.<sup>51</sup>

According to Haarnagel, the same profile belongs to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries.<sup>52</sup>

A. Plettke's typological classification of the wide-mouthed cups is anything but detailed. His A1 type is more or less the equivalent of our A model. His type A2, which he dates from the 2<sup>nd</sup> to the 4<sup>th</sup> century, comprises our B and C forms indiscriminately; in fact, he even attributes footed cups with broad shoulder, which we attribute to our A model, to his A2 type.<sup>53</sup>

It has been rightly pointed out by Waller that some features of what we have termed A and B cups, *e.g.* their geometric decoration and especially the triangular or segmented section of the neck of some varieties, have a limited distribution.<sup>54</sup> These are only found in the coastal belt stretching from Dithmarschen to Northern Holland and do not occur in the territory covered by Von Uslar. Waller's assumption cannot be right, however, that the B cup represents a variety of Von Uslar *Form I/II*, which, moreover, is not a chronological *Stufe* but a type or rather two different types (*I/IIa* and *b*). Von Uslar *Form I/IIa* might be a parallel to our type C, whereas the B cup in its most characteristic form must be regarded as a further evolution of our A cup (comparable to Von Uslar *Form I*), which took place only in the lands along the southern coast of the North Sea.

On Fig. 287 we used the easily recognizable B cup to embody this pottery province, though without autopsy of all material it has not been possible to distinguish between the three sub-types. It is the distribution area not only of the B cup but of other types as well, especially those of Tischler's *Westgruppe*<sup>55</sup> and Genrich's *Nordseeküsten Gruppe*.<sup>56</sup> It must be observed, however, that the footed cups illustrated by Tischler from Dithmarschen as being representative of the *Westgruppe* are atypical and have no parallels in Northern Holland. His type C is the only one characteristic for the coastal zone.<sup>57</sup>

Von Uslar models which occasionally come to light in this area have to be regarded as imports from the south.<sup>58</sup>

## TYPE IC (Fig. 100–102)

In contrast with the preceding types, the C cup is less angular. It presents a curved neck which has approximately the same thickness throughout. The shoulder has fused into the neck and has been suppressed as a separate element; the transition from belly to shoulder/neck is sharp.

Two varieties may be distinguished among the C profiles from Wijster. The first has an almost straight-sided belly ending in a flat bottom (132, 720). In the second case, the lower part of the pot shows a more curved profile and tends to become more shallow; with this form one expects to find a separate foot (767; Fig. 101: 16). We are well aware that to some extent this distinction may be an oversimplification, but the fragmentary material does not allow us to make a more detailed classification. Therefore, as in the previous cases, we will not make too much of this subdivision.

No decoration is found on this type.

The C cup must be regarded as the typological continuation of the B type. In this connection, one can point to a pot from Hichtum (Fig. 101: 10, *cf.* also 21), where the inside of the curved shoulder/neck reminds one of B<sub>3</sub> forms.<sup>59</sup>

The Dutch parallel material is not as plentiful as for the B cups. It is again confined to the northern provinces and comes from already familiar settlement sites in the sandy regions like Peelo, Eext, Fochtelo. A fine parallel was found recently at Hijken, not far from Wijster.<sup>60</sup> An uncharacteristic specimen (Fig. 101:8) comes from the Bolleveen near Zeijen. It is interesting to see the C<sub>1</sub> profile on a shallow bowl from Rhee (Fig. 101:7).

A C cup of the shallow, footed variety (Fig. 101:16) was the only grave gift in one of the inhumation graves in the western part of the Wijster cemetery.<sup>61</sup> This part of the cemetery was in use during the 4<sup>th</sup> and early 5<sup>th</sup> century; it is improbable that it was started much earlier.

Further south in the province of Overijssel, we find two flat-bottomed cups which have features related to the Wijster C cups (Fig. 101: 1; 102: 3). The cup from Enter, coming from a cremation grave, was found together with two disc brooches, one of them badly damaged by the fire of the pyre (Fig. 102).<sup>62</sup> A good parallel for this type of brooch with large round setting for enamel or glass (missing, as at Enter), with broad grooved border and *Armbrust* needle construction (missing at Enter) is known to us from Giessen,<sup>63</sup> and a still better one with the same delicately engraved decoration from the Roman fort at Miltenberg.<sup>64</sup> This fort was used from around 150 until 260 A.D.

The C type is also present in the clay district: Garnwerd (Fig. 101: 9), Brillerij (Fig. 101: 15), Hichtum (Fig. 101: 10, 17), Deinum.<sup>65</sup>

A form on a high massive stem (Fig. 101:17–21) has so far only been encountered in the province of Friesland. The specimen from Kubaard was found standing in a

slender biconical pot, which Boeles on typological arguments thinks to belong to the 3<sup>rd</sup> century.<sup>66</sup>

A glance at Fig. 101 reveals at once that the Dutch pots which we grouped with the Wijster C type are not such close parallels as the material which we compared to our B cups. There are smaller or greater differences, and perhaps only the fragment from Hijken is a really close parallel. Yet all of them are comparable to the Wijster pots in that they have the same sharp transition from lower part to shoulder and the curved shoulder/neck profile.

These characteristic features are found over a large territory, exactly as in the case of the A cup. To begin with, there is a definite relationship to Von Uslar's *Form* I/IIa, although the thickened rim, frequently found among his material, does not seem to have been favoured in the coastal regions. Von Uslar's rare type I/IIa can be equated with the transitional form which Rademacher places between his types from Wahn and Giessen.<sup>67</sup> Both Von Uslar and Rademacher date it to the later 2<sup>nd</sup> and early 3<sup>rd</sup> century.

A date before 200 A.D. cannot be excluded either for the find from Enter, mentioned above, on account of the presence of comparable brooches in the Miltenberg fort. On the other hand, it would be most surprising, if only for typological reasons (the C cup having evolved from the B form), if the type did not continue to be used for a considerable time after the end of the 2<sup>nd</sup> century.

If one looks at the coastal pottery province which in the later 2<sup>nd</sup> and early 3<sup>rd</sup> century is represented by the B cups, one also comes across pots which may be compared to the Wijster C type. It must be granted that there are differences: they can have some decoration, and almost never show the shallow, outward-curved belly on a foot but have a more conical, or even inward-curved lower part. Still they do have the two chief C-type features: the curved shoulder/neck (often much higher than at Wijster) and the sharp transition to the belly. We cite specimens from Siedenbögen,<sup>68</sup> Mahndorf,<sup>69</sup> Gudendorf,<sup>70</sup> Bützfleth,<sup>71</sup> Dingen,<sup>72</sup> Wehden,<sup>73</sup> Westerwanna,<sup>74</sup> Brinkum,<sup>75</sup> Duhnen,<sup>76</sup> Nieblum,<sup>77</sup> and Hedehusum<sup>78</sup>.

As we have said, these cups share with the Wijster C type the flowingly curved profile and show the transition from an angular to a more fluent shaping of the pottery, which in the north-western Germanic districts has been dated by many authorities to around 200 A.D. The cups in question are considered by Waller as the typical ("Chaucan") form of the 3<sup>rd</sup> century.<sup>79</sup> Tischler who coined the term "*Dingener Typ*" believes them to continue into the early 5<sup>th</sup> century.<sup>80</sup> Only two finds are dated: Westerwanna<sup>81</sup> and Gudendorf;<sup>82</sup> both are of the 4<sup>th</sup> century. The fact that in the cemetery of Mahndorf a C cup was once used as an urn confirms the dating of the type to the 3<sup>rd</sup> and the 4<sup>th</sup> century. All in all, we feel entitled to assign our C type to the 3<sup>rd</sup> century; it probably continued into the 4<sup>th</sup>.

The coastal belt is less clearly marked as an individual pottery province by the C

type than it was by the B model. The C type is also less common, especially at the eastern extremity,<sup>83</sup> whereas at the western end, in the province of Friesland, it is more numerous than the B cup. Shoulderless cups are also found to the south of the coastal zone (Von Uslar I/IIa) but, even so, the areas cannot be equated. In the north not only was a transitional type (B) inserted between A and C, whereas further south the C cup (Von Uslar I/IIa) evolves from the A form (Von Uslar I = *Walmer Typ*) without this intermediate step, but also the shoulderless C type lingered much longer in the coastal regions. Although there is no connection whatsoever, as far as their shape is concerned, from a strictly chronological point of view we may now equate our B type with Von Uslar I/IIa and parallel our C cup with Von Uslar II (= *Giessener Typ*) which only occasionally intruded into the coastal province.<sup>84</sup>

#### TYPE 1D (Fig. 104-106)

The type with its curved shoulder/neck which is about one-third of the total height and its shallow body on a comparatively broad spreading foot is closely related to type C, especially to the shallow, footed variety. The transition from lower part to shoulder/neck is more rounded, however, and sometimes an extremely narrow shoulder ridge is present. Another difference is that some kind of decoration seems to be the rule.

Typologically speaking, it is not so much the continuation of type C but rather a parallel phenomenon which may be, at least in part, contemporaneous.

Outside Wijster, the model is found in this country at Marsum, Loppersum, Oostum, Ezinge, Rhee, Hooghalen and Varsen (Fig. 105).

The Hooghalen cup parallels the brooch-spiral impressions on the shoulder of Wijster Fig. 104: 313, 331, 446. The combination of brooch impressions and S-scrolls on fragment Fig. 104: 331, which perhaps comes rather from a bowl than a footed cup, is also found a sherd from Rhee (Fig. 105: 6), in addition the latter has stamped ornaments comparable to those of Fig. 104: 1255. The metope-like ornament of Fig. 104: 116, 317 is again found on a probable Northern Dutch cup of otherwise unknown provenance (Fig. 105: 9). Horizontal grooves are common, both at Wijster and elsewhere. The three animal heads (cows?) on the cup from Loppersum are unique. The row of oblong indentations on the transition from belly to neck (Fig. 105: 6, 8) has not been found on the material from our settlement; it occurs, however, at Wijster cemetery (grave 70; Fig. 210: 4).

The atypical cup from Wijster (Fig. 104: 137) goes together with a 4<sup>th</sup> century sigillata bowl.

Not far from the spot where the Varsen rim-sherd was found, a foot of a terra nigra-like cup Chenet 342 came to light (Fig. 79:10).

A few dated finds from abroad confirm the supposition based on these indications that the type belongs to the Late-Imperial period; they even make it probable that it was rather a 4<sup>th</sup> than a 3<sup>rd</sup> century model.

At Mahndorf a good parallel to Wijster Fig. 104: 676 was found in *Brandgrube* 12. Fragments of comparable footed cups were found in several others: 4, 5, 9, 13, 46.<sup>85</sup> Some of them have a higher shoulder/neck part than the Wijster specimens and a notched decoration on the transition to the lower part.<sup>86</sup> None of the graves containing these D cup fragments can be dated individually; most of the *Brandgruben* at Mahndorf, however, belong to the 4<sup>th</sup> and even to the late 4<sup>th</sup> century.<sup>87</sup>

The beautiful *Fensterurne* from Lüerte is not a dated find; Kossinna thought it to belong to the 3<sup>rd</sup> century.<sup>88</sup>

The 3<sup>rd</sup>/4<sup>th</sup> century cemetery of Helle contains a fragment of a D cup.<sup>89</sup>

A cup among the Late-Roman pottery from Jemgum might also be included in our D type.<sup>90</sup>

A sherd from Gristede, the ornament of which includes brooch-spiral impressions and which is dated by Zoller to the 4<sup>th</sup>/5<sup>th</sup> century, comes from a flat-based bowl or a D cup.<sup>91</sup>

Among the 4<sup>th</sup>/5<sup>th</sup> century pottery from Bremen-Grambke there is a rim fragment of a D cup with two horizontal grooves on the neck and brooch-spiral impressions on the shoulder.<sup>92</sup>

A rim-sherd characteristic for the type in question is illustrated by Haarnagel from the 4<sup>th</sup>/5<sup>th</sup> century layer of Feddersen Wierde.<sup>93</sup>

In conclusion, we mention the two hand-made cups from Lippspringe found in late 4<sup>th</sup>/early 5<sup>th</sup> century graves.<sup>94</sup>

In this country, as well as in North-western Germany, the type is rare when compared to the B cup. As far as can be judged, however, it shows the same coastal distribution pattern.

The rim-sherd from Wijster cemetery and a rim-sherd of a D cup from Ezinge (Fig. 210:4, 105:8) introduce an interesting decorative device: the embellishment with plastic ornament of the pot's largest circumference, at the transition from upper to lower part. This ornament may consist of a row of oblong indentations, as on the fragments from Wijster cemetery, Ezinge and a beautiful cup from Hallum,<sup>95</sup> or oblique notches, and may also be combined with low *Buckel* (Fig. 106: 5). It occurs not only on D cups but is also found frequently on *Schalenurnen* (*vide* p. 269).

One notes that the cups decorated in this way tend to become rather clumsy; the shoulder/neck is often comparatively long, sometimes to the point of giving the pot an almost biconical shape. This is not yet the case with the Wijster and Ezinge fragments and the Hallum cup mentioned above, but can be demonstrated by a few other Northern Dutch cups found at Ezinge, Aalden<sup>96</sup> and Haren (Fig. 106); in these the lar-

gest circumference lies about halfway down. The same phenomenon can be observed in North-western Germany, *e.g.* at Mahndorf<sup>97</sup> and Bremen-Grambke.<sup>98</sup>

In our opinion, these clumsier models, with high shoulder/neck and often with notched decoration at their widest circumference, may be considered the 5<sup>th</sup> century evolution of the Wijster D cup. The specimen from Hallum which combines the oblong indentations with a row of brooch-spiral impressions on the neck, would then with its still rather low shoulder/neck constitute a transitional form. D cups with such late features also reached England; the one from Mitcham, grave 5, is still a slender form with rather short neck.<sup>99</sup>

## II. Dolia

### TYPE IIA. (Fig. 108)

Two complete pots and perhaps a few sherds are to be attributed to the dolium type derived from the Harpstedt urn, one of the three characteristic fossils of the Zeijen culture; the other two being the necked bowl and the plate.

Both complete pots are already rather far removed from the typical Harpstedt urn: they lack the fingertip impressed decoration on the rim; one of them (Fig. 108: 367) has an almost smooth lower part, though there still is some difference in the shoulder/neck, not so much in the texture of the surface as in the colour. Among the finds from the type-site there is one which comes very close to our specimen.<sup>100</sup>

Moreover, both our dolia have been found associated with the other two type-fossils of the Zeijen culture (*vide* pp. 308–9, 311). In settlement finds of this culture, one invariably meets with this combination of the three types. The plate is less frequently found in cemeteries; there it may be used to cover the mouth of an urn, as *e.g.* at Dörverden, where a Zeijen dolium, used as urn, is capped by a plate.<sup>101</sup>

Waterbolk, who named and studied the Zeijen culture as it appears in the northern provinces of this country, dates it to the 6<sup>th</sup> and 5<sup>th</sup> century B.C.<sup>102</sup> Good parallels to our Zeijen culture dolia are known from the settlement site of Rhee.

### TYPE IIB (Fig. 109 – 115)

The type is a high-shouldered model with tripartite profile: bent-out neck, shoulder and body are separate elements clearly set off against each other.

Three varieties are to be distinguished. In B1, the neck with parallel-sided section is short and the transition from shoulder to belly is definitely rounded. The same

rounded shoulder is presented by B<sub>3</sub>; here, the chief characteristic is the long neck, again with parallel-sided section, which shows a tendency to curve. The transition between the two varieties is a gradual one. In B<sub>2</sub>, the comparatively short neck has a triangular or segmental section.

A marked similarity to the A and B cups is to be observed. IIB<sub>1</sub> is reminiscent of IA<sub>1</sub>, and IIB<sub>2</sub> shows the same shape of the neck as the IB<sub>3</sub> cups. Compared to parallels from elsewhere (Fig. 111), the Wijster B<sub>1</sub> dolia have rather narrow shoulders; the same feature was established in the Wijster A cups and there it was supposed to indicate a late stage in the evolution of the IA model. The conformity between both series is certainly not complete: *e.g.* the very narrow shoulder, such a characteristic feature of the B cup, is not found with the B dolium. Still, there is great resemblance in general appearance and there can be no doubt that the A and B cups on the one hand and the B buckets on the other are of the same period, *i.e.* the (later) 2<sup>nd</sup> and (early) 3<sup>rd</sup> century.

Parallels to the B<sub>1</sub> and B<sub>2</sub> dolia are plentiful, especially in the settlement sites on the sandy soils of Northern Holland, all of them also known as find-spots of A and/or B cups. B<sub>1</sub> dolia are present at Erm,<sup>103</sup> Fochtelo,<sup>104</sup> Eext-Vijzelkampen<sup>105</sup> (Fig. 111) and at Sneek;<sup>106</sup> B<sub>2</sub> buckets at Fochtelo, Erm, Rhee,<sup>107</sup> Eext-Vijzelkampen, Peel<sup>108</sup> and Groningen, Martinikerkhof<sup>109</sup> (Fig. 113). The specimen from Taarlo, Bolleveen stands in between our B<sub>1</sub> and B<sub>2</sub> models.<sup>110</sup>

At Peel, a B<sub>2</sub> fragment (Fig. 113: 14) was found in a well dated by a 2<sup>nd</sup>-century sigillata sherd.

In a pit at Eext-Vijzelkampen a number of B<sub>1</sub> and B<sub>2</sub> dolia (Fig. 111: 1, 2, 4-6, 8; 113: 2, 11, 18) is associated with transitional forms between the A and B cups (Fig. 93: 3) and a typical B cup (Fig. 99: 15).<sup>111</sup> The site also yielded an early 3<sup>rd</sup>-century sigillata sherd.

Curiously enough, pots with the long B<sub>3</sub> neck are rare outside Wijster: Peel and Ezing (Fig. 115).

If there are any differences in date between the varieties, these are too small to be deduced from the available dated material. B<sub>3</sub> could be thought to be younger for typological reasons than B<sub>1</sub> and B<sub>2</sub> which in view of their association at Eext-Vijzelkampen may be considered contemporaneous.

In the A/B cup territory east of the river Ems the type is difficult to follow. The reason may be that it has only been used in settlements and not in cemeteries. One may point to dolia especially comparable to our B<sub>1</sub> and B<sub>2</sub> varieties among the 2<sup>nd</sup> century *Siedlungskeramik* at Tofting.<sup>112</sup> Here the thickening of the neck becomes obsolete around 200 A.D. Bantelmann compares his specimens to those from Ezing, attributed by Van Giffen to layer II an I (Late-Roman to about 1250 A.D!). Consequently, Bantelmann believes these Ezing pots to be somewhat younger than his



own ones, but, although this may be correct (the Ezinge buckets are best compared to the typologically youngest variety (B<sub>3</sub>) at Wijster) the chronology of the Ezinge material has not yet been studied in detail and cannot for the moment be used as a decisive argument. Moreover, Bantelmann draws attention to the wide distribution of the type and mentions parallels from Rastede<sup>113</sup> and Hamburg-Duvenstedt.<sup>114</sup> In Denmark, similar buckets date back to the first centuries before our era.<sup>115</sup>

Perhaps a few (B<sub>3</sub> ?) sherds from Hodorf may be added here, dated by Haarnagel<sup>116</sup> to the second half of the 2<sup>nd</sup> century, while large pots with thickened necks showing segmental section are recorded from the 2<sup>nd</sup>/3<sup>rd</sup> century layers of the Feddersen Wierde.<sup>117</sup>

The B<sub>3</sub> type is known from Utersum on the Isle of Föhr, found in a settlement of the Late-Roman period underlying a complex of *Hochäcker*,<sup>118</sup> and finally there is a B<sub>3</sub> fragment from a settlement dated to the Early-Roman period at Westerohrstedt near Husum.<sup>119</sup>

Though the chronological picture for this type is less clear, the B dolium seems not only to be of the same date, but also to have the same distribution as the later A and especially the B cups.

It is an attractive hypothesis to consider the Zeijen dolium as the ancestor of our B cup. Of course a great gulf is fixed between them in time, and Wijster does not produce the material to bridge it. But Boeles has already observed that in the Northern Dutch *terpen* ware the evolution of the Harpstedt (or as we would now say "Zeijen") bucket is continued by the so-called *kartelrandig aardewerk* (pottery with rims decorated by fingertip impressions). It is significant in this respect that many of the Wijster B<sub>2</sub> rims are notched. For full information about the intermediate forms a close study of the *terpen* pottery of the Early-Imperial period will be necessary, but in the meantime Boeles' Early Frisian milled-edge ware must stand as model for these transitional forms.<sup>120</sup>

#### TYPE IIC (Fig. 116-119)

The model is closely related to the preceding type, but has a more bulbous belly and lacks the clearly defined shoulder. Of the two varieties (C<sub>1</sub> and C<sub>2</sub>), the first has a neck with parallel-sided section, the neck of the second is thickened and segmental on section.

The type is rare at Wijster; C<sub>2</sub> is represented only by a few rather atypical, short-necked sherds. Parallels may be cited from Fochtelo, Peelo, Rhee and Groningen, Martinikerkhof (Fig. 117, 119), but also on these sites the type is never very common. An enormous pot from Peelo testifies eloquently to the relationship with the B model (Fig. 119: 1).

On the basis of this similarity a date in the 2<sup>nd</sup> century becomes most probable. Haarnagel illustrates a comparable form from Feddersen Wierde, period II (1<sup>st</sup>/2<sup>nd</sup> century).<sup>121</sup> A related profile can be found as far away as Zernikow.<sup>122</sup> The type can also be recognized among the 2<sup>nd</sup> century pottery at Tofting but here, as Bantelmann states, it is also rare.<sup>123</sup>

#### TYPE IID (Fig. 120)

We have not been able to find good parallels for this type, again a rare one, with its curved shoulder/neck and sharp transition to the belly.

The unmistakable resemblance to cup type IC hints at a date not earlier than the 3<sup>rd</sup> century.

### III. Narrow-mouthed Biconical Pots

#### TYPE IIIA (Fig. 121-125)

The type has a more or less slender biconical body and straight, bent-out neck which is clearly set off against the shoulder. Below the neck two angular handles are often found, though by no means always. The section of the neck can be parallel-sided (A1), or triangular or segmental (A2). Evidence for its presence at Wijster is weak. IIIA2 cannot be recognized at all and, though there is a small group of sherds showing some affinity to IIIA1 (Fig. 121), most of these are rather atypical and the group as a whole is not very homogeneous: especially the shape and place of the handles is variable.

From other Northern Dutch sites, however, characteristic representatives of the type are known. Notwithstanding its almost complete absence at Wijster, it is worth while devoting a few words to it because it may be considered the starting point of the next model, IIIB. The evolved A1 type with rather long neck (Fig. 122, 123) is known from sites in the provinces of Groningen (Brillerij, Joeswerd, Oostum, Ezinge) and Drente (Erm, Rhee, Peelo). Fundamentally the same model, but with a much shorter neck, is found in the same area (Fig. 124).

It is reasonable to regard these short-necked pots as the typological predecessor of the long-necked one and to suppose that they represent an older phase, in the same way that there was some reason to assume that the oldest A cups (type IA) had a very short neck.

Though the evidence may not be completely convincing, there are at least a few indications for the validity of this hypothesis. A pot from Zissenhausen in Oldenburg

which is dated by its rim-profile to the very beginning of the 1<sup>st</sup> century, has a very short neck.<sup>124</sup> According to Schroller, the whole pottery complex from this site lies between 50 B.C. and 100 A.D. Two pots from the 2<sup>nd</sup> century cemetery of Driefel are still short-necked.<sup>125</sup> A sherd from Barward (*Wohnhorizont* 5; 2<sup>nd</sup>/3<sup>rd</sup> century)<sup>126</sup> has a somewhat longer neck and bears more resemblance to the Wijster A1 profiles. Thus, if we judge correctly, the extremely short-necked pots still belong to the 1<sup>st</sup> century, while in the 2<sup>nd</sup> the neck becomes longer.

The date of the long-necked pots illustrated in Fig. 122, 123 can be fixed with more certainty. Their general aspect and more notably the fact that there also exists a variety with thickened neck (type IIIA2; Fig. 125) puts them in a group with the B1 and B2 dolia. We have even a genuine and reliable association of such a IIIA2 pot (Fig. 125: 3) with B dolia and transitional A/B and B cups at Eext-Vijzelkampen.<sup>127</sup> A curious fragment from Schipborg (Fig. 123: 1) is to be considered as a hybrid standing between the IA and B cups (shape, decoration) and the type in question (handles).

Moreover, these longer necked A1 and A2 pots are closely related to Tischler's *Eddelaker Typ*.<sup>128</sup> His dating of the type "around 200", among other things based on the stratigraphy of Hodorf, was confirmed afterwards at Tofting<sup>129</sup> and Feddersen Wierde.<sup>130</sup>

The often striking resemblance of the Northern Dutch pots to those from the type-site in Dithmarschen, once more forces the significance of the coastal pottery province upon us. In the same period the general characteristics of the Eddelak model are even found further north, as far as Esbjerg in Denmark. The gap between Dithmarschen and Holland is filled in by finds like those from Hamburg-Farmsen,<sup>131</sup> Quelkhorn,<sup>132</sup> Westerwanna,<sup>133</sup> Löhberg,<sup>134</sup> Duhnen,<sup>135</sup> Barward,<sup>136</sup> Feddersen Wierde,<sup>137</sup> Wehden,<sup>138</sup> Eppingawehr<sup>139</sup> and Bentumersiel.<sup>140</sup> Occasionally, related finds are found further south: the Molkenberg cemetery in Sachsen.<sup>141</sup>

In this large coastal province, the type is not repeated with absolute uniformity; there is, on the contrary, much variation in detail. In his latest work on the subject, Tischler distinguished several local varieties: the Westerwanna (Plettke B1), the Lauruper, the Näsberg and even the *terpen* type. Indeed, when compared to the Eddelak model in the strict sense, the Northern Dutch relations have a character of their own. Our pots are mostly without decoration and if decoration occurs at all, it is different. They never have knob-handles and are less likely to have a ridge around the base of the neck (Fig. 125: 2). The thickening of the neck seems to be a specifically Dutch feature (once found in Dithmarschen).<sup>142</sup>

Should one wish to honour the Dutch variety by a special name, then Tischler's term "*Terpen Typ*" is perhaps not completely satisfying in that the type is not restricted to the *terpen* area but occurs in Drente as well. In the province of Friesland it is in fact poorly represented, which, may not only be due to the rather selective way in which the Frisian finds up until recently have been collected and studied. Hal-

bertsma<sup>143</sup> suggests that our type is foreign to at least the western part of the Frisian *terpen* area (Westergo). New finds show the type to be present at a settlement site near Sneek.<sup>144</sup> From Oostergo (Driesum), Boeles<sup>145</sup> mentions pots with pointed lobed rims; from Hoogebeintum comes the beautiful pot which is a characteristic representative of type IIIB succeeding the one in question (Fig. 127 : 1).

On the other hand, an undoubtedly related model is more typical for the Frisian *terpen* culture of this period: the high and slender variety of the so-called Frisian Earpot<sup>146</sup> which has a more or less curved neck and usually two handles growing out of the rim (curiously enough ‘earless Earpots’ are recorded!).

According to Boeles<sup>147</sup> and Halbertsma,<sup>148</sup> this type is the 2<sup>nd</sup>/3<sup>rd</sup> century development of the necked bowl often decorated with horizontal grooves (*streepband*) at the base of the shoulder characteristic for the Late-La Tène and Early-Roman period.<sup>149</sup> Another fact pointing in this direction is that *streepband* bowl and slender Earpot share the same distribution area: centre in Friesland, especially Westergo, with offshoots to the east (Groningen) and west (Noord-Holland).

The relation between these tall Earpots and the models with closer affinity to the Eddelak type is as yet not completely clear and further studies in this field have to be awaited to solve the problem. As far as one can see now, they are rather different types, probably with different origins. It is remarkable that around 200 A.D. there seems to be a greater difference in pottery style between Friesland and Groningen than between Groningen and Dithmarschen.

When in conclusion, we return to the small group of Wijster sherds attributed to type IIIA1, it must be granted that only few of them show the Eddelak features more or less clearly (*e.g.* Fig. 121: 404, 379). There is, however, no great difference from the Northern Dutch relatives of the Eddelak type. The pointed rim (Fig. 121: 1075) finds parallels in the rims with three or more lobes, which are not uncommon in that group. Horizontal projections, on the rim as in Fig. 121: 335, 379, 757, are also known on sherds from Rhee and Peelo, though those sherds are too small to establish the type of pot they come from. The vertical pinched knobs (Fig. 121: 379, 709, 1317) make one think of the A and B cups. A date around 200 A.D. is therefore most probable.

#### TYPES IIIB AND C (Fig. 126–129)

IIIB and C represent further evolutionary stages of the Eddelak type *sensu stricto*, as it appears around 200 A.D. The chief characteristic is a softening of the contours; in particular, the transition from shoulder to neck becomes less sharp and the neck itself becomes more and more curved. Comparable stylistic changes after the beginning of the 3<sup>rd</sup> century were also observed in the series of cup types (I).

IIIB and C seem to be two successive stages. In B, the neck is still bent outwards and more or less straight, though often a tendency to curve is already noticeable. IIIC has a curved neck, the lower part of which is cylindrical. The evolution was continuous and in consequence the distinctions between the three types A, B and C are somewhat vague.

Parallels to model C are scarce in Northern Holland although the fragment of a small pot from Peelo (Fig. 127: 4) comes close to it, without being very characteristic; at Wijster this form is also rare.

The parallel material to type B, pictured in Fig. 127, 128, again all found in Groningen and Drente, shows different stages in the development of that model.

The same change in the appearance of the Eddelak pot took place throughout the coastal pottery province, and in North-western Germany the trend of the evolution of this type had already long been discerned. A. Plettke<sup>150</sup> has said that his type B2 (comparable to our model IIIC) evolved from his type B1 (comparable to our IIIA) and Tackenberg expressed the same view in dating the urn from Wehden to the 2<sup>nd</sup> and the one from Soltau to the 3<sup>rd</sup> century.<sup>151</sup> In an article published in 1939, Tischler<sup>152</sup> compared the same pots and described the evolution in more detail; he stresses it again in a more recent work.<sup>153</sup> The same evolution was recently described by Bantelmann.<sup>154</sup> When Schindler<sup>155</sup> says that the Eddelak type continues until the 5<sup>th</sup> century, he uses the term in a very broad sense and has in mind forms comparable to our type IIIC, as appears from the Mahndorf example he cites.

Two dated finds from Westerwanna, studied by Waller, are of great importance in establishing the absolute chronology. From these finds it appears that pots comparable to our model B already belong to the 3<sup>rd</sup> century.<sup>156</sup> Unfortunately, parallels from the Feddersen Wierde to Fig. 128: 2 cannot be dated within strict limits (2<sup>nd</sup>–4<sup>th</sup> century).<sup>157</sup> A characteristic B specimen, again without exact date, is known from Golzwarderwurp.<sup>158</sup> Plettke and Tischler point to dated finds which prove that the final form (type IIIC) was already in existence at the end of the 3<sup>rd</sup> century and that it continued until the 5<sup>th</sup> century.<sup>159</sup>

#### IV. Necked Bowls

The connection between the different types of this series is not as close, or at least not as self-evident, as it was in the series studied so far. Some types, or all of them, may be linked by evolutionary ties, but it is as yet impossible to establish this with certainty. Their common denominator is the globular body, though it must be granted that the extremes (a more or less flat, bowl-shaped body on one side and a higher egg-shaped one on the other) lie far apart.

## Pottery

## TYPE IVA (Fig. 130, 131)

The pots and sherds belonging to this type do not form a very homogeneous group. For instance, the elegant pot from the pit on the border of the fen (Fig. 131: 43) is clearly exceptional; it is, in fact, unique among the Wijster material. Its pointed handles with profiled upper edge are reminiscent of the so-called Frisian Earpots,<sup>160</sup> but it does not have the tall form and handles terminating in a knob of the evolved specimens which are regarded as characteristic for the 3<sup>rd</sup> century. None the less it probably belongs to that period, as appears from the other types represented in the same pit (type IC, IVF), if we may for once anticipate the conclusions to be drawn from the study of the find-associations.

Most of the other sherds and pots, however, represent a model which can best be typified as a short-necked bowl with more or less globular body and not always well-defined shoulder.

Short necks are often considered typical of the Early-Imperial period, especially the 1<sup>st</sup> century, or even a bit earlier, and some of the Wijster IVA sherds have very short necks indeed. It is true that these early necks, or "rims" as they may be called because of their shortness, are frequently thickened or faceted<sup>161</sup> or provided with a lip, which in the Wijster IVA sherds is missing. Nevertheless, IVA rims can certainly be early, as is demonstrated *e.g.* by the local ware found in the Roman castle at Valkenburg where our rims can be recognized among the material of the first three periods dating from before the catastrophe of 69 A.D.<sup>162</sup>

On the other hand, the example of Tofting warns us that it is not advisable to confine the IVA type to the Early-Roman period. At this site, it is the most conspicuous model of the *Siedlungskeramik der jüngeren Kaiserzeit* and elsewhere it was found to continue even much later.<sup>163</sup>

The conclusion must be that pots with features coming within the limits of our type IVA have been used for a very long time; this is logical for a type having such an indistinct and obvious form.

## TYPE IVB (Fig. 132–134)

Much of what has been said about the preceding type may be repeated here. The two models are closely related in general shape. The IVB sherds are grouped here on account of the thickening of their rims, which have often a flattened top and a protruding lip.

Such lipped rims can again be found in early complexes: *e.g.* the castellum of Valkenburg,<sup>164</sup> the Hunnerberg cemetery at Nijmegen,<sup>165</sup> and Barward, *Wohnhorizont I*.<sup>166</sup>

The type is also common in the northern parts of this country, on the sand as well as in the clay district, but there it is as yet impossible to date with precision. We confine ourselves to illustrating a few fragments from Rhee and Fochtelo (Fig. 134), in order that the Northern Dutch pots are represented.

We did not meet with securely dated finds proving that the type continued into the Late-Roman period, but this is nevertheless probable because it closely resembles the preceding type. It may be remarked in passing that in Von Uslar's territory the lipped rim is still found during the 3<sup>rd</sup> century on his *Form* II and III. It is interesting that some of the pots attributed to *Form* III, a collection of rather different models, and dated from the 1<sup>st</sup> to the 3<sup>rd</sup> century, show a certain similarity to our IVB type.<sup>167</sup>

#### TYPE IVC (Fig. 135)

No precise dating can be given to this small group of sherds with obliquely bent-out rims. The sharp profilation, especially of the inner side, perhaps points to the 2<sup>nd</sup> century.

#### TYPE IVD (Fig. 136-138)

This model, represented at Wijster by only three fragments from two find-spots, is easily recognized as the most characteristic component of the Zeijen culture: the necked bowl called after Ruinen-Wommels by Waterbolk.<sup>168</sup> On account of differences in the form of the neck two sub-types are distinguished: RW I and II. The Wijster fragments belong to the first sub-type.

The variability in general shape of the pots of RW I type is not inconsiderable: they can be tall and slender, or shallow and broad, wide- or narrow-shouldered, the transition from shoulder to belly is sharp or may be rounded, but they all have the long cylindrical neck set off from the body in common. Even the form of the neck is somewhat variable: it may be almost straight or slightly more curved.

Most of these RW I varieties are present among the pots from one of the two type sites: the Ruinen cemetery.<sup>169</sup> The material from another site in the province of Drente, the settlement of Rhee is even more varied. Here, below a Roman Period village with pottery that has already yielded many parallels to our Wijster material, traces of a settlement including a complete houseplan<sup>170</sup> belonging to the Zeijen culture have been found. Zeijen pottery is most abundant at this site: a selection of Ruinen-Wommels pots, some of them with fingertip impressions on top of the rim, an ornament borrowed from the Zeyen dolium,<sup>171</sup> is given in Fig. 137 (for Zeijen plates from Rhee *vide* Fig. 146). Among the Ruinen-Wommels pots

from Rhee exact parallels to our Wijster variety with shallow body, narrow shoulder and straight neck can be found.

The different RW I varieties are probably contemporaneous; it is at least not yet possible to separate them.

On typological grounds Waterbolk considers the second sub-type, RW II, to be younger than RW I. In this connection we mention the only fragment from Rhee with clear RW II features (Fig. 138: 1), which is associated<sup>172</sup> there not only with bowls (Fig. 138: 5, 6) and a sherd of probably a dolium (Fig. 138: 2), but also with rim-sherds which seem to belong to a later phase (one rim-sherd, Fig. 138: 4, resembles our type IVB and could date from the *streefband* phase or the Early Imperial period).

Outside the *terpen* area, Rhee is the only find-spot of the RW III type which is dated between 400 and 200 B.C., while RW I and II together represent the Zeijen culture of between 600 and 400 B.C. If within this scheme one has to assume a certain chronological differentiation between RW I and II, our Wijster fragments, which are undoubtedly of type RW I, should be dated by preference to the 6<sup>th</sup> century B.C.

#### TYPE IVE (Fig. 139)

We have been unable to find dated parallels for this type. Its curved, though much shorter, neck and especially its sharp division between neck and body resemble the next type; the same date for both is therefore probable. The likeness to Ruinen-Wommels III profiles must be fortuitous.

#### TYPE IVF (Fig. 140, 141)

The type is hard to distinguish from model IVD, the Zeijen bowl. The same difficulties were experienced by Schindler at Hamburg-Farmsen when he encountered a pot with slightly curved or cylindrical neck, "*den man, für sich allein genommen oder vereinzelt gefunden, am ehesten für frühjastorfzeitlich, niemals aber für jungkaiserzeitlich, halten würde*".<sup>173</sup> But at Hamburg-Farmsen the 3<sup>rd</sup>-4<sup>th</sup> century date of these pots is beyond all doubt.

The major difference between the variety of the Zeijen bowl which is found at Wijster and type IVF is that in the latter the neck is more curved and often has a thickened, lip-shaped rim.

Schindler observes that this Late-Roman pot, which in its characteristic specimens at Hamburg<sup>174</sup> is a very close parallel to our Wijster IVF model, is rare among the pottery known from contemporaneous cemeteries. The few examples he cites from Genrich<sup>175</sup> found at Krummensee/Pötterberg, Gleschendorf, and Borgstedt, are neither good parallels to this pots nor to ours. In our opinion, however, the type in



question shows much affinity to one of the most common elements in the Anglo-Saxon cemeteries between Weser and Elbe, the types A4–6 of Plettke<sup>176</sup> = type E of Grohne<sup>177</sup> = type III–IV (4<sup>th</sup> century phase) of Zimmer-Linnfeld,<sup>178</sup> which are characteristic for the 4<sup>th</sup> century. Of course, the typical linear ornament on the shoulder is missing, but there is a resemblance in general shape and moreover undecorated specimens do also occur<sup>179</sup> in the cemeteries.

One of the cremation-graves in Wijster cemetery is of importance for the dating of the IVF model: in grave VII an urn of this type was found together with a late 4<sup>th</sup>/early 5<sup>th</sup> century *tutulus* brooch and a rim-sherd of terra nigra-like pottery (Fig. 272).

Outside Wijster, the type has so far not been recognized on dwelling sites in the northern part of this country. Apart from Hamburg-Farmsen it is, however, known from a few other settlements in North-western Germany.

Schindler points to Hodorf where indeed more or less comparable “big bellied pots with high necks” but without the clear division between neck and shoulder, can be seen; these are dated to the 4<sup>th</sup> century (Phase IIa, III).<sup>180</sup>

Also the sherds from Bohmstedt and Schwabstedt<sup>181</sup> mentioned by Schindler are not exact parallels.

At least one good parallel can be observed among the Late-Roman and Migration period pottery from Tofting; the thickening of the transition from neck to shoulder is dated by Bantelmann “vom 5. Jahrhundert an” and reminds him of forms belonging to the second half of the 1<sup>st</sup> millenium.<sup>182</sup>

At Feddersen Wierde, the type may perhaps be recognized in a sherd with an extremely long neck found in a 3<sup>rd</sup> century layer.<sup>183</sup>

A pot from Bremen-Grambke shows much similarity to our type, but again the neck is not as sharply set off from the shoulder.<sup>184</sup>

Probably the sherds from Dalsper and Rodenkirchen illustrated by Rink should be attributed to our type also.<sup>185</sup>

All things being considered, we feel justified in dating model IVF to the 3<sup>rd</sup> and especially the 4<sup>th</sup> century. Perhaps it survived into the 5<sup>th</sup>.

#### TYPE IVG (Fig. 142)

A small group of sherds with linear ornament, headed by a somewhat larger fragment with *Buckel* decoration in addition, is to be defined as what is usually called Anglo-Saxon pottery. The fragments are too small to allow a reliable reconstruction of the complete pots, but they may have resembled the models to which we compared the preceding type. Such Anglo-Saxon urns are well-known from Northern Holland, e.g. from the Midlaren cemetery.<sup>186</sup>

A date in the 4<sup>th</sup> century is probable and even the 5<sup>th</sup> century is likely for the Buckel sherd.

## TYPE IVH (Fig. 143, 144)

These sherds with S-shaped profile do not constitute a very characteristic type. Sometimes one is reminded of type IVA, sometimes of type IVE and F.

The S-shaped profile cannot be pin-pointed to a definite period; it may be encountered throughout Roman times and even much later.

## V. Plates

Evolutional relationship between the first two types is probable.

## TYPE VA (Fig. 145, 146)

Characteristic features of this type are its wide form, straight sides and simple unthickened rim; one or more perforated knob-handles are often present.

The model is typical for the Zeijen culture<sup>187</sup> and may even be a little earlier.<sup>183</sup> It continues in much the same form until the Late-La Tène period, when it acquires a thickened, often faceted rim, and the sides can become steeper. In this narrow, more bowl-like shape it is traced by Von Uslar up until the 3<sup>rd</sup> century A.D.<sup>189</sup>

According to Schmid, flat plates with rather elaborate faceted rims from Einswarden, Barward and Berensch belong to the 1<sup>st</sup> century B.C.<sup>190</sup>

A variety of the Zeijen plate, as for instance found at Jemgum,<sup>191</sup> shows a slightly turned-up rim; there the sides are more or less curved. When the rim of this variety becomes thickened, all characteristics of type VB are present.

That the Wijster specimens belong to the Zeijen phase is corroborated by the associated types. This plate is also well-known from Rhee (Fig. 146), where *e.g.* two such plates (Fig. 146: 1, 4) were found in the same pit with other characteristic Zeijen pottery.

## TYPE VB (Fig. 147)

Rim-sherds of this type were found at Gielde, Kr. Goslar at *Stelle 1/I*, where they are dated by a brooch to the first half of the Early-Imperial period.<sup>192</sup>

Comparable profiles also dating from the beginning of our era can be found at Zissenhausen<sup>193</sup> and Golzwarderworp.<sup>194</sup> Here the rims are often faceted, while at Wijster they may be lip-shaped in a way reminiscent of type IVB.

Parallels can also be cited from the 1<sup>st</sup>/2<sup>nd</sup> century settlement of Stederdorf.<sup>195</sup>

Undated ones come from Mahndorf-Dühnenfussiedlung<sup>196</sup> and Ruinen in the province of Drente.<sup>197</sup>

Thus, while the type was certainly present in the 1<sup>st</sup> century A.D., it cannot be contested that it continued after that.

#### TYPE VC (Fig. 148, 149)

The variety with curved walls resembles the preceding one slightly.

Outside Wijster, the type is found at Rhee (Fig. 149); we did not encounter it elsewhere in Northern Holland.

According to Von Uslar, it had a very long life and occurs from the Late-La Tène period until into the 3<sup>rd</sup> century.<sup>198</sup>

An early example is published by Schindler<sup>199</sup> from Hamburg-Duvenstedt where it is present in a complex dated by the excavator to the beginning of our era.

That the same form can be as late as the 5<sup>th</sup> century is confirmed by a find from Dorchester.<sup>200</sup>

### VI. Small Straight-sided Cups

#### TYPES VIA AND B (Fig. 150–152)

It is impossible to date either type within strict limits. The former, which is also represented at Rhee (Fig. 151), resembles model VC; the latter the terra sigillata form Drag. 33.

### VII. Neckless Bowls

#### TYPE VIIA (Fig. 153)

This type with its biconical body and thickened rim is best compared to Von Uslar's form I/IIb, which, though it is a rare model, appears to be present throughout the whole period studied by Von Uslar, *i.e.* from the 1<sup>st</sup> to the 3<sup>rd</sup> century.<sup>201</sup>

No dated specimens are known to us from the northern parts of this country, though it is present among the Ezinge material.

An early example may be cited from Valkenburg, period 2: before 47 A.D.<sup>202</sup>

#### TYPE VIIB

##### *VIIB1 (Fig. 154, 155)*

The curved sided cup, appearing in two varieties (one a rather shallow wide-mouthed bowl, the other more barrel-shaped, with transitional forms between both extremes), is one of the most common elements among the Wijster pottery.

It is remarkable that up to the present it has not often been found in the *terp* area. It occurs at Tritsum in Late-Roman contexts.<sup>203</sup> There are two small bowls from Farmsum in Groningen (Fig. 155 : 2, 4). The model seems to be present at Ezinge and perhaps a few other sites, but as far as our present knowledge goes it is certainly not one of the most common types among the pottery from the *terps*.

On the sandy soils of Northern Holland, however, this bowl is anything but rare. One finds it at Rhee particularly, and also at Aalden, Hijken, Peelo, Bolleveen-Zeijsen, Fochtelo and Groningen-Martinikerkhof (Fig. 155). It is not restricted to the northern parts of this country, but is also found further south, *e.g.* at Dalfsen,<sup>204</sup> Ermelo,<sup>205</sup> Beumelerberg near Garderen (Fig. 155 : 16), at Nijmegen-Hunnerberg,<sup>206</sup> at Wageningen on the Rhine,<sup>207</sup> at Ressen,<sup>208</sup> and on the Gaalse Heide near Schayk.<sup>209</sup>

In fact our country is only a small corner of the wide distribution area of the type during Roman times. It is found from Furfooz on the Maas<sup>210</sup> to Tofting in Dithmarschen;<sup>211</sup> it is present along the Rhine and in central Germany;<sup>212</sup> it occurs in North-western Germany;<sup>213</sup> it is very numerous along the Elbe and east of this river in Ostholstein, Mecklenburg, Prignitz and Havelland;<sup>214</sup> finally, it is common in Denmark.<sup>215</sup>

In this large territory it is known from settlements and cemeteries alike, and everywhere the same variation within the type from low, open bowl to barrel-shaped pot, which appeared to be characteristic for the Wijster material, is to be observed. Von Uslar tried to construct a formal distinction between his western forms and the *spätromischer Topf* of the east, but, as he himself is forced to admit, a clear line between both groups cannot be drawn.<sup>216</sup>

The chronology and origin of the type seem to be less uniform. It must be said that for dating purposes these pots are utterly worthless.

The Dutch parallel material, cited above, dates from the Roman period, not on account of any formal characteristics, but because the sites they come from belong to that period. Fig. 155 gives only a small selection from this Dutch material; the examples are chosen partly to represent the Northern Dutch sites, partly because of their interesting form or decoration.

One of them deserves to be mentioned individually, namely, the rare footed-bowl from Wijster cemetery (Fig. 155: 13). Exact parallels, apart from the decoration, can be found in the late 3<sup>rd</sup>/early 4<sup>th</sup> century cemetery of Hassleben<sup>217</sup>. Here they occur together with and seem to be imitations of the same model in wheel-made ware.

Furthermore it is interesting to note that the knobs which are common in the Elbe region, but also closer home (Bremen-Grambke),<sup>218</sup> are likewise present at Rhee (Fig. 155: 6, 9, 11); the Wijster fragment of Fig. 154: 331 (*cf.* also: 787) is more or less comparable, having a perforated knob (the pot perhaps originally had two).

That our type VII B covers the whole Roman period cannot be the subject of controversy. Von Uslar traced it throughout the first three centuries of our era, but was unable to establish a perceptible evolution. It was certainly still present during the 4<sup>th</sup> century: Feddersen Wierde,<sup>219</sup> Bremen-Grambke,<sup>220</sup> Hassleben.<sup>221</sup> The same situation is met with in Holland: the finds from Nijmegen-Hunnerberg<sup>222</sup> and Schayk<sup>223</sup> belong to the Early-Roman period, those from Dalfsen<sup>224</sup> and Wageningen<sup>225</sup> to the Late-Roman period.

The type is, however, not restricted to the Roman Period. It continues much earlier forms which are so similar to the later ones that they cannot be distinguished by their shape alone.<sup>226</sup> In this country, it can be traced back to the times of the Zeijen culture<sup>227</sup> and one is even reminded of the Early Bronze Age *Kümmerkeramik* bowl.

On the other hand, our model is still flourishing long after the Roman Period and it continues until the Early Middle Ages: *e.g.* Molmeck/Hettstedt<sup>228</sup> (5<sup>th</sup> century), Warendorf<sup>229</sup> (7<sup>th</sup>/8<sup>th</sup> century), Haithabu,<sup>230</sup> Hamburg-Altstadt.<sup>231</sup> It may, in fact, be considered one of the ancestors of the *Kugeltopf*. Again, there are no characteristic differences in shape between these later and earlier examples, but often the late specimens seem to be more roughly made. Matthes<sup>232</sup> has already pointed to the degeneration of derivatives of his "*spät-römischer Topf*" appearing in Merovingian contexts.

Although the models found in the eastern part of the distribution area on either side of the Elbe cannot be distinguished on formal criteria from their colleagues in the west, they seem to make a later appearance, as already indicated by their name of Late-Roman Pots, and to have a different ancestry. In the eastern regions, and in Denmark as well, no dated finds from before the end of the 2<sup>nd</sup> century seem to be known<sup>233</sup> and according to Matthes the "*spät-römischer Topf*" does not continue older, identical La Tène forms, as our bowl in the west does, but springs from Early-

Roman short-necked bowls. Kuchenbuch alone leaves open the possibility that one has to look elsewhere for the ancestors of this type, and mentions the *Siedlungskeramik*, but he does not go into further details.

Be this as it may, neither these discrepancies nor the longevity and wide distribution of the type as a whole are difficult to understand, when one considers the general and obvious form which may well have been created in different regions at very different times.<sup>234</sup>

For our present purpose, we have to draw the sad conclusion that it is impossible to date the Wijster VIIB1 type exactly.

#### *VIIB2 (Fig. 156, 157)*

Bowls in which the extreme upper part of the curved wall has been shaped to form an often more or less thickened, separate rim, may be considered a variety of the preceding type. At the same time, VIIB2 is not markedly different from IVA and is to be regarded as a transitional form between the latter and VIIB1. It is interesting to note that in the Pritzier cemetery Schuldt was able to follow the evolution of pots with IVA profile from VIIB1 type via models which can be paralleled to our VIIB2 forms.<sup>235</sup> Of course there is no direct connection; at Pritzier, this evolution took place during the course of the 4<sup>th</sup> century and in this country the IVA profile appears much earlier than that, but it shows the really very close affinity between the three types in question. Unfortunately, these relationships do not offer any possibility for a precise dating.

The type also occurs elsewhere, *e.g.* at Hijken, Peelo and Rhee (Fig. 157).

The fragment of Fig. 156: 944 with perforated vertical handle set on the rim is remarkable. A comparable handle was found at Groningen-Martinikerkhof; here it is found on a pot of IVA profile (Fig. 157: 1).

### **VIII. Schalenurnen**

#### **TYPES VIIIA AND B (Fig. 158–160)**

The sharply carinated bowl with linear decoration, type VIIIA, is to be attributed to the family of the so-called *Schalenurne*. The complete form of type VIIIB is less well-known, but the major difference seems to be in the plastic decoration. It is represented by only a few sherds and it is not even certain that all of them come from bowls.

Comparable models, most of them small and with predominantly linear ornament, are known from Aalden, Zweelo, Borger, Bolleveen near Zeijen, Rhee, Midlaren<sup>236</sup> and Zuidlaren in Drente and from Ezinge and Valkum in the province of Groningen (Fig. 160). The beautiful bowl from the Anglo-Saxon cemetery at Oosterbeintum in Friesland<sup>237</sup> strikes a somewhat different note.

Most of the Northern Dutch pots are not precisely dated. Several indications, however, point to the Late-Roman and Migration period: at Zuidlaren a small *Schalenurne* (!?) was found in an urn of Wijster IVF type (Fig. 160: 4); Van Giffen dates the one from the Bolleveen near Zeijen to the end of the 4<sup>th</sup> century<sup>238</sup> (a certain similarity to the later cup types, IC-D, is to be observed); *Schalenurnen* occur in the Migration period cemetery of Midlaren; the bowl from the grave of the "Princess of Zweelo" is associated with an equal-armed brooch of the later 5<sup>th</sup> century (Fig. 160: 1).

The family of the *Schalenurnen* is large and dispersed over a vast territory. Moreover, the type maintains its position for a long time. Within the type several sub-types may be distinguished on the basis of differences in form and decoration, but in general the dividing lines between these sub-types are vague.

The classical territory of the *Schalenurne* is the lower Elbe region, where the model is characteristic of the Late-Roman cemeteries.<sup>239</sup> Here the pots of earlier, 3<sup>rd</sup> century-style, named after the cemetery of Dahlhausen in the Prignitz by Matthes, are decorated with a linear ornament which in some respects closely resembles the decoration of our VIIIA bowl (*e.g.* pendant arcs). The younger Kuhbier style of the 4<sup>th</sup> century is characterized by plastic ornament, as *e.g.* the ribbing on the widest circumference of the pot, a feature observed also on some of our VIIIB sherds. Notwithstanding these general similarities, however, the Northern Dutch bowls have a character all their own and do not seem to be directly derived from those in the Altmark and Prignitz.

From the lower Elbe region the type penetrated to Central and South-western Germany, where it flourishes especially throughout the 5<sup>th</sup> and 6<sup>th</sup> centuries.<sup>240</sup> During the Late-Roman period *Schalenurnen* are furthermore found in profusion in Mecklenburg,<sup>241</sup> Holstein,<sup>242</sup> at Tofting<sup>243</sup> and on the North Frisian islands.<sup>244</sup> They are also present in 4<sup>th</sup>/5<sup>th</sup> century Denmark,<sup>245</sup> where, according to Mackeprang, they show some connection with the North German material. Bowl forms are also to be found in Norway,<sup>246</sup> and Late-Roman bowls from Scania come very close to our Wijster VIIIA specimens.<sup>247</sup> Moreover, there is a marked affinity between the Wijster bowls and the handled cup or *Henkeltasse* which is one of the most common forms during the Late-Roman period in Scandinavia and which also reached our regions, as witness its presence among the Ezinge finds.<sup>248</sup>

In conclusion, the bowl types found in North-western Germany between Ems and Elbe represent an influence from abroad (lower Elbe region; Holstein?), because no prototypes have been discovered.<sup>249</sup> It is in this territory that we find the best

parallels to our Northern Dutch bowls. The North-western German bowls are sometimes used as urns, *e.g.* at Dingen<sup>250</sup> and Galgenberg;<sup>251</sup> they are, however, found most often in inhumation graves, as *e.g.* at Galgenberg,<sup>252</sup> Mahndorf,<sup>253</sup> Helle.<sup>254</sup> The Helle grave and also the Mahndorf graves, as far as the latter can be dated, belong to the end of the 4<sup>th</sup> century; some of the inhumation interments of the Galgenberg also belong to the late 4<sup>th</sup> century, but they continue until the second half of the 5<sup>th</sup> (grave 25: cruciform brooch; grave 19: equal-armed brooch of Roeder's late type). At Mahndorf, comparable bowls are twice used as urns (one of them, C1, is associated with a bowl of Wijster type VIIB1) and they are furthermore found in some of the *Brandgruben*, most of which date from the 4<sup>th</sup> century.

A few settlement finds, Feddersen Wierde,<sup>255</sup> Bremen-Grambke,<sup>256</sup> corroborate a dating of the North-western German *Schalenurne* in the 4<sup>th</sup> and 5<sup>th</sup> century.

It was said above that within the large distribution area of the *Schalenurne*, the type is anything but uniform. It is, however, far beyond the scope of the present study to distinguish regional groups and to establish their mutual relationships. For present purposes we think it useful to underline the close affinity between our material and that of North-western Germany, where the coastal pottery province comes once more to the fore. The 4<sup>th</sup>/5<sup>th</sup> century date of the bowls found in North-western Germany fits in very well with the chronological indications given by the Dutch material.

## IX. Ornamental Patterns

Most of the Wijster ornamental patterns are poorly suited for dating purposes. Those that can be attributed to special pot models and are thus more or less datable, have already been dealt with under the relevant pottery types.

One general observation has still to be made: decoration (excluding roughening of the pot's surface) is exceedingly rare not only at Wijster but in the whole of the northern part of this country. For instance, we know of only three Northern Dutch parallels to the one *Warzen* sherd from our site (Fig. 162 : 1227): one from Peelo in Drente (Fig. 163 : 2), one from a *terp* near Winsum in Friesland (Fig. 163 : 1), and one from Brillerij near Oostum.<sup>257</sup>

Good parallels to the different Wijster styles can be found especially in Western Germany, among the material studied by Von Uslar, but there the ornament occurs much more frequently. It is exactly this poverty of decoration that is characteristic of Northern Dutch pottery.

In this respect Northern Holland contrasts with Von Uslar's territory and also with the Central Dutch provinces,<sup>258</sup> while it seems to agree with the coastal zone of North-western Germany.



## NOTES

- <sup>1</sup> The few hand-made *Kugeltopf* sherds (*vide* p. 288) are disregarded here.
- <sup>2</sup> This chapter had been written before the important article of Schmid on the Roman period pottery from the coastal zone of North-west Germany appeared (1965). It is gratifying to see that his results do not differ on important points from ours.
- <sup>3</sup> Tackenberg 1934, 41; Waller 1940, 141; 1951, 519-20; 1953-5, 161; 1961 (2), 83; Schroller 1940, 102; Bantelmann 1955, 53.
- <sup>4</sup> Von Uslar 1934 (2), 30.
- <sup>5</sup> Asmus 1938, 21-2.
- <sup>6</sup> Hatt 1957, 360; Fig. 227, 323.
- <sup>7</sup> Brøndsted 1960, III, 197, Fig. c.
- <sup>8</sup> Mackeprang 1943, 29.
- <sup>9</sup> Settlement site partly excavated by BAI (H. T. Waterbolk) in 1957; unpublished.
- <sup>10</sup> Van Giffen 1954 (1), 20-41; 1958, 51-71.
- <sup>11</sup> Van Giffen 1937 (2); 1938 (1); 1940 (1); *cf.* Verslag PMD 1935, Lijst der aanwinsten no. 134: 1935/V 49.
- <sup>12</sup> Van Giffen 1924-6 (2).
- <sup>13</sup> Van Giffen 1934 (2); 1937 (1).
- <sup>14</sup> Glasbergen 1945, 142-3.
- <sup>15</sup> Niquet 1962, Abb. 3: 1, 3; 4: 4, 5.
- <sup>16</sup> Waller 1952, 86, T. 3: 701-12.
- <sup>17</sup> Waller 1952, 90, T. 3: 803.
- <sup>18</sup> Haarnagel 1937, T. 6: 20.
- <sup>19</sup> Haarnagel 1937, T. 6: 22, 27-30.
- <sup>20</sup> Bantelmann 1955, 51-57; T. 21.
- <sup>21</sup> Bantelmann 1955, T. 21: 1, 9.
- <sup>22</sup> Asmus 1948-9, Abb. 5.
- <sup>23</sup> Haarnagel 1956, Abb. 3: 3a, 3c; 1957 (2), Abb. 9; 1958, 8: 8, 10, 11.
- <sup>24</sup> Waller 1937, 25; 1951, Abb. 3: upper row left.
- <sup>25</sup> Waller 1960, 21, T. 4; Schmid 1957, 69; Rangs-Borchling 1963: Hornbek Period IIb.
- <sup>26</sup> Waller 1936, 388, Abb. 7: 3: upper row, right.
- <sup>27</sup> Zoller 1963, 144, Abb. 5: 1.
- <sup>28</sup> Tackenberg 1934, 31.
- <sup>29</sup> Waller 1929, Abb. 15: bottom row, right.
- <sup>30</sup> Waller 1929, 264-5.
- <sup>31</sup> Grohne 1953, Abb. 89.
- <sup>32</sup> Michaelsen 1936, T. 33; 1940, 188, Abb. 5, 6.
- <sup>33</sup> Michaelsen 1940, 193-4.
- <sup>34</sup> Michaelsen 1940, 202-3, 208.
- <sup>35</sup> Waller 1952.
- <sup>36</sup> Schmid 1957, 69.
- <sup>37</sup> However, a late 2<sup>nd</sup> century cup with still very broad shoulder, dated by a brooch, is known from Westerwanna: Waller 1952, 90, T. 3: 803.
- <sup>38</sup> Van Giffen 1936 (1), 42, Abb. 2: 929, 1079<sup>b</sup>.
- <sup>39</sup> Bantelmann 1955, 55.
- <sup>40</sup> Bantelmann 1955, T. 21: 1, 7, 9, 21.
- <sup>41</sup> Haarnagel 1937, 66-70, T. 7: 2-10, Abb. 10.
- <sup>42</sup> Haarnagel 1958, Abb. 8: 12.
- <sup>43</sup> Waller 1955, 417-9.
- <sup>44</sup> Waller 1958, 86, Abb. 2: a, b, c.
- <sup>45</sup> Waller 1952, 90, T. 3: 800.

- <sup>46</sup> Waller 1935; Tackenberg 1935.
- <sup>47</sup> Waller 1940, 141-2.
- <sup>48</sup> Michaelsen 1940, 194.
- <sup>49</sup> Asmus 1939, T. 20: 1, 2.
- <sup>50</sup> Waller 1933, 47-8.
- <sup>51</sup> Waller 1961 (2), Abb. 3.
- <sup>52</sup> Haarnagel 1957 (1), 39.
- <sup>53</sup> A. Plettke 1921, 41-2.
- <sup>54</sup> Waller 1951, 518-20; 1955, 419.
- <sup>55</sup> Tischler 1936; 1937, 24-7; 1954 (1956), 57.
- <sup>56</sup> Genrich 1954, 30-1.
- <sup>57</sup> Tischler 1937, 25, T. 11: 2; too early dating corrected: Tischler 1954 (1956), 57.
- <sup>58</sup> Tischler 1936, Abb. 2; J. Brandt 1960, 50, T. 33: 53a.
- <sup>59</sup> Cf. also: Elzinga 1962, Fig. 6: 11, 9.
- <sup>60</sup> The fragment is a stray find (IX.1962) from the *Es* of Hijken (municipality of Beilen, Dr.) where probably a settlement comparable to the one at Wijster awaits excavation. In the immediate vicinity on the same *Es*, part of a cemetery was explored in 1957; in all probability it goes on – with or without interruption – from the Late-Roman period until the Early Middle Ages and in its turn can be compared to the Wijster cemetery; from this cemetery comes the B cup pictured in Fig. 95: 2. The excavation of the cemetery at Hijken (BAI, W. A. van Es) has not yet been completed and will be continued in due time.
- <sup>61</sup> Van Giffen 1932, 60, Afb. 2: 24; 4.
- <sup>62</sup> The find will be described *in extenso* by Dr. C. C. W. J. Hijszeler, Director of the Rijksmuseum Twente at Enschede. We thank him for his kind permission to use it here.
- <sup>63</sup> Von Uslar 1938, 110, T. 22: 50; 24: 15.
- <sup>64</sup> Leonhard 1911, T. 4: 14.
- <sup>65</sup> Halbertsma 1949-53, Afb. 67b.
- <sup>66</sup> Boeles 1951, 182, Pl. 25: 8, 9.
- <sup>67</sup> E. Rademacher 1922, 197-207, T. 8: 16-8; 13: 3, 4.
- <sup>68</sup> Michaelsen 1940, T. 8: 2.
- <sup>69</sup> Grohne 1953, Abb. 18.
- <sup>70</sup> Waller 1959, T. 35: 32.
- <sup>71</sup> Waller 1940, T. 29: 2.
- <sup>72</sup> Waller 1940, T. 29: 8.
- <sup>73</sup> Waller 1961 (1), T. 1: 670.
- <sup>74</sup> Zimmer-Linnfeld, Gummel & Waller 1960, T. 107: 828; T. 145: 1170; Tischler 1954 (1956), Abb. 14: 2.
- <sup>75</sup> Waller 1933, Abb. 3: 5126, 1483.
- <sup>76</sup> Waller 1961 (2), Abb. 3: 13.
- <sup>77</sup> Genrich 1939, Abb. 7.
- <sup>78</sup> Genrich 1954, T. 53: 5.
- <sup>79</sup> Waller 1961 (2), Abb. 3.
- <sup>80</sup> Tischler 1954 (1956), 57, Abb. 14.
- <sup>81</sup> A. Plettke 1921, 42, T. 27: 8.
- <sup>82</sup> Waller 1940, 140, Abb. 1.
- <sup>83</sup> No C cups were found at Tofting and Hodorf, but one is known from Nieblum and one from Hedehusum on Föhr (Genrich 1939, Abb. 7; 1954, T. 53: 5).
- <sup>84</sup> Johanna Brandt 1960, 50, T. 33: 53a. Only very few Von Uslar II models are known in this country: Beumelerberg, Aalden and Wijster-cemetery (Fig. 103).
- <sup>85</sup> Grohne 1953, 23-4.
- <sup>86</sup> E.g. Grohne 1953, T. 4: 2.
- <sup>87</sup> Grohne 1953, 53.

- <sup>88</sup> Von Buttel-Reepen 1925, 332–8.  
<sup>89</sup> Von Buttel-Reepen 1927 (2), T. 1: 2.  
<sup>90</sup> Haarnagel 1957 (1), T. 4: 4.  
<sup>91</sup> Zoller 1963, 145, Abb. 5: 6.  
<sup>92</sup> K. H. Brandt 1958, Abb. 6: 4.  
<sup>93</sup> Haarnagel 1957 (2), Abb. 11: 1.  
<sup>94</sup> Lange 1959, Abb. 1: 7; 2: 9.  
<sup>95</sup> Boeles 1951, Pl. 36: 1. *Cf.* also Bentumersiel (Van Giffen 1928–31, Afb. 39: 29).  
<sup>96</sup> From the cemetery site of Aalden, excavated by Prof. Dr. A. E. van Giffen in 1950. We thank Professor Van Giffen for his kind permission to publish the pots.  
<sup>97</sup> Grohne 1953, Abb. 3b, T. 4: 2; 18: 3; Abb. 47d (Blumenthal).  
<sup>98</sup> K. H. Brandt 1958, Abb. 6: 4.  
<sup>99</sup> Mitcham, grave 5 (Wheeler 1935, Fig. 10); Linford (Barton 1962, Fig. 5: 2, 4); Ham and Dorchester (unpublished). We thank Dr. J. N. L. Myres, Oxford, for drawing our attention to these pots.  
<sup>100</sup> Waterbolk 1961 (1), Fig. 2: 15.  
<sup>101</sup> Genrich 1963, T. 7: 3.  
<sup>102</sup> Waterbolk 1959; 1961 (1); 1961 (2); 1962.  
<sup>103</sup> Excavation BAI 1957 (H. T. Waterbolk); unpublished.  
<sup>104</sup> Van Giffen 1954 (1); 1958.  
<sup>105</sup> Van Giffen 1934 (2); 1937 (1).  
<sup>106</sup> Elzinga 1962, Fig. 7: 60.  
<sup>107</sup> Van Giffen 1937 (2); 1938 (1); 1940 (1).  
<sup>108</sup> Van Giffen 1924–6.  
<sup>109</sup> Excavation BAI (A. E. van Giffen), *ca.* 1950; unpublished.  
<sup>110</sup> Clason 1963, Fig. 23.  
<sup>111</sup> Van Giffen 1934 (2), Afb. 9.  
<sup>112</sup> Bantelmann 1955, 52–3, T. 17–18.  
<sup>113</sup> Schroller 1940, Abb. 37: 5.  
<sup>114</sup> Schindler 1953–5 (1), T. 22: 15.  
<sup>115</sup> Bantelmann 1955, 53; Hatt 1957, 290–303, Fig. 246–8, 260.  
<sup>116</sup> Haarnagel 1937, 64, T. 6: 10–12.  
<sup>117</sup> Haarnagel 1957 (2), Abb. 10: 3; 1963, Abb. 7: 5.  
<sup>118</sup> Kersten & La Baume 1958, 333, *Fundstelle* 71, T. 104: 16.  
<sup>119</sup> Hinz 1954 (1), 204–5, T. 65: 11.  
<sup>120</sup> Boeles 1951, Pl. 24: 7–9; Elzinga 1962, Fig. 5: 9.  
<sup>121</sup> Haarnagel 1956, Abb. 3: 2c.  
<sup>122</sup> Doppelfeld 1931, Abb. 3.  
<sup>123</sup> Bantelmann 1955, 52, T. 17: 4.  
<sup>124</sup> Schroller 1933, Abb. 5; to Wijster Fig. 121: 983 *cf.* Schroller 1933, T. 5: k.  
<sup>125</sup> Michaelsen 1940, Abb. 2.  
<sup>126</sup> Asmus 1948–9, Abb. 6: upper one.  
<sup>127</sup> Van Giffen 1934 (2), Afb. 9: 5, 12–5.  
<sup>128</sup> Tischler 1936, 117–9; 1937, 26–7 (where the type is still called *Typ D*); 1939; 1954 (1956), 46–52. It may be remarked that Tischler also regards short-necked pots, like the one from Zissenhausen and another one from Gudendorf (A. Plettke 1921, T. 23: 6), as the 1<sup>st</sup> century *Vorstufen* of his Eddelaker model. *Contra* Waller 1937, 27.  
<sup>129</sup> Bantelmann 1955, 56.  
<sup>130</sup> Haarnagel 1957 (2), 306.  
<sup>131</sup> Schindler 1953–5 (2), 189–90, T. 51: 20–21; 54: 6.  
<sup>132</sup> Waller 1959, T. 23: 3.  
<sup>133</sup> A. Plettke 1921, T. 38: 1; Waller 1958, Abb. 2a.

- <sup>134</sup> Waller 1958, T. 1.
- <sup>135</sup> Waller 1953-5, T. 50: 332.
- <sup>136</sup> Asmus 1948-9, Abb. 6: upper one.
- <sup>137</sup> Haarnagel 1957 (2), 306.
- <sup>138</sup> Tackenberg 1934, T. 1: 5.
- <sup>139</sup> Schroller 1940, Abb. 29.
- <sup>140</sup> Van Giffen 1928-31, Afb. 39: 9.
- <sup>141</sup> Kuchenbuch 1938 (1), Abb. 1; 3; 5.
- <sup>142</sup> Tischler 1936, Abb. 4: 4 (Neuenkirchen).
- <sup>143</sup> Halbertsma 1949-53, 250, note 1.
- <sup>144</sup> Elzinga 1962, Fig. 6: 60 (pointed rim!); 8: 52, 60.
- <sup>145</sup> Boeles 1951, 182-3.
- <sup>146</sup> Boeles 1951, Pl. 25: 5, 9, 11; Halbertsma 1949-53, Afb. 66c.
- <sup>147</sup> Boeles 1951, 180-3.
- <sup>148</sup> Halbertsma 1949-53, 248-50.
- <sup>149</sup> Waterbolk 1962, 40.
- <sup>150</sup> A. Plettke 1921, 43, 45.
- <sup>151</sup> Tackenberg 1934, 26, 37, T. 5; 6.
- <sup>152</sup> Tischler 1939, 313-4; *cf.* also Genrich 1943, 94-8.
- <sup>153</sup> Tischler 1954 (1956), 48.
- <sup>154</sup> Bantelmann 1955, 56, T. 22: 5-9, 12 *contra* 10.
- <sup>155</sup> Schindler 1956-8, 154.
- <sup>156</sup> Waller 1958, 86, Abb. 2.
- <sup>157</sup> Haarnagel 1956, Abb. 3: 4b.
- <sup>158</sup> Schroller 1933, 156, T. 5: 262.
- <sup>159</sup> A. Plettke 1921, 45; Tischler 1954 (1956), 48; *cf.* Wegewitz 1960 (2), T. 2: under.
- <sup>160</sup> *Cf. e.g.* Halbertsma 1949-53, Afb. 66b: first from left.
- <sup>161</sup> *Cf.* Schmid 1957, 69.
- <sup>162</sup> Van Giffen 1949-53, Afb. 59a: 4, 6; 59b: 26, 30, 36; 59c: 40, 41, 48, 49.
- <sup>163</sup> Bantelmann 1955, 38, T. 19; 20: 4. *Cf.* also K. H. Brandt, 1958, Afb. 4.
- <sup>164</sup> Van Giffen 1949-53, Afb. 59b: 24, 28.
- <sup>165</sup> Vermeulen 1932, 122, Type 112.
- <sup>166</sup> Asmus 1948-9, 120, Abb. 2.
- <sup>167</sup> Von Uslar 1938, T. 7: 3, 8.
- <sup>168</sup> Waterbolk 1962.
- <sup>169</sup> Waterbolk 1962, Abb. 26: 5-14; 1965.
- <sup>170</sup> Van Giffen 1940 (1).
- <sup>171</sup> Also known from RW I pots found in *terps*: Waterbolk 1962, Abb. 28: 6, 8, 9.
- <sup>172</sup> Found together in a post-hole (Van Giffen 1940 (1), Afb. 11; square L/M-2).
- <sup>173</sup> Schindler 1953-5 (2), 190.
- <sup>174</sup> *E.g.* Schindler 1953-5 (2), T. 66: 20.
- <sup>175</sup> Genrich 1954.
- <sup>176</sup> A. Plettke 1921.
- <sup>177</sup> Grohne 1953.
- <sup>178</sup> Zimmer-Linnfeld, Gummel & Waller 1960.
- <sup>179</sup> *E.g.* at Wehden (Waller 1961 (1), T. 5-7, *etc.*) to mention one example from many. We cannot see why the urn from Wehden, cited by Tackenberg (1934, 37, T. 2: 2), should belong to the Early-Roman period.
- <sup>180</sup> Haarnagel 1937, 74, T. 9: 16-21.
- <sup>181</sup> Hinz 1954 (1), T. 66: 6-7, 11-2; 69: 2, 8.
- <sup>182</sup> Bantelmann 1955, 54, T. 20: 20.
- <sup>183</sup> Haarnagel 1963, Abb. 7: 4.

- <sup>184</sup> K. H. Brandt 1958, Abb. 2.
- <sup>185</sup> Schütte & Rink 1934, 159-60, T. 5.
- <sup>186</sup> Especially Tischler 1954 (1956), Abb. 43: 2; 44: 3.
- <sup>187</sup> Waterbolk 1962, Abb. 26: 1, 2; 28: 5.
- <sup>188</sup> Waterbolk 1962, Abb. 24: 6: Elp-Noorderveld (Ha C).
- <sup>189</sup> Von Uslar 1938, T. A: 33-4.
- <sup>190</sup> Schmid 1957, 56-71, T. 9: 4-11; 19: 12-4; 16: 4.
- <sup>191</sup> Haarnagel 1957 (1), T. 2: 6-7.
- <sup>192</sup> Niquet 1962, Abb. 3: 10; 4: 12-8.
- <sup>193</sup> Schroller 1933, T. 6: d, e.
- <sup>194</sup> Schütte & Rink 1934, T. 7: 51, 61, 64, 271, 274, 628, 767.
- <sup>195</sup> Dehnke 1957, Abb. 5E: 12.
- <sup>196</sup> Grohne 1953, Abb. 90: 5th row, 1st and 2nd from right.
- <sup>197</sup> Waterbolk 1965, Abb. 4: 8, 10, 11.
- <sup>198</sup> Von Uslar 1934 (1), 72, Abb. 1: 46-7; 7: 10; 1938, 77, T.A: 29-30.
- <sup>199</sup> Schindler 1953-5 (1), T. 23: 9.
- <sup>200</sup> Frere 1962, 149, Fig. 21: 20.
- <sup>201</sup> Von Uslar 1938, 62-3, T.A: 12, 20.
- <sup>202</sup> Van Giffen 1940-4, 246, Afb. 52: 35.
- <sup>203</sup> Waterbolk 1961 (2), 225.
- <sup>204</sup> Van Beek & Van Es 1964, 21, Fig. 11: 9.
- <sup>205</sup> Van Sprang 1963, 119, Fig. 5: 10; 1962-3, Afb. 9.
- <sup>206</sup> Vermeulen 1932, graves 10 and 63.
- <sup>207</sup> Holwerda 1928, Afb. 16: a, b; Van Es 1964 (1), 256-60.
- <sup>208</sup> Braat 1949, Pl. 8: 4.
- <sup>209</sup> Modderman & Isings 1960-1, Afb. 10; 11.
- <sup>210</sup> Nenquin 1953, Fig. 10: A 48.
- <sup>211</sup> Bantelmann 1955, T. 25. *Cf.* Hodorf: Haarnagel 1937, 67, T. 6: 26.
- <sup>212</sup> Von Uslar 1938, 75-7. *Cf.* E. Rademacher 1922, T. 8: 1-4.
- <sup>213</sup> *E.g.* Helle (Von Buttel-Reepen 1927 (2), T. 1: 1); Feddersen Wierde (Haarnagel 1963, Abb. 7: 7); Bremen-Grambke (K.H. Brandt 1958, Abb. 5); Bremen-Mahndorf (Grohne 1953, Abb. 3: d); Misburg near Hannover (Scholand 1958).
- <sup>214</sup> Matthes 1931 (2), 9-12; Asmus 1938, 16; Kuchenbuch 1938 (2), 19; Doppelfeld & Behm 1937-8, 317; Genrich 1954, 20; Schuldt 1955, 30, 41-2, Seyer 1958.
- <sup>215</sup> Mackeprang 1943, 50.
- <sup>216</sup> Von Uslar 1938, 76, note 163.
- <sup>217</sup> Schulz 1933, T. 15: 7, 9, 12.
- <sup>218</sup> K.H. Brandt 1958, Abb. 5: 4, 6, 8, 10.
- <sup>219</sup> Haarnagel 1963, Abb. 7: 7.
- <sup>220</sup> K.H. Brandt 1958, Abb. 5.
- <sup>221</sup> Schulz 1933.
- <sup>222</sup> Vermeulen 1932, graves 10, 63.
- <sup>223</sup> Modderman & Isings 1960-1, 342-3.
- <sup>224</sup> Van Beek & Van Es 1964, 21.
- <sup>225</sup> Van Es 1964 (1), Fig. 85: 2, 7, 8; 86: 5.
- <sup>226</sup> Von Uslar 1938, 75-6.
- <sup>227</sup> Waterbolk 1959, Fig. 4: 10; Haarnagel 1957 (1), T. 2: 1; *Cf.* Rhee (Fig. 138).
- <sup>228</sup> Butschkow 1936, 238, Abb. 7-8.
- <sup>229</sup> Winkelmann 1958, 509, Abb. 11.
- <sup>230</sup> Hübener 1959, T. 10: 251, 261.
- <sup>231</sup> Schindler 1953-5 (2), 191.
- <sup>232</sup> Matthes 1931 (1), 11.

- <sup>233</sup> Matthes 1931 (1), 11; Asmus 1938, 16; Kuchenbuch 1938 (2), 19; Mackeprang 1943, 50; Schuldt 1955, 30; the rather rare Tofting specimens are dated 2<sup>nd</sup>–3<sup>rd</sup> century.
- <sup>234</sup> Mackeprang 1943, 50; Schindler 1956–8, 154.
- <sup>235</sup> Schuldt 1955, 42.
- <sup>236</sup> Tischler 1954 (1956), Abb. 43: 1, 4.
- <sup>237</sup> Boeles 1951, Pl. 36: 2.
- <sup>238</sup> Van Giffen 1950, 91, Afb. 2: 1; our Fig. 160: 8.
- <sup>239</sup> Matthes 1931 (1); 1931 (2); Kuchenbuch 1938 (2).
- <sup>240</sup> Schmidt 1961, 88–99; Butschkow 1936; a Late-Roman specimen from Hassleben: Schulz 1933, T. 14: 13; Late-Roman *Schalenurnen* from Helmstedt near Braunschweig are published by Niquet (1958); a bowl (no. 17) from the Misburg cemetery near Hannover (Scholand 1958) seems to be the translation into pottery of the late 4<sup>th</sup>/early 5<sup>th</sup> century glass cup of Helle type; Werner 1935, T. 2: 6; 11; Veeck 1931, T. 13.
- <sup>241</sup> Schuldt 1955.
- <sup>242</sup> Johanna Brandt 1960; Kersten 1951, T. 68–9 (Lassahn); 72; Hingst 1959, T. 114–33 (Pölit, Hammoor); Genrich 1954, Abb. 1; 2.
- <sup>243</sup> Bantelmann 1955, T. 23.
- <sup>244</sup> Kersten & La Baume 1958, T. 106; Genrich 1939, Abb. 14–7.
- <sup>245</sup> Mackeprang 1943, 38, 51–3, 56–7, T. 9: 1; 18: 3; 22; 23; 24: 1.
- <sup>246</sup> Bøe 1931, Fig. 217; 221–4; 226–31.
- <sup>247</sup> Stjernquist 1955, 82–3, Pl. 15: 16; 16: 15–7.
- <sup>248</sup> Boeles 1951, Fig. 22: 744.
- <sup>249</sup> A. Plettke 1921, 48.
- <sup>250</sup> Fr. Plettke 1940, 13, T. 4: 5.
- <sup>251</sup> Waller 1938, T. 36, *sqg*; Roeder 1933, 329–30, T. 11; 12.
- <sup>252</sup> Waller 1938, T. 24: 4.
- <sup>253</sup> Grohne 1953, Abb. 64; 65.
- <sup>254</sup> Von Buttel-Reepen 1926, T. 3.
- <sup>255</sup> Haarnagel 1963, Abb. 7: 2.
- <sup>256</sup> K.H. Brandt 1958, 215, Abb. 6: 8, 13, 16.
- <sup>257</sup> GM 1910/I 243.
- <sup>258</sup> Dalfsen (Overijssel): Van Beek & Van Es 1964; Ermelo (Gelderland): Van Sprang 1962–3; 1963.

# E. THE „OUTSIDE” CHRONOLOGY OF THE WIJSTER POTTERY TYPES SUMMARIZED

The results of our chronological studies on the pottery types represented at Wijster can best be summarized in tabular form: Fig. 175. It is true that a table such as this suggests a too large degree of certainty, but on the other hand it has the advantage of giving a clear idea of our opinions in this matter. If the evidence for the occurrence of a type during a given period is very weak indeed, this is expressed in Fig. 175 by using hatching instead of solid black. Of course, the types for the dating of which no reliable data could be found at all had to be left out completely. Along with the hand-made pottery, the datable wheel-made Roman ware and the other dated finds have also been inserted in the table.

The types listed can be divided in the following way:

## a. Two Early-La Tène models: IIA and IVD.

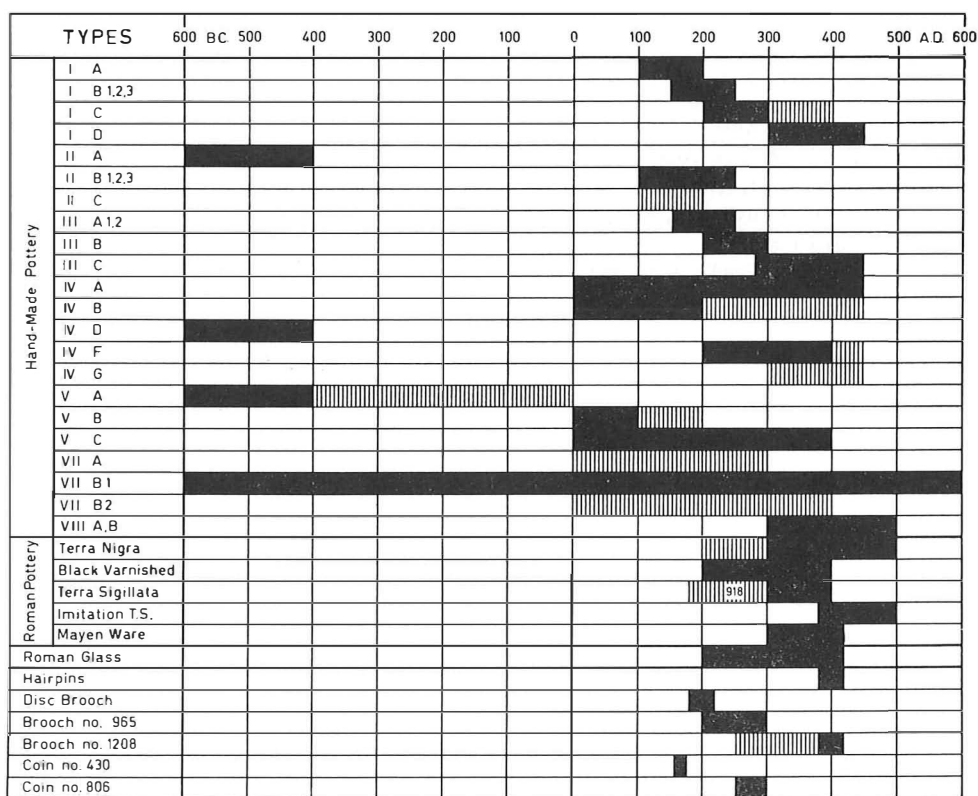


Fig. 175. Absolute chronology of the finds.

## Pottery

- b.* Two or three types restricted to probably the second half of the Early-Roman period: IA, IIC?, VB?
- c.* Three types starting in the same period, but continuing into the early part of the next: IB, IIB, IIIA.
- d.* Three hand-made and three Roman types beginning around 200 A.D. and confined to the 3<sup>rd</sup> century or continuing until the end of the Late-Roman period, or even slightly later: IC, IIIB, IVF, terra nigra, black-varnished ware, terra sigillata. Also the Roman glass may be included here.
- e.* Three or four hand-made and two Roman types starting not much before 300 A.D. and going on into the 5<sup>th</sup> century: ID, IIIC, IVG?, VIIIA and B, imitation terra sigillata and the Mayen ware, as it is found at this site.
- f.* The remaining types that cannot be dated with any precision and span a very large period of time: IVA, IVB?, VA, VC, VIIA?, VIIB<sub>1</sub>, VIIB<sub>2</sub>?

## F. THE ASSOCIATIONS WITHIN THE WIJSTER COMPLEX

In the filling of huts, wells, and pits, different types are often found associated with each other. Theoretically, it should be possible to use these associations for chronological purposes but in practice several difficulties arise. Above, on page 289, we have already enumerated a few reasons for handling the associations with the utmost care and not being over-confident in drawing conclusions from them: *e.g.* the unavoidable deficiencies of our classification of the types, the intrusion of younger material among older which is to be expected because of the prolonged habitation on the same spot. On account of this unreliability we postponed investigating the Wijster find-associations to the end and first tried to build up a chronology based upon outside criteria. We will now, however, have to study the interior evidence of the Wijster complex and we do so with a twofold aim in mind: first, to find corroboration or correction of the chronology reached so far, and, second, to obtain some hints as to the chronology of the types, for the dating of which we have not been able to find indications elsewhere.

In Fig. 178 the identifiable constituents of the complex are listed under their find-numbers (black square for certain, x for uncertain identification). Fig. 178 is not an exhaustive inventory of the Wijster material (in our opinion such an inventory describing every single sherd and find would not serve a useful purpose). It only records the presence of pottery types or those characteristic features which cannot be restricted to a special type (decorational styles, foot-forms), and of the other finds with an individual character (*e.g.* spindle-whorls, brooches, slags, *etc.*) among the finds of a given find-number, *i.e.* among the finds from one find-spot



within the settlement. The nature of these find-spots (trenches, pits, post-holes, *etc.*) can be read from the list on pp. 345–58. This list with its grid references to plans IX and X facilitates the finding of the individual find-spots within the settlement.

The finds of one find-number do not automatically constitute a closed find. This depends on the nature of the find-spot. If a number of stray finds found on the excavation level at approximately the same spot have been listed under one number, or if the sherds come from a complex of pits which at the higher levels could not be disentangled, there is absolutely no guarantee that these finds are contemporaneous. Such finds-numbers are marked by a dot in Fig. 178. If, on the other hand, the finds appeared in a post-hole, or pit, or well, it becomes more probable that they are of the same date. Because a pit, *etc.* has often been excavated in several successive phases, more than one find-number may refer to the same find-spot. These numbers have been assembled in Fig. 178.

In this way Fig. 178 makes it easy to establish individual find-associations. The total of these associations has been condensed to Fig. 176 (in portfolio). The find-numbers marked with dot from Fig. 178 have been disregarded completely. In order to guard against elements of chance and possibilities of error affecting the material, an association between two types is only considered valid (marked by a black square in Fig. 176) if it occurs in at least 10% of the find-spots in which the less numerous of the two types appears, or, in the case when one of the types is found less than ten times, if it occurs at least twice. The associations that do not fulfil this condition are regarded as invalid (marked by a hatched square in Fig. 176). This is perhaps a bit harsh on the rare types, but it is exactly these which are to be distrusted most.

Fig. 177 has been drawn to show the frequency of the different types. The numbers given in this diagram do not refer to the total numbers of the sherds that could be recognized of the different types, but again to the numbers of the find-spots in which a given type was found (in this case also the find-numbers with dot from Fig. 178 were counted).

The dated types, given in Fig. 175 were divided into five groups:

- a. (600–400 B.C.),
- b. (100–200 A.D.),
- c. (150–250 A.D.),
- d. (200–400 A.D.),
- e. (300–450 A.D.),
- f. (long-lived types; extremes: 600 B.C.–after 400 A.D.).

The individual members of the different groups are mostly firmly connected by mutual associations, as can be seen from Fig. 176 (attention is paid only to the valid (black) associations). The associations are distributed as follows:

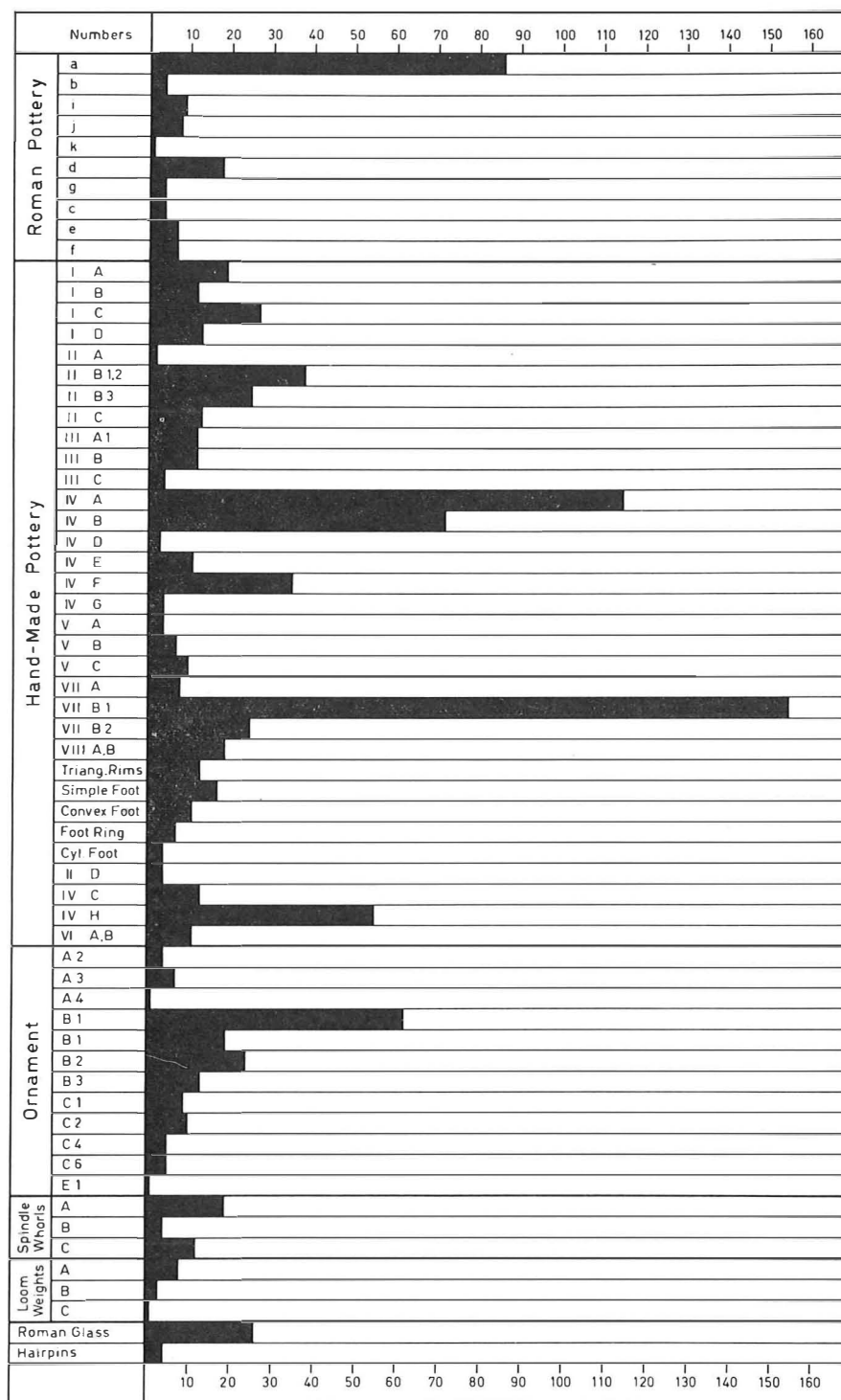


Fig. 177. Frequency of the finds.

- group *a.* IIA × IVD  
*b.* IA × IIC  
*c.* IB × IIB  
     IIB × IIIA  
*d.* IC × terra nigra  
     IC × IVF  
     IIIB × terra nigra  
     IIIB × IVF  
     IVF × terra nigra  
     terra nigra × black-varnished  
     terra nigra × terra sigillata  
*e.* — —  
*f.* IVA × IVB  
     IVA × VC  
     IVA × VIIA  
     IVA × VIIB<sub>1</sub>  
     IVA × VIIB<sub>2</sub>  
     IVB × VC  
     IVB × VIIA  
     IVB × VIIB<sub>1</sub>  
     IVB × VIIB<sub>2</sub>  
     VA × VIIB<sub>1</sub>  
     VC × VIIB<sub>1</sub>  
     VIIA × VIIB<sub>1</sub>  
     VIIB<sub>1</sub> × VIIB<sub>2</sub>

It is remarkable that group *e* has no internal associations. We are not sure if this results solely from the fact that only small numbers are concerned. Indeed, none of the types belonging to group *e* is very common. Three of them, IIIC, IVG and imitation terra sigillata, are even extremely rare (Fig. 177: 4, 4, 8). The remaining three, ID, VIIIA, B and Mayen ware, are not common but do not belong to the rarest types (Fig. 177: 11, 19, 18). The total number of the associations of VIIIA and B and Mayen ware is strikingly small when compared to other types of approximately equal volume. On the other hand, ID has many associations. As we have said, it is difficult to establish the extent to which the absence of associations within group *e* has been caused by chance, but the possibility must be left open that group *e* is not as homogeneous as the other groups, *i.e.* that the types it includes are not as contemporaneous as we had thought.

If we now turn to study the interrelations between the different groups of types, we find that these are also connected by associations (again only the valid ones have been included in the analysis), and are as follows:

$a \times f$ .  
 $b \times c, f$ .  
 $c \times b, d, e, f$ .  
 $d \times c, e, f$ .  
 $e \times c, d, f$ .  
 $f \times a, b, c, d, e$ .

This situation is almost exactly as was to be expected if one reasons from the chronology as summarized in Fig. 175: the oldest group *a* has no connection with the Roman period groups *b–e* but only with the long-lived types of group *f* which is also associated with all other groups; among *b–e* there are associations between the groups that overlap each other ( $b \times c$ ;  $c \times d$ ;  $d \times e$ ). There is only one flaw: the connection between the non-adjacent groups *c* and *e*. This connection rests on the association of one type, IIIA, with two others: ID and IIIC. We have already seen that the chronological homogeneity of group *e* is not beyond suspicion and we will not preclude the possibility that the types ID and IIIC could have started before the beginning of the 4<sup>th</sup> century. On the other hand, though the date of type IIIA itself (the Eddelak pot) around 200 A.D. must be regarded as proved, the Wijster IIIA sherds are often no characteristic representatives of this type. We already commented upon this when discussing the chronology of the model (p. 303). It is therefore possible, or even probable, that the heterogeneous Wijster IIIA “type” is to be blamed for this one imperfection.

Having obtained such satisfactory results, it is perhaps wise to remind oneself yet again that we are skating on very thin ice, for if, for instance, we take the uncertain associations into consideration, the clear division between the groups of types would become blurred. But it is comforting to note that no flagrant contradiction could be observed between the “outside” chronology of Fig. 175 and the interior evidence of Fig. 176.

In the second place, the associations may give at least some information about the chronological position of the undated types IID, IVC, IVE, IVH, VIA, B, of certain rim- and foot-forms (triangular rims, simple foot, *etc.*), of the decorative patterns and the spindle-whorls and loom-weights.

Type IVC and IVE have connections with group *c* and  $d(\times \text{IIB, terra nigra})$  and are consequently to be placed between 150 and 400 A.D. IID and VIA, B seem to be Late-Roman (associated with IC and terra nigra). IVH is connected with types

of all four Roman period groups ( $\times$  IA, IB, IC, ID, IIB, IIIA, IIIB, IVF, terra nigra, terra sigillata) and has therefore to be attributed to group *f*. Of the undated Roman types the hard-baked grey ware is associated with terra nigra and Mayen, the rough grey ware with black core with type IVF; they must therefore be of Late-Roman date. The thick-walled black and the smooth heavy ware have no certain associations but probably also belong to the period after 200 A.D.

Triangular rims seem to belong to the period around 200 A.D. (association with IIB). The simple and convex feet apparently occur from the later part of the Early-Roman and throughout the Late-Roman period (simple foot  $\times$  IC, ID, IIB, IIIA, terra nigra; convex foot  $\times$  IIB, terra sigillata). The foot-ring has associations only with type IIB, while the cylindric foot has no reliable associations at all.

For a dating of the decorative patterns A2 and A4, there is no evidence available; A3 seems to be late (association with VIIIA, B). Decoration B1*a* has a remarkably strong bond with group *b* (associated with IA, IIC, VB) and is furthermore connected with group *c* (IIB) and *e* (imitation terra sigillata). B1*b* is only associated with group *c* (IIB). This seems to confirm the general assumption that after the Early-Roman period this kind of decoration (fingertip impressions on top or on the side of the rim) is less in fashion, though it does not become extinct. B2 and B3 are rather Late-Roman patterns (B2  $\times$  IIB, IC, IIIB, IVF, terra nigra; B3  $\times$  IB, IIB, IC, ID, IVF, terra nigra, terra sigillata). The C1 pattern could be late (associated with ID). The C2 decoration is only found on IA and IB cups (associated with IB). Decoration C4 is connected with group *c* and *d* (associated with IIB and terra nigra), C6 to group *d* and *e* (associated with ID and terra nigra).

The associations do not shed any light on the chronological position of the spindle-whorl and loom-weight types which are not datable in themselves. Only the model A spindle-whorl is connected with a dated type (IIB), but this is not conclusive enough.

Fig. 178. Inventory of the finds.

[illegible]

Fig. 178. Inventory of the finds.

Fig. 178. Inventory of the finds.









[illegible]

Fig. 178. Inventory of the finds.



[illegible]

Fig. 178. Inventory of the finds.





[illegible]

Fig. 178. Inventory of the finds.



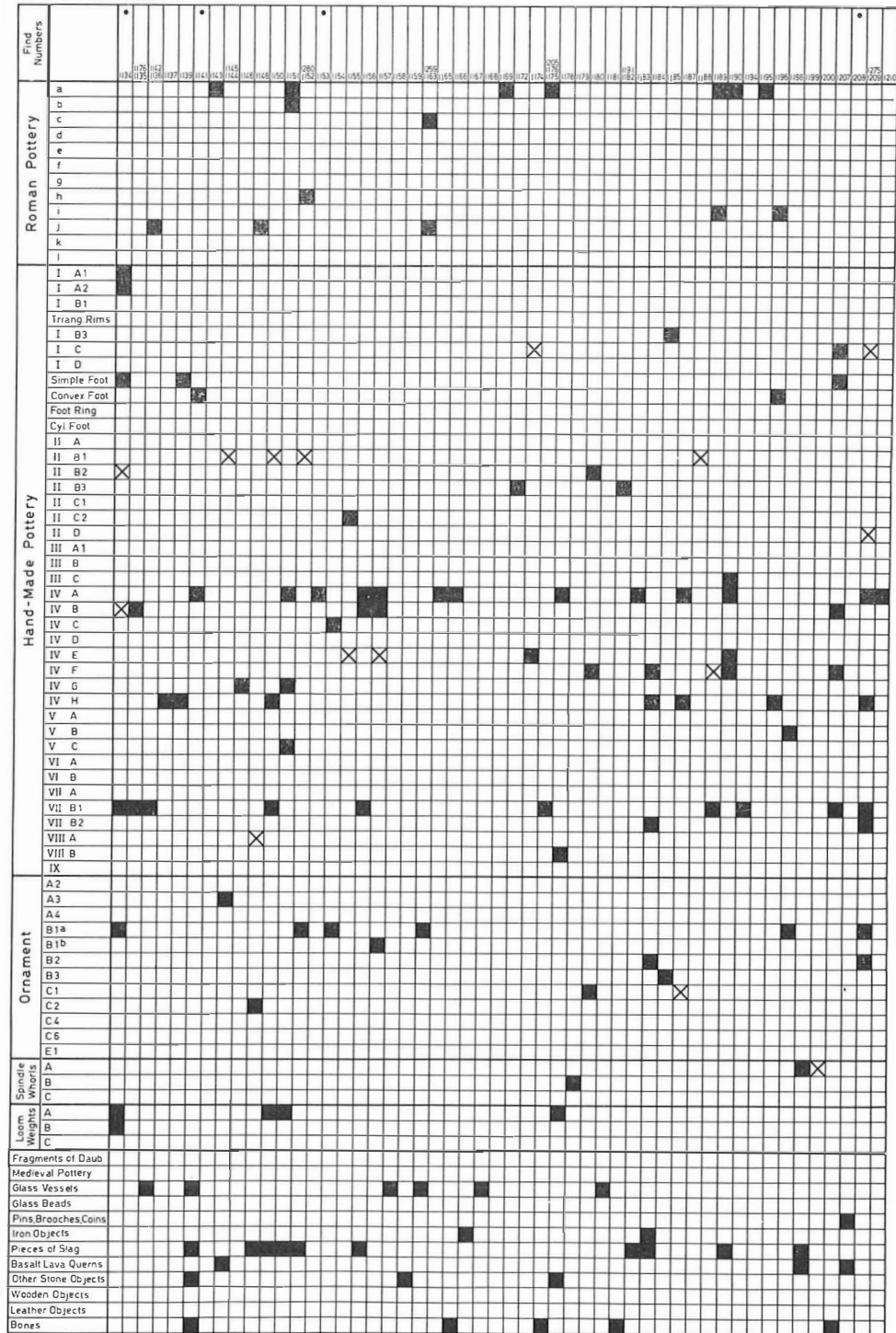


Fig. 178. Inventory of the finds.





## CHAPTER XV

### LIST OF FIND-NUMBERS

1. small square pit	C <sup>o</sup> - 40	37. rectangular pit	C <sup>m</sup> - 43
2. post-hole granary	C <sup>j</sup> - 40	38. post-hole	C <sup>m</sup> - 42 = 126
3. post-hole	C <sup>j</sup> - 43	39. post-hole	C <sup>i</sup> - 41
4. entrance pit	C <sup>j</sup> - 43 = 117	40. trench	C <sup>u</sup> - 11
XXXVIII/XXXIX		41. small rectangular pit	C <sup>s</sup> - 13
5. post-hole	C <sup>f</sup> - 44	42. W 1 (within wooden	C <sup>k</sup> - 13/4 = 443
6. trench	C <sup>q</sup> - 14	frame)	
7. stray find	C <sup>q</sup> - 14	43. Pit in peat	
8. stray find	C <sup>q</sup> - 13	44. square pit	C <sup>u</sup> - 10 = 408
9. stray find	C <sup>q</sup> - 12	45. stray find	C <sup>s</sup> - 10/6
10. post-hole	C <sup>q</sup> - 12	46. storage pit	C <sup>h</sup> - 39
11. small round pit	C <sup>q</sup> - 12 = 76	47. storage pit	C <sup>h</sup> - 40
12. stray find	C <sup>q</sup> - 14	48. stray find	C <sup>i</sup> - 35/49
13. stray find	C <sup>s</sup> - 13/4	49. stray find	C <sup>i</sup> - 41
14. stray find	C <sup>d</sup> - 46	50. stray find	C <sup>h</sup> - 36/49
15. H 22 (high in filling)	C <sup>h</sup> - 39	51. storage pit	C <sup>h</sup> - 39 = 313
16. H 21 (high in filling)	C <sup>h</sup> - 38	52. storage pit	C <sup>h</sup> - 40 = 47, 167
17. H 20 or H 21 or H 22?	C <sup>hi</sup> - 37/8	53. H 21 (high in filling)	C <sup>h</sup> - 38 = 16, 89
18. H 20 or H 21 or H 22?	C <sup>hi</sup> - 37/8	54. H 20 (high in filling)	C <sup>i</sup> - 37/8
19. stray find	C <sup>rs</sup> - 13/4	55. W 2 (on bottom within	C <sup>k</sup> - 16 = 444, 445
20. stray find	C <sup>jk</sup> - 35/49	wooden frame)	
21. stray find	C <sup>h</sup> - 36/49	56. post-hole	??
22. trench	C <sup>m</sup> - 43	57. stray find	C <sup>o</sup> - 12
23. entrance pit	C <sup>l</sup> - 42/3 = 145, 161, 258, 264, 318	58. stray find	C <sup>h</sup> - 36/40
		59. trench	C <sup>o</sup> - 14
24. complex of small roundish pits	C <sup>m</sup> - 42 = 177, 178, 179	60. H 2 (filling)	C <sup>n</sup> - 16 = 61
25. stray find	C <sup>df</sup> - 40/9	61. H 2 (post-hole)	C <sup>n</sup> - 15 = 60
26. stray find	C <sup>lm</sup> - 38/49	62. stray find	C <sup>o</sup> - 42
27. stray find	C <sup>lm</sup> - 38/49	63. recent pit	C <sup>n</sup> - 16/7
28. stray find	C <sup>d</sup> - 44	64. trench	C <sup>n</sup> - 12
29. post-hole	C <sup>l</sup> - 44	65. trench	C <sup>o</sup> - 16
30. pit	C <sup>de</sup> - 44 = 79	66. trench	C <sup>q</sup> - 13
31. stray find	C <sup>e</sup> - 46	67. trench	C <sup>q</sup> - 13
32. stray find	C <sup>e</sup> - 40/9	68. stray find	C <sup>q</sup> - 11
33. stray find	C <sup>jk</sup> - 35/49	69. round pit	C <sup>q</sup> - 13 = 71, 75
34. post-hole granary	C <sup>j</sup> - 38	70. trench	C <sup>q</sup> - 12/3
35. rectangular pit	C <sup>lm</sup> - 47/8 = 128	71. round pit	C <sup>q</sup> - 13 = 69, 75
36. entrance pit	C <sup>l</sup> - 44 = 254, 319	72. post-hole (?)	C <sup>q</sup> - 12
XXXVIII/XXXIX		73-4. oval pit	C <sup>q</sup> - 11/2
		75. round pit	C <sup>q</sup> - 13 = 69, 71
		76. small round pit	C <sup>q</sup> - 12 = 11

77. trench	C <sup>q</sup> - 13	124. trench	C <sup>l</sup> - 44
78. stray find	C <sup>a</sup> - 50	125. trench	C <sup>m</sup> - 44
79. pit	C <sup>de</sup> - 44 = 30	126. post-hole	C <sup>m</sup> - 42 = 38
80. post-hole	C <sup>i</sup> - 47	127. stray find	C <sup>m</sup> - 44
81. stray find	C <sup>h</sup> - 36/49	128. rectangular pit	C <sup>lm</sup> - 47/8 = 35
82. stray find	C <sup>h</sup> - 36/49	129. H 24 (filling)	C <sup>l</sup> - 39 = 212
83. stray find	C <sup>h</sup> - 36/49	130. stray find	??
84. stray find	C <sup>h</sup> - 48	131. stray find	C <sup>wz</sup> - 40/50
85. round pit	C <sup>o</sup> - 35 = 103, 180	132. stray find	C <sup>wz</sup> - 40/50
86. trench	C <sup>h</sup> - 48	133. small round pit	C <sup>j</sup> - 44
87. stray find	C <sup>h</sup> - 47	134. entrance pit	C <sup>j</sup> - 44/5 = 253
88. trench	C <sup>h</sup> - 46	XXXVIII/XXXIX	
89. H 21 (filling)	C <sup>h</sup> - 38 = 161, 53	135. stray find	C <sup>jk</sup> - 35/49
90. post-hole XXXIX	C <sup>k</sup> - 43	136. stray find	C <sup>jk</sup> - 35/49
91. entrance pit XXXVI	C <sup>kl</sup> - 42/3 = 116, 225, 259, 288, 317	137. post-hole XXXVIII	C <sup>j</sup> - 44
		138. W 7 (filling pit)	C <sup>jk</sup> - 46/7 = 139, 143-4, 151, 156, 193, 256
92. stray find	C <sup>k</sup> - 42		
93. stray find	C <sup>q</sup> - 10/4	139. W 7 (filling pit)	C <sup>jk</sup> - 46/7 = 138, 143-4, 151, 156, 193, 256
94. stray find	C <sup>lm</sup> - 38/49		
95. stray find	C <sup>o</sup> - 41	140. trench	C <sup>g</sup> - 46
96. post-hole	C <sup>j</sup> - 44	141. trench	C <sup>g</sup> - 45
97. stray find	C <sup>j</sup> - 45	142. W 7 (within wooden frame)	C <sup>jk</sup> - 46/7 = 192, 257, 329
98. trench	C <sup>k</sup> - 44	143-4. W 7 (filling pit)	C <sup>jk</sup> - 46/7 = 138, 139, 151, 156, 193, 256
99. trench	C <sup>m</sup> - 49		
100. post-hole	C <sup>l</sup> - 48	145. entrance pit XXXVIII	C <sup>l</sup> - 42/3 = 23, 116, 258, 264, 318
101. post-hole granary	C <sup>o</sup> - 47		
102. square pit	C <sup>n</sup> - 48 = 190	146-7. rectangular pit	C <sup>m</sup> - 43 = 37
103. round pit	C <sup>o</sup> - 35 = 85, 180	148. rectangular pit	C <sup>m</sup> - 43
104. post-hole	C <sup>p</sup> - 36	149. rectangular pit	C <sup>lm</sup> - 43/4
105. trench	C <sup>o</sup> - 44	150. stray find	C <sup>k</sup> - 44
106. stray find	C <sup>pq</sup> - 35/50	151. W 7 (filling pit)	C <sup>jk</sup> - 46/7 = 138, 139, 143-4, 156, 193, 256
107. irregular complex of pits	C <sup>p</sup> - 38/9 = 326, 348		
108. H 47 (high in filling)	C <sup>qr</sup> - 47	152. stray find	C <sup>i</sup> - 48
109. H 46 (high in filling)	C <sup>q</sup> - 46 = 332	153. stray find	C <sup>i</sup> - 48
110. stray find	C <sup>qr</sup> - 35/50	154. stray find	C <sup>i</sup> - 46/50
111. H 73 (high in filling)	C <sup>st</sup> - 48/9 = 208	155. stray find	C <sup>i</sup> - 46/50
112. rectangular pit (trench?)	C <sup>s</sup> - 37	156. W 7 (filling pit)	C <sup>jk</sup> - 46/7 = 138, 139, 143-4, 151, 193, 256
113. post-hole XIV	C <sup>s</sup> - 37		
114. stray find	C <sup>t</sup> - 35/50	157. trench	C <sup>i</sup> - 48
115. stray find	C <sup>j</sup> - 44	158. post-hole	C <sup>i</sup> - 49
116. entrance pit XXXVI	C <sup>kl</sup> - 42/3 = 91, 225, 259, 288, 317	159. entrance pit	C <sup>k</sup> - 44/5 = 316
		XXXVIII/XXXIX	
117. entrance pit XXXVIII/XXXIX	C <sup>j</sup> - 43 = 4		
118. stray find	C <sup>j</sup> - 43		
119. stray find	C <sup>j</sup> - 43		
120. post-hole	C <sup>k</sup> - 44		
121. stray find	??		
122. stray find	C <sup>m</sup> - 40		
123. stray find	C <sup>lm</sup> - 38/49		

160. post-hole XXXVIII	C <sup>k</sup> - 44 = 228, 251-2	205. trench	C <sup>n</sup> - 41
161. entrance pit XXXVIII	C <sup>l</sup> - 42/3 = 23, 145, 258, 264, 318	206. post-hole	C <sup>n</sup> - 40
162. stall partition slot XXXIX?	C <sup>l</sup> - 44	207. small roundish pit	C <sup>o</sup> - 40
163. post-hole	C <sup>l</sup> - 44	208. H 73 (on floor)	C <sup>st</sup> - 48/9 = 111
164. post-hole XXXVIII/XXXIX	C <sup>m</sup> - 44	209. stray find	C <sup>o</sup> - 41
165. stray find	??	210. small irregular pit	C <sup>n</sup> - 41
166. H 23 (filling)	C <sup>f</sup> - 40/1	211. H 25 (high in filling)	C <sup>op</sup> - 41 = 223, 325, 343
167. storage pit	C <sup>h</sup> - 40 = 47, 52	212. H 24 (filling)	C <sup>l</sup> - 39 = 129
168. storage pit	C <sup>h</sup> - 40	213. stray find	C <sup>q</sup> - 35?
169. post-hole	C <sup>l</sup> - 43	214. stray find	??
170. post-hole granary	C <sup>i</sup> - 40	215. storage (?) pit	C <sup>r</sup> - 36
171. post-hole granary	C <sup>j</sup> - 40	216. stray find	C <sup>r</sup> - 35
172. round pit	C <sup>i</sup> - 46 = 176	217. stray find	C <sup>p</sup> - 35
173. post-hole	C <sup>k</sup> - 48	218. post-hole LII	C <sup>x</sup> - 47
174. post-hole	C <sup>k</sup> - 48	219. trench	C <sup>w</sup> - 42
175. post-hole	C <sup>l</sup> - 46	220. small rectangular pit	C <sup>y</sup> - 42 = 377
176. round pit	C <sup>i</sup> - 46 = 172	221. stray find	C <sup>p</sup> - 46
177-9. complex of small roundish pits	C <sup>m</sup> - 42 = 24	222. stray find	C <sup>r</sup> - 44
180. round pit	C <sup>o</sup> - 35 = 85, 103	223. H 25 (high in filling)	C <sup>op</sup> - 41 = 211, 325, 343
181. round pit	C <sup>pq</sup> - 37/8	224. coaly patch over XXXVIII/XXXIX	C <sup>o</sup> - 43
182. post-hole LIII	C <sup>y</sup> - 47	225. entrance pit	C <sup>kl</sup> - 42/3 = 91, 116, 259, 288, 317
183. H ??	??	226. small round pit	C <sup>j</sup> - 43
184. H 50 (filling)	C <sup>x</sup> - 42/3 = 195-7, 379	227. post-hole	C <sup>j</sup> - 43
185. post-hole	C <sup>y</sup> - 43	228. post-hole XXXVIII	C <sup>k</sup> - 44 = 160, 251-2
186. H 51 (filling)	C <sup>y</sup> - 43 = 237, 382	229. small round pit	C <sup>m</sup> - 44
187. stray find	C <sup>wz</sup> - 28/50	230. small rectangular pit	C <sup>p</sup> - 43
188. post-hole granary	C <sup>o</sup> - 47	231. stray find	C <sup>p</sup> - 45
189. post-hole granary	C <sup>o</sup> - 48	232. small round pit	C <sup>p</sup> - 47
190. square pit	C <sup>n</sup> - 48 = 102	233. small roundish pit	C <sup>y</sup> - 46
191. rectangular pit	C <sup>o</sup> - 48	234. H 32 (filling)	C <sup>wz</sup> - 40/1 = 380
192. W 7 (within wooden frame)	C <sup>jk</sup> - 46/7 = 142, 257, 329	235. post-hole	C <sup>y</sup> - 35
193. W 7 (filling pit)	C <sup>jh</sup> - 46/7 = 138, 139, 143-4, 151, 156, 256	236. post-hole	C <sup>w</sup> - 33
194. oval pit	C <sup>yz</sup> - 48/9 = 367	237. H 51 (filling)	C <sup>y</sup> - 42 = 186, 382
195-7. H 50 (filling)	C <sup>x</sup> - 42/3 = 397	238. stray find	C <sup>wz</sup> - 28/50
198. stray find	C <sup>wz</sup> - 28/50	239. roundish pit	C <sup>p</sup> - 46/7
199. small rectangular pit	C <sup>y</sup> - 41	240. roundish pit	C <sup>n</sup> - 42
200. stray find	C <sup>mo</sup> - 40/1??	241. post-hole	C <sup>o</sup> - 40
201. stray find	C <sup>mo</sup> - 40/1??	242. trench	C <sup>o</sup> - 40
202. stray find	C <sup>mo</sup> - 40/1??	243. stray find	C <sup>p</sup> - 40
203. small oval pit	C <sup>no</sup> - 41	244. H 26 (filling)	C <sup>pq</sup> - 40 = 323, 330, 347
204. trench	C <sup>n</sup> - 41/2	245. trench	C <sup>q</sup> - 39?
		246. coaly patch over XXXVIII/XXXIX	C <sup>o</sup> - 43
		247. stray find	??
		248. irregular pit	C <sup>xy</sup> - 28 = 297, 449

249. stray find	C <sup>x</sup> - 28	289. stray find	D <sup>df</sup> - 30/50
250. stray find	C <sup>wz</sup> - 28/50	290. post-hole LII	C <sup>z</sup> - 48
251-2. post-hole	C <sup>k</sup> - 44 = 160, 228	291. storage pit	D <sup>c</sup> - 30
253. entrance pit	C <sup>j</sup> - 44/5 = 134	292. post-hole	D <sup>f</sup> - 19?
254. entrance pit	C <sup>l</sup> - 44 = 36, 319	293. stray find	C <sup>wz</sup> - 28/50
XXXVIII/XXXIX		294. H 53 filling	C <sup>z</sup> D <sup>a</sup> - 43
255. stray find	??	295. round pit in peat	C <sup>ef</sup> - 28/9 = 308
256. W 7 (filling pit)	C <sup>ik</sup> - 46/7 = 138, 139, 143-4, 151, 156, 193	296. post-hole VII	C <sup>x</sup> - 29
		297. irregular pit	C <sup>xy</sup> - 28 = 248-9
		298. post-hole VII	C <sup>x</sup> - 29
		299. stray find	C <sup>wz</sup> - 28/50
257. W 7 (with wooden frame)	C <sup>jk</sup> - 46/7 = 142, 192, 329	300. pit in peat	D <sup>d</sup> - 50
258. entrance pit XXXVIII	C <sup>l</sup> - 42/3 = 23, 145, 161, 264, 318	301. square pit	D <sup>e</sup> - 50
		302. post-hole LVII	D <sup>f</sup> - 49/50 = 765
		303. roundish pit	D <sup>e</sup> - 50
		304. post-hole	D <sup>e</sup> - 48
259. entrance pit XXXVI	C <sup>kl</sup> - 42/3 = 91, 116, 225, 288, 317	305. post-hole LVII	C <sup>fg</sup> - 28 = 309-11
		306-7. W 5 (within wooden frame)	
260. post-hole	C <sup>j</sup> - 43	308. round pit in peat	C <sup>ef</sup> - 28/9 = 295
261. post-hole	C <sup>j</sup> - 43	309-11. W 5 (within wooden frame)	C <sup>fg</sup> - 28 = 306-7
262. stray find	C <sup>j</sup> - 43		
263. stray find	D <sup>d</sup> - 32	312. stray find (old arable)	??
264. entrance pit XXXVIII	C <sup>l</sup> - 42/3 = 23, 145, 161, 258, 318	313. storage pit	C <sup>h</sup> - 39 = 51
		314. small round pit	C <sup>i</sup> - 43
		315. post-hole	C <sup>i</sup> - 43
		XXXVIII/XXXIX	
265. stray find	D <sup>d</sup> - 50	316. entrance pit	C <sup>k</sup> - 44/5 = 159
266. W 9 (filling pit)	D <sup>de</sup> - 47/8	XXXVIII/XXXIX	
267. H 57 (filling)	D <sup>d</sup> - 44/5 = 802	317. entrance pit XXXVI	C <sup>kl</sup> - 42/3 = 91, 116, 225, 259, 288
268. H 55 (filling)	D <sup>cd</sup> - 43/4 = 731		
269. H 58 (filling)	D <sup>ef</sup> - 43/4 = 730, 753-8	318. entrance pit XXXVIII	C <sup>l</sup> - 42/3 = 23, 161, 145, 258, 264
			C <sup>l</sup> - 44 = 36, 254
270. square pit	D <sup>de</sup> - 42 = 680	319. entrance pit	
271. square pit	D <sup>de</sup> - 41 = 789	XXXVIII/XXXIX	
272. stray find	D <sup>e</sup> - 41	320. trench XXXVIII	C <sup>m</sup> - 43
273. H 35 (high in filling)	D <sup>de</sup> - 39/40 = 669-71	321. entrance pit XXXIX	C <sup>mu</sup> - 44
274. stray find	D <sup>e</sup> - 40	322. irregular pit	C <sup>gr</sup> - 48
275. H 34 (high in filling)	D <sup>d</sup> - 39 = 668	323. H 26 (filling)	C <sup>pq</sup> - 40 = 244, 330, 347
276. stray find	D <sup>ef</sup> - 39		
277. H 33 (filling)	D <sup>cd</sup> - 36 = 480	324. irregular pit	C <sup>p</sup> - 41/2 = 340-1
278. (oven-pit?) oval pit	D <sup>d</sup> - 34 = 522	325. H 25 (high in filling)	C <sup>op</sup> - 41 = 211, 223, 343
279. entrance pit XX	D <sup>e</sup> - 33 = 524		
280. post-hole	D <sup>e</sup> - 34	326. irregular complex of pits	C <sup>p</sup> - 38/9 = 107, 348
281. stray find	D <sup>de</sup> - 33	327. oval pit	C <sup>gr</sup> - 42
282. trench	D <sup>f</sup> - 33	328. H 27 (filling)	C <sup>q</sup> - 41
283. post-hole XX?	D <sup>e</sup> - 33	329. W 7 (within wooden frame)	C <sup>jk</sup> - 46/7 = 142, 192, 257
284. small round pit	C <sup>o</sup> - 43	330. H 26 (filling)	C <sup>pq</sup> - 40 = 244, 323, 347
285. rectangular pit XXXIX	C <sup>n</sup> - 42 = 342		
286. trench	C <sup>n</sup> - 43		
287. rectangular pit	C <sup>n</sup> - 43		
288. entrance pit XXXVI	C <sup>kl</sup> - 42/3 = 91, 116, 225, 259, 317		

331. H 45 (filling)	C <sup>op</sup> - 46	381. rectangular pit	C <sup>y</sup> - 41
332. H 46 (filling)	C <sup>q</sup> - 46 = 109	382. H 51 (filling)	C <sup>y</sup> - 43 = 186, 237
333. stray find	C <sup>pr</sup> - 35/50	383. stray find	D <sup>ac</sup> - 30/50
334. stray find	D <sup>e</sup> - 47	384. stray find	C <sup>u</sup> - 37
335. entrance pit XLIV	D <sup>c</sup> - 42 = 679	385. H 29 (filling)	C <sup>v</sup> - 38/9
336. small roundish pit	D <sup>d</sup> - 30 = 525	386. rectangular pit	C <sup>v</sup> - 39
337. oval pit	C <sup>r</sup> - 44/5	387. storage pit	C <sup>t</sup> - 43
338. small rectangular pit	C <sup>n</sup> - 43	388. storage pit	C <sup>u</sup> - 43
339. entrance pit XXXVIII	C <sup>p</sup> - 43	389. storage pit	C <sup>t</sup> - 43
340-1. irregular pit	C <sup>p</sup> - 41/2 = 324	390-1. storage pit	C <sup>tu</sup> - 44
342. rectangular pit XXXIX	C <sup>n</sup> - 42 = 285	392. trench	C <sup>t</sup> - 44
343. H 25 (pit beneath floor)	C <sup>op</sup> - 41 = 211, 223, 325	393. H 48 (post-hole)	C <sup>t</sup> - 45 = 394
		394. H 48 (filling)	C <sup>t</sup> - 45 = 393
344. round pit	C <sup>p</sup> - 44	395. trench	C <sup>t</sup> - 41
345. round pit	C <sup>p</sup> - 44	396. rectangular (storage) pit	C <sup>t</sup> - 41
346. entrance pit XL	C <sup>pq</sup> - 45	397. rectangular (storage) pit	C <sup>t</sup> - 40/1 = 400
347. H 26 (filling)	C <sup>pq</sup> - 40 = 244, 323, 330	398. trench	C <sup>t</sup> - 40
		399. trench	C <sup>t</sup> - 39
348. irregular complex of pits	C <sup>p</sup> - 38/9 = 107, 326	400. rectangular (storage) pit	C <sup>t</sup> - 40/1
349. irregular pit	C <sup>q</sup> - 37	401. storage pit	C <sup>t</sup> - 45 = 430
350. post-hole (XV?)	C <sup>o</sup> - 37	402. animal grave	C <sup>u</sup> - 37
351. post-hole	C <sup>r</sup> - 15	403. trench	C <sup>y</sup> - 22
352. H 74 (filling)	C <sup>tu</sup> - 49/50	404. oval pit	C <sup>v</sup> - 31
353. H 72 (filling)	C <sup>u</sup> - 47/8	405. post-hole	C <sup>x</sup> - 10
354. oval pit	C <sup>x</sup> - 48	406. stray find	C <sup>w</sup> - 11
355. small round pit	C <sup>v</sup> - 49	407. stray find (recent arable)	C <sup>xy</sup> - 10/3
356. post-hole LII	C <sup>v</sup> - 46	408. square pit	C <sup>u</sup> - 10 = 44
357. host-hole	C <sup>z</sup> - 47	409. rectangular pit	C <sup>x</sup> - 15
358. entrance pit LIII	C <sup>y</sup> - 46	410. post-hole III	C <sup>x</sup> - 14
359. entrance pit LIII	C <sup>y</sup> - 47/8	411. entrance pit III	C <sup>v</sup> - 15/6
360. irregular pit	C <sup>x</sup> - 46/7 = 362	412. post-hole	C <sup>v</sup> - 14
361. post-hole	C <sup>u</sup> - 47 =	413. post-hole	C <sup>x</sup> - 14
362. irregular pit	C <sup>x</sup> - 46/7 = 360	414. trench	C <sup>y</sup> - 14
363. post-hole	C <sup>t</sup> - 47	415. trench	C <sup>uz</sup> - 9/18
364. storage pit	C <sup>t</sup> - 46/7	416. stray find	??
365. small rectangular pit	C <sup>t</sup> - 46	417. W 3 (filling pit)	C <sup>vw</sup> - 12/3 = 446, 615
366. filling ditch	C <sup>v</sup> - 20/1	418. round pit	C <sup>v</sup> - 13
367. oval pit	C <sup>yz</sup> - 48/9 = 194	419. post-hole LVII?	D <sup>b</sup> - 50
368. post-hole	C <sup>t</sup> - 47	420. H 78 (filling)	D <sup>ab</sup> - 50 = 804
369. small oval pit	C <sup>v</sup> - 45	421. stray find	D <sup>b</sup> - 48
370. stray find	C <sup>v</sup> - 44	422. stray find	D <sup>b</sup> - 46
371. rectangular pit	C <sup>w</sup> - 44	423. H 54 (filling)	D <sup>bc</sup> - 42 = 796
372. post-hole granary?	C <sup>u</sup> - 42	424. stray find	C <sup>x</sup> - 11
373. small rectangular pit	C <sup>y</sup> - 41	425. stray find	D <sup>ab</sup> - 42
374. rectangular pit	C <sup>w</sup> - 42	426. trench	D <sup>ab</sup> - 42
375. H 49 (filling)	C <sup>vw</sup> - 42/3	427. rectangular pit	D <sup>a</sup> - 42 = 797
376. post-hole	C <sup>v</sup> - 44	428. stray find	C <sup>z</sup> /D <sup>a</sup> - 41
377. small rectangular pit	C <sup>y</sup> - 42 = 220	429. storage pit	D <sup>bc</sup> - 39 = 665, 674
378. small rectangular pit	C <sup>x</sup> - 42	430. storage pit	C <sup>t</sup> - 45 = 401
379. H 50 (filling)	C <sup>x</sup> - 42/3 = 184, 195-7	431. H 81 (high in filling)	D <sup>ij</sup> - 48/9
		432. post-hole LX	D <sup>k</sup> - 48
380. H 32 (filling)	C <sup>wx</sup> - 40/1 = 234	433. H 83 (high in filling)	D <sup>kl</sup> - 47/8 = 570, 574



434. stray find	D <sup>l</sup> - 49	478. square pit	D <sup>cd</sup> - 35/6
435. animal grave?	D <sup>ij</sup> - 47 = 576	479. square pit	D <sup>b</sup> - 37
436. W 10 (filling pit)	D <sup>ij</sup> - 41/2 = 438-9, 442, 504, 575	480. H 33 (filling)	D <sup>cd</sup> - 36 = 277
437. post-hole XXI	D <sup>i</sup> - 32	481. post-hole	D <sup>a</sup> - 36
438-9. W 10 (filling pit)	D <sup>ii</sup> - 41/2 = 436, 442, 504, 575	482. post-hole XIX	D <sup>b</sup> - 36
440. W 11 (within wooden frame)	D <sup>k</sup> - 40	483. entrance pit XVIII	D <sup>c</sup> - 35/6
441. W 10 (within wooden frame)	D <sup>ij</sup> - 41/2 = 576, 580, 641, 676, 709	484. post-hole XVIII	D <sup>b</sup> - 36
442. W 10 (filling pit)	D <sup>ij</sup> - 41/2 = 436, 438-9, 504, 575	485. post-hole	D <sup>b</sup> - 36
443. W 1 (wooden frame)	C <sup>k</sup> - 13/4 = 42	486. post-hole XVIII	D <sup>b</sup> - 34
444. W 2 (wooden frame)	C <sup>k</sup> - 16 = 55, 445	487. post-hole XVIII	D <sup>b</sup> - 34
445. W 2 (within wooden frame)	C <sup>k</sup> - 16 = 55, 444	488. post-hole XVIII	D <sup>b</sup> - 34
446. W 3 (filling pit)	C <sup>vw</sup> - 12/3 = 417, 615	489. trench	D <sup>a</sup> - 34
447. W 3 (wooden frame)	C <sup>vw</sup> - 12/3 = 614	490. trench	D <sup>b</sup> - 34
448. entrance pit VII	C <sup>xy</sup> - 29/30	491. post-hole XVIII	C <sup>z</sup> D <sup>a</sup> - 34
449. irregular pit	C <sup>xy</sup> - 28 = 248, 297	492. post-hole XVIII	D <sup>a</sup> - 34/5
450. post-hole VII	C <sup>x</sup> - 29	493. oval pit	C <sup>x</sup> - 37
451. H 30 (high in filling)	C <sup>wx</sup> - 37 = 500	494. oval pit	C <sup>z</sup> - 32/3
452. entrance pit XVIII	D <sup>a</sup> - 36	495. rectangular pit	D <sup>a</sup> - 30/1
453. post-hole granary	C <sup>v</sup> - 37	496. small roundish pit	D <sup>b</sup> - 31
454. post-hole granary	C <sup>v</sup> - 37	497. post-hole spicarium	D <sup>c</sup> - 30/1
455. H 28 (post-hole)	C <sup>vw</sup> - 36/7	498. round pit	D <sup>c</sup> - 31
456. post-hole granary	C <sup>w</sup> - 36	499. small oval pit	C <sup>x</sup> - 37
457. post-hole XVIII	C <sup>v</sup> - 35	500. H 30 on bottom	C <sup>wx</sup> - 37 = 451
458. entrance pit XVII	C <sup>v</sup> - 35	501. post-hole spicarium	D <sup>d</sup> - 26
459. entrance pit XVII	C <sup>v</sup> - 33/4	502. stray find	???
460. irregular patch	C <sup>xy</sup> - 33/4	503. stray find	C <sup>z</sup> - 20
461. post-hole XVIII	C <sup>x</sup> - 35	504. W 10 filling pit	D <sup>y</sup> - 41/2 = 436, 438-9, 442, 575
462. post-hole XVII	C <sup>xy</sup> - 34	505. number unused	
463. irregular patch	C <sup>x</sup> - 34	506. number unused	
464. post-hole XVII	C <sup>y</sup> - 34	507. number unused	
465. rectangular pit	C <sup>w</sup> - 34	508. number unused	
466. post-hole	C <sup>x</sup> - 34	509. number unused	
467. irregular patch	C <sup>x</sup> - 33	510. small rectangular pit	D <sup>e</sup> - 35/7
468. irregular patch	C <sup>x</sup> - 34	511. post-hole XVIII	D <sup>c</sup> - 34
469. irregular patch	C <sup>x</sup> - 34	512. storage (?) pit	D <sup>d</sup> - 29/30
470. post-hole	C <sup>x</sup> - 34	513. post-hole granary	D <sup>e</sup> - 30
471. post-hole XVIII	C <sup>y</sup> - 35	514. post-hole	D <sup>e</sup> - 34
472. post-hole XVIII	C <sup>y</sup> - 34	515. post-hole XX	D <sup>e</sup> - 35
473. oval pit	C <sup>w</sup> - 31	516. square pit	D <sup>f</sup> - 35
474. rectangular pit	C <sup>x</sup> - 31	517. post-hole XVIII	D <sup>d</sup> - 35
475. H 14 (filling)	C <sup>y</sup> - 31	518. small round pit	D <sup>f</sup> - 25/7
476. post-hole XVIII	D <sup>c</sup> - 35	519. post-hole XVIII	D <sup>d</sup> - 34
477. post-hole XIX	D <sup>c</sup> - 36	520. post-hole XX	D <sup>d</sup> - 35
		521. post-hole	D <sup>c</sup> - 34
		522. ovenpit	D <sup>d</sup> - 34 = 278
		523. entrance pit XX	D <sup>e</sup> - 35
		524. entrance pit XX	D <sup>e</sup> - 33 = 279
		525. small roundish pit	D <sup>d</sup> - 30 = 336
		526. post-hole granary	D <sup>d</sup> - 30
		527. post-hole granary	D <sup>d</sup> - 29

528. post-hole granary	D <sup>e</sup> - 29	577. baulk	C <sup>z</sup> - 12/3
529. post-hole granary	D <sup>e</sup> - 29	578. baulk	C <sup>z</sup> - 12/3
530. post-hole granary	D <sup>d</sup> - 27	579. baulk	C <sup>z</sup> - 12/3?
531. post-hole granary	D <sup>d</sup> - 27	580. W 10 (within wooden frame)	D <sup>j</sup> - 41/2 = 441, 576, 641, 676, 709
532. square pit	D <sup>d</sup> - 26		
533. trench	D <sup>d</sup> - 16	581. small round pit	D <sup>j</sup> - 35/6
534. trench	D <sup>d</sup> - 16	582. small round pit	D <sup>j</sup> - 36
535. trench	D <sup>d</sup> - 16	583. rectangular pit	D <sup>j</sup> - 36
536. trench	D <sup>c</sup> - 15	584. storage pit	D <sup>kl</sup> - 36
537. trench	D <sup>c</sup> - 16	585. rectangular (storage) pit	D <sup>kl</sup> - 35/6 = 594
538. post-hole	D <sup>c</sup> - 17	586. oven-pit	D <sup>l</sup> - 31/2 = 659
539. trench	D <sup>b</sup> - 15	587-8. oven-pit	D <sup>jk</sup> - 33/4
540. small oval pit	D <sup>b</sup> - 16	589. H 11 (post-hole)	D <sup>k</sup> - 21/2 = 649
541. small square pit	D <sup>ab</sup> - 16/7	590. post-hole	D <sup>jk</sup> - 29
542. small oval pit	D <sup>a</sup> - 16	591. H 15 (filling)	D <sup>j</sup> - 29/30 = 703, 714
543. trench	D <sup>c</sup> - 11		
544. cart-track	D <sup>e</sup> - 9	592. square pit	D <sup>j</sup> - 28 = 599
545. trench	D <sup>c</sup> - 12	593. old arable over VIII	D <sup>k</sup> - 26
546. trench	D <sup>c</sup> - 11	594. rectangular pit	D <sup>kl</sup> - 35/6 = 585
547. cart-track	D <sup>f</sup> - 10	595. H 41 (on floor)	D <sup>kl</sup> - 35/6
548. small square pit	D <sup>j</sup> - 49	596. post-hole	D <sup>i</sup> - 31
549. small square pit	D <sup>j</sup> - 50	597. post-hole	D <sup>k</sup> - 29
550. H 84	D <sup>kl</sup> - 50	598. roundish pit	D <sup>jk</sup> - 28
551. trench	D <sup>k</sup> - 50	599. square pit	D <sup>j</sup> - 28 = 592
552. post-hole	D <sup>k</sup> - 49	600. post-hole VIII	D <sup>k</sup> - 25
553. post-hole	D <sup>l</sup> - 50	601. trench	C <sup>v</sup> - 12
554. post-hole LX	D <sup>l</sup> - 48	602. post-hole III	C <sup>t</sup> - 15
555. post-hole LXI?	D <sup>l</sup> - 48	603. stall partition slot XVIII	C <sup>y</sup> - 35
556. post-hole LXI	D <sup>l</sup> - 48	604. stall partition slot XVIII	C <sup>y</sup> - 35
557. post-hole	D <sup>l</sup> - 49	605. post-hole	C <sup>x</sup> - 35
558. rectangular (oven?) pit	D <sup>l</sup> - 49	606. irregular patch	C <sup>x</sup> - 33
559. baulk	D <sup>f</sup> - 38	607. irregular patch	C <sup>x</sup> - 34
560. post-hole LXI	D <sup>m</sup> - 50	608. stray find	C <sup>t</sup> - 16
561. trench	D <sup>l</sup> - 49	609. trench	C <sup>t</sup> - 11
562. post-hole	D <sup>l</sup> - 49	610. post-hole I	C <sup>t</sup> - 14
563. post-hole LX	D <sup>m</sup> - 49	611. post-hole III	C <sup>t</sup> - 16
564. rectangular pit	D <sup>lm</sup> - 47	612. trench	C <sup>t</sup> - 11
565. post-hole	???	613. post-hole	C <sup>t</sup> - 12
566. small roundish pit	D <sup>lm</sup> - 50	614. W 3 (within wooden frame)	C <sup>vw</sup> - 12/3 = 447
567. animal grave?	D <sup>j</sup> - 47 = 435	615. W 3 (filling pit)	C <sup>vw</sup> - 12/3 = 417, 446
568. post-hole	D <sup>i</sup> - 47	616. round pit	D <sup>i</sup> - 47 = 569, 782
569. round pit	D <sup>i</sup> - 47 = 616, 782	617. irregular pit	D <sup>jk</sup> - 43/4
570. H 83 (filling)	D <sup>kl</sup> - 47/8 = 433, 574	618. irregular complex of pits	D <sup>kl</sup> - 42/3 = 621-3
571. round pit	D <sup>k</sup> - 39 = 573	619. post-hole XLVI	D <sup>i</sup> - 44
572. round pit	D <sup>j</sup> - 38/9	620. post-hole XLVII	D <sup>k</sup> - 43
573. round pit	D <sup>k</sup> - 39 = 571	621. irregular complex of pits	D <sup>kl</sup> - 42/3
574. H 83 (on floor)	D <sup>kl</sup> - 47/8 = 433, 570	622. number unused	
575. W 10 (filling pit)	D <sup>j</sup> - 41/2 = 436, 438-9, 442, 504	623. number unused	
576. W 10 (within wooden frame)	D <sup>j</sup> - 41/2 = 441, 580, 641, 676, 709	624. round pit	D <sup>j</sup> - 42
		625. rectangular pit	D <sup>j</sup> - 42
		626. rectangular pit	D <sup>l</sup> - 42

627. small oval pit	D <sup>j</sup> - 41	676. W 10 (within wooden frame)	D <sup>ij</sup> - 41/2 = 441, 576, 580, 641, 709
628. post-hole	D <sup>c</sup> - 14		
629. post-hole	D <sup>c</sup> - 14		
630. post-hole granary	D <sup>d</sup> - 13	677. post-hole XLV	D <sup>c</sup> - 44
631. post-hole	D <sup>d</sup> - 14	678. post-hole	D <sup>c</sup> - 42
632. trench	D <sup>f</sup> - 14	679. entrance pit XLIV	D <sup>c</sup> - 42 = 335
633. trench	D <sup>c</sup> - 13	680. square pit	D <sup>de</sup> - 42 = 270
634. round pit	D <sup>ab</sup> - 14	681. post-hole	D <sup>g</sup> - 27
635. trench	D <sup>c</sup> - 14	682. H 16 (high in filling)	D <sup>i</sup> - 29 = 638, 702, 715
636. H 37 (wall slot)	D <sup>j</sup> - 25		
637. post-hole VIII	D <sup>j</sup> - 25	683-4. trench XXI	D <sup>gh</sup> - 33
638. H 16 (high in filling)	D <sup>i</sup> - 29 = 682, 702, 715	685. entrance pit XXI	D <sup>h</sup> - 33
		686. small roundish pit	D <sup>i</sup> - 34
639. H 17 (high in filling)	D <sup>kl</sup> - 30 = 660	687. small rectangular pit	D <sup>i</sup> - 34
640. oven-pit	D <sup>j</sup> - 34 = 645	688. square pit XXI?	D <sup>h</sup> - 33
641. W 10 (within wooden frame)	D <sup>ij</sup> - 41/2 = 441, 567, 580, 676, 709	689. entrance pit XXI	D <sup>h</sup> - 31 = 713
		690. post-hole	D <sup>f</sup> - 26
642. stall partition slot VIII	D <sup>i</sup> - 27	691. post-hole	???
643. trench	D <sup>k</sup> - 29	692. post-hole	D <sup>g</sup> - 27
644. post-hole	D <sup>k</sup> - 28	693. trench	D <sup>fg</sup> - 30/1
645. oven-pit	D <sup>j</sup> - 34 = 640	694. post-hole	D <sup>h</sup> - 29
646. trench	D <sup>k</sup> - 16	695. stray find	D <sup>h</sup> - 24
647. rectangular (storage) pit	D <sup>j</sup> - 16	696. post-hole	D <sup>h</sup> - 23
648. round pit	D <sup>ik</sup> - 15	697. small round pit	D <sup>h</sup> - 23
649. H 11 (filling)	D <sup>k</sup> - 21/2 = 589	698. post-hole	D <sup>h</sup> - 26
650. post-hole	D <sup>l</sup> - 25	699. post-hole VIII	D <sup>h</sup> - 26
651. trench	D <sup>k</sup> - 25	700-1. W 6 (filling pit)	D <sup>fg</sup> - 30
652. post-hole VIII	D <sup>l</sup> - 25	702. H 16 (high in filling)	D <sup>i</sup> - 29 = 638, 682, 715
653. H 8 (high in filling)	D <sup>lm</sup> - 24/5 = 739	703. H 15 (high in filling)	D <sup>ij</sup> - 29/30 = 591, 714
654. square pit	D <sup>lm</sup> - 25 = 738		
655. H 9 (on floor)	D <sup>l</sup> - 24 = 656-8	704. entrance pit VIII	D <sup>h</sup> - 27
656. H 9 (post-hole)	D <sup>l</sup> - 24 = 655, 657-8	705. stray find	D <sup>g</sup> - 18
		706. stray find	D <sup>n</sup> - 29
657. H 9 (high in filling)	D <sup>l</sup> - 24 = 655-6, 658	707. stray find (recent arable)	D <sup>o</sup> - 31
658. H 9 (pit beneath floor)	D <sup>l</sup> - 24 = 655-7	708. small round pit	D <sup>n</sup> - 17
659. oven-pit	D <sup>l</sup> - 31/2 = 586	709. W 10 (within wooden frame)	D <sup>ij</sup> - 41/2 = 441, 576, 580, 641, 676
660. H 17 (on floor)	D <sup>kl</sup> - 30 = 639		
661. oval pit	D <sup>l</sup> - 27/8	710. stray find	D <sup>g</sup> - 33
662. post-hole XXIII	D <sup>a</sup> - 39	711. post-hole XXI	D <sup>i</sup> - 32
663. small rectangular pit	D <sup>b</sup> - 38	712. rectangular pit	D <sup>hi</sup> - 31/2
664. storage pit	D <sup>b</sup> - 39	713. entrance pit XXI	D <sup>h</sup> - 31 = 689
665. storage pit	D <sup>bc</sup> - 39 = 429, 674	714. H 15 (filling)	D <sup>ij</sup> - 29/30 = 591, 703
666. post-hole	D <sup>bc</sup> - 38		
667. post-hole	D <sup>b</sup> - 38	715. H 16 (filling)	D <sup>i</sup> - 29 = 638, 682, 702
668. H 34 (filling)	D <sup>d</sup> - 39 = 275		
669-71. H 37 (pit beneath floor)	D <sup>de</sup> - 39/40 = 273	716. post-hole	D <sup>h</sup> - 31
672. storage pit	D <sup>c</sup> - 39	717. post-hole	D <sup>i</sup> - 31
673. stray find	C <sup>a</sup> D <sup>ab</sup> - 43/4	718. post-hole	D <sup>h</sup> - 34
674. storage pit	D <sup>bc</sup> - 39 = 429, 665	719. H 40 (post-hole)	D <sup>hi</sup> - 35 = 720
675. entrance pit XLIV	D <sup>a</sup> - 40	720. H 40 (filling)	D <sup>hi</sup> - 35 = 719

721. H 39 (post-hole)	D <sup>hi</sup> - 35/6 = 722	767. storage pit	D <sup>cd</sup> - 48
722. H 39 (filling)	D <sup>hi</sup> - 35/6 = 721	768. post-hole	D <sup>b</sup> - 45
723. H 38 (filling)	D <sup>hi</sup> - 37	769. post-hole LIII	C <sup>z</sup> - 47
724. animal grave	D <sup>h</sup> - 39	770. post-hole LII	C <sup>z</sup> - 48
725. stray find	D <sup>i</sup> - 13	771. post-hole	D <sup>b</sup> - 46
726. trench	D <sup>h</sup> - 14	772. H 79 (high in filling)	D <sup>ab</sup> - 47/8 = 805
727. trench	D <sup>g</sup> - 14	773. post-hole LVII	D <sup>c</sup> - 50
728. post-hole	D <sup>g</sup> - 24	774. round pit	D <sup>d</sup> - 50
729. small rectangular pit VI	D <sup>h</sup> - 23 = 733	775. post-hole LVII	D <sup>d</sup> - 49
730. H 58 (high in filling)	D <sup>ef</sup> - 43/4 = 269, 753-8	776. rectangular pit	D <sup>cd</sup> - 46
731. H 55 (high in filling)	D <sup>cd</sup> - 43/4 = 268	777. trench	D <sup>e</sup> - 50
732. trench	D <sup>n</sup> - 21	778. post-hole LVII	D <sup>e</sup> - 50
733. small rectangular pit VI	D <sup>h</sup> - 23 = 729	779. rectangular pit	D <sup>f</sup> - 49
734. small round pit VI	D <sup>h</sup> - 23	780. roundish pit	D <sup>fg</sup> - 48
735. post-hole VI	D <sup>h</sup> - 22	781. W 9 (within wooden frame)	D <sup>de</sup> - 47/8 = 786
736. small rectangular pit	D <sup>n</sup> - 29	782. round pit	D <sup>i</sup> - 47 = 569, 616
737. storage pit	D <sup>n</sup> - 27	783. post-hole LVI	D <sup>i</sup> - 47
738. square pit	D <sup>lm</sup> - 25 = 654	784. post-hole (H 52?)	C <sup>z</sup> - 43
739. H 8	D <sup>lm</sup> - 24/5 = 653	785. W 8 (filling pit)	C <sup>z</sup> D <sup>a</sup> - 43/4
740. irregular pit	D <sup>n</sup> - 40	786. W 9 (within wooden frame)	D <sup>de</sup> - 47/8
741. irregular pit	D <sup>mn</sup> - 44	787. H 59 (filling)	D <sup>fg</sup> - 42/3 = 803
742. trench	D <sup>n</sup> - 44	788. rectangular pit	D <sup>d</sup> - 41
743. post-hole	D <sup>o</sup> - 48	789. rectangular pit	D <sup>de</sup> - 41 = 271
744. post-hole LX	D <sup>o</sup> - 48	790. trench	D <sup>e</sup> - 41
745. rectangular pit	D <sup>m</sup> - 47	791. square pit	D <sup>e</sup> - 42
746. rectangular pit	D <sup>m</sup> - 46/7	792. rectangular pit	D <sup>d</sup> - 41
747. square pit	D <sup>n</sup> - 48	793. post-hole XLIV	D <sup>c</sup> - 41
748. rectangular pit	D <sup>no</sup> - 45	794. square pit	C <sup>z</sup> - 42
749. storage pit	D <sup>g</sup> - 40/1	795. entrance pit XLIV	D <sup>c</sup> - 40
750. entrance pit XLV	D <sup>gh</sup> - 43	796. H 54 (filling)	D <sup>bc</sup> - 42 = 423
751. rectangular pit	D <sup>gh</sup> - 44	797. rectangular pit	D <sup>a</sup> - 42 = 427
752. rectangular pit	D <sup>hi</sup> - 47	798. rectangular pit	D <sup>a</sup> - 42
753-4. H 58 (pit beneath floor)	D <sup>ef</sup> - 43/4 = 269, 730, 755-8	799. post-hole XLIV	C <sup>z</sup> - 42
755. H 58 (wall slot)	D <sup>ef</sup> - 43/4 = 269, 730, 753-4, 757-8	800. post-hole	C <sup>z</sup> - 41
756. H 58 (on floor)	D <sup>ef</sup> - 43/4 = 269, 730, 753-5, 757-8	801. H 56 (high in filling)	D <sup>bc</sup> - 44/5
757-8. H 58 (pit beneath floor)	D <sup>ef</sup> - 43/4 = 269, 730, 753-6, 758	802. H 57 (high in filling)	D <sup>d</sup> - 44/5 = 267
759. stray find	D <sup>h</sup> - 49	803. H 59 (on floor)	D <sup>fg</sup> - 42/3 = 787
760. entrance pit LVII	D <sup>g</sup> - 49/50	804. H 78 (on floor)	D <sup>ab</sup> - 50 = 420
761. small rectangular pit	D <sup>g</sup> - 49	805. H 79 (on floor)	D <sup>ab</sup> - 47/8 = 772
762. oval pit	D <sup>g</sup> - 48	806. stray find	D <sup>d</sup> - 47
763. H 80 (filling)	D <sup>gh</sup> - 47/8	807. stray find	
764. rectangular pit	D <sup>h</sup> - 49/50	808. post-hole	
765. roundish pit	D <sup>f</sup> - 49/50 = 303	809. stray find (recent arable)	C <sup>qu</sup> - 56/60
766. rectangular pit	D <sup>d</sup> - 46	810. stray find	D <sup>a</sup> - 56
		811. stray find	D <sup>a</sup> - 56
		812. H 103 (high in filling)	D <sup>b</sup> - 59 = 954
		813. round pit	D <sup>d</sup> - 58 = 952
		814. H 106 (high in filling)	D <sup>fg</sup> - 58 = 851
		815. H 108 (high in filling)	D <sup>fg</sup> - 55/6 = 824, 853, 963-5

816. trench	D <sup>a</sup> - 56		864. stray find (recent arable)	D <sup>ei</sup> - 56/60
817. small rectangular pit	D <sup>b</sup> - 56	= 862	865. stray find (recent arable)	D <sup>uz</sup> - 31/50
818. small round pit	C <sup>p</sup> - 57		866. oven pit	D <sup>a</sup> - 60
819. post-hole	D <sup>g</sup> - 58		867. stray find (old arable)	D <sup>a</sup> - 60
820. small rectangular pit	D <sup>g</sup> - 58		868. post-hole	C <sup>x</sup> - 59
821. H 105 (filling)	D <sup>e</sup> - 58	= 852, 893	869. H 111 or 115? (high in filling)	D <sup>op</sup> - 57
822. stray find (recent arable)	C <sup>iz</sup> - 61/7		870. stray find	D <sup>m</sup> - 59
823. small oval pit	C <sup>o</sup> - 56		871. H 109 (high in filling)	D <sup>j</sup> - 57 = 913
824. H 108 (filling)	D <sup>fg</sup> - 55/6	= 815, 853, 963-5	872. rectangular pit	D <sup>k</sup> - 56
825. small rectangular pit	C <sup>i</sup> - 56		873. stray find	D <sup>i</sup> - 57
826. irregular complex of pits	C <sup>hi</sup> - 58/9		874. rectangular pit	D <sup>h</sup> - 60
827. trench	D <sup>e</sup> - 56		875. H 117 (high in filling)	D <sup>q</sup> - 57/8 = 892, 897
828. pit	D <sup>e</sup> - 59/60		876. H 116 (high in filling)	D <sup>op</sup> - 58/9 = 987
829. stray find	C <sup>s</sup> - 67		877. stray find	D <sup>q</sup> - 59
830. cart-track	B <sup>v</sup> - 59		878. trench	D <sup>p</sup> - 60
831. irregular pit	C <sup>d</sup> - 56/7		879. stray find (old arable)	D <sup>s</sup> - 58
832. stray find (recent arable)	C <sup>qv</sup> - 56/70		880. stray find	C <sup>k</sup> - 64
833. irregular pit	C <sup>df</sup> - 56/7		881. small round pit	C <sup>i</sup> - 63
834. stray find (recent arable)	D <sup>pt</sup> - 25/50		882. small round pit	C <sup>h</sup> - 63
835. stray find (old arable)	B <sup>w</sup> - 60		883. roundish pit	D <sup>u</sup> - 57/8 = 930
836. small round pit (cremation grave)	B <sup>w</sup> - 58		884. oval pit	D <sup>u</sup> - 57
837. trench	C <sup>s</sup> - 59		885. entrance pit LXXXVI	D <sup>u</sup> - 57 = 931
838. trench	C <sup>t</sup> - 59		886. H 121 (high in filling)	D <sup>tu</sup> - 56 = 1062
839. rectangular pit	C <sup>u</sup> - 58		887. small rectangular pit	D <sup>t</sup> - 56
840. round pit	C <sup>w</sup> - 59		888. rectangular pit	D <sup>s</sup> - 56 = 1063
841. H 100 (hearth high in filling)	C <sup>y</sup> - 59	= 895	889. irregular complex of pits	D <sup>op</sup> - 56/7 = 902
842-3. H 99 (high in filling)	C <sup>vx</sup> - 59/60		890. stray find	D <sup>p</sup> - 56
844. stray find recent arable	D <sup>pt</sup> - 25/50		891. round pit	D <sup>r</sup> - 55/6 = 1066-7
845. round pit paved with sherds	C <sup>q</sup> - 65		892. H 117 (high in filling)	D <sup>pa</sup> - 57/8 = 875, 897
846. post-hole LXXI	C <sup>x</sup> - 57		893. H 105 (on floor)	D <sup>e</sup> - 58 = 821, 852
847. oval pit paved with sherds	C <sup>wx</sup> - 56		894. square pit	D <sup>b</sup> - 59
848. stray find	C <sup>t</sup> - 67		895. H 100 (filling)	C <sup>y</sup> - 59 = 841
849. stray find	C <sup>c</sup> - 63		896. small square pit	D <sup>s</sup> - 58
850. oval pit	C <sup>v</sup> - 59		897. H 117 (on floor)	D <sup>pa</sup> - 57/8 = 875, 892
851. H 106 (high in filling)	D <sup>fg</sup> - 58	= 814	898. oval pit	D <sup>q</sup> - 57
852. H 105 (high in filling)	D <sup>e</sup> - 58	= 821, 893	899. oval pit	D <sup>a</sup> - 57
853. H 108 (high in filling)	D <sup>fg</sup> - 55/6	= 815, 824, 963-5	900. trench	D <sup>p</sup> - 60
854. stray find (recent arable)	D <sup>pt</sup> - 25/50		901. rectangular pit	D <sup>o</sup> - 56
855. post-hole	C <sup>v</sup> - 57		902. irregular complex of pits	D <sup>op</sup> - 56/7 = 889
856. W 13 (filling pit)	C <sup>v</sup> - 59	= 1029	903. irregular complex of pits	D <sup>op</sup> - 56/7
857. post-hole LXXII	D <sup>b</sup> - 58		904. stray find	D <sup>l</sup> - 59
858. entrance pit LXXII	D <sup>c</sup> - 57/8	= 951	905. trench	D <sup>n</sup> - 59
859. square pit	D <sup>b</sup> - 57		906. irregular pit	D <sup>ik</sup> - 59 = 989
860. H 101 (filling)	C <sup>z</sup> - 56/7		907. H 110 (pit beneath floor)	D <sup>j</sup> - 59
861. post-hole	D <sup>a</sup> - 56		908. stray find	C <sup>o</sup> D <sup>f</sup> - 53/5
862. small rectangular pit	D <sup>b</sup> - 56	= 817	909. stray find or post-hole LXXIX	D <sup>c</sup> - 59 or D <sup>m</sup> - 59
863. trench	D <sup>a</sup> - 56		910. irregular pit	D <sup>h</sup> - 58
			911. trench	D <sup>l</sup> - 56
			912. irregular complex of pits	D <sup>n</sup> - 57
			913. H 109 (high in filling)	D <sup>j</sup> - 57 = 871

914. trench	D <sup>j</sup> - 56	965. H 108 (threshold slot)	D <sup>fg</sup> - 55/6 = 815, 824, 853, 963-4
915. irregular pit	D <sup>m</sup> - 57		
916. post-hole LXXIX (?)	D <sup>o</sup> - 60		
917. H 138 (filling)	C <sup>t</sup> - 66	966. stray find (recent arable)	D <sup>sy</sup> - 31/50
918. threshold slot LXXIX (?)	D <sup>o</sup> - 59	967. square pit	C <sup>l</sup> - 64/5
919. post-hole LXXXII	C <sup>p</sup> - 64 = 970	968. rectangular pit	C <sup>o</sup> - 65
920. stray find	C <sup>p</sup> - 65	969. rectangular pit	C <sup>u</sup> - 66 = 960
921. irregular pit	C <sup>v</sup> - 66 = 958	970. post-hole LXXXII	C <sup>p</sup> - 64 = 917
922. post-hole LXXXVI	D <sup>u</sup> - 58/9	971. square pit	C <sup>r</sup> - 67
923. stray find	D <sup>t</sup> - 58	972. small rectangular pit	C <sup>t</sup> - 65
924. square pit	D <sup>u</sup> - 58	973. rectangular pit	C <sup>t</sup> - 65
925. plough mark	D <sup>t</sup> - 58	974. post-hole LXXXIII	C <sup>t</sup> - 65
926. stray find	D <sup>u</sup> - 58	975. stray find	C <sup>v</sup> - 67
927. post-hole small structure	D <sup>u</sup> - 60	976. rectangular pit	C <sup>v</sup> - 66
928. post-hole small structure	D <sup>u</sup> - 60	977. round pit	C <sup>v</sup> - 66
929. post-hole	D <sup>t</sup> - 58	978. small rectangular pit	C <sup>uv</sup> - 65
930. roundish pit	D <sup>u</sup> - 57/8 = 883	979. rectangular pit	C <sup>vw</sup> - 66
931. entrance pit LXXVI	D <sup>u</sup> - 57 = 885	980. round pit	C <sup>w</sup> - 66
932. trench	D <sup>u</sup> - 57	981. storage pit	C <sup>x</sup> - 66
933. entrance pit LXXVIII	D <sup>x</sup> - 57	982. oven-pit	D <sup>pq</sup> - 57
934. trench	D <sup>t</sup> - 57	983. irregular pit	C <sup>x</sup> - 67
935. small oval pit	D <sup>s</sup> - 57	984. H 139 (high in filling)	C <sup>xt</sup> - 67
936. animal grave	D <sup>k</sup> - 57	985. round pit	C <sup>x</sup> - 66
937. post-hole LXXI	C <sup>u</sup> - 56	986. roundish pit	C <sup>x</sup> - 65/6
938. oval pit	C <sup>w</sup> - 57	987. H 116 (high in filling)	D <sup>op</sup> - 58/9 = 876
939. post-hole	C <sup>x</sup> - 56	988. post-hole LXXIX	D <sup>m</sup> - 58
940. post-hole	C <sup>w</sup> - 56	989. irregular pit	D <sup>jk</sup> - 59 = 906
941. roundish pit	C <sup>x</sup> - 57	990-1. H 115 (post-hole beneath floor)	D <sup>o</sup> - 57
942. stray find	C <sup>w</sup> - 55	992. H 118 (post-hole)	D <sup>pq</sup> - 58/9
943. post-hole LXXI	C <sup>x</sup> - 56	993. stray find	D <sup>q</sup> - 57
944. square pit	C <sup>y</sup> - 55	994. post-hole LXXXVI	D <sup>s</sup> - 59
945. post-hole	C <sup>u</sup> - 56	995. stray find	D <sup>s</sup> - 57
946. square pit	C <sup>y</sup> - 56	996. post-hole	D <sup>v</sup> - 58
947. post-hole LXXI	C <sup>y</sup> - 56	997. oval pit	D <sup>q</sup> - 48
948. post-hole LXX	C <sup>w</sup> - 56	998. stray find	D <sup>r</sup> - 48
949. post-hole LXXII	D <sup>c</sup> - 58	999. stray find	D <sup>s</sup> - 46
950. H 104 (post-hole)	D <sup>c</sup> - 59	1000. oven-pit	D <sup>t</sup> - 48
951. entrance pit LXXII	D <sup>c</sup> - 57/8 = 858	1001. stray find	D <sup>r</sup> - 50
952. round pit	D <sup>d</sup> - 58 = 813	1002. post-hole granary	D <sup>q</sup> - 48
953. small rectangular pit	D <sup>e</sup> - 58	1003. roundish pit	D <sup>q</sup> - 50
954. H 103 (on floor)	D <sup>b</sup> - 59 = 812	1004. post-hole	D <sup>q</sup> - 50
955. H 97 (on floor)	C <sup>st</sup> - 57 = 962	1005. post-hole	D <sup>q</sup> - 48
956. post-hole LXX	C <sup>t</sup> - 56	1006. storage pit	D <sup>q</sup> - 46/7
957. H 140 (high in filling)	C <sup>w</sup> - 67	1007. rectangular pit	D <sup>q</sup> - 47
958. irregular pit	C <sup>v</sup> - 66 = 921	1008. oven-pit	D <sup>r</sup> - 45/6
959. stray find	C <sup>v</sup> - 68	1009. trench	D <sup>r</sup> - 43
960. rectangular pit	C <sup>u</sup> - 66 = 969	1010. trench	D <sup>r</sup> - 42
961. stray find	C <sup>w</sup> - 65	1011. recent pit	D <sup>r</sup> - 44
962. H 97 (wall slot)	C <sup>s</sup> - 57 = 955	1012. small roundish pit	D <sup>p</sup> - 41
963-4. H 108 (post-hole)	D <sup>fg</sup> - 55/6 = 815, 824, 853, 965	1013. storage pit	D <sup>q</sup> - 44
		1014. small square pit	D <sup>p</sup> - 50

1015. W 13 (within wooden frame)	C <sup>v</sup> - 59	1072. post-hole LXVI	C <sup>r</sup> - 53
1016. trench	D <sup>t</sup> - 45	1073. irregular pit	D <sup>a</sup> - 62
1017. post-hole	D <sup>q</sup> - 48	1074. H 137 (on floor)	C <sup>y</sup> - 64
1018. post-hole granary	D <sup>q</sup> - 48	1075. irregular complex of pits	C <sup>wx</sup> - 64 = 1226-8
1019. oven-pit	D <sup>q</sup> - 48/9	1076. H 133 (high in filling)	C <sup>uv</sup> - 64/5
1020. rectangular pit	D <sup>s</sup> - 48	1077. irregular pit	C <sup>z</sup> - 63
1021. post-hole LXII	D <sup>t</sup> - 49	1078. entrance pit LXXXI	C <sup>p</sup> - 63
1022. post-hole	D <sup>t</sup> - 50	1079. H 132 (high in filling)	C <sup>t</sup> - 64
1023. storage pit	D <sup>q</sup> - 45	1080. H 130 (post-hole)	C <sup>l</sup> - 62
1024. oval pit	D <sup>tu</sup> - 45/6	1081. stray find	C <sup>m</sup> - 62
1025. round pit	D <sup>t</sup> - 50	1082. stray find	C <sup>z</sup> - 55
1026. small round pit	D <sup>t</sup> - 40	1083. H 112 (filling)	D <sup>k</sup> - 60
1027. H 43 (high in filling)	D <sup>pq</sup> - 36	1084. oval pit	D <sup>p</sup> - 61
1028. post-hole	D <sup>p</sup> - 38	1085. trench	D <sup>n</sup> - 61
1029. W 13 (filling pit)	C <sup>v</sup> - 59 = 856	1086. stray find	D <sup>p</sup> - 60
1030. square pit	D <sup>t</sup> - 40/1 = 1038	1087. round pit	D <sup>p</sup> - 62
1031. H 60 (high in filling)	D <sup>p</sup> - 41	1088. oven-pit	D <sup>o</sup> - 60/1
1032. rectangular pit (animal grave?)	D <sup>t</sup> - 42	1089. small oval pit	D <sup>o</sup> - 60
1033. small rectangular pit	D <sup>s</sup> - 42	1090. small roundish pit	D <sup>pq</sup> - 62
1034. large pit with animal remains	D <sup>z</sup> - 41/2 = 1048-57, 1069	1091. irregular pit	D <sup>q</sup> - 62
1035. trench	D <sup>r</sup> - 43	1092. stray find	D <sup>t</sup> - 63
1036. roundish pit	D <sup>t</sup> - 38/9	1093. H 111(?) (high in filling)	D <sup>j</sup> - 60 = 1245
1037. H 61 (high in filling)	D <sup>rs</sup> - 37/8	1094. round pit	D <sup>j</sup> - 60/1
1038. square pit	D <sup>t</sup> - 40/1 = 1030	1095. post-hole granary	D <sup>n</sup> - 61
1039. post-hole	D <sup>t</sup> - 40	1096. entrance pit LXIX	C <sup>z</sup> - 55
1040. pit	??	1097. post-hole	D <sup>a</sup> - 55
1041. H 44 (high in filling)	D <sup>p</sup> - 36	1098. post-hole	D <sup>a</sup> - 55
1042. oval pit	D <sup>q</sup> - 39	1099. post-hole granary	C <sup>pq</sup> - 54
1043. square pit	D <sup>tu</sup> - 40/1	1100. post-hole LXVI	C <sup>q</sup> - 53
1044. post-hole	D <sup>p</sup> - 31	1101. post-hole LXVI	C <sup>r</sup> - 53
1045. oven-pit	D <sup>q</sup> - 35	1102. post-hole LXVI	C <sup>q</sup> - 53
1046. oven-pit	D <sup>q</sup> - 35	1103. rectangular pit	C <sup>w</sup> - 54
1047. stray find	D <sup>r</sup> - 27	1104. post-hole LXVII	C <sup>t</sup> - 53
1048-57. large pit with animal remains	D <sup>r</sup> - 41/2 = 1034, 1069	1105. post-hole LXVI	C <sup>r</sup> - 53
1058. rectangular pit	D <sup>pq</sup> - 59	1106. post-hole	C <sup>n</sup> - 53
1059. trench	D <sup>q</sup> - 57	1107. oval pit	C <sup>t</sup> - 53
1060. animal grave	D <sup>q</sup> - 56/60	1108. post-hole LXVI	C <sup>q</sup> - 53
1061. entrance pit LXXVI	D <sup>r</sup> - 58	1109. oval pit	C <sup>t</sup> - 53
1062. H 121 (filling)	D <sup>tw</sup> - 56 = 886	1110. trench	C <sup>s</sup> - 54
1063. rectangular pit	D <sup>s</sup> - 56 = 888	1111. post-hole	C <sup>v</sup> - 54
1064. irregular pit	D <sup>w</sup> - 55/6	1112. oval pit	C <sup>wx</sup> - 55
1065. entrance pit LXXVI	D <sup>u</sup> - 59	1113. round pit	C <sup>x</sup> - 55
1066-7. round pit	D <sup>r</sup> - 55/6 = 891	1114. H 98 (high in filling)	C <sup>u</sup> - 54
1068. trench	D <sup>m</sup> - 60	1115-6. rectangular pit	D <sup>k</sup> - 55/6
1069. large pit animal remains	D <sup>r</sup> - 41/2 = 1034, 1048-57	1117. irregular complex of pits	D <sup>q</sup> - 55 = 1121
1070. irregular patch	C <sup>z</sup> - 55	1118. rectangular pit	D <sup>j</sup> - 54/5
1071. H 96 (high in filling)	C <sup>rs</sup> - 54/5	1119. round pit	D <sup>n</sup> - 55
		1120. oven-pit	D <sup>rs</sup> - 55
		1121. irregular complex of pits	D <sup>q</sup> - 55 = 1117
		1122. post-hole	D <sup>o</sup> - 55
		1123. narrow rectangular pit	D <sup>qr</sup> - 54/5
		1124. H ?	??

1125. rectangular pit	D <sup>y</sup> - 48/9	1172. square (?) pit	D <sup>y</sup> - 49/50
1126. post-hole LXXIV?	D <sup>p</sup> - 54	1173. post-hole LXII	D <sup>v</sup> - 48
1127. post-hole LXXIV	D <sup>q</sup> - 54	1174. rectangular pit	D <sup>x</sup> - 50
1128. round pit	D <sup>r</sup> - 55	1175. W 12 (high in filling pit)	E <sup>ab</sup> - 47/8 = 1177, 1205
1129. H 114 (pit beneath floor)	D <sup>no</sup> - 55	1176. rectangular pit	D <sup>rs</sup> - 55 = 1135
1130. post-hole	D <sup>r</sup> - 55	1177. W 12 (high in filling pit)	E <sup>ab</sup> - 47/8 = 1175, 1205
1131. round pit	D <sup>z</sup> - 55	1178. H 88 (high in filling)	D <sup>x</sup> - 48
1132. round pit	D <sup>z</sup> - 55	1179. post-hole	E <sup>c</sup> - 43
1133. trench	D <sup>s</sup> - 54	1180. round pit	D <sup>z</sup> E <sup>a</sup> - 44/5
1134. stray find	D <sup>v</sup> - 54	1181. storage pit	D <sup>xy</sup> - 48
1135. rectangular pit	D <sup>rs</sup> - 55 = 1176	1182. H 90 (high in filling)	E <sup>ab</sup> - 46 = 1191
1136. H 120 (high in filling)	D <sup>st</sup> - 55 = 1142	1183. small oval pit	E <sup>c</sup> - 41
1137. post-hole LXIV	E <sup>c</sup> - 49	1184. entrance pit XLIX	D <sup>wx</sup> - 44
1138. stray find	E <sup>b</sup> - 46	1185. post-hole L	D <sup>x</sup> - 44
1139. rectangular pit or H 66 (post-hole)	E <sup>b</sup> - 45 or Ee - 44	1186. post-hole	D <sup>v</sup> - 43
1140. stray find (old arable filling sheepfold)	E <sup>de</sup> - 41/2	1187. storage pit XLIX	D <sup>yz</sup> - 43
1141. stray find (old arable filling sheepfold)	E <sup>ab</sup> - 41/2	1188. oven-pit	D <sup>v</sup> - 45
1142. H 120 (post-hole beneath floor)	D <sup>st</sup> - 55 = 1136	1189. H 63 (high in filling)	D <sup>x</sup> - 43/4
1143. post-hole XLIX	D <sup>v</sup> - 43	1190. entrance pit LXIII	E <sup>a</sup> - 48
1144-5. rectangular pit	D <sup>u</sup> - 54	1191. H 90 (filling)	E <sup>b</sup> - 46 = 1182
1146. roundish pit	D <sup>w</sup> - 40	1192. trench sheepfold	E <sup>c</sup> - 42
1147. post-hole	E <sup>c</sup> - 38	1193. oven? pit	D <sup>vw</sup> - 39/40 = 1201
1148. H 123 (on floor)	D <sup>uv</sup> - 55	1194. entrance pit XLIX	D <sup>wx</sup> - 42
1149. rectangular pit	D <sup>v</sup> - 54/5	1195. round pit	D <sup>u</sup> - 42/3
1150. H 124?	D <sup>vw</sup> - 55?	1196. entrance pit XXVIII	D <sup>w</sup> - 37
1151. H 122 (high in filling)	D <sup>uv</sup> - 53/4	1197. oven-pit	D <sup>z</sup> - 39/40
1152. round pit	D <sup>uv</sup> - 54/5 = 1280	1198. oven-pit	E <sup>a</sup> - 37
1153. stray find (old arable filling sheepfold)	E <sup>b</sup> - 50	1199. H 62 (high in filling)	D <sup>v</sup> - 41
1154. rectangular pit	E <sup>c</sup> - 37	1200. oven-pit	D <sup>x</sup> - 33
1155. rectangular pit	E <sup>b</sup> - 37	1201. oven? pit	D <sup>vw</sup> - 39/40 = 1193
1156. oven-pit	E <sup>cd</sup> - 35	1202. oven-pit	D <sup>z</sup> - 36/7
1157. irregular pit or post-hole XXVIII	D <sup>x</sup> - 36	1203. cremation grave	E <sup>c</sup> - 34
1158. storage pit	D <sup>v</sup> - 45/6	1204. W 12 (within wooden frame)	E <sup>ab</sup> - 47/8
1159. entrance pit XXVIII	D <sup>w</sup> - 36	1205. W 12 (filling pit)	E <sup>ab</sup> - 47/8 = 1175, 1177
1160. post-hole	D <sup>x</sup> - 37	1206. post-hole	D <sup>w</sup> - 39
1161. square pit	D <sup>w</sup> - 49	1207. H 94 (on floor)	E <sup>f</sup> - 46
1162. narrow rectangular pit	D <sup>y</sup> - 50 = 1171	1208. stray find	E <sup>k</sup> - 44
1163. oval pit	D <sup>x</sup> - 54 = 1259	1209. rectangular pit	E <sup>h</sup> - 45 = 1275
1164. post-hole LXIV	E <sup>a</sup> - 49	1210. post-hole LI	E <sup>i</sup> - 44
1165. H 87 (post-hole)	D <sup>u</sup> - 48	1211. small round pit	E <sup>h</sup> - 43
1166. post-hole granary	D <sup>u</sup> - 46	1212. post-hole XXXIV	E <sup>c</sup> - 40
1167. recent pit	D <sup>w</sup> - 34	1213. small rectangular pit	E <sup>f</sup> - 39
1168. H 89 (high in filling)	E <sup>ab</sup> - 48	1214. H 68 (post-hole)	E <sup>f</sup> - 40 = 1306
1169. post-hole	E <sup>a</sup> - 48	1215. stray find (old arable)	E <sup>e</sup> - 38
1170. post-hole LXIV	D <sup>z</sup> - 50	1216. rectangular pit	C <sup>w</sup> - 61
1171. narrow rectangular pit	D <sup>y</sup> - 50 = 1162	1217. rectangular pit	C <sup>x</sup> - 63
		1218. oven-pit	C <sup>u</sup> - 62/3
		1219. H 136 (high in filling)	C <sup>w</sup> - 63/4



1220. roundish (oven?) pit	C <sup>y</sup> - 61	1274. post-hole	E <sup>e</sup> - 44
1221. small rectangular pit	C <sup>y</sup> - 63	1275. rectangular pit	E <sup>h</sup> - 45 = 1209
1222. square pit	C <sup>x</sup> - 63	1276. H 67 (on floor)	E <sup>cd</sup> - 44
1223. H 135 (high in filling)	C <sup>v</sup> - 65	1277. rectangular pit	E <sup>fg</sup> - 42
1224. H 134 (high in filling)	C <sup>u</sup> - 65	1278. H ? (post-hole)	??
1225. rectangular pit	C <sup>x</sup> - 65	1279. animal grave?	E <sup>f</sup> - 45
1226-8. irregular complex of pits	C <sup>wx</sup> - 64 = 1075	1280. round pit	D <sup>uv</sup> - 54/5 = 1152
1229. stray find	D <sup>a</sup> - 61	1281. H 18 (on floor)	E <sup>e</sup> - 27/8
1230. oven-pit	C <sup>z</sup> D <sup>a</sup> - 63	1282. post-hole XII	E <sup>g</sup> - 27
1231. stray find	C <sup>k</sup> - 63	1283. animal grave	E <sup>f</sup> - 47
1232. stray find	C <sup>l</sup> - 63	1284. round pit	E <sup>ef</sup> - 25
1233. stray find	D <sup>l</sup> - 63	1285. post-hole	E <sup>f</sup> - 27
1234. stray find	C <sup>k</sup> - 62	1286. small round pit	E <sup>g</sup> - 32
1235. stray find	C <sup>l</sup> - 62	1287. small round pit	E <sup>g</sup> - 30
1236. stray find	C <sup>j</sup> - 63	1288. post-hole	E <sup>f</sup> - 29
1237. small round pit	D <sup>l</sup> - 60	1289. post-hole XIII	E <sup>g</sup> - 30
1238. H 119 (filling)	D <sup>qr</sup> - 60/1	1290. animal grave	E <sup>g</sup> - 30/1
1239. small rectangular pit	D <sup>lm</sup> - 61	1291. small round pit	E <sup>f</sup> - 31
1240. round pit	D <sup>p</sup> - 61/2	1292. H 69 (post-hole)	E <sup>fg</sup> - 41
1241-2. oval pit	D <sup>no</sup> - 62	1293. H 71 (high in filling)	E <sup>hi</sup> - 42
1243. H 129 (high in filling)	D <sup>uv</sup> - 61 = 1248	1294. H 95 (on floor)	E <sup>g</sup> - 45/6
1244. roundish pit	D <sup>vw</sup> - 59/60	1295. post-hole	E <sup>k</sup> - 44
1245. H 111 (high in filling)	D <sup>j</sup> - 60 = 1093	1296. stray find	E <sup>k</sup> - 44
1246. trench	D <sup>u</sup> - 62	1297. animal grave	E <sup>f</sup> - 45
1247. H 128 (filling)	D <sup>u</sup> - 61	1298. post-hole LI	E <sup>i</sup> - 45
1248. H 129 (pit beneath floor)	D <sup>uv</sup> - 61 = 1243	1299. H 92 (on floor)	E <sup>de</sup> - 46
1249. roundish pit	E <sup>b</sup> - 30	1300. entrance pit LI	E <sup>j</sup> - 45
1250. cremation grave	E <sup>c</sup> - 30	1301. entrance pit XXXIII	E <sup>d</sup> - 40/1
1251. cremation grave	E <sup>c</sup> - 30	1302. H 13 (high in filling)	E <sup>a</sup> - 21/2 = 1316
1252. oven pit	E <sup>a</sup> - 28	1303. oven-pit	E <sup>f</sup> - 20
1253. post-hole X	E <sup>d</sup> - 23	1304. oven-pit	E <sup>g</sup> - 19
1254. square pit	D <sup>y</sup> - 56	1305. trench	E <sup>g</sup> - 19
1255. roundish pit	D <sup>z</sup> - 55	1306. H 68 (high in filling)	E <sup>f</sup> - 40 = 1214
1256. round pit	D <sup>y</sup> - 53	1307. oven-pit	E <sup>f</sup> - 37/8
1257. roundish pit	D <sup>w</sup> - 55	1308. oval pit	E <sup>fg</sup> - 38
1258. animal graves	D <sup>y</sup> - 55	1309. entrance pit XXX	E <sup>f</sup> - 32/3
1259. oval pit	D <sup>x</sup> - 54 = 1163	1310. cremation grave	E <sup>e</sup> - 32
1260. post-hole	D <sup>x</sup> - 54	1311. post-hole XXXI	E <sup>e</sup> - 33
1261. oven-pit	D <sup>vw</sup> - 54	1312. entrance pit XXXI	E <sup>fg</sup> - 33
1262. small rectangular pit	D <sup>w</sup> - 54	1313. square pit	E <sup>g</sup> - 33
1263. H 125 (high in filling)	D <sup>w</sup> - 54	1314. entrance pit XXX	E <sup>f</sup> - 34
1264. H 126 (high in filling)	D <sup>wx</sup> - 54/5	1315. entrance pit XXXI	E <sup>g</sup> - 34
1265. animal grave?	D <sup>x</sup> - 55	1316. H 13 (high in filling)	E <sup>a</sup> - 21/2 = 1302
1266. animal grave	D <sup>y</sup> - 55	1317. H 12 (high in filling)	E <sup>d</sup> - 17
1267. post-hole	E <sup>g</sup> - 46	1318. oven-pit	E <sup>g</sup> - 20
1268. H 127 (high in filling)	D <sup>x</sup> - 53	1319. round pit	E <sup>d</sup> - 22
1269. H 91 (on floor)	E <sup>cd</sup> - 47		
1270. animal grave	E <sup>f</sup> - 47		
1271. trench	E <sup>j</sup> - 42		
1272. animal grave	E <sup>e</sup> - 25		
1273. post-hole small building	E <sup>e</sup> - 43		

SYNTHESIS  
(CHAPTERS XVI-XX)



## CHAPTER XVI

### PERIODISATION

When we try to disentangle the successive phases of settlement we had better start from the different systems of palisade trenches, described on pp. 44–48.

Three main systems could be established: A with SW–NE axis in the south-eastern corner of the excavated area (blue on plan I), D with SSW–NNE axis (red on plan I) and E with axis shifting from SSE–NNW to S–W and SSW–NNE (green on plan I). To the west of A (in squares C<sup>r</sup>D<sup>b</sup>–41/60) a single rectangular enclosure could be observed (B; blue on plan I) and between A and B there is a complex of trenches (C) that overlaps A at its north-western corner, but may be contemporaneous with B.

At several points a trench belonging to one system cuts across one of another, but the evidence is often conflicting and therefore no completely reliable relative chronology of the trench systems is to be gained from these overlappings. As far as the evidence goes, E seems to be younger than D and B, while D would be younger than C, which in its turn would succeed A, so that the sequence E/D/C + B/A is plausible.

On plan III we endeavoured to attribute the other elements of the settlement to these trench systems. This is done mainly by means of their orientations. The orientations may be considered a reliable clue for recognizing the different phases of habitation, because exactly the same directions encountered with the system of trenches recur among the other constituents of the settlement: the houses, huts, granaries, pits and even the casings of the square wells.

However, an element of uncertainty is introduced by the fact that the differences between the orientations of the individual systems and phases are not always very great, and one has also to reckon with the possibility of a certain degree of deviation within the same orientation. This implies that in several cases the attribution of a single part had to be based upon considerations of probability, so that this attempt at periodisation cannot lay claim to absolute certainty covering every single detail. Some of these uncertainties will be discussed later on. Here we will not try to give a step by step account for the way in which the classification was effected, but let plan III speak for itself.

It should be noted that no other settlement traces could be related to the trenches of system C, and that in the southern part of the excavated area we are left with three houses LXXVI, LXXII, LXXIX, four huts (99, 106, 107, 114) and a granary (squares D<sup>op</sup>-56/7), which do not seem to belong to any of the palisade patterns.

In this way we arrive at a distinction of three periods, II and III comprising the trench systems D and E respectively with the other elements combined with these, while period I is held to include the systems A, B and C along with the three houses LXXVI, LXXII and LXXIX with their outbuildings.

In the case of overlapping between elements of different periods the sequence mostly conforms to expectation.

Period III/II: VIII/IX (?); W 6/trench of system D; XVI/XV/XIV; XIX/XVIII/XVII; XVIII/XX (?); trench of system E/structure in squares D<sup>ks</sup>-31/3; H 68/XXXIII; XXX/XXIX and XXXII (?); XXXI/XXIX and XXXII; XL/XLI; W<sub>10</sub>/trench of system D; W 9/LV; LIX/LVIII; LIX/H 83; LXII/H 86 ?; LXVI/LXV.

III/I (system B): granary in squares C<sup>xz</sup>-47/8/LIII; LII/LIII.

II/I (system B): H 98/LXVII.

II/I (system A): H 112/LXXX.

Contradictory overlappings

II/III: XXVI/two pits (D<sup>i</sup>-36; D<sup>kl</sup>-36), but pit (D<sup>i</sup>-36/7)/XXVI; H 38/pit (D<sup>gh</sup>-37); animal grave (E<sup>g</sup>-30/1)/XIII; XLI/XXXIX/XXXVIII/XXXVII; XLII/H 32; H 79/LII; LXIV/LXIII; H 96, 98/LXVIII (?); H 131/LXXXI; LXXXII/LXXXIII.

I (system B) /III: H 72/LII.

That the three houses LXXVI, LXXII, LXXIX, and the four huts 99, 106, 107, 114 indeed belong to a period before II and III is indicated by the following overlappings: H 98/LXVI; LXXIV/H 114; H 112, 113/LXXIX; trench of system D/LXXIX; H 103, 104/LXXII; W 13 and trenches of system C and E/H 99 (?). The overlapping of house LXXIX with LXXX supports its being later than system A. Moreover, these overlappings constitute another argument for considering the systems A, B and C to be the oldest settlement traces present at the site.

It is clear from Plan III that the periods so far distinguished do not represent single phases in the occupation of the site. This is especially obvious in the case of period III, where already the pattern of the palisade trenches suggests a growth in at least three successive stages. Also among the houses and other elements of period III, three phases are to be discerned. In the same way period II shows overlapping

trenches, while it is furthermore impossible that all houses and huts assigned to it could have been standing at the same time. As was the case with periods II and III, period I also contains traces that cannot all have been contemporaneous. If one assumes that the trenches of system C were simultaneous with the enclosure B, then a subdivision in at least three phases becomes necessary.

In this way we arrive at the following periodisation:

Period	Phase
III.	<i>c</i>
	<i>b</i>
	<i>a</i>
II.	<i>b</i>
	<i>a</i>
I.	<i>c</i>
	<i>b</i>
	<i>a</i>

On plans IV–VIII the periods and the phases within the periods have been separated. Absolute certainty could not be obtained on all points: some details in the reconstruction of the phases depend upon the more probable choice.

#### PERIOD I (Plan IV)

The attribution of the trenches in squares C<sup>w</sup>D<sup>w</sup>–39/50 (system C) to period *Ib* together with the rectangular enclosure in squares C<sup>r</sup>D<sup>b</sup>–41/60 (system B) is suggestive, but cannot be proved. Should one wish to regard the trenches in question as a separate phase, the sequence of phases within this period becomes more complicated, and nothing would be gained by doing so because no other elements can be combined with them.

The elements of the individual phases partly overlie each other and so, for obvious reasons, the phases cannot be contemporaneous. Unfortunately, there is insufficient stratigraphic evidence (overlappings) to establish their sequence. Phase *Ia* must be the oldest: trenches of *Ib* overlie trenches of *Ia* (squares D<sup>p</sup>q–48); a post-hole of house LXXIX of period *Ic* cuts across the wall trench of house LXXX (square D<sup>l</sup>–59). It is impossible to fix the relative chronology of *Ib* and *Ic*: a trench of *Ib* seems to cut across hut 99, but this overlapping is not at all certain.

#### PERIOD II (Plan V)

This period does not present a simple pattern either. Two groups, showing slightly different orientations are noted among the houses and huts. A subdivision of the

## Periodisation

period in two phases is based upon this difference in orientation; in fact the situation is rather more complicated, as will be explained on pp. 370–4. The direction of the houses of phase II*b* is similar to that in period III*c* and one of them, XLVI (with hut 58 belonging to it) should indeed have to be included in this last phase on account of its orientation alone. However, it is included here because another house, XLVII, which is more likely to belong to period III*c*, is present on the same spot and there is no evidence elsewhere in the settlement that phase III*c* was a multiple one.

In the north-western area, three houses, IV, IX and XIV, show an approximation of their long axis to a more true NW–SE direction than occurs in the other houses of period II*a*. Elsewhere the same deviation is only encountered with huts. It will appear that there is some reason to separate them from the II*a* phase (p. 372–3).

That phase II*b* indeed followed upon II*a* is suggested by a few overlappings: post-hole of XX (D<sup>e</sup>–35)/trench of II*a*; two post-holes of XLIII (D<sup>bc</sup>–41)/trench of II*a* (on the contrary H 65 seems to be younger than L).

## PERIOD III (Plans VI–VIII)

The trench patterns helped considerably in reconstructing the three phases of period III. In broad outline they show the growth of the settlement during this period. The relative chronology of the phases moreover rests upon plentiful and consistent stratigraphic data:

phase III*c*/III*b*: house XVI/XV; XIX/XVIII, XXXI/XXX; XXXVI/XXXVIII and XXXIX; XL/XXXVIII and XXXIX; XLIV/XLII; LX/LXI?; LXIII/LXV; LXXXI/H 138; XXXVI/granary (squares C<sup>j</sup>–40/1); granary (squares C<sup>uv</sup>–36/7)/H 28; W 7/granary (squares C<sup>jk</sup>–46/7).

phase III*b*/III*a*: house LXIX/LXVIII (?); XXIV/H 36; W 3/II.

## CHAPTER XVII

### ABSOLUTE CHRONOLOGY

The absolute chronology must come from the finds. The oldest and youngest ones, as can be seen from Fig. 175, lie more than a thousand years apart, but this does not imply a continuous occupation of the site for the whole of this long stretch of time. The oldest sherds belonging to the Zeijen culture are very few in number and occur only in a restricted area: two roundish pits in squares C<sup>wz</sup>-48/56. The vast majority of the datable material belongs to the 2<sup>nd</sup> and especially the 3<sup>rd</sup> and 4<sup>th</sup> centuries. Between this younger group, which includes almost all more or less closely datable finds, and the few Zeijen sherds lies a period of at least 500 years quite unbridged by any of the more precisely datable objects. No further argument is needed to prove that the excavated area was uninhabited from 500 or 400 B.C. until some time during the course of the 2<sup>nd</sup> century A.D. From that point onwards the finds indicate a continuous occupation, lasting until about 400–450 A.D.

The finds offer no evidence in fixing the starting or finishing point of this continuous occupation with accuracy. Between the possible extremes, 100 and 450 A.D., lies a period of 350 years, but this seems almost certainly to be too long. The pottery types of Wijster rather point to a start later in the 2<sup>nd</sup> century, probably not much before 150 A.D. At the other extreme a pin found in one of the wells that may belong to the last phase of settlement (well 2), and fragments of another pin from a pit of period IIIb (?) have to be placed around 400 A.D. Thus it appears that we must curtail the possible duration of the continuous settlement to a period of 250–300 years.

This gives an average of roughly 35 years for each phase of occupation and, if we could distribute our eight phases evenly over the available time, the following absolute chronology would be the result:

- c.* 395–430
  - b.* 360–395
- III. *a.* 325–360
- b.* 290–325
- II. *a.* 255–290
- c.* 220–255
  - b.* 185–220
- I. *a.* 150–185



Of course, not all periods need have been, and probably were not, of average duration. During period III the settlement undoubtedly knew an undisturbed evolution, but there may have been some overlap between the last two phases. As far as period I and II are concerned, overlap is possible at some points and there is no guarantee that every phase lasted its allotted time. The completely new arrangements of the settlement after it had passed from phase *Ib* to *Ic*, *Ic* to *IIa* and *IIb* to *IIIa* may have meant a premature end to the houses standing before the rearrangements and their disappearance may even have been brought about by warlike means. In this way years would become free to be added to the lifetime of other phases, or perhaps the whole of the settlements duration would have to be shortened correspondingly. With these observations in mind it will be sufficiently clear that the chronology given above is much too schematic and only has the value of providing a guiding line.

We cannot find a reliable method of achieving a really detailed chronology, for the finds are unable to fulfil this purpose – the datings of the pottery types, even of the Roman ones, are much too vague and the sharper datable objects are too small in number. Nevertheless, the study of the find material from the chronological point of view is not unprofitable.

The finds permit an approach from two angles: firstly, in a more general way, one may study the distribution of the more or less closely datable pottery types and other chronologically fixed objects over the excavated area, and secondly one can examine their associations with each individual phase.

The plotting of the different types (Plan IX) yields one significant and highly gratifying result: whereas the types of the younger groups (group *d* and *e*: 200 until after 400 A.D.) are scattered all over the investigated area, the mass of the older ones (group *b* and *c*: 100–250 A.D.) is confined to the southern part of the site, *i.e.* the territory of period I. They are also found, but not very frequently, more to the north in the areas not inhabited before period II. It is of interest to note that these northernmost finds belong predominantly to pottery type *IIB*<sub>3</sub> encountered as typologically young within group *c*, and to the not very homogeneous type *IIIA*<sub>1</sub> which we can reasonably suppose to have continued for a short time after 250 A.D. The concentration of the earliest types in the south-east corner, where the farm of period *Ia* stood, is striking. These facts may in the first place be taken to contain a corroboration of the views on the relative chronology of the periods expressed above and also furnish the first clues to their absolute chronology.

Before taking the next step and passing on to the study of the associations of the finds with the occupational phases individually, one has to understand the meaning attached to the occurrence of a given object in one of the different kinds of settlement traces.

The post-holes, many pits (*e.g.* the animal graves), the trenches of the palisades and the pits in which the wooden casings of the wells were to be sunk, were filled in as soon as they had served their purpose, *i.e.* immediately or very shortly after they had been dug. A sherd found in them is either contemporaneous with the moment of digging, or, especially when the pit in question cuts through an earlier one it can be older, but there is no way of deciding how much older.

Other pits (*e.g.* oven- and storage-pits), the actual wells within the casings and the huts remained open as long as they were in use. The length of this period cannot be established and will have varied from case to case. Afterwards they were either filled in in one operation or silted up gradually. Finds lying on the bottom of a pit of this kind may date from the period during which the pit was used; others, contained in the filling, were introduced after the pit had fallen into disuse and so may provide a *terminus ante quem*, unless they were older material that was still present. The activity of worms and moles, as well as the influence of natural agents, like frost, should not be left unmentioned,<sup>1</sup> for they probably caused an occasional intrusion of later material into already sealed find-complexes.

All these considerations lead to the somewhat discouraging conclusion that the finds cannot be used for dating a single hut, pit, trench or hole.

Nevertheless, if one considers the totals of the finds associated with all traces of the individual phases the prospects are rather more cheerful. Especially if the numbers of associations are large which, unfortunately, is not always the case, there is reason to hope that chance and impurities are neutralized. After all, in principle, the fortuitous influences affect each phase in the same way.

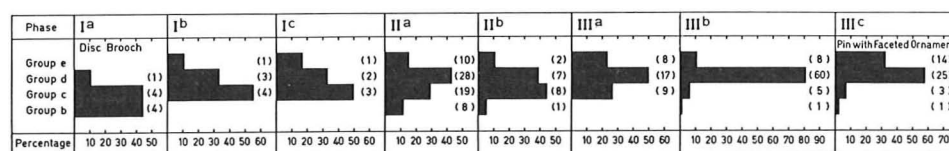


Fig. 179. Relation between the dated finds and the periods of occupation.

These totals of associations are illustrated in Fig. 179. The dated pottery types are again divided into the groups distinguished above (group *a* plays no part in this connection; the secondarily dated types IID, VIA and B, hard-baked grey ware with black core, and the Roman glass are attributed to group *d*). The diagram gives the proportions of the groups within the sum total of associations for each phase; the absolute numbers are enclosed in brackets.

<sup>1</sup> Geilmann & Spang 1958.

It is not difficult to raise objections to a diagram such as this: it is adversely influenced by small numbers; the groups are of unequal size and therefore not directly comparable with each other; the differences in the distribution of the traces of the successive periods over the area may play a role, *etc. etc.* But the diagram does show a highly satisfactory picture conforming to expectation: one sees the highest value gradually moving from the oldest to the youngest groups; the share of the oldest groups *b* and *c* diminishing towards the end (the low percentages in period III*b* and III*c* are significant, because here the numbers of associations are large), while on the other hand the youngest group *e* betrays a tendency to increase.

Firstly, the diagram yet again confirms the relative chronology.

Secondly, does it say anything positive about the absolute chronology? Of course, the association of a phase with a given group is no indication that the phase should be dated to the time of that particular group: practically every phase appears to be associated with all groups as a result of the pollution of the material described above.

The diagram for phase Ia suggests a date in the period in which groups *a* and *b* coincided, *i.e.* the second half of the 2<sup>nd</sup> century, which is also indicated by the occurrence of the disc-brooch in a hut (137) undoubtedly belonging to this phase. In phase Ib and Ic, group *d* begins to play a more important role. It is granted that in these three cases the numbers of associations are excessively small and that therefore the apparent differences cannot be considered completely significant, but at least one is forced to deduce that period I as a whole penetrates into the 3<sup>rd</sup> century.

In phase II*a*, group *d* is already becoming dominant while the figure for phase II*b* is again less reliable because of the smallness of numbers. In both phases, however, group *c* is still strongly represented, so that the period as a whole may start at the end of the lifespan of this latter group.

During period III, group *d* is pre-eminent while the large proportion of associations with group *e* in phase III*c*, highly disproportionate to the size of the group, strongly suggests a date at the extreme end of the available time, which is confirmed by the association of phase III*c* with a bronze hairpin dated roughly to 400 A.D.

Combining this new evidence with the considerations that have lead to the provisional time-table on p. 365, we now feel some confidence in proposing the following slightly modified chronology:

period III. 300–425

II. 225–300

I. 150–225

The dates have been rounded off; for a precise dating of the phases within the periods there is insufficient evidence, in the absence of which the phases may be distributed evenly within the time allotted to each period.

## CHAPTER XVIII

### THE SETTLEMENT PATTERNS OF THE SINGLE PHASES

In this chapter our aim will be to reconstruct and analyse the settlement pattern during the successive phases. A complete reconstruction, however, is not possible because only part of the settlement in each phase has been excavated. The evolution of the house types is not considered here; it will be dealt with in a separate chapter.

#### PERIOD I (Plan IV)

In phase *Ia* and *Ib* we encounter comparatively small rectangular systems of trenches, probably once holding wattled fences of which practically no traces remain.

As far as can be seen, the fences enclosed one large farm building. In phase *Ia*, at least, we find house LXXX in a central position; within the enclosure of phase *Ib*, house LXVII occupies a comparable place, but here a second building LII is found. This is certainly rather a small house, but it has a beautiful lay-out comparable in many details to the plans of other houses which have to be considered as principal buildings. It is therefore improbable that LII could have been a simple barn belonging to farm LXVII; it may have been an individual house, so that there is some reason to suppose that the settlement of phase *Ib* housed two families.

In both yards, outhouses stood beside the principal buildings; rather flimsy sheds (*Ia*: squares D<sup>eg</sup>-56/8; *Ib*: squares C<sup>tu</sup>-44/5), sunken huts (two-post huts in *Ia*; six-post ones in *Ib*), four-post granaries and one six-post granary in *Ia*.

The huts in *Ia* take up an isolated position rather far away from the farmhouse; in *Ib*, they occur in two small groups of two and three which, however, need not all have existed at the same time.

The granaries are placed in small rows or stood singly. One is found in a characteristic position at a corner of the farm of phase *Ia*.

Rectangular or subrectangular pits, occurring in both phases, may be recognized as storage-pits, though traces of a wooden casing or a basket are not present (one uncertain example: square C<sup>x</sup>-47). Undoubtedly, other types of pits also belonged

to the settlement of these phases, but their form did not make a certain attribution possible: a few roundish pits seemingly belonging to *Ia* are to be regarded as rubbish holes.

There are traces of a transverse subdivision of the *Ia* yard by palisades.

No settlement traces can be combined with the trenches assigned to phase *Ib* east of the *Ib* yard. It is just conceivable that they form part of a field system.

Still less is known about the settlement patterns during phase *Ic*. The three large houses, LXVI, LXXII and LXXIX, the last one being of unusual type, may have stood at the same time, but this cannot be proved. The eastern end of LXXII could not be recognized with certainty. If it was in fact as long as it seems, hut 106 either belongs to another period or has to be attributed to house LXXIX. In the latter case, LXXII with its hut 99 cannot be contemporaneous with LXXIX and its huts 106 and 107.

Palisade trenches belonging to this phase have not been recognized, so that it cannot be established in this way either if the three houses formed one unit.

As far as the outhouses are concerned, one finds six-post huts and a large two-post hut. Finally, a six-post granary and a rectangular (storage?) pit can be placed in this phase.

The basic settlement pattern of *Ia* emerges sufficiently clearly: it is the single family unit. There is no means of telling if it was the only one existing at its time; it is possible that other such units lay outside the excavated area. The settlement of phase *Ib* is of essentially the same type, though here a second principal building appears. The situation for *Ic* is less clear, but even if the three houses formed one unit it was too small to merit being called a village. In a way it could be considered as a transitional form leading on to its immediate successor, the settlement of period II.

#### PERIOD II (Plan V)

Several features connect this period with the preceding one.

Both periods also have the hut types, two-post, six-post and large huts, in common. Among them the six-post is predominant, while the large huts are rare exceptions. These outhouses do not have a fixed position in relation to the principal buildings. They are found behind the farmhouses (*e.g.* XLI with H 48), at the side of them (*e.g.* LVIII with H 83), or in front (*e.g.* LV with H 79) and many huts are placed in such a way that they have no obvious connection with a particular house (*e.g.* H 60; 110-3). The huts occur singly or in small groups. The isolated ones often

show traces of repairs or even complete rebuilding (*e.g.* H 15-6; 62; 97); apparently these structures had had a relatively short existence. There is therefore reason to believe that huts which seem to constitute a contemporaneous group (*e.g.* H 110-3) in fact sometimes succeeded each other; this becomes certain when they touch (*e.g.* H 128 and 129) or overlap each other (*e.g.* H 133-5). In view of all this, it is difficult to tell how many huts belonged to one farm at a given time. As far as can be judged, there would normally not have been more than one or two, while perhaps some few houses had none at all (XX and L?).

The situation in the case of the granaries is comparable. But here yet another uncertainty makes its appearance, namely, that this simple kind of structure may have easily escaped our notice. The types, four- and six-post forms, are the same as in the preceding period and, like the huts, the granaries occur in isolation or in groups or rows. Again one notes traces of repairs in individual specimens, and again there is no guarantee that two or more granaries standing side by side are contemporaneous rather than successive. A beautiful row, however, like the one in squares D<sup>x</sup>E<sup>b</sup>-34/5 gives the impression of having been laid out in one operation. Where fairly certain attribution is possible (IV; XIV?; XVII, XXIX; XLI; LXIV?; LXX; LXXXIII; LXXV; LXXXII) the rule appears to be one or two granaries per house. As with the huts their position in relation to the farmhouse is variable; they are not infrequently grouped together with huts (*e.g.* with H 48, 90, 108, 123, 132).

Two unique structures, the oval shed in square C<sup>k</sup>-64 and the sheepfold south of house XXXIII, must be placed in this period.

Among the pits, the familiar rectangular or subrectangular storage(?) -pits occur, again mostly without clear traces of basketwork or wooden casing (perhaps three: squares C<sup>w</sup>x-66, D<sup>t</sup>-42, D<sup>v</sup>-45/6). The animal graves and oven-pits are new features.

There were six specimens belonging to the first category: squares C<sup>t</sup>-54; C<sup>t</sup>-65; D<sup>k</sup>-57/8; D<sup>q</sup>r-56/7; E<sup>c</sup>-25; E<sup>fg</sup>-30/1. On the bottom of two of these pits identifiable fragments of bone were found, both times of horses. In the other cases only a more or less complete silhouette of the skeleton has been left. These animal graves are to be interpreted as offerings made on the occasion of the building of a new farmhouse. They can all be attributed to individual houses: XII, XXIX, LXX, LXXIV?, LXXV, LXXXII. Two or three of them seem to have been laid out in direct relation to a hut: H 98, 109, 132?

The oven-pits (and together with these a few pits filled with slag) are another new element. These were probably used in the smelting process of iron ore. No such pits can be attributed with certainty to the preceding period and by far the most of all characteristic specimens fall into this period; here they occur abundantly, whereas during the following phases they are still found, but in much smaller numbers. Their distribution is striking in that they are confined to the southern and eastern part of the excavated area.

The subdivision of period II and the reconstruction of the separate phases present some difficulties, especially as we have insufficient fence traces to guide us. In the first place (pp. 363–4) two phases were distinguished on the basis of minor fluctuations in the orientation of the principal buildings. We will now have to look a little closer.

To begin with, the relation between the fences present and the principal buildings is not at all clear. House XXII is the only case where no doubt can exist that it belongs to the square or rectangular enclosure within which it lies with its hut 15/6. The combination of house L, LXIV and LXXXII with the surrounding trenches is already less obvious, while the enclosures in the central part of the area underlying houses XLIII, XLVI, LV and LVIII, cannot be connected with any settlement traces. It may perhaps be asked whether the last group should not be interpreted as a field system.

A better clue perhaps than the trenches is provided by the oven-pits. In their distribution area we find a number of houses which have not only a corresponding orientation but are also spaced in such a way that they could be considered contemporaneous with the ovens: house XII, XVII, XXVI, XXVIII, XXXII, XXXIII, (XXXIV, XXXV), LXIV, LXX, LXXIII?, LXXIV?, LXXVIII, LXXXII. A number of animal graves, huts and granaries can be grouped with these houses and oven-pits though these attributions are not always completely certain, while the sheep-fold to the south of house XXXIII and the trench- or field(?) -system in the centre of the site also fit in.

It is encouraging that the settlement pattern emerging in this way is identical with phase IIa, recognized as it was in the first place on the evidence of the orientations; only a few houses (IV, IX, XIV, XXII), some with divergent orientation, lying outside the distribution area of the oven-pits in the north-western corner of the excavated area, now drop out. We will return to them later.

First, we note that all the houses of phase IIb (orange on plan V) can very well be contemporaneous. These houses have some huts, granaries, animal graves and storage(?) -pits attached to them; oven-pits are nowhere clearly associated with the houses of phase IIb, nor do any trenches seem to belong to this phase.

The four houses, IV, IX, XIV and XXII together with their associated huts, pits and granaries (wine-red on plan V) referred to in a previous paragraph, which dropped out of the pattern of phase IIa, probably do not belong to IIb either. One of them, XXII, lying within a fenced-in yard can be proved to belong to neither of them: the trench around its yard is cut by a post-hole of the phase IIb house XX, while a phase IIa oven-pit destroyed one or two post-holes of house XXII itself (the overlapping of the surrounding trench and the trench around the oven-pits in square DP-32 is uncertain). It must therefore be older than phase IIa and IIb. If the granaries in squares D<sup>g</sup>-28 and D<sup>cf</sup>-30/1 are to be attributed to house IX, this

and XXII cannot even be contemporaneous; on the other hand, IV, IX and XIV may have existed at the same time.

It will be clear that the time allotted to period II is too short to be divided into four phases. The solution must be that the four houses in question have to be detached from period II and accommodated in period I, which from a spatial point of view is quite possible. A somewhat feeble argument for placing them rather late in this period (*e.g.* in phase Ic) is that their orientation is very similar to that of phase IIa. Especially house XXII seems in this respect to stand at the very transition between period I and II. This view is at least not contradicted by the associated finds.

So we must conclude that a certain overlap exists between period I and II represented by houses IV, IX, XIV and XXII. It is remarkable that exactly these houses, and particularly the last one, still embody the idea of individual or at least small-unit settlement, which was also observed to be characteristic for period I. The possibility remains that together with houses IV, IX and XIV, a few more were standing in the now findless eroded area between them; but even so, this settlement would not have had more than 4 or 5 houses.

In period II a large settlement came into being, which falls apart into two phases (IIa and b). Owing to the scarcity of palisade trenches and the incompleteness of the excavation, the lay-out of this settlement does not emerge completely. In IIa, one observes a north-south row of houses at the eastern side (XII, XXXII, XXXIII (XXXIV), (XXXV), LXXXIV, LXIV, LXXVIII), from which two east-west rows begin (XXVIII, XXVI, XVII and LXXIV, LXXIII, LXX) with fields (?) in between, while LXXXII perhaps forms the start of a third east-west row of houses.

The arrangement of IIb is similar in principle, but now a new east-west row is found comprising L, LVIII, XLVI, LV, XLIII and XLI. The north-south row remained in existence and now comprised some new houses: XXIX, LXXXV, LXXV and possibly also LXV which has been attributed to phase IIIb, because, as far as its orientation is concerned, it comes closer to this later phase, though it does not fit in too well here either.

It is interesting to observe that though not all houses face the same direction, within the same row the front parts are mostly on the same side. It is possible and even probable that the transition from IIa to IIb was a gradual one and that many IIa houses were still standing during the IIb phase. Thus, house XX with its IIb orientation seems to have been added to the northernmost east-west row of phase IIa.

The pattern found can be explained by assuming that the new east-west row of phase IIb was an addition to the already existing settlement, when it was decided to build over the original field system. The new houses in the north-south row may have been substituted gradually and at different times for buildings of the preceding



phase as they fell into ruins: XXIX in due time succeeding XXXII, LXXXV/LXXXIV, LXV/LXIV? and LXXV/LXXIV and/or LXXVIII. If our interpretation is right, the settlement of phase II*b* has to be considered an enlarged and corrected edition of the one of phase II*a*.

During period II the settlement took up a smaller part of the excavated area than it did later. However, no conclusions are to be drawn from this fact as long as the eastward and southward extension of both settlements is unknown.

### PERIOD III

The three phases of this period are mainly successive stages in the evolution of one and the same settlement which shows a sharp break with the preceding one and, in fact, means a completely new start.

#### III*a* (Plan VI)

As far as the individual elements are concerned, there is no sharp break with the past. The huts are still of the familiar six- or two-post type, of which the first predominates. Also here the number of contemporaneous huts belonging to one house is restricted to at most two or three, apart from the case of house XXVII which seems to have possessed five of these outhouses (huts 36, 37, 39-41).

The granaries with four or six posts stand in groups or rows, as before. Only the long structure in squares C<sup>x</sup>D<sup>b</sup>-47/8, looking like a series of three four-post granaries linked together, is extraordinary.

Three animal graves occur, or, to be precise, one certain grave with remnants of a horse skeleton (square D<sup>h</sup>-39), belonging to house XXVII, and two pits with bone fragments, in the one case of a cow and in the other of an indeterminable animal (square D<sup>cd</sup>-46: house LV, and square D<sup>j</sup>-47: house LIX).

The oven-pits are absent in this phase. The fenced-in oven in squares D<sup>xz</sup>-32/3 probably functioned in the next phase and the only specimen that might be placed in the present context (square D<sup>e</sup>-41) is an uncertain one.

Now for the first time, many of the rectangular pits clearly betray their character of storage-pits by traces of a wooden revetment or basketwork: squares D<sup>bc</sup>-39, D<sup>cd</sup>-29/30, D<sup>cd</sup>-48, D<sup>gh</sup>-37/8, D<sup>lm</sup>-36, D<sup>n</sup>-27, D<sup>o</sup>-44/5, D<sup>p</sup>-44/5, D<sup>q</sup>-44, D<sup>q</sup>-42, D<sup>q</sup>-43.

It is at this stage, at least, as far as one is able to judge in this matter, that the wooden wells make their appearance: five wells (6, 8-11) show in their revetment the orientation characteristic for this phase of settlement. Indeed, four of them (6, 8, 10, 11) contain older finds (pottery of group *c*) than the other wells, apart from well 7.

The palisades regain their lost importance. The system of trenches gives the impression that the most conspicuous element of this phase was a large square enclosure in the central area of the site. In the course of time this square-shaped yard may have shifted slightly from west to east or perhaps extended its territory a little to the east (from the D<sup>j</sup> to the D<sup>r</sup> line), and it also grew to the north where, eventually, it swallowed an already existing individual farmyard (house II).

The distribution of the houses, *etc.*, within the large enclosure cannot be explained in all details. The total lack of traces in the north-west corner is strange and cannot be accounted for. In the south-east part, one observed the unexpected overlapping of two houses (LVI and LVII), a granary and a hut (81); also underneath house LIX a granary was found. The attribution of the unique structure (house?) in square D<sup>po</sup>-42/4 is anything but certain because of its divergent orientation. The enclosure seems to have been subdivided in three approximately equal-sized strips by two fences running east-west, but this would mean the separation of a shed, a few pits and huts 36 and 39-41 from house XXVII, that give the impression of belonging together. These and some other inexplicable details cause the reconstruction of phase IIIa to be a rather doubtful and uncertain affair.

Yet another problem should be mentioned. Within the square enclosure not more than five or six houses could have stood at the same time. Outside it, we met only one contemporaneous farm: II. This would mean a strong decline in the density of occupation in comparison with the preceding period. It is theoretically possible that some of the period II houses, as far as they were lying outside the area occupied by the new settlement, remained in use but this must be considered highly improbable. Apart from the rather gratuitous supposition that contemporaneous houses are to be expected outside the excavated area, one could surmise that some, or all, of the houses found in the eastern part (like V, X, XIII, XXX, XLIX, LXII, LXV?, LXXVI and LXXXIII at the southern end) which have all been attributed to the following phase, in fact already date back to this one, and the same can be said of the extreme north-western part.

### IIIb (Plan VII)

In this phase all elements of the preceding one occur in much the same form.

By now the two-post hut has disappeared (apart from the very uncertain specimen 141 in squares D<sup>z</sup>-47/8), and the six-post hut is the only type left. Not more than four of them are found with one farm and these need not all be contemporaneous. They are placed in front, behind or side by side with the principal building.

The granaries, mostly of the four-post and occasionally of the six-post type, occur singly or more often in rows of two or three at the side of the farm. A new

form has a ground-plan consisting of a neat configuration of twelve posts: it is found once in front of house VIII and once north of house XXXVIII/XXXIX, the last one surrounded by a fence with two opposite gates in the middle. South of house XXXVIII/XXXIX a few granaries of exceptional ground-plan are found.

Storage-pits occur in great numbers, often laid out in a row along the fences. One of them is a real cellar with wooden revetment (square D<sup>q</sup>-45). Many show traces of basketwork.

Among the animal graves one observes the normal single type: horse grave belonging to house XLII (squares C<sup>t</sup>-40/1), horse grave belonging to house XVIII (square C<sup>u</sup>-37). The three groups of two graves overlying each other crosswise are unprecedented (squares D<sup>y</sup>-55; E<sup>ef</sup>-47/8; E<sup>f</sup>-45/6). In one case (square E<sup>ef</sup>-47/8) it could be established that the undermost grave contained a horse and the overlying one a cow. In the group of square D<sup>y</sup>-55 the situation will have been identical. While the latter graves may be attributed to house LXXVI, the connections of the other pair is not obvious (house LXV?). Not far from the two groups in squares E<sup>ef</sup>-47/8 and D<sup>y</sup>-55 a small square pit is found, one of them (square D<sup>x</sup>-55) with fragments of cow bones, the other (square E<sup>c</sup>-47) without determinable bones. A remarkable find is the large rectangular pit in squares D<sup>r</sup>-40/2, in which a number of cows and horses has been interred. The conservation of the skeletal remains was too poor to establish the exact number of animals, possibly six. A few bone fragments in this pit proved to be calcinated.

The oven-pits are missing in this phase: also the attribution of the two in squares D<sup>xz</sup>-32/3 and E<sup>a</sup>-28 is doubtful.

The distribution of the wells is not completely clear. It is probable that some, or all, of the wells of the preceding phase remained in use for otherwise the whole central part of the settlement would have had no water supply. The orientation of the wooden revetment in well 12 suggests that it was constructed during this phase. Of the remaining wells, 7 and 13 overlie traces of phase III*b*. Nevertheless they fit well into the picture (7 contains old sherds) and perhaps were sunk at some time during the course of this phase. Wells 1-5 must, at least in part, belong to this phase though the orientation of 1, 2 and 4 is more in accordance with that of the following one. Even if all wells are attributed to this phase, not every farm would have had one of its own. Sometimes, however, the connection of a well with a farm is obvious, *e.g.* 7 with XXXVIII/XXXIX; 3 with III.

At this stage, the Wijster settlement, as far as can be seen, reached its greatest expansion, and it now clearly reveals how carefully it had been laid out.

We saw that there may have been some overlapping with the preceding phase, especially at the eastern side, but also in the central area a certain continuity is attested to by the wells, and perhaps even a single house like XXVII had been left standing. The central square enclosure of phase III*a* had by then grown into a big,

rectangular, fenced-in area in which the houses were arranged in two rows. In the eroded area the traces of one house north of VIII and of two houses north of XVIII have been probably lost. Also north of XV houses had originally stood as appears from the presence of well 5.

To the south, west and east of this central part, smaller units, also surrounded by a palisade, were present with narrow streets separating them. In the western and central parts the houses were set with their backs directed towards these streets, XLVIII being the one exception. In the eastern part, all houses face westward except LXXVI, which here is the only one to turn its back on the street. Curiously enough only two small entrances in the palisades could be recognized (squares C<sup>t</sup>-10/1; D<sup>m</sup>-18/9).

### IIIc (Plan VIII)

No new elements occur. The six-post hut has now ousted the two-post type completely. The distribution of the huts over the settlement remains in principle the same.

The four-, six- and twelve-post granaries are still present, but only two or three farms, XVI, XIX, VI (?), can boast of this kind of outhouse. It is questionable if this decrease of the number of granaries is due to the difficulty in recognizing these simple structures or if it is a significant feature of this last phase of settlement.

The number of storage-pits (real cellars and pits with basketwork) is also very small. It may well be that some belonging to the preceding phase remained in function.

No animal graves are left to be attributed to this phase, but perhaps we have been too generous to the preceding settlement in this respect also: the double graves in squares E<sup>cf</sup>-47/8 and D<sup>y</sup>-55 would not be out of place in the present context.

Oven-pits are rare: squares C<sup>z</sup>D<sup>a</sup>-62 and D<sup>d</sup>-34; the latter is included here not only because of its orientation but also on stratigraphic grounds (it cuts the houses XVIII and XX).

The wells probably continued to be used.

The settlement pattern as a whole is, in principle, a repetition of that of phase IIIb with only minor alterations, as *e.g.* the shifting or complete disappearance of some homesteads. Although the rather uniform orientation of the houses suggests a new lay-out of the settlement carried out at a particular moment, a more gradual transition occurring in such a way that not all houses were rebuilt at the same time cannot be excluded. The curious gap between houses VI and XLVII would be more or less bridged if VIII and XXII had survived into this phase.

A few trenches point to a subdivision of the western and central enclosures.

HOUSE TYPES		A I <sup>a</sup>	A I <sup>b</sup>	A II <sup>a</sup> (short)	A II <sup>a</sup> (long)	A II <sup>a</sup> (atypical)	A II <sup>a</sup> /A II <sup>b</sup>	A II <sup>b</sup>	B I	B II <sup>a</sup>	B II <sup>b</sup>	B II <sup>c</sup>	A III	A IV
PERIOD I	a	LXXX												
	b	LIII												
		LXXVII												
	c	XXXVII												
PERIOD I/II		LXXVI												
		LXXII												
		LXXIX												
		IV												
PERIOD II		IX												
		XIV												
		XXII												
	a	XII												
PERIOD II		XVII												
		XXIII												
		XXVI												
		XXVIII												
PERIOD II		XXXII												
		XXXIII												
		XXXIV												
		XXXV												
PERIOD II		LXIV												
		LXX												
		LXXIII												
		LXXIV												
PERIOD II		LXXVIII												
		LXXXII												
		LXXXIV												
		XX												
PERIOD II		XXIX												
		XLI												
		XLIII												
		XLVI												
PERIOD II		L												
		LV												
		LVIII												
		LXXV												
PERIOD II		LXXXV												
		II												
		XXVII												
		XLV												
PERIOD II		LVII												
		LIX												
		LXVIII												
		III												
PERIOD II		V												
		VIII												
		X												
		XIII												
PERIOD II		XV												
		XVIII												
		XXI												
		XXIV												
PERIOD II		XXV												
		XXX												
		XXXVIII												
		XXXIX												
PERIOD II		XLII												
		XLVIII												
		XLIX												
		LIV												
PERIOD II		LXI												
		LXII												
		LXV												
		LXIX												
PERIOD II		LXXVI												
		LXXXI												
		I												
		VI												
PERIOD II		VII												
		XI												
		XVI												
		XIX												
PERIOD II		XXXI												
		XXXVI												
		XL												
		XLIV												
PERIOD II		XLVII												
		LI												
		LII												
		LX												
PERIOD II		LXIII												
		LXXI												
		LXXVII												
		LXXXIII												
PERIOD II		LXXXVI												
		LXXXVII												
		LXXXVIII												
		LXXXIX												

Fig. 180. Distribution of the house types over the periods of occupation.

## CHAPTER XIX

### THE WIJSTER HOUSE TYPES IN A WIDER CONTEXT

#### A. THE WIJSTER HOUSE TYPES AND THEIR DISTRIBUTION OVER THE PERIODS OF OCCUPATION

The distribution of the different types of houses over successive periods of occupation is shown in Fig. 180 (hatching represents uncertain attribution).

##### **Type AIb**

The long-house possessing roof-posts only but without double-posts, type AI, is present from the beginning until the end. On closer inspection, however, this holds true only for the AIb variety; the AIa type is not found again after period II.

The plan of the AIb house is primitive in this respect, that all intervals between the pairs of roof-posts are approximately equal.

The disposition of the roof-posts remains undifferentiated, even when the building was clearly divided in two parts which undoubtedly served different functions. In four cases an interior division is certain: XVI, XL, LXX, LXXXV. These houses are divided into two halves by a pair of entrances facing each other in the middle of the long walls. It is obvious from analogous cases that one part housed the living quarters, while the other half was reserved for cattle. No traces, such as stall partitions or fire-places, have survived to show which part was which. In XL, the smaller eastern part probably served as byre, because there was an entrance in the short eastern wall (a door has never been observed in the end wall of a dwelling part); a partition wall screens off this byre.

One house (LXXIX, and perhaps also LXXX?) seems to have an unbroken interior; at least, no traces of a division can be observed. There is only one entrance: that in the eastern short wall. Theoretically, it is possible that LXXIX and LXXX were one-purpose buildings (*e.g.* halls intended solely for human occupation), or even outhouses of secondary importance (*e.g.* byres or barns, standing adjacent to a principal building). For LXXX, however, this view is out of the question, because there can be no doubt, that it was the principal building, the farm-house proper of a separate farming unit. In the case of LXXIX the dimensions and careful lay-

out make it improbable that it was merely an outhouse; neither does the context in which it appears warrant such a supposition. Moreover, comparison with house-plans from elsewhere (*vide* p. 389)<sup>1</sup> show that an undivided interior may have had a twofold function.

### **Type AIa**

The AIa type is concentrated in period I, but it also occurs twice in period II, once early (XVII) and once late (XX). It is not found after that time.

The AIa houses are divided in two by a pair of side entrances and the differentiation of the interior now also influences the disposition of the roof-posts. The part characterized by the roof-post interval of double width was the living quarters, as appears from analogies elsewhere: the hearth was situated in the centre of this large bay.<sup>2</sup> The post-hole found at this spot in house XVII probably does not represent a ridge-pole, but the post from which the kettle was suspended above the fire.<sup>3</sup> The one or more bays in front of this area may have served as bedrooms.

Traces of a partition wall between both halves can be observed in XIV (?), XVII and XX. The byre is as yet undifferentiated, at least there is no evidence of further subdivision. The transition from the broad, double cattle stalls to the narrow single ones, which are to become such a prominent feature of the other houses of period II and of period III, took place at the end of period I. House XIV, belonging to the transitional phase between periods I and II, still has old-fashioned broad stalls, while XVII introduces narrow stalls.

### **Type AIIb**

One of the most striking things to be learned from Fig. 180 is the interruption in the evolution of the bipartite house by the appearance of the tripartite type AIIb. The tripartition, effected by two pairs of opposite entrances in the long walls, is a new development, emerging suddenly in period II. The earliest example of a tripartite house, XXII, which is, however, not yet completely typical, belongs to the intermediate phase between periods I and II. After period II the typical tripartite house only occurs occasionally.

When traces of stall partitions (narrow stalls) have been preserved, they are normally found in one of the outer ends of the house (the stalls in the central part of XLI are exceptional), which makes it clear that one outer part was used to house the cattle. In some houses, the post-holes of one or two partitions (at both sides of the entrances) between byre and central part can be recognized: XII, XXVI, XXXIII, (XLI), LXXIV. The transverse stalls at the inner end of the byre may have had some special function, but this remains obscure. At this spot, a very large roof-post

interval often occurs. The post sometimes present in the centre of this large bay (XXVI, XXXIII, LVIII), in one instance (LVIII) standing between a pair of double-holes, probably helped to carry the roof (ridge-pole). The special treatment of this part, which is found in only a few AIIb houses, will be encountered more emphatically in type AIIa.

Without any doubt, the outer part opposite the byre formed the living quarters. The lay-out of this part is not always the same: as a rule it has pairs of double-posts and no roof-posts (XXVI?, XXIX, XXXII?, XXXIII, LIV, LVI?, LXXIV, LXXVIII), but also roof-posts without double-posts (LVIII?), or a combination of both (XLI?) seems possible. In most cases the living part is comparatively long, but only one house (XXIX) has a separate (bed?)room partitioned off at the extreme end. In none of the houses have traces been observed of a wall dividing the front from the middle part.

The middle part presents a fixed plan: it consists of two bays formed by three pairs of heavy roof-posts. Its function is difficult to establish. Most probably, it was used to store the crops or it may have served as a workshop.

### **Type AIIa**

The typical AIIa house does not appear before the end of period II. Two atypical specimens, belonging to period IIb (XLVI, LXXV), herald the new type, while it is furthermore to be noted that the only other atypical AIIa farm (XLV) is not much younger. It belongs to period IIIa. The short AIIa variety is concentrated in period IIIb, though it is still present during the following phase. The long variety shows no predilection for one of the two last phases, but is not found during period IIIa.

The AIIa type again continues the line of the bipartite house. Particularly the short variety may be considered the direct continuation of the AIa type. The regularity and uniformity of the plans, sometimes having identical measurements, indicate that these houses were built by specialised craftsmen.

The short model has a byre with an entrance in the rear wall and narrow stalls. The roof of the byre is supported by roof-posts. A prominent feature is the large roof-post interval at the inner end, including the central entrances. Here, often a pair of double wall-posts is to be seen and sometimes a central post (XXX). This area may have transverse stalls (XLVIII), but, as far as can be established, it mostly remains free of stalls. Thus, it must have had a special function. Perhaps it was used for dairying. Normally, the byre is screened off from the living quarters.

The larger part of the front half is to be compared to the area with the wide roof-post interval in the AIa house. Roof-posts are exceptional. They only occur in LX,



the plan of which is curious in other respects as well. Generally one observes a set of pairs of double wall-posts sometimes combined with roof-posts standing in comparatively shallow holes. We think this part formed the actual living-room, where the family gathered around the hearth. At the extreme end, a narrow room (bed-room?) is partitioned off. This room could only be reached from the inside.

The long variety is bipartite also: the building is divided into two approximately equal halves by a pair of opposite entrances. In many details it shows a very close resemblance to the shorter AIIa houses. The byre has exactly the same lay-out: here at the inner end also we find a large roof-post interval (double wall-posts!) without cattle stalls, or sometimes a special configuration of post-holes (VIII, XXXVI). The free space, occasionally found at the outer end (XVIII, XLVII?), may have housed the young cattle or the horses.

On the other hand, apart from similarities to the short AIIa type, the front half shows an influence of the tripartite AIIb houses. The room at the outer end has been enlarged and is now accessible by its own pair of entrances, as with the AIIb type. The double wall-posts occurring here makes it the equivalent of the area in front of the central entrances in the AIIa, short variety houses, which was thought to be the living-section (German: *Flett*). If the entrances are included, it is also much the same size. This leads us to conclude that in the long AIIa houses we must regard this outer-room as the living part.

In the short houses, however, still another room, the narrow one lying in front of the *Flett*, was probably reserved for human habitation: bedroom (?). The latter is absent in the more typical long variety houses. A few transverse trenches at the outer end of the exceptionally well-preserved plan XXXIX could be considered as the traces left by a row of closet-beds placed against the short wall. If this conclusion is justified and may be applied to the other long AIIa houses, people lived and slept in the one outer room, so that when everything is considered, the space reserved for them was less than in the shorter AIIa buildings. As far as this part of the house is concerned, VIII and XVIII seem to be transitional forms. In these cases the *Flett* is still situated in front of a separate, but broad, outer room. In VIII this room could even be a later addition.

The part between the living-room and the central entrances reminds us strongly of the central area in the tripartite farms, especially in XXXVIII and XLVII, where the three pairs of heavy roof-posts are again found. Here also, in the first place, one might think of a storage room.

The pits in front of the entrances are a common, though not universal, feature of the AIIa houses. These also occur in some AIa farms belonging to period II (XVII, XX) and in the tripartite type. There is evidence that these pits were lined

with a wooden casing and remained open when the building was in use. The mouths were probably covered by a grating. The function of the pits is not fully established. They may have served the practical purpose of preventing the cattle from entering the house, in the same way as the modern perforated concrete slabs prevent sheep from breaking out of their pastures; if this is so, then the three exceptional cases (XVII, XX, LXXVI), where a pit is found in front of the entrance to the byre, become incomprehensible. As usual when confronted with obscure matters, one is tempted to think of a religious connotation. In this connection it is worth noting that until recent times gratings were placed in the entrances to cemeteries. These were believed to be a safe-guard against the Devil with his cloven hooves.

#### **“Type” AIIa/AIIb**

A small group of houses, grouped under the heading AIIa/AIIb, do not represent a separate type; they have in common only their intermediate position between the types AIIa and AIIb, but the way in which the heterogeneous features are mingled differs from one specimen to another.

The occurrence of such intermediate forms during period IIIb (LXIX), when both types existed together, or during period IIIc (XIX, XXXI(?), XLIV), when the AIIb influence can be explained as an after-effect, does not need to cause astonishment. The appearance of transitional forms at the end of period I and during period II (XXII, XXVIII, XLIII), *i.e.* before the characteristic AIIa house had been created, is less easily understood. Together with the few AI houses that fall in the same period, they represent the continuation of the bipartite trend during period II. The existence of house XXII at the end of period I with its close resemblance, as far as the front part is concerned, to the short variety of type AIIa might mean that the latter type could have arisen earlier, had its evolution not been retarded by the tripartite development.

#### **The B Types**

Of the short-houses, the three representing type BI (I, VII, LI) all belong to period IIIc. There can be no doubt but they are principal buildings. Their front section is completely similar to the living-part of the AIIa house, though it is somewhat shorter. Only the byre has decreased in size. They are clearly the dwellings of people who needed little room for housing their cattle, and it is reasonable to suppose that the inhabitants were craftsmen or traders, rather than farmers.

The same probably holds true for most of the other short-houses. In the settlement, they normally take up a position equivalent to that of the long-houses. Only once does it seem likely that a short-house, which would then have been a barn, was

combined with a big farm-house (LXXXIV with XXXIII), while it cannot be completely excluded that XXIV and XXV stood in the same relation to XVIII or XLII.

Type BIIb is early (period I and II). In houses XXIII and L the interior division shows a fundamental similarity to that of type BI: the part with roof-posts might be interpreted as a short byre, the section with double-posts as the living-room.

The plan of LIII is not very clear: double-posts and roof-posts occur in the same part. The fact that its plan falls between two stools could, indeed, point to an early date for this house which, moreover, gives the impression of belonging together with the rectangular enclosure of period Ib. Double-posts, however, do not appear in any other of the period I houses and the attribution of LIII to phase Ib is not sufficiently strong to regard this house as a reliable indication of the occurrence of this constructional device before period II.

Apart from the not fully characteristic specimen LXXXIV (barn?), type BIIa belongs to period III. In houses X, XXV, XXVII and LXXXVI the larger section will be the living-room, while it remains uncertain whether the short part has to be considered as a rudimentary byre, or whether it had another function: *e.g.* workshop, bedroom. In the latter case, the whole building is a dwelling house in the strictest sense.

BIIc is not to be considered as a separate type. XXIV should perhaps be attributed to type BIIb. The function of XXXIV is not clear. If it is really a separate building, it might be grouped together with the two sheds of Fig. 43: 1 and 44: 7 (the determination of these two structures as sheds is indeed rather arbitrary) and together they could be considered as a variation of the BIIa type (*cf.* LXXXIV).

## B. FUNCTION AND SIGNIFICANCE OF THE DOUBLE-POSTS

It is wise to leave the study of the plans from the architectural point of view and the many problems connected with the reconstruction of the houses on the basis of the available data to specialists in these fields. Here we will only touch upon one question: the function and meaning of the double-posts, which are such a prominent feature of many of the Wijster plans.

Double-posts have been used in two fundamentally different ways and these should be sharply distinguished from each other.

In the one case, the pairs of posts found in the walls were wall-posts in the strictest sense. We may find that all wall-posts were doubled (Jemgum<sup>4</sup>, Fochtelo<sup>5</sup>, Kablow<sup>6</sup>), or we observe paired holes alternating with single ones (Een<sup>7</sup>). These double-posts were merely parts of the construction of the wall. They were not concerned, at least

not in the first place, with carrying the roof, which in these houses is supported by two (or three: Kablow?) rows of interior supports, but clamped the wall proper between them. At Jemgum, the wall itself appeared to consist of horizontal planks and the double-posts served to hold these planks in place. The same construction was probably used at Fochtelo, where a foundation trench was observed running between double-holes that lie rather wide apart. At Een, the irregularity of the rows of wall-posts, their close spacing and the occurrence of single posts may point to a wattled wall. This wall construction with double-posts had been practised from the end of the Northern Dutch Bronze Age (Zeijen Culture: Jemgum, Een) until the Late-Roman period (Fochtelo, Kablow).

In the Wijster houses, the application of the double-posts is completely and fundamentally different. Here they were only used in the long walls. Moreover, they are restricted to special parts of the house: the living-room and the inner end of the byre, next to the central entrances. In these parts, at least in the more characteristic plans, the interior roof-posts are mostly conspicuous by their absence. It is true that roof-posts and double-posts are not always mutually exclusive, but where they do occur together, the holes for the roof-posts concerned are often more shallow than those for the roof-posts in the rest of the building.

The conclusion must be that part of the function of our double wall-posts was to support the roof. In fact, the inner post of each pair was not a wall-post in the strict sense, but a roof-post placed close against the wall. As far as the dwelling space is concerned this may be considered as the culmination of the tendency to create a bigger free area for living in, which already betrays itself in the double roof-post interval in the houses of type AIIa. At the inner end of the byre a pair of roof-posts is also often omitted. Here again, the pair of double-posts serves to create a bigger free space, but it is less easy to establish the reason because the function of this part of the house does not emerge clearly. It is striking that the inner holes of the double-posts are not normally deeper than the average wall-post, whereas this is mostly the case with the roof-post holes. Traces of the wall proper have only been preserved in the living quarters of XXXIX. A trench, passing along the inner side of the single posts and between the double-posts, shows that the wall-posts themselves were not visible from the interior.

House-plans in which double-posts have been used in a comparable way have been rarely found (*vide* p. 395) outside Wijster. The best known and most thoroughly studied specimen is the big house 3 of Westick near Kamen (Westphalia)<sup>8</sup>. Unfortunately, its ground-plan is not completely clear. The house has apparently been subjected to several (partial) rebuildings and details are lost in the resulting tangle of post-holes. If indeed all traces come from one building, this may have been a bipartite (AIIa, long variety?) or a tripartite house of which only the byre has been rebuilt. Another possibility, perhaps even more probable, is that the plans of two

or more different houses are partly overlying each other.<sup>9</sup> In that case, the so-called *Halle*<sup>10</sup> forms part of a building comparable to those of our type AIIa, short variety. Anyway, there is no reason to regard part C as a separate annex. At Wijster also, the living part often shows a much more careful lay-out than the byre, as one might expect. We would prefer to interpret the transverse row of post-holes at the western end as traces of a partition wall. This would mean that the house had a room at its end of *ca.* 2.50 m. in depth, in the same way as our short AIIa houses. The explanation of these posts as supports of a *Hochsitz* would then have to be abandoned. At Wijster, a *Hochsitz* might perhaps be recognized from the post-holes in front of the east wall of XVIII (and from the trenches in front of the western wall of XXXIX, instead of closet-beds?). The long trace (threshold impression?) in the southern wall of the Westick house, at about 12 m. from the southwestern corner, seems to indicate an entrance; opposite it, one observes a comparatively large interval in the northern line of wall-posts. It is unlikely that the so-called fire-place in the southern wall belongs to this house.

Although the disposition of the double-posts in the *Halle* of the Westick house may be slightly different from what we are accustomed to find at Wijster, the fundamental similarity is of more importance: here also the double wall-posts are a substitute for the missing interior roof-posts.

Klein considered the plan of the Westick *Halle* representative of the cruck construction and his view is generally accepted.<sup>11</sup> Sometimes the oblique position of the curved beams which had originally stood in the inner holes was demonstrated by the traces of the posts proper in the pits. We are not convinced, however, that the holes lying approximately along the axis of the building were dug to hold supports of a ridge-piece. Their line is much too irregular for that and in the Wijster houses no such ridge-posts were found.

The similarity of the Westick plan to the Wijster houses of types AIIa and b leaves no room for doubting that the same construction was used at both sites. In addition, the date attributed to the Westick house (a coin-hoard closed in 361 A.D. indicates that it was built in the second half of the 4th century) makes a close comparison possible to the Wijster AIIa buildings.

### C. CONTINUOUS OR INTERRUPTED EVOLUTION AT WIJSTER?

The way in which the different house types are distributed over the successive periods of occupation (Fig. 180) does not suggest a rectilinear evolution of one type into the other. It rather indicates the mingling of two building traditions.

On the one hand, types *AIa* and *b* belong to a school of building that used vertical posts only, placed in two rows in the interior, to support the roof. This is the fundamental relationship of both types. The simple *AIb* type was in existence from the beginning of our settlement until the end. It shows a certain evolution in that after period I the houses are clearly bipartite. Type *AIa* seems to be a specialisation of the *AIb* house: the special function of the one half of the building finds expression in the disposition of the roof supports.

A second school is represented by types *AIIa* and *b*. They introduce a new technical device of primary importance: the cruck construction. Notwithstanding the fact that they differ in the division of the interior (bipartition as opposed to tripartition) it is apparent that both types have a common stem. Several common elements (double-posts, entrance-pits, narrow stalls) betray their close relationship. Moreover, their affinity is stressed by the occurrence of a transitional house form between both (type *AIIa/AIIb*), as well as by the fact that the long variety of type *AIIa* cannot completely hide the influence of the tripartite conception. It is easy to imagine that the sons or grandsons of the master-carpenters who built the tripartite houses of period II constructed the bipartite *AIIa* buildings with little change in technique. In our opinion, the change from tri- to bipartition was due to a change in the economy of the settlement, which made different demands upon the use of the farmbuildings.

The short-houses of types *BI* and *BII* clearly stand in the same cruck-using tradition. Particularly *BI* shows obvious connections with *AIIa*.

A question of great interest, but one difficult to answer, now forces itself upon us. Were these two building traditions really two separate schools, the one more or less supplanting the other, or did the one evolve from the other, representing only a more advanced stage in what was, in fact, an uninterrupted continuous evolution?

There are certainly grounds on which one can take the latter view. For instance, in type *AIb* – *AIa* – *AIIa* (short variety) we may recognize a well-defined typological series: simple bipartition (sometimes the bipartition of *AIb* houses is not even certain, – LXXIX –, or at least not visible from the plan, – LXXX –) evolves to bipartition with adaptation of the dwelling area to its special function; in the third stage, this adaptation is carried to a logical conclusion by the creation of a new method of supporting the roof. However, this evolution need not have taken place at Wijster. It is even improbable that it did, because at our site the bipartite evolution is broken by the interpolation of the tripartite houses of period II between types *AIa* and *AIIa*.

On the other hand, the cruck construction makes a rather sudden appearance at the beginning of period II, and from then onwards is the dominating feature in the architecture of the settlement. The few *AIa* and *b* houses still found in period II and III show influences coming from *AIIa* and *b* types: pair of central entrances in the *AIb* houses; narrow stalls and entrance-pits of XVII and XX. However, the ap-

pearance of the new architectural features does not seem to have been as sudden as one would have expected in the case of a complete break in building tradition between period I on the one hand, and II with III on the other.

Cruck construction is found in house XXII, which we placed at the end of period I. The attribution of the curious short-house LIII with its double-posts is perhaps not sufficiently well-established to allow us to presume that cruck had already occurred during period *Ib*. Entrance-pits are present in house LXXII of period *Ic* (and narrow stalls in house LXVII of period *Ib*?).

With all this argumentation it should not be forgotten that in our reconstruction of the settlement patterns of period I we are working with data that are both incomplete and insufficiently confirmed. In reality, the break may have been much sharper than it appears to us at this moment.

As we see the situation, the interior evidence of our site is inconclusive in either direction and the question raised above (continuous or interrupted evolution) remains largely unsettled.

In the next section we will look further afield for parallels to the Wijster house types and it may be said beforehand that the result of this study strongly suggests a separation of what was termed the two schools of building. The distribution area of types *AIa* and *b* during the Roman period is, predominantly at least, coastal in a rather strict sense. Further inland clear evidence of these types is lacking, but it is exactly in the inland regions that traces of the cruck construction are found.

#### D. PARALLELS TO THE WIJSTER HOUSE TYPES

Unfortunately, our search for parallels is hampered by lack of sufficient material. The difficulty is not so much that excavations of settlement sites have been few in number. An impressive list has been compiled by Trier<sup>12</sup> regarding the Roman period settlements discovered in the area between North Sea, lower Rhine and Mittelgebirge. In Scandinavia, also, considerable work has been done in this field. It is rather, however, that these excavations usually covered only small portions of the settlements. Complete and reliable house-plans come from a restricted number of sites only. The greater part of these are situated in the clay zone along the sea coast, where the conditions of the soil are much more favourable to the preservation of house remains than those in the sandy regions. This may be the reason why we have not been able to find many or any parallels at all to the most interesting Wijster types (*AIa*, *AIIf*).

### Type A1b

The most simple type among the Wijster house-plans is A1b. Here the interior division of the house did not affect the disposition of the main constructional elements, the roof-posts. Whereas the greater part of the Wijster houses belonging to this type betray their bipartition by a pair of opposite entrances in the middle of the long sides, in two cases (LXXIX, LXXX) no traces of any interior division remain. The possibility that these two buildings were not principal buildings, but outhouses, has been considered above and was thought to be very remote (*vide* p. 379). In fact, these two houses also may have consisted of a separate living part and a byre. Because the level of excavation lies below the original floor of the house, the position of any possible fire-place cannot now be established and the traces of a partition wall or cattle stalls may have been lost. Similarly the interior of these two houses also may have been bipartite, but on the other hand the possibility that it was an undivided whole cannot be excluded. If the latter is true, their interior may have resembled that of *e.g.* the houses at Einswarden<sup>13</sup> or Hessens<sup>14</sup>, where cattle stalls are found along the whole length of the walls, while the fire-place situated at one end shows that the building was not only a cow-house but a dwelling as well. Similar interiors are met with in the hamlet on the *Kernwurt* (period V) of Ezinge<sup>15</sup>. These buildings clearly had a twofold function: lodging people and housing cattle. The foremost stalls nearest the hearth were possibly reserved for human use, but even so the double function of the house did not cause a breaking up of the uniform and undivided interior; apparently no need was felt of a clear separation of both functions.

It has already been observed that type A1b is rare among the Wijster plans. One could easily conceive the idea that this type, being a simple form, represent the archetype of the three-aisled house in general, which persisted until about 200 A.D., but during the life time of our village, in the Late-Roman period, was superseded by more specialised house types.

In accordance with such a view, the two apparently most simple A1b buildings without traces of bipartition (LXXIX, LXXX) still belong to the Early-Roman period, while other slightly later A1b houses already show signs of bipartition, though as yet it does not affect the disposition of the roof-posts. It will appear, however, that this view is too simple and does not explain the evolution of the three-aisled house in general.

On the one hand, A1b plans are found long after the 2<sup>nd</sup> century. An A1b house at Hessens is dated to the late 6<sup>th</sup> century and is reported to be followed by comparable buildings belonging to the 7<sup>th</sup>–9<sup>th</sup> centuries.<sup>16</sup> At Leens, in the north of the province of Groningen, Van Giffen excavated houses with A1b interiors, dating from between *ca.* 650 and 1000 A.D.<sup>17</sup> The 11<sup>th</sup>–12<sup>th</sup> century farm houses found along the western



Dutch coast still show the A1b pattern.<sup>18</sup> The A1b plan translated into stone from Boudewijn Hartsland<sup>19</sup> is still younger.

On the other hand, simple, undifferentiated three-aisled plans can be very early indeed. The earliest specimens known are those from the famous Goldberg settlement of the Hallstatt period.<sup>20</sup> These structures show their primitive nature by their extremely narrow central aisle. However, recent excavations by Waterbolk<sup>21</sup> at Elp have shown that the aisled house already existed at an earlier date and some of the Elp plans bear the signs of bipartition. It is furthermore probable that the Goldberg specimens are not dwelling houses, but barns or granaries.

The gap between the Goldberg houses and those at Hessens, Leens, Brabers, Velsen and Den Helder is bridged by buildings at Ezinge (period V and VI)<sup>22</sup> and Einswarden (*Haus* II),<sup>23</sup> ranging in date from the 5<sup>th</sup> century B.C. until the beginning of our own era.

Thus, it appears that this house type existed from the Pre-Roman Iron Age until the beginning of the Middle Ages without fundamental alteration.

We are well aware that in stating this we are looking at these house plans from a restricted point of view: only the chief constructional elements and the division of the interior have been taken into consideration. There have been minor alterations as *e.g.* the construction of the wall.<sup>24</sup>

During the Pre-Roman Iron Age, rows of posts were placed in an inward slanting position at some distance outside the light wattle-and-daub wall (*Aussenständer*); these supported the foot of the roof (*Dachfuss*) which, according to most authorities, rested upon a so-called *Wandrähm*, laid on top of these posts (Ezinge, Einswarden). This construction is considered to be a further evolution of the more primitive *Dachhaus*, the roof of which rested directly upon the ground. In the course of the Roman period, the *Aussenständer* acquire a vertical position and are placed closer to the wall, though they still stand outside it (Hodorf). The final stage is reached when the *Aussenständer* cease to be outer posts and are incorporated into the wall (Hessens). Hinz points out that this view of Haarnagel on the evolution of the house wall is right in principle, but need not hold true for all regions,<sup>25</sup> nor can it be certain that in different regions the different constructions are not contemporaneous. Haarnagel, himself, regards the construction of the wall as of secondary importance; it does not affect the fundamental constructional conception of the house as a whole.<sup>26</sup> In our opinion it cannot be, therefore, a criterion in distinguishing the primary types within the three-aisled species of building.

The evolution of the house wall, sketched above, has been established in the clay zone along the southern coast of the North Sea. On the sandy soils further south, the same development, or at least comparable wall constructions, may be presumed but here the state of preservation is so very poor that practically no traces of the wall proper ever remain. A Hodorf wall is probably the type used in the majority

of the Wijster houses. The post-holes found represent the posts carrying the *Wandrähm*, while the wall screen itself was placed directly inside against these posts. In one house (XXXIX), this point is proved by the foundation-trench in the western part which runs along the inner side of the holes dug for the wall-posts. Usually the screen would have been made of wattle (the shallow pin-prick holes of the vertical stakes did not reach down to the excavation level), but a wall of vertical planks, a common feature of the sunken huts, is also conceivable at least for some parts of the house, especially the living part. In the latter case one would expect a foundation-trench, as is usual in the huts. In the only case (XXXIX) that such a trench is preserved, it is situated indeed around the living section; from the indications given by the depth of the post-holes, the excavation level here lies at a relatively short distance below the original surface and this might explain why only here the foundation-trench of the wall could still be found. Indications of a *Fachwerk* wall, as observed at Westick,<sup>27</sup> have not been found at Wijster.<sup>28</sup>

Along the southern North Sea coast yet another wall construction is found, in which accumulations of sods play a role. Two forms are to be distinguished. In the one case, a Hodorf type wall is strengthened at its base by an earthen bank. This construction is best known from Tofting<sup>29</sup> and was probably applied at Ezinge as well<sup>30</sup>. Such a bank did not reach up to the roof; it merely served to keep out water and wind. In the second case, the bank of sods is the main constructional element of the wall. It performs the task of the *Aussenständer* and supports the foot of the roof; its inner side may be lined with wattle work or something similar. This construction was found at Leens.<sup>31</sup>

Walls of sods or of stones and earth are especially favoured in Scandinavia, but Tischler<sup>32</sup> has already pointed out that there is no sharp distinction between the area where the wooden wall was common (the southern coast of the North Sea) and the one where the massive bank of sods or stones predominated (Scandinavia): the earthen wall occurs in the western area (Leens, Den Helder), so does the wooden wall in Denmark.<sup>33</sup> Moreover, the construction of the wall depends to a large degree on the building material available, and differences in this respect do not affect the fundamental conception of the building. That difference in wall construction, however, is not solely a matter of available material but also of cultural tradition is shown by Klindt-Jensen.<sup>34</sup>

Apart from the wall construction, the *Alb* type is present in Scandinavia as well. At least the most prominent feature, the continuous rows of roof-posts, can be recognized *e.g.* at Skørbaek Hede (houses A, B: Early-Roman period),<sup>35</sup> Gørding Hede (though here the middle interval is not equal to the two others: Pre-Roman Iron Age),<sup>36</sup> Tolstrup (house A and C(?): Roman period),<sup>37</sup> Ginderup (Roman period),<sup>38</sup> Nørre Fjand (house Ia: Early-Roman period)<sup>39</sup> in Denmark, Vallhagar (houses 3, 6, 7, 10, 13, 15, 18, 24: Migration period),<sup>40</sup> Känne? (house 1: Roman

period, or later?),<sup>41</sup> Stenster 1950 (Late-Roman period)<sup>42</sup> in Gotland, Stroheien? (house 4)<sup>43</sup> in Norway. A special difficulty presents itself in the case of the Scandinavian house plans in that in general the disposition of the roof-posts cannot be established with certainty. Often these posts had not been sunk into holes but placed on flat bases or even on the solid rock itself. In the latter cases, their position could easily be missed during the excavation and the resulting picture is often clearly incomplete.

The majority of the Wijster A1b houses undoubtedly had bipartite interiors; in two cases the division of the interior, when present, does not show in the plan (LXXIX, LXXX). Elsewhere this bipartition also appears to be the rule for houses with uninterrupted regular rows of roof-posts, particularly when they are of a certain length. Apparently these buildings had a double function and combined dwelling and byre.

As it is characteristic of the A1b plans that the interior division does not affect the disposition of the roof-posts, the bipartition must be then deduced from secondary features: entrances in the middle of the long walls, the position of the hearth, partition wall, different ways of flooring the two parts of the house, absence of stalls in one part.

The houses at Ezinge period V and VI and at Einswarden betray their bipartition by the position of the fire-place and side-entrances. The oldest Ezinge house even has a partition wall between both halves.<sup>44</sup> This sharp separation of the two parts is exceptional, however. Einswarden I and II,<sup>45</sup> and Ezinge C and G had only one side-entrance; Ezinge B had two.<sup>46</sup> One side-door is also found at Skørbaek Hede A and B,<sup>47</sup> Ginderup,<sup>48</sup> where the living quarters with the hearth had a clay floor in contrast to the byre, and Nørre Fjand.<sup>49</sup> A pair of opposite doors is known from Gørding Hede.<sup>50</sup> These side-entrances may be combined with doors in the short wall of the byre,<sup>51</sup> or the entrance in the end wall is the only one.<sup>52</sup> In Gotland, the door normally lies in the short wall but here, also, there is plentiful evidence for bipartition of the interior. If the building is very long, an entrance is made in both short walls so that direct communication with the outside world was possible from either half.<sup>53</sup> In the case of the Hessens house<sup>54</sup> the bipartition is not obvious, but it is suggested by the position of the hearth at the extreme end furthest from the entrance.

A bipartite A1b plan was discovered at Rhee.<sup>55</sup> It forms a good parallel to the bipartite A1b houses from Wijster and may date from the same Late-Roman period.

As the examples presented above show, no further argument is needed to prove that uninterrupted disposition of the roof-posts often accompanies bipartition of the interior. Even when certain indications for such a division are lacking, as in Wijster LXXIX and LXXX, and at Leens,<sup>56</sup> this does not necessarily mean that the interior was indeed undivided. On the other hand, some A1b plans, especially

if they are short, might represent one-purpose buildings with unbroken interior, as seems to be the case in the oldest known A**Ib** houses from Goldberg which are interpreted as granaries.

To summarize: the A**Ib** type of building, as it occurs at Wijster, had a twofold function resulting in a division of the interior into two halves: dwelling and byre. Usually, there is no sharp separation between both parts, and the adaptation of the two halves to their different functions did not affect the disposition of the major constructional elements. This lack of specialisation gives the type a somewhat primitive appearance, but, though it is found among the earliest known three-aisled plans, it can also be very late and is still present during the Middle Ages. The type is found scattered over an enormous territory. Apart from the early specimens of the Goldberg settlements, all its representatives were found in a zone along the coast of the North Sea from Sweden and Norway to Western Holland. It does not seem very likely that this coastal distribution solely reflects excavational activities.

The fundamental uniformity of the type over a large area and a long period does not exclude regional and periodical differences on minor points: construction of the walls, location of the entrances, *etc.* There may also have been more important discrepancies, which cannot be seen directly from the plans: *e.g.* concerning the construction of the roof. The complex of problems connected with this matter lies outside our range of knowledge; the extensive literature on this subject supplies enough evidence showing that a reliable reconstruction of the roof based upon the available evidence is generally impossible.<sup>57</sup>

### Type A**Ia**

This type is more sophisticated than the one dealt with above: the differentiation of the two parts of the house is also reflected in the disposition of the roof-posts.

A first step in such a differentiation can already be observed at Elp, in the oldest three-aisled houses known so far. Apparently, the larger houses of this Bronze Age settlement<sup>58</sup> were bipartite; central entrances are probable, though their exact position could not be established. In house 3, the roof-posts of one half (the living part) are somewhat more widely spaced than those of the byre. In houses 5, 6, 7, 9 and 12 this difference is even more marked, but here the holes in the byre part are alternatively deep and shallow, and the shallow ones are thought to represent posts of minor constructional importance. The same holds good for the smaller buildings 2, 8 and 13. The remaining houses 1, 4, 10 and 11 show wide or close, but undifferentiated dispositions of the roof-posts and are therefore to be attributed to type A**Ib**. A post-hole lying in the long axis, approximately in the middle of houses 1, 3, 9 and 10, might have belonged to a partition wall between both halves. Often more posts

stood in the long axis, this feature indicating the primitive nature of these earliest known three-aisled houses. The same primitive combination of axial posts with two rows of roof-posts is shown by the houses at Wychen<sup>59</sup> and the one found at Rhee underneath barrow I.<sup>60</sup> Both date from the early Pre-Roman Iron Age. As far as the disposition of their roof-posts is concerned they belong to type A1b.

The Elp houses have been compared to those from the Margijnen Enk near Deventer, but here the interior differentiation is much less clear.<sup>61</sup>

In the so-called *Fletthaus* of the Hunsrück-Eifel culture, excavated near Befort in Luxemburg, the disposition of the roof-posts remains obscure.<sup>62</sup>

The houses from Een<sup>63</sup> and Jemgum<sup>64</sup> seem to come closer to our type A1a, but its specific feature, the double roof-post interval in the living part, is not found much before the beginning of the Roman period.

At Feddersen Wierde, the Wijster A1a type is present from the beginning<sup>65</sup> and continues to occur until the end.<sup>66</sup>

A house-plan at Böddecken, dated by Roman coins to the beginning of our era, seems to belong to the type under discussion but the disposition of the roof-posts is not completely certain.<sup>67</sup>

House I of Einswarden<sup>68</sup> dates from the same period. Here a hearth was found in a very unusual position but it is doubtful whether it really marks the living part. We find a large roof-post interval in the southern half of the house but no accompanying fire-place to prove that this part could be considered the dwelling-section; the entrance in the southern short wall is uncertain.

In our own country, the beautiful Fochtelo plans<sup>69</sup> from the later part of the Early-Roman period (*i.e.* contemporaneous with Wijster XIV), and perhaps the one from Diphooen (Early-Roman period),<sup>70</sup> are representatives of the type under discussion. As far as can be seen, at least one of the houses in the Late-Roman settlement of Rhee belongs to our type.<sup>71</sup> It is not certain whether the house in the north-western corner of the Early-Roman settlement at Zeijen belongs to type A1a or A1b.<sup>72</sup> Uncertain specimens are also the 1<sup>st</sup> century farm at Krommenie<sup>73</sup> and the 2<sup>nd</sup> century dwelling from Schiedam.<sup>74</sup>

Further east along the coast of the North Sea, the A1a type is not only restricted to Feddersen Wierde. House 5 of Hamburg-Bramfeld,<sup>75</sup> Tofing (*Wohnplatz* II: 3<sup>rd</sup> century; *Wohnplatz* III, *Haus* 1: 2<sup>nd</sup>–4<sup>th</sup> century),<sup>76</sup> and Ostermoor near Brunsbüttelkoog (2<sup>nd</sup> century),<sup>77</sup> all belong to the same group.

Comparable types are present among the 2<sup>nd</sup>/3<sup>rd</sup> century houses from Nauene-Bärhorst.<sup>78</sup> The large roof-post interval with hearth is furthermore found in the contemporaneous houses at Kablow,<sup>79</sup> though these buildings have different wall constructions and a row of axial holes.

Apart from the construction of the wall, the type is also found in Jutland: Skørbaek Hede (houses E/F, G?: late Pre-Roman Iron Age),<sup>80</sup> Østerbølle (house A:

Roman Iron Age).<sup>81</sup> Larger intervals between the roof-posts in the living part are not uncommon features in Gotland: Dune (house A: Late-Roman and Migration period),<sup>82</sup> Vallhagar (house 1, 11, 20-1?: Late-Roman and Migration period),<sup>83</sup> Lojsta (Late-Roman and Migration period),<sup>84</sup> Mickelaugar (Migration period).<sup>85</sup>

When everything has been considered, the conclusion must be that type A1a appears in the same coastal area as type A1b. In its most typical form, it seems to be restricted to the Late-La Tène and the Roman periods.

### Types AIIa and AIIb

We have not been able to find completely convincing parallels for types AIIa and AIIb. On the other hand, their most characteristic feature, the double-holes representing the cruck construction, can also be distinguished elsewhere.

These double-holes were recognized and interpreted correctly for the first time at Westick near Kamen in Westphalia.<sup>86</sup> The site yielded three houseplans; unfortunately, all of them were incomplete and in many respects, obscure. It is not possible to decide whether the big building 3 was bi- or tripartite: the tangle of post-holes is so chaotic that it is almost certain that the plans of several houses overlie one another at this spot. In our opinion, its western part, the so-called hall, need not necessarily be a later addition (*vide* pp. 385–6), and though the disposition of the double-holes here may deviate slightly from that in our AIIa buildings, the Westick “hall” approximates very closely to the front-parts of the Wijster houses.

The smaller house 1 probably had a pair of entrances in the middle of the long walls. The eastern part is characterized by two rows of closely spaced roof-posts and must be the byre. The doubling of the wall-posts in its southern wall can only be taken to represent repairs. In the western part, the roof-posts were either absent or they were very widely spaced. In lieu of them, double wall-posts occur but their disposition could not be fully established. Nevertheless, this building may be justly considered to be a rather close parallel to our bipartite AIIa houses, short variety. Even so characteristic a feature as the pair of double wall-posts behind the entrances at the inner end of the byre is present.

Both Westick houses 1 and 3 belong to the (later) 4<sup>th</sup> century and are therefore in this respect also comparable to the Wijster AII buildings.

According to Tischler the cruck construction is also present in the very incomplete plan found at Milte, Kr. Warendorf.<sup>87</sup> The Milte settlement is dated from the 1<sup>st</sup> until the late 4<sup>th</sup>/early 5<sup>th</sup> century.

Cruck construction was also found at Haldern.<sup>88</sup> *Haus* II seems to be a separate “hall”: roof-posts occurring with double-posts are distributed over the whole length

of the walls. Von Uslar points out that the supports in the long axis, which Klein had assumed were present at Westick 3, were here absent and that from a constructional point of view these are also superfluous. Axial holes have not been found in combination with the double wall-posts at Wijster either, and we are not convinced that they really belong to the plan at Westwick. Haldern II is of Early-Roman date.

The double-holes of the two 7<sup>th</sup>/8<sup>th</sup> century houses, recently discovered at Haldern, are not to be regarded as proof of cruck construction: the outer holes are not lying in the line of the wall, but outside it.<sup>89</sup>

The two Late-Roman houseplans, excavated some years ago at Dalfsen,<sup>90</sup> can also be attributed to the type under discussion. It is true that no double-holes have been observed, because the front-parts of both houses, where one could expect to find them, are missing. However, the byres with their narrow stalls and entrance in the short wall and, in addition, the pair of central doors are so similar to those of the Wijster AII houses that it is not presumptuous to assume a similarity in the living parts as well.

We can refer to yet another Dutch site, still closer to Wijster, where cruck construction can be found. One very incomplete plan in the settlement at Rhee clearly shows at least two pairs of double wall-holes.<sup>91</sup> The house in question may be of Late-Roman date.

Cruck construction is also probable in *Hof* 1960/I at Gristede.<sup>92</sup> The house is clearly bipartite. In contrast to the heavy, closely spaced roof-posts of the byre, the living part has only a few much smaller and more widely spaced holes. The wall-posts at the north-eastern end are missing; those at the opposite end of the south wall are strikingly long and therefore probably double.

Curiously enough, the coastal region which has been so prolific in providing parallels to the AI types now defaults completely. No evidence of cruck construction has been forthcoming from the *terps*.<sup>93</sup> So far, neither in Denmark nor in Sweden has this construction been established.

### The B Types

No parallels to the short-houses of type B are known to us.<sup>94</sup>

### E. DISTRIBUTION OF THE PARALLELS TO THE WIJSTER HOUSE TYPES

The parallels to the Wijster house types have a curious distribution: AI*a* and *b* plans are almost exclusively found in a broad zone, comprising clay and adjacent sandy soils, stretching from Western Holland to Scandinavia, along the southern coast of

the North Sea, whereas parallels to the cruck construction of the AII types have so far been restricted to the sandy regions of the north-eastern part of this country and to Westphalia. Especially during the Roman period the southern distribution limit of the AI houses lies rather far northwards, with the exception of the still isolated specimen of Böddeken in Westphalia.<sup>95</sup> This situation is the more remarkable because very old aisled houses have been found more to the south at Befort in Luxembourg<sup>96</sup> and at Goldberg in Württemberg<sup>97</sup> (though after the discovery of the Elp<sup>98</sup> settlement these houses are no longer the oldest).

The whole situation suggests shrinkage of the distribution area of the three-aisled timber house, particularly during the Roman period.

As far as the northern provinces of the Empire are concerned, it may have been forced out in the course of the process of Romanization, for it should be reiterated that here in the Roman villas, three-aisled (timber) buildings have been found hidden under later alterations carried out in stone<sup>99</sup>. Oelmann and Mylius have already pointed out that the original version of the Mayen villa was a timber building; the heavy stone walls had no constructional function.<sup>100</sup> The question is whether it was a three-aisled building.

The excavators decided against this solely on account of the position of the fireplace which would have been situated immediately against the southern row of roof-posts, had these been present. It is expressly stated that the available evidence does not exclude the presence of such a second row of posts and in two post-holes west of the hearth one may perhaps even recognize some trace of it. Indeed, the position of the hearth casts some doubt on such an assumption, but on the other hand it is hard to accept a wooden roof spanning a width of some nine metres without interior support (the northern row of posts has no constructional function in Mylius's reconstruction) in what is called a primitive<sup>101</sup> building. So, in our opinion, the possibility should be left open that the original villa at Mayen was a three-aisled structure.

Smith<sup>102</sup> is mistaken in holding the view that the Mayen villa cannot have been basilican in origin and that three-aisled villas do not ever occur on the continent. His paper is, however, of great interest in showing the existence of three-aisled buildings in Roman England. There is even sufficient evidence for calling these buildings bipartite: one half housed the people and the other half originally had the function of byre.

We cannot agree with his view that this house type arrived already fully developed in Britain from Northern Holland in the course of the 2<sup>nd</sup> century. It is based upon the false assumption of a special relation between the English halls and house II at Fochtelo.<sup>103</sup> In reality they are related only, to use his own words, "in so far as all aisled buildings have some likeness to each other". Smith's interpretation of the pit in the centre of the house between the two central entrances as a hearth is incorrect and clashes with the stated fact that "real traces of fire were lacking". Foch-



telo II, as we have seen above, is not extraordinary in itself, but is only a characteristic representative of the widely spread, Roman period, AII*b* type. The fire-place was undoubtedly situated in the double bay in the living-part, which is one of the fundamental characteristics of the type and, as Smith himself remarks, it is in this feature that the Fochtelo farmhouse differs from the British buildings. Therefore no proof exists that the British aisled hall finds its origin in Northern Dutch houses, at least not during the Roman period. One can agree with Smith that the similarities between the continental Roman villas and their English counterparts are not sufficiently strong to indicate a direct relationship. This could lead us to assume that the stone aisled halls of Roman England evolved from earlier autochthonous three-aisled timber houses, but no such prototypes have as yet been discovered. For the time being we will have to leave the problem of the date at which the three-aisled timber building was introduced into Britain.

As we have seen, there is some evidence that within the territory of the Roman empire the traces of the three-aisled building were eliminated because there the farmhouse came under the strong influence and uniformity of provincial-Roman villa architecture. However, though it lost its dominance over the southern part of its original distribution area, stretching from Württemberg to Scandinavia, it stood its ground outside the empire in Free Germany.

Here in the coastal zone we now find the simple AI*b* type which persists into the Middle Ages. In the same area the more sophisticated type AI*a* occurs; this seems to be a specialisation of AI*b* and is restricted to the Roman period. At least, no traces of it are found later.

At the same time, further inland in regions such as Drente, Overijssel and Westphalia a variation of the three-aisled house comes to the fore; it is characterized by the use of a new constructional device, the cruck construction: Wijster types AII*a* and *b*, Dalfsen, Westick.

There can be no doubt that the Wijster AI and AII types are ramifications of the same archetype. The relationship is obvious, particularly between the two bipartite types AI*a* and AII*a*. Both try to find a solution to the same problem: the creation of more free living space. The former type solves the problem by simply leaving out a pair of roof-posts, the latter by shifting the roof-posts and placing them as closely as possible against the walls. The byres of both types, however, do not differ fundamentally, though in this part of the AII houses also the newness of the conception is shown by the characteristic subdivision of the interior and the introduction of narrow stalls.

So far there is no proof that the cruck construction was used outside the area mentioned above before the Middle Ages, although it did occur in that time in Britain and North-western Europe from Italy to North-western Germany. The earliest known example of cruck construction is house II at Halderm in Westphalia dating

from the beginning of the Roman period. Thus the available evidence points to the conclusion that this new building device originated in Westphalia, whence it soon spread to the sandy soils of North-eastern Holland and possibly to North-western Germany (Gristede).

Recently, however, Smith presented some circumstantial evidence supporting the assumption that the cruck construction is still older and originated elsewhere.<sup>104</sup> The western and Midlands distribution of medieval cruck buildings in Britain suggests a Pre-Roman origin. In his opinion, it has probably been brought to England by Celtic tribes.

Even if this interesting hypothesis is true, this does not necessarily mean that the specific Wijster types AIIa and b which only use the new construction in the living section and a special part of the byre, where it was most needed, are not an invention of the Roman period restricted to the sandy regions adjacent to the coastal zone. During the Roman period no cruck houses are found along the coast; on the other hand, traces of AI buildings are rarely encountered on the territory of the AII types.

During the Early Middle Ages this differentiation in building tradition between the coastal zone and the inland regions becomes yet more marked. In the former area the simple AIb type reasserts itself during the 7<sup>th</sup> and 8<sup>th</sup> centuries (Leens,<sup>105</sup> Hessens<sup>106</sup>). In the latter area contemporaneous house-plans are found, but they differ completely from those in the coastal zone: Künsebeck,<sup>107</sup> Warendorf,<sup>108</sup> Haldern,<sup>109</sup> Sleen.<sup>110</sup> It is true that these houses may have had no cruck construction, the oblique supports being placed outside the walls, but Winkelmann suggests<sup>111</sup> that because they have an interior unobstructed by posts they should be regarded as the final development of the evolution which started with the Late-Roman houses of Westick (and, we may add, of Wijster), where the opening up of the interior was reached by means of the cruck construction. Moreover, they retain the pair of central entrances effecting a bipartition of the interior.

From its area of origin this Early-Medieval house type also infiltrated the coastal zone. It is considered to be the fore-runner of the Viking barracks of Trelleborg, Aggersborg and Fyrkat. A related house type has been found at the mouth of the river Rhine in the 7<sup>th</sup>/8<sup>th</sup> century settlement of Rijnsburg,<sup>112</sup> whence it may have been brought to England.

In a recent article, Hinz has shown that as late as the Middle Ages two different architectural traditions can be observed in North-western Europe.<sup>113</sup> In the coastal zone the "*altfriesische*" *Wohnstallhalle* continues our AIb type. The inland regions are the home of the so-called *Niederdeutsche Halle*.

## NOTES

<sup>1</sup> E.g. Hessens: Haarnagel 1950, Abb. 5.

<sup>2</sup> E.g. Feddersen Wierde: Haarnagel 1958, Abb. 2.

<sup>3</sup> E.g. Feddersen Wierde: Haarnagel 1958, Abb. 2.

<sup>4</sup> Haarnagel 1957 (1), 21.

<sup>5</sup> Van Giffen 1954 (1), Abb. 14: III, IV?, V.

<sup>6</sup> Behm-Blancke 1956, Abb. 2.

<sup>7</sup> Van der Waals 1963, Fig. 19.

<sup>8</sup> Bänfer, Stieren, Klein 1936.

<sup>9</sup> Cf. also the explanation of G. Bersu, cited by Smith (1964, 134).

<sup>10</sup> Klein 1936, Abb. 1: part C.

<sup>11</sup> Smith 1964 (2), 133-5.

<sup>12</sup> Bendix Trier, *Fundortliste für die Arbeit: Der Hausbau im Nordseeküstenraum zwischen Niederrhein und Mittelgebirgsrand in der römischen Kaiserzeit, ca. 1962*, Typed Manuscript present in the Biologisch-Archaeologisch Instituut of Groningen University.

<sup>13</sup> Haarnagel 1950, Abb. 3.

<sup>14</sup> Haarnagel 1950, Abb. 5.

<sup>15</sup> Van Giffen 1940 (2), Abb. 10.

<sup>16</sup> Haarnagel 1950, 88-9; 1951.

<sup>17</sup> Van Giffen 1936-40, especially Afb. 16.

<sup>18</sup> Brabers, province of Zeeland (excavation 1956-7, ROB; oral communication of J.A. Trimpe Burger); Velsen, province of Noord-Holland (excavation 1963-6, ROB; oral communication of J. F. van Regteren Altena); probably also Den Helder, province of Noord-Holland (excavation 1965, ROB; W.A. van Es and H. Halbertsma); cf. also Emden (Hinz 1964, Abb. 8).

<sup>19</sup> Renaud 1955.

<sup>20</sup> Zippelius 1953; Radig 1958, 48-50.

<sup>21</sup> Waterbolk 1964.

<sup>22</sup> Van Giffen 1936 (1), Beilage 1: Abb. 4; Beilage 6; 1940 (2).

<sup>23</sup> Haarnagel 1939, 267-71; 1950, Abb. 3.

<sup>24</sup> Haarnagel 1950; Zippelius 1953; Radig 1958, who cites Schepers 1943; Hinz 1954 (2).

<sup>25</sup> Hinz 1954 (2), 78.

<sup>26</sup> Haarnagel 1950, 89: "Die Ständer in der Wand ermöglichten zugleich die Erhöhung der Flechtwände, sie änderten aber nichts am Baugefüge".

<sup>27</sup> Klein 1936, Abb. 3; 7.

<sup>28</sup> House XIV with its closely spaced oblong wall holes calls to mind a Hessens type wall. A curious situation is presented by XXVIII. Here the post-holes of the long walls are not present in the byre part. It may be that, in this case, an earthen wall had taken over the function of the *Aussenständer*.

<sup>29</sup> Bantelmann 1955, Abb. 7.

<sup>30</sup> Hinz 1954 (2), 76-7.

<sup>31</sup> Van Giffen 1936-40.

<sup>32</sup> Tischler 1954 (1956), 126.

<sup>33</sup> E.g. at Nørre Fjand: Hatt 1957; Skørbaek Hede: Hatt 1938.

<sup>34</sup> Klindt-Jensen in: Stenberger 1955, 977.

<sup>35</sup> Hatt 1938, Pl. 2.

<sup>36</sup> Andersen 1951.

<sup>37</sup> Hatt 1928, Tavle 1.

<sup>38</sup> Hatt 1935, Fig. 1; 5; cf. Kjaer 1928; 1930.

<sup>39</sup> Hatt 1957, Pl. 3.

<sup>40</sup> Stenberger 1955.

- <sup>41</sup> Biörnstad in: Stenberger 1955, 886–90.
- <sup>42</sup> Biörnstad in: Stenberger 1955, 922–4.
- <sup>43</sup> Klindt-Jensen in: Stenberger 1955, 983.
- <sup>44</sup> Van Giffen 1936 (1), Beilage 1: Abb. 5.
- <sup>45</sup> Haarnagel 1939, 267–8, Abb. 5.
- <sup>46</sup> Van Giffen 1936 (1), Beilage 6.
- <sup>47</sup> Hatt 1938, Pl. 2.
- <sup>48</sup> Hatt 1935, Fig. 5.
- <sup>49</sup> Hatt 1957, Pl. 3.
- <sup>50</sup> Andersen 1951.
- <sup>51</sup> Ezinge G; entrances in the short wall at Einswarden are not fully confirmed.
- <sup>52</sup> Ezinge F: the building had two fire-places and seems to be a double *dwelling* house.
- <sup>53</sup> Biörnstad in: Stenberger 1955, 954.
- <sup>54</sup> Haarnagel 1950, Abb. 5.
- <sup>55</sup> Van Giffen 1958, Beilage 2: squares J/K–1/2.
- <sup>56</sup> Van Giffen 1936–40, Afb. 16.
- <sup>57</sup> *Vide* especially: Schepers 1943; Hinz 1950; 1953; 1954 (2); Haarnagel 1950; Andersen 1951; Tischler 1954 (1956); Stenberger 1955; Radig 1958.
- <sup>58</sup> Waterbolk 1964.
- <sup>59</sup> Bloemen 1933, Afb. 6, 7; Hinz 1954 (2), Abb. 6.
- <sup>60</sup> Van Giffen 1940 (1), Afb. 17.
- <sup>61</sup> Modderman 1955.
- <sup>62</sup> Riek 1942.
- <sup>63</sup> Van der Waals 1963.
- <sup>64</sup> Haarnagel 1957 (1).
- <sup>65</sup> Haarnagel 1956, Beilage 3.
- <sup>66</sup> Haarnagel 1963, Abb. 5.
- <sup>67</sup> Jordan 1941; Hoffmann 1940, 27.
- <sup>68</sup> Haarnagel 1939, 267–8, Abb. 5.
- <sup>69</sup> Van Giffen 1958.
- <sup>70</sup> Van Giffen 1936 (3).
- <sup>71</sup> Van Giffen 1958, Beilage 2: squares G/J–4/5.
- <sup>72</sup> Van Giffen 1958, Abb. 5.
- <sup>73</sup> Groenman-van Waateringe, Glasbergen & Hamburger 1961, Fig. 57.
- <sup>74</sup> Apon 1960.
- <sup>75</sup> Schindler 1956–8.
- <sup>76</sup> Bantelmann 1955, T. 41; 42.
- <sup>77</sup> Bantelmann 1958, Abb. 2.
- <sup>78</sup> Behm-Blancke 1958, Abb. 77.
- <sup>79</sup> Behm-Blancke 1956; 1958.
- <sup>80</sup> Hatt 1938, Pl. 2.
- <sup>81</sup> Hatt 1938, Pl. 4.
- <sup>82</sup> Stenberger 1940, Abb. 4.
- <sup>83</sup> Stenberger 1955; Biörnstad in: Stenberger 1955, Fig. 367.
- <sup>84</sup> Biörnstad in: Stenberger 1955, Fig. 360; esp. p. 956.
- <sup>85</sup> Biörnstad in: Stenberger 1955, Fig. 366.
- <sup>86</sup> Bänfer & Stieren 1936; Klein 1936; Beck 1959.
- <sup>87</sup> Tischler 1954 (1956), 135; Winkelmann 1938.
- <sup>88</sup> Von Uslar 1949.
- <sup>89</sup> Hinz 1963.
- <sup>90</sup> Van Beek & Van Es 1964.
- <sup>91</sup> Van Giffen 1958, Beilage 2: squares F/G–3.

<sup>92</sup> Zoller 1963.

<sup>93</sup> The fact that the plans in the higher terp layers have been less well-preserved might be blamed for this, but 3<sup>rd</sup>/4<sup>th</sup> century plans are known at Tofting and Feddersen Wierde, and they are all of AI type. The double-holes which seem to be present in the wall of houses III and IV at Hamburg-Bramfeld (Schindler 1956–8) are not fully convincing.

<sup>94</sup> A curious short-house was excavated at Sellingen (Van Giffen 1939 (1), Afb. 3, 4). In many respects, it is different from the Wijster short-houses and in addition it is much older (Late Bronze/Early Iron Age?), but it seems to have had an entrance-pit.

<sup>95</sup> Jordan 1941.

<sup>96</sup> Riek 1942.

<sup>97</sup> Zippelius 1953.

<sup>98</sup> Waterbolk 1964.

<sup>99</sup> Zippelius 1953, 15–6.

<sup>100</sup> Oelmann 1928; Mylius 1928.

<sup>101</sup> Mylius 1928, 145.

<sup>102</sup> Smith 1964 (1), 19–23.

<sup>103</sup> Van Giffen 1958.

<sup>104</sup> Smith 1964 (2).

<sup>105</sup> Van Giffen 1936–40.

<sup>106</sup> Haarnagel 1950.

<sup>107</sup> Winkelmann 1954, 204.

<sup>108</sup> Winkelmann 1954.

<sup>109</sup> Hinz 1963.

<sup>110</sup> Excavation ROB 1957; unpublished.

<sup>111</sup> Winkelmann 1954, 207.

<sup>112</sup> Excavation BAI, ROB, IPP, 1949, 1951, 1961, 1963; Glasbergen 1950; 1954; Halbertsma 1961.

<sup>113</sup> Hinz 1964.

## CHAPTER XX

### THE ECONOMY OF THE SETTLEMENT

In all three periods, our settlement was primarily a farming community. In period I, the units were still small: one farmhouse with its outbuildings, or a hamlet formed by a few farms with their dependencies. From period II onwards one meets with a larger village.

The importance of cattle raising already appears in the house-plans, the byre taking up a considerable portion of all long-houses. Only when the plans are complete and provide full particulars about the arrangement of the cattle stalls can the exact number of animals which could be stalled in each farm be established.

XIV and XVII, both of type AIIa, afforded space to respectively 24 and some 20 animals; for XX this number did not exceed 14.

The AIIa houses of the short variety usually had a capacity of 12 to 20: III (before extension), VI (before extension), XV, XXI, XLIX, LVII (before extension), LXI, LXII, LXXI, LXXVI, LXXXIII; only XLVIII could hold a few more than 20.

The AIIa long variety mostly housed a number of 20 to 28: (XIII), XVIII, XXXVIII (after extension up to 44!), XXXIX, XLII, LXIII; on two occasions (XLVII, LX, before extension) this number seems to have been much smaller.

The capacity of the tripartite AIIb houses normally lies between 10 and 16: XXVI, XLI, LIV, LVIII, LXIV, LXV; only in XXXIII is the byre somewhat bigger.

The atypical AIIa and the AIIa/b farms could hold between 12 and 20 animals: XIX, XXVIII, XLIV, XLVI, LXIX, LXXV; XLIII probably housed a larger number.

The byre of the BI houses could, of course, only contain a few animals: 8 in the case of LI.

From this we may conclude that, apart from all differences between the individual houses, the farmers living in the tripartite houses usually had a smaller amount of live-stock than their colleagues in the bipartite ones, especially those in the AIIa long variety buildings.

The study of the skeletal remains by Miss A. T. Clason (*vide* pp. 574–9) shows that

the stock of cattle comprised cows, horses and pigs. Cow bones predominate among the skeletal remains; this may be taken as an indication that this animal formed the most important constituent of the Wijster live-stock, as it did in contemporaneous *terp* sites (*vide infra*).

The horse is also well represented, though it does not occur as frequently as the cow. Their relative frequency among the skeletal remains cannot be used, however, in establishing the share which both animals had in the composition of the settlement's live-stock. Some 50% of the horse bones preserved comes from foundation deposits, whereas the cow was rarely chosen for offerings; the majority of cow bones found have to be considered as kitchen refuse. Neither are we justified in assuming that the bones discovered outside the graves reflect the relative frequency of the two species, because it may well be that horse-meat was less often eaten than beef. But the available evidence enables us to conclude not only that the horse was present, but also that it was held in special esteem.

The individual animals of both species appear to have been small; they certainly fitted the narrow stalls. We dare not say whether indeed horses were also stalled thus. Special stables cannot be recognized in any of the buildings, though in this connection one thinks of the transverse stalls often found at the inner end of the byre. Perhaps the young cattle were stalled in the free space without stalls at the outer end of the byre.

Pig bones are extremely rare. Probably this animal was not present in great numbers.

The total absence of sheep and goats is remarkable. Thus the interpretation of the pentagonal enclosure south of house XXXIII as a sheepfold becomes dubious. However, there is reason to suppose that this absence of sheep bones is due to fortuitous circumstances. Strong evidence supports the view that spinning and weaving played an important role in the economy of the settlement (*vide* p. 406-7). Among the animal bones found in the peat of the Bolleveen near Taarlo, which on account of the pottery discovered at the same site must belong to the Roman period, the cow predominates, but there are also a few sheep, pigs and horses, and a dog.<sup>1</sup> It is the only find of contemporaneous skeletal material from the sandy soils of Northern Holland.

All in all, it is probable that the composition of the Wijster live-stock was comparable to those of contemporaneous *terp* sites.<sup>2</sup> By far the largest part consisted of cows. Then came horses, pigs and probably sheep and goats. The occurrence of a few pig bones and the absence of sheep in the Wijster material might point to a preponderance of pig-keeping over sheep-raising. Nobis was able to show that pig-keeping was of more importance in the *terps* nearest to woods and marshy valleys. Our settlement was situated in the vicinity of little rivers and it is probable that woods were also close by.

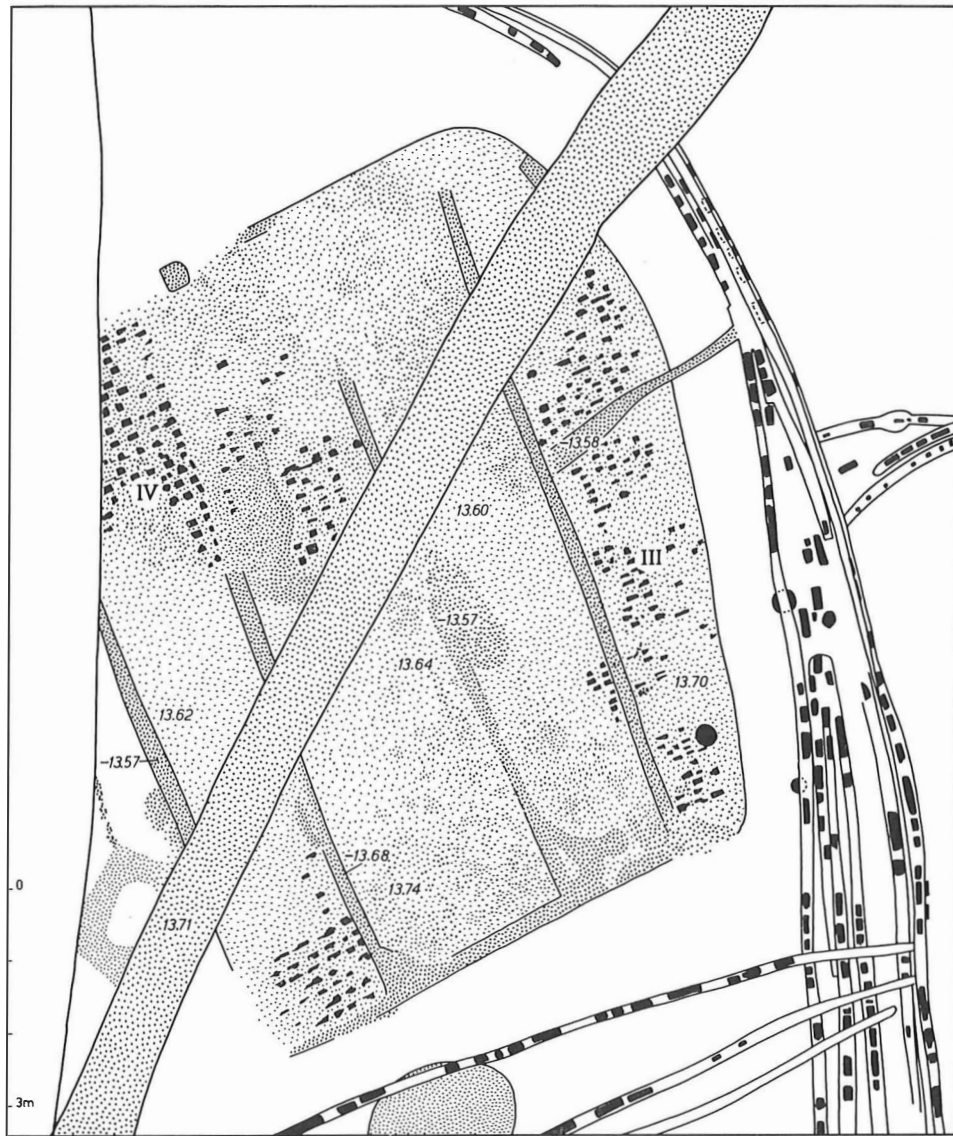


Fig. 181. The "vegetable garden" in squares C²Dᵇ-11/3.

Other domesticated animals that probably were kept in Wijster village were dogs and perhaps cats and chickens, as these species are also found in the *terps*.

The beaver is the only wild animal represented. It may be noted that bones of wild animals are also rare in the *terps*.



Cattle raising was not the sole means of subsistence; agriculture was also practised. We have direct evidence of this from the charred grain, studied by Van Zeist (*vide* pp. 568–73), and the “vegetable garden” found in squares C<sup>2</sup>D<sup>b</sup>–11/3 (Fig. 181). Furthermore, the presence of *Triticum*-type pollen in samples II and III demonstrates that agriculture was practised. Circumstantial evidence is furnished by the large number of spicaria. The possibility cannot be excluded that some of these, especially the four post ones, were not granaries *sensu stricto*, but hay containers. Others, however, *e.g.* the twelve-post configurations, could not have been used except as granaries. Storing of the crops within the farms can neither be proved nor disproved.

Little is known about the kinds of crops grown, except that flax, wheat and barley (*Hordeum vulgare*) were cultivated; the latter being once found in charred condition (*vide* Appendix I). On the whole, the circumstances were unfavourable for obtaining suitable samples for pollen analysis and practically no macroscopic remains of plants had been preserved. Neither are other data available enabling us to evaluate the relative importance of agriculture in the whole complex of the economy. The fact that several spicaria often seem to belong to one farm leads to the conclusion that it played a role of at least some importance.

Various crafts prospered on this basis of mixed farming. Skilled carpenters, not mere amateurs, were needed to build the farmhouses and construct the wells. The cartwright's products were preserved in the pits along the edge of the fen. The wooden bowls can also be considered the work of a specialist and it is possible that the cobbler who made the shoes found in well 10 lived in the settlement.

The large masses of slag, scattered all over the excavated area, testify to an intensive working of bog iron and perhaps to the manufacture of weapons and tools. It has been pointed out (p. 371) that most of the oven-pits, probably connected with these activities, are to be attributed to period II. It is significant that most long-houses belonging to this period are of the tripartite type with a comparatively small byre. This indicates that the iron industry held a relatively important place during period II and the curious tripartite house may have been a special adaptation to this economic situation, if we accept that the middle part of these buildings was designed as a workshop.

The short-houses of type B are best interpreted as the dwellings of craftsmen or traders. In all phases of periods II and III they are present in a proportion of 15–20%. The possible presence of small byres in these houses (in type BI they certainly occur), and an occasional combination with granaries (as in the case of XXVII) show that their inhabitants were still concerned to some degree with farming.

Spinning and weaving must have had considerable importance. Evidence of this feminine handicraft is supplied by the spindle-whorls and loom-weights, as well as the large number of sunken huts. The distribution of the huts over the excavated

area indicates that they were outhouses belonging to the farms. Many of them show rectangular pits in which the clay weights of the standing loom were probably hung; moreover about 60% of the spindle-whorls and loom-weights was found in the huts. Thus, apart from the references to these small subterranean buildings in the German Laws,<sup>3</sup> at our site also there is convincing proof of their use as *Webhütte*. However, they may have served more than one purpose.

Other home industries were the grinding of corn by means of basalt lava querns, the preparation of dairy products and baking of household pottery. The majority of the hand-made pottery was probably manufactured on the spot. Some pottery types, however, *e.g.* the cups of types I, give the impression of being the products of a craftsman and part of them may have even been imported.

The imports from the North-western part of the Roman empire (pottery, glass, brooches and pins) imply contacts from far afield. It is not certain whether these contacts were exclusively commercial in character and to what extent the inhabitants of the settlement themselves took an active part in this trade. In itself it would not be surprising if the raising of cattle and horses provided the community with a surplus for export.

The picture which we formed of the economic activities, based as it is on haphazard material finds alone, must necessarily remain rather vague and incomplete. Our knowledge of the social conditions of the Wijster community is practically non-existent.

It is impossible to establish the exact number of inhabitants of our village in successive periods. In the first place, the number of people assigned to each individual farm is mainly a matter of personal opinion; in the second place, only part of the settlement has come to light. Therefore the following calculation is merely intended as a rough estimate of an obscure situation.

It is assumed that each principal building housed an average of eight people: the owner's family comprising three generations (grandfather, grandmother, father and mother with four children). This would mean a number of some 250 to 300 inhabitants for the excavated part of the settlement of period III.<sup>4</sup> There is no way of assessing the size of the excavated portion in relation to the total area of the original village, but a population of 500 inhabitants with about twice as many cattle does not seem to be improbable.

In view of the incompleteness of our data, it is impossible to estimate the increase or decrease of the population in the course of the successive phases of settlement. Nor can we establish the proportion of people working in a particular craft and in trade. It has already been remarked that during period II metal working held a special place, but in all periods farming formed the basis of subsistence.

The disposition of the settlement of period II and particularly of period III

suggests a certain amount of central authority. In the excavated part of our settlement, however, we find no convincing proof of the existence of a *Herrensitz* as found at Feddersen Wierde, the inhabitants of which controlled industry and commerce and probably also had a leading function within the community. The different size of the farmhouses probably reflects differences in wealth between their owners, but none of them approaches the unique position of the *Herrenhof* at Feddersen Wierde. Only during period IIIb and c can we postulate a social centre of gravity in the south-western corner of the settlement. In phase IIIb, we find here the exceptionally large farmhouse XXXVIII/XXXIX with its comparatively large number of outhouses. In the next phase, another big house, XXXVI, lies within one enclosure together with a second smaller building, XL. The finds of imported objects are moreover slightly more numerous in this area than elsewhere.

## NOTES

<sup>1</sup> Van Giffen 1950, 93.

<sup>2</sup> Nobis in Bantelmann 1955, 114–7.

<sup>3</sup> The *screona* of the lex Salica, Saxonum and Frisionum: Dölling 1958, 12, 61–2, 91.

<sup>4</sup> The settlement of phase IIIb is the best known. To the twenty three houses that can be attributed to it, at least another eight have to be added which may be supposed to have been standing in the eroded northwestern area. The number of animals that could be stalled in these farms amounted to some 400 or 500! Cf. Slicher van Bath 1965, 131–3.

## THE CEMETERY

### (CHAPTER XXI-XXII)

The cemetery lying to the south of the fen, and excavated by Van Giffen in 1926 and 1931, obviously has some connection with the settlement; therefore it should be studied in this context.

The cemetery proper falls into two sections: a western one with predominantly cremation burials (*Brandgruben*) interspersed with a few inhumation graves, and another one, more to the east, which has the appearance of a grave field of the *Reihen-gräberfeld* type (Plan XI). In the western section, and also in the central area, different settings of post-holes occur. Moreover, four cremation-barrows were investigated and in the middle of the excavated area, underlying the graves of the cemetery, a large rectangular trench was discovered with some cremation interments within it. This trench is furthermore cut by a square trench surrounding a circular one.

The excavation was published in two papers,<sup>1</sup> neither of which was meant to be definitive, but preliminary in character. Our scope also is limited. We intend only to summarize the results of Van Giffen's investigation and to attempt a dating of the phenomena observed, to obtain some insight into the growth of the cemetery and its exact relation to the settlement. To achieve this end we will begin by giving a short description of the graves with their contents.

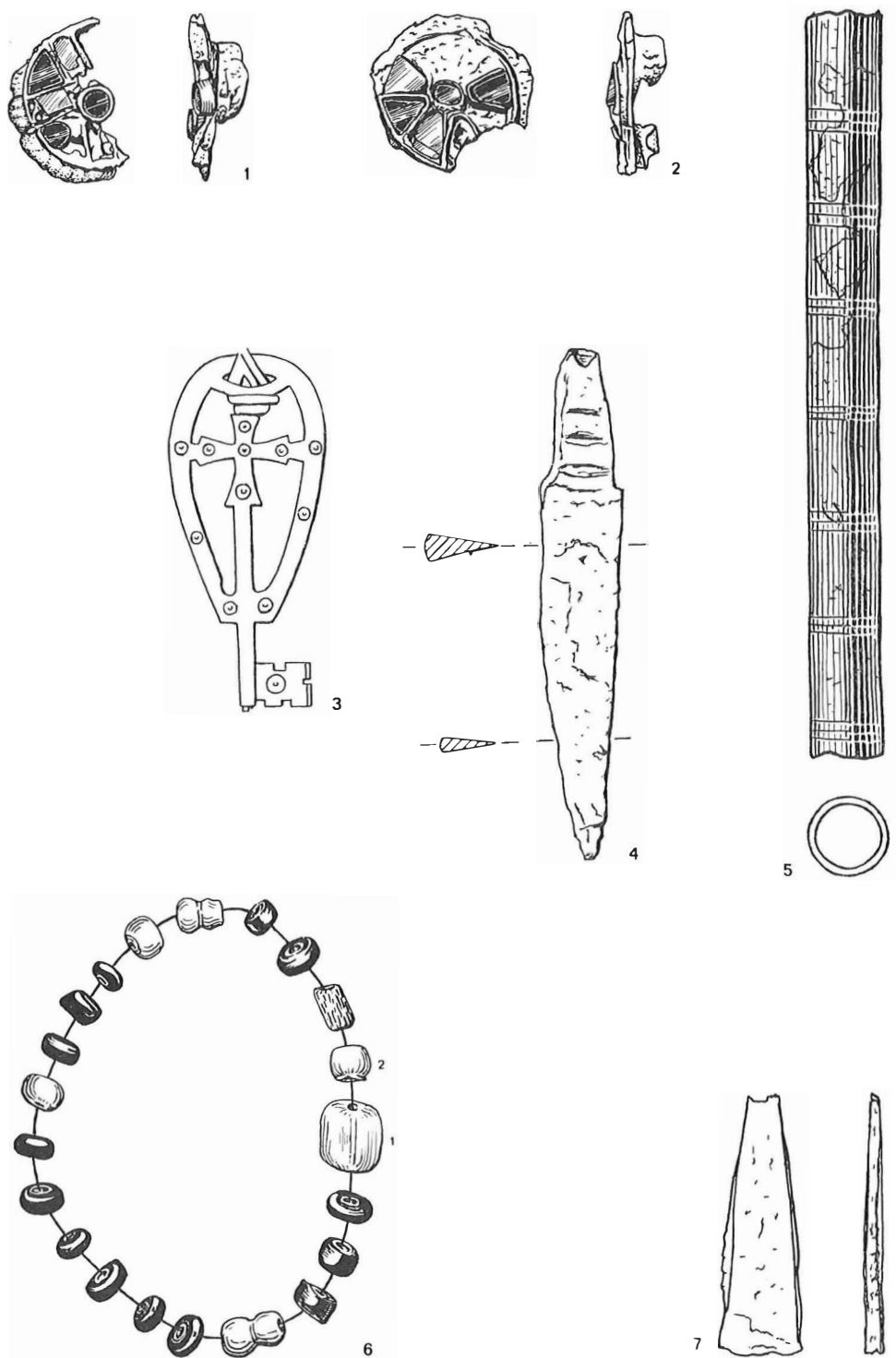


Fig. 182. Grave 2. No. 3, 4: scale 1 : 2.\*

## CHAPTER XXI

### DESCRIPTION OF THE GRAVES <sup>2</sup>

#### A. INHUMATION GRAVES

1. B<sup>mn</sup>-55/6.  
NW.-SE.  
2.50 × 1.00.  
Traces of skeleton.  
Finds:
  - a. Waist-high, on left side: iron knife, l. 16 (1926/IV<sup>1a</sup>; missing).
  - b. Irregular piece of flint (1926/IV<sup>1</sup>; missing).
2. B<sup>no</sup>-55 (Fig. 182).  
(NW.-SE.).  
2.10 × 0.90.  
Finds:
  - a. Pair of bronze disc-brooches, plates with beaded border, within raised rim cells made of bronze strips forming an equal-armed cross with circular centre, the arms of the cross inlaid with green glass, the central cell and the spaces between the arms inlaid with red glass (part of the inlays are missing), underneath both plates the spirals, made of iron, have been preserved, underneath one brooch the bronze needle-catch is still present, d. 2.3 (1926/IV<sup>2c</sup> and d).
  - b. Cylindrical bronze tube, bent from a sheet of bronze (seam along one side), decorated with groups of three transverse, incised lines, l. 10.8, d. 1.1 (1926/IV<sup>2a</sup>).
  - c. Bronze key with oval frame with inscribed equal-armed cross, the ward, frame and cross decorated with dot-and-rings, l. ca. 10 (1926/IV<sup>2b</sup>; missing; cf. Van Giffen 1927, Pl. 8: 17b).
  - d. Iron knife, on the blade remnants of leather sheath, the wooden hilt decorated on one side with three notches, l. 14.8 (1926/IV<sup>2c</sup>?!); it is not clear, whether the knife indeed belongs to this particular grave: it is not mentioned in the field book; the inventory number it carries cannot be right: no. 2<sup>c</sup> being one of the discbrooches; under no. 1926/IV<sup>2e</sup>, the field book mentions a third disc-brooch

\* Unless indicated otherwise the finds from the cemetery have been illustrated 1 : 1.

(cf. Van Giffen 1927, Pl. 8: 17e) which is missing; a small fragment of another knife, however, is present under this no.).

e. 21 beads: 1, rectangular, translucent whitish glass (rock crystal?); 2, 6, 7, 11, 18, *Überfangperlen* of yellowish or whitish glass (6 and 18 segmented); 3, cylindrical, opaque greenish to whitish glass; the remaining ones are disc-shaped and of translucent dark-blue glass (1926/IV<sup>2f</sup>).

3. B<sup>n</sup>-56.

(NW.-SE.).

1.70 × 1.00.

4. B<sup>m</sup>-56.

(NW.-SE.).

2.40 × 1.20.

Finds: a. Iron knife (missing).

5. B<sup>lm</sup>-56 (Fig. 183).

NW.-SE.

2.60 × 1.10; 0.30.

Traces of coffin, 2.15 × 0.46.



Fig. 183. Grave 5.

## Finds:

- a. Bronze brooch in the shape of an equal-armed cross with lobed terminals, the terminals and the centre decorated with dot-and-rings, along the edge of the arms runs a raised border, the field within this border is striated, l. 3.3 (1926/IV<sup>5d</sup>).
- b. Waist-high, on left side: fragment of iron knife, l. 7.8 (1926/IV<sup>5a</sup>).
- c. 10 beads: 1, 2, almond-shaped, amethyst; 3, biconical opaque, mottled black and yellow glass with red stripe; 4, 5, 6, 7, 9, *Überfangperlen* of whitish or yellowish glass (4 and 7 segmented); 8, 10, cylindrical, opaque greenish to whitish glass (1926/IV<sup>5a</sup>).
- d. Pendant of twisted silver (?) wire (missing; cf. Van Giffen 1927, Pl. 8: 19b).
- e. Bead? (missing; cf. Van Giffen 1927, Pl. 8: 19e; probably one of the two amethyst beads mentioned under c.).

6. B<sup>l</sup>-55 (Fig. 184).

(NW.-SE.).

2.30 × 0.90; 0.10.

## Finds:

- a. Fragment of iron knife, l. 5.6 (1926/IV<sup>6a</sup>; it is not certain whether the knife comes from this grave: the field book mentions 2 beads).

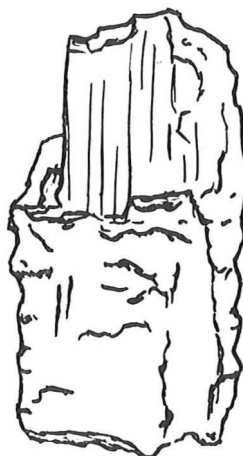


Fig. 184. Grave 6.

7. B<sup>k</sup>-55/6 (Fig. 185).

SW.-NE.

2.30 × 1.00; 0.25.

## Finds:

- a. On the breast: rectangular bronze brooch, on the upper surface decorated with a row of squarish impressions along the edge and a rectangle with projections at the corners of the same ornament in the centre, remnants of a brooch construction on the under-surface, l. 4, w. 2.5 (1926/IV<sup>7d</sup>).



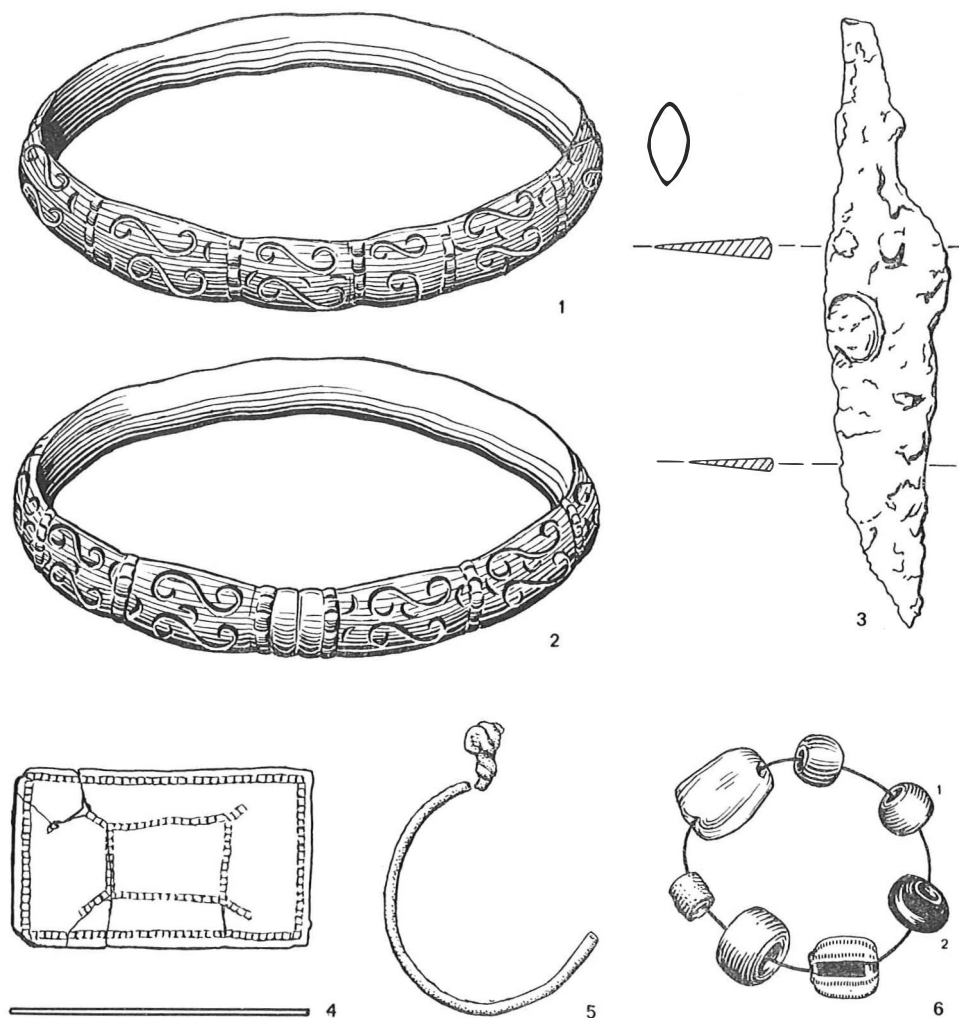


Fig. 185. Grave 7. No. 3: scale 1: 2.

*b.* Round each wrist: a bronze bracelet decorated with pairs of incised S shaped scrolls and crescent shaped impressions within rectangular fields separated by notched ridges, in the middle of one side two such ridges border a double smooth moulding, apart from small deviations the decoration of both bracelets is identical, d.  $7.8 \times 7$  (1926/IV<sup>7a</sup> and *b*).

*c.* At left side: fragment of iron knife (1926/IV<sup>7c</sup>; missing; our Fig. 185: 3 ?).

- d.* 7 beads: 1, 5, short cylindrical, opaque green glass; 2, disc-shaped, translucent dark-blue glass; 3, cylindrical, striped (white, red, yellow, red, white, blue) glass (recent?); 4, disc-shaped, opaque orange glass; 6, almond-shaped, amethyst; 7, bulbous, amber (1926/IV<sup>7e</sup>).
- e.* Two circular pendants of silver wire, d. *ca.* 2.9 (1926/IV<sup>7f</sup> and *g*; one missing; *cf.* Van Giffen 1927, Pl. 7: 3<sup>g</sup>).

8. B<sup>jk</sup>-55/6.

(SW.-NE.).

1.80 × 1.00

9. B<sup>i</sup>-55/6.

(SW.-NE.).

2.10 × 0.75.

Traces of coffin, 1.70 × 0.40.

10. B<sup>i</sup>-55/6 (Fig. 186).

SW.-NE.

2.50 × 1.00; 0.23.

Traces of skeleton.

Traces of coffin, 2.10 × 0.48.

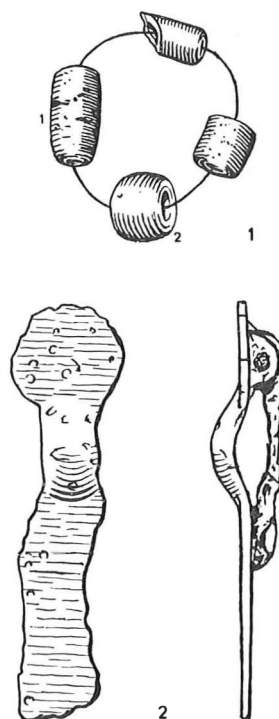


Fig. 186. Grave 10.

Finds:

- a.* At the neck: bronze bow-brooch with semi-circular (?) head, short and low slightly thickened bow and rectangular (?) foot, iron needle and bronze needle-catch preserved, l. 5.6 (1926/IV<sup>10b</sup>; the brooch pictured in our Fig. 186: 2 carries the inv. no. 1926/IV<sup>20a</sup>, but it resembles the picture given by Van Giffen (1927, Pl. 8: 10*b*) of the brooch from this grave; it would moreover be surprising, if it really came from the horse grave 20, from which the field book mentions no finds).
- b.* At the neck (?): 4 beads: 1, tubular, opaque moss-green glass; 2, cylindrical, opaque dark green glass; 3, 4, cylindrical and tubular, opaque brick-red glass (1926/IV<sup>10a</sup>).

11. B<sup>i</sup>-55 (Fig. 187).

(SW.-NE.).

2.20 × 0.75.

Finds:

- a.* Iron disc-brooch, no traces of bronze face plate remain, d. 2.6 (1926/IV<sup>11a</sup>).  
*b.* 5 beads: 1, brick-shaped, opaque glass with yellow and green checkered pattern surrounded by yellow, red and white stripes; 2, 3, 4, tubular and cylindrical, opaque brick-red glass; 5, cylindrical, opaque dark-green glass (1926/IV<sup>11</sup>).

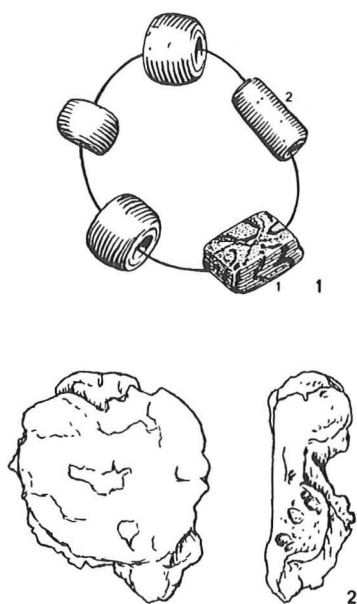


Fig. 187. Grave 11.

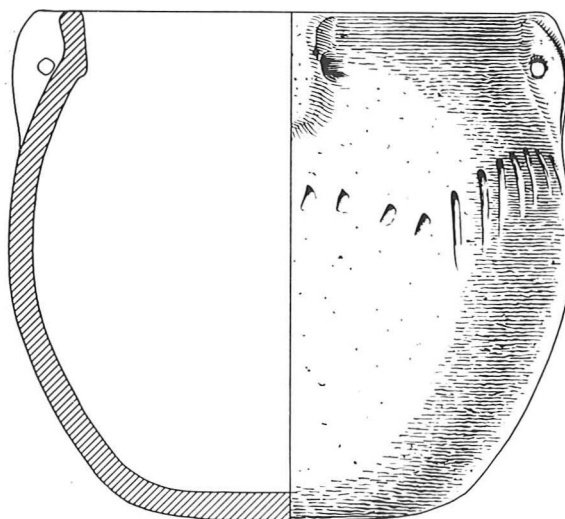


Fig. 188. Grave 12. Scale 1:3.

12. B<sup>i</sup>-55 (Fig. 188).

(SW.-NE.).

2.50 × 1.40.

Cuts grave 156?

"Above" (or high in the filling of) the grave were found: sherds of a flat-bottomed bowl with short neck and possibly four perforated knob-handles (one restored) set against the rim, decorated with a row of vertical incisions below the handles, of irregular, coarsely stone-tempered, brownish to blackish-grey, hand-made pottery, h. 20, d. ca. 22 (1926/IV<sup>215</sup>).

13. B<sup>i</sup>-56.  
(SW.-NE.).  
2.35 × 1.10.  
Traces of coffin, 2.08 × 0.40.

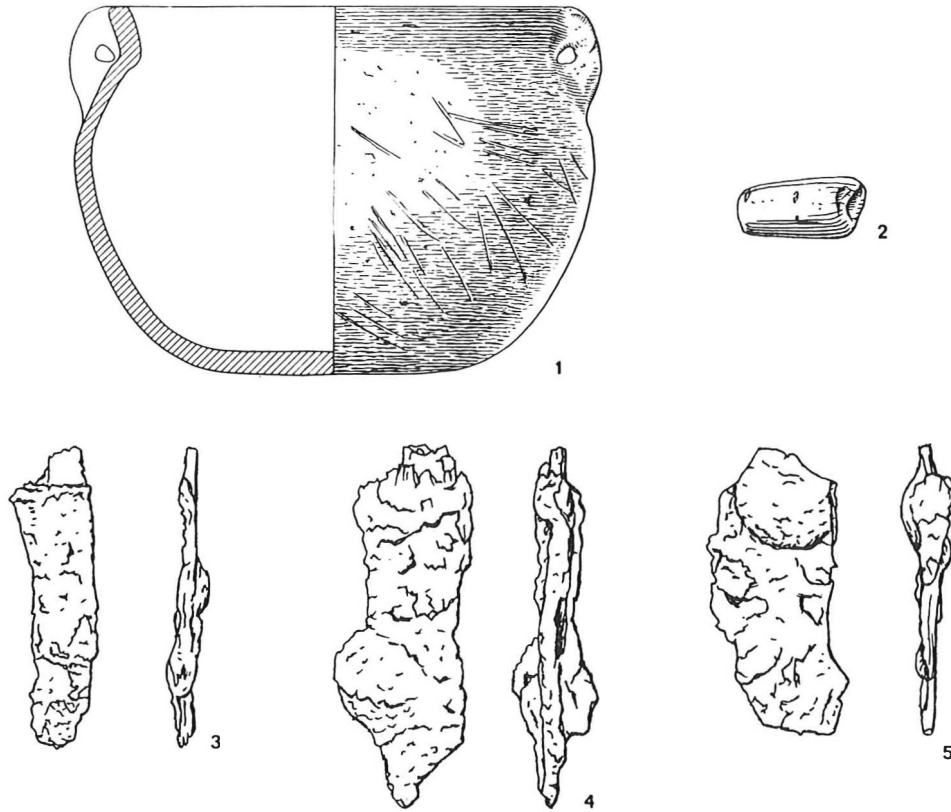


Fig. 189. Grave 14. No. 1: scale 1:3; no. 3-5: scale 1:2.

14. B<sup>h</sup>-55/6 (Fig. 189).  
SW.-NE.  
2.40 × 1.10; 0.50.  
Traces of coffin, 2.00 × 0.65.  
Finds:

- a. At SW. end of the pit, in the middle, outside the coffin: flat-bottomed bowl with short neck and two perforated knob-handles set against the rim, of rather smooth, yellow brown to grey, stone-tempered, hand-made pottery, h. 14.5, d. 20 (1926/IV<sup>222</sup>).

*b.* Iron fragments, among which fragments of three (?) knives, l. 9.5; 8.75 (1926/IV<sup>14b</sup>).

*c.* Tubular bead of opaque greyish-white glass (1926/IV<sup>14</sup>).

15. B<sup>h</sup>-56/7 (Fig. 190).  
(SW.-NE.).

2.10 × 1.10; 0.40.

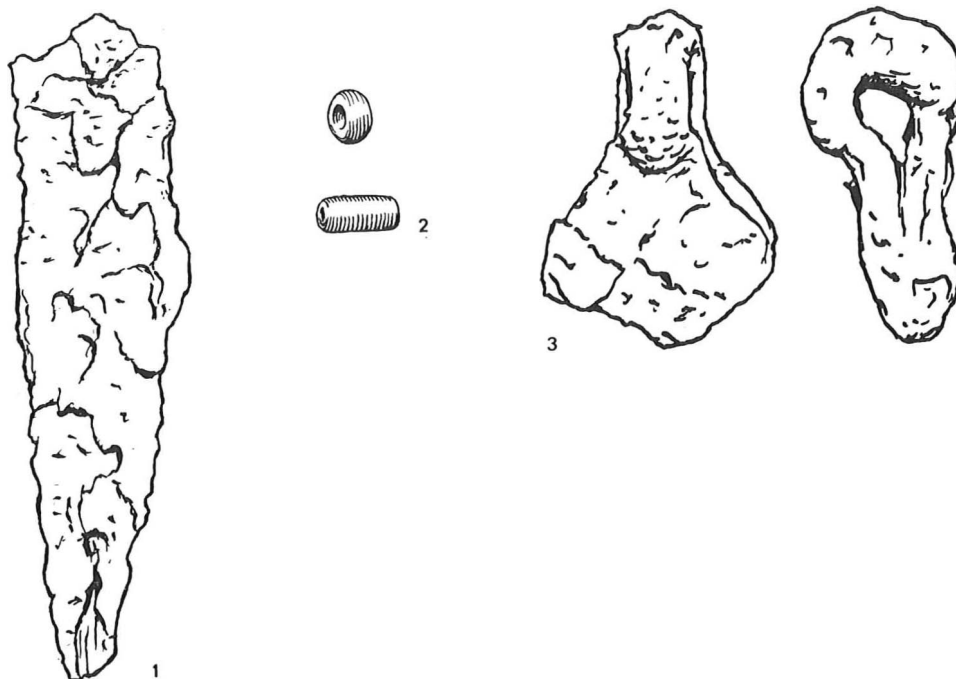


Fig. 190. Grave 15.

Finds:

*a.* Iron (?) disc-brooch, the upper side covered by bronze (?) face plate decorated with square fields bordered by double grooves and filled in with a rosette, d.

*ca.* 4 (1926/IV<sup>15d</sup>; missing; *cf.* Van Giffen 1927, Pl. 8: 5*a*).

*b.* Fragment of iron knife, l. 8.7 (1926/IV<sup>15a</sup>).

*c.* Iron loop with flat trapezoidal end, l. 4.5 (1926/IV<sup>15b</sup>).

*d.* 2 beads: 1, tubular, opaque green glass; 2, disc-shaped, translucent dark-blue glass (1926/IV<sup>15c</sup>).

16. B<sup>hi</sup>-56/7 (Fig. 191).  
(SW.-NE.).

1.80 × 1.00; 0.30.

## Finds:

- a.* Fragmentary iron disc-brooch, no remnants of bronze face plate remain, d. 3.7 (1926/IV<sup>16a</sup>).
- b.* 4 beads: 1, segmented *Überfangperle* of yellowish glass; 2, tubular, opaque glass, brick-red in the middle, green at the ends; 3, brick-shaped, opaque glass with yellow and green checkered pattern and green, yellow, red, white stripes; 4, cylindrical, opaque white glass with double red zig-zag line (1926/IV<sup>16b</sup>).

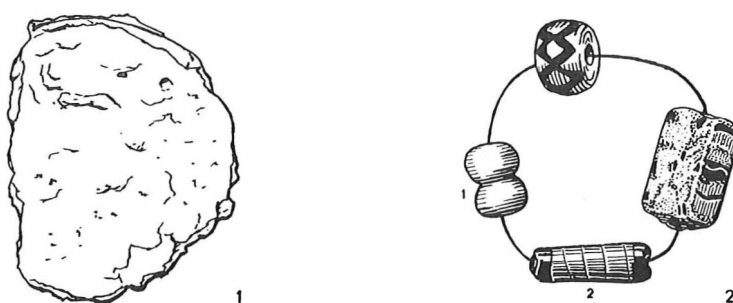


Fig. 191. Grave 16.

17. Bi-56/7 (Fig. 192).  
(SW.-NE.).

2.00 × 1.00; 0.27.

## Finds:

- a.* Fragmentary iron disc-brooch, no remnants of bronze face plate remain, d. 4.1 (1926/IV<sup>17</sup>).
- b.* Iron fragments, among which iron knife (1926/IV<sup>b-i</sup>; missing).
- c.* 3 beads: 1, disc-shaped, amber; 2, cylindrical, opaque brick-red glass; 3, cylindrical, translucent dark-blue glass (1926/IV<sup>17j</sup>).
- d.* small sherd of smooth, stone-tempered, greyish, hand-made pottery (1926/IV<sup>17k</sup>).

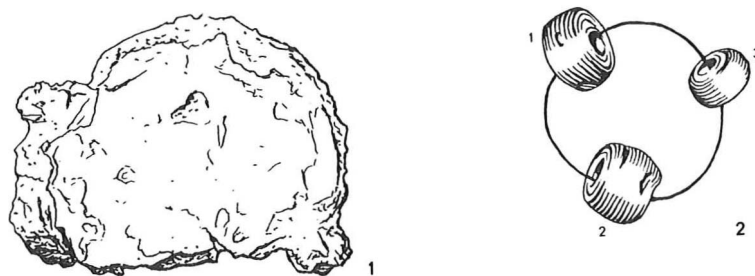


Fig. 192. Grave 17.

18. B<sup>l</sup>-54/5.  
(SW.-NE.).  
2.20 × 1.00.  
Finds:  
*a.* Rim-sherd (handle broken off?) of smooth, stone-tempered, yellow-brown, hand-made pottery (1926/IV<sup>18</sup>; missing).
19. B<sup>hi</sup>-54/5 (Fig. 193).  
(SW.-NE.).  
2.35 × 1.00.  
Finds:  
*a.* Flat bronze bow-brooch with lobed head, low bow and trapezoidal foot ending in a disc-shaped protuberance, bow and foot decorated with rows of squarish or round impressions, traces of grooved ornament on the head, l. 17.7 (1926/IV<sup>19d</sup>).  
*b.* Iron buckle with round loop, d. 3.3 (1926/IV<sup>19</sup>).  
*c.* Iron knife, remnants of leather sheath and wooden hilt (?), l. 11.6 (1926/IV<sup>19c</sup>).  
*d.* 3 beads: 1, tubular, in the middle opaque red and whitish stripes, translucent dark-blue ends; 2, cylindrical, opaque brick-red glass; 3, faceted, opaque black glass (1926/IV<sup>19a</sup>).
20. B<sup>ii</sup>-53/4.  
(SW.-NE.).  
Horse grave.  
2.30 × 0.70; 1.50.
21. B<sup>i</sup>-53/4.  
(SW.-NE.).  
Horse grave.  
2.10 × 0.80; 0.40.  
Finds: *a.* ring (missing).
22. B<sup>j</sup>-54.  
(SW.-NE.).  
Horse grave.  
2.30 × 1.00; 0.80.

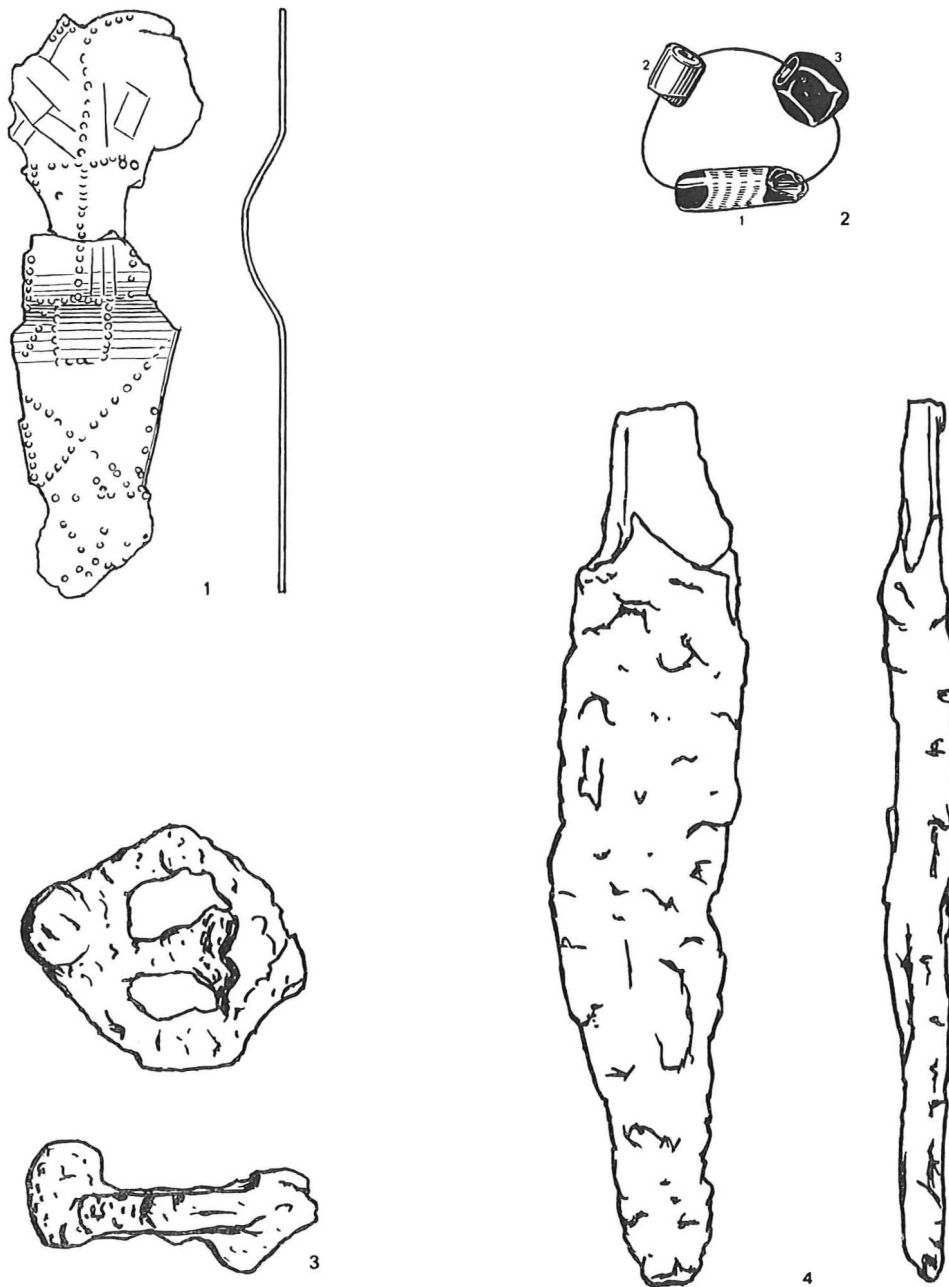


Fig. 193. Grave 19.



23. Bj-54 (Fig. 194).  
 (SW.-NE.).  
 Horse grave.  
 Cut by grave 24.  
 $1.90 \times ?; 0.86$ .

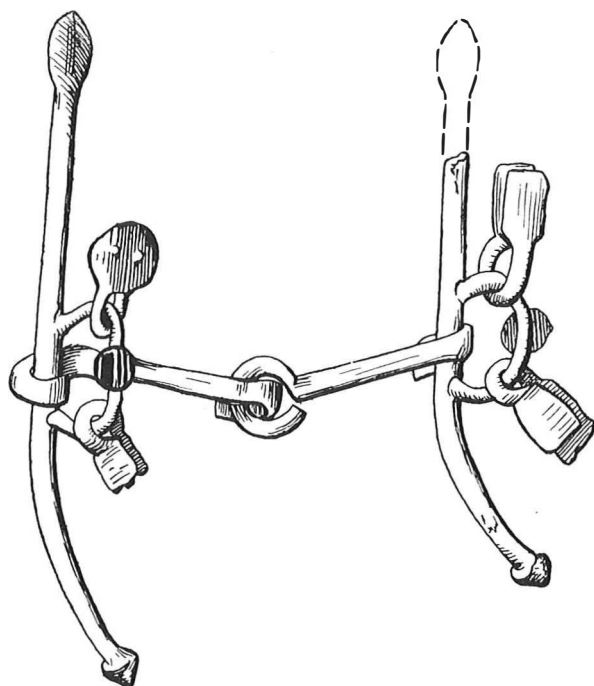


Fig. 194. Grave 23. Scale *ca.* 1 : 2.

Finds:

- a.* Iron snaffle with broken bit and curved side-bars ending in a conical knob at one end and in a flattened oval part at the other, in the middle of the bars a ring, in each of which two loops for attaching the straps of the head-stall (1926/IV<sup>23</sup>; missing; *cf.* Van Giffen 1927, Pl. 6: 6).

24. Bj<sup>k</sup>-54 (Fig. 195).  
 (SW.-NE.).  
 Cuts grave 23.  
 $2.60 \times 1.00; 0.45$ .  
 Traces of coffin,  $2.30 \times 0.50$ .

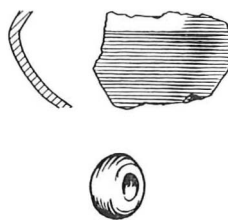


Fig. 195. Grave 24. Sherd: scale 1 : 3.

## Finds:

- a.* Within coffin, at left side, about half-way: iron fragments (1926/IV<sup>24a-c</sup>; missing).
- b.* Within coffin, at left side, about 0.60 from SW. corner: disc-shaped bead of translucent light-blue glass (1926/IV<sup>24d</sup>).
- c.* Sherd of fine, thin, smooth, stone-tempered, black, hand-made pottery (1926/IV<sup>24e</sup>).

25. Bj-55 (Fig. 196).  
(SW.-NE.).  
2.70 × 0.90.

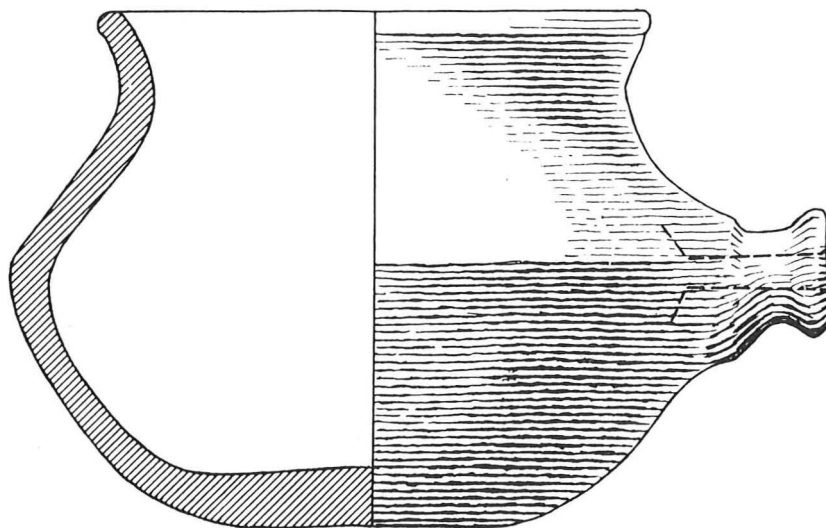


Fig. 196. Grave 25?

## Finds:

- a.* Carinated bowl with small spout at carination of irregular, dark grey, hand-made pottery, h. 6.5, d. 9.7 (probably, however, the bowl was not found in this grave: it carries the wrong inv. no. (1926/III<sup>25</sup>; stray finds) and does not occur in the original list in the field book).

26. Bi-55 (Fig. 197).

(SW.-NE.).

Child's grave.

1.50 × 0.70; 0.16.

Finds:

a. One more or less conical and two disc-shaped spindle-whorls of greyish or yellow, hand-made pottery, d. 2.8, 3, 3.9 (probably, however, the spindle-whorls do not belong to this grave: they carry wrong inv. nos. (1926/III<sup>26</sup>, 26a, 26b; stray finds) and do not occur in the original list in the field book).

b. Iron fragments (missing).

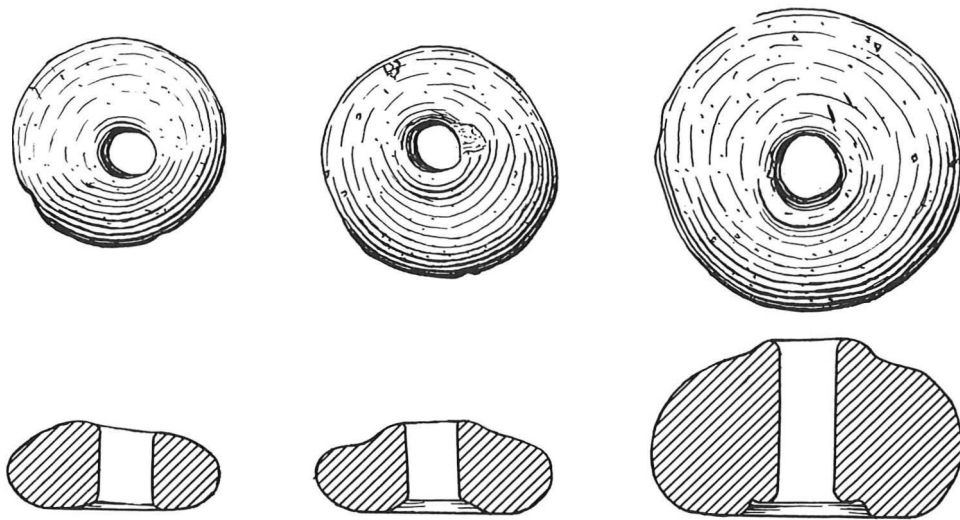


Fig. 197. Grave 26?

27. Bj<sup>k</sup>-55.

(NW.-SE.).

Child's grave.

1.40 × 0.70.

28. B<sup>k</sup>-54.

(SW.-NE.).

Horse grave (in field book: "Two horse skeletons").

1.95 × 0.90.

## Description of the graves

29. B<sup>i</sup>-55.  
(SW.-NE.).  
Horse grave.  
1.80 × 1.00.

30. B<sup>k</sup>-53/4 (Fig. 198).  
(NW.-SE.).  
2.60 × 1.10; 0.30.

## Finds:

- a.* At left side, about 0.60 from NW. corner: rectangular brooch of thin bronze sheet, on the upper surface decorated with a cross formed by square impressions surrounded by a rectangle of the same ornament and rows of square impressions along the edge, traces of brooch construction at the under-surface, l. 3.8 (1926/IV<sup>30a</sup>).
- b.* Iron ring and iron fragments (1926/IV<sup>30a</sup>, c-f; missing).
- c.* 3 faceted tubular beads, one of opaque brick-red glass, the remaining two of translucent blue glass with red dots surrounded by white border (1926/IV<sup>30b</sup>).
- d.* Fragments of circular pendant of silver wire, d. ca. 2.7 (1926/IV<sup>30</sup>).

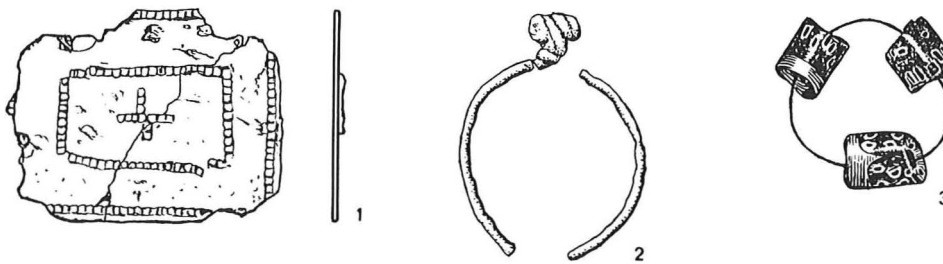


Fig. 198. Grave 30.

31. B<sup>i</sup>-54.  
NW.-SE.  
2.35 × 1.00.  
Traces of skeleton.

32. B<sup>i</sup>-53 (Fig. 199).  
NW.-SE.  
2.35 × 1.00; 0.35.  
Traces of skeleton.  
Traces of coffin, 2.00 × 0.50.

## Finds:

- a.* On the breast: bronze equal-armed brooch, the arms in the shape of animal heads, grooves at the ends of the bow, brooch spiral and catch broken off, l. 3.9 (1926/IV<sup>32a</sup>).  
*b.* At middle on left side: iron knife, l. 15.5 (1926/IV<sup>32c, d</sup>).

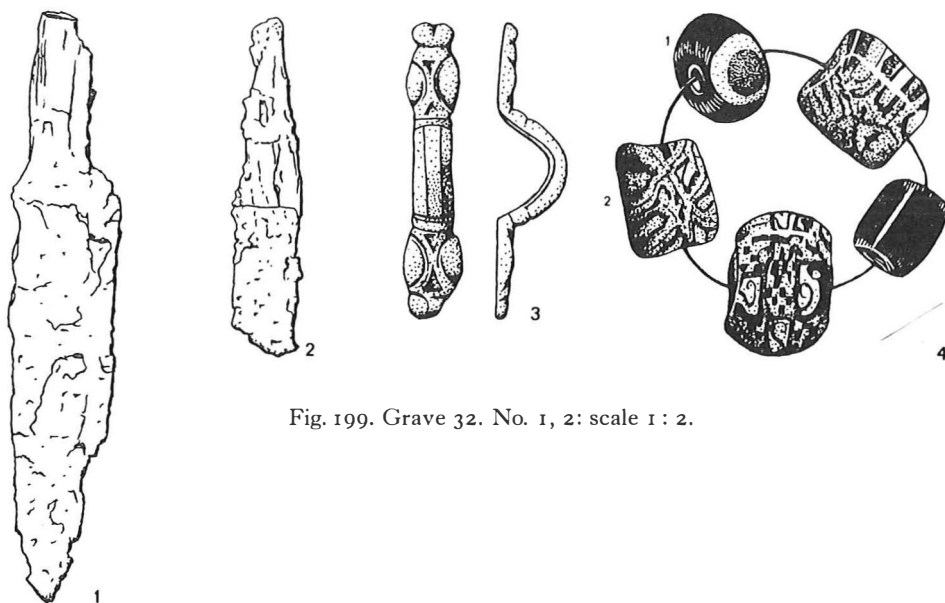


Fig. 199. Grave 32. No. 1, 2: scale 1:2.

- c.* Iron fragment (of knife?), l. 8.9 (1926/IV<sup>32f</sup>).  
*d.* Small iron fragment, l. 3.2 (1926/IV<sup>32b</sup>).  
*e.* On the breast with the brooch: 6 beads: 1, disc-shaped, opaque black glass with three blue dots on white field; 2,5, brick-shaped, opaque glass with yellow and green checkered pattern and green, yellow, red, white stripes; 3, disc-shaped, opaque glass with rectangular fields formed by red lines, alternatively filled in with yellow and black checkered pattern and white scrolls on blue background; 4, rectangular, opaque black glass with green lines along the edges (1926/IV<sup>32</sup>; 1 bead missing).

33. Bj<sup>k</sup>-52/3.

NW.-SE.

2.45 × 0.95.

Traces of skeleton.

Traces of coffin, 2.00 × 0.45.

Finds: *a.* Two iron fragments (missing).

34. B<sup>k</sup>-53/4 (Fig. 200).  
(NW.-SE.).

Cuts grave 36.

2.25 × 0.80.

Finds:

- a. Bevelled loop of bronze buckle, the upper surface decorated with a row of larger dots between two rows of tiny pin-prick holes, l. 4.2 (1926/IV<sup>34</sup>).

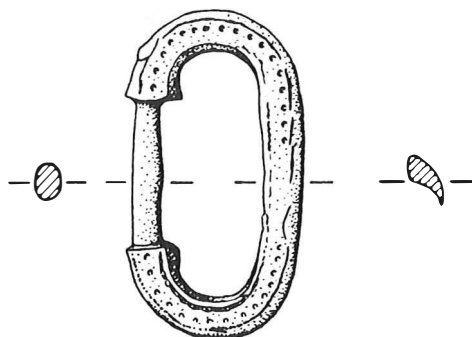


Fig. 200. Grave 34.

35. B<sup>k</sup>-54 (Fig. 201).  
NW.-SE.

Cuts grave 36.

2.40 × 1.00; 0.25.

Traces of skeleton.

Traces of coffin, 2.00 × 0.40.

Finds:

- a. Waist-high, on left side: fragmentary iron knife, l. 9 (1926/IV<sup>35</sup>).  
b. Pendant of twisted silver wire, d. 4.1 (1926/IV<sup>35a</sup>; however, the attribution of the pendant to this grave is not completely certain: in the field book no pendant is mentioned).  
c. In his publication Van Giffen (1927, Pl. 8: 14) illustrates 14 beads as coming from this grave; these, however, carry the wrong inv. no. (1926/III<sup>35</sup>; stray finds) and do not occur in the original list in the field book. Most probably, therefore, the beads do not belong to this grave.

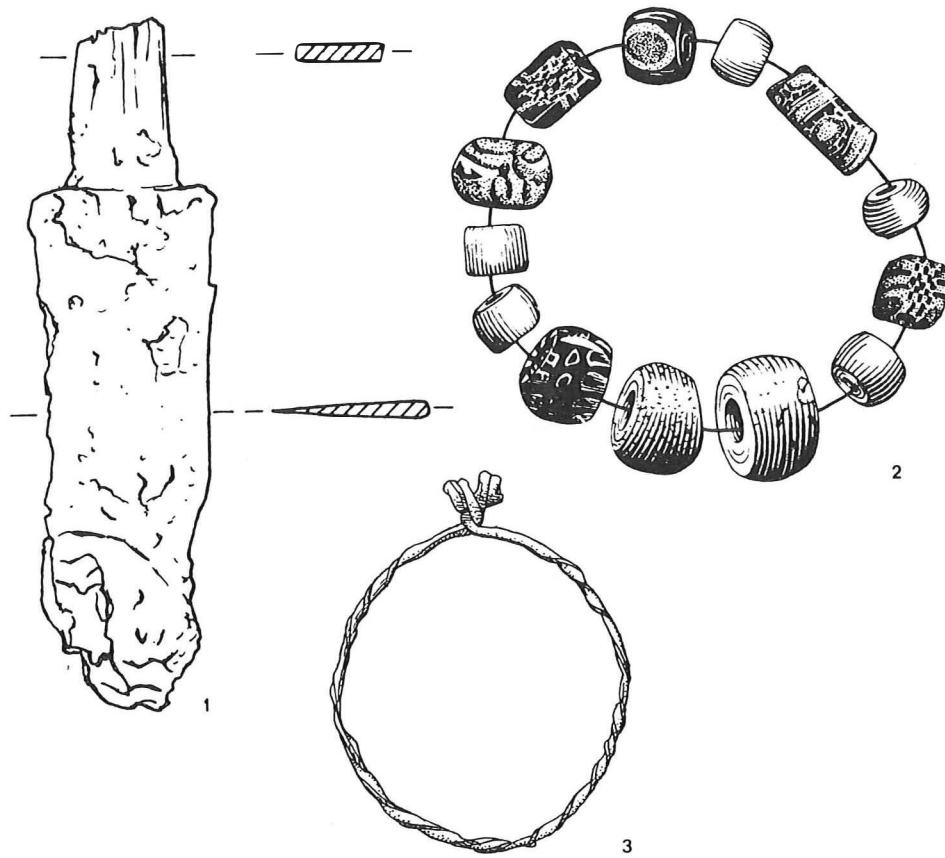


Fig. 201. Grave 35 (beads?).

36. Bk-52/3 (Fig. 202).

(S.-N.).

Horse grave.

Cut by graves 34, 35.

Ca.  $2.30 \times 1.00$ ;  $0.60$ .

Finds:

- a. Sherd (probably from bowl) with perforated knob-handle and row of triangular indentations, of rather smooth, stone-tempered, brown, hand-made pottery (however, the sherd probably does not come from the grave: it has been incorporated later in the field book and carries the inv. no. 1926/III<sup>36</sup> (stray finds) in lieu of 1926/IV<sup>36</sup>).

37. B<sup>l</sup>-53.  
NE.-SW. (in field book: "head at N., lying on the belly").  
Horse grave.  
1.90 × 0.60; 0.70.
38. B<sup>l</sup>-53.  
(W.-E.).  
2.10 × 0.95.
39. B<sup>e</sup>-51/2.  
(SW.-NE.).  
Horse grave?  
1.50 × 0.50.
40. B<sup>de</sup>-51/2.  
NE.-SW. (protuberance of pit for head?).  
Horse grave.  
1.90 × 0.60; 0.25.
41. B<sup>d</sup>-51.  
(SW.-NE.).  
Horse grave.  
1.80 × 0.60; 0.25.
42. B<sup>de</sup>-51.  
(W.-E.).  
3.20 × ?
43. B<sup>d</sup>-51.  
(SW.-NE.).  
Horse grave.  
1.60 × 0.80; 0.35.
44. B<sup>d</sup>-51.  
(SW.-NE.).  
Horse grave.  
1.40 × 0.80; 0.45.

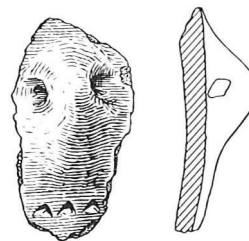


Fig. 202. Grave 36? Scale 1 : 3.



45. B<sup>d</sup>-51.

(SW.-NE.).

Horse grave.

2.40 × 0.50.

46. B<sup>c</sup>-51.

NE.-SW. (projection of pit for head?).

Horse grave.

2.30 × 1.20; 0.85.

Finds: *a*. Iron fragment (missing).

47. B<sup>c</sup>-51.

NE.-SW. (projection of pit for head?).

Horse grave.

2.50 × 0.90; 0.65.

48. B<sup>b</sup>-51 (Fig. 203).

(SW.-NE.).

Horse grave.

2.00 × 0.60; 0.70.

Finds: *a*. Bronze ring, d. 3.9 (1926/IV<sup>48</sup>).

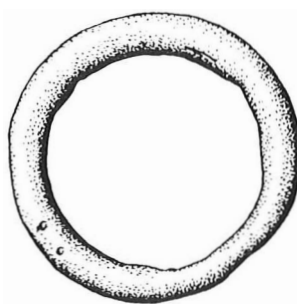


Fig. 203. Grave 48.

49. B<sup>b</sup>-51.

(SW.-NE.).

Horse grave.

1.50 × 0.60; 0.70.

50. B<sup>b</sup>-51.

(SW.-NE.).

Horse grave.

1.80 × *ca.* 0.60; 0.40.

51. B<sup>b</sup>-61.

(SW.-NE.).

Horse grave.

1.90 × 0.80; 0.40.

52. B<sup>a</sup>-51 (Fig. 204).

(SW.-NE.).

Horse grave.

1.10 × 0.70; 0.40.

Finds:

a. Cylindrical bead (deformed by fire) of opaque glass with white undulating lines against brick-red background, yellow line along the edges (1926/IV<sup>52</sup>).

Fig. 204. Grave 52.



53. B<sup>a</sup>-51.

(SW.-NE.).

Horse grave.

1.60 × 0.70.

54. A<sup>z</sup>-51.

NE.-SW. (in field book: "head at N., lying on the belly").

Horse grave.

1.60 × 0.70; 0.25.

55. B<sup>d</sup>-53/4 (Fig. 205).

(SW.-NE.).

2.40 × 1.00.

Traces of coffin, 1.80 × 0.60.

Finds:

a. Outside coffin, in SW. corner of pit: flat-bottomed bowl with slightly turned-out rim and two handles at about 1/3 of the height of smooth, stone-tempered, brown to grey, hand-made pottery, h. 15.5, d. 18.3 (1926/IV<sup>55</sup>; the pot carries a wrong inv. no. 1926/III<sup>33</sup>; cf. Van Giffen 1927, Pl. 9: 5).

b. Within coffin, at W. side, 0.50 from NW. corner, and at E. side, 0.60 from SE. corner: iron objects (one a knife?; missing).

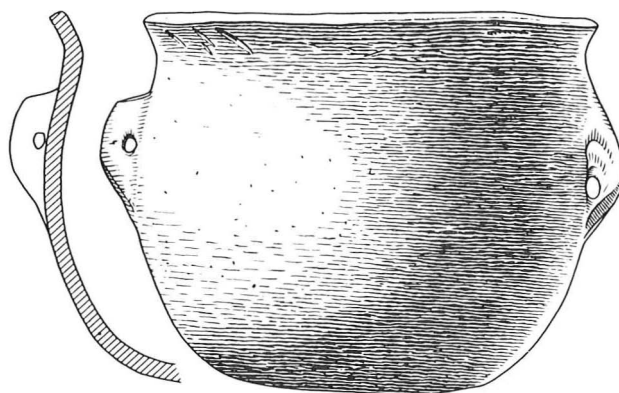


Fig. 205. Grave 55. Scale 1 : 3

56. B<sup>d</sup>-54 (Fig. 206).

(SW.-NE.).

Child's grave.

1.40 × 0.85; 0.60.

Traces of coffin, 0.80 × 0.30.

Finds:

*a.* Within coffin, in NW. corner:

flat-bottomed bowl with low bent-out neck  
of irregular, coarsely tempered, grey, hand-  
made pottery, h. 9, d. 13.2 (1926/IV<sup>56</sup>).

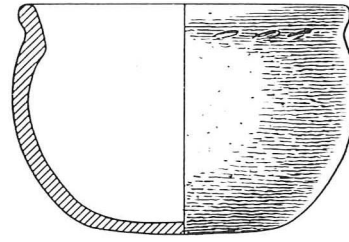


Fig. 206. Grave 56. Scale 1 : 3.

57. B<sup>d</sup>-54/5.

(SW.-NE.).

2.00 × 0.80.

58. B<sup>e</sup>-55 (Fig. 207).

SW.-NE.

2.00 × 0.95; 0.26.

Finds:

*a.* Fragmentary iron knife, l. 10.7 (1926/IV<sup>58</sup>).

*b.* Iron arrow-head with narrow blade, l. 9 (1926/IV<sup>58a</sup>).

*c.* Iron arrow-head with broad blade (socket with split? *cf.* Van Giffen 1927, Pl. 6: 2; now missing), l. 6 (1926/IV<sup>58b</sup>).

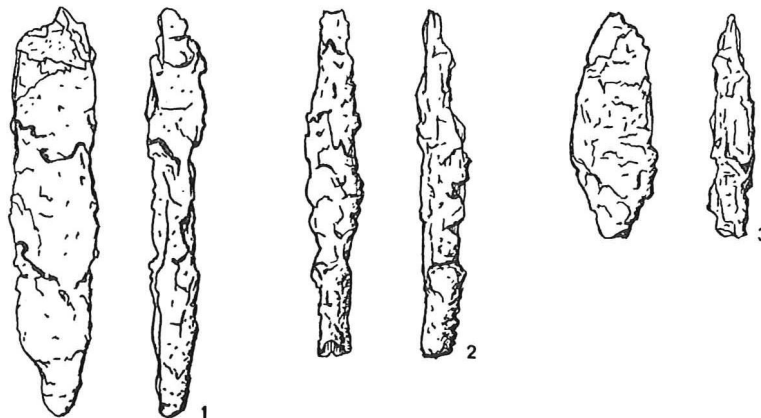


Fig. 207. Grave 58. Scale 1 : 2.

59. B<sup>d</sup>-55.  
 (SW.-NE.).  
 Child's grave.  
 $1.20 \times 0.65$ .

60. B<sup>de</sup>-55.  
 (SW.-NE.).  
 $2.10 \times 0.90$ .

61. B<sup>d</sup>-55.  
 (SW.-NE.).  
 $1.90 \times 1.00$ .

62. A<sup>z</sup>-51.  
 (SW.-NE.).  
 Horse grave.  
 $1.60 \times 0.80$ ; 0.30.

63. A<sup>z</sup>-50/1.  
 (SW.-NE.).  
 Horse grave.  
 $1.70 \times 0.90$ ; 0.50.

64. A<sup>y</sup>-50/1.  
 (SW.-NE.).  
 Horse grave.  
 $1.50 \times 0.80$ ; 0.60.  
 Finds:  
*a.* Iron fragment, l. 4.2 (1926/IV<sup>64</sup>).  
*b.* Fragment of iron ring, d. *ca.* 3.8 (1926/IV<sup>64a</sup>).

65. B<sup>no</sup>-55/6.  
 NW.-SE.  
 $2.30 \times 1.00$ .  
 Traces of skeleton.

66. B<sup>k</sup>-56.

(SW.-NE.).

2.70 × 1.00; 0.30.

Traces of coffin, 1.95 × 0.50 – 0.35,

Finds: *a.* Waist-high (?): undefined iron objects (missing).

67. B<sup>k</sup>-56 (Fig. 208).

SW.-NE.

2.25 × 0.90; 0.30.

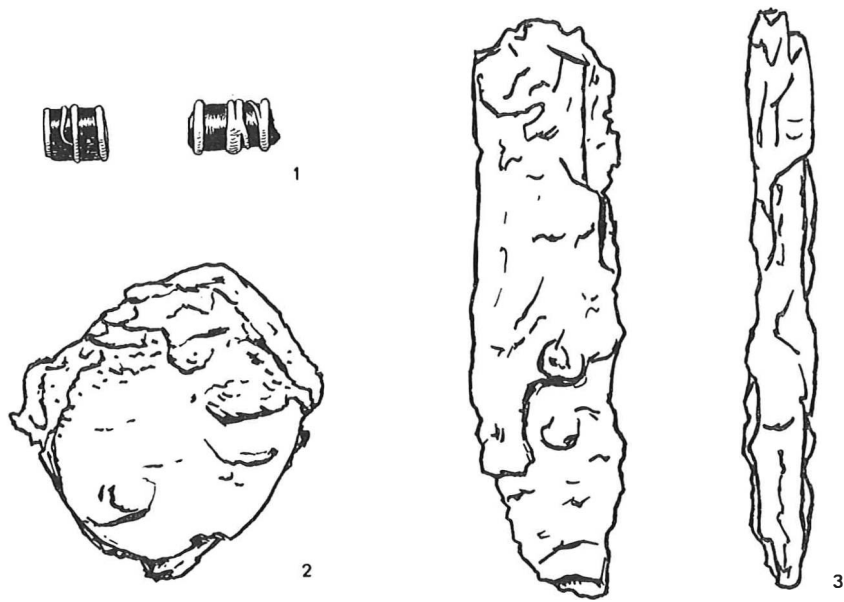


Fig. 208. Grave 67.

Finds:

*a.* On the breast: iron disc-brooch, no remains of bronze face plate left, d. 3.5 (1926/IV<sup>67c</sup>).

*b.* On left leg (?): fragmentary iron knife, l. 7.5 (1926/IV<sup>67b</sup>).

*c.* On the breast: 2 tubular beads of opaque black glass with three yellow ribs (1926/IV<sup>67a</sup>).

68. B<sup>k</sup>-56 (Fig. 209).

(SW.-NE.).

2.00 × 0.85; 0.40.

Finds:

- a. Waist-high (?): iron buckle with square loop and rigid plate, plate partly missing, l. 5.1, w. 3.8 (1926/IV<sup>68a</sup>).

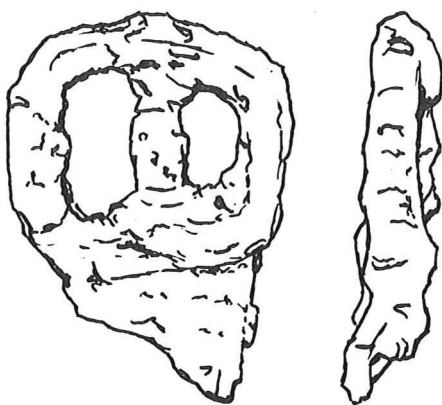


Fig. 209. Grave 68.

69. B<sup>j</sup>-53/4.

(SW.-NE.).

Horse grave.

ca. 2.00 × ca. 0.90; 0.50.

70. A<sup>w</sup>-50 (Fig. 210).

(SW.-NE.).

1.70 × 0.80; 0.05.

Finds:

- a. Sax, 1. ca. 30 (missing: cf. Van Giffen 1927, Pl. 6: 7c).
- b. Iron spear-head with broad oval blade and slender conical, split(?) socket, l. 12.9 (broken in two halves: 1926/IV<sup>70c</sup> and h; in fact this spear-head might come from grave 147: *vide* under 147<sup>d</sup>).
- c. Fragmentary iron knife, l. 9 (1926/IV<sup>70</sup>; complete, when found: cf. Van Giffen 1927, Pl. 6: 7b).
- d. Bronze ring, on one of the flattened sides decorated with a row of circular incisions, d. 3.1 (1926/IV<sup>70b</sup>).
- e. Three superimposed circular fragments of textile, the outer two of woven wool (pattern: Fig. 210: 5), the inner one of felt (?), d. 4 (1926/IV<sup>70r</sup>).

- f. Rim-sherd of footed (?) cup, decorated with two horizontal grooves on the shoulder and a row of oblong indentations at the carination, of fine stone-tempered, grey, hand-made pottery: type Wijster ID. The sherd has been deformed by secondary burning (1926/IV70P; in field book: "Stray find not from grave").

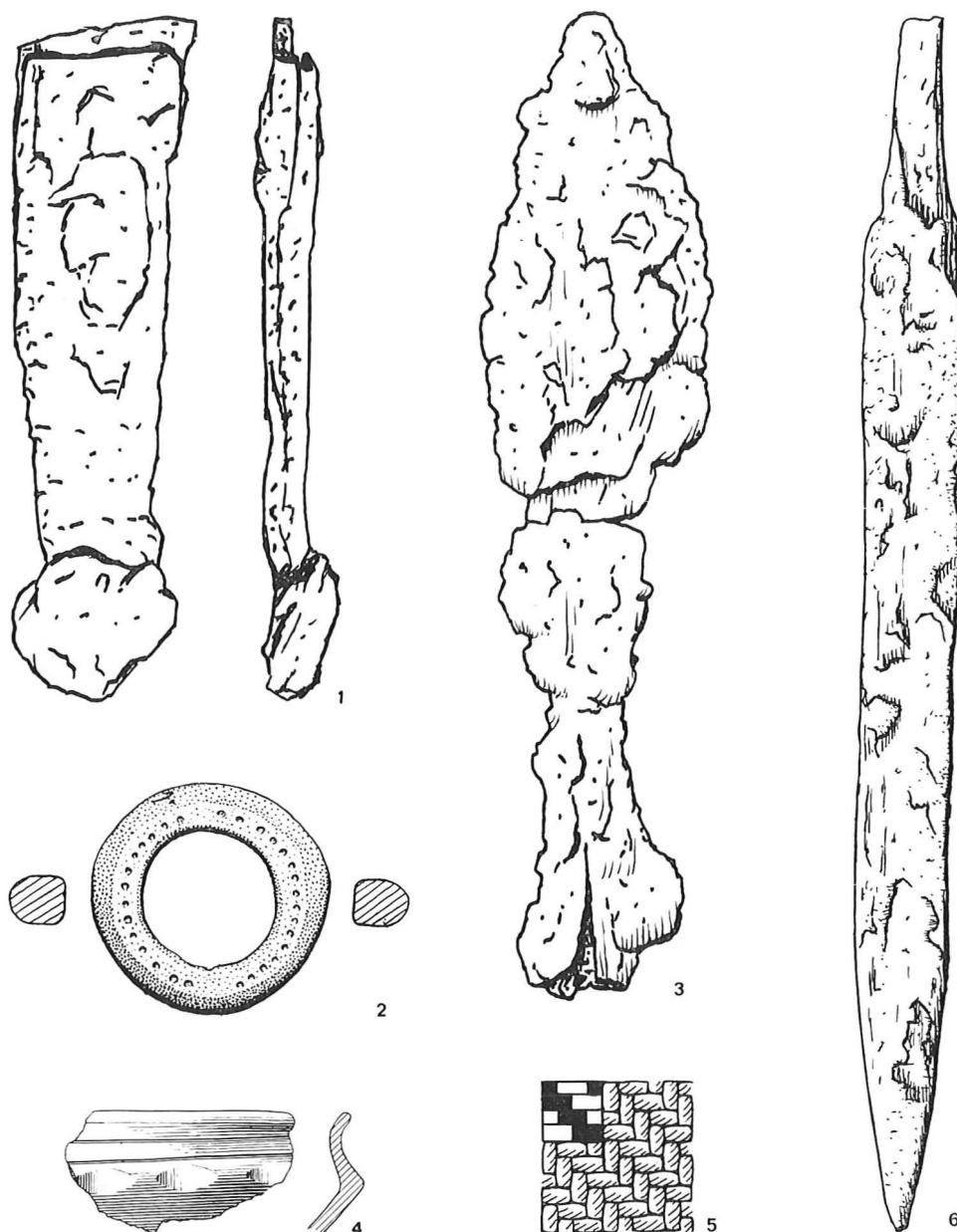


Fig. 210. Grave 70. No. 4: scale 1 : 3; no. 6: scale 1 : 2.

71. A<sup>v</sup>-50 (Fig. 211).

(SW.-NE.).

Child's grave.

1.40 × 0.45; 0.30.

Finds: *a.* Circular pendant of silver wire, d. 1.9 (1926/IV71).



Fig. 211. Grave 71.

72. B<sup>g</sup>-55 (Fig. 212).

(NW.-SE.).

2.10 × 0.90; 0.05.

Finds:

*a.* Fragmentary disc-brooch of iron, no remains of bronze face plate left, d. 3.5 (1962/IV72d).

*b.* Iron knife, traces of leather sheath present, l. 10 (1926/IV72f).

*c.* Bronze fragment (missing).

*d.* Beads (missing).

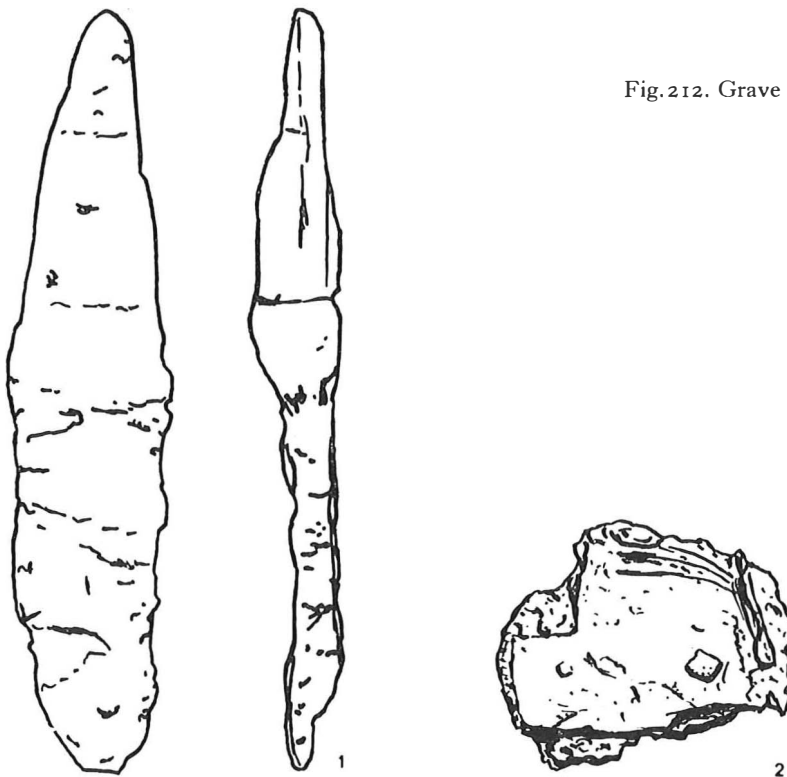


Fig. 212. Grave 72.



73. B<sup>g</sup>-56 (Fig. 213).

(SW.-NE.).

2.20 × 1.00; 0.90.

Finds:

- a. Fragmentary iron disc-brooch, remnants of bronze face plate left, along its edge a row of tiny *Buckel* accompanied by a ridge, d. 3.2 (1962/IV<sup>73</sup>).
- b. 5 beads (missing: cf. Van Giffen 1927, Pl. 8: 16b).
- c. Fragmentary circular pendant of silver wire, d. 4 (1926/IV<sup>73a</sup>).
- d. In the field book, mention is made of a "little pot"; no pot is present, however, nor is one shown by Van Giffen (1927, Pl. 8: 16; 9).

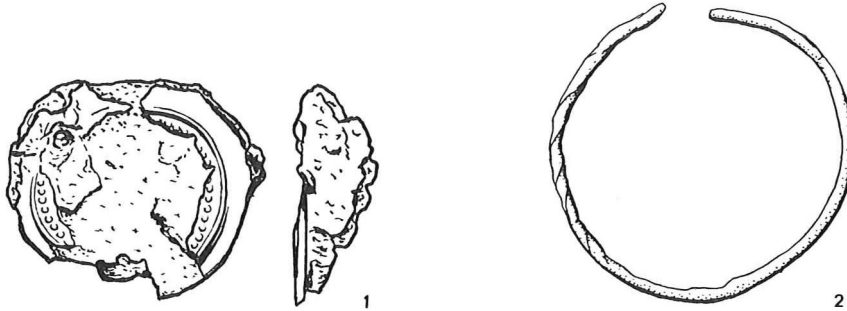


Fig. 213. Grave 73.

74. B<sup>g</sup>-56 (Fig. 214).

(SW.-NE.).

1.70 × 1.00; 0.40.

Finds:

- a. Fragmentary iron disc-brooch, no remnants of bronze face plate left, d. ca. 4 (1926/IV<sup>74</sup>; in field book, a knife is mentioned instead of a brooch).
- b. 3 beads: 1, barrel-shaped, amber; 2, cylindrical, opaque brick-red glass; 3, disc-shaped, opaque light green glass with two red stars (1926/IV<sup>74</sup>).

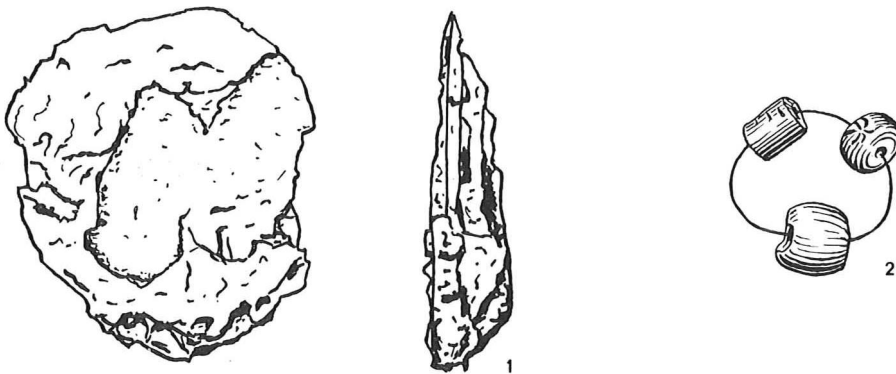


Fig. 214. Grave 74.

75. B<sup>f</sup>-56 (Fig. 215).

(SW.-NE.).

2.10 × 0.90; 0.40.

Finds:

*a.* Iron knife (missing).

*b.* Barrel-shaped bead of amber (1926/IV75<sup>b</sup>).

*c.* Flat-bottomed bowl with short neck and two handles, set against the rim, of irregular, stone-tempered, brown to grey, hand-made pottery, h. 13.9 – 15,

*d.* 19 – 20.3 (1926/IV75).

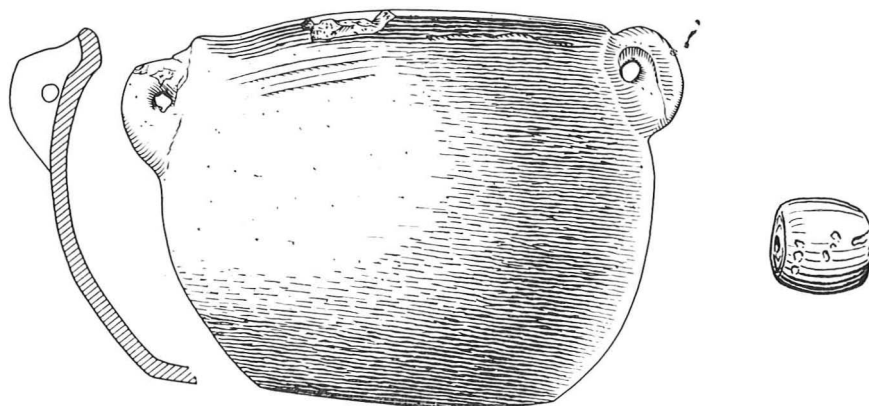


Fig. 215. Grave 75. Bowl: scale 1 : 3.

76. B<sup>l</sup>-51.

(SW.-NE.).

Horse grave.

1.80 × 0.90.

77. B<sup>lm</sup>-51.

(NW.-SE.).

1.80 × 0.80.

78. B<sup>lm</sup>-51.

(NW.-SE.).

2.00 × 0.80.

79. B<sup>r</sup>-53/4.

(NW.-SE.).

Cuts grave 94?

2.30 × 0.85; 0.30.

Finds: *a.* Small bronze fragment, l. 1.6 (1926/IV79).

80. B<sup>r</sup>-54.

(NW.-SE.).

Cuts grave 116; cut by grave 91.

2.40 × 1.00; 0.30.

81. B<sup>qr</sup>-54 (Fig. 216).

(NW.-SE.).

Cuts grave 116.

2.10 × 1.40; 0.25.

Finds:

- a. Upper part of an iron hook-key with double bit (complete when found: *cf.* Van Giffen 1927, Pl. 6: 5), l. 6.5 (1926/IV<sup>81</sup>).

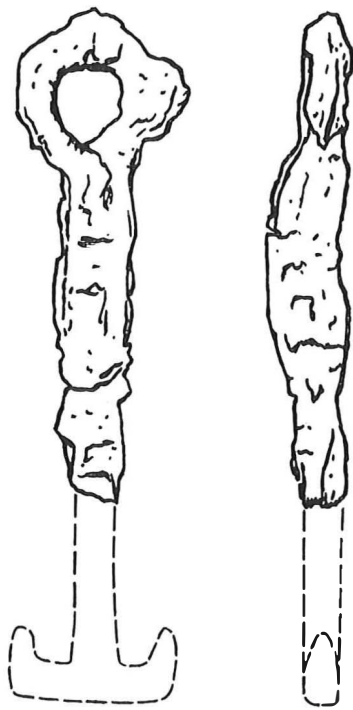


Fig. 216. Grave 81.

82. B<sup>rs</sup>-53/4.

(NW.-SE.).

2.40 × 0.90; 0.40.

83. B<sup>rs</sup>-54.  
(NW.-SE.).  
Cut by grave 91.  
1.80 × 0.80; 0.20.
84. B<sup>rs</sup>-54.  
(NW.-SE.).  
Cut by grave 88.  
2.30 × 1.20; 0.40.
85. B<sup>r</sup>-54/5.  
(NW.-SE.).  
2.20 × 0.90; 0.40.
86. B<sup>r</sup>-55.  
(NW.-SE.).  
1.80 × 0.90.
87. B<sup>s</sup>-54.  
(NW.-SE.).  
1.90 × 0.80; 0.20.
88. B<sup>s</sup>-54/5.  
(NW.-SE.).  
Cuts graves 84 and 105.  
1.80 × 0.90.
89. B<sup>s</sup>-55.  
(NW.-SE.).  
Cuts graves 154, 155.  
2.60 × 1.00.
90. B<sup>rs</sup>-55.  
(NW.-SE.).  
2.60 × 1.00; 0.25.  
Finds:  
a. Iron bar, broken off at one end, l. 7.9 (1926/IV<sup>90a</sup>; in field book: "knife").

91. B<sup>r</sup>-54.  
 (SW.-NE.).  
 Child's grave.  
 Cuts graves 80, 83.  
 1.10 × 0.60; 0.15.

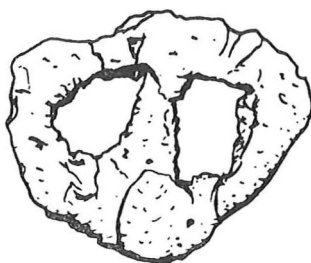


Fig. 217. Grave 92.

92. B<sup>no</sup>-56 (Fig. 217).  
 (NW.-SE.).  
 2.50 × 1.00; 0.20.  
 Finds:  
*a.* Iron buckle with oval loop, l. 4 (1926/IV<sup>92b</sup>).  
*b.* Piece of flint, l. 3.2 (1926/IV<sup>92e</sup>).

93. B<sup>qr</sup>-53.  
 (NW.-SE.).  
 Cut by grave 94.  
 ? × 0.80; 0.40.

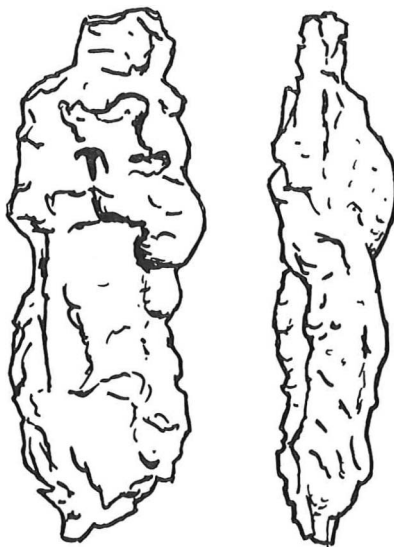


Fig. 218. Grave 94.

94. B<sup>qr</sup>-53/4 (Fig. 218).  
 (SW.-NE.).  
 Cuts graves 93 and 95; cut by grave 79?  
 2.30 × 0.80.  
 Finds: *a.* Fragmentary iron knife, l. 7 (1926/IV<sup>94</sup>).

95. B<sup>q</sup>-53/4 (Fig. 219).

(NW.-SE.).

Cut by grave 94.

2.00 × 1.10.

Finds:

a. Fragmentary iron knife, traces of leather sheath present, l. 8.5 (1926/IV<sup>95a</sup>).

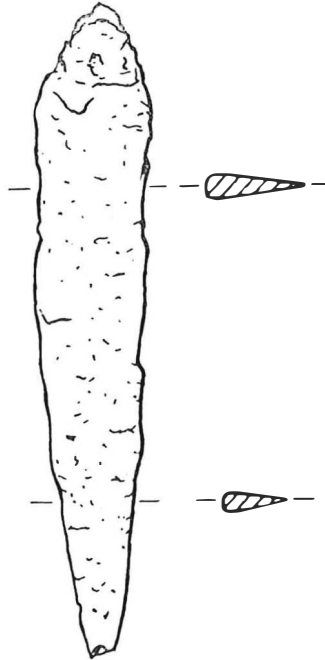


Fig. 219. Grave 95.

96. B<sup>q</sup>-54.

(NW.-SE.).

2.30 × 0.80.



Fig. 220. Grave 97.

97. B<sup>qr</sup>-54/5 (Fig. 220).

(NW.-SE.).

2.30 × 1.10; 0.60.

Finds:

a. 3 beads: 1, cylindrical, opaque glass with blue, white, red and yellow checkered patterns and blue, red and yellow stripes; 2, cylindrical, opaque glass with yellow and green checkered patterns, green and yellow stripes, and red spots with white border; 3, cylindrical, opaque dark blue glass with yellow crosses and red dots surrounded by white border and with red stripe along the edges (1926/IV<sup>97</sup> not mentioned in field book).

98. B <sup>rs</sup> -56. (NW.-SE.). 2.40 × 1.10; 0.60.	107. B <sup>u</sup> -54. (NW.-SE.). 2.00 × 0.70; 0.05.
99. B <sup>st</sup> -55/6. (NW.-SE.). 2.20 × 1.00; 0.20.	108. B <sup>u</sup> -54/5. (NW.-SE.). 1.90 × 0.70; 0.05.
100. B <sup>st</sup> -56. (NW.-SE.). 1.90 × 0.90; 0.20.	109. B <sup>u</sup> -55. (NW.-SE.). 2.00 × 0.90; 0.15.
101. B <sup>t</sup> -56. (NW.-SE.). Cuts grave 177. 2.25 × 0.90.	110. B <sup>uv</sup> -54. (NW.-SE.). Child's grave. 1.40 × 0.70; 0.30.
102. B <sup>t</sup> -55/6. (NW.-SE.). 2.10 × 1.00; 0.05.	111. B <sup>uv</sup> -54/5. (NW.-SE.). 2.20 × 0.80; 0.20.
103. B <sup>t</sup> -55. (NW.-SE.). Child's grave. 1.40 × 0.80; 0.20.	112. B <sup>uv</sup> -55. (NW.-SE.). 2.40 × 0.80; 0.20.
104. B <sup>t</sup> -54/5. (NW.-SE.). 2.10 × 1.10; 0.20.	113. B <sup>uv</sup> -55. (NW.-SE.). 2.40 × 0.90; 0.35.
105. B <sup>st</sup> -54/5. (NW.-SE.). Cut by grave 88. 2.50 × 1.20; 0.30.	114. B <sup>tu</sup> -55. (NW.-SE.). 2.30 × 1.00; 0.15.
106. B <sup>st</sup> -54. (NW.-SE.). 2.20 × 0.70; 0.30.	115. B <sup>u</sup> -55/6. (NW.-SE.). 2.20 × 0.70; 0.15.

116. B<sup>r</sup>-54 (Fig. 221).

SW.-NE.

Cut by graves 80, 81.

2.00 × 0.95; 0.40.

Finds:

a. At right knee (?): iron *francisca* with S-curved back, curved underside, square neck and oblong shaft hole, l. ca. 16 (1926/IV<sup>116</sup>).

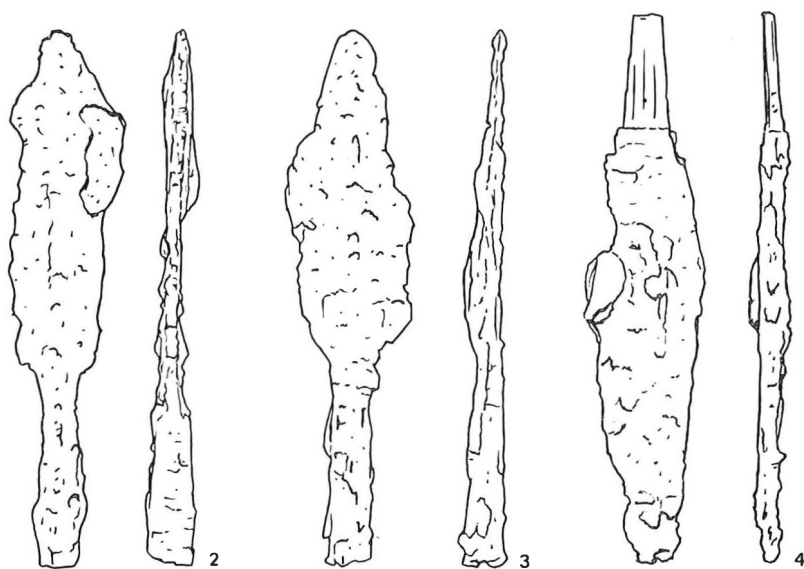
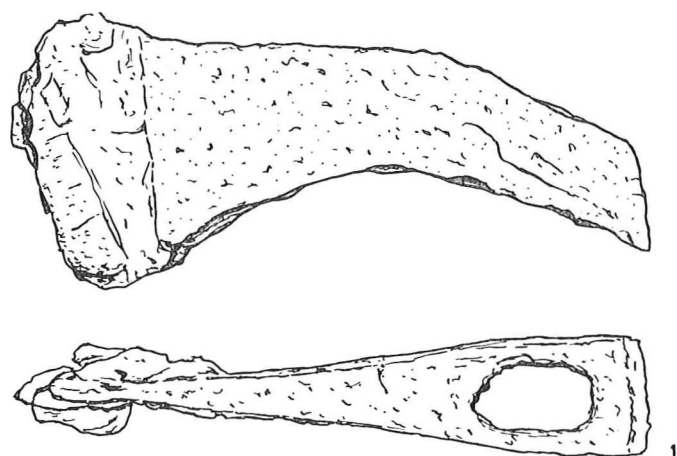
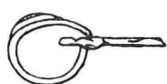
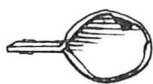
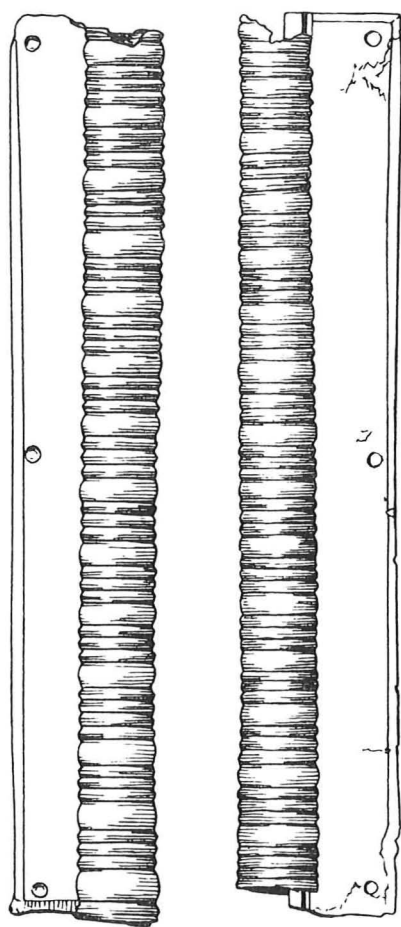


Fig. 221. Grave 116. No. 1-4: scale 1 : 2.

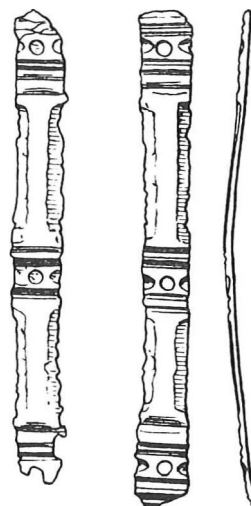




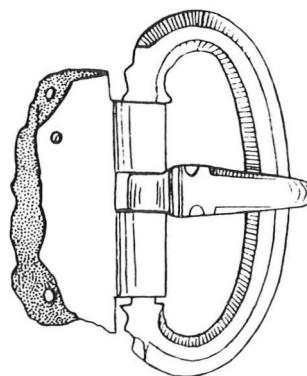
5



8

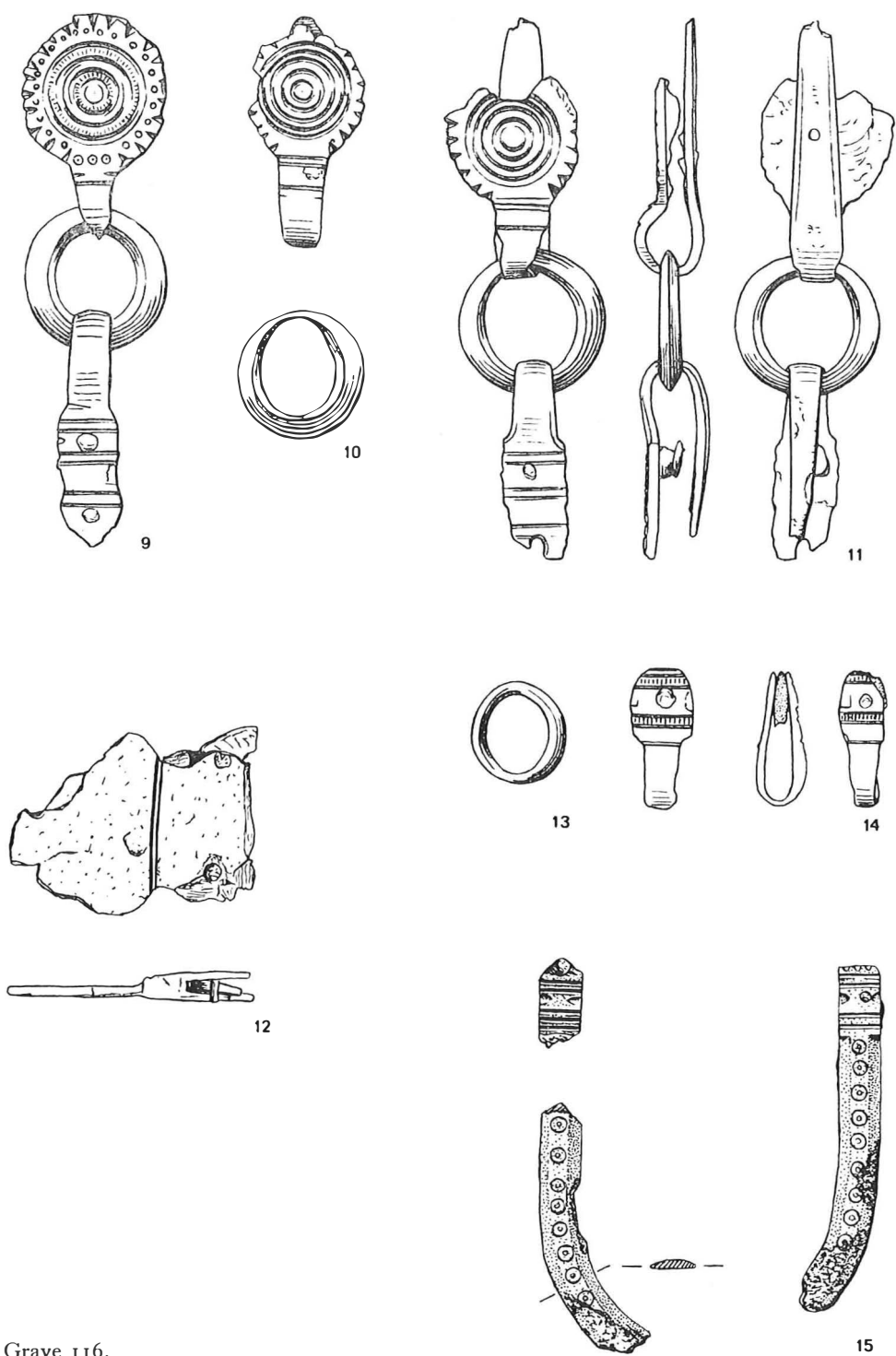


6



7

Fig. 221.



Grave 116.

- b.* At left foot (?): two iron spear-heads with rather broad oval blades and narrow sockets without split (?), l. both *ca.* 14 (1926/IV<sup>b</sup> and <sup>d</sup>).
- c.* Iron knife, remains of wooden hilt present, l. 14.5 (1926/IV<sup>116</sup>).
- d.* Two flat iron fragments, l. both *ca.* 3.7 (1926/IV<sup>116a</sup>).
- e.* Some fragments of wood, leather and textile, partly with traces of green corrosion: probably from the scabbard of a sword. Presumably together with these fragments were found: three fragments of a U-shaped bronze chape decorated with a row of double circles, the one preserved end faceted and perforated by a hole, l. of longest fragment 5.2, as well as four small flat-headed bronze rivets, of which only one preserved (end broken off), d. head 0.3 (no inv. no.).
- f.* Waist-high (?): the following belt fittings (no inv. no.).  
 Bronze buckle with hinging double rectangular plate with rivet holes at outer ends (leather strap end preserved in between; on the underside fragments of woven textile and wood), loop ending in stylized animal heads, curved tongue with faceted base, l. 3.9, w. 4.8.  
 Leaf-shaped bronze strap-end with split base with two flat-headed rivets, point broken off, l. 3.5.  
 Two flat and narrow bronze strips with faceted ornament, perforated in the middle and at both ends, l. 6.5.  
 Two bronze tubular-sided attachment-plates consisting of a narrow, rectangular plate with tiny flat-headed rivets at both ends and in the middle (broken off, two lost), inserted into a bronze tube decorated by horizontal ribbing; on one, fragments of woven textile, l. of both 11.9.  
 Three bronze disc-attachments; the discs, decorated with concentric ribs (one also has a row of dot-and-rings) and with notched border, end in a hook with faceted ornament in front, a thin bar connecting the back of the disc with the hook; from the discs hang bronze rings two of which hold bronze hooks with broad front, decorated with faceted ornament and perforated by two rivets (holes); l. of best preserved set 7.3.  
 Two small bronze hooks with broadened front, decorated with faceted ornament and perforated by one rivet (hole), one of them holding a bronze ring, l. of the one with ring *ca.* 3.  
 Bronze hinge (?) (missing; *cf.* Van Giffen 1927, Pl. 6: 1s).
- g.* In the mouth: a Roman denarius (Antoninus Pius RIC 360) (1926/IV<sup>116c</sup>).

117. B<sup>hi</sup>-56/7.

(NW.-SE.).

Cuts grave 118.

1.70 × 0.80; 0.10.

## Finds:

a. Iron knife (missing).

b. Beads (missing).

118. B<sup>hi</sup>-57 (Fig. 222).

(SW.-NE.).

Cut by grave 117.

2.00 × 1.00; 0.10.

## Finds:

a. Fragment of iron knife, l. 11 (1926/IV<sup>118</sup>).

b. 2 beads: 1, oval, amber; 2, disc-shaped, opaque green glass with two red stars with green central dot on circular white field (1926/IV<sup>118a</sup>).

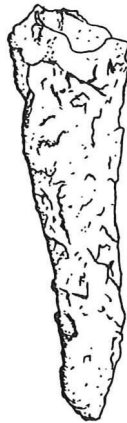


Fig. 222. Grave 118.



119. B<sup>i</sup>-57 (Fig. 223).

(SW.-NE.).

2.10 × 0.90; 0.20.

## Finds:

a. Fragmentary disc-brooch of iron, no traces of bronze face plate left, needle and spiral broken off, fragments of woven textile adhering to underside, d. 5.5 (1926/IV<sup>119</sup>).

- b.* Iron buckle with subrectangular loop and rigid (?) rectangular plate, l. 4.2, w. 2.9 (1926/IV<sup>119e</sup>).  
*c.* Fragment of iron knife, l. 5.2 (1926/IV<sup>119c</sup>).

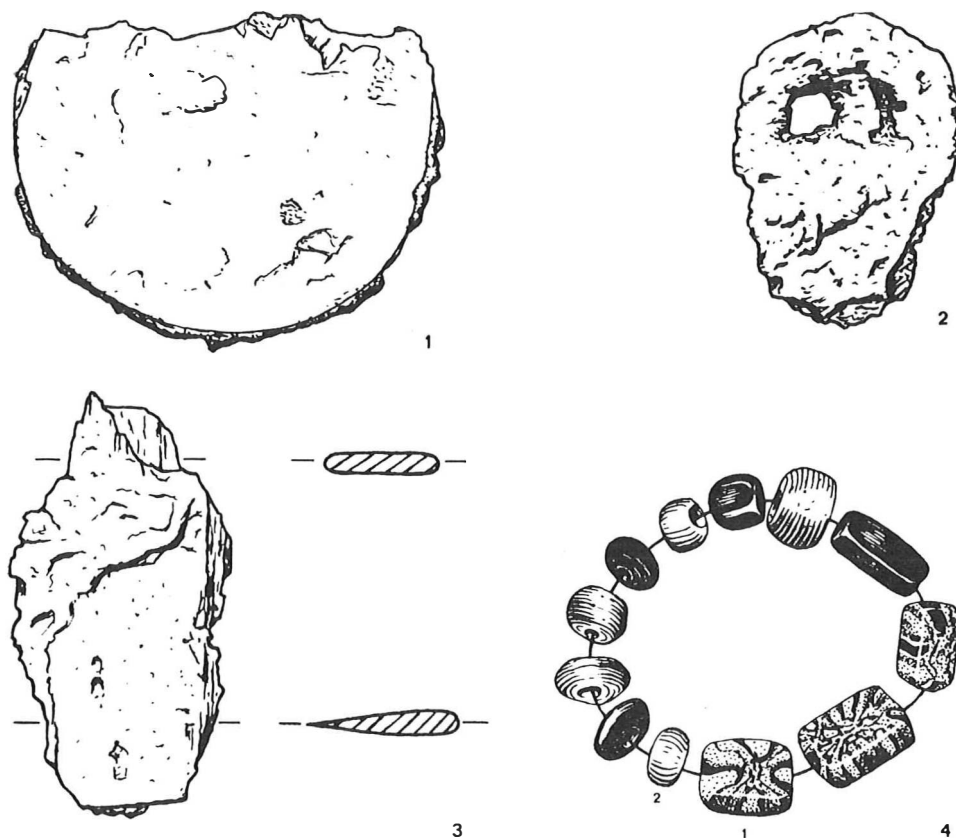


Fig. 223. Grave 119.

- d.* 12 beads: 1, 11, 12, brick-shaped, opaque glass with yellow and green checkered pattern and yellow, green, red and white stripes; 2, 4, 7, disc-shaped, amber; 3, 6, disc-shaped, translucent dark-blue glass; 5, 9, disc-shaped, opaque brick-red glass; 8, cube-shaped, translucent dark-blue glass; 10, four-sided rectangular, translucent dark-blue glass (1926/IV<sup>119f</sup>).

120. Bj-56 (Fig. 224).

(SW.-NE.).

Child's grave.

1.30 × 0.65; 0.25.

Finds:

a. Fragmentary iron disc-brooch, no remnants of bronze face plate left,  
d. ca. 3.1 (1926/IV<sup>120</sup>).

b. Fragment of iron knife, l. 7.1 (1926/IV<sup>120c</sup>).

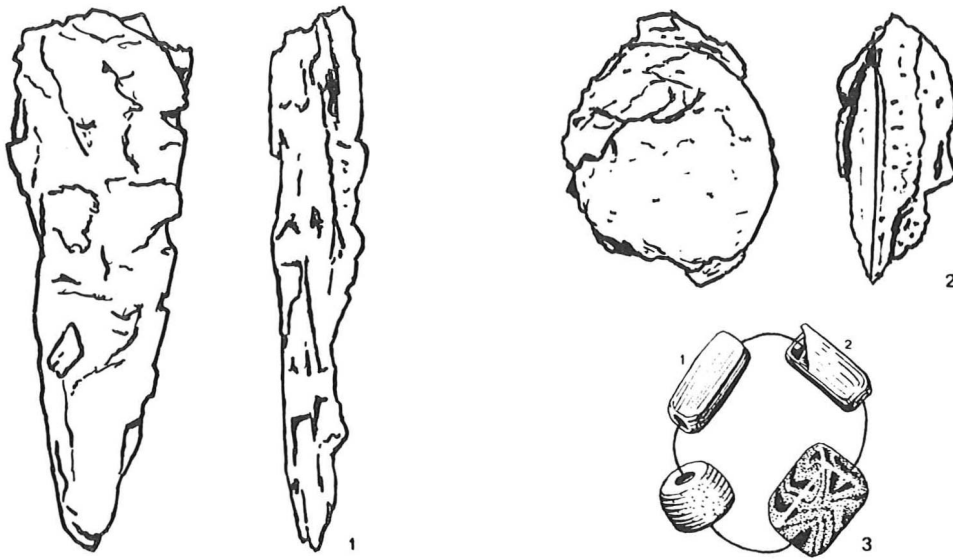


Fig. 224. Grave 120.

c. 4 beads: 1, 2, four-sided rectangular, opaque green glass; 3, brick-shaped, opaque glass with yellow and green checkered pattern and green, yellow, red and white stripes; 4, disc-shaped, opaque green glass (1926/IV<sup>120a</sup>).

d. Bronze fragment (missing).

121. Bj-57 (Fig. 225).

(NW.-SE.).

2.40 × 1.00; 0.20.

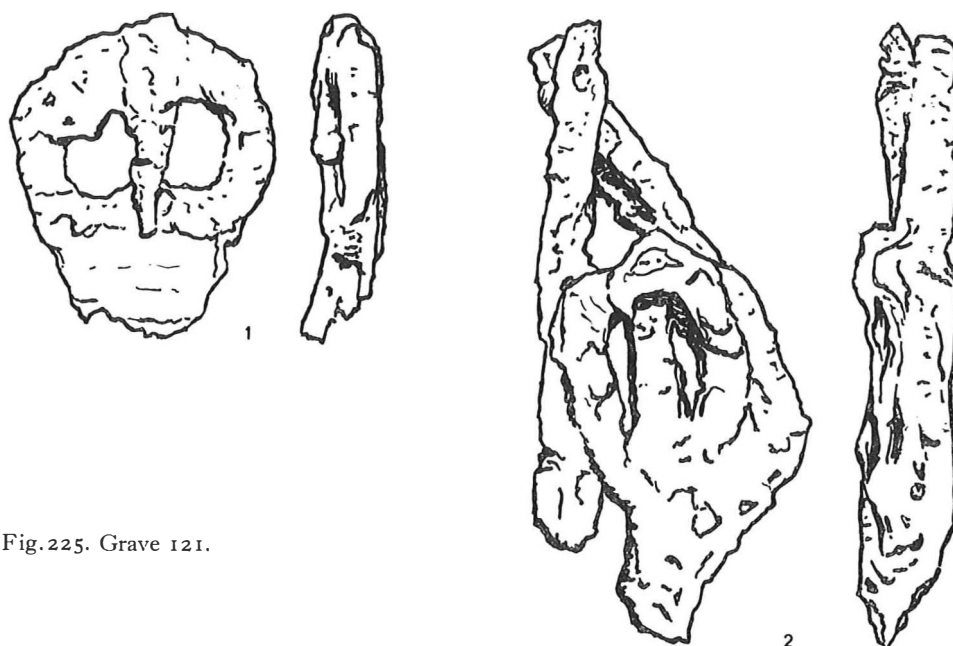


Fig. 225. Grave 121.

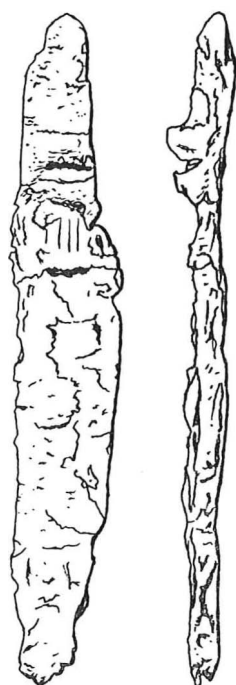


Fig. 226. Grave 122. Scale 1 : 2.

## Finds:

- a.* Iron buckle with subrectangular loop and hinging (?) rectangular plate, l. 4.3, w. 3.5 (1926/IV<sup>121</sup>).
- b.* Three iron bars and iron ring, rusted together, l. 8.7 (1926/IV<sup>121</sup>).
- c.* Bronze fragment (missing).

## 122. Bj-56/7 (Fig. 226).

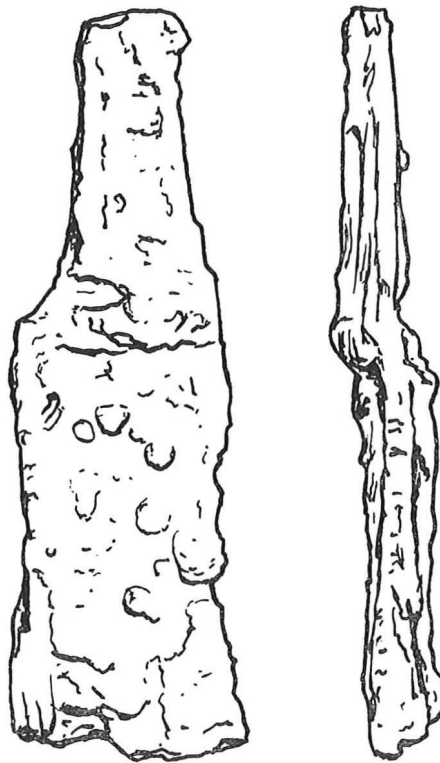
(SW.-NE.).

1.90 × 0.90; 0.20.

## Finds:

- a.* Iron knife, remnants of wooden hilt preserved, l. 17.6 (1926/IV<sup>122</sup>).
- b.* Bronze fragment (missing).
- c.* Brick-shaped bead of opaque glass with yellow and green checkered pattern and green, yellow, red and white stripes (1926/IV<sup>122b</sup>; missing).

Fig. 227. Grave 123.

123. Bj<sup>k</sup>-56/7 (Fig. 227).

(SW.-NE.).

1.80 × 0.90; 0.30.

## Finds:

- a.* Fragment of iron knife, remnants of wooden hilt preserved, l. 9.9 (1926/IV<sup>123</sup>).



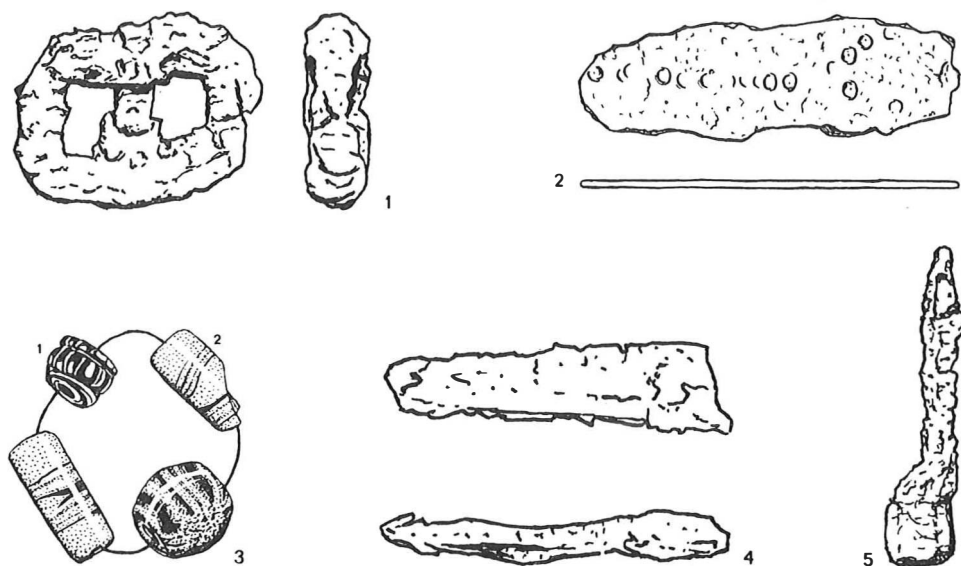


Fig. 228. Grave 124.

124. Bk-56/7 (Fig. 228).

(S.-N.).

2.00 × 1.00; 0.30.

Finds:

- a. Fragmentary bronze plate, decorated with rows of circular impressions, l. 5 (1926/IV<sup>124c</sup>).
- b. Subrectangular iron buckle, l. 2.5, w. 3.3 (1926/IV<sup>124</sup>).
- c. Fragment of iron knife, l. 4.6 (1926/IV<sup>124</sup>).
- d. Iron pin, l. 4.2 (1926/IV<sup>124d</sup>).
- e. 4 beads: 1, disc-shaped bead with notched side, translucent blue glass; 2, 4, tubular, opaque green glass with two zones of red, white, blue, yellow, blue, white, red stripes in the middle; 3, biconical, opaque glass with yellow and green checkered pattern and red, yellow and green stripes (1926/IV<sup>124b</sup>).

125. Bjk-57 (Fig. 229).

(NW.-SE.).

1.90 × 1.10.

Finds:

- a. Iron disc-brooch, no remnants of bronze face plate left, d. 4.5 (1926/IV<sup>125</sup>).
- b. Two fragments of iron knife (?), l. 3, 4.2 (1926/IV<sup>125</sup>).
- c. Bronze needle box (?) decorated with horizontal grooves, l. 8.3 (1926/IV<sup>125</sup>).
- d. 4 beads: 1, 2, segmented *Überfangperlen* of yellow glass; 3, 4, brick-shaped, opaque glass with yellow and green checkered pattern and yellow, green, red and white stripes (1926/IV<sup>125</sup>).

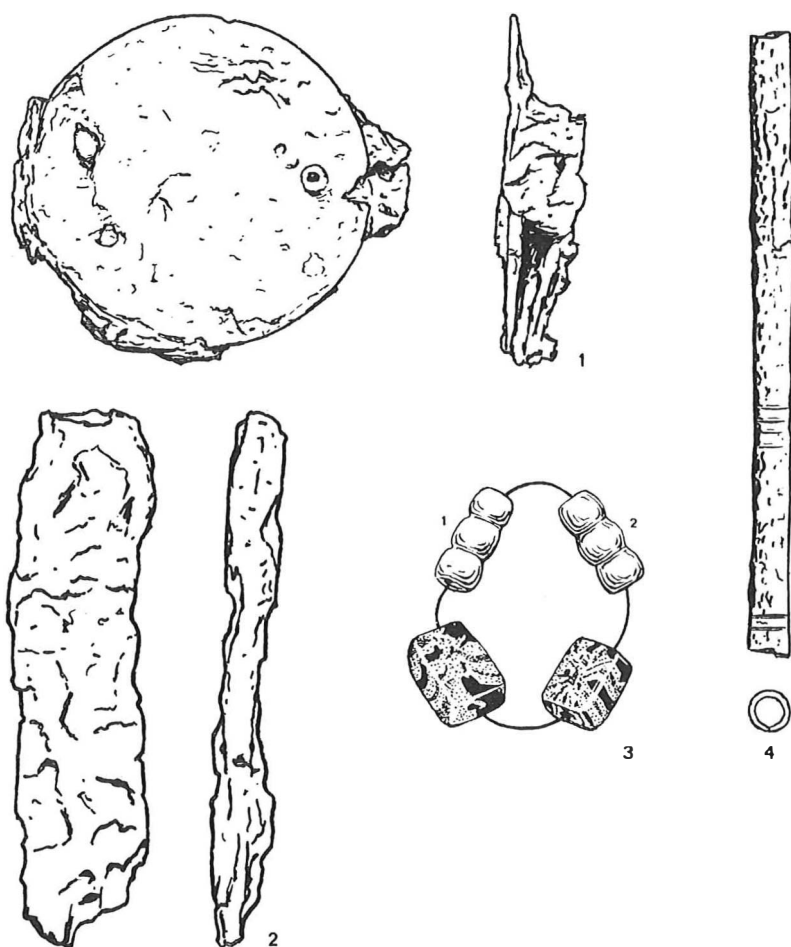
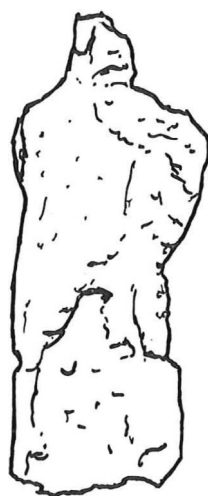


Fig. 229. Grave 125.

Fig. 230. Grave 126.



126. B<sup>h</sup>-57 (Fig. 230).  
(SW.-NE.).

2.00 × 0.90; 0.30.

Finds:

a. Fragment of iron knife, l. 6.3 (1926/IV<sup>126</sup>).

b. 2 tubular *millefiori* beads of opaque glass: 1, blue with three red and white striped zones and "stars", consisting of white border, red circle and yellow central dot, in between; 2, with yellow and green checkered pattern, yellow and green stripes, red dots and red ends (1926/IV<sup>126</sup>).

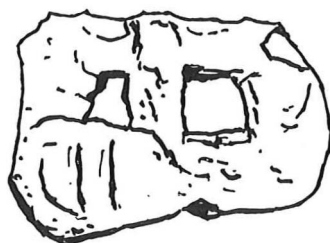
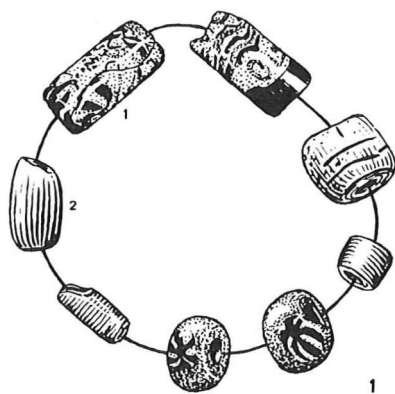


Fig. 231. Grave 127.

127. B<sup>l</sup>-56 (Fig. 231).

(NW.-SE.).

2.00 × 0.80.

Finds:

a. Rectangular iron buckle without plate, l. 4.2, w. 2.9 (1926/IV<sup>127g</sup>).

b. 8 beads: 1, 8, tubular *millefiori* beads of opaque glass: 1 with green, yellow, red and white spots and stripes and green ends, 8 with yellow, red and green stripes, green scrolls on yellow field and red end; 2, tubular, amber; 3, four-sided rectangular, opaque green glass; 4, 5, disc-shaped, opaque green glass with red stars on circular white fields; 6, cylindrical, opaque light-blue glass; 7, cylindrical, opaque yellow glass with red, white, red striped zone in the middle (1926/IV<sup>127</sup>).

128. B<sup>l</sup>-56.

(NW.-SE.).

Child's grave.

1.00 × 0.60.

129. B<sup>l</sup>-56.

(NW.-SE.).

1.90 × 0.80.

130. B<sup>l</sup>-56/7.

(NW.-SE.).

1.80 × 0.80.

131. B<sup>kl</sup>-57 (Fig. 232).

(NW.-SE.).

2.40 × 1.00.

Finds:

a. Iron knife, l. 14 (1926/IV<sup>131b</sup>).

b. 3 beads: 1, biconical, opaque red glass with yellow and green checkered patterns and white, green, white lines; 2, disc-shaped, opaque orange glass; 3, long flattish, translucent blue glass (1926/IV<sup>131</sup>).

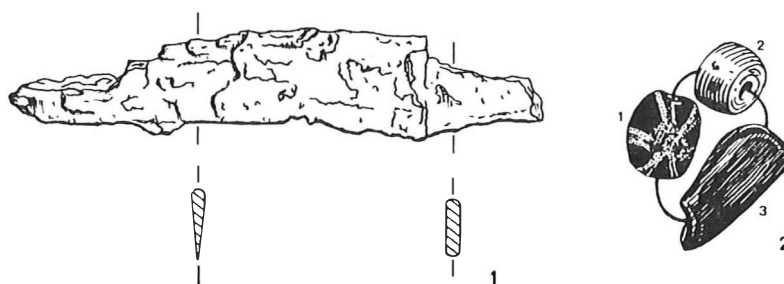


Fig. 232. Grave 131. No. 1: scale 1:2.

132. B<sup>kl</sup>-57.

(NW.-SE.).

2.40 × 0.75.

133. B<sup>k</sup>-57.

(NW.-SE.).

2.40 × 0.90.

134. B<sup>lm</sup>-57 (Fig. 233).

(NW.-SE.).

Cuts grave 135?

2.10 × 0.80.

Finds:

a. Bronze fragment (1926/IV<sup>134</sup>; missing).b. Segmented *Überfangperle* of whitish glass (1926/IV<sup>134a</sup>).

Fig. 233. Grave 134.

135. B<sup>lm</sup>-57.

(NW.-SE.).

Cut by grave 134?

? × 1.70?.

137. B<sup>m</sup>-57.

(NW.-SE.).

Child's grave.

1.10 × 0.60.

136. B<sup>lm</sup>-57.

(NW.-SE.).

2.50 × 1.10.

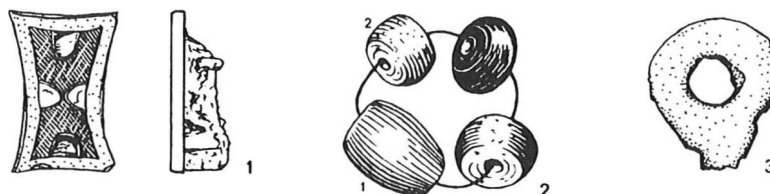


Fig. 234. Grave 138.

138. B<sup>mn</sup>-57 (Fig. 234).

(NW.-SE.).

1.50 × 1.00.

Finds:

a. Rectangular bronze brooch with concave sides, within raised border a field of translucent blue glass with 4 semi-circular cells, two of which still hold their filling of whitish material, needle, *etc.* preserved, simple iron needle without spiral, l. 2.2, w. 1.5 (1926/IV<sup>138b</sup>).

b. Bronze ring, fragment of key (?), l. 2 (1926/IV<sup>138a</sup>).

c. 4 beads: 1, almond-shaped, amethyst; 2, disc-shaped, opaque brick-red glass; 3, disc-shaped, translucent blue glass; 4, disc-shaped, opaque orange glass (1926/IV<sup>138</sup>).

139. B<sup>mn</sup>-57 (Fig. 235).

(NW.-SE.).

1.50 × 0.70.

Finds:

a. 2 beads: 1, brick-shaped, opaque glass with red, yellow, bluish and white stripes and spots; 2, disc-shaped, opaque brick-red glass (1926/IV<sup>139</sup>).



Fig. 235. Grave 139.

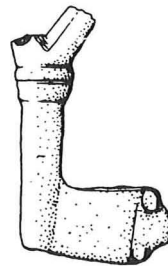
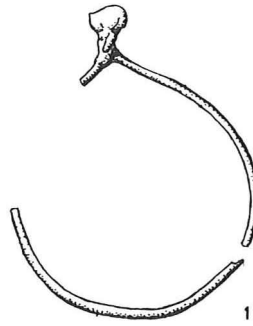


Fig. 236. Grave 140.



140. B<sup>m</sup>-57/8 (Fig. 236).

(NW.-SE.).

2.30 × 1.00.

Finds:

a. Fragment (ward) of a bronze key, l. 3.3 (1926/IV<sup>140</sup>).

b. 2 disc-shaped beads of opaque brick-red glass (1926/IV<sup>140a</sup>).

c. Pendant of silver wire, d. 3.2 (1926/IV<sup>140b</sup>).

141. B<sup>h</sup>-56 (Fig. 237).  
(SW.-NE.).

2.10 × 0.95; 0.40.

Finds:

a. "Brooch" (missing).

b. 2 beads: 1, four-sided rectangular, opaque black

glass with three yellow stripes; 2, disc-shaped, translucent dark-blue glass.



Fig. 237. Grave 141.

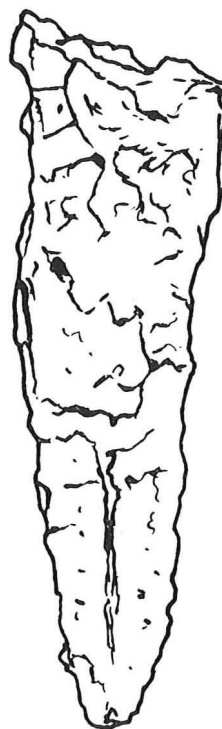
142. B<sup>g</sup>-56 (Fig. 238).  
(W.-E.).

2.70 × 0.90; 0.25.

Finds:

a. Fragment of iron knife, l. 9.7 (1926/IV<sup>142a</sup>).

b. 2 faceted roundish amber beads (1926/IV<sup>142</sup>).



143. B<sup>g</sup>-56/7 (Fig. 239).  
(SW.-NE.).

2.10 × 0.90; 0.20.

Finds:

a. Fragment of iron knife (*sax*?), l. 12.2 (1926/IV<sup>143</sup>).

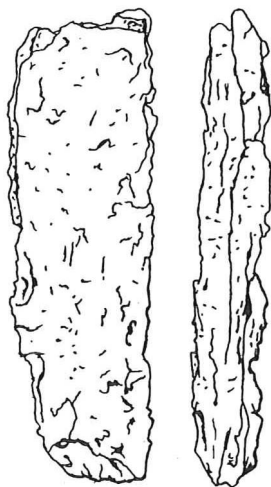


Fig. 239. Grave 143. Scale 1 : 2.



Fig. 238. Grave 142.

144. Bg-56/7.  
(SW.-NE.).  
Cut by grave 145.  
 $2.60 \times 1.10$ .

145. Bg-56/7 (Fig. 240).  
(SW.-NE.).  
Cuts grave 144.  
 $2.00 \times 0.80$ .  
Finds: *a*. Fragment of iron knife, l. 5.8 (1926/IV<sup>145</sup>).

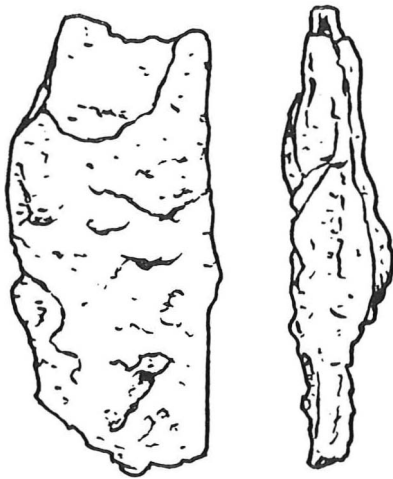


Fig. 240. Grave 145.

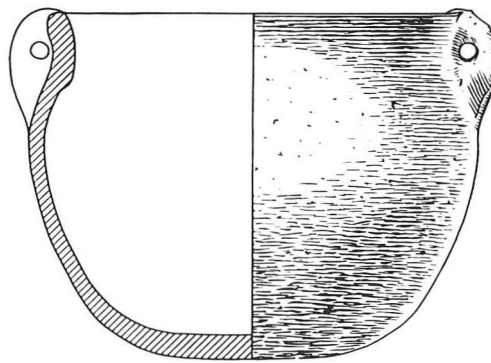


Fig. 241. Grave 146. Scale 1 : 3.

146. B<sup>fg</sup>-56/7 (Fig. 241).  
(SW.-NE.).  
Cuts grave 147.  
 $2.40 \times 1.00$ ; 0.15.  
Finds:  
*a*. "Knife" (missing).  
*b*. Flat-bottomed bowl, neck vaguely indicated, with possibly two handles (one restored) set against the rim, of rather coarse (stones used for tempering showing through), yellow to greyish black, hand-made pottery, h. 13.6, d. 18 (1926/IV<sup>146</sup>).



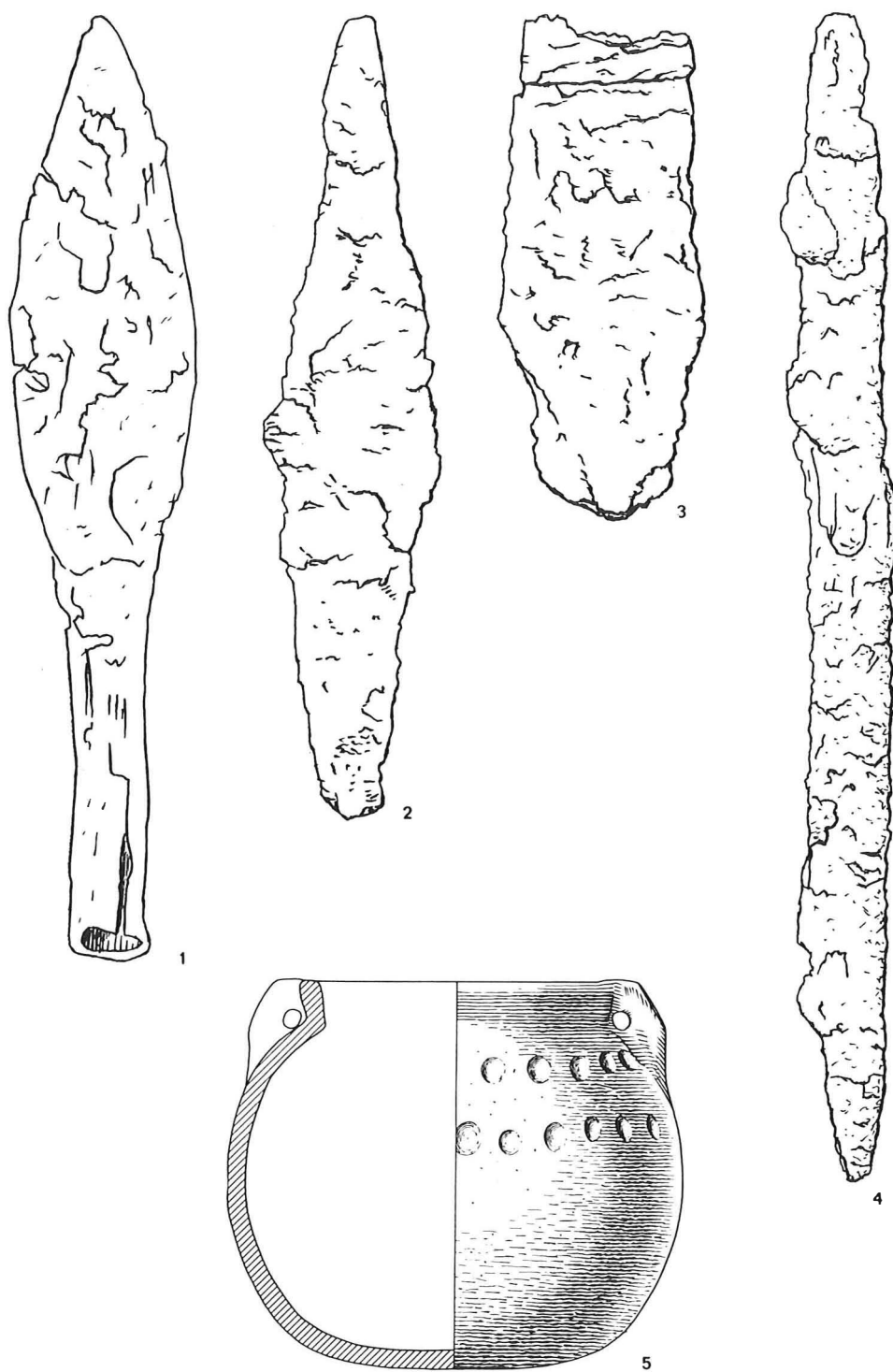


Fig. 242. Grave 147. No. 4: scale 1 : 4; no. 5: scale 1 : 3.

## 147. Bf-56/7 (Fig. 242).

(SW.-NE.).

Cut by grave 146.

2.50 × 0.90; 0.70.

Finds:

- a. Iron knife, l. 11.2 (1926/IV<sup>147</sup>; the knife carrying this inventory no. is not the one shown by Van Giffen: 1927, Pl. 6: 3b; mistaken for spear-head?).
- b. Fragment of another iron knife, l. 6.9 (1926/IV<sup>147b</sup>; this is probably part of the knife shown by Van Giffen).
- c. Iron sax, l. ca. 65 (1926/IV<sup>147</sup>; cf. Van Giffen 1927, Pl. 6: 3a).
- d. Iron spear-head with comparatively broad oval blade and split (?) socket, l. ca. 0.30 (?) (missing; cf. Van Giffen 1927, Pl. 6: 3c. Van Giffen's illustration strongly resembles the spear-head now carrying inv. no. 1926/IV<sup>70c</sup>).
- e. Flat-bottomed bowl, approaching *Kugeltopf* form, with short neck and possibly two handles (one restored) set against the rim, decorated with two rows of round impressions below the handles, of rather smooth, brown to black, hand-made pottery, h. 16, d. 19.4 (1926/IV<sup>147d</sup>).

## 148. Bf-56 (Fig. 243).

(SW.-NE.).

Cut by grave 150?

2.50 × 1.00; 0.20.

Finds:

- a. Pair of bronze bracelets; rectangular fields, decorated with four dot-and-rings, alternate with ribbed zones, the hollows between the ribs are grooved, d. 7.4-7.7 (1926/IV<sup>148b, c</sup>; of one bracelet only a tiny fragment remains).
- b. 22 beads: 1, 10, melon beads, translucent blue glass; 2, almond-shaped, amethyst; 3, 4, 12, 21, oblong *millefiori* beads, opaque blue glass with white stripes and "stars" consisting of white border, red circle and yellow central dot; 5, 6, 11, 13, disc-shaped, opaque brick-red glass; 7, tubular, opaque brick-red glass with three blue stripes; 8, 15, 19, disc-shaped or cylindrical, amber; 9, 14, disc-shaped, translucent blue glass; 16, disc-shaped with notched side, translucent blue glass; 17, 22, tubular *millefiori* beads, opaque glass with red, white, blue, yellow, green dots and stripes; 18, four-sided rectangular, translucent blue glass; 20, almond-shaped, translucent blue glass (1926/IV<sup>148</sup>).
- c. 3 pendants of twisted silver wire (fragments of only two preserved; cf. Van Giffen 1927, Pl. 7: 1c).



Fig. 243. Grave 148.

149. B<sup>f</sup>-56/7.  
(SW.-NE.).  
2.30 × 0.90.



Fig. 244. Grave 150.

150. B<sup>f</sup>-57 (Fig. 244).  
(SW.-NE.).  
Cuts grave 148?  
2.30 × 1.00; 0.15.  
Finds:

a. 2 tubular *millefiori* beads, opaque blue glass with white, red, yellow, red, white zones between which "stars" consisting of white border, red circle and yellow central dot (1926/IV<sup>150</sup>).

151. B<sup>fg</sup>-57 (Fig. 245).  
(SW.-NE.).  
2.70 × 1.00; 0.20.

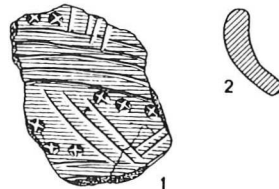
Finds:

a. Iron buckle with oval loop without plate, l. 3.3, w. 3.4 (1926/IV<sup>151b</sup>).



Fig. 245. Grave 151.

152. B<sup>g</sup>-57.  
(SW.-NE.).  
2.30 × 1.00; 0.10.



153. B<sup>g</sup>-54 (Fig. 246).  
(SW.-NE.).  
2.40 × 0.80.

Finds:

- a. "Several bronze objects" (missing).
- b. Iron fragment, l. 7.6 (1926/IV<sup>153</sup>).
- c. Stray find from the filling of the grave pit: Anglo-Saxon sherd, decorated with grooves and circular stamps with inscribed cross, of yellow-brown, hand-made pottery (1926/IV<sup>153c</sup>).
- d. Rim-sherd with nail impressions on the outer edge of the rim and two sherds of smooth, stone-tempered, yellow to grey, hand-made pottery (1926/IV<sup>153d-f</sup>).

Fig. 246. Grave 153. Scale 1:3.

154. B<sup>st</sup>-55.  
(NW.-SE.).  
2.50 × 1.10; 0.30.

155. B<sup>st</sup>-55 (Fig. 247).  
(NW.-SE.).  
2.60 × 1.10; 0.30.  
Finds:

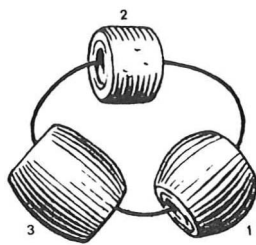


Fig. 247. Grave 155.

- a.* 3 beads: 1, barrel-shaped, translucent blue glass; 2, cylindrical, opaque white glass; 3, barrel-shaped, amber (1926/IV<sup>155c</sup>).

156. B<sup>i</sup>-54/5 (Fig. 248).  
(SW.-NE.).  
Cut by grave 12?  
2.30 × 0.90; 0.20.  
Finds:

- a.* Rectangular brooch of iron, the upper side covered by a bronze sheet with pressed ornament: two ridges, one smooth, one beaded form a rectangular field which is divided lengthwise by a double beaded ridge, each half filled with two raised S-shaped scrolls against a hatched background; on the under-side remnants of an iron needle (spiral?) and fragments of textile, l. 5.2, w. 2.3 (1926/IV<sup>156j</sup>).
- b.* Open bronze bracelet, decorated with three rows of small circular cuttings on the slightly broadened ends, d. 6.9 × 5.7 (1926/IV<sup>156n</sup>).
- c.* Iron knife, l. 11.9 (1926/IV<sup>156a</sup>).
- d.* Iron bar, l. 11 (1926/IV<sup>156</sup>).
- e.* A number of iron rings rusted together (1926/IV<sup>156b</sup>).
- f.* 16 beads: 1, 3, 4, 5, 9, brick-shaped, opaque glass with yellow and green checkered pattern and red, yellow and green stripes; 2, 8, cylindrical, opaque glass with red, yellow and black stripes; 6, 10, disc-shaped, opaque glass with red, yellow, green and white stripes; 7, tubular, opaque brick-red glass; 11, four-sided rectangular, opaque black glass; 12, disc-shaped, opaque green glass with two red stars with green central dot; 13, disc-shaped, translucent light-green glass; 14, cylindrical, opaque blue glass with white undulating line; 15, 16, drop-shaped, translucent yellow-brown glass (1926/IV<sup>156i</sup>).
- g.* Four, partly fragmentary, silver pendants in the shape of rectangular strips with one rounded end, the other end bent around a silver wire of which only in two cases a fragment is left, l. (of best preserved specimen) 6.8, w. 1.6 (1926/IV<sup>156e, f, g, k, l</sup>).



Fig. 248. Grave 156 : 1-7.

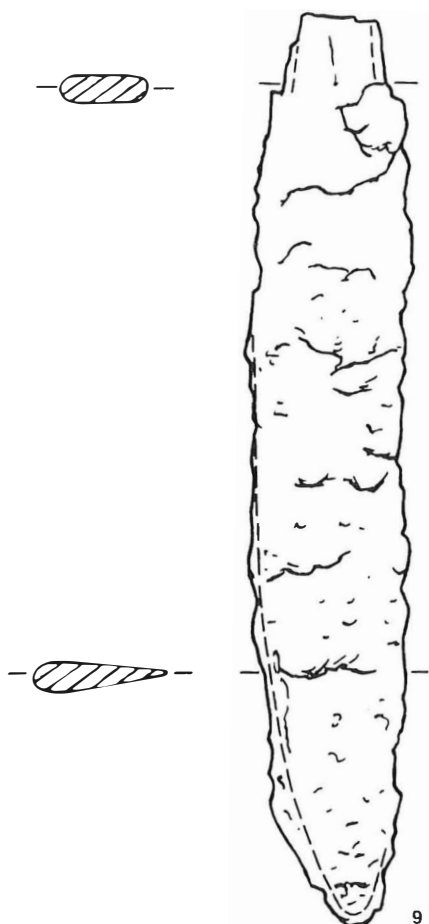


Fig. 248. Grave 156: 8, 9.

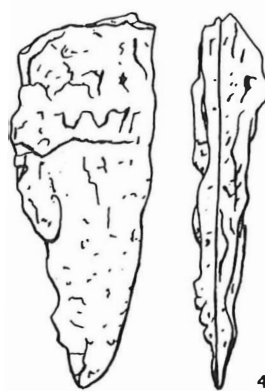
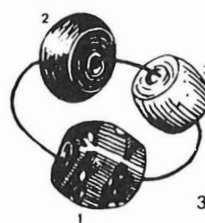
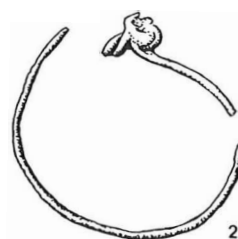
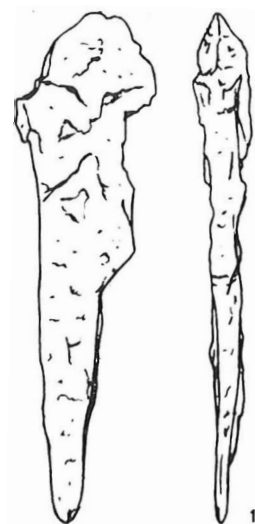


Fig. 249. Grave 160.

157. B<sup>c</sup>-55/6.

(SW.-NE.).

2.40 × 1.10.

In field book: "recent".

158. B<sup>b</sup>-55/6.

(SW.-NE.).

1.50 × 0.80; 0.15.

Finds: In field book: "Brooch and beads" (missing).

159. B<sup>b</sup>-56/7.

(SW.-NE.).

2.40 × 1.00; 0.45.

160. B<sup>c</sup>-56/7 (Fig. 249).

(SW.-NE.).

2.30 × 0.80; 0.60.

Finds:

a. In field book: "Small brooch" (missing).

b. Two fragments of iron knife, l. 6.7, 4.8 (1926/IV<sup>160</sup>, 160c).

c. 3 beads: 1, angular, roughly barrel-shaped, opaque black glass with red lines and yellow, green and white dots; 2, disc-shaped, translucent blue glass; 3, barrel-shaped, opaque green glass (1926/IV<sup>160g</sup>).

d. Fragmentary pendant of silver wire, d. ca. 3.1 (1926/IV<sup>160b</sup>).

161. B<sup>cd</sup>-56 (Fig. 250).

(SW.-NE.).

2.30 × 1.00; 0.45.

Finds:

a. 2 beads: 1, disc-shaped, translucent light-green glass; 2, disc-shaped, opaque green glass (1926/IV<sup>161</sup>).



Fig. 250. Grave 161.

162. B<sup>c</sup>-56/7.

(SW.-NE.).

1.70 × 0.80; 0.20.

Finds: In field book: "Iron" (missing).



163. B<sup>cd</sup>-56/7 (Fig. 251).

(SW.-NE.).

2.00 × 0.80; 0.20.

Finds:

a. Iron knife (1926/IV<sup>163b</sup>; missing; cf. Van Giffen 1927, Pl. 8: 1b).

b. 18 beads (1 missing): 1, 2, 12, tubular *millefiori* beads, opaque blue glass with three white, red, yellow, red, white bands and "stars" consisting of white border, red circle and yellow central dot (once with green, white, red checkered pattern) in between; 3, cylindrical, opaque blue glass with red, white, blue dots; 4, disc-shaped, translucent blue glass; 5, disc-shaped, opaque brick-red glass; 6, tubular, thickened in the middle, opaque brick-red glass; 7, four-sided rectangular, opaque brick-red glass; 8, four-sided rectangular with bevelled corners, opaque brick-red glass; 9, 10, disc-shaped, amber; 11, tubular, opaque blue glass; 13, cylindrical, opaque blue-green glass; 14, cylindrical, opaque black glass with three red dots in white fields; 15, globular, opaque black glass with three translucent blue patches with white border; 16, 17, brick-shaped, opaque glass with yellow and green checkered pattern and red, yellow, white and green stripes (1926/IV<sup>163a</sup>).

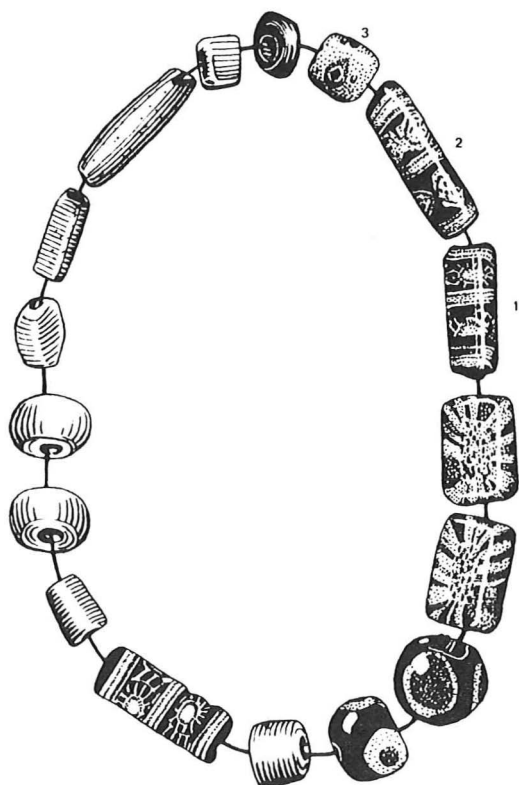
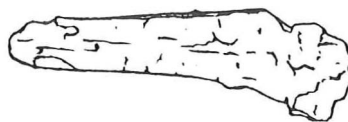


Fig. 251. Grave 163.

164. B<sup>f</sup>-58.  
(NW.-SE.).  
1.80 × 0.70.

Fig. 252. Grave 165.



165. B<sup>fg</sup>-58 (Fig. 252).  
(NW.-SE.).  
2.40 × 0.80.



Finds: *a.* Fragment of iron knife, l. 4.5 (1926/IV<sup>165</sup>).

166. B<sup>gh</sup>-58 (Fig. 253).  
(NW.-SE.).  
2.90 × 1.00; 0.15.

Finds:

- a.* Fragment of iron knife, l. 6.5 (1926/IV<sup>166</sup>).  
*b.* 3 beads: 1, tubular *millefiori* bead, opaque blue glass with "stars" consisting of white border, red circle and yellow central dot between white lines; 2, disc-shaped, opaque blue glass; 3, disc-shaped *Überfangperle* of yellowish glass (1926/IV<sup>166</sup>).

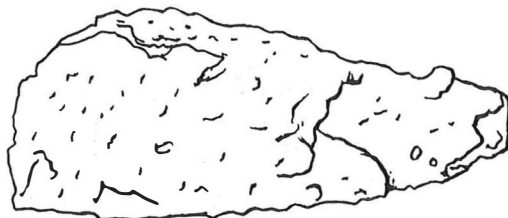


Fig. 253. Grave 166.

167. B<sup>f</sup>-51/2.  
(S.-N.).  
Horse grave.  
1.70 × 0.80; 0.10.

168. B<sup>g</sup>-51/2 (Fig. 254).  
(SW.-NE.).  
Child's grave.  
1.00 × 0.60; 0.20.

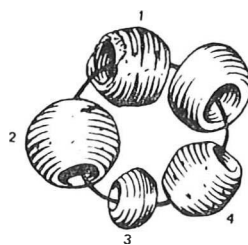


Fig. 254. Grave 168.

- Finds:  
*a.* 5 beads: 1, biconical, opaque blue glass; 2, biconical, opaque yellow glass; 3, low biconical, opaque light-blue glass; 4, 5, biconical opaque whitish glass (1926/IV<sup>168a</sup>).

169. B<sup>qr</sup>-56.  
(NW.-SE.).  
2.50 × 1.00.
170. B<sup>q</sup>-56/7.  
(NW.-SE.).  
2.30 × 0.80; 0.30.
171. B<sup>q</sup>-56/7.  
(NW.-SE.).  
2.10 × 0.90; 0.50.
172. B<sup>pq</sup>-57.  
(NVV.-SE.).  
2.50 × 0.90; 0.30.
173. B<sup>q</sup>-57.  
(NW.-SE.).  
Child's grave.  
1.40 × 0.80; 0.10.
174. B<sup>r</sup>-57.  
(NW.-SE.).  
2.10 × 1.00; 0.20.  
Traces of coffin, 1.60 × 0.50.
175. B<sup>t</sup>-56.  
(NW.-SE.).  
2.10 × 0.90; 0.10.
176. B<sup>st</sup>-56/7.  
(NW.-SE.).  
2.40 × 0.90; 0.30.
177. B<sup>tu</sup>-56.  
(NW.-SE.).  
2.40 (with protuberance)  
× 0.80; 0.25.
178. B<sup>uv</sup>-55/6.  
(NW.-SE.).  
1.80 × 0.90; 0.35.
179. B<sup>u</sup>-56.  
(NW.-SE.).  
1.80 × 0.90; 0.30.  
Finds: In field book: "Cow-horn"  
(missing).
180. B<sup>e</sup>-51/2.  
(S.-N.).  
Horse grave.  
1.00 × 0.60.
181. B<sup>mn</sup>-56.  
(NW.-SE.).  
2.60 × 0.90.
182. B<sup>mn</sup>-56 (Fig. 255).  
(NW.-SE.).  
2.00 × 0.80.

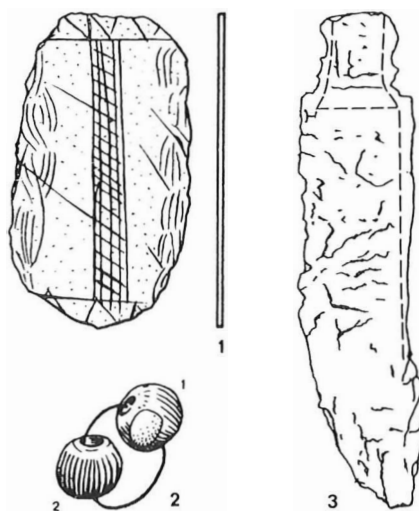
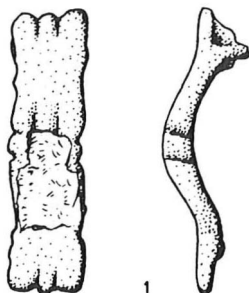


Fig. 255. Grave 182. No. 3: Scale 1 : 2.

## Finds:

- a.* Fragmentary rectangular bronze plate, brooch (?), decorated with grooved ornament: a hatched border along the short ends, a plaited border along the long sides, a zone with cross-hatching over the middle, l. 4.1, w. 2.3 (1926/IV<sup>182a</sup>).
- b.* Iron knife, l. 13.2 (1926/IV<sup>182</sup>).
- c.* 2 beads: 1, disc-shaped, opaque brick-red glass with three white dots; 2, flattened barrel-shaped, amber (1926/IV<sup>182c</sup>).

183. B<sup>no</sup>-57.  
(NW.-SE.).  
2.70 × 1.00.



184. B<sup>o</sup>-56/7.  
(NW.-SE.).  
2.30 × 0.90.

185. B<sup>op</sup>-56.  
(NW.-SE.).  
2.20 × 0.90.



186. B<sup>no</sup>-56 (Fig. 256).  
(NW.-SE.).  
2.50 × 1.00.

Fig. 256. Grave 186.

## Finds:

- a.* Bronze equal-armed brooch with three-lobed ends, notches at the side of the bow and two longitudinal grooves upon the bow; needle-catch and greater part of the needle missing, the upper part of the (iron) needle still hanging in vertical bronze plate under one end, l. 3.7, w. 0.9 (1926/IV<sup>186</sup>).
- b.* 3 beads: 1, disc-shaped, opaque brick-red glass; 2, low barrel-shaped, opaque glass with fields of yellow and green checkered pattern alternating with blue fields in which white, red, yellow rectangles, 3, disc-shaped, opaque orange glass (1926/IV<sup>186a</sup>).

187. B<sup>p</sup>-56/7.  
(NW.-SE.).  
1.60 × 0.70; 0.20.

188. B<sup>p</sup>-56.  
(NW.-SE.).  
Cuts grave 195.  
2.60 × 1.00; 0.25.

189. B<sup>op</sup>-56.

(NW.-SE.).

Cuts grave 195.

2.10 × 0.80.

190. B<sup>o</sup>-56 (Fig. 257).

(NW.-SE.).

2.20 × 1.00; 0.45.

Finds: *a*. Fragment of iron knife,  
l. 9.2 (1926/IV<sup>190</sup>).

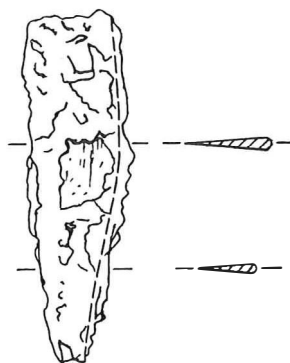


Fig. 257. Grave 190. Scale 1 : 2.

191. B<sup>pq</sup>-56.

(NW.-SE.).

2.60 × 0.90; 0.40.

192. B<sup>p</sup>-56.

(NW.-SE.).

Cuts grave 195.

2.70 × 0.85; 0.20.

Finds: *a*. Iron fragment, l. 9.1 (1926/IV<sup>192</sup>).

193. B<sup>l</sup>-57/8.

(NW.-SE.).

Child's grave.

1.40 × 0.80.

Finds: *a*. Fragment of iron knife, l. 6.9 (1926/IV<sup>193</sup>).

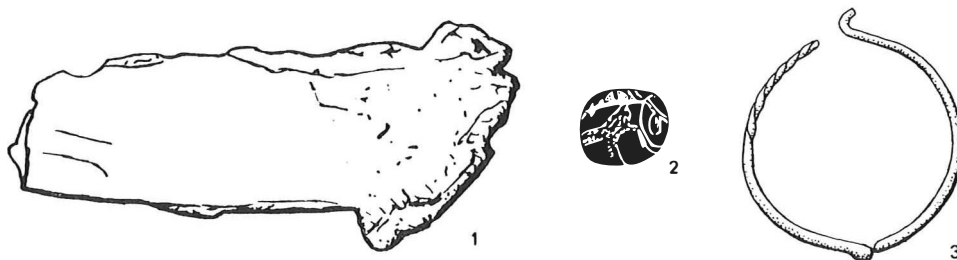


Fig. 258. Grave 194.

194. B<sup>ik</sup>-57/8 (Fig. 258).

(NW.-SE.).

2.10 × 0.80; 0.20.

Finds:

*a*. Fragment of iron knife(?) and another iron fragment, l. 6.6, 8.5 (1926/IV<sup>194</sup>).

- b.* Barrel-shaped bead of opaque brick-red glass with yellow and green checkered patterns and yellow, green, yellow bands (1926/IV<sup>194</sup>).  
*c.* Fragmentary pendant of twisted silver wire, d. *ca.* 2.9 (1926/IV<sup>194</sup>).

195. Bp-56.

(NW.-SE.).

Cut by graves 188, 189, 192.

2.00 × 1.00.

196. Bj-57.

(NW.-SE.).

2.10 × 1.00; 0.20.

Finds: In field book: "Iron knife" (missing).

197. Bj-58 (Fig. 259).

(NW.-SE.).

2.40 × 0.90.

Finds:

- a.* Iron buckle with rectangular loop and rigid (?) rectangular (?) plate, l. 4.2, w. 3.4 (1926/IV<sup>197</sup>).

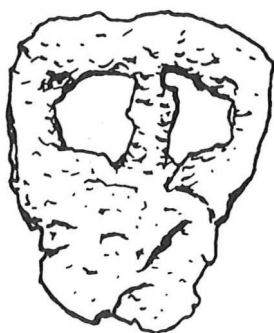


Fig. 259. Grave 197.

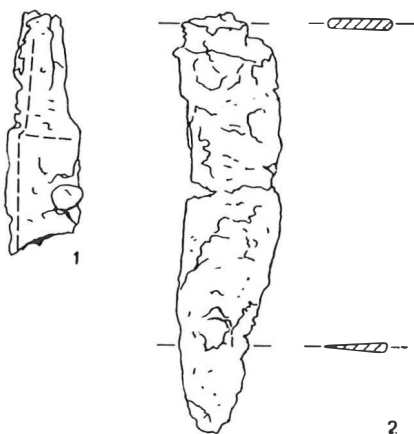


Fig. 260. Grave 198. Scale 1:2.

198. Bk-58 (Fig. 260).

(NW.-SE.).

2.30 × 1.10.

Finds:

- a.* Two fragmentary iron knives, l. 11, 6.3 (1926/IV<sup>198</sup>; one may belong to grave 197; in field book: "iron").



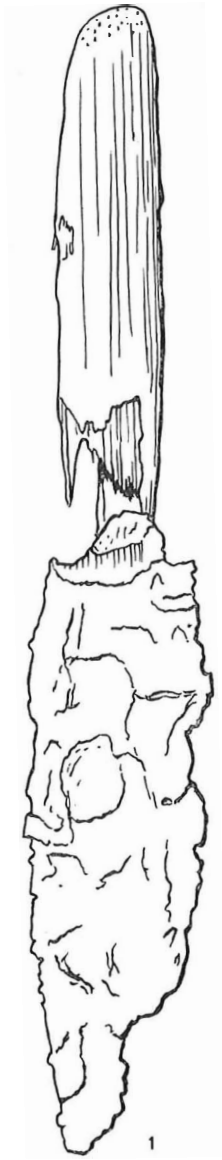


Fig. 261. Grave 199.

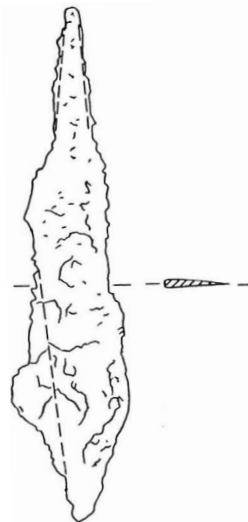
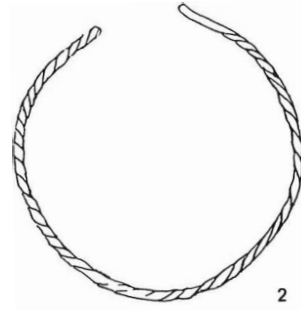


Fig. 262. Grave 203. Knife: scale 1 : 2.

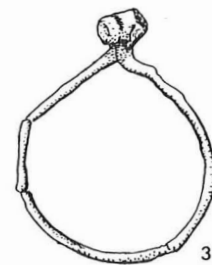
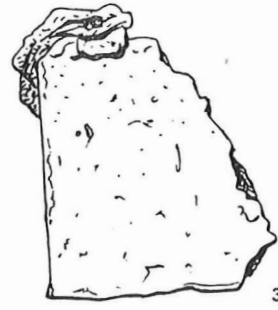


Fig. 263. Grave 204.



205. B<sup>h</sup>-57/8 (Fig. 264).  
(W.-E.).

2.30 × 1.00.

Finds:

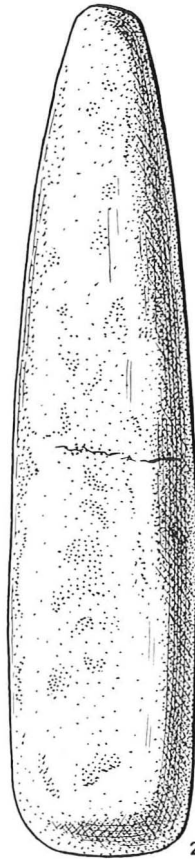
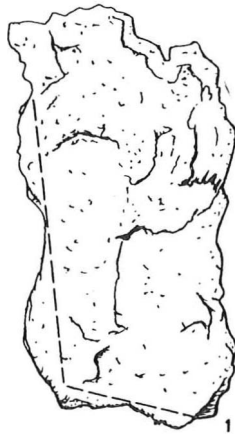
*a.* Iron fragment, l. 9.4 (1926/IV<sup>205</sup>).

*b.* Fragmentary circular pendant of smooth silver wire, d. 3.3 (1926/IV<sup>205</sup>).



Fig. 264. Grave 205.

Fig. 265. Grave 206.  
No. 2: scale 1 : 3.



206. B<sup>n</sup>-58 (Fig. 265).  
(W.-E.).

2.40 × 1.00.

Finds:

*a.* Fragment of iron knife, l. 5.4 (1926/IV<sup>206</sup>).

*b.* Whetstone (?), l. 24 (1926/IV<sup>206</sup>; missing, *cf.* Van Giffen 1927, Pl. 6: 4).

207. B<sup>i</sup>-57/8 (Fig. 266).

(W.-E.).

2.50 × 0.90.

Finds:

- a. 3 beads: 1, disc-shaped, opaque green glass; 2, long barrel-shaped, opaque brick-red glass with white zig-zag line; 3, brick-shaped, opaque glass with yellow and green checkered patterns, white, green, white bands and brown-red corners (1926/IV<sup>207</sup>).

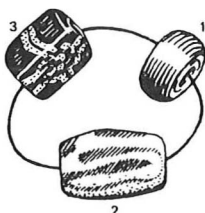


Fig. 266. Grave 207.

208. B<sup>kl</sup>-56.

(SW.-NE.).

2.60 × 1.00.

209. (5). A<sup>t</sup>-54 (Fig. 267).

(SW.-NE.).

Child's grave.

0.90 × 0.50; 0.10.

Finds:

- a. Probably from this grave: 4 beads: 1, 2, 3, disc-shaped, translucent blue glass; 4, disc-shaped, translucent dark-blue glass (1931/II<sup>37</sup>; the inv. no. should be 1931/II<sup>5</sup>; in field book: "Some blue beads, lying scattered").



Fig. 267. Grave 209.

210. (37). A<sup>st</sup>-53/4 (Fig. 268).

SW.-NE.

Traces of skull.

1.80 × 0.70; 0.10.

Traces of coffin, 1.75 × 0.40.

Finds:

- a. 14 beads: 1, 2, 3, bulbous (partly broken segmented) *Überfangperlen* of yellowish glass; 4, 9, 10, 11, 12, bulbous (partly broken segmented) *Überfangperlen* of whitish glass; 5, 6, 7, small disc-shaped (6, segmented), opaque light-blue glass; 8, small disc-shaped, opaque brick-red glass; 13, biconical, opaque green glass; 14, cylindrical, amber (1931/II<sup>6</sup>; Van Giffen 1932, Afb. 2: no. 37 does not belong to this grave, but to grave 209).



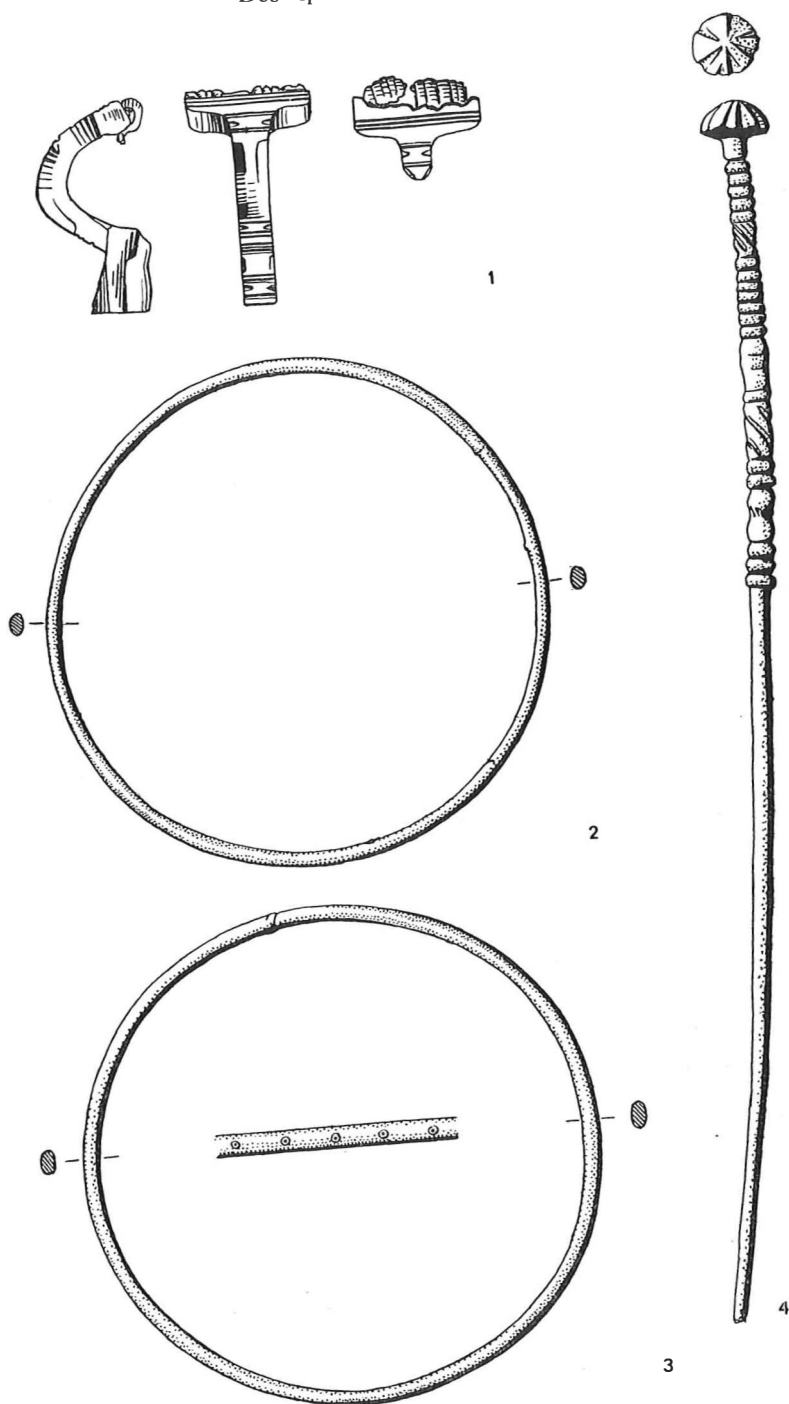
Fig. 268. Grave 210.



Fig. 269.

Description of the graves

481



Grave 211.

Van Es, Wijster

31

211. (7). A<sub>s</sub>-50 (Fig. 269).

SW.-NE.

Traces of skeleton, lying on its back, right forearm folded on breast, left forearm resting on belly.

2.40 × 1.10; 1.10.

Finds:

- a. On skull: bronze hairpin with mushroom-shaped head decorated with grooves; the upper part of the shaft ornamented with horizontally ribbed zones which alternate with zones of twisted vertical grooves and zones of faceted ornament, point broken off, l. 16.1 (1931/II<sup>7</sup>).
- b. On neck (?): bronze, so-called *Stützarm* brooch, decorated with grooved and faceted ornament on *Stützarm*, bow and upper side of the foot, the end of the needle-catch open; needle missing, l. 2.8, w. of *Stützarm* 1.6 (1931/II<sup>7</sup>; the brooch carries inv. no. 1931/II<sup>19</sup> which cannot be correct: this inv. no. comes from cremation grave VII, but the brooch has not been in the fire; moreover, Van Giffen (1932, Afb.6: 7c) gives it among the contents of grave 211).
- c. Around left wrist: two narrow silver bracelets, one of them decorated with a row of dot-and-rings, at one place interrupted by a row of five dots, d. 6.8 × 6.5, 6.7 (1931/II<sup>7</sup>).
- d. On neck: 39 beads: 1-8, coiled, opaque black glass; 9, small ring of silver (?); 10, 12, 34-36, 38, 39, tubular, translucent blue glass; 11, 19, cylindrical, bronze; 13, 15, 18, cylindrical, opaque green glass; 14, disc-shaped, amber; 16, 21-26, segmented and fragments of segmented *Überfangperlen* of whitish glass; 27-29, segmented and fragments of segmented *Überfangperlen* of yellowish glass; 30-33, almond- or drop-shaped, translucent dark-blue glass; 37, tubular, opaque green glass (1931/II<sup>7</sup>; Van Giffen (1931, Afb.6: 7) illustrates two circular pendants of silver (?) wire and a leaf-shaped pendant (of metal?) as belonging to the necklace, both of which are now missing).

212? (21). A<sup>s</sup>-53.

(S.-N.).

Child's grave.

0.90 × 0.50; 0.40.

Finds: a. In field book: "Sherds" (1931/II<sup>21</sup>; missing).

213. (23). A<sup>m</sup>-51/2 (Fig. 270).

(S.-N.).

Child's grave.

1.00 × 0.50; 0.30.

## Finds:

- a.* In south-eastern corner of pit, outside oval discolouration (due to basket?): handled bowl with slightly thickened rim, short rather smooth neck, and coarsely roughened bulbous belly of yellow-brown to grey, hand-made pottery, h. 10.5, d. 11.7 (1931/II<sup>23</sup>).

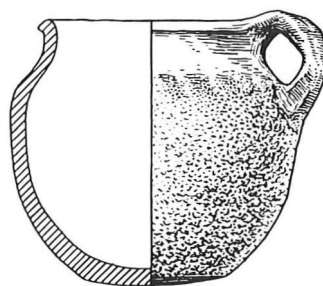


Fig. 270. Grave 213. Scale 1 : 3.

214. (24). A<sup>mn</sup>-51/2 (Fig. 101:16).

(S.-N.).

Child's grave.

1.10 × 0.40; 0.15.

## Finds:

- a.* In south-eastern corner of pit: footed cup of Wijster type IC of glossy smooth, grey, hand-made pottery, h. 8.6, d. 14 (1931/II<sup>24</sup>).

215? A<sup>n</sup>-51.<sup>3</sup>

(SE.-NW.).

Child's grave.

0.90 × 0.50; 0.15.

216? A<sup>m</sup>-49/50.<sup>3</sup>

(SW.-NE.).

1.80 × 0.80; 0.70.

217. (64; double number: 64 being the horse grave in A<sup>y</sup>-50/1).

B<sup>kl</sup>-55/6.

(NW.-SE.).

2.60 × 0.90.

B. CREMATION GRAVES<sup>4</sup>I. (10). A<sup>t</sup>-50/1.

Almost square pit,  $0.50 \times 0.40$ .

Finds:

a. In field book: "Some sherds and calcinated bones" (1931/II<sup>10</sup>; missing).

II. (13). A<sup>s</sup>-47 (Fig. 271).

Round pit, d.  $0.40$ .

Finds:

a. Bronze ring, d.  $2.8 \times 2.3$  (1931/II<sup>13</sup>).

b. Rim fragment with rolled decoration of terra nigra-like, Late-Roman pottery: type Chenet 342 (1931/II<sup>13</sup>).

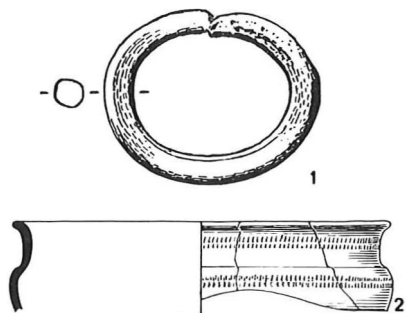


Fig. 271. Grave II. No. 2: scale 1 : 3.

III? (14). A<sup>r</sup>-46.

Round pit, d.  $0.30$ .

Finds:

a. In field book: "Rim-sherd with fingertip impressed decoration + calcinated bones and melted bronze (1931/II<sup>14</sup>; missing; cf. Van Giffen 1932, Afb. 6: 14).

IV. A<sup>q</sup>-46.

Square pit,  $0.60 \times 0.60$ .

V. (15). A<sup>r</sup>-48 (Fig. 105: 4).

Rectangular pit,  $1.00 \times 0.50$ .

Finds:

a. Fragment, distorted by secondary burning, of a cup of Wijster type ID of originally smooth, greyish to yellowish, hand-made pottery (1931/II<sup>15</sup>).

VI? A<sup>s</sup>-48/9.

Rectangular pit, 0.80 × 0.30.

VII. (19). A<sup>n</sup>-50 (Fig. 272).

Square pit, 0.50 × 0.50.

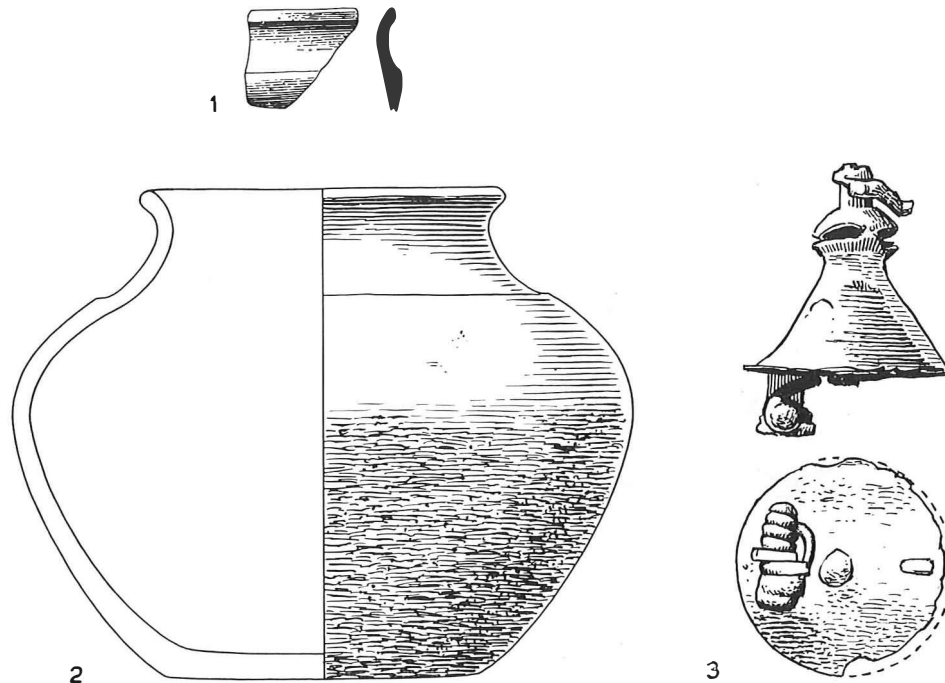


Fig. 272. Grave VII. No. 1, 2: scale 1:3.

Finds:

- a. Bronze *tutulus*-brooch, vertical axis and axis of spiral made of iron, partly damaged by fire, h. (with spiral) 3.5, d. (at base) 2.9 (1931/II<sup>9</sup> – *sic!* –).
- b. Rim-sherd of terra nigra-like, Late-Roman pottery: type Chenet 342 (1931/II<sup>222</sup>).
- c. Urn of Wijster type IVF with smooth black shoulder and neck, and with roughened greyish to yellowish belly; h. 19, d. 24.6 (1931/II<sup>19</sup>); contains calcinated bones.

VIII? A<sup>m</sup>-50.

Rectangular pit, 0.90 × 0.50.

IX. A<sup>mn</sup>-51.

Square pit, 0.70 × 0.70.



X? A<sup>m</sup>-50.

Round pit, d. 0.70.

XI. (20). A<sup>n</sup>-49 (Fig. 273).

Square pit, 0.50 × 0.50; 0.40.

Finds:

a. Fragment of bronze buckle with hinging plate, l. 2.9, w. 2.4 (1931/II<sup>20</sup>).

b. Rim-sherd and sherd with rolled decoration, and foot of terra nigra-like, Late-Roman pottery: type Chenet 342 (1931/II<sup>20</sup>).

c. In field book: "Calcinated bones" (1931/II<sup>20</sup>; missing).

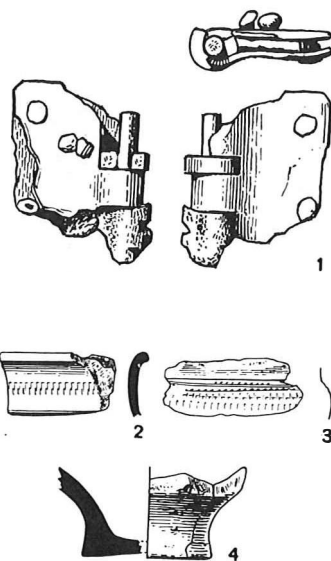


Fig. 273. Grave XI. No. 2-4: scale 1 : 3.

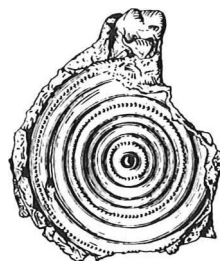


Fig. 274. Grave XII.

XII. (22). A<sup>m</sup>-50/1 (Fig. 274).

Rectangular pit, 0.70 × 0.50; 0.30.

Finds:

a. Partly melted disc-brooch of bronze, the upper side covered with a bronze sheet decorated with concentric smooth and beaded ribs around a small bronze (or silver?) ball in the centre; bronze spiral, needle and needle-catch preserved, d. ca. 2.7 (1931/II<sup>22</sup>).

b. In field book: "Some bones" (1931/II<sup>22</sup>; missing).

XIII. (26). A<sup>o</sup>-46.

Rectangular pit, 1.00 × 0.60; 0.20.

Finds:

- a.* In field book: "Remnants of cremation with bronze, apparently secondary interment in surrounding cremation grave of inhumation length (*Brandskeletgraf*)" (1931/II<sup>26</sup>; missing).

XIV. (27). A<sup>o</sup>-48.

Square pit, 0.50 × 0.50.

Finds: *a.* In field book: "Bones" (1931/II<sup>28</sup>; missing).

XV. (28). A<sup>o</sup>-49.

Rectangular pit, 0.60 × 0.45.

The grave overlies one of the post-holes of a four-post configuration.

Finds:

- a.* In field book: "Coal and few calcinated bones + bronze" (1931/II<sup>28</sup>; missing).

XVI. (29). A<sup>k</sup>-51.

Rectangular pit, 0.75 × 0.60; 0.15.

Finds:

- a.* In field book: "Bones + small sherds" (1931/II<sup>29</sup>; missing).

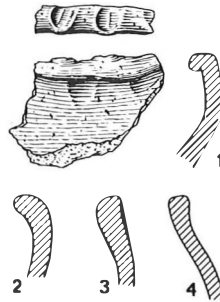


Fig. 275. Grave XVII? Scale 1 : 3.

XVII? (30). A<sup>j</sup>-53 (Fig. 275).

Rectangular pit, 1.20 × 0.80; 0.20.

Finds:

- a.* Seven rim-sherds and forty-five sherds of mostly rather coarse, heavily gritted, hand-made pottery; one of the rims (Fig. 275:2) belongs to Wijster type VIIA; of the remaining six, probably all of bowls comparable to Wijster types IVA and B, two are decorated with fingertip impressions on top of the rim (1931/II<sup>30</sup>).

In the field book, this pit is called a grave but no bones or coal are mentioned. Moreover, apart from the rim-sherd of type VIIA, the sherds show no traces of secondary burning. The coarse pottery seems to be older than the Roman period. The field drawing suggests that here two pits overlie one another.

XVIII? (34). A<sup>pq</sup>-49.

Almost square pit,  $0.90 \times 0.80$ ;  $0.35$ .

Finds:

- a. Four small sherds of smooth brown to grey, stone-tempered, hand-made pottery (1931/II34).

In the field book, the pit is called a grave, but no bones or coal are mentioned; the sherds show no traces of secondary burning.

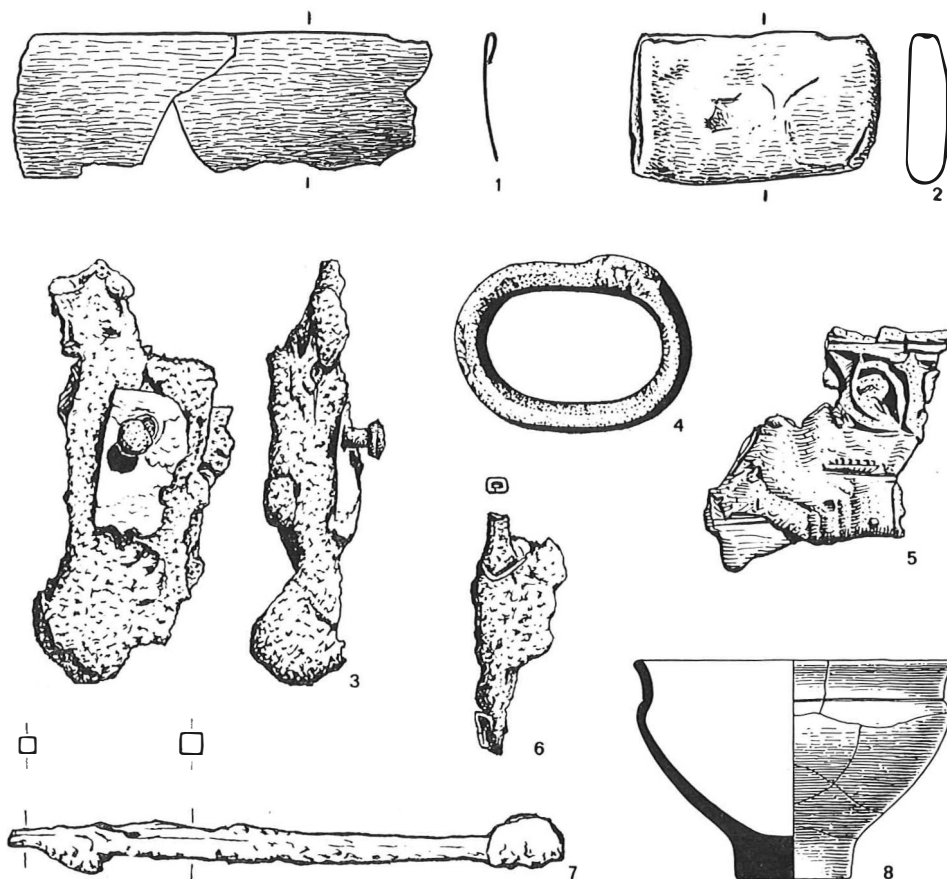


Fig. 276. Grave XIX. No. 8: scale 1 : 3.

XIX. (35). A<sup>p</sup>-47 (Fig. 276).

Square pit,  $0.80 \times 0.80$ ;  $0.10$ .

Finds:

- a. Oval bronze ring, d.  $3.1 \times 2.3$  (1931/II35).

- b.* Partly melted fragment of bronze buckle(?) with *Kerbschnitt* ornament, l. 3.2 (1931/II<sup>35</sup>).
- c.* Partly melted, folded, rectangular bronze fragment, l. 3.3 (1931/II<sup>35</sup>).
- d.* Two fragments of bronze sheet, l. 2.9, 3.4 (1931/II<sup>35</sup>).
- e.* Small iron bar, l. 7.4 (1931/II<sup>35</sup>).
- f.* Two iron fragments, one of them with a fragment of bronze sheet attached to it by iron nail(?), l. 3.2, 5.8 (1931/II<sup>35</sup>).
- g.* Fragment of footed cup, deformed by secondary burning, probably of terra nigra-like, Late-Roman pottery: type Chenet 342, h. 9.5 (1931/II<sup>35</sup>).
- h.* Rim-sherd, probably of above-mentioned cup (1931/II<sup>35</sup>).
- i.* Rim-sherd, deformed by secondary burning, of cup of terra nigra-like, Late-Roman pottery: type Chenet 342 (1931/II<sup>35</sup>).
- j.* Two rim-sherds (Wijster type IVA) and four sherds of smooth, stone-tempered, hand-made pottery (1931/II<sup>35</sup>).
- k.* Sherd of irregular, stone-tempered, hand-made pottery with two broad, shallow grooves (1931/II<sup>35</sup>).  
The sherds mentioned under *h* and *j* do not show traces of secondary burning.
- l.* Calcinated bones (1931/II<sup>35</sup>).

## XX? AP-47.

Rectangular pit, 0.70 × 0.40; 0.30.

XXI. (25). A<sup>n</sup>-51/2.

Square pit, 0.70 × 0.70.

Finds:

- a.* Two sherds with rolled decoration of cup of terra nigra-like, Late-Roman pottery: type Chenet 342; traces of secondary burning (1931/II<sup>25</sup>).
- b.* Two sherds of coarse, brown, Roman pottery: Mayen ware (1931/II<sup>25</sup>).

XXII. A<sup>m</sup>-52.

Rectangular pit, 0.50 × 0.40.

XXIII. A<sup>v</sup>-50 (Fig. 277).

1.00 × 0.60.

In the field book, the pit is called: "Burning Place".

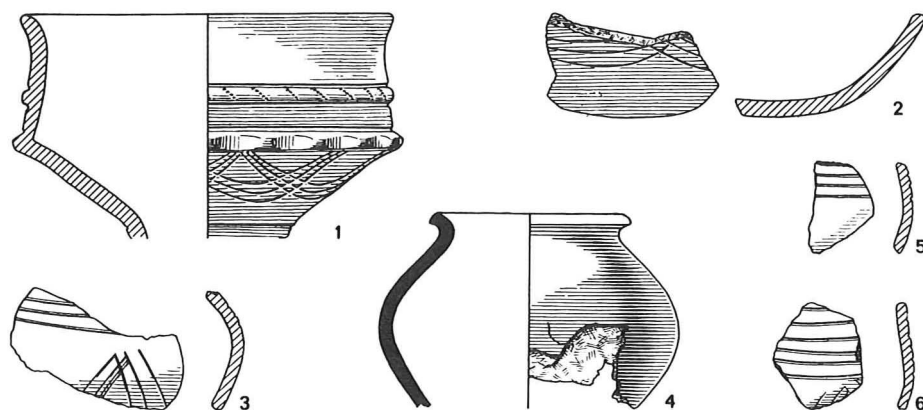


Fig. 277. Grave XXIII. Scale 1 : 3.

Finds:

- a. Three rim-sherds and five sherds of footed (?) cup with curved shoulder/neck and conical belly of grey, stone-tempered, hand-made pottery; on the neck, a ridge accompanied by grooves and decorated with slanting brooch spiral impressions, the transition from shoulder to belly is notched, on the belly, an ornament consisting of pendant arcs formed by threefold grooves: Wijster type ID; traces of secondary burning (1926/IV<sup>218</sup>).

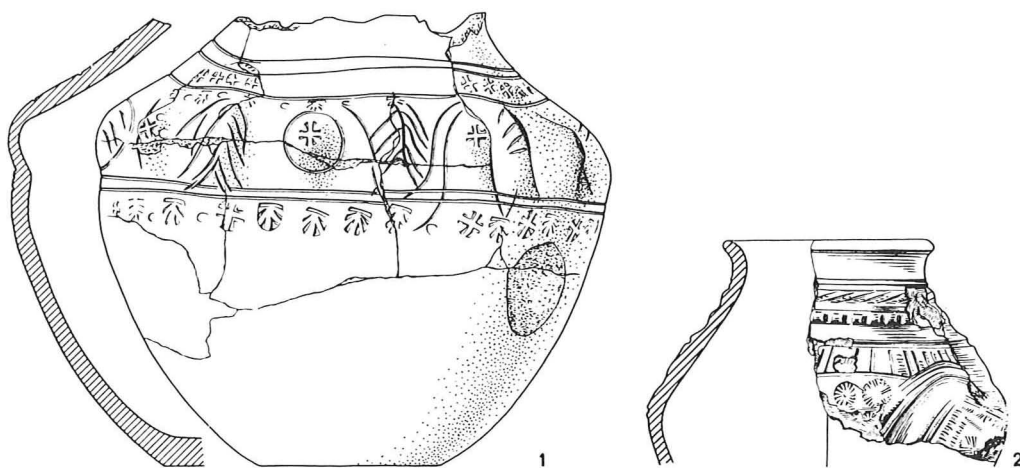


Fig. 278. Graves XXIV and XXV. Scale 1 : 3.

- b.* Six sherds of one pot, decorated with grooved ornament of orange to grey, stone-tempered, hand-made pottery, showing traces of secondary burning (1926/IV<sup>218</sup>).
- c.* Fragment of globular pot with low bent-out neck (*Kugeltopf* or Roman?) of yellow, wheel-made pottery (1926/IV<sup>218a</sup>).

XXIV. B<sup>b</sup>-53 (Fig. 278:1).

Cremation in urn.

Only a few fragments of the urn were recovered; it has been restored in part and contains calcinated bones. Fragmentary Anglo-Saxon urn of smooth, stone-tempered, hand-made, greyish-black pottery, decorated with grooves, stamps and *Buckel*, h. 17.7, d. ca. 19 (1926/IV<sup>221</sup>).

XXV? A<sup>w</sup>-51 (Fig. 278:2).

Cremation in urn (if the sherd may be considered to be the last remnant of a pot used as urn).

Rim-sherd of Anglo-Saxon urn of smooth, stone-tempered, hand-made, brownish-grey pottery, decorated with grooves, stamps and notched ridges (1926/IV<sup>211</sup>).

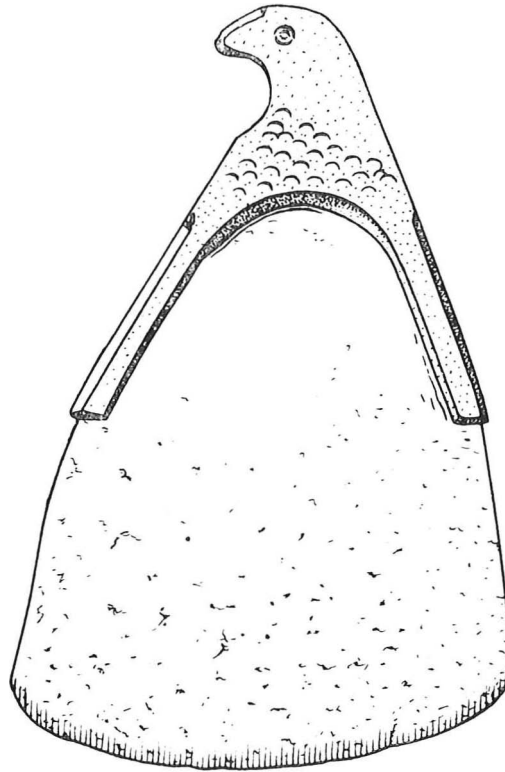


Fig. 279. Wijster. Stray find, probably from sunken hut (*vide* p. 77).

## NOTES

<sup>1</sup> Van Giffen 1927; 1932.

<sup>2</sup> On the plan published by Van Giffen (1932, Fig. 2) the graves of the two campaigns of 1926 and 1931 are numbered independently, the numbers of the graves found in 1931 being underlined. On our plan the interments are numbered consecutively, starting with those excavated in 1926; after the new numbers of the 1931 graves, the original Van Giffen numbers are given between brackets.

The description of the finds from the graves cannot be complete. Many objects, especially those made of iron, have disappeared; the entries in the field book are not very detailed; in most cases the place of individual objects in the grave has not been recorded.

When indicating the direction of the graves, the end at which the head of the deceased rested is mentioned first. If, in the absence of skeletal remains or significant finds, the position of the head cannot be established with reasonable certainty, the direction is placed between brackets. The indications of the direction of the graves are approximate.

The measurements of the graves are given in metres and enumerated in this order: length  $\times$  width; depth below level of excavation (the depth had not been noted of all graves): in reality, the graves were (*ca.* 0.50) deeper.

The measurements of the finds are given in centimetres. d. = diameter, h. = height, l. = length, w. = width.

The inventory numbers mentioned are those used by the Provinciaal Museum van Drenthe at Assen, where the finds are kept.

<sup>3</sup> The character of the pits in the western part of the cemetery cannot always be defined with certainty. The distinction between post-hole, cremation or inhumation grave may often present difficulties, especially if the pits were findless, or the finds are missing.

<sup>4</sup> The older cremation graves present on the site (*vide* pp. 495–6) have not been included in this list.

## CHAPTER XXII

### ANALYSIS OF THE CEMETERY (*cf.* plan xi)

#### A. POST-HOLES

##### a. Square or Rectangular Four-post Configurations

In the western part of the cemetery, twenty-two square to rectangular configurations of four posts each stand out between the graves; it may be that a few more are hidden among the post-holes in squares B<sup>ad</sup>-52/5. Their direction is not absolutely fixed: it varies between NNW.-SSE. and NNE.-SSW. The dimensions vary from  $0.90 \times 1.20$  (6) to  $1.10 \times 2.00$  (22) and  $1.30 \times 1.40$  (14).

In settlements, as in Wijster (*cf.* pp. 87-92), similar configurations occur frequently and can safely be regarded as the ground-plans of granaries or similar buildings. In this case, however, such an interpretation is less plausible.

As far as can be seen, the post-settings in question date from the Late-Roman period: in the NE. post-hole of 17 a sherd of Late-Roman glass was found and in the SE. hole of 9 the 3<sup>rd</sup>/4<sup>th</sup> century cup of hand-made ware (*cf.* p. 214; Fig. 155:13); configuration 9 is cut by grave XV.<sup>1</sup> They are therefore of the same period as the graves in this part of the cemetery, while settlement traces of the same date, with which the configurations could be connected, have not been found in this area. The excavator indeed attributed them to the Late-Roman cemetery and considered them to be the ground-plans of small temples with pyramidal or domed roofs resting on four posts, which sheltered wooden idols.<sup>2</sup>

It is difficult to supply definite proof to support this supposition. The wooden idols, if they have ever been present, left no trace. The relation between the graves and post-settings is not as obvious as has been suggested. On the one hand, their distribution is not congruent: the graves are most densely concentrated where there are no "temples" (squares A<sup>mn</sup>-50/3). On the other, now and again a grave and a post-setting seem to belong together: I and 16, IV and 4, XIII and 2, XIV and 8. In the report on the excavation, 9 has been adduced as proof of the sacred character of these configurations: its post-holes are said to have contained cremation burials, and the north-eastern one even to have been widened into a cremation grave of usual dimensions.<sup>3</sup> The data recorded in the field drawing and the field book, however,



do not confirm this view. No calcinated bones are mentioned from the north-western, south-western and south-eastern post-holes. Halfway down the filling of the south-eastern hole only the fragmentary cup of Fig. 155: 13 was found. It shows traces of secondary burning and, therefore, may be assumed to have been used in the cremation ritual, but this is hardly sufficient proof of an intentional cremation deposit in the post-hole. As far as the north-eastern hole is concerned, it is explicitly stated that it appeared underneath the pit of the cremation grave. A less distorted explanation of this situation would be that the grave is later than the post-setting, and that the overlapping of pit and post-hole is accidental.

Still, in view of the fact that graves and post-settings are of the same period and because it is difficult to understand why granaries should be found so far outside the contemporaneous settlement, both phenomena are most probably connected. It has already been observed that in some cases a direct relationship between an individual grave and one of the configurations of post-holes is probable. The post-settings may have played some role in the cremation ritual, though their exact function is as yet difficult to establish. Perhaps the posts were used in the construction of the pyre, or they may indeed have carried a roof which sheltered the body before its cremation. Another indication that these post-settings belong to the burial ritual is their occurrence in a few other cemeteries in Westphalia and North-western Germany. The best parallel cases are in Lembeck.<sup>4</sup> In the grave fields of Maschen<sup>5</sup> and Drantum<sup>6</sup> post-settings also occur among the graves, some of which show similarities to the Wijster specimens.

## **b. The Remaining Post-holes**

In the middle and eastern parts of the cemetery, post-holes are also present.<sup>7</sup> Among these, a few rows or other configurations can be distinguished which, taking their NNW.–SSE. direction into consideration, more or less correspond to the direction of the inhumation graves. According to Van Giffen this suggests a connection between the two,<sup>8</sup> but the similar direction of the rectangular trench in squares B<sup>fl</sup>–52/4, which is certainly much older (*vide* pp. 495–8), gives us reason for caution. Occasionally, post-holes occur at one or more corners of a grave (*e.g.* 79, 82, 84, 136, 140, 150), but even then the connection (grave markers) is not established beyond all doubt.

On the whole, date and significance of these holes remain obscure. No objects were found in direct association with them. Stray finds (sherds) are known, especially from the middle area. Some of these probably date from the Pre-Roman Iron Age; others belong to the Late-Roman period (*e.g.* a foot of a terra nigra-like cup Chenet 342), or are still later (*e.g.* sherds of hand-made bowls comparable to those found in some graves). It has been said above that some of the post-holes in squares

B<sup>ad</sup>-52/5 might belong to four-post settings, like those in the western part. It should be added that the urn XXIV testifies to the occurrence of cremation burials in this same area.

A configuration in squares A<sup>wx</sup>-52/3 of nineteen posts, grouped in three rows, is interpreted by Van Giffen as the plan of a house measuring  $5.50 \times 3.20$ .<sup>9</sup> Its date is not known.

#### B. THE RECTANGULAR DITCH, THE SQUARE ENCLOSURE AND THE OLDEST CREMATION GRAVES

Van Giffen thought two explanations were possible for the rectangular ditch in squares B<sup>fl</sup>-52/4, measuring  $22.50 \times 4.40$  m. and orientated approximately NW.-SE.: it was either an Anglo-Saxon temple or it was the enclosure of the five cremation graves (calcinated bones in small pits; no grave gifts) found within it.<sup>10</sup>

The first interpretation, which Van Giffen did not consider completely convincing either, is highly improbable if only for stratigraphic and chronological reasons, the more so if the barrows are as old as we think them to be (*vide* pp. 498-9). The trench is not only cut by a number of graves and the otherwise undated square enclosure, but it also underlies barrow II.

In the light of more recent discoveries, the second explanation is the more plausible one. Four comparable enclosures have been found underlying the settlement traces (squares C<sup>ot</sup>-36/8, D<sup>r</sup>/E<sup>a</sup>-42/7; Fig. 280). Dimensions and orientations are variable: SW.-NE.;  $18.50 \times 3.50$  (squares C<sup>ot</sup>-36/8); W.-E.,  $15.50 \times 3.00$  (squares D<sup>rv</sup>-42/3); NW.-SE.,  $16.50 \times 2.80$  (squares D<sup>w</sup>/E<sup>a</sup>-42/3); NW.-SE.,  $13.50 \times 2.70$  (squares D<sup>sv</sup>-46/7). The depth of the trenches varies between 0.10 and 0.20 below excavation level. Only one is a closed rectangle and appears to have been laid down in one operation, though the western side of this one also may have been dug separately. Two are open at one end (one at the western and one at the eastern). The fourth one is open at the western extremity, while the opposite end has been closed by a separate transverse trench; there is furthermore a piece of trench adhering to the south-eastern corner. The separate blocking of this last enclosure reminds us of the one in the cemetery area. The filling of the trenches of these four enclosures appeared to be podsolized and no post-holes were found in them. So it may be deduced that they had been lying open for some time.<sup>11</sup> Within the enclosures underlying the settlement, no cremations have been found.

Another similar trench was found underlying barrow I and II on the Emelange.<sup>12</sup> Here also the phenomenon of the blocking of one short end by a separate piece of trench is to be observed. This enclosure is interpreted by the excavator as a pre-historic field, a so-called *hoogakker*, and compared to those discovered under the cremation-barrows, *De Negen Borgen*, on the Noordsche Veld near Zeijen.<sup>13</sup>

At Wijster, the trenches appear in isolated position. Even within the small group in the settlement area (squares D<sup>r</sup>/E<sup>a</sup>-42/7) the three trenches are lying isolated and do not touch each other. At Zeijen, they form part of complexes consisting of rectangular and square trenches. The same situation is met with on many other sites, e.g. Laudermarke,<sup>14</sup> Ballo,<sup>15</sup> Ruinen,<sup>16</sup> Gasteren.<sup>17</sup> There also the rectangular enclosures are often open at one end (sometimes at both ends), as at Wijster.

These complexes of square and rectangular trenches have been established as representing the last phase of the Northern Dutch *kringgrepuurnenvelden* (urnfield cemeteries in which the cremation interments are surrounded by a ditch) and are attributed to the Zeijen culture.<sup>18</sup> Within the trenches of the complexes, burials rarely occur.<sup>19</sup> The very absence of burial remains is one of the typical characteristics of the late "urn" fields.

Thus the five cremation graves within the enclosure found in the Wijster cemetery are rather exceptional, if it is accepted that graves and ditch belong together.

The date of our enclosures can be fixed within rather strict limits. On the one hand, the Roman period settlement and barrow I of the Emelange provide *termini ante quos* of respectively ca. 150 A.D. and ca. 200 B.C. On the other hand, the Zeijen culture cemeteries of the 6<sup>th</sup> and 5<sup>th</sup> centuries B.C. with rectangular and square ditches lying closely together and often touching each other may be regarded as a *terminus post quem*. The Emelange enclosure is undoubtedly post-Zeijen culture: it lies on top of a so-called double podsol, which represents the sand-storms that put an end to the extensive Zeijen culture settlement on the sandy soils of Drenthe.<sup>20</sup> A date in the 4<sup>th</sup> or 3<sup>rd</sup> century B.C. is therefore most probable.

It seems that the evolution of the Northern Dutch urnfields ends with those isolated rectangular enclosures, as found at Wijster, which appear there before the rise of the cremation barrow. The square and rectangular ditches of the Zeijen culture cemeteries are interpreted as boundaries of funeral pyres. As to the function of the Wijster rectangles no certain clues present themselves; it is probable that they played a role in the funeral ritual. However, apart from the five cremations mentioned above, no other graves of the same period have been observed. The pit in squares C<sup>w</sup>x-56 might be a grave, but then of an older period: its filling contained a few bone splinters, and its bottom had been paved with sherds comprising characteristic Zeijen culture rims. A similar pavement of sherds was found on the bottom of the contemporaneous *Brandgrube* 91 in the cemetery of Dörverden.<sup>20a</sup>

The rectangular enclosure is cut by a square ditch surrounding a circular trench. The square ditch showed post-holes at the bottom and was consequently a foundation-trench. The filling of the circular trench is said to have been "burnt red". Some calcinated bones were found within the square enclosure.

The date and significance of this enclosure cannot be precisely determined. Van

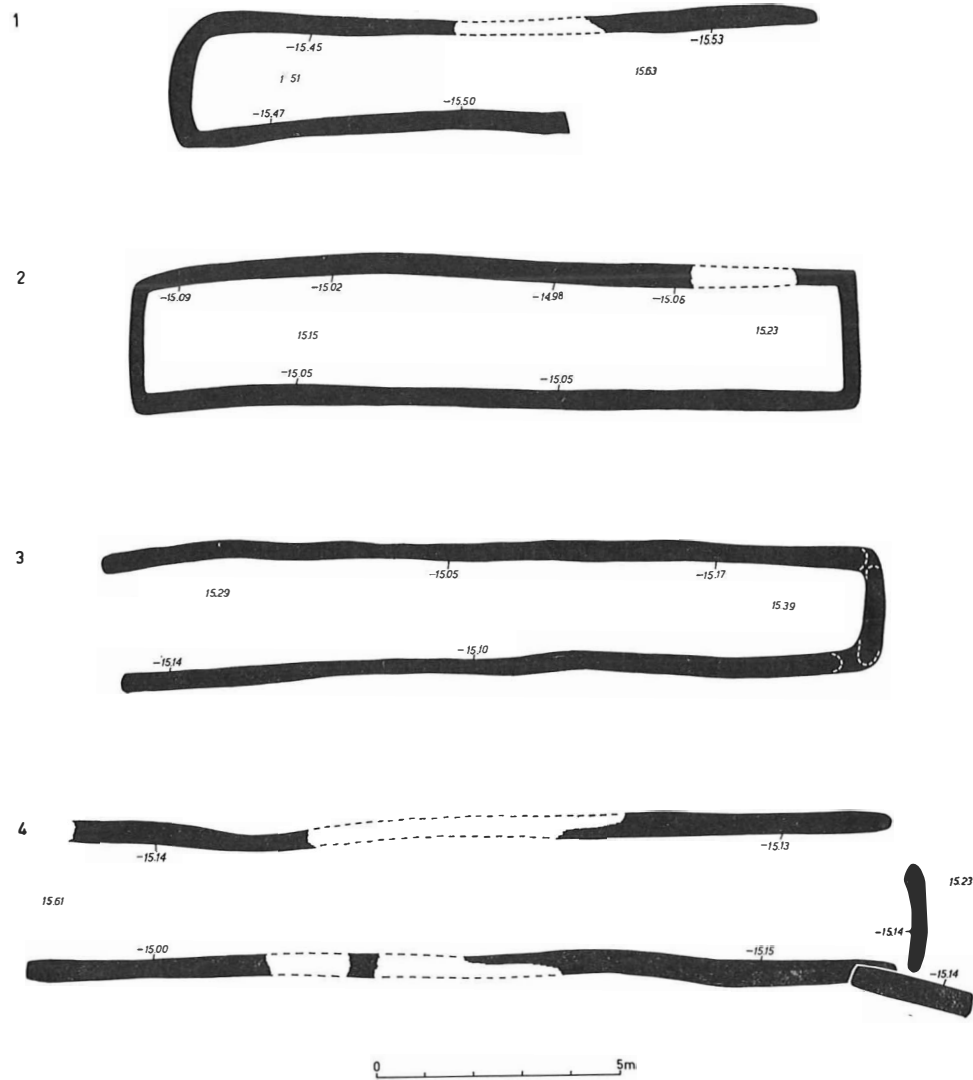


Fig. 280. Rectangular ditches underlying the settlement. 1: D<sup>sv</sup>-46/7, 2: D<sup>rv</sup>-42/3, 3: D<sup>wE</sup>-42/3, 4: C<sup>ot</sup>-36/8.

Giffen thought of it as an *ustrinum*. One is reminded of the square ditches of the Zeijen culture, or even of Roman period graves,<sup>21</sup> but this combination of a square and a circular trench is not known from any other site. It does not necessarily have to be much later than the rectangular enclosure.

The nine roundish pits found in the same area resemble the small pits with greenish or violet filling underlying the settlement and may be of the same mesolithic date (*vide* pp. 123–4). Originally they were interpreted as being post-holes of some sort of building. Apparently no burnt bones were discovered in their fillings.

### C. THE BARROWS

The four barrows, situated along the southern edge of the fen and constructed of heather sods, are clearly older than the cemetery, because they are cut into by inhumation graves. One (II) is a two-period monument;<sup>22</sup> it overlies the rectangular trench. A burnt layer, approximately in its centre and containing small undefinable iron fragments, indicated the position of the funeral pyre over which the barrow had been erected.

The other three are probably cremation-barrows of the same type, but no central pyres were found. The centre of I has not been excavated; under III patches containing charcoal were observed in an off-centre position. In the case of IV, the situation is rather difficult. Although he did not think so at first,<sup>23</sup> Van Giffen assumed eventually that grave 116, which was discovered in the centre, belonged to the barrow, but in these regions a barrow around 400 A.D. would be most surprising. In the publication of 1927, grave 116 is not drawn in on the section.<sup>24</sup> This was first done in the publication of 1932.<sup>25</sup> The original drawing of the section through the barrow, made in the field, does not show the grave either. This particular grave was given excessive care: it was treated with plaster, put in a box and lifted as a whole. Moreover the centre of the barrow was severely disturbed by the later graves 80 and 81. Thus there is every reason to assume that if grave 116 were younger than the tumulus, as in fact we think it was, the fact that it cut through the mound may not have been noticed. Its central position in the barrow is not likely to have been fortuitous: the place was chosen intentionally because of its sacred character and this also explains why grave 116 has strayed so far from its kindred.

No precise dating of these barrows is as yet possible, but the evidence we have indicates that this type of mound belongs to the middle and later part of the Pre-Roman Iron Age.<sup>26</sup>

## D. THE CEMETERY PROPER

The excavator is convinced that the cemetery was completely excavated. An occasional grave may have been left unexcavated (*e.g.* south of barrow III), but to all appearances the boundaries of the grave-field have been reached. Trial trenches dug in 1961 to the north of the western part, where post-settings and cremations extend to the borders of the investigated area, yielded no results. Only a few graves were lost in the zone between the excavations of 1926 and 1931, as is shown by objects found there by local people.<sup>27</sup> Apart from the Pre-Roman barrows, cremations and enclosures, the cemetery proper consists of cremation graves, horse interments and inhumation graves.

## a. The Cremation Graves

The twenty-five cremation graves belong to different types. Most of them are square or rectangular *Brandgruben*: I, IV, VI?, VIII, IX, XI, XII, XIII, XIV, XV, XVI, XVII?, XVIII?, XIX, XX?, XXI, XXII. Graves II and III are small round *Brandgruben*, not bigger than a post-hole; X? is a possible grave. There is one *Brandschüttung* (VII), one *Brandplatz*, probably the base of a pyre (XXIII), and one or two urn graves (XXIV, XXV?).

The cremation graves are confined to the western part of the cemetery. It is theoretically possible that others situated in the eastern or middle part have been destroyed by the later inhumations, but there is insufficient evidence to make this assumption.

As far as can be seen from the finds, the cremation interments are all of the same period. Mostly, however, these finds are poor: a few sherds, often with traces of secondary burning, and some undefinable scraps of melted metal. Datable finds are only met with in graves II, V, VII, XI, XII, XIX, XXI, XXIII, XXIV, XXV.

The *tutulus*-brooch in grave VII is a late 4<sup>th</sup>/early 5<sup>th</sup> century type (*cf.* p. 310).

The disc-brooch from grave XII is similar to some found at Mahndorf, which are dated by Grohne to the 4<sup>th</sup> century.<sup>28</sup> Steeger places a beautiful specimen, found at Krefeld, at around 300 A.D.<sup>29</sup> A not very close parallel from the Roman castle of Zugmantel, cited by Grohne, must date from before 260 A.D. The Wijster brooch and its relatives betray – especially with their central pearl – influences from certain types of *tutulus*-brooches, the evolution of which stretches from the late 2<sup>nd</sup> into the early 4<sup>th</sup> century.<sup>30</sup>

A fragment of what was probably a buckle with chip-carved ornament, found in grave XIX, again points to the late 4<sup>th</sup>/early 5<sup>th</sup> century.

A fragment of a bronze buckle, probably of the same type as the one found in grave 116, was discovered in grave XI: late 4<sup>th</sup>/early 5<sup>th</sup> century.

Sherds of the Late-Roman terra nigra-like ware (type Chenet 342), which may be as early as the 3<sup>rd</sup> century, but is particularly characteristic of the 4<sup>th</sup> and early 5<sup>th</sup> (*vide* pp. 158–68), are among the finds from graves II, VII (associated with the *tutulus*-brooch and the hand-made urn of Wijster type IVF), XI (associated with fragment of late 4<sup>th</sup>/early 5<sup>th</sup> century buckle?), XIX (associated with fragment of buckle of identical date) and XXI (associated with Late-Roman rough ware).

Two sherds of Late-Roman rough Mayen ware come from grave XXI.

Definable hand-made pottery was found in graves V, VII (associated with *tutulus*-brooch and sherd of Chenet 342), and XXIII. They represent Wijster types ID, IVF and ID respectively, which have been shown to be of Late-Roman date (*vide* pp. 298–300, 309–10).

The Anglo-Saxon urn of interment XXIV with its decoration of *Buckel* and stamps (Plettke A 8) is to be considered a 5<sup>th</sup> century type.<sup>31</sup> The same probably applies to the sherd from interment (?) XXV.

This rapid survey of the finds from the cremation graves makes it quite clear that they must be attributed to the 3<sup>rd</sup> century at the earliest, but particularly to the 4<sup>th</sup> and early 5<sup>th</sup>.

Slender evidence indicates the possibility of later cremation interment: the fragmentary hand-made bowl found “above” inhumation grave 12. One has to make a choice between two possibilities: the pot has either been placed high in the grave and belongs to the grave goods; or, it is later than the grave. In the latter case it may have contained a cremation, though no calcinated bones are preserved within it. We decided on the first possibility, but the second cannot be safely excluded.

## b. The Horse Graves

The total number of horse interments amounts to twenty-nine or thirty. Twenty lie in a long row in squares A<sup>a</sup>B<sup>f</sup>–50/2. Further east six (seven) constitute a second row, to the north of which the remaining three are found.

There is no demonstrable relation between the horse interments and the human graves. One might possibly assume a connection between the long row and the group of graves in square B<sup>bd</sup>–53/7, or between the row of six (seven) and the S.–N. graves immediately south of it, but this cannot be really proved. The long axis of the grave pits is directed SE.–NW. or S.–N. In the two cases recorded (37, 54) the head of the animal appears to have been lying at the northern end; in three instances (40, 46, 47) at this same end, the pit projects into a niche which served to hold the head. Yet, there is no fundamental difference from the human S.–N. graves, where the head

rested at the southern end: the position of the horse in the pit was such that its gaze was also directed to the north. They were standing or kneeling in their graves in a more or less natural position. In this respect they are completely different from the horse interments in the settlement. The first parallels to this curious interment method were discovered only recently by Zoller in the cemetery of Drantum near Oldenburg.<sup>32</sup>

Normally, one pit contained one horse. The field book mentions two skeletons from grave 28; 22 and 69 seem to be two horse graves, one overlying the other.

Here finds are very rare. It is not possible to date the iron snaffle from grave 23 precisely. The *Knebeltrense* type is known from 6<sup>th</sup> and 7<sup>th</sup> century contexts.<sup>33</sup> Neither are the other finds very characteristic: iron fragment (46), bronze or iron ring (21), bronze ring (48) and fragment of iron ring (64), probably of trappings. The sherd of a hand-made bowl, if it indeed comes from grave 36, as well as the 7<sup>th</sup> century (*vide* p. 513) bead, deformed by fire, from grave 52, are probably fortuitous intrusions into the graves.

An exact dating of the horse interments is therefore not possible, but because of their direction they may be contemporaneous with the human S.-N. graves; the snaffle, as well as the sherd and the bead, also supports this view.

The ideology underlying these horse interments does not emerge clearly. It must be different from the ideas connected with the animal graves found in the settlement, which may be safely interpreted as foundation offerings. In the absence of further evidence, every attempt at interpretation of the horse graves in the Wijster cemetery cannot be more than mere supposition.

### c. The Inhumation Graves

A few inhumation graves are found in the western part of the cemetery, side by side with the cremations. They lie isolated or in small groups, and are separated by a graveless zone from the other inhumations, which appear densely massed in the middle and eastern parts.

A small group of these most easterly graves lies isolated in squares B<sup>bd</sup>-53/7, while along the northern edge of the cemetery a separate row of horse interments is found. The rest of the grave-field seems to constitute a coherent whole. Here the graves are clearly arranged in short or somewhat longer rows, running E.-W. in the case of the S.-N., and N.-S. in the case of the W.-E. graves (*Reihengräberfeld* part). It is not clear, if the ditch running from square B<sup>j</sup>-52 to B<sup>t</sup>-57 is earlier or later than the cemetery. On the one hand, it cuts the graves 169 and 176, but on the other, most graves at both sides seem to avoid it. The ditch probably followed a natural depression which was shunned by the graves. If that view is correct, the interments north of it must be considered as a more or less individual group.



Among the most conspicuous features of the *Reihengräberfeld* part of our cemetery is the presence of two different directions. With greater or less precision, the long axis of the grave pits is either directed S.–N., or W.–E. The exact S.–N. or W.–E. direction is only found occasionally; almost all graves show a deviation to SW.–NE. or NW.–SE. It is striking that graves which lie close together often show the same degree of deviation, thereby indicating that they are also close to one another in time. In the cases where the position of the head could be established from skeletal remains or grave gifts, it invariably appeared to rest at the southern or western end of the pits.

The distribution of the S.–N. and W.–E. graves (exclusively S.–N. inhumations in the west; both directions in the central zone; only W.–E. graves in the east) suggests a gradual transition from the one burial rite to the other. The almost complete absence of “serious” overlappings is further proof of an even and uninterrupted growth of the grave-field. Most of the few overlappings that occur, the dates of the objects found in the graves, and especially the decrease of grave finds in eastern direction (*vide* pp. 503–5) indicate that this growth took place from west to east. W.–E. graves cutting over the S.–N. ones are: 34 and 35 / horse grave 36; 80 and 81/116; 117/118; 189 and 192/195. On the other hand, two S.–N. inhumations (94 and 97) overlap W.–E. graves in the extreme eastern, and probably youngest, part of the cemetery. They are conspicuous for their strongly diverging orientation and their isolation from other graves with comparable direction, and testify to a very late and sporadic reappearance of this generally older orientation.

Pits with a length of under 1.50 m. are considered as graves of children. It is usually impossible to distinguish between graves used for men and women. Occasionally it can be done by means of the grave gifts (*vide* pp. 503–5): weapons other than knives for a man, brooches and beads for a woman.

It seems that coffins were rarely used. Traces of coffins have been recorded only in eight S.–N. and five W.–E. graves (5, 9, 10, 13, 14, 24, 32, 33, 35, 55, 66, 174, 210). They were made of planks and had a rectangular, sometimes a slightly wedge-shaped, form.<sup>34</sup>

As a result of the extremely poor state of preservation of the skeletons, no details are known about the position of the dead in their graves, except that they were lying on their backs. More particulars could be established only in the case of the woman's grave 211: the right forearm was folded across the breast, the left rested on the pelvis.

#### **d. The Finds from the Inhumation Graves**

The different kinds of objects found in the inhumation graves have been listed in Fig. 284.

The first observation to be made is that many graves do not contain any finds at

all. The percentage of findless graves is much higher for the W.-E. than for the S.-N. inhumations. The total number of human interments amounts to 187 = 67 S.-N. + 120 W.-E. Of these, 55 S.-N. and 47 W.-E. graves have finds,<sup>35</sup> which gives percentages of respectively *ca.* 82% and 38%.<sup>36</sup>

The poverty of the grave goods is striking. They are mostly restricted to a few beads and/or a brooch and knife. All graves with finds, however poor these may be, are indicated on Plan XI. Comparatively "rich" ones, attracting the attention by the presence of weapons, larger necklaces and fine brooches, have been specially marked.

As the plan clearly shows, the percentage of findless graves increases from west to east. Moreover, the inventory of the S.-N. graves is often rather richer than that of the W.-E. ones. The contents of the graves particularly in the extreme eastern part, even when they contain grave goods at all, are strikingly scanty. "Rich" graves are only found in the western and middle part of the *Reihengräberfeld*; the few W.-E. graves among them (2, 5, 138) lie close to the western group of S.-N. inhumations.

While children's graves are recognizable by their dimensions (we have set a limit at a maximum length of 1.40 m. (26, 27, 56, 59, 71, 91, 103, 110, 120, 128, 137, 168, 173, 193, 199, 200, 201, 209, 212?, 213?, 214, 215?)), the distinction between male and female is only possible when characteristic grave goods are present.

Real weapons, such as spears and swords (not the simple, small knives) undoubtedly denote a man's grave: 58, 70, 116, 147. None of these four pits held beads or brooches.

On the other hand, six graves containing such characteristically feminine attributes such as bracelets, needleboxes and hairpins, have brooches and/or beads in addition: 2, 7, 125, 148 (only beads), 156, 211. Brooches never occur without beads. It may be safely assumed, therefore, that the combination of brooches and beads indicates a woman's grave. That those with only beads and no brooches should also be regarded as such, is perhaps not absolutely certain,<sup>37</sup> but it is highly probable.

Keys are found in association with brooches and beads (2, 138?) or with beads alone (140), so that there is every reason to consider 81, which only contains a key, as the grave of a woman as well.

Pendants are nearly always associated with brooches and beads (5, 7, 30, 73, 148, 156, 160, 199, 211) or with beads alone (35?, 140, 194, 204). The two interments without recognizable finds other than pendants (71, 205) are therefore probably female.

The objects of the remaining classes are either undefinable (scraps of iron or bronze, sherds), too few in number to allow any conclusion to be drawn (coins, rings, spindle-whorls, fragments of textile, leather or wood, cow-horn, flint), or occur in both men's and women's graves (buckles and, occasionally, more elaborate belt sets, knives, pots).

The distinction between male and female, marked on Plan XI, is based on the preceding analysis of the finds.

The long row of exclusively female interments in the middle of the cemetery (75, 74, 73, 141, 15, 16, 17, 120, 122, 124) is remarkable. It would be highly extraordinary if this phenomenon was the result of mere chance, but we see no satisfactory explanation.

The man and woman in graves 70 and 71 were probably a married couple and the same may be presumed for those buried in 147 and 148; both are "rich" and relatively old graves, as they are cut by younger ones.

In this connection the most striking feature of the Wijster cemetery is the "absence" of men's graves. Of course, the extremely low percentage of recognizable male interments does not reflect the proportion of the male element in the population, but must be due to the fact that the male interments were not equipped with significant objects. Thirty-two of the sixty-seven S.-N. inhumations (also including incompletely verified cases) could be identified as female; twenty-seven only of the hundred-and-twenty W.-E. ones. In many of the remaining unidentifiable graves, men must have been buried.

It should further be noted that the four men's graves which could be recognized are all S.-N. inhumations. One of them (116) is very early and does not belong to the *Reihengräberfeld* in the strict sense. The other three do belong to it, but they appear to belong to its earlier stages: 58 and 70, on the evidence of their peripheral western position; 147, because it is cut by a later grave.

In our opinion the explanation of this striking phenomenon,<sup>38</sup> the low incidence of men's graves, lies in the presence, or rather the absence of religious beliefs, connected with the grave gifts. Objects intended for use in the hereafter, or for the journey thither, are few and far between. Objects falling into this category include the grave obolos in the mouth of the man in the early grave 116, the weapons in the other men's graves, the pots in graves 12?, 14, 25?, 55, 56, 73?, 75, 146, 147, 213, 214 (the last two are early) and perhaps the whetstone in 206. The major part of the grave gifts are dress accessories (brooches, belt fittings), or objects of personal adornment (bracelets, hairpins, beads and pendants), which are naturally enough to be found in women's graves.

The significance of the knife so commonly found in our graves stood half-way between both extremes. Of course it could be used in the realm of dead, but in all probability it was buried with the deceased, because it had always hung from his or her girdle, because it had become part of the attire (perhaps it was a badge of rank). Knives are known to occur in graves until a very late date.

The presence of most objects in the graves is, therefore, to be explained by the fact that the deceased were buried in their best dress, and at that time, apparently, no distinguishing objects formed part of the man's dress. The character of the grave

goods does not bear witness to a living belief in a continued bodily existence after death. In fact, the whole situation is only explicable in a period when the custom of grave gifts was disappearing, and indirectly the disproportion between male and female indicates a late date for the cemetery.

In this context, it is significant that weapons and pots are only found in S.-N. graves, for if the idea of the growth of the cemetery from west to east is correct, they may be generally considered to be older than the W.-E. ones. On the other hand, it is of interest to note that keys only occur in the latter. Among the finds in the W.-E. graves, the keys are the sole objects which are likely to have had a symbolic meaning. It is perhaps going too far to say that they had a definitely Christian significance, but clearly there is some relation between this type of grave gift, the absence of characteristically pagan objects, such as weapons and pots, and the change of orientation.

#### BROOCHES

##### *A. Bow-Brooch with Stützarm*

The sole specimen of this type occurring in the cemetery (grave 211) is datable to the late 4<sup>th</sup>/early 5<sup>th</sup> century.<sup>39</sup>

##### *B. Bow-Brooches with Lobed Head*

Parallels to this type, which is present in grave 19 and probably in 10 as well, are known from Hoogebeintum, Wierumerschouw, Utrecht, Domburg, and Maastricht.<sup>40</sup> Its date is disputed: Roes considers the possibility of a date around 700 A.D.,<sup>41</sup> but prefers a later one in the 8<sup>th</sup> or even 9<sup>th</sup> century; according to Werner the brooches belong to the 6<sup>th</sup> century. While Roes does not supply sufficient proof for her extremely late dating, Werner's view is not fully convincing either. His derivation of the Domburg brooches from certain Central German fibulae which have their headplates decorated with curved birds' heads and are datable to around 500 A.D. is, indeed, most plausible. On the other hand, the differences are too great for both types to be close in time. This certainly holds true for the specimens from Wijster, Maastricht and Wierumerschouw which Werner himself calls "*Typologisch . . . Vereinfachungen der Domburger Form*".<sup>42</sup> Moreover, we completely fail to see why our brooches should be termed a "*friesische Sonderform*"<sup>43</sup> of Kühn's Gondorf type belonging to the first half of the 6<sup>th</sup> century: there is only the slightest resemblance and their distribution is not characteristically Frisian. It seems to us that a date between both extremes, in the 7<sup>th</sup> and perhaps early 8<sup>th</sup> century, is the more probable.

*C. Bow-Brooches with Square Head*

The pair of square-headed brooches (Fig. 281), stray finds from squares A<sup>uv</sup>-50/1, belong to Kühn's Caulaincourt type which he dates around 650 A.D.<sup>44</sup>

A fragment of another square-headed brooch, also a stray find, is remarkable for the representation of a human face (Fig. 282).

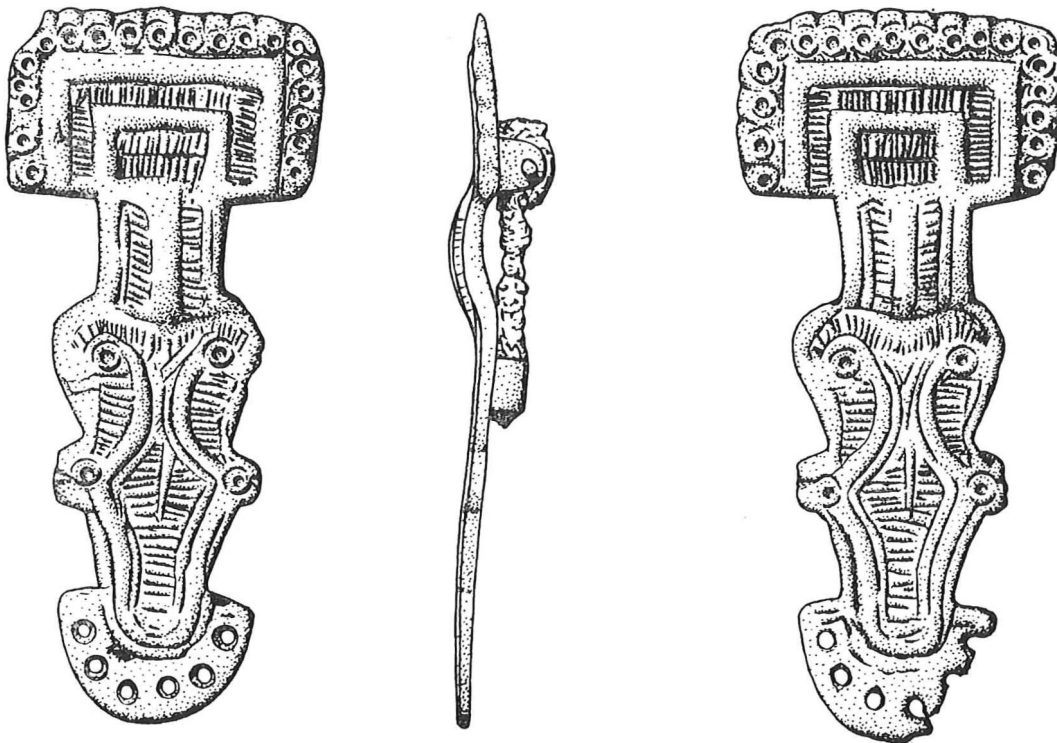


Fig. 281. Wijster. Stray finds from cemetery. Scale 1 : 1.

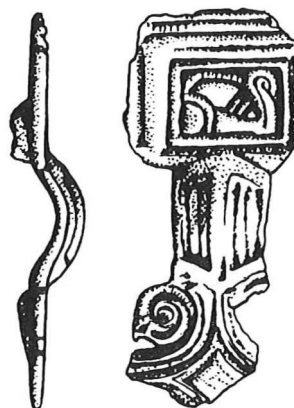


Fig. 282. Wijster. Stray find from cemetery.

#### *D. Small Equal-Armed Brooches*

Small equal-armed brooches, such as those in graves 32, 186 and the stray find from somewhere in squares A<sup>uv</sup>-50/1 (Fig. 283:1)<sup>45</sup> are commonly dated to the 7<sup>th</sup> and 8<sup>th</sup> centuries; the evolution carries on into the 9<sup>th</sup> century.<sup>46</sup> The brooch from grave 32 is related to some of the Domburg specimens;<sup>47</sup> the one from grave 186 is paralleled by a stray find from Putten,<sup>48</sup> while the Wijster stray find has an exact parallel in a brooch in the Nantes museum.<sup>49</sup>

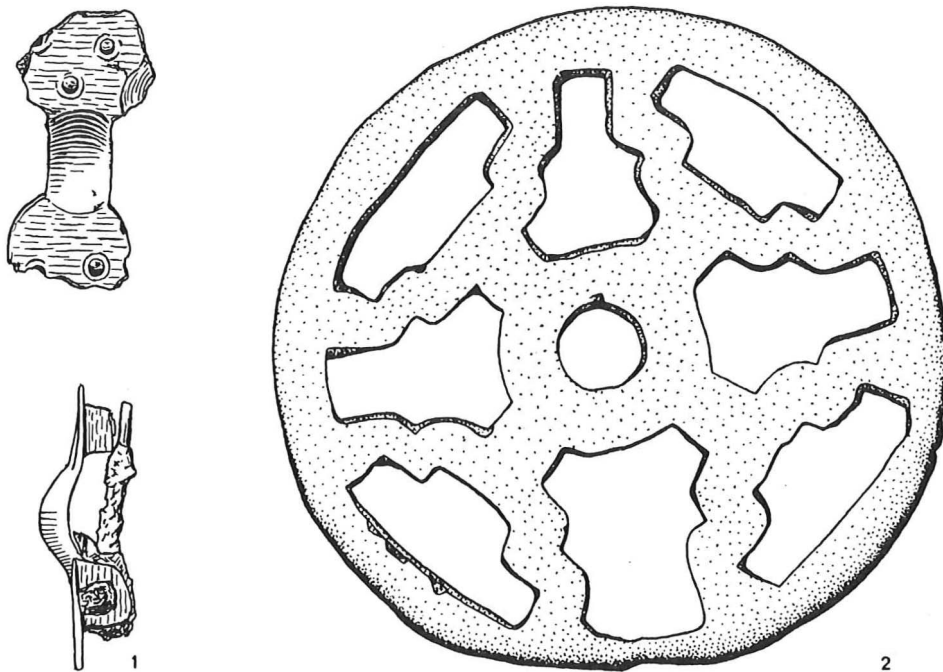


Fig. 283. Wijster. Stray finds from cemetery.

#### *E. Rectangular Brooches*

Four rectangular brooches occur. One is of the composite kind: an iron plate is covered by a bronze sheet with a decoration pressed in relief (grave 156). The remaining three are simple bronze plates, decorated with incised or impressed ornament: graves 7, 30, 182.

Rectangular brooches in general date from the late 7<sup>th</sup> and 8<sup>th</sup> century.<sup>50</sup> Zoller places the recently discovered specimens from Drantum, which are close parallels to the three simple Wijster brooches, in (the second half of) the 8<sup>th</sup> century.<sup>51</sup> Another good parallel was found in the Carolingian cemetery of Quedlinburg.<sup>52</sup> Schulz points to comparable specimens from Soest and Schleswig-Holstein.<sup>53</sup>

#### F. Square (?) Brooch with Pressblech

From grave 199 comes an iron brooch which seems to have been square in shape; originally it was decorated with a *Pressblech*, now lost. The possibility remains that it was not originally a square, but a rectangular brooch. A reliable dating is no longer possible, because of its fragmentary condition. It can be compared to the brooches of type G and may be of the same date. Much earlier, 5<sup>th</sup> century square brooches are known from Mahndorf<sup>54</sup> and Sahlenburg.<sup>55</sup>

#### G. Disc-Brooches with Pressblech

Iron disc-brooches, originally covered with a bronze *Pressblech*, are of common occurrence, especially in the S.–N. graves: 11, 15, 16, 17, 67, 73, 74, 119, 120, 125 and probably also 141, 158, 160. They constitute one family with the bronze-covered rectangular brooch from S.–N. grave 156 and the square (?) one from 199.

Only in two cases (15, now missing, 73) have fragments of the *Pressblech* been preserved. Circular *Pressblechfibeln* in general belong to the 7<sup>th</sup>/8<sup>th</sup> century;<sup>56</sup> no clues are available to help us in a more precise dating of our fragmentary material.

#### H. Cruciform Brooch

The brooch in the shape of an equal-armed cross from grave 5 has exact parallels at Drantum (*Typus* I),<sup>57</sup> Liebenau<sup>58</sup> and Domburg.<sup>59</sup> Closely related types are represented at Drantum and Quedlinburg,<sup>60</sup> both of Drantum *Typus* II, at Domburg<sup>61</sup> and Dörverden.<sup>62</sup> Also the brooches from Helfta and Woltwiesche, as well as their parallels cited by Schulz,<sup>63</sup> may be compared. Böhner illustrates a related specimen from a grave at Soest, belonging to his period IV.<sup>64</sup> So, it is apparent that the Wijster brooch has to be dated to the 7<sup>th</sup> and especially 8<sup>th</sup> century. One is inclined to consider it a relative of the Northern French *Rautenförmige Scheibenfibel mit Eckrundeln*, dated by Werner to the 6<sup>th</sup> century.<sup>65</sup>

#### I. Rectangular Brooch with Curved-in Sides and inlaid Decoration

Exact parallels to the brooch from grave 138 are not known to us. As far as the shape is concerned, the one from Dörverden grave 146 comes very close indeed but it lacks the inlaid ornament.<sup>66</sup> A brooch from Dorestad has very similar ornament but a slightly different form.<sup>66a</sup> In a more general way, it is related to the rectangular brooches with curved-in sides that occur at Domburg, Dorestad, Birka and Weferlingen.<sup>67</sup> Again a date in the 8<sup>th</sup> century is the most plausible.

### ƒ. *Disc-Brooches with inlaid Decoration*

Many parallels can be cited<sup>68</sup> to the pair of circular brooches from grave 2, which show a decoration of glass inlays in cells forming an equal-armed cross. There is some variety in the arrangement of the cells which, in our case, are not filled with the customary enamel but with glass.

A date of this type of brooch in the 8<sup>th</sup> and especially 9<sup>th</sup> century is certain. According to Dinklage it continues into the 10<sup>th</sup> century.

### BELT FITTINGS

Mostly the belt fittings consist merely of a simple iron buckle, to which an exact date cannot be assigned.

A. The belt fittings from grave 116 date from the late 4<sup>th</sup>/early 5<sup>th</sup> century.<sup>69</sup>

B. The bronze specimen from grave 34 finds its best counterparts among the Frankish buckles.<sup>70</sup> Unfortunately, it has lost the tongue which may have been simple or equipped with a *Dornschild*. These types are especially frequent in the 6<sup>th</sup> century; the occurrence of the *Schilddornschnalle* in the 7<sup>th</sup> century is not yet well-established.<sup>71</sup> A date in the 6<sup>th</sup> century of grave 34 is, however, not very probable on account of its orientation and because it cuts across a S.-N. horse interment. The fragmentary buckle, which is moreover the only find from the grave, is best considered as an old heirloom. Another possibility is that it came into the grave by chance (perhaps from 36?), which would explain its fragmentary condition.

### BRACELETS

A. The pair of silver bracelets from grave 211 is closely related to those found in graves IX, XII and XIV of Haillot.<sup>72</sup> These graves date from the second half of the 5<sup>th</sup> century. In our cemetery, the context of the bracelets is slightly earlier: end 4<sup>th</sup>/beginning 5<sup>th</sup> century.

According to Breuer and Roosens this model was manufactured in the Meuse region: two out of the three Haillot bracelets have been worked with the same die.

B. The band-shaped bronze bracelet from grave 156 is not sufficiently characteristic to be dated by itself. It seems a cheap imitation of the bracelets ending in snakes' heads. Its 8<sup>th</sup>-century date is securely established by its context.

C. The bracelets from graves 7 and 148 are of the same type. The S-scroll decoration on the pair from 7 reminds us of the ornament on the rectangular brooch of grave 156. An identical ornament is found on a pair of Carolingian bronze spurs from



Barleben:<sup>73</sup> apparently bracelets and spurs originated from the same workshop. With this evidence a dating of our bracelets in the 8<sup>th</sup> century is sufficiently well-founded.

#### HAIRPIN

The hairpin from grave 211 is of late 4<sup>th</sup>/early 5<sup>th</sup> century date (*vide* p. 143).

#### KEYS

A. The well-known key from grave 2 has been dated to the 8<sup>th</sup> century, partly on account of the brooches associated with it.<sup>74</sup> It is of La Baume's type with *tropfenförmigem Griff*, which in Scandinavia occurs in closed finds as late as the 9<sup>th</sup> and even 10<sup>th</sup> century.<sup>75</sup>

The fragment from grave 140 may come from a key of the same or kindred type.

B. The iron "ancré"-key from grave 81 cannot be dated with precision.

#### NEEDLE BOXES

The needle boxes from grave 2 and 125 (not included in Fig. 284) are dated by their contexts to the 8<sup>th</sup>/9<sup>th</sup> century.

#### WEAPONS AND KNIVES

As far as can be seen (the oxidization of the edge prevents a completely certain determination), the battle-axe from grave 116 is of the Gusenburg type, the late 4<sup>th</sup>/early 5<sup>th</sup> century precursor of Böhner's type A *francisca*.<sup>76</sup>

The spear-heads from the same grave are excessively small, not much longer than a big sized arrow-head. According to Breuer & Roosens<sup>77</sup> short spear-heads, though mostly somewhat longer than ours, are characteristic of the 4<sup>th</sup> and early 5<sup>th</sup> century. Among the specimens cited by them, we meet with comparable models.<sup>78</sup> Both Wijster spear-heads seem to have had a closed socket.

Very small spear-heads (perhaps they should be called arrow-heads) were also found in graves 70 and 147. The associated saxes, however, show them to be much younger than those from 116.

We do not presume to give a precise dating for the two arrow-heads from 58. One of them may belong to Böhner's type A or B, occurring respectively from the 5<sup>th</sup> or 6<sup>th</sup> until the end of 7<sup>th</sup> century.

The state of preservation of the saxes from graves 70 and 147 is extremely poor.

To judge from Van Giffen's drawing, they should be attributed to Böhner's type B (*Breitsax*, 7th century).<sup>79</sup> In any case, they are not of the earlier *Schmalsax* type.

#### POTTERY

A. The footed cup from grave 214 is a Late-Roman type (Wijster type IC; *vide* pp. 296–8).

B. The bowl from 213 also belongs to the Roman period, but it is difficult to give a precise date. It belongs to Wijster type IVB.

C. The bowls from graves 12?, 14, 55, 56, 73?, 75, 146, 147 form a homogeneous group. All of them are hand-made pots of rather coarse, soft-baked material, greyish or brownish in colour. Two models can be distinguished: a shallow bowl and a taller more globular one; a short, but well-defined neck acting as the common element between both. With one exception (56), all have pairs of handles, the pot from 127 has even two pairs, mostly set against the rim and in one instance (55) placed lower down. The transition to the bottom, which is usually roughly flattened is rather vague.

The type may be considered as a further evolution of the Wijster types IVA and B, or VIIB. Exact parallels, especially as far as the handles are concerned, are not known to us, with the exception of the small urn from Marum which has a pair of handles placed halfway up the belly.<sup>80</sup> Still, there can be no doubt that our pots must be placed in the so-called Hessens-Schortens horizon of the late 7<sup>th</sup> and 8<sup>th</sup> century.<sup>81</sup> To prove this, we have many points of comparison: the soft-baked and coarsely tempered material itself, though the surface is not excessively rough; the carelessly shaped bottom which already comes near to the *Wackelboden*: the decoration on the pots from graves 12? and 147 which is paralleled at Godlinze;<sup>82</sup> and, of course, the general shape of the pots. For both the low and the globular model we find parallels at Cleverns,<sup>83</sup> Sievern,<sup>84</sup> Hamburg-Altstadt,<sup>85</sup> Warendorf,<sup>86</sup> Godlinze,<sup>87</sup> Wageningen,<sup>88</sup> *etc.* In the globular model we encounter the immediate forerunner of the evolved *Kugeltopf*.

#### BEADS

The majority of the beads found in the cemetery are made of glass. Other materials used are amber, amethyst and in one case (grave 2), rock-crystal.

The range of types is great. First there is a class of beads of translucent, one-colour (mostly light or Prussian blue, sometimes light-green) glass, of different models: disc-shaped, cylindrical, barrel-shaped, melon-shaped, cube-shaped, four-sided, rectangular, long and flattish, almond-shaped (A).

A more or less parallel series is composed of the beads of opaque, one-colour (greyish-or greenish-white, verdigris, occasionally moss-green, yellow, orange, brick-red, light- or Prussian blue, black) glass, again of varying shapes: disc-shaped, cylindrical, tubular, barrel-shaped, biconical, faceted, four-sided rectangular (B).

A third series consists of beads of opaque, one-colour glass (those of translucent glass found in graves 19 and 24 are rare exceptions) with inserted ornaments. Here there is variation in shape (disc-shaped, cylindrical, tubular, globular, barrel-shaped, biconical, four-sided rectangular), in basic colour (light-green, verdigris, yellow, brick-red, Prussian blue, black), and especially, as far as the inserted ornaments are concerned (stripes and lines, ribs, zig-zags and zones in contrasting colours, dots, crosses, stars placed in fields of different colour). Each of them has a character of its own and practically no two are alike. For detailed description we refer to the list of graves: 5, 7, 16, 32, 52, 67, 74, 97, 118, 124, 125, 127, 141, 156, 160, 163, 168, 182, 207 (C).

A characteristic group is formed by the *Millefori* beads. Two types are to be distinguished: those decorated with checkered patterns of green and yellow (mostly brick-shaped, sometimes disc-shaped, more or less barrel-shaped, or cylindrical) and the tubular beads ornamented with stars and stripes (D).

The so-called *Überfangperlen*, yellowish or whitish in colour, are all of the same segmented type (though often the segments have become separated), with the one exception of the drop-shaped beads from grave 156 (E).

The amber beads show very different models: disc-shaped, cylindrical, tubular, oval, barrel-shaped, roundish and faceted (F).

The beads of amethyst are almond-shaped (G).

The rectangular bead of rock-crystal from grave 2 is unique (H).

Beads are notoriously difficult to date. Most types enjoyed a very long life. Here we will only deal shortly with the few types which offer some opportunity for a more or less close dating.

#### *A1. Almond-shaped Flat Beads of Translucent Prussian Blue Glass*

The type, found once only in grave 148, occurs in a less characteristic form in grave 131.

It has been established by Böhner that in the region of Trier the flat almond-shaped bead does not occur before the 7<sup>th</sup> century.<sup>89</sup> Here these beads are of translucent (light-green or violet-brown), or opaque (Prussian blue) glass. Among Böhner's material the type is sharply distinguished by its shape and date from the other models of one-colour glass (Böhner's classes A and C) which are particularly found in earlier contexts. It is this individuality which justifies us in accepting the Trier

chronology without reservation. Moreover, the almond-shaped beads are still in use in Carolingian times.<sup>93</sup>

Two beads from grave 28 in the cemetery of Putten are closely related to our type.<sup>91</sup>

#### *A2. Melon-Beads of Translucent Prussian Blue Glass*

The melon-bead is a very long-lived type (it occurs from the Roman period onward) and is therefore not suitable for dating purposes. We only mention it, because it appears from the association in grave 148 of two melon-beads with beads of types A1, D2 and F that this much discussed model can also occur very late. One notes the somewhat degenerate form of our specimens. It is therefore improbable that they were old heirlooms. Melon-beads are also present in the graves of Birka.<sup>92</sup>

#### *C. Beads of Opaque One-Colour Glass with inserted Ornaments*

Within this great group it is possible to distinguish a large number of individual types. We will not try, however, to find a date for each of these types but will deal with the group as a whole; it may be said that for the greater part it must date from after the late 7<sup>th</sup> century.

Dinklage<sup>93</sup> pointed to the stylistic differences between the Merovingian and Carolingian beads. We find no parallels for the most characteristic types of our group among the Merovingian versions of the *Perlen mit Einlagen* which are illustrated by Böhner. There are a few exceptions: the bead from horse grave 52, which is not a grave gift in the strict sense but only provides a *terminus post quem*, is of Böhner's type D1y (7<sup>th</sup> century); the zig-zag bead from grave 207 also strikes a Frankish note; one could have one's doubts regarding some of the others (zig-zag bead from 204).

On the other hand, however, the most characteristic types clearly possess features of Dinklage's Carolingian style and have their counterparts in Saxon and Scandinavian contexts of the 8<sup>th</sup> and 9<sup>th</sup> century. Thus we see that the roundish beads with blue or red dots in white fields from graves 32, 163, 182, as well as the cylindrical or disc-shaped ones with round star-like ornaments from graves 74, 118, 127, 156, are paralleled by specimens from Birka,<sup>94</sup> while the latter were also found at Buchholz-Vaensen.<sup>95</sup>

The tubular beads with yellow ribs from grave 67 are a Carolingian or later type, also known from Oberpfalz.<sup>96</sup>

The tubular beads with one or more differently coloured stripes from graves 19, 124, 125, 148 are paralleled at Maschen,<sup>97</sup> Buchholz-Vaensen,<sup>98</sup> Dörverden<sup>99</sup>.

### D1. *Millefiori Beads with Checkered Patterns*

Most of these beads are brick-shaped: graves 11, 16, 32, 119, 120, 122, 125, 139, 156, 163, 207. Among the brick-shaped specimens, even among those of one necklace, a great variation in size can be noted. More roundish, disc-shaped to biconical models are met with especially in W.-E. graves: 32, 97, 124, 131, 186, 194. However, between these variations no difference in date appears to exist: association in grave 32, as *e.g.* in Dörverden grave 51.<sup>100</sup>

*Millefiori* beads are not found before the 7<sup>th</sup> century.<sup>101</sup> For the type under discussion it is even improbable that it is much older than 700 A.D.

Up to the present time, these beads are only known as coming from Saxon cemeteries: *e.g.* Dörverden,<sup>102</sup> Buchholz-Vaensen,<sup>103</sup> Maschen,<sup>104</sup> Drantum.<sup>105</sup>

### D2. *Tubular Millefiori Beads*

There is variation in ornamental patterns: white stars with red-yellow hearts in blue fields between striped zones (126, 148 – more oval model –, 150, 163, 166), checkered patches with red and white border in blue fields between striped zones (163, 204); some have a more abstract, marbled decoration (126, 127, 148).<sup>106</sup>

These types of beads are characteristic of the Carolingian period.<sup>107</sup> Parallels can be cited from Oberpfalz,<sup>108</sup> they are often found at the same sites with type D1: Drantum, Maschen, Dörverden, *etc.*

### E. *Überfangperlen*

The large, brownish, drop-shaped beads from grave 156 are of Carolingian date.<sup>109</sup>

The other *Überfangperlen* are of the segmented type (*Reihenperlen*): graves 2, 5, 16, 125, 134, 166, 210, 211.

In the territory surrounding Trier, *Überfangperlen* are characteristic of the second half of the 5<sup>th</sup> and 6<sup>th</sup> century; during the 7<sup>th</sup> century they become rare.<sup>110</sup> It may be noted that these beads are small (*Miniaturreihenperlen*). In our cemetery, the type already occurs at the end of the Roman period (grave 211) and the beads from this early grave are small.<sup>111</sup> Identical small specimens were found in the nearby grave 210, which on the basis of this evidence might well be judged to be of the same date. The latter grave also contains a tiny light-blue *Reihenperle* of opaque glass.

During the Carolingian period and later the *Überfang-Reihenperlen* are usually slightly bigger,<sup>112</sup> but miniature ones also still occur.<sup>113</sup>

The conclusion must be that the type was extremely long-lived and, though it can be safely assumed that the specimens from graves 2, 5, 16, 125, 134, 166 belong to the latter late group, they will not be used as primary dating evidence.

#### *F. Beads of Amethyst*

These almond- or pear-shaped beads, found in our cemetery in graves 5, 7, 138, 148, first occur in the course of the 7<sup>th</sup> century.<sup>114</sup> They are reputed to be charms against drunkenness.

This rapid survey of the Wijster beads shows that at least a few types can be more or less accurately dated. Many types, however, even some of the more conspicuous ones, such as the melon-beads, the *Überfang*- and the *Reihenperlen*, are very long-lived. The more simple models, especially the one-colour beads of opaque or translucent glass, were manufactured over such a long period that they can never be used for dating purposes.

#### PENDANTS OF SILVER WIRE

Circular pendants of twisted or smooth silver<sup>115</sup> wire were found in graves 5, 7, 30, 35?, 71, 73, 140, 148, 156, 160, 194, 199, 204, 205, 211. They form part of necklaces. Sometimes two or more belong to the same string of beads; on one occasion only (child's grave 71) a pendant occurs without beads.

Until now such pendants are known to occur at the end of the Roman period and during the 5<sup>th</sup> century, and again from the 7<sup>th</sup> till the 9<sup>th</sup> century.<sup>116</sup> The specimens from grave 211 belong to the former period, most of or all of the others to the latter. However, as no clear distinction between both groups is possible, these objects are unsuitable to act as independent chronological tracers.

In grave 211 a leaf-shaped pendant was found with the two circular ones.

#### SHERDS

Among the sherds, found in graves 17, 18, 24, 70, 153, 212?, only the one from 70 is sufficiently characteristic to be dated with precision. It is of Late-Roman date. Of course, it provides only a *terminus post quem* for the inhumation; it probably was connected with the Late-Roman cremation cemetery. It is worth noting that no sherds are recorded from the W.-E. graves.

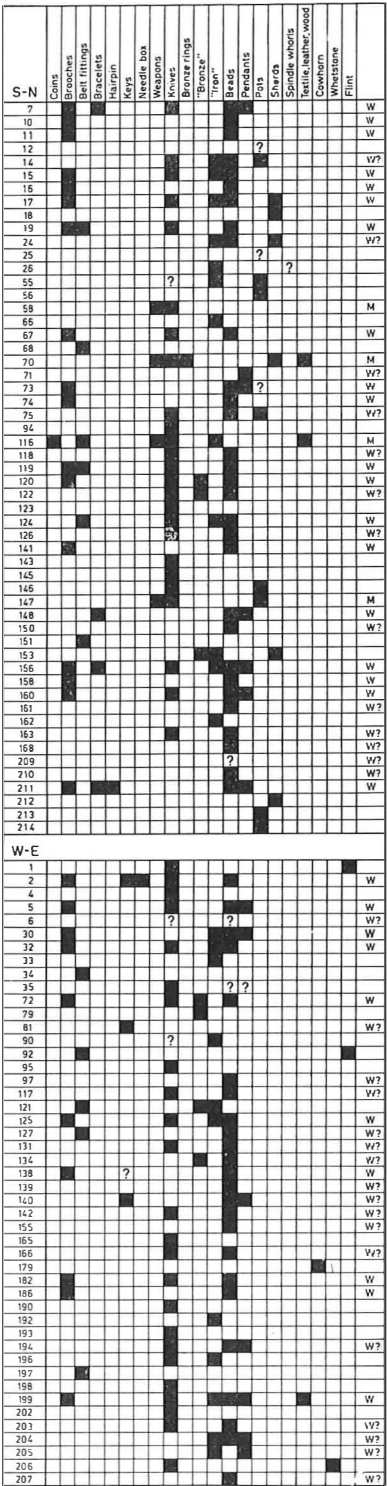


Fig. 284. Distribution of the finds over the inhumation graves.

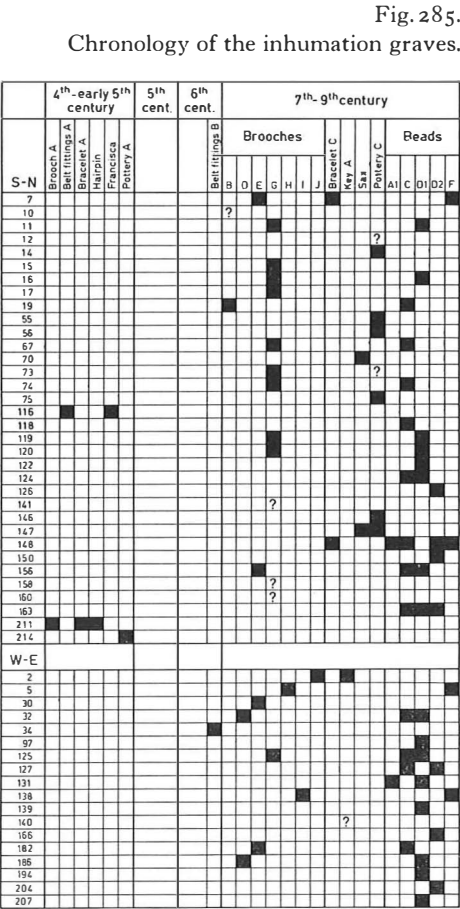


Fig. 285. Chronology of the inhumation graves.

### e. Chronology of the Inhumation Graves

When studying the finds from the inhumation graves we found we were able to date several classes of objects fairly accurately with the aid of indications from outside the cemetery itself. In doing so no inside evidence (associations) was used.

These objects are listed in Fig. 285. Frequent combinations of the different objects within the graves confirm their individual datings. They fall into two groups: a Late-Roman/early 5<sup>th</sup> century and an Early-Medieval one. Apart from the buckle in grave 34, which must be an old heirloom, there are no finds from the later 5<sup>th</sup> or the 6<sup>th</sup> century to connect both groups; in other words, there is a break in the evolution of the cemetery of at least two centuries.

The second group, particularly, covers a rather long period, some 200–250 years. In the light of present knowledge, most objects belonging to this second group cannot be dated with greater precision than to the period between the late 7<sup>th</sup> and at least the beginning of the 9<sup>th</sup> century. Only among the brooches, which chronologically speaking are always “sensitive”, one may distinguish type B as being comparatively old from types D, H, I and J which give the impression of being relatively young; types E and G come in between.

The distribution of the brooches over the S.–N. and W.–E. graves is likewise remarkable. Type B is only found in S.–N. graves, types D, H, I and J only occur in W.–E. ones; E and G are common to both, but the latter has a clear preference for the S.–N. inhumations. This selective distribution in itself suggests a difference in date between both forms of interment. This observation, in combination with the one just made about the relative chronology of the brooch types, fits in very well with the evidence mentioned above (*vide* p. 502), namely, that the W.–E. graves are the younger. On the other hand, the fact that the different types of dated beads are found fairly equally distributed between the S.–N. and the W.–E. graves may serve to show that the transition from the one custom to the other took place after the appearance of the youngest beads, *i.e.* at the earliest about the middle of the 8<sup>th</sup> century.

### E. THE CEMETERY SUMMARIZED

Apart from the prehistoric phenomena, the barrows, trenches and earliest cremation graves, the cemetery proper appears to consist of two parts which are different in place, character and date.

The western part has the character of a mixed cemetery with cremation graves (*Brandgruben*, *Brandschüttung*, *Brandplatz*, urns) interspersed with inhumations. It dates mainly from the 4<sup>th</sup> and early 5<sup>th</sup> century, but started perhaps as early as the



3<sup>rd</sup> century. Of the inhumations found in the western part 211 and 214 are dated to this period by their finds, but also 209, 210, 212, 213, 216 may belong to it. The curious four-post configurations are to be attributed to this part and period as well. The warrior's grave 116 which lies rather far away is of the same date; it may be assumed that its position has been determined by barrow IV.

Further east we find an Early-Medieval *Reihengräberfeld*. The zone between both parts has practically no interments. One 5<sup>th</sup>-century urn grave (XXIV) has strayed rather far east. Some S.-N. graves of the *Reihengräberfeld* period lay isolated on the eastern border of the western part: 70, 71?, stray finds from squares A<sup>uv</sup>-50/2 (Fig. 281-283).

Also chronologically speaking, a sterile zone separates the two parts. No dated finds, *i.e.* no graves from between *ca.* 450 and 650 A.D. are known from the site.

The *Reihengräberfeld* consists of horse interments, S.-N. and W.-E. inhumations. It started around 650 A.D. and went on until about 850 A.D. There is no convincing evidence of cremation in this period.

This cemetery with *ca.* 200 graves over about 200 years points to a small community of roughly thirty people. Their settlement has not yet been found.

The grave-field was laid out from west to east. Somewhere in the middle of the 8<sup>th</sup> century the custom of S.-N. inhumation was gradually superseded by the W.-E. burial. As time went by grave finds decreased: they are richest in the S.-N. graves; the graves at the extreme eastern end are practically findless. On the whole, the character of the grave goods is characteristic of the period when the custom of equipping the dead with material possessions for the life hereafter was going out of use.

## NOTES

<sup>1</sup> In the centre of 11, sherds were found which seem to date from the Pre-Roman Iron Age, but there is no proof that sherds and post-holes belong together.

<sup>2</sup> Van Giffen 1932, especially 61-2.

<sup>3</sup> Van Giffen 1932, 61.

<sup>4</sup> Tischler 1954 (1956), 112; Waller & Winkelmann 1957, 336.

<sup>5</sup> Wegewitz 1960 (1).

<sup>6</sup> Zoller 1965.

<sup>7</sup> In the field drawing more holes are recorded than have been drawn in on the plan as first published (Van Giffen 1927; 1932). On the plan published here, all traces of all posts are given.

<sup>8</sup> Van Giffen 1927, 117-8.

<sup>9</sup> Van Giffen 1927, 116.

<sup>10</sup> Van Giffen 1927, 111-6.

<sup>11</sup> We are unable to understand Van Giffen's argumentation that the trench in the cemetery cannot have been open, but must have contained posts, even though no post-holes were observed in it: Van Giffen 1927, 115.

- <sup>12</sup> Van Giffen 1954 (2), 166–7.
- <sup>13</sup> Van Giffen 1949, 121, Afb. 22a.
- <sup>14</sup> Van Giffen 1935 (2), Afb. 2.
- <sup>15</sup> Van Giffen 1935 (1), Afb. 9.
- <sup>16</sup> Waterbolk 1962, Abb. 25.
- <sup>17</sup> Van Giffen 1945, Afb. 20; 22; 23.
- <sup>18</sup> Latest literature: Waterbolk 1962, 33–4; 1964, Fig. 12.
- <sup>19</sup> Laudermarke 16?: Van Giffen 1935 (2), Afb. 2.
- <sup>20</sup> Waterbolk 1962, 43–4.
- <sup>20a</sup> Genrich 1963, 20, 33, T. 20: 3.
- <sup>21</sup> Cf. e.g. Modderman & Isings 1960–1.
- <sup>22</sup> Van Giffen 1927, 87, Pl. 3: section h.
- <sup>23</sup> Van Giffen 1927, 90.
- <sup>24</sup> Van Giffen 1927, Pl. 3: section b (seen from the East).
- <sup>25</sup> Van Giffen 1927, Pl. 2: section b.
- <sup>26</sup> Waterbolk 1962, 43.
- <sup>27</sup> Van Giffen 1932, Fig. 6: 36.
- <sup>28</sup> Grohne 1953, Abb. 40:d (probably from a *Brandgrube*); Abb. 65 (inhumation grave 30).
- <sup>29</sup> Steeger 1937, no. 19; Grohne 1953, 201–2.
- <sup>30</sup> Werner 1941, 23–34.
- <sup>31</sup> Plettke 1921, 48; Zimmer-Linnfeld, Gummel, Waller 1960, 9: group IV?
- <sup>32</sup> Zoller 1965, 6.
- <sup>33</sup> Werner 1935, T. 29; 31: 4; Böhner 1949, 154–5; Fremersdorf 1955, 110, T. 12: 80.
- <sup>34</sup> Van Giffen 1932, Afb. 2: B.
- <sup>35</sup> Graves with very poor contents have been included as well as those with uncertain finds (6, 12, 25, 209) and even those containing objects which are probably not true grave gifts (e.g. sherds).
- <sup>36</sup> In Van Giffen's calculation (1927, 98), who arrived at somewhat different figures, the graves in the western part of the cemetery, excavated in 1931, could not be included.
- <sup>37</sup> Cf. Fremersdorf 1955, 75–6.
- <sup>38</sup> If our cemetery is compared to others, e.g. that of Köln-Müngersdorf and the parallels cited by Fremersdorf (1955, 51), it appears that this disproportion of male and female is indeed far from normal.
- <sup>39</sup> Werner 1958, 376–9.
- <sup>40</sup> Roes 1954; 1955; 1959; De Boone 1955; Werner 1955.
- <sup>41</sup> Roes 1954, 69; 1959, 81.
- <sup>42</sup> Werner 1955, 75.
- <sup>43</sup> Werner 1955, 77.
- <sup>44</sup> Kühn 1940, 337.
- <sup>45</sup> Van Giffen 1932, Fig. 6: 36e; 2: square A–2.
- <sup>46</sup> Roes 1954; Böhner 1958, 89–92; Werner 1961, 51–2.
- <sup>47</sup> Roes 1954, Pl. 16–7.
- <sup>48</sup> Ypey 1962–3, 141, Abb. 34: 11.
- <sup>49</sup> Costa 1964, Fig. 313.
- <sup>50</sup> Böhner 1958, 92–3; Roes 1954, Pl. 18: 73; 1955, Pl. 6: 10; Ypey 1962–3, who *i.a.* mentions the specimens from Lembeck which are of the composite type with *Pressblech*.
- <sup>51</sup> Zoller 1965, 11.
- <sup>52</sup> Schulz 1960, 317, T. 63: b.
- <sup>53</sup> Schulz 1960, 318.
- <sup>54</sup> Grohne 1953, Fig. 57: B.
- <sup>55</sup> Schulz 1960, Abb. 1: a.
- <sup>56</sup> Böhner 1958, 106–8; Ypey 1962–3, 136–8.

- <sup>57</sup> Zoller 1965, 11-2.
- <sup>58</sup> Cat. Exp. *Karl der Grosse* 1965, no. 184b.
- <sup>59</sup> Roes 1955, Pl. 7: 2.
- <sup>60</sup> Schulz 1960, 324-5, T. 65: o.
- <sup>61</sup> Roes 1955, Pl. 7: 4.
- <sup>62</sup> Genrich 1963, 19, T. 21: 1; Genrich mentions a parallel from Schinna.
- <sup>63</sup> Schulz 1960, 324-5, Abb. 2b, T. 65:n.
- <sup>64</sup> Böhner 1958, 110-1, T. 18: 11.
- <sup>65</sup> Werner 1961, 37-8, no. 173-4, T. 53; Böhner 1958, 98, T. 13: 12; this derivation is especially plausible for the Dörverden brooch: *cf.* Genrich 1963, 19.
- <sup>66</sup> Genrich 1963, 18-9, T. 21: 4, 5.
- <sup>66a</sup> Roes 1965, Fig. 3.
- <sup>67</sup> Roes 1954; Schulz 1960, 317-9, Abb. 1: d-f, T. 63: c.
- <sup>68</sup> Waller 1930 (*cf.* Schulz 1960, 323 note 30); Roes 1955, Pl. 11: 7; 1965, Pl. 2: 12; according to Ir. J. A. Trimpe Burger, ROB Amersfoort, a brooch of this type has been found on Schouwen (Zeeland); Dinklage 1955, 3, Abb. 2; Bohnsack 1958; Nowothnig 1958; Schulz 1960, 322-4, Abb. 2: a, T. 65: f-i.
- <sup>69</sup> Werner 1958; Hawkes & Dunning 1961; 1962-3; Breuer & Roosens 1957.
- <sup>70</sup> *E.g.* Böhner 1958, T. 35: 1, 4, 13.
- <sup>71</sup> Böhner 1958, 182-3.
- <sup>72</sup> Breuer & Roosens 1957, 273, 281, Fig. 10; 14; 16.
- <sup>73</sup> Schulz 1940, 267-8, Abb. 2.
- <sup>74</sup> Kessler 1932; Almgren 1955, 14.
- <sup>75</sup> La Baume 1952-3, 60-4.
- <sup>76</sup> Böhner 1958, 165, Abb. 8b.
- <sup>77</sup> Breuer & Roosens 1957, 259.
- <sup>78</sup> *E.g.* Nenquin 1953, Fig. 18: J10, 14.
- <sup>79</sup> Böhner 1958, 138-45.
- <sup>80</sup> Waterbolk 1958.
- <sup>81</sup> Tischler 1954 (1956), 87.
- <sup>82</sup> Van Giffen 1918-20, Pl. 4: 10.
- <sup>83</sup> Tischler 1954 (1956), Abb. 28.
- <sup>84</sup> Tischler 1954 (1956), T. 2.
- <sup>85</sup> Tischler 1954 (1956), Abb. 29.
- <sup>86</sup> Winkelmann 1954, Abb. 9, 10.
- <sup>87</sup> Van Giffen 1918-20, Pl. 4; 5.
- <sup>88</sup> Van Es 1964 (1), 275-7, Fig. 95.
- <sup>89</sup> Böhner 1958, 71.
- <sup>90</sup> Stroh 1954, Farbtafel: 51.
- <sup>91</sup> Ypey 1962-3, 109, Abb. 9: d, t.
- <sup>92</sup> Arbman 1940-3, T. 114-24.
- <sup>93</sup> Dinklage 1941, 490-4.
- <sup>94</sup> Arbman 1940-3, T. 120-4.
- <sup>95</sup> Wegewitz 1960 (2), T. 3; 4.
- <sup>96</sup> Stroh 1954, Farbtafel: 95.
- <sup>97</sup> Wegewitz 1960 (1), Abb. 3.
- <sup>98</sup> Wegewitz 1960 (2), T. 4.
- <sup>99</sup> Genrich 1963, T. B: 69.
- <sup>100</sup> Genrich 1963, T. 5: 6.
- <sup>101</sup> Fremersdorf 1955, 88.
- <sup>102</sup> Genrich 1963.
- <sup>103</sup> Wegewitz 1951-2, who mentions a number of other findspots.

<sup>104</sup> Wegewitz 1960 (1), 2.

<sup>105</sup> Zoller 1965, 7.

<sup>106</sup> Cf. Buchholz-Vaensen: Wegewitz 1960 (2), T. 4.

<sup>107</sup> Dinklage 1941, 492.

<sup>108</sup> Stroh 1954, Farbtafel: 123-5.

<sup>109</sup> Stroh 1954, Farbtafel: 128.

<sup>110</sup> Böhner 1958, 82.

<sup>111</sup> They are associated in grave 211 with small almond-shaped beads of translucent Prussian blue glass (a precursor of type A1?) and coiled beads of opaque black glass, which as far as the shape is concerned are related to the type in question and to the *Reihenperlen* of opaque glass of Böhner's types C1-9. Cf. Van Es 1964 (1), 279.

<sup>112</sup> Dinklage 1941, T. 3; Arbman 1940-3, T. 117-8; Stroh 1954, Farbtafel: 63-6, 76; Wegewitz 1960 (2), T. 4; Genrich 1963, T. B: 74-6.

<sup>113</sup> E.g. Genrich 1963, T. B: 77-8; cf. Wijster grave 5.

<sup>114</sup> Fremersdorf 1955, 88; Jessup 1950, 52; Baldwin Brown 1915, 444, Pl. B: 1; Cat. Exp. *Karl der Grosse* 1965, no. 36.

<sup>115</sup> The material of these pendants has been described in the literature as bronze. However, after being cleaned at the laboratory of the ROB at Amersfoort by Mr. J. Ypey, they were found to be made of low-grade silver.

<sup>116</sup> Arbman 1940-3, T. 114-5; 117-9; 121-4; Dannheimer 1962, 62-3; Ypey 1962-3, Abb. 9: D.



# THE SETTLEMENT AND ITS CONTEXT

(CHAPTERS XXIII–XXVI)



## CHAPTER XXIII

### CONTINUOUS OCCUPATION FROM THE ZEIJEN PERIOD ONWARDS?

Apart from the Late-Palaeolithic Hamburgian artefacts, the oldest objects found at the site are the few sherds of Zeijen culture pottery. They come from two pits and the most characteristic ones among them are rim-sherds of Ruinen-Wommels I bowls, dating to the 6<sup>th</sup> century B.C. (*vide* pp. 245, 308–9). Thus, we have scanty but sufficient evidence of human occupation in the vicinity of the excavated area during – or at the beginning of – the Zeijen period (600 – 400 B.C.).

Our own site provides an example of the well known “double podsols” which, according to Waterbolk,<sup>1</sup> represent the agricultural catastrophe which terminated the Zeijen culture in the sandy soils of Northern Holland and necessitated the colonization of the clay zone. Apparently, however, the Wijster area was not completely abandoned after 400 B.C., for we have evidence that the occupation continued for at least some 200 years after that date.

The rectangular trenches present underneath the settlement and the adjacent cemetery, like those at the Emelange, are grave monuments which probably date from shortly after of the Zeijen period; the barrows to the south of the fen and at the Emelange are younger (*vide* pp. 495–8).

It may be asked what happened in the following three or four hundred years from about 200 B.C. to A.D. 150, when the first farmhouses were erected in the excavated area. Must one reckon with some kind of continuity, or was there an interruption in the occupation of our site? A fact supporting the latter view is that no finds have come to light which could be used to span the gap, but this may be a local phenomenon and therefore it is wise to study the matter in a wider context.

In the province of Drente as a whole the problem can be summarized as follows: the Zeijen culture is spread all over the sandy soils of Drente, in the north-west, the south-west, the south-east and along the Hondsrug in the east (finds in the central region are comparatively scarce), as well as over the adjacent parts of Friesland and South-east Groningen.<sup>2</sup> It is represented by both grave finds (square-ditch urn-fields) and settlement remains (pits, houses like those in Een and Rhee, Celtic Fields). The most characteristic pottery type is the necked bowl of types Ruinen-Wommels I and II.



During the following period, Waterbolk calls it Proto-Frisian and dates it to between 400 and 200 B.C., the sandy regions remain almost barren of finds. The characteristic Ruinen-Wommels III pottery appears in quantity in the *terp* area, especially in Westergo, but from Drente only one settlement find can be cited,<sup>3</sup> the R.-W. III sherd from Rhee (*vide* p. 309). This situation has been plausibly explained as being the result of a large-scale migration from the sand to the clay district. Yet, the "Old Land" did not remain a complete desert. A residuary population must have survived, for it is to this Proto-Frisian and perhaps also partly to the following Frisian period that we have to attribute the cremation barrows of the same types as those found at the cemetery site and the Emelange.<sup>4</sup> These barrows have been discovered throughout the distribution area of the earlier Zeijen culture in Northern, Central and South-western Drente; their absence in the south-eastern corner may be due to the chances of discovery.

It may be assumed that the cremation barrows were, as barrows have always been, rather special and unusual monuments. The absence of other graves belonging to the Proto-Frisian and Frisian periods, as well as to the whole of the Roman period, in itself does not say much concerning the strength of the population. By this time the degeneration of the original urn-field cemeteries probably was so far advanced that the average grave was no more than a small pit containing at best a few bone splinters and an occasional sherd: *cf.* the five cremation graves within the rectangular trench in Wijster cemetery. Such simple graves are easily overlooked. The absence or extreme scarcity of graves found in the clay district during the first 1000 years of the *terp* culture is to be explained in the same way. In the northern part of this country graves disappear from the archaeological record in the course of the Pre-Roman Iron Age and are not found before around 400 A.D. Then the urn is reinstated, the *Brandgrube* is equipped with grave goods and the custom of inhumation is resumed. The only means of gauging the density of the population in Drente is the consideration of the settlement finds. These are extremely scarce for the Proto-Frisian period and remain so throughout the Frisian and Early-Roman period.

The so-called *Streepband* ware, the characteristic pottery of the years around the beginning of our era, is known from only three sites, all of them situated in North-western Drente: Vries, Zeijen and Rhee.<sup>5</sup>

Pottery of the Early-Roman period remains rare in Drente, especially in the years from 1 to 150 A.D. The sherds from the square settlement near Zeijen<sup>6</sup> do not appear to survive long after the beginning of the Roman period. A second settlement near Zeijen at the Witteveen<sup>7</sup> and a similar camp at Vries<sup>8</sup> may have lasted longer; in any case their pottery shows that they did not continue into Late-Roman times.

Unfortunately, the pottery of the 1<sup>st</sup> century A.D. from the northern part of the Netherlands has not been studied in detail. Moreover, only partial excavations have

been carried out in the individual settlement sites in Drente. Consequently, it is nearly always impossible to date the founding of these settlements with any accuracy. As far as can be judged, however, early-1<sup>st</sup> century settlements have not been found outside the Zeijen-Vries area in North-western Drente. In our opinion this is no coincidence. The area in question is connected with the clay zone by way of the small stream called Eelderdiep, especially with the centre of *terp* culture in North-west Groningen along the Lower Hunze. Of all Drentish sandy soils this north-western part had the most direct contact with the *terp* district.

At about the beginning of the Christian era, in the period archaeologically characterized by the appearance of the *Streepband* ware, an expansion of the population took place in the clay zone along the coast. On the one hand, *Streepband* sherds are found in older *terps* which had already begun their evolution during the Zeijen (= Ruinen-Wommels I and II) phase, on the other, this pottery marks the birth of a number of new settlements.

In the provinces of Groningen and Friesland, settlements founded in the *Streepband* phase occur mainly in the marginal zones of the clay district, the regions bordering the Old Tidal Flat which lies at a somewhat higher altitude and where the *terps* are found. Occupation of these lower regions, often with peaty subsoil, was possible because at this period the sea became less aggressive and thus natural conditions became more favourable. The phenomenon is repeated at a much later time, when from the 10<sup>th</sup> century onwards (*Kugeltopf* phase) large peat areas are colonized under similar environmental conditions. That the circumstances were favourable also appears from the fact that all new settlements were *Flachsiedlungen* built on the flat surface. It may be remembered in passing that the older settlements in the clay regions, dating from the Zeijen period, had also started their lives as *Flachsiedlungen*. By this time they had developed into *terps*.

This situation did not prevail for long. After an initial phase of *Flachsiedlungen* the evolution took the direction of the formation of *terps*: the individual houses were raised on rectangular platforms. So far, we see a repetition of the development which, some centuries earlier, had taken place on the Old Tidal Flat. But, before such groups of individual house *terps* had the opportunity of fusing into a real *terp*, they were abandoned.<sup>9</sup> When in the course of the 3<sup>rd</sup> century the sea again increased its encroachments (Late-Roman transgression<sup>10</sup>) the occupation of the marginal areas had to be given up in part; the deserted villages were flooded and embedded in a layer of clay (*knikklei*).

These "submerged settlements" have never been the subject of special study; their distribution is only imperfectly known. Halbertsma<sup>11</sup> devoted some attention to this side of the problem, but his survey does not pretend to be complete. Since the appearance of his maps, new sites of this type have been discovered and a thorough search would certainly augment their number still further. However, their

occurrence all along the border of the *terp* region is certain. They are found from the neighbourhood of Sneek in the south-west<sup>12</sup> *via* Akkrum,<sup>13</sup> Irnsum,<sup>13</sup> Wartena,<sup>14</sup> Miedum,<sup>15</sup> Wirdum,<sup>16</sup> Grijpskerk,<sup>17</sup> Paddepoel near Groningen,<sup>18</sup> Noorderhoogbrug near Groningen,<sup>19</sup> Zuidwolde,<sup>20</sup> Bedum,<sup>21</sup> Ten Boer,<sup>22</sup> Overschild,<sup>23</sup> Amsweer,<sup>24</sup> to the area south of Appingedam and Delfzijl. Probably they also accompanied the *terps* which, before the Dollard came into being, were situated along the southern bank of the river Ems.

It has to be accepted that the dawn of the Christian era saw the founding of many new settlements also in the *terp* areas themselves. We have already met a first generation of *terps* that began their lives in the times of the Zeijen culture. Having started as humble *Flachsiedlungen*, they had reached the status of *terps* by the beginning of the Roman period.

Westergo was the main centre of these oldest *terps*, according to the distribution of Ruinen-Wommels I, II and III ware. Compared with these types the distribution pattern of the *Streefband* pottery shows an increase of settlement sites, especially in Oostergo.<sup>25</sup> The distribution patterns of Roman coins and terra sigillata point in the same direction.<sup>26</sup> In Westergo, the distribution of successive pottery types demonstrates that the sea gradually retreated northwards. In the period under discussion, the strip of land between the lines Harlingen-Achlum-Winsum-Engelum and Harlingen-Dongjum-Beetgum became available for habitation. The *terps* lying here must have been founded at this time.<sup>27</sup>

Sites which were deserted as a result of the Late-Roman transgression are rarely reported from the actual *terp* regions: Halbertsma marks one near Hiddum, north-west of Wons;<sup>28</sup> another one is recorded from the neighbourhood of Arum.<sup>29</sup> There may be more, but probably most of the newly founded settlements evolved in course of time to real *terps*, and they then constitute the second generation. Natural conditions in the Old Tidal Flat may not have deteriorated to such a catastrophic degree as in the marginal zones, where habitation became very difficult after about 250 A.D. The present state of archaeological research does not enable one to decide to which generation each individual *terp* belongs. The two best-known Dutch specimens (Ezinge,<sup>30</sup> Tritsum<sup>31</sup>) are both members of the first generation. A comprehensive study of the finds stored in the museums would undoubtedly prove very helpful in this respect.

The first two centuries A.D. are a period of heightened activity in the provinces of Noord- and Zuid-Holland also,<sup>32</sup> but as this region has no direct connection with the sandy soils of Drente it is not considered here.

Apart from the north-western area around Zeijen and Vries which, as we have seen, has to be considered as an annex of the *terp* centre in North-western Groningen, the extension of settlements did not reach the old sandy soils during the first phase of the Early-Roman period. In any case, no sites are known to have been founded

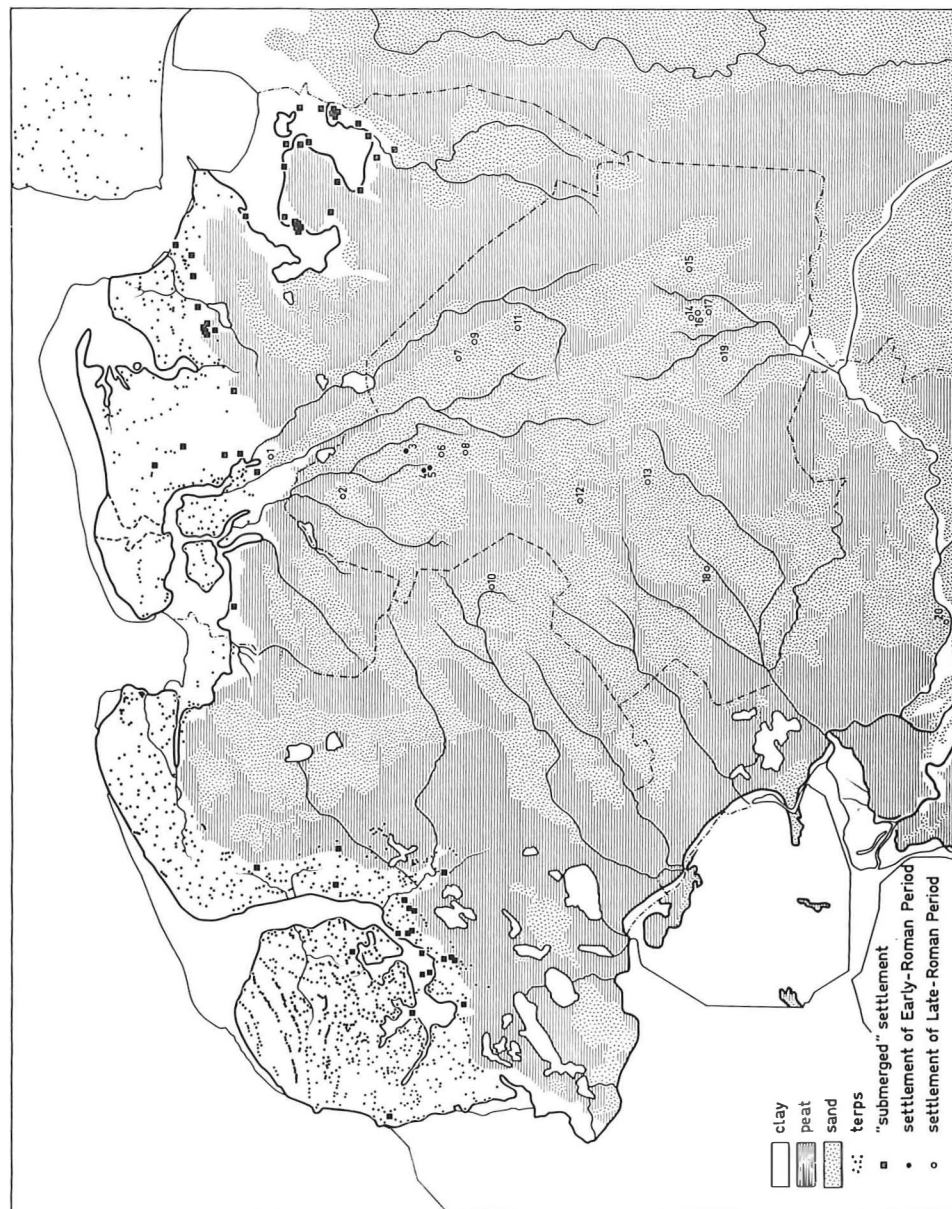


Fig. 286. The occupation of the northern provinces during the Roman period. Partly after Halbertsma (1963).

- 1: Groningen, Martinikerkhof,
- 2: Peize,
- 3: Vries,
- 4: Zeijen-Witteveen,
- 5: Zeijen,
- 6: Rhee,
- 7: Eext-Vijzelkampen,
- 8: Peelo,
- 9: Gieten,
- 10: Fochtelo,
- 11: Drouwen,
- 12: Hijken?,
- 13: Wijster,
- 14: Diphooorn,
- 15: Noordbarge,
- 16: Sleen,
- 17: Erm,
- 18: Ruinen,
- 19: Wachtum,
- 20: Dalfsen.

at this early stage elsewhere in Drente. It is difficult to envisage the region as completely deserted. Again, one is inclined to postulate some residual population for the whole of the Northern Dutch sandy areas, but as far as we can see, there are no signs of human habitation.

The two Early-Imperial copper coins found in South-east Drente do not necessarily testify to habitation; they have been attributed to the presence of Roman armies.<sup>33</sup>

## NOTES

<sup>1</sup> Waterbolk 1962.

<sup>2</sup> Waterbolk 1962, Abb. 27.

<sup>3</sup> Waterbolk 1962, Abb. 32.

<sup>4</sup> Waterbolk 1962, 43.

<sup>5</sup> Waterbolk 1962, Abb. 35.

<sup>6</sup> Van Giffen 1936 (2), Afb. 19.

<sup>7</sup> Van Giffen 1950, Afb. 13.

<sup>8</sup> Van Es 1958, Fig. 19.

<sup>9</sup> The evolution from *Flachsiedlung* to *terp* has best been studied at Feddersen Wierde, but it can also be observed at many other sites, e.g. Ezinge, Tritsum.

<sup>10</sup> Cf. Bakker 1948; 1953; 1958; De Smet 1964.

<sup>11</sup> Halbertsma 1963, 58, Atlas; the sites indicated on the maps are not all of the same date. While most of the crosses are probably of Early-Roman date, those in the Dollard area must be much younger. *Flachsiedlung* was practised also in the *Kugeltopf* phase.

<sup>12</sup> Halbertsma 1963, 58, map 10 East; Elzinga 1962; Van Es 1961, 258–9, no. 77–9.

<sup>13</sup> Halbertsma 1963, map 11 West.

<sup>14</sup> Excavation 1965 by G. Elzinga, BAI; unpublished.

<sup>15</sup> Van Es 1964 (2), 256 no. 96.

<sup>16</sup> Van Es 1964 (2), 257 no. 120.

<sup>17</sup> Van Giffen 1964.

<sup>18</sup> Van Es 1965 (1).

<sup>19</sup> Van Es 1961, 259, no. 80.

<sup>20</sup> Van Es 1964 (2), 257, no. 118; Halbertsma 1963, map 7 West.

<sup>21</sup> Van Giffen 1924–6 (1), 9–10.

<sup>22</sup> Van Es 1964 (2), 257 no. 116.

<sup>23</sup> Halbertsma 1963, map 7 East.

<sup>24</sup> Verslag GM 1963, 19.

<sup>25</sup> Waterbolk 1962, Abb. 27; 32; 34; 35.

<sup>26</sup> Van Es 1960, 54.

<sup>27</sup> Bakker 1958, 214, Fig. 1; to be compared with the maps of Van Es 1960 and Waterbolk 1962.

<sup>28</sup> Halbertsma 1963, map 10 West.

<sup>29</sup> Van Es 1964 (2), 257, no. 121.

<sup>30</sup> Van Giffen 1936 (1).

<sup>31</sup> Waterbolk 1961 (2).

<sup>32</sup> A correlation between the extension of settlement to the peaty regions and the regression periods has been also observed in the western part of Holland: cf. Van Liere 1947; De Cock 1965, 10–2.

<sup>33</sup> Van Es 1960, 47.

## CHAPTER XXIV

### FOUNDATION AND EARLY HISTORY OF THE SETTLEMENT

At our site continuous occupation did not start before the later half of the 2<sup>nd</sup> century. This appears to apply also to the other Roman period settlements found in the Northern Dutch sandy regions. This view is based upon an assessment of the pottery from these sites. As a general rule only small sections of these settlements have been excavated and the finds are often scarce. Consequently, the date of origin cannot be precisely established. However, apart from the three sites near Vries and Zeijen, mentioned above, typically 1<sup>st</sup> century pottery types have been discovered nowhere in Drente. The oldest recognizable models are mostly IA and IB cups.

This is certainly true for Rhee<sup>1</sup> (where one observes the same gap between the Zeijen period habitation and the Late-Roman occupation of the site as at Wijster), Fochtelo,<sup>2</sup> Peize,<sup>3</sup> Peeloo,<sup>4</sup> Eext-Vijzelkampen,<sup>5</sup> Gieten,<sup>6</sup> Erm?,<sup>7</sup> Dalfsen.<sup>8</sup>

The date of the sites in South-east Drente is less easy to establish. The traces of Den Hool, near Sleen<sup>9</sup>, seem to belong to the Zeijen culture. Diphooorn,<sup>10</sup> Sleen,<sup>9</sup> Wachstum<sup>11</sup> and Noord Barge<sup>12</sup> are certainly Roman period settlements, but their pottery is not very characteristic. So far no IA or B cups have been found in this part of Drente. However, the IIIA and B pots from Nieuw-Weerdinge and Ter Apel may be taken as an indication that this area was also occupied around 200 A.D. The distribution of Roman coins points to the same conclusion.<sup>13</sup>

The almost complete absence of settlement traces and finds during the whole Roman period on the sandy ridges of Eastern Friesland, South-western Drente and South-eastern Groningen (Westerwolde) is remarkable.

Thus, it may be concluded that the Late-La Tène/Early-Roman settlement expansion which we have noted in the clay district and its marginal zones did not affect the greater part of the Old Land, which had been deserted after the period of the Zeijen culture. Here the extension of settlements took place only at the end of the Early-Roman period.

When studying the pottery from our site we saw that some of the most characteristic types, as *e.g.* IB, ID, IIIA, IIIB, IIIC, IVF, VIIIA, VIIIB, find their best

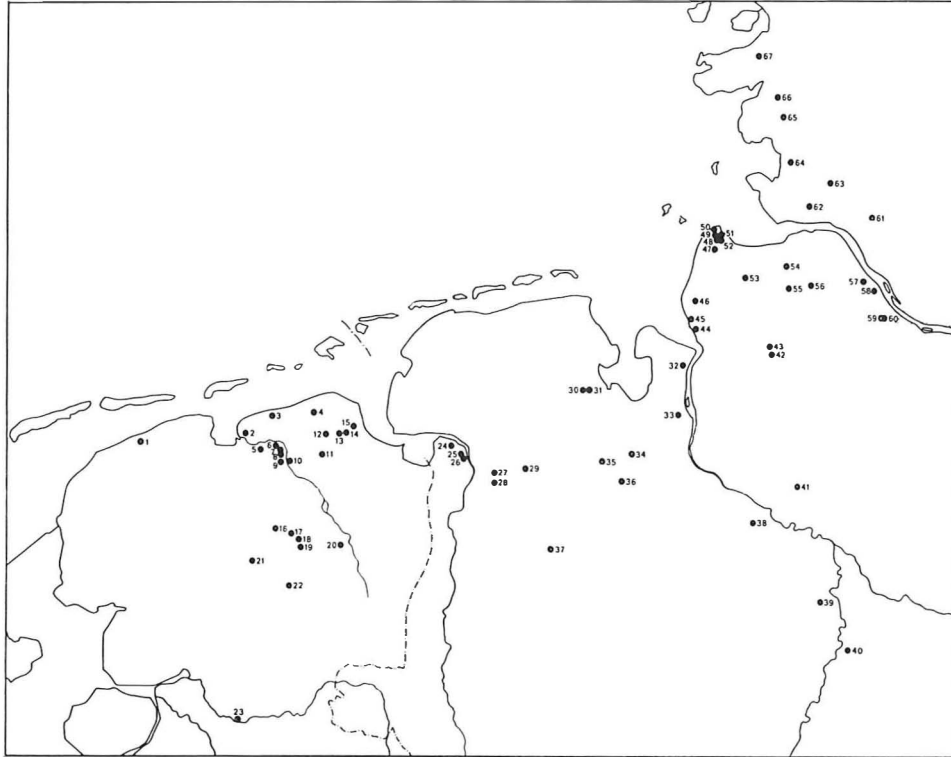


Fig. 287. Distribution of cups of type IB.

1: Ferwerd, *Kloosterterp*, 2: *Terp* de Panzer, 3: Wierhuizen, 4: Usquert, 5: Aalsum, 6: Ezinge, 7: Feerwerd, 8: Brillerij, 9: Joeswerd, 10: Wierumerschouw, 11: Ten Boer, 12: Westeremden, 13: Enumerhoogte, 14: Oosterwijtwerd, 15: Holwierde, 16: Norg, 17: Bolleveen near Zeijen, 18: Rhee, 19: Peelo, 20: Eext, Vijzelkampen, 21: Fochtelo, 22: Hijken, 23: Dalfsen, 24: Hattsum on the Ems, 25: Jemgum, 26: Jemgumerklooster, 27: Nortmoor, 28: Amdorf, 29: Detern, 30: Zetel, 31: Driefel, 32: Einswarden, 33: Golzwarderwurp, 34: Rastede, 35: Gristede, 36: Wehnen, 37: Vrees, 38: Brinkum, 39: Helzendorf, 40: Sebbenhausen, 41: Quelkhorn?, 42: Köhlen, 43: Ringstedt, 44: Dingen, 45: Barward, 46: Feddersen Wierde, 47: Altenwalde, 48: Stickenbüttel, 49: Bardenfleth, 50: Duhnen, 51: Cuxhaven, 52: Galgenberg near Sahlenburg, 53: Westerwanna, 54: Westerhamm, 55: Silberberg near Sahlenburg, 56: Hemmoor-Warstade, 57: Ritsch, 58: Barnkrug, 59: Stade, 60: Stade-Campe, 61: Hodorf, 62: Eddelak, 63: Burg, 64: Elpersbütteler Donn, 65: Rickelshof, 66: Weisses Moor, 67: Tofting.

parallels in a zone along the southern coast of the North Sea, stretching from Friesland to across the river Elbe. As one of the oldest Wijster types (IB) already belongs to these coastal forms, the occupation of the Wijster area at the end of the 2<sup>nd</sup> century apparently meant that it had been drawn into the coastal pottery province. With this in mind, it is probable that the 2<sup>nd</sup> century farmers who first settled at our site had come from the clay region. The pottery itself does not indicate their exact place of

origin, but it is most probable that they had come from a relatively nearby area.

The coastal pottery province, first defined by Tischler, has been recently discussed by Bantelmann.<sup>14</sup> He points out that the similarities in pottery types, disregarding regional differences, suggest a strong cultural unity of the region concerned, in which the North Sea itself acted as the binding element. But he warns us that these similarities do not necessarily mean an ethnical unity and that the alteration of pottery style, which in the coastal province is to be observed around 200 A.D., is not a reliable pointer to changes in population.

If we assume that the distribution area of the IB cups (Fig. 287) represents the extension of the coastal pottery province, it follows that its southern limit did not reach much further south than Wijster. No B cups have so far been discovered in Southern Drente, but this could be accidental. Dalfsen on the river Vecht in Overijssel is the most southerly site to produce sherds of type IB. However, according to the findings of a preliminary publication,<sup>15</sup> the pottery complex of Dalfsen considered as a whole shows many features that are unparalleled among the Wijster pottery: *e.g.* abundant decoration, especially of *Warzen*-ornament, which is so rare at Wijster; one observes more affinity with the material published by Von Uslar,<sup>16</sup> particularly with that from Westphalia. For the moment our knowledge is still incomplete concerning the native ware which was used in the central parts of this country during the Roman period, but it seems to belong to a slightly different tradition from that found in the northern provinces, which includes the greater part of Drente. In Overijssel and Gelderland we already find ourselves in another pottery province: the material from these provinces has connections with the pottery known from the German territories lying to the east of their frontiers.

During the whole period of occupation the more characteristic types within the Wijster pottery complex belong to the coastal province and not to the other inland province represented by the Dalfsen sherds. On the basis of this evidence it is likely that the settlement of period I was founded by people arriving from somewhere along the coast, while close contacts were maintained also afterwards during period II and III with the coastal regions. It should not be forgotten, however, that pottery, which plays such a dominating role in the archaeological record, is only a small part of the cultural complex.

The very position of our settlement along the southern edge of the coastal province would encourage easy contact with the regions further south. In fact, these contacts manifested themselves very clearly in the characteristics of the Wijster house-plans.

Characteristic coastal plans (type A1a and b) are rare (Fig. 180). The bulk of the Wijster plans belongs to types AIIa and b which have never been found in the coastal areas. Parallels can be found in Overijssel (Dalfsen) and Westphalia (Haldern, Westick), *i.e.* in regions which seen from the pottery point of view form part of another province. Later also, during the Early Middle Ages, the latter regions are



remarkable for the appearance of a special house type (Warendorf) which may have evolved from the house with cruck construction of the Roman period. In the coastal areas the houses of post-Roman date held to the traditional AI scheme and there is no sign that the cruck construction was known here in the Early Middle Ages.

When studying the successive house types at our site (*vide* pp. 386–8), it was observed that the architectural tradition shows a break at the transition from period I to II. This may not be a complete break affecting every detail, but there is no clear evidence of the cruck construction in period I. The houses of the first period are all in the coastal tradition, whereas the majority of the buildings of period II and III have “inland” features.

As we have seen above, it is as yet impossible to locate the region where the cruck construction originated. The oldest known cruck house is the one at Halderm in Westphalia. Our knowledge at the present time is insufficiently conclusive to say that the Wijster AIIa and b buildings of period II and III were imported from Westphalia, but the striking similarities between our Wijster houses and those at Westick point strongly to close contacts between both regions after period I during the 3<sup>rd</sup> and the 4<sup>th</sup> centuries.

Moreover, a difference between the pattern of settlement of period I on the one hand and that of period II and III on the other, stands out clearly. The first habitation period is characterized by small-sized settlements: single farm units or small groups of farms. From the second period onwards, *i.e.* from about 225 A.D., the picture has changed: a larger, systematically-planned village has come into existence. Between period IIb and IIIb the settlement of period IIIa might represent a phase of decline in population, though this is by no means certain. There may be differences between the settlements of period II and III, but the fact that both were large villages is a fundamental similarity.

It is remarkable that the evolution of the pottery does not show a break at the beginning of the 3<sup>rd</sup> century. On the contrary, the most characteristic type series show an uninterrupted evolution from the beginning until the end of the period of habitation. There is indeed a slight change, – the profilation of some types tends to become less angular (*cf. e.g.* the transition of type IB to IC) –, but this is no more than a change in the pottery style within the coastal province.<sup>17</sup> In the pottery we see no sign of foreign elements.

Thus, the first occupation of the Wijster area has uniform coastal features and there is no objection to assuming that the inhabitants of the houses of period I came from the clay zone. Periods II and III present coastal as well as inland traits. Close southern contacts are undeniable, but this does not necessarily mean that the population of these later settlements was of southern origin. Were this the case, one fails to see, why the hand-made pottery throughout the existence of the settlement is so exclusively coastal in character.

Another category of finds which should be taken into consideration are the Roman coins found in the northern part of this country.<sup>18</sup>

As far as Drente is concerned the situation is as follows: apart from the few early 1<sup>st</sup> century coins, which are undoubtedly connected with the Roman military expansion of the early 1<sup>st</sup> century, the majority of the coins was imported during the second half of the 2<sup>nd</sup> century. They were used in trade which at that time was particularly flourishing.

The exportation of coins, of course, was governed by many factors which often had no direct relation to the receiving area itself: *e.g.* the laws to which the circulation of the money was subjected, or the economic conditions within the Empire. Consequently, we cannot conclude that the presence of relatively many Roman coins indicates a relatively large population. So much is certain, however, that in the years between 150 and 200 A.D. there was a population in Drente to use and lose the coins. It may not have been large (compared to the clay regions the finds are scarce), but the distribution of the stray coins shows that at this time the population was firmly entrenched in all areas where settlement traces of the Roman period have been discovered: particularly in Northern, Central and South-eastern Drente. In this way we have confirmation of the conclusion drawn above from the pottery, that in the second half of the 2<sup>nd</sup> century occupation began or at least was present at several places on the sandy soils and was not restricted to Wijster. Although Roman trade was primarily directed towards the richer clay regions, it apparently also reached the population of the sandy hinterland.

The period of maximum coin importation ended shortly after 200 A.D. A horizon of coin-hoards which are dated to the years around 200 A.D. reveals that this break in relations between our area and the Roman Empire was caused by some kind of disturbance. Apparently, these events were of great importance for the settlement of Wijster as well, for the settlement of period I was replaced by the new lay-out of period II.

Owing to the lack of historical information about this part of Free Germany during the period under discussion it is difficult to establish the exact nature of the disturbance.

In his study about the causes of the Marcomannic wars in the Danube regions Zwikker<sup>19</sup> reached the following conclusions based upon the available historical and numismatic material. About the middle of the 2<sup>nd</sup> century coin-hoards show two clear centres of disturbance: the lower Elbe region and the area between the lower Oder and Weichsel, from where at that time the Lombards and the Goths respectively began their southward migrations. This created an enormous tension in the regions immediately north of the Danube, which came to a head as soon as the situation in the Near-East forced the Roman government to weaken the Danube frontier.

This complicated chain of events did not directly concern the north-western

corner of Germania Libera north of the river Rhine, to which the Wijster area belongs, but coin-hoards testify that peaceful conditions in these regions also were disturbed shortly afterwards.

Zwikker distinguished a third concentration of hoards between the mouths of the rivers Ems, Weser and Elbe, *i.e.* in the territory of the Chauks. To these regions, the three northern provinces of this country have to be added because the horizon of hoards that was established in Groningen, Friesland and Drente is of the same period as the hoards found east of the Ems: the end of the 2<sup>nd</sup> century. In fact, the coin-hoards betray disturbances around 200 A.D. throughout the coastal pottery province.

According to Zwikker the Chaukan territory was first subjected to westward pressure of the Lombards soon alternating with pressure from the north, from Scandinavia, which caused the Lombards to direct their offensive to the south. The exact nature of the events remains obscure in this case also. Several authors assume a wholesale invasion and the political and cultural subjugation of the Chauks by the Saxons coming from the Cimbric peninsula. It has been shown,<sup>20</sup> however, that the archaeological evidence for such a far-reaching conclusion is still insufficient, but it is obvious that at about 200 A.D. the whole coastal province was in a state of turmoil.

There is even historical proof of subversive activities by the Chauks against the Roman Empire, which may well have been caused by the conditions of unrest in the Chaukan homeland. The *vita Didii Juliani* mentions an attack by the Chauks who surged out of their country near the river Elbe (*erumpentibus* as “breaking out of prison, or a besieged city!”) and harassed the province Belgica in the years 172–4 A.D.<sup>21</sup> Though controversy reigns on this point, by far the more probable explanation seems to be that this attack was launched from over the sea.

The light shed by historical documents is very feeble indeed. In fact it is not more than a mere flicker, only showing that at the end of the 2<sup>nd</sup> century the Chauks were restless, but it is comforting that in this respect the historical and numismatic evidence are in entire agreement. Though it may be accepted that the attack on Belgica was seaborne, the historical tradition does not reveal anything about its character. De Mayer found traces of the destruction of Roman villas at the period in question throughout almost the whole of Belgium and concludes that the Chaukan attack had a far-reaching influence. Mommsen<sup>22</sup> assumed that it was one of the usual pirate raids. One can pose the question whether one raid could have caused such large-scale damage. There are several possibilities: the destruction of many villas may not have been the result of the Chaukan attack; the only recorded one in fact formed part of a series; the attack was more than a raid, though we have no scrap of evidence it was a large-sized enterprise of emigration. Even if the last was not the case, it can be safely assumed that it testified to internal pressure in the homeland itself. At a later date the Anglo-Saxon emigration was preceded by a period of pirate raids.

It is very plausible also that after the Chauks had been expelled from Roman territory by the governor Didius Julianus they were forced to find another outlet to ease the pressure. In itself this might have resulted in a westward expansion towards the regions west of the river Ems.

In fact, at one time, Van Giffen<sup>23</sup> assumed such a Chaukan invasion into the northern part of this country, basing his view on the similarities between the leading pottery types east and west of the Ems; the cups of our type IB in particular were once considered to be characteristic of the Chauks and thought to denote their presence! However, this theory has never been emphasized, and, in our opinion, a close cultural contact is sufficient to explain the similarities in pottery. There is no convincing archaeological ground on which to accept any important Chaukan immigration.

We will now try to summarize what is known, or can be reasonably supposed, about the factors which determined the foundation and early history of the Wijster settlement. It is already obvious that the historical situation was very complicated, as historical situations often are, and that our knowledge is still very imperfect. When the interpretation of every historical situation is hampered to some extent by numerous *imponderabilia*,<sup>24</sup> even when a good literary tradition is present, then in our case, where there are almost no written data to rely upon, we must be more than content to get a faint glimpse of the events that took place in the area and period which concern us here.

The Wijster settlement had begun its life in the last quarter of the Early-Roman period. The final phase of this period saw the end of the cultural flowering and material prosperity which the Roman Empire had known during the greater part of the 2<sup>nd</sup> century, especially under the rule of the Antonines. Not only had peaceful conditions prevailed inside the Roman territory; the barbarian tribes dwelling along its northern frontiers had also been at rest and had been living in close contact with the Empire. In fact, this situation had been one of the pillars upon which the Empire's welfare was rested.

Around 150 A.D. the migrations of Lombards and Goths started to endanger this precarious balance of power. A highly explosive situation was developing rapidly. The full force of the threat made itself felt for the first time along the Danube frontier in the reign of the emperor Marcus Aurelius.

At about the same time a state of unrest arose in the land of the Chauks between Ems and Elbe. We do not understand the cause of this unrest. It may have been pressure from outside, a deterioration of natural conditions, a real or imaginary overpopulation, one of the many *imponderabilia* which leave no trace in the archaeological or even historical records, or a combination of several of these factors.

The horizon of coin-hoards buried around 200 A.D. shows that the northern part

of this country suffered its share of the troubles also, but this according to the evidence of the hoards occurred at a slightly later date under the emperors Commodus and/or Septimius Severus. It should be remembered in this context that the three northern Dutch provinces constituted a more or less closed *Siedlungskammer*, bordered by the Flevo lake, the sea, the Ems, the peat lands of South-eastern Groningen, Southern Drente and Northern Overijssel.

This implies that Wijster along with many other Drentish settlements which were founded at about the middle of the 2<sup>nd</sup> century had been established in a period of peace and stability. Consequently, we need not take external factors into consideration when trying to explain the increase of population on the sandy soils. Nor is there any good reason to attribute it to the Late-Roman transgression, which did not commence before the 3<sup>rd</sup> century. It will be granted that the beginning of this transgression cannot be fixed with precision, firstly, because the start of a transgression can never be pin-pointed to a precise moment, as important regional differences are known to have existed;<sup>25</sup> and secondly, because the generally accepted date of 250 A.D. has been based on archaeological material which itself cannot be dated with great precision. However, as our knowledge stands at present, we have to accept that our village was founded before the Late-Roman transgression became a really threatening factor.

Nevertheless the 2<sup>nd</sup> century pottery at Wijster points to the clay districts. Here a period of increase of population had set in after the Pre-Roman transgression had come to an end. The increased population occupied the new additions to the already existing *terp* area: in Northern Westergo, in Oostergo and probably also in Groningen; it also colonized the marginal zones between clay and sand and, if we are right, the recolonization of the old land of Drente after so many centuries has to be considered as the last wave of this demographic explosion. This recolonization started in the north-west (the Zeijen-Vries area) at the beginning of our era because it was nearest to the clay, but it came very late to the rest of Drente. That it did come at such a late time, as a last resort so to speak, suggests that the sandy soils were still not very popular. As far as one can see, the 1<sup>st</sup> century occupation in the Zeijen-Vries area was an episode of short duration. There may have been many causes for this unpopularity, but probably one of them was the greater distance from the water-route, by which the clay regions communicated with the Roman Empire and which carried the commerce that gave the *terp* culture part of its prosperity.

As long as there still was room for expansion, no state of over-population could arise. When, however, the Late-Roman transgression became a fact, things changed for the worse. The population of the marginal zones was forced to seek refuge elsewhere. Their migration was the principle cause of the confusion to which the coin-hoards testify and may also be held responsible for the foundation of the larger village of period II at Wijster around 225 A.D.

It is very difficult to assess if pressure from the side of the Chauks also played a role in the sequence of events, and if so, to what extent. We know that under Marcus Aurelius this tribe had raided the north-western corner of the Roman Empire, probably following the sealanes. Also afterwards under Septimius Severus the Romans still thought it worth while to strengthen this section of their frontier to combat this continuing threat.<sup>26</sup> In such a situation, occasional landings of Chaukan pirates or raids across the Ems are certainly not to be excluded. However, there is no convincing proof of a large-scale immigration from across this river.

One of the most curious things about the settlement of period II is the southern influence revealed in its architecture. It is not impossible that people from Overijssel or Westphalia moved to the north but we lack final evidence and such a view is not supported by the hand-made pottery. On the other hand it is clear that the Wijster settlement took the opportunity offered by its position and immediately sought contact with the south.

#### NOTES

<sup>1</sup> Van Giffen, 1937 (2); 1938 (1); 1940 (1).

<sup>2</sup> Van Giffen 1954 (1); 1958.

<sup>3</sup> Van Es 1964 (2), 256 no. 98.

<sup>4</sup> Van Giffen 1924–6 (2).

<sup>5</sup> Van Giffen 1934 (2); 1937 (1).

<sup>6</sup> Van Es 1964(3).

<sup>7</sup> Excavation BAI 1957 (unpublished).

<sup>8</sup> Van Beek & Van Es 1964.

<sup>9</sup> Van Giffen 1939 (2).

<sup>10</sup> Van Giffen 1936 (3).

<sup>11</sup> Van Giffen 1941.

<sup>12</sup> Van Giffen 1934 (1).

<sup>13</sup> Van Es 1960, 51–2, kaart 3.

<sup>14</sup> Bantelmann 1955, 64–5.

<sup>15</sup> Van Beek & Van Es 1964.

<sup>16</sup> Von Uslar 1938.

<sup>17</sup> Waller 1958; Bantelmann 1955, 64–5.

<sup>18</sup> Van Es 1960.

<sup>19</sup> Zwikker 1941.

<sup>20</sup> Bantelmann 1955, 64–5.

<sup>21</sup> De Mayer 1937, 284–9; De Boone 1954, 46.

<sup>22</sup> Cited by De Mayer 1937, 285, note 1.

<sup>23</sup> Van Giffen 1940 (3); De Boone 1954, 46.

<sup>24</sup> Van Winter 1965, 57–76.

<sup>25</sup> Bakker 1953.

<sup>26</sup> Glasbergen 1947, 305.

## CHAPTER XXV

### THE SETTLEMENT AND THE EVENTS OF THE 3<sup>RD</sup> AND 4<sup>TH</sup> CENTURIES

We know very little about the events which took place during the 3<sup>rd</sup> and 4<sup>th</sup> centuries outside the Roman frontiers in Free Germany, because of the lack of direct written evidence. Archaeology and the study of coin finds are able to fill in some of the gaps due to this lack of literary data, but it must be confessed that, as far as the northern half of our country above the great rivers is concerned, the study of 3<sup>rd</sup> and 4<sup>th</sup> century material has not yet advanced very far.

For Germania as a whole, both centuries meant a period of continuous unrest. In vast territories, especially further to the east, the Migration period had in fact already begun. It is questionable, however, if the same can be said about the north-western part, the Germanic territories situated along the southern coast of the North Sea.

To some extent the history of Germania is reflected in what happened to the Empire itself. Throughout the Early-Roman period a close relation can be seen between our regions and the north-western provinces of the Roman Empire. During Late-Roman times this connection remains in existence.

The vicissitudes of the north-western part of the Empire during the period under discussion have recently been studied by De Boone.<sup>1</sup> His masterly book is like a mirror, reflecting glimpses of events in North-western Germania; these we will try to read and interpret.

#### A. THE COASTAL PEOPLES

At about the middle of the 3<sup>rd</sup> century the name of the Franks appears for the first time in the historical sources; at that time one of their outstanding characteristics was their familiarity with shipping and the sea. There can be no doubt that in the written tradition of this period the tribes dwelling along the coast from the mouth of the river Rhine to the Elbe were generally referred to as Franks; previously they had been called Frisians and Chauks, and at a later period they were often called Saxons.

On several occasions these maritime Franks were among the enemies of the Roman Empire. Their operations were, as could have been expected, always directed against the coasts of Britannia, Belgica or Gallia; sometimes their power was felt as far away as Spain and the Mediterranean. They took an active part in the events of the years between 250 and 275 A.D., when for the first time large-scale disaster fell upon the north-western provinces. Their raids form the *raison d'être* for the appearance of Carausius (287–93) and his separatist movement. On this occasion, Saxons are mentioned in combination with Franks, but this is only recorded by Eutropius, who wrote later in the third quarter of the 4<sup>th</sup> century. Around 290 A.D. Constantius Chlorus met Frisians among the invaders.

It is remarkable that during the first half of the 4<sup>th</sup> century sea-faring people are rarely spoken of. We do not hear about them in connection with the actions of Constantinus I in the regions of the lower Rhine, nor is there any reason to suppose they were making a nuisance of themselves at the time of Julianus. This general, intent upon restoring the corn supply from England, found his problems along the lower course of the Rhine in the land of the Salii and Chamavi, but, apparently, the line of communication across the sea itself was not menaced at that time.

During the third quarter of the 4<sup>th</sup> century, however, the coastal peoples resumed their unpleasant habits. This time the pirates infesting the seas are called Saxons. In the reign of Valentinianus I (364–75) England was harrassed, but the continent also was subjected to Saxon raids which even penetrated as far as the mysterious Deuson *in regione Francorum* (Diessen in the Dutch province Noord-Brabant?).

According to De Boone<sup>2</sup> the Saxons who contributed to the fall of the usurper Magnus Maximus operated in England. In 392/3 A.D. Eugenius had to deal with Germani (= Saxons?; on the continent?).<sup>3</sup> In these years the rich province of Britannia was apparently the favourite target of the sea-rovers, though the Gallic coast did not come off scot-free. Whenever Saxon raids are recorded, it is in connection with England.

This situation continued throughout the first thirty years of the 5<sup>th</sup> century. Saxon raiders were ravaging the shores of England. We hear little about attacks on the Gallic coast,<sup>4</sup> but this may be the result of the impact which the events of 31. XII.406 and their consequences made upon the mind of contemporary writers: in the face of such catastrophe, lesser troubles dwindled into insignificance.

After about 430 A.D. the evolution in England passed into a new phase. Piracy gradually gave way to what is usually called the *Adventus Saxonum* which in the words of Myres<sup>5</sup> can be described as a “complex process, one element in which may be a set of variations on a single theme, a tale of federate settlement re-enacted who knows how many times in various parts of eastern Britain in the central third of the V<sup>th</sup> century”.

At this point it seems appropriate to retrace our steps once more to the decades



around 400 A.D. as we now know that the Saxons of the *Adventus* were not the first Germanic elements to settle in Britain. The historical texts make no mention of these very first invaders. They have remained in oblivion hidden behind a few scraps of mostly not very impressive corroded metalwork and their resurrection is only due to the imagination of archaeologists.<sup>6</sup>

By studying the imported continental bronzes with chip-carved ornament and their local British derivatives, Hawkes and Dunning were able to establish the transfer of Roman troops from the continent to Britain at the end of the 4<sup>th</sup> century. This was probably done on two occasions: in 368 A.D. by Valentinianus' general Theodosius and again in 398 A.D. by Stilicho. In these measures one may recognize the answer of the Roman government to the first two of the three "Groans of the Britons" mentioned by Gildas.<sup>7</sup>

There can be no doubt that these troops, which were placed in the forts of the Saxon shore and garrisoned further inland in the cities as well, consisted of Germanic *laeti* or *foederati*. Unfortunately, we know practically nothing about their precise origin, but it is more than probable that among these troops were detachments withdrawn from the regions near Tongeren and Doornik (Tournai), which were almost certainly made up of Franks.<sup>8</sup>

We have no evidence that people from the Dutch and North-west German coasts, who at this time were usually called Saxons, had also been recruited for these forces which went over to England. This may not be impossible, but it is not likely that Saxons played an important role in this affair. Moreover, if there were coastal Teutons among these troops, then they came to England by a roundabout way, via Northern France and Belgium. Furthermore they came as Roman soldiers, already more or less Romanized and probably feeling strongly "Roman", and what is the most important, they were fitted into the existing pattern of Late-Roman civilization. They did not change this civilization, but instead they defended it against their kindred, the Saxon raiders, who had by now become their enemies. It is even doubtful whether the whole episode, which could be characterized as a first wave of Teutonic settlement on British soil, had any lasting effect, as most of these Germanic soldier-settlers probably left the country in the wake of the usurper Constantine III. In these respects these first Germanic "immigrants" differ markedly from the free Saxons of the *Adventus*.

The famous Dorchester graves, however, might perhaps be taken to provide an indication of Saxon settlement in the period between 410 A.D. and the middle of the century. On the evidence of the brooches, the two women at least are thought to have been born on the Frisian coast. The origin of the warrior himself is not revealed by his grave-goods, but he may have been Saxon too. It is as yet difficult to decide whether he arrived with Stilicho's army or came shortly after 407 A.D., when the Roman army had already departed from Britain. In the latter case, he probably

arrived directly from Germania and settled as *foederatus* called in by the Britons to help them in their struggle for survival. His presence would then foreshadow the arrival of other “federates” of the Hengist and Horsa type, but at this time, unlike later, the *foederatus* was still willing to be incorporated in the existing society and order.<sup>9</sup>

In resuming the thread of our discussion, we begin by remembering that during Late-Roman and Sub-Roman times the coastal Teutons have known two active periods: the first one in the third quarter of the 3<sup>rd</sup> century, the second in the central third of the 5<sup>th</sup>. Both periods represent, in fact, peaks in their activity which were preceded by a long time of preparation. In between, there is a period of quiescence during the first sixty years of the 4<sup>th</sup> century, when we hear little about the maritime people. One is tempted to speak of two cycles of about the same duration which developed in much the same manner.

The preparatory periods are characterized by raiding and piracy. The first one started with the Chaukan attacks on Gaul at the end of the reign of Marcus Aurelius. These raids continued during the last quarter of the 2<sup>nd</sup> and the first half of the 3<sup>rd</sup> century<sup>10</sup> and culminated in the invasions in the reign of Gallienus and the Gallic emperors. The invaders were no longer called Chauks but Franks, which are the same people but go under a different name.

The second period of raids began just after the reign of Julianus Apostata. Now the attacks were specifically directed against Britain, and from about 430. A.D. they gradually developed into expeditions of conquest. The barbarians, who were now called Saxons but again must have come from the same part of the mainland as the earlier Franks, came this time to stay: piracy gave way to settlement; the cycle came to its natural end. That the inhabitants of the Frisian section of the coast also took part in these forays, appears from literary evidence and the study of the pottery of the Migration period.<sup>11</sup>

The difference between both cycles is that the first did not come to completion. However, the difference is not as great as it seems at first glance. In the opinion of De Boone<sup>12</sup> the effect of the great incursions in the period between 253 and 270 A.D. was the *de facto* loss of the Rhine delta and the Scheldt region, which were occupied by the barbarians. Among these barbarians there were certainly coastal people, because Constantius Chlorus met Frisians in the Scheldt region. Though we have no information about the numbers concerned and the intensity of their settlement, it is certain that at least some coastal Teutons stayed inside the frontiers of the Empire, because the panegyricus of 297 A.D. depicts Frisians tilling Roman soil. So there is evidence that on this first occasion as well the sequence of events led to some measure of settlement of coastal people on provincial-Roman territory.

With all this in mind it should not be forgotten that we have so far been looking at the coastal barbarians from the strictly Roman point of view. This is not only

inevitable but justified, because throughout the first four centuries of our era the powers, even those that were working far outside the imperial frontiers, were controlled from Rome. For our purpose, however, it is necessary to try and see it from the point of view of the coastal barbarians themselves.

It is certainly not by chance that periods of barbarian aggression coincide with periods of weakness in the Empire itself. Elsewhere the barbarians often played a major role in causing these weaknesses, but, as far as the north-western part of the Empire is concerned, the tribes outside its frontiers did not so much cause the trouble as use it to their own advantage whenever it arose, for whatever reason.

This had happened under Marcus Aurelius when events elsewhere had distracted the attention of the central government but it was not the first instance of its kind. In the early years of the Empire, before the frontiers had been securely established, in the reign of Claudius, Domitius Corbulo had had to fight Chaukan pirates.<sup>13</sup> What Tacitus tells us about their motives, gives us the theme: they did not come for domestic reasons (*nulla dissensione domi*), but only because they judged the situation in the province favourable for their knaveries (*morte Sanquinii* – the former legatus of Germania inferior – *alacres . . . non ignarus* – *sc.* Gannascus – *dites et inbelles* – *sc.* the Gallic coasts – *esse*).

The well-known episode of Verritus and Malorix in 58 A.D. shows that the Frisians were looking for new land even then.<sup>14</sup> Though Nero refused the Frisian petition for land on this occasion, in principle it was apparently not impossible even then *novam sedem a Caesare impetrare*.

Later on, after Julianus, the early Saxon raids may be partly an after-effect of the troubles connected with the usurpation of Magnentius. The definite conquest of Britain, at any rate, only became possible owing to the withdrawal of the Roman troops in 407 A.D. and especially to the corruption of the local British administration which had come into being after Constantinus III's departure.

On the other hand, the pause during the first half of the 4<sup>th</sup> century was surely the result of the energetic measures with which Constantius Chlorus and Constantine reasserted Roman authority.

Thus, at least one aspect of the matter is that the activities of the coastal barbarians were conditioned by the state of affairs in the north-western part of the Empire. Whenever there was an opportunity, they leapt at it. Apparently the situation in the coastal homeland itself was always such that there was reason to set off on new adventures.

Indeed, the acts of piracy committed by Chauks, Frisians, Franks and Saxons were nothing but a perversion of their wide nautical knowledge. In the periods, when the power of the Empire was unimpaired, they used it for a peaceful trade, as *e.g.* during the greater part of the 2<sup>nd</sup> century. When authority became slack and the provinces were off their guard, the traders became pirates because now they could

take what they wanted, and there was no one to make them pay. The excavations at Feddersen Wierde have shown that industry and trade were important factors in the economy of a *terp* village, though it remains difficult to gauge from the archaeological record how far a population like this was dependant on sea-trade.

We have seen above that during the Early-Roman period the population of the Northern Dutch clay districts increased steadily. As the frontiers of the Roman Empire barred expansion southwards, the marginal zones were colonized as early as at the time of Verritus and Malorix and even earlier and eventually the adjacent sandy soils had to be reclaimed. So it is not surprising that, apart from being engaged in trade and/or in piracy, the coastal peoples were constantly on the look-out for new land.

It can be argued that the regions along the Lower Rhine and Scheldt held a special attraction: the natural conditions there were not so different from those in the Frisian homeland and, moreover, they were close at hand. It is self-evident that the coastal Franks poured in here in about 270 A.D. as soon as a breach appeared. However, at the end of the 3<sup>rd</sup> century the measures of the Roman government counteracted this expansion and arrested it. The situation now became more precarious than usual, for in the meantime the area available for settlement in the homeland itself had shrunk because the sea had renewed its encroachment.

As we saw, coin-hoards at the end of the 2<sup>nd</sup> century already testify to a certain degree of disturbance in the Northern Dutch regions, for which as yet no completely satisfying explanation can be given. It may be that the natural conditions had already begun to deteriorate; it is also not absolutely impossible that some pressure was being exerted from outside (Chauks).

But then two or three generations later, the combination of the Late-Roman transgression and the reinforcement of the Lower Rhine frontier provides ample reason to suppose that there was a state of extraordinary disturbance along the Dutch coast.

Curiously enough, De Boone assumes that it was exactly during this period that everything was quiet along the coastal regions. He does so on account of what he calls the absence of coin-hoards.<sup>15</sup> But are they in fact missing? We have the two hoards of Driesum (Tetricus or perhaps Allectus) and Drieterpen (Victorinus), the not completely reliable gold-hoard "Friesland???" (Carinus), some evidence of a hoard from the Dollard (Victorinus), and if one considers with De Boone a single aureus as the smallest possible hoard, we may add the aureus of Postumus from Burgwerd, the one of Numerianus from Winsum in Groningen,<sup>16</sup> that of Gallienus probably found at Groningen<sup>17</sup> and the gold coin of Diocletianus from Harlingen.<sup>18</sup> This number may be small, but it should be taken into consideration that the stray finds indicate that the import of coins shows a strong decrease after 211 A.D. and especially in the second half of the 3<sup>rd</sup> century. Seen in this light, the number of

hoards is surprisingly high, and may be regarded as a confirmation of the disturbances for which, as we have seen, there were perfectly good reasons at that time.

It is of interest to compare the coin import into Noord-Brabant, which was part of Roman territory.<sup>19</sup> Here the hoard horizon of around 200 A.D. is missing, but stray finds show a strong decrease at exactly this period. After 211 A.D. the import of coins revived more strongly than in Northern Holland, continuing until about 275 A.D. The period closes with a clear hoard horizon. Between 275 A.D. and the beginning of the 4<sup>th</sup> century, the flow of coins stopped almost completely.

Apparently there were no raids on this part of the Empire in the late 2<sup>nd</sup> century (no hoards). The interruption in the coin influx was undoubtedly caused by disturbances further south<sup>20</sup> as a result of which Brabant must have been temporarily isolated. During the first half of the 3<sup>rd</sup> century, however, the situation became normal again, whereas in the North contacts were never completely restored. Between 250 and 275 A.D. the province was ravaged (hoards) and the absence of coins during the following twenty-five years is a perfect illustration of De Boone's thesis that in that period the north-western part of the Empire lost touch with the rest, because it had been overrun by barbarians. Indeed, during this short period the graphs of stray coins from the Northern provinces and Brabant run parallel. Afterwards both regions again diverge. The import in Brabant recovered showing only one other interruption under Magnentius, but in the coastal provinces it remained very small during the whole of the 4<sup>th</sup> century.

We have no evidence regarding the nature of the results of the upheaval in the Northern Dutch provinces at the end of the 3<sup>rd</sup> century. As no possibility existed for expansion, there must have been serious repercussions in the regions themselves. It is remarkable that exactly at this moment a change in the settlement pattern is to be observed at Wijster. The village of period II made way for what seems to be a much smaller settlement: that of period IIIa.

Not long after 360 A.D. we hear that coastal barbarians were again raiding the Empire. Are there any indications that around that date our regions were going through another period more turbulent than usual?

One can point to two hoards: Kopstukken (Magnentius and Decentius) and the somewhat uncertain one from Anlo (Constans). The solidus of Constans from Eleveld may also be mentioned here. The solidi of Valentinianus, Valens and later emperors are more consistent with the events around 400 A.D.

If the finds from Anlo, Kopstukken and Eleveld may really be taken to testify to some disturbance about 360 A.D., this was apparently restricted to the south-eastern part of Drente. There are no signs of trouble in the clay districts. It seems that this time the south-eastern corner of the coastal area became involved in what had happened further to the south and south-east between Upper Ems and Weser and

along the Lower Rhine (Magnentius hoard of Wageningen).<sup>21</sup> At Wijster the confusion is perhaps registered by the transition of period IIIb to IIIc, but the exact date of this transition is not well-established. There is no reason to accept that an unusual state of affairs prevailed along the whole of the Dutch coastal area. In this case the state of the Empire itself is solely responsible for the renewal of the Saxon raids.

After the restoration of the western part of the Empire by Valentinianus I, coin finds suggest a change in the relations between the northern part of this country and Rome. A comparison between the composition of the numismatic complex from Brabant and the northern provinces<sup>22</sup> shows that during the 2<sup>nd</sup> century when relations were the most peaceful the North received disproportionately more silver (Brabant AR : AE = ca. 1 : 3; northern provinces AR : AE = ca. 2 : 3; AV is rare in Brabant and absent in the North). As in this period of peace the contacts must have been mainly by way of trade, we may deduce that silver was used preferably for foreign trade, while the copper currency for local use is understandably much less common outside the frontiers than within.

In the years between 193 and 282 A.D. the proportions are about the same in the regions compared (AR : AE = ca. 4 : 1; AV rare). In this situation one may perhaps recognize a confirmation of the hostile contacts (raids) known from the historical sources. The barbarians, so to speak, just appropriated a part of the coins they found in circulation within the Empire. Absolute numbers are very small in the North, probably because only a small part of the loot was filtered-off into the homeland, for we have seen that this time some of the coastal people stayed within the Empire.

Stray coins of the first half of the 4<sup>th</sup> century are rarely found in the northern provinces, which suggests that there was not much contact during these years. In the 4<sup>th</sup> century the North received an enormous disproportion of gold (Brabant AV : AR + AE = 1 : 60; northern provinces AV : AR + AE = 4 : 3!). This is especially true for the period after Valentinianus. Of a total of twelve gold coins, dating to the period between 282 and 400 A.D., nine are solidi of Valentinianus (2), Valens (2), Gratianus, Theodosius or Valentinianus II, Arcadius (2) and Honorius. The identical emperors are represented in the famous Beilen hoard, the coin part of which consists of solidi only.

This very selective coin import which covers all three northern provinces (Friesland 6 solidi; Groningen 2 solidi; Drente 1 solidus and the Beilen hoard) has been explained as reflecting the efforts of the Roman government to buy the friendship of the barbarians outside the frontiers. The composition of the Beilen hoard is in itself a sensitive register of the smallest fluctuations of these diplomatic contacts between Roman Empire and barbarian chief.<sup>23</sup>

The panegyric of 289 A.D. to Maximianus mentions the Chaibones and Heruli as being among the enemies of the emperor, and this inspired De Boone<sup>24</sup> to assume a movement of tribes from north-east to south-west along the coast. From their

respective homelands, the neck of the Jutland peninsula (if the Chaibones are really Tacitus' Aviones) and the shores of the Baltic, these tribes would have moved along the Dutch coast and settled west or south-west of the Betuwe shortly before 286 A.D. The precise route they followed (by land, or more probably by sea) is, however, unknown. They may have travelled through the Frisian section of the coast and in that case aggravated an already unpleasant situation, but the historical evidence is insufficient to accept that their trek had long-term effects. Nor has archaeology anything to offer in support of such a view.

## B. THE INLAND PEOPLES

So far we have only been concerned with the barbarians of the Dutch coastal regions. There were, however, other peoples also called Franks, living further inland in the middle of this country, whose fate became tightly interwoven with the history of the north-western part of the Empire during the 3<sup>rd</sup> and 4<sup>th</sup> centuries.

Ancient Batavia, the Betuwe, was an area under ceaseless pressure exerted by tribes from across the Rhine. It is probable that Postumus settled Frankish *laeti* there;<sup>25</sup> these might have been Chamavi from the Veluwe. Since about 100 A.D. this tribe had been dwelling north of the Rhine where they had arrived from further east;<sup>26</sup> in Late-Roman times it is described as belonging to the Franks. Constantius Chlorus fought them in Batavia and resettled the intruders, at least some of them, elsewhere, near Amiens and Beauvais. Constantinus I does not seem to have added to the measures taken by his father, as far as the Chamavi were concerned. Those still present acquiesced in their subjection. It is even probable that the defence of the Lower Rhine frontier west of Nijmegen had already been committed to Franks.

The pressure continued at this point during the first half of the 4<sup>th</sup> century also, when, as far as we can see, the coastal peoples were causing less trouble. Around 340 A.D. Constans probably waged war in Batavia; he is thought to have concluded the war by making concessions. This probably meant the introduction of new Franks into this region and there is a good reason to suppose that these Franks were Salii, but they may have arrived somewhat earlier.<sup>27</sup> We agree with De Boon that Salland is the most plausible starting place of these Salii.

When forcing a way for his corn fleet Julianus had to deal with Salii and Chamavi. A conflict had arisen between the two tribes: both claimed the possession of the same area. The Chamavi had driven the Salii southwards towards Toxandria (lower Diese region) and occupied their territory in Batavia. Julianus ejected the Chamavi and allowed the Salii to stay. One gets the impression that Julianus came to the defence of the Salii, because they had already concluded a federate-treaty.<sup>28</sup> The disturbances of this period in the lower Diese region are obviously reflected by the

decrease of coin finds between 350 and 364 A.D.<sup>29</sup> Perhaps the hoards from Anlo and Kopstukken are to be connected with the difficulties between Salii and Chamavi (*vide* p. 546-7).

The Chamavi were not conclusively defeated and probably caused Valentinianus to send his general Theodosius to campaign in Batavia, between the rivers Rhine and Waal.<sup>30</sup>

Valentinianus restored the Rhine frontier and a short period of rest followed. The defence of the Lower Rhine section of the frontier may have been entrusted for the greater part to the Salian Franks, who by that time were settled in the Betuwe and the adjacent parts of Brabant. A process of a certain degree of re-romanization probably started, but on the whole the typically provincial-Roman way of life had been pushed back to the regions south of the line Boulogne-Cologne. Culturally the Salii may not have differed greatly from their kinsmen on the other side of the frontier. Unfortunately, up to the present time no Frankish settlements have been discovered within the north-western part of the Empire.

The situation was again thrown out of balance by the usurpation of Magnus Maximus. Arbogastes, a general in the army of Valentinianus II and a Frank himself, saw fit for some reason to cross the Rhine and lay waste the lands of Bructeri and Chamavi. It is remarkable that in this context the name of the Amsivarii, whose homeland was situated along the lower Ems,<sup>31</sup> is also mentioned!

From then onwards until the end of the century we do not hear of any unrest in the regions concerning us here.

These historical data allow one obvious conclusion. Unlike their neighbours of the sea coast, the Franks dwelling in the central part of this country succeeded in penetrating into the adjacent Roman territory and stayed there. This penetration of Frankish elements started as early as the reign of Postumus. Somewhere during the first half of the 4<sup>th</sup> century the Betuwe became a bone of contention between Chamavi and Salii. From about 360 A.D. onwards the latter are in virtually unthreatened possession of the region in question and had already started to extend their influence southwards.

It is remarkable that as soon as a Frank crossed the border, he became a "Roman", and was prepared to die in the defence of the Empire's frontiers. The fact that he was only prepared to do so because he was fighting for his own new land is, of course, not a new idea.

All this meant that at the end of the 3<sup>rd</sup> and especially during the 4<sup>th</sup> century the extreme north-western corner of the Empire was in a curious state. Whenever the central government was able to show some strength, the Lower Rhine was maintained as the Empire's frontier, not only for reason of prestige, but because, as the efforts of Julianus show, it was essential to safeguard the line of communication between Britannia and the Upper Rhine region. The lower course of this river, how-



ever, was not a cultural boundary. It is difficult to judge to what extent the newcomers became romanized, but it can be safely assumed that there was little opportunity for the development of marked cultural differences between them and their kinsmen across the border. No stronghold of provincial-Roman culture was left in the region concerned. There probably was continuity of settlement at Nijmegen, but the 4<sup>th</sup> century cemetery there reveals Frankish features.<sup>32</sup>

The federate Salii were prepared to fight, but they surely preferred to be left in peace. For this reason they would be only too eager to subscribe to the policy of the central government, which consisted in buying off barbarian attacks rather than fighting them. For the enforcement of this policy, which seems to have been used to good purpose especially by Valentinianus and his successors, the Salii were the perfect go-between, connected as they were with their relatives in Free Germany by linguistic, cultural and no doubt close personal ties. Also in this respect the interests of Roman government and Frankish settlers ran parallel. If one did not already know from archaeological sources of this close contact between the barbarians inside and outside the north-western part of the Empire during the 4<sup>th</sup> century, one would have to postulate it.

On the other hand, by the same course of events the barbarians dwelling on the Veluwe and in Overijssel (Salland), and also those in the regions east of these areas, had gravitated towards this nearby part of the Empire. By the repeated infiltration of elements out of these regions into Batavia, a drain southward had come into existence. This is most satisfactorily confirmed by the appearance of Amsivarii along with Chamavi and Bructeri among the enemies of Arbogastes. Beck reports a *West-orientierung* of the Bructeri in the 4<sup>th</sup> and 5<sup>th</sup> centuries.<sup>33</sup>

Archaeological evidence of settlement in Overijssel and on the Veluwe during the Roman period is scanty, but this is doubtless due to lack of research.

Settlement traces have been found at Wageningen,<sup>34</sup> Ermelo,<sup>35</sup> Kootwijk,<sup>36</sup> Dalfsen and environment,<sup>37</sup> Losser<sup>38</sup> and Weerselo.<sup>39</sup> The military camp near Ermelo, excavated by Holwerda,<sup>40</sup> is brought into relation with the campaign of Constantius Chlorus.<sup>41</sup> It is difficult to establish the exact date of these settlements. They started somewhere in the Early-Roman period and continued into the Late-Roman period; Dalfsen was abandoned not long after 400 A.D. The same date is recorded for the settlement of Westick.<sup>42</sup>

Archaeology supplies more than adequate proof of close contacts across the Lower Rhine frontier. They become especially clear in the later 4<sup>th</sup> and early 5<sup>th</sup> centuries. In several studies Werner has mapped the distribution of several types of objects which are all roughly datable to the years between 350 and 425–50 A.D. and were manufactured in Northern Gaul, most of them in the Entre-Sambre-et-Meuse area.

Into this category fall different types of *Armbrustfibeln mit Stützarm*,<sup>43</sup> *tutulus*-brooches,<sup>44</sup> buckles and other parts of broad military belts,<sup>45</sup> hairpins with faceted

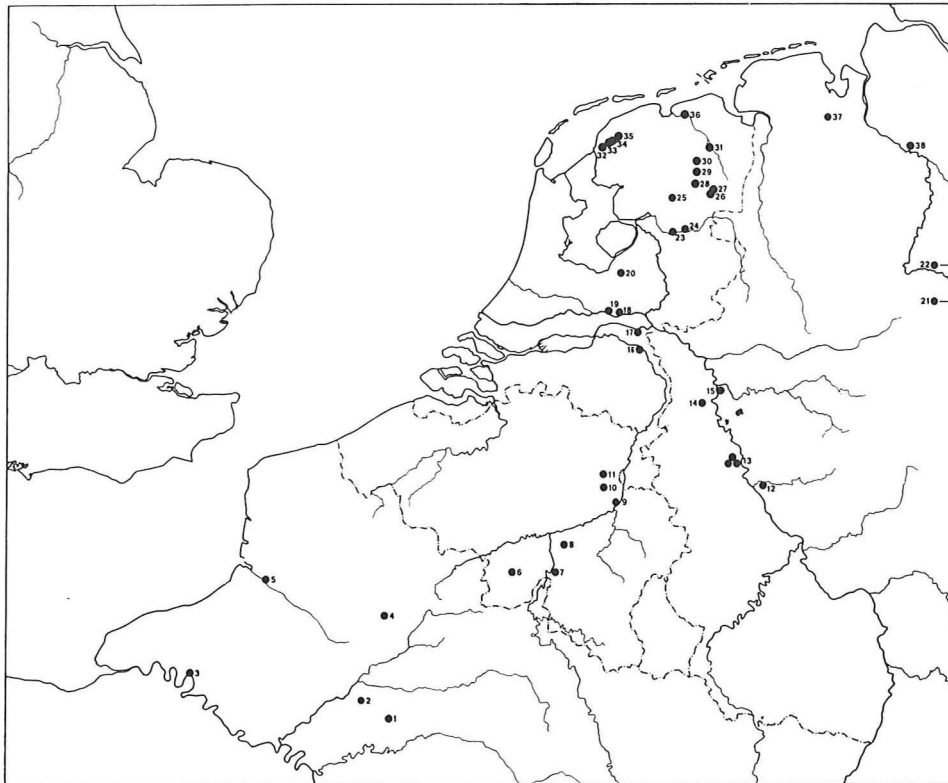


Fig. 288. Distribution of terra nigra-like cups of type Chenet 342.

1: Chouy, 2: Champlieu, 3: Rouen, 4: Vermand?, 5: Abbeville-Homblières, 6: Jamiolle, 7: Furfooz, 8: Samson, 9: Herstal, 10: Tongeren, 11: Bilsen, 12: Schwarzhof, 13: Köln-St. Severin, 13: Köln-Müngersdorf, 13: Köln, 14: Krefeld-Gellep, 15: Duisburg, 16: Cuyk, 17: Nijmegen, 18: Wageningen, 19: Rhenen, 20: Garderen, Beumelerberg, 21: Gielde?, 22: Klein Buddenstedt, 23: Dalfsen, 24: Varsen, 25: Rhee, settlement, 26: Aalden, cemetery, 27: Zweelo, cemetery, 28: Wijster, 29: Hooghalen, 30: Peelo, 31: Zuidlaren, 32: Arum?, 33: Tzum, *terp* De Botertobbe?, 34: Tzum, *terp* De Parel, 35: Dronrijp, *terp* Hatsum II?, 36: Brillerij, 37: Gristede?, 38: Mahndorf.

ornament<sup>46</sup> and the glass cups of Helle type.<sup>47</sup> Small contributions to some of Werner's maps can be made for the Dutch regions: *e.g.* the Helle cups from Dalfsen<sup>48</sup> and Wijster, the hairpins from Cuyk, the river Meuse near Alem and Maren, Rossum (RMO), Mahndorf?, Loxstedt and Torino? (*vide* our map Fig. 289) and a thorough search would certainly reveal more. In this connection mention should also be made of the poor relations of the *Stützarmfibeln*, those having a flat bow and no *Stützarm*.<sup>49</sup> The picture can be completed by Late-Roman glass of other types different from the Helle one, and Late-Roman pottery (*vide* our map Fig. 288: type Chenet 342).



Fig. 289. Distribution of hairpins with faceted ornament. For the greater part after Werner 1962, Abb. 2.

1: Fel, 2: Muids, 3: Villers-sous-Erquy, 4: Fécamp, 5: Verman, 6: Tongeren, 7: Venlo, 8: Krefeld-Gellep, 9 and 10: Erin, 11: Westick, 12: Rossum, 13: River Meuse near Alem, 14: Lith, 15: River Meuse near Maren, 16: Bergharen?, 17: Cuyk, 18: Lippspringe, 19: Ommeren, 20: Rhenen, 21: Werste, 22: Dalfsen, 23: Wijster, 24: Mahndorf?, 25: Feerwerd, 26: Loxstedt, 27: Westerwanna.

The distribution pattern of all these objects shows the same features. They are found in Northern Gaul, along the Middle Rhine, sometimes with offshoots to the Upper Rhine, Danube and Italy; a concentration is always present along the Lower Rhine in the Nijmegen-Wageningen-Rhenen area and Noord-Brabant. Outside the Empire one finds a concentration in the region between Lower Elbe and Weser. Lower Rhine and Elbe-Weser areas are joined by a scatter of dots spread over the sandy soils of Central and Eastern Holland and Oldenburg. That in these latter region the number of finds remains relatively small, again only reflects a *Forschungslücke*. Another road running from the Lower Rhine into Free Germany is marked by the objects found along the river Lippe.

A most curious feature of these distribution patterns is the almost complete absence of finds along the coasts of Holland and North-west Germany between Ems and Weser. The whole situation presents a strong contrast with the preceding Early-Roman period. The bulk of Early-Roman imports came from the coast (best known are terra sigillata<sup>50</sup> and coins,<sup>51</sup> but there are also other objects: *e.g.* enamelled brooches), while in the inland regions such finds are much more scarce. In Drente, one gets the impression that the imports which penetrated thither filtered through from the *terp* area. In the Late-Roman period the interior regions get the larger share. This does not imply that the coastal districts did not have any Late-Roman imports at all. One can point to the sigillata from the Argonne region some of which, at least, date from the first half of the 5<sup>th</sup> century;<sup>52</sup> there are some Mayen sherds<sup>53</sup> and there are the coins. However, compared with the Early-Roman period, the import to the coastal regions shows a marked decrease in the 3<sup>rd</sup> and 4<sup>th</sup> centuries, whereas for the central and eastern parts of this country the Late-Roman centuries in this respect signified a golden age.

Judging from the coins, this change took place on the coast during the first three quarters of the 3<sup>rd</sup> century. From the end of the 2<sup>nd</sup> century onwards the contacts with the Empire became increasingly tenuous and after a period of transition the end of the 3<sup>rd</sup> century with its many disturbances brought a sharp break.

It is less easy to define the exact date at which the richer flow of imports reached the interior of the country. Up to the present time, research has concentrated upon metal objects and these indicate a peak in the late 4<sup>th</sup> and early 5<sup>th</sup> centuries. Given the historical situation (Valentinianus' restoration; settlement of the Salii) this is very plausible indeed, but the beginning of the evolution may lie even earlier. With the exception of some types of earthen ware and the glass cups of Helle type, the Late-Roman pottery and glass found in the region under discussion (Dalfsen, Wijster) cannot be limited to the closing years of the Roman period. This is partly due to the difficulty of affixing an accurate date to this material, but some of it at least must still have been imported during the 3<sup>rd</sup> century. The settlement of period II at Wijster had already received Roman pottery. A comparable situation presents itself at Westick, the settlement in the territory of the Bructeri, which shows a striking similarity in this and other respects to the Wijster village. Beck<sup>54</sup> tells us that Westick first received imports at the end of the 2<sup>nd</sup> century, the 3<sup>rd</sup> is less well represented (but evidence has been found); the whole of the 4<sup>th</sup> and the early 5<sup>th</sup> century constituted the flourishing period. Nor can it be pure coincidence that among the few coins known from the province of Overijssel there are no less than three of Postumus.<sup>55</sup> We may conclude therefore that the stream of Roman imports to the Central and Eastern Dutch provinces started to flow during the 3<sup>rd</sup> century, but reached full force during the 4<sup>th</sup> century.

These changes in the distribution of Roman exports reflect a change in the relation

between the north-western parts of Free Germany and Northern Gaul. In fact they reflect the change that took place in the conditions not only of the Empire itself but also in those of the Franks, on the coast as well as inland, who on the one hand were dependant on the Empire and on the other determined its fate.

When during the greater part of the 2<sup>nd</sup> century Rome was strong, she chose to establish relations with the barbarians outside her frontiers as a matter of deliberate policy. Outside and inside the Empire peace prevailed. In the provinces, industry prospered and its products crossed the borders by way of trade. At this time, the peoples on the coast of the North Sea had an advantage because their territory was situated along the water routes and because of their nautical abilities. When the Empire began to topple, industry immediately suffered. By using their talents in piracy instead of in trade, the coastal Franks bit the hand that fed them. Hard pressed by the deterioration of the physical conditions in their own country they tried to enter the empire around 250 A.D., but were repulsed. Moreover, the regions to which they were moving, south of the mouth of the Rhine and the area around the Scheldt, were themselves suffering from the sea encroachment. Elsewhere they could not find a gap, because the Chamavi and Salii were exerting a constant pressure from Veluwe and Salland and as soon as the Salii had gained access to the Empire they showed themselves to be faithful defenders of their "Roman" territory. The lower Rhine frontier paradoxically enough preserved its military importance but culturally it had become non-existent. A route across the Veluwe and through Overijssel connected the extreme northern part of the Empire to the regions between lower Elbe and Weser, and cultural uniformity was carried along this route. That many objects were manufactured in provincial-Roman factories should not blind us to the fact that the ideas were often Germanic (fashion of dressing: brooches; burial rites: N.-S. inhumation, grave-gifts). De Boone quotes a passage from the panegyricus of 297 A.D.<sup>56</sup> which shows that barbarian hairstyle and clothes had already found imitators in the province.

Another indication of close cultural contact is given by the wooden wells with their elaborate construction as found at Wijster (Fig. 48-51). The same type of well with notched balks bracing the vertical cornerposts also occurs at Roden in Drente (Early Middle Ages?).<sup>57</sup> Another well was excavated by Braat in 1933 near Wierden in Overijssel,<sup>58</sup> but that one is much later (10<sup>th</sup> century). The wells found at Naestved in Denmark<sup>59</sup> may be of about the same date. Earlier specimens are known on Belgian soil: Thielrode,<sup>60</sup> Temse,<sup>61</sup> Destelbergen,<sup>62</sup> Steendorp,<sup>63</sup> Assche.<sup>64</sup> These Belgian wells belong to the Roman period; the one at Destelbergen is dated to the end of the 2<sup>nd</sup> or the beginning of the 3<sup>rd</sup> century. The characteristic construction is unlikely to have been invented at several places independently. The type seems to be provincial-Roman. The Destelbergen well precedes the beginning of strong Germanic influence.

It is remarkable, however, that the Belgian wells are all situated along the lower Scheldt in the province of Oost-Vlaanderen, *i.e.* in the region which was probably the first to be struck by the late 2<sup>nd</sup> century raids,<sup>65</sup> so that an early Germanic influence here is theoretically possible. The wells discovered so far on Germanic territory belong to a later period. At Wijster this type of well was introduced at the earliest in period II during the 3<sup>rd</sup> century. Another argument favouring the Roman origin of the type is the fact that some of the Wijster wells, including those at Wierden and Roden, are clearly degenerate constructions. A still more convincing example of the exportation of Roman ideas to Free Germany is provided by the Beilen hoard. Its possessor was an educated man who could read Latin and was conversant with the politics of his day.<sup>66</sup>

As we have seen, this exchange of ideas and objects reflects a situation completely different from that of the preceding period, which had been dominated by trade. As far as the Dutch part of Free Germany is concerned, the accent now falls upon a different region. The new relationship came into being as a result of the settlement in Batavia of Franks from the eastern Dutch provinces and of the threat to the old water-routes by the coastal barbarians.

The way, however, in which objects from Northern Gaul were exported to Germania in this period is not completely clear. It may very well have been complex. It is probable that there was still some trade; other objects may have been looted or brought back by Franks who returned to their homeland after having lived within the Empire for some time, perhaps having served in the army; many objects would have been sent as presents to people at home, letting them share in the new prosperity and so keeping them contented; gold was despatched through official channels to buy the friendship of local chiefs.

The 3<sup>rd</sup> and 4<sup>th</sup> centuries in the Eastern Dutch provinces were not only a time of wassailing and drinking wine from provincial-Roman cups. The historical sources provide circumstantial but conclusive evidence that it was also a period of migration. This can, however, not yet be traced in archaeological records, since such records concerning this region are virtually non-existent.

During the Late-Roman period the situation in the coastal zone and in the inland sandy regions developed along different lines: the population of the latter areas was definitely in a more favourable position and thus achieved more permanent results. The question requiring an answer is in which of the two sequences of events did the village of Wijster play its part? In our opinion, the answer must be – in both.

The first settlement at our site represents the last wave of the demographic explosion in the *terp* areas.

Also the population of the settlement of period II almost certainly came from the clay district or its marginal zones. Nevertheless, its architecture shows that it

already had contacts with the south. Roman imports also indicate that a connection with the south was already in operation.

The transition of period II to III can be seen against the turbulent background which existed in the coastal regions as the result of the Late-Roman transgression combined with the closure of the Rhine frontier to the coastal peoples. As at this time there seems to be a decrease in the population of Wijster, it is possible that part of the inhabitants marched south. The gateway leading into Batavia had already been opened.

In the course of the 4<sup>th</sup> century, in spite of perhaps some local disturbance (Anlo, Kopstukken)<sup>67</sup> the settlement flourished. In period III it reached its greatest and most sophisticated lay-out. At first sight, the wealth of Roman imports is quite amazing during this late period and can only be explained if it is assumed that our village lay along the route connecting Batavia with the lower Elbe. Its days of affluence coincided with the restoration effected by Valentinianus, when, for the last time, the Empire found sufficient strength to be active outside its frontiers.

One of the channels through which this activity undoubtedly operated was a route running across Gelderland and Overijssel. A land route is one of the possibilities, but the rivers IJssel and Vecht cannot be excluded. Through the gap in the moors near Coevorden easy access could be gained to South-eastern Drente. Another probable route is via the IJssel-Beiler Stroom to the area of Emmen, from where already in the Early-Roman period roads led across the peat into the Hümmling.<sup>68</sup> Was it upon this route that the importance of Wijster depended?

It seems that Valentinianus and his successors had also contacts with the coastal regions. Gold coins of this period have been discovered in Groningen and Friesland, but the only hoard was found near Beilen. It would seem that the population of the Wijster area was considered a formidable enemy but a desirable ally.

## NOTES

- <sup>1</sup> De Boone 1954.
- <sup>2</sup> De Boone 1954, 113, note 764.
- <sup>3</sup> De Boone 1954, 115.
- <sup>4</sup> De Boone 1954, 130, note 880.
- <sup>5</sup> Myres 1951, 241.
- <sup>6</sup> Hawkes & Dunning 1961; 1962–3.
- <sup>7</sup> Cf. Myres 1951, 224.
- <sup>8</sup> Hawkes & Dunning 1961, 20.
- <sup>9</sup> Hawkes & Dunning 1961, 33–4.
- <sup>10</sup> De Boone 1954, 33, 37–9; De Maeyer 1937, 289.
- <sup>11</sup> Myres 1948.
- <sup>12</sup> De Boone 1954, 29, 45–6, 61.
- <sup>13</sup> Byvanck 1931–47, I, 275: Tacitus Annales XI, 18.
- <sup>14</sup> Byvanck 1931–47, I, 278: Tacitus Annales XIII, 54.
- <sup>15</sup> De Boone 1954, 46.
- <sup>16</sup> Van Es 1960, 104.
- <sup>17</sup> Verslag GM 1964.
- <sup>18</sup> Van Es 1959.
- <sup>19</sup> Boersma 1963.
- <sup>20</sup> De Maeyer 1937, 289.
- <sup>21</sup> De Boone 1954, map 11.
- <sup>22</sup> Boersma 1963, 15, 18, 20.
- <sup>23</sup> Zadoks 1955, 107–8; Van Es 1960, 57–8.
- <sup>24</sup> De Boone 1954, 50–3.
- <sup>25</sup> De Boone 1954, 36.
- <sup>26</sup> De Boone 1954, 76; cf. Byvanck 1943, 91.
- <sup>27</sup> De Boone 1954, 72, 82.
- <sup>28</sup> De Boone 1954, 91.
- <sup>29</sup> Boersma 1963, 62.
- <sup>30</sup> De Boone 1954, 102–3.
- <sup>31</sup> Byvanck 1943, 91.
- <sup>32</sup> Brunsting 1952.
- <sup>33</sup> Beck 1959, 18.
- <sup>34</sup> Van Es 1964 (1).
- <sup>35</sup> Van Sprang 1962–3; 1963; cf. Van Es 1965 (2).
- <sup>36</sup> Van Es 1965 (3).
- <sup>37</sup> Van Beek & Van Es 1964; Van Beek 1965.
- <sup>38</sup> Byvanck 1931–47, III, 175.
- <sup>39</sup> De Boone 1954, 39–40.
- <sup>40</sup> Holwerda 1923 (2).
- <sup>41</sup> De Boone 1954, 60–1.
- <sup>42</sup> Beck 1959, 15.
- <sup>43</sup> The 4<sup>th</sup> century types: Werner 1950–1, Karte 7; the early 5<sup>th</sup> century ones: Werner 1958, Abb. 7 (Karte 1).
- <sup>44</sup> Werner 1950–1, Karte 6.
- <sup>45</sup> Werner 1958, Abb. 14, 15; Werner in: Breuer & Roosens 1957, 26; cf. Hawkes & Dunning 1961, Fig. 3.
- <sup>46</sup> Werner 1962, Abb. 2.
- <sup>47</sup> Werner 1958, Abb. 13.
- <sup>48</sup> Van Beek 1961, Fig. 7.



- <sup>49</sup> Genrich 1951-2; Van Es 1964 (1), 280-1.  
<sup>50</sup> Boeles 1951; Glasbergen 1940-4; 1945; Eggers 1951.  
<sup>51</sup> Van Es 1960.  
<sup>52</sup> Boeles 1951, 167-71; Breuer & Roosens 1957, 241-8, Fig. 21.  
<sup>53</sup> Waterbolk 1961 (2).  
<sup>54</sup> Beck 1959, 15-6.  
<sup>55</sup> Ootmarsum (AE), Weerselo (AR), Ommen (AV!): Byvanck 1931-47, III, 175-6.  
<sup>56</sup> De Boone 1954, 60.  
<sup>57</sup> Van Es 1965 (4).  
<sup>58</sup> Braat 1935.  
<sup>59</sup> Skov 1959, 68.  
<sup>60</sup> De Loë 1937, 54.  
<sup>61</sup> Mertens 1957.  
<sup>62</sup> De Laet, Van Doorselaer & Spitaels 1965, 10-1.  
<sup>63</sup> Van Raemdonck 1878, 130-1, Pl. 8.  
<sup>64</sup> Willemsen & De Pauw 1907, 198.  
<sup>65</sup> De Maeyer 1937, 287-9.  
<sup>66</sup> Zadoks 1955.  
<sup>67</sup> The hoards of Anlo and Kopstukken might represent a repercussion of the troubles between Salii and Chamavi around 350 A.D. This in itself would prove that the fate of Eastern Drente was dependent upon the events concerning Batavia.  
<sup>68</sup> Van Es 1960, 45.

## CHAPTER XXVI

### THE FIRST HALF OF THE 5<sup>TH</sup> CENTURY: THE FINAL PHASE

The fate of the western part of the Empire was decided on the last night of 406 A.D. Barbarian hoards poured across the Rhine near Mainz and overran the greater part of Gaul. The Salian territory, however, in the extreme northern corner was spared. By making common cause with the usurper Constantinus III, who had come from England to Boulogne, the Franks stood their ground. Constantinus was able to restore peace along the Rhine.

Around 410 A.D., we hear for a short time again of renewed raids from across the Rhine. The Britons and some peoples in Gaul were left alone (Constantinus III was in Southern Gaul) to manage their own affairs. They became independant.<sup>1</sup> If, as De Boone supposes, the Salian Franks were among these “peoples in Gaul”, this probably means that a certain degree of disturbance existed in the eastern Dutch provinces along with infiltrations of new elements from there into Batavia. The coin-hoard of Hapert closing between 400 and 408 A.D. might be connected with these events.<sup>2</sup> However, no details are known and we can only make a guess.

Werner<sup>3</sup> attributes special importance to the episodic appearance of Constantinus III. This emperor, he thinks, recruited his troops indiscriminately from both inside and outside the frontier. In his opinion the frontier had been abolished; the gold coins of Constantinus and Jovinus found in Free Germany represent *Anwerbegelder und Soldzahlungen*, whereas earlier coins have to be considered *tributartige Foederaten Zahlungen*, but to us it seems questionable whether there is sufficient reason to assume direct recruitment of troops in Germania outside the border.

It is beyond doubt that the Franks who allied themselves with Constantinus were those who had already settled within the Empire a considerable time before. As the events of 406/7 A.D. show, these Franks, the Salii among them, were determined to keep the Rhine frontier intact instead of opening it. The reason of their association with Constantinus was directly motivated by their intention to restore and defend this frontier. If the troubles of 410 A.D., referred to above, indeed also concerned the southern part of this country, which is more than likely, the Salii living in these regions acted independently and managed to survive

unaided. They probably agreed to allow the establishment of some of the intruders within their territory, but they would certainly not have allied themselves with someone who was prepared to pay money to bring in those they were striving to keep out. An explanation better fitted to the political constellation is that the money exported to Germania at this time was intended to propitiate possible adversaries and to buy off their attacks (*tributartige Foederaten Zahlungen*) in the same way, as had been done before. Also in that case, the residence of a *regulus* is the natural place to expect to find a hoard like the one of Gross-Bodungen; and it is tempting to compare the situation of the Beilen hoard found not far from our village, which at this period had a relatively large population. Moreover, the distribution pattern of the stray solidi and hoards<sup>1</sup> mapped by Werner<sup>5</sup> presents exactly the same features as that of the 4<sup>th</sup> century exports (*e.g.* Late-Roman pottery). The gold is found along the Lippe and north of Batavia in Gelderland, Overijssel and Drente. This pattern emerges even more clearly if the hoards of Beilen type consisting of coins and gold neck-rings, or only of the latter, are also taken into consideration. These neck-rings which, with one exception, occur only outside Roman territory and were badges of rank of Germanic chiefs,<sup>6</sup> were probably made from melted solidi. In addition to the Velp hoard of 1715, we have a second find at Velp and also those at Rhenen, Olst and Beilen.<sup>7</sup> In the case of the Beilen hoard the melted solidi had almost certainly been made earlier than Constantinus III, but as the Dortmund hoard (closing with Constantinus) also contains three neck-rings of the type in question, it cannot be excluded that some or all of the ornaments in the finds at Velp, Rhenen and Olst had been manufactured from coins exported during the first decade of the 5<sup>th</sup> century. At the earliest the ornaments could only have been made at the very end of the 4<sup>th</sup> century and their distribution testifies to the importance which the Eastern Dutch provinces held for the Empire until the end. The distribution of the indisputably early 5<sup>th</sup> century coins and hoards does not suggest a change.

Also the uniformity of the contents of the warrior graves of Vieuxville, Tournai, Mainz, Kostheim, Nijmegen, Helle and Looveen (Wijster) assembled by Werner proves that the cultural unification of Northern Gaul and North-western Germany continued into the early 5<sup>th</sup> century. These graves can only be dated to within the first half of the 5<sup>th</sup> century; the one at Vieuxville, however, can be dated with more precision by means of the mint-condition of the coins of Constantinus and Jovinus to the reign of the latter (411–3 A.D.). There appears to be a possibility that the Looveen grave belongs to the late 4<sup>th</sup> century. It is probable that those of these warriors who lie buried in the graves found within the frontiers of the Empire played a role in the events in Northern Gaul during the first decades of the 5<sup>th</sup> century. There is, however, no shadow of evidence that the warriors of Looveen or Helle saw service within the Empire. They were people of some rank and standing buried with their personal belongings. That these included imports from provincial-Roman territory,

is not surprising considering the close contacts existing at that time between the Empire and the part of Free Germany concerned. The similarities in dress and apparel inside and outside the Empire once more demonstrate the closeness of these contacts.

For the next forty years until the middle of the century we have no historical evidence that the Frankish territory in the southern part of this country was threatened from the north. Apparently, the Salii were able to keep their northern frontier intact. As the power of the central government declined in Gaul, Frankish policy developed a strong southward orientation and gradually the Franks extended their territory towards the south. They turned away from the North, thus loosening the ties with their kinsmen across the Rhine.

Archaeology confirms that the situation in the Salian lands remained reasonably stable. In the Meuse region, the Late-Roman provincial industry showed a continuous evolution. The evidence supplied by a cemetery such as that of Hailot also testifies to continuity during the 5<sup>th</sup> century. For our purpose it is of importance to point to the uninterrupted evolution of the grave-fields of Rhenen and Wageningen from the late 4<sup>th</sup> century onwards. These cemeteries situated just across the Rhine in the region which may be considered the gateway into Batavia thereby demonstrate that no serious disturbances occurred here either. In the course of the second quarter of this century, the centre of pressure between Elbe and Weser, moreover, ceased to exist.

As could be expected, the export from Northern Gaul to Eastern Holland stopped in the course of the first half of the 5<sup>th</sup> century. This may have been around 425 A.D. or even rather earlier, shortly after the actions of Constantinus III. The latest hoard we have is the one at Velp discovered in 1715, which closes around 430 A.D., and comes from the border of the Salian territory. The unique situation which had caused the temporary importance of the Eastern Dutch provinces no longer existed and these regions lapsed into their former position of relative insignificance.

Above we mentioned the Eastern Dutch hoards from Beilen, Olst, Velp II and Rhenen which consist of or contain gold neck-rings. It is probable that these ornaments were made somewhere in Free Germany from melted solidi.<sup>8</sup> The coins found together with the neck-rings in the hoards of Beilen and Dortmund indicate that in this connection one has to think of solidi imported at the very end of the 4<sup>th</sup> or during the early years of the 5<sup>th</sup> century. Thus, even those hoards which do not contain any coins at all, may still be considered as "coin"-hoards. But the question remains: when were they deposited?

The Beilen hoard closes with a 394/5 emission of Honorius, but precisely in this case there is absolutely no guarantee that it was hidden immediately after that date. It may well be that the coin influx to this remote spot was interrupted shortly after 395 and that this is the reason why no later coins are represented in this find. De

of the settlement can be related to the rupture in the evolution of the neighbouring cemetery. Both break off at the same moment and a long time passed before a new population, perhaps those who lived in the predecessor of the modern Wijster, took the burying-ground back into use again. The youngest interments of the first period of the cemetery, the warrior grave 116 and one or two Anglo-Saxon urns, are to be dated to somewhere in the first half of the 5<sup>th</sup> century and the youngest datable finds from the settlement belong to the same period. The date of 425 A.D. given for the end of the village and the accessory-grave field is, of course, an approximate one.

It should be stressed that the end of our village was not the only casualty. We are not surprised to see that the *terp* settlement of Feddersen Wierde ceases to exist during the same period: the Anglo-Saxon invaders of England must have come from somewhere. Nearer home, the village of Gristede also came to an end. No Roman period settlement is known to have continued its existence in Eastern Holland for long after 400 A.D. This can best be seen at Rhee and Dalfsen which were certainly still inhabited at the end of the 4<sup>th</sup> century. It still remains obscure whether the Northern Dutch *terp* area also experienced this interruption in the evolution of many of its settlements at some time during the first half of the 5<sup>th</sup> century, but one would not be surprised. If so, the inhabitants of these *terp* villages undoubtedly emigrated to England. But did the Wijster people follow suit?

Though the answer cannot be given with full certainty, we think it likely. Another possibility would be that they migrated towards Batavia, towards a region upon which their attention had been focused for at least two generations. We hear of troubles on the Rhine around 410 A.D. and some new elements may then have crossed into former Roman territory, but these troubles seem to have been of minor importance and there is no evidence of large-scale penetration. The answer depends to some extent upon the dating of the Beilen hoard and similar finds. They may be placed around 410 A.D., but the Velp I hoard suggests a somewhat later date. Their distribution points to a state of wide-spread upheaval which might in some way be a repercussion of the Anglo-Saxon migration.

For the moment this cannot be more than a working hypothesis, but as far as the Wijster settlement is concerned it does not seem to be too far-fetched to suppose that its inhabitants threw in their lot with the coastal people.

One thing is clear, however. The definite loss of the north-western provinces of the Roman Empire disturbed the balance of power as far north as the northern part of this country. Also here, the years shortly after 400 A.D. marked the end of an epoch. The disappearance of the Wijster village is an eloquent testimony to the important alteration that took place in this part of Free Germany in the first half of the 5<sup>th</sup> century.

## NOTES

<sup>1</sup> De Boone 1954, 135.

<sup>2</sup> Boersma 1963, 9.

<sup>3</sup> Werner 1958.

<sup>4</sup> It should not be forgotten that one of the three hoards found outside the border (Velp) closes after Jovinus (Catalogue FFS no. 85) and may therefore have been exported later than that emperor's reign.

<sup>5</sup> Werner 1958, Abb. 21.

<sup>6</sup> Cf. Zadoks 1955, 107.

<sup>7</sup> Waterbolk & Glasbergen 1955, 98.

<sup>8</sup> Werner 1938.

<sup>9</sup> De Boone 1954, 131.

<sup>10</sup> De Boone 1954, 220.

<sup>11</sup> De Boone 1954, 222, 224.

<sup>12</sup> De Boone 1954, 222, 224.

<sup>13</sup> Myres 1951.

<sup>14</sup> Cf. Sipma 1953.

<sup>15</sup> Tischler 1954 (1956), 104-13.

<sup>16</sup> *Vide* Guyan 1952.

<sup>17</sup> Boeles 1951, Fig. 46b.

<sup>18</sup> Waterbolk 1961 (2).

<sup>19</sup> Van Giffen 1936-40.

<sup>20</sup> Myres 1948.

<sup>21</sup> Boeles 1951, 502-3; Van Es 1960, 118-9.

## APPENDIX I

W.VAN ZEIST

### A PALAEOBOTANICAL STUDY OF THE WIJSTER SETTLEMENT

The palaeobotanical investigation of the Wijster settlement comprises the following aspects:

1. Wood identification of a number of objects. The results of the identifications have been mentioned by Van Es in the description of the objects concerned, and they will not be repeated here.<sup>1</sup>
2. Palynological investigation of a number of soil samples.
3. The investigation of a sample of carbonized grain (find no. 1239).

#### A. PALYNOLOGICAL INVESTIGATION

The following samples have been studied palynologically:

- I. Humous layer (A-1 horizon) of a heather podzol profile which was covered by drift sand (Section A1, Fig. 5). Sample I must be older than the beginning of the settlement, since the latter was situated on top of the drift sand.
- II. Humous layer (A-1 horizon) of a podzol profile, above which a layer of arable soil was present (Section C, Fig. 5). The old arable was cut by a foundation trench of the settlement.
- III. Spade mark from the westernmost field (Fig. 181, III).
- IV. Spade mark from the easternmost field (Fig. 181, IV).
- V. Humous layer on top of arable soil which must be younger than the settlement, as it cuts through post holes of the latter (Section C, Fig. 5).
- VI. Humous layer on top of arable soil (Section F, Fig. 5). In Section F, which cuts across the fields mentioned above, the spade marks could be observed at the basis of the old arable. In the old arable a distinction could be made, at least locally, between the lower layer to which the spade marks belong, and an upper layer which must be correlated stratigraphically with the old arable of sample V. Sample VI was from the top of the upper layer.

The results of the palynological investigation are represented in Table II. The values for the various pollen types are traditionally expressed as percentages of the tree pollen sum.

The heather podzol profile of sample I corresponds stratigraphically with the blown-over podzol which could be observed below the burial mounds on the Emelange, *ca.* 500 m. east of the Wijster settlement.<sup>2</sup> Consequently, the spectrum of sample I agrees well with both spectra of the lower podzol on the Emelange.<sup>3</sup> Only the *Quercus* (oak) percentage in sample I is lower than that in the corresponding Emelange spectra, but this can be the effect of a difference in pollen preservation.<sup>4</sup> Sample I has been analysed in order to serve as a basis for comparison with the stratigraphically younger samples.

As the position of sample II with respect to the settlement does not appear clearly from the section, sample III which undoubtedly belongs to the settlement will be discussed first. It would be logical to discuss samples III and IV, both from spade marks in fields from the last period of the settlement, together. However, as the pollen contents of sample IV must be considered to be abnormal to some degree, discussion of this sample will be postponed until later.

A comparison between samples I and III shows that in spectrum III the *Corylus* (hazel) percentage is lower and that for *Fagus* (beech) markedly higher than in spectrum I. Also the herbaceous percentages show considerable differences in both samples. In sample I *Calluna* (heather) constitutes by far the largest part of the non-tree pollen. In sample III, on the other hand, apart from *Calluna*, Gramineae (grasses) also show a high percentage. *Triticum*- (wheat) type pollen is relatively common, and a large number of herbs are represented.

The tree pollen percentages in samples II and III agree fairly well with each other, suggesting that the difference in time between both samples could not have been very great. Sample II shows a high percentage for grasses, while the values for *Plantago lanceolata* (ribwort plantain), *Rumex* (sorrel) and *Trifolium repens* (white clover) are relatively high, indicating that before this surface became sealed off it was used as pasture land. The presence of *Triticum*-type pollen demonstrates that agriculture must have been practised in the immediate vicinity. As the humous horizon of the podzol profile on the spot of sample II was undisturbed, there cannot have been a field there at that time. It is very likely that the human activity which is clearly reflected in the pollen contents of sample II must be ascribed to the inhabitants of the Wijster settlement.

On top of this undisturbed podzol profile, a layer of arable soil was present. As this layer was cut by a foundation trench of the settlement, there can be little doubt that it was contemporaneous with an earlier phase of the Wijster village. The fact that the podzol profile had not been disturbed by the tilling of the field suggests that cultivation there had not started before an accumulation of soil on top of the podzol



profile had taken place. It is not unlikely that the accumulation of soil on this spot was due to a local deposition of drift sand.

As for the spade mark sample IV, it is striking that in contrast to samples II and III this sample shows high percentages for *Betula* (birch), *Corylus* (hazel) and *Pinus* (pine), in consequence of which the values for the other trees are relatively low. Especially the relatively high *Pinus* percentage is very surprising. It is true that the *Corylus* percentage is not much higher than that in II and III, but without overrepresentation this value would have been only half of that in the last-named samples, as is the case with *Alnus* (alder) and *Quercus* (oak). An explanation for the abnormally high values for birch, hazel and pine must remain very hypothetical. If pollen of insect-pollinated plants was concerned, one could imagine that this had been brought into the soil by insects such as digger bees.<sup>5</sup> As birch, hazel and pine are wind-pollinated, it seems more likely that the extra pollen of these species arrived into the soil through the activity of man. In this connection it is perhaps not too absurd to ascribe the overrepresentation of the pollen types mentioned above to the effect of manuring. If the branches of these species had been used in the byre as litter, this could account for their high pollen percentages in sample IV. The fact that samples III and IV are from different fields, which would not always have been treated in the same way, could explain the difference in pollen contents of both spade mark samples. The high *Calluna* percentage in sample III could suggest that heather litter was used in the byre, although it must be kept in mind that at least a part of the *Calluna* pollen could have originated from the local heather vegetation which covered the soil before cultivation started. It should be emphasized that there are no other indications for manuring, and that only the difference in pollen contents of both spade mark samples gave occasion to this speculation.

The relatively high percentages for Cyperaceae (sedge family) in samples III and IV, as well as in samples V and VI to be discussed later, are somewhat remarkable. In samples from burial mounds Cyperaceous pollen is met with very seldom. On the dry sandy soils only a few representatives of this family are found, and these mostly in small numbers. As the Cyperaceous pollen met with in the Wijster samples is of the *Eriophorum*-type, it is most likely that this pollen originated from cotton grass which was growing on the little bog near the settlement.

Samples V and VI are distinguished from samples III and IV by, among other things, a further decrease of the *Corylus* percentages, a marked increase of *Fagus*, and the presence of *Carpinus* (hornbeam). This indicates that these samples are not inconsiderably younger than samples III and IV. The relatively high values for *Secale* provide evidence for the cultivation of rye. To all appearance this cereal crop was not cultivated in the Netherlands until the Middle Ages. The spectra of samples V and VI resemble in many respects (*Fagus*, *Carpinus*, *Corylus*, *Secale*) those of the samples from the Anglo-Saxon cemetery near Zweeloo (prov. of Drenthe), which

must be dated to the 5<sup>th</sup>–7<sup>th</sup> century A.D.<sup>6</sup> The arable soil of samples V and VI is very likely of early Mediaeval time. The marked differences in the pollen contents of the samples from the last phase of the settlement and those from the arable soil on top of the settlement suggest a hiatus in habitation at this site.

## B. THE CARBONIZED GRAIN

Sample 1239 consists of about 250 grains. The preservation is rather poor, and moreover various grains are deformed in consequence of excessive heating. Apart from a small number that could not be studied because those grains have a coating of luted sand, the whole sample could be identified as *Hordeum* (barley). The presence of asymmetrical grains points to six-row barley (*Hordeum vulgare*). Many grains show an angular cross-section while also remnants of pales could be observed in various cases, providing good evidence for hulled barley. Because of the absence of rachis internodes it could not be determined whether the dense-eared or the lax-eared variety of the hulled six-row barley is concerned here.

Of this sample 12 grains which had preserved the radicle point were selected for measurement. The results are shown in Table 1.

TABLE 1. MEASUREMENTS OF BARLEY GRAINS

	average	minimum	maximum
Length in mm.	5.9	5.1	7.1
Breadth in mm.	3.0	2.6	3.4
Thickness in mm.	2.4	2.0	2.9

The dimensions of the Wijster barley agree reasonably well with those of the hulled six-row barley found in the Dalshøj site (1<sup>st</sup> century A.D.) in Denmark.<sup>7</sup>

Apart from barley, wheat must also have been cultivated by the Wijster farmers, as may be concluded from the presence of *Triticum*-type pollen in the spade mark samples. Moreover, in the filling of the dug-out well 10, a handful of stem fragments of flax (*Linum usitatissimum*) was met with. These fragments remain after the braking of the flax stems to release the bast fibres.

VI

—  
0.6  
0.2  
5.4  
1.0  
0.2  
—  
0.8  
—  
0.2  
0.4  
3.2  
—  
0.2  
—  
0.2  
0.1  
—  
—  
0.2  
—  
0.4  
3.8  
3.0

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Beilen,  
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Society  
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## APPENDIX II

A. T. CLASON

### THE ANIMAL BONES

In the sandy lime-deficient soil on which the village of Wijster was situated, the chance was small that bones would have been preserved. In general, only the compact parts of the larger bones of the domestic cattle and horses were found. No remains of sheep, goat and dog were preserved and of the pig only two fragments were found. Of wild animals, only one femur fragment of a beaver has been found.

The few measurements that could be taken of the cattle bones (Table II) suggest that the animals were small, like the cattle found in North-western Germany.<sup>1</sup> From this period in Holland remains of larger cattle are known beside small ones.<sup>2</sup> When the cattle were slaughtered, one animal was 2-2½ years old, one approximately 3 years, and one very old; the other ones were at least three years old.

The measurements that could be taken of the horse bones (table III) also suggest animals of small size. If the proximal width (77.5) of the radius no. 1266 is compared with the width measurements of radii found by Frank<sup>3</sup> for the horses of the Celtic Oppidum near Manching in Germany, it shows that a radius with a proximal width of 77.0 has a length of 324.0 and another with proximal width 77.5 has a length of 320.0 mm. The animal from Wijster may have had a comparable height at the withers. According to Vitt,<sup>4</sup> this means a horse with a height at the withers of *ca.* 128-136 cm.

None of the horses found died before the age of five years.

#### NOTES

<sup>1</sup> Nobis 1954.

<sup>2</sup> Clason 1967.

<sup>3</sup> Frank 1962.

<sup>4</sup> Quoted by Müller 1955.

V	V	VI
3.6	52.3	53.4
3.1	7.4	11.4
5.7	14.5	10.2
2.9	10.6	10.4
2.2	0.2	—
2.9	1.0	0.2
2.2	1.5	1.6
2.3	3.0	4.4
—	1.2	1.8
2.1	—	0.4
2.8	1.2	0.8
—	—	—
—	—	—
2.0	4.7	4.8
—	1.2	0.2
—	0.5	0.2
—	—	0.2
—	0.2	—
—	0.2	—
26	405	500
2.3	86.2	26.6
—	—	0.2
2.2	8.4	28.4
2.6	171.5	131.0
2.0	1.0	1.4
—	0.5	—
—	7.7	8.0
1	—	—
7	10.6	3.8
—	—	—
3	26.9	13.2
3	1.0	1.4
6	1.0	1.4
4	1.5	1.4
3	0.7	0.4
2	25.7	3.0
1	1.7	1.0
—	0.5	—
2	1.0	1.6
2	2.0	0.2
—	—	0.8
1	—	0.8
1	—	—
3	0.5	1.8
3	3.0	2.2

TABLE I

+ Bones found in animal graves.

++ Bones found in small roundish pits.

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*Bos taurus* L. (domestic cattle)

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368	Teeth.
500	Teeth.
532	Teeth.
684	Tooth.
24 <sup>++</sup>	Maxilla with M <sup>1</sup> ; radius, proximal part.
177 <sup>++</sup>	Maxilla with fragments of teeth.
749	Maxilla with fragments of teeth.
340	Mandibula with M <sub>1</sub> M <sub>2</sub> ; humerus; femur; right and left tibia.
354	Mandibula with P <sub>4</sub> M <sub>1</sub> P <sub>2</sub> M <sub>3</sub> ; teeth.
401	Teeth from the mandibula.
599	Mandibula.
516	Mandibula.
496	Humerus.
567 <sup>+</sup>	Scapula; humerus (4 ×); radius (2 ×); ulna; femur (2 ×); patella (2 ×); tibia (6 ×); astragalus (2 ×); calcaneum (2 ×). These bones are from two individuals.
169	Radius.
178 <sup>++</sup>	Tibia.
1034 <sup>+</sup>	Fragment of the skull; tooth of the maxilla; tooth of the mandibula.
950	At least five damaged teeth from the mandibula.
1032	Right maxilla with one tooth; right and left mandibula with one tooth.
1048 <sup>+</sup>	Individual I. Three calcinized teeth from the maxilla; two teeth of the mandibula. Individual II. Skull-fragments; three teeth from the maxilla; three teeth from the mandibula.
1050 <sup>+</sup>	Seven teeth from the maxilla (P <sup>1</sup> just erupting); six teeth from the mandibula (P <sub>4</sub> just erupting).
1051 <sup>+</sup>	Four teeth from the maxilla; six teeth from the mandibula (M <sub>3</sub> is deformed).
1052 <sup>+</sup>	M <sub>3</sub> .
1054 <sup>+</sup>	Two teeth from the maxilla; one tooth of the mandibula.
1055 <sup>+</sup>	One tooth from the maxilla; three teeth from the mandibula.
1266 <sup>+</sup>	Right mandibula with P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> ; left mandibula with P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> ; six teeth from the mandibula.
1182	One tooth from the maxilla; mandibula with two teeth; fragmentary teeth.
1069	Three teeth from the maxilla; three teeth from the mandibula.
1270	Skull-fragments and six teeth from the maxilla; right mandibula with P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; left mandibula with P <sub>2</sub> P <sub>3</sub> .
1056	One tooth from the maxilla.
1293	Fragments of teeth from the maxilla and mandibula as well.
1205	One tooth.

1207	Two teeth.
1265	Small fragments of teeth.
1270a	Right humerus, distal end; right radius, proximal end; right ulna.
1270b	Scapula; vertebra.
?	Left mandibula; astragalus; calcaneum.

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*Equus caballus* L. (horse)

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400 <sup>+</sup>	Right maxilla with P <sup>4</sup> M <sup>1</sup> M <sup>2</sup> M <sup>3</sup> ; left maxilla with M <sup>2</sup> M <sup>3</sup> ; right mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; left mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; astragalus.
402 <sup>+</sup>	Right maxilla with P <sup>2</sup> P <sup>3</sup> .
474	Right P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> ; fragments of four teeth of the left maxilla; fragments of five teeth from the right mandibula; left mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> .
724 <sup>+</sup>	Left maxilla with P <sup>2</sup> P <sup>3</sup> P <sup>4</sup> M <sup>1</sup> M <sup>2</sup> M <sup>3</sup> ; fragments of four teeth of the right maxilla; right mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; five damaged teeth from the left mandibula
23	Right mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; left mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> .
1054 <sup>+</sup>	Five teeth from the mandibula.
1060 <sup>+</sup>	Five teeth from the mandibula.
3	Six teeth from the maxilla; six teeth from the mandibula.
1290b	Eleven teeth from the maxilla, ten teeth from the mandibula; fragment of a vertebra; fragment of a pelvis.
1069	Right mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> M <sub>2</sub> M <sub>3</sub> ; left mandibula with P <sub>2</sub> P <sub>3</sub> P <sub>4</sub> M <sub>1</sub> ; nine teeth from the maxilla.
1266 <sup>+</sup>	Four teeth from the mandibula; proximal part of left radius and ulna; distal part of a radius, pelvis-fragments; distal part of right tibia; astragalus, two distal fragments of a metacarpus or metatarsus.
354	Left scapula.
676	Right radius and ulna.

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Horse and/or cattle

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1979 <sup>+</sup>	Two fragments of teeth.
1053	Left humerus, distal part.
1270d	Humerus, distal part, two fragments.
1297	Right and left humerus, distal part.
1057	Femur.
1266	Tibia; pelvis fragment.

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*Sus domesticus* L. (domestic pig)

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458	Right and left P <sup>4</sup> .
193	Radius.

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*Castor fiber* L. (beaver).

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188	Left femur.
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*Homo sapiens L.* (man)1250<sup>++</sup> Cremated bone fragments.1251<sup>++</sup> Cremated bone fragments.

Bones belonging to the following numbers could not be identified: 35, 130, 138, 143, 159, 179, 356, 357, 482, 491, 493, 515, 614, 647, 684, 715, 720, 1026, 1042, 1053, 1166, 1203, 1266, 1270f, 1287, 1310.

TABLE II. MEASUREMENTS OF THE BONES OF THE DOMESTIC CATTLE

Mandibula	No.	340	354	1048	1050	1050	127	0	1266
Length of the molar row			80.0				85.0		
Length M <sub>3</sub>			32.0	36.5	33.5	35.5	34.0	33.5	34.5 (33.0)
Width M <sub>3</sub>				15.5	12.0	11.5	15.6	16.5	16.5 (14.5)
Length M <sub>2</sub>		20.5	21.0					22.0	22.5
Width M <sub>2</sub>		14.5						16.5	16.0
Length M <sub>1</sub>		21.5	23.0						
Width M <sub>1</sub>		14.0							
<hr/>									
Humerus	No.	567							
<hr/>									
Width of the trochlea		61.0							
<hr/>									
Radius	No.	567							
<hr/>									
Maximum proximal width		67.0							
Width of the proximal articular surface		62.0							
<hr/>									
Femur	No.	567							
<hr/>									
Length; measured from the caput		301.5							
Maximum distal width		76.5							
Minimum width of the diaphysis (shaft)		30.0							

Patella	No.	567
Maximum length	56.0	54.5
Tibia	No.	178      567
Maximum proximal width		79.0
Maximum distal width	57.0	
Astragalus	No.	567
Lateral length	56.0	

( ) The measurement is not exact.

TABLE III. MEASUREMENTS OF THE HORSE BONES

Maxilla	No.	460	402	474	724
Length of the tooth row					
Length of the molar row		74.0			
Length of the premolar row					(88.0)
Length M <sup>3</sup>		27.5			27.5
Width M <sup>3</sup>		24.0			(22.0)
Length M <sup>2</sup>		22.5			23.5
Width M <sup>2</sup>		25.5			(24.0)
Length M <sup>1</sup>		20.0		24.5	22.5
Width M <sup>1</sup>		25.5		(27.0)	(27.0)
Length P <sup>4</sup>		27.5		29.0	25.5
Width P <sup>4</sup>		27.0		(27.5)	(27.0)
Length P <sup>3</sup>			25.0	30.0	27.0
Width P <sup>3</sup>			27.5	(28.0)	(27.0)
Length P <sup>2</sup>			35.0		36.5
Width P <sup>2</sup>			23.0		(25.0)

Mandibula	No.	23	400	472	
Length of the tooth row	(174.0)	(172.5)	(159.0)		
Length of the molar row	81.5	83.0	79.0	(77.0)	
Length of the premolar row	( 89.0)	90.0	( 80.0)	(84.0)	
Depth of the horizontal ramus before P <sub>3</sub>	64.5				
Depth of the horizontal ramus beneath the middle of P <sub>3</sub>	( 67.0)				
Depth of the horizontal ramus before M <sub>1</sub>	75.0				
Depth of the horizontal ramus behind M <sub>1</sub>	81.0				
Depth of the horizontal ramus beneath the middle of M <sub>2</sub>	85.5				
Depth of the horizontal ramus behind M <sub>3</sub>	102				
Maximum labio-lingual thickness of the horizontal ramus	23.5	25.0			
Length M <sub>3</sub>	30.0	30.5	31.5	31.0	
Width M <sub>3</sub>	14.0	14.0	16.0	16.0	
Length M <sub>2</sub>	24.0	24.0	24.0	24.0	
Width M <sub>2</sub>	16.5	16.3	18.5	18.5	
Length M <sub>1</sub>	23.5	24.0	20.5	22.0	24.0
Width M <sub>1</sub>	17.0	17.5	18.5	18.0	16.0
Length P <sub>4</sub>	27.0	27.0	24.0	29.5	26.0
Width P <sub>4</sub>	19.0	19.0	21.0	20.5	17.5
Length P <sub>3</sub>	27.0	26.5	25.0	25.0	27.0
Width P <sub>3</sub>	19.0	19.5	21.0	20.5	17.5
Length P <sub>2</sub>	32.5	33.0	30.0	30.0	30.5
Width P <sub>2</sub>	17.5	18.0	20.5	19.0	16.0

Radius	No.	1266
Maximum proximal width		77.5
Maximum width of the proximal articular surface		69.0

Ulna	No.	1266
Maximum width of the articular surface		37.5

( ) Measurement is not exact.

All measurements are in mm.

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## ABBREVIATIONS

Aarbøger	Aarbøger for Nordisk Oldkyndighed og Historie.
AN	Archeologisch Nieuws, in: Nieuwsbulletin van de Koninklijke Nederlandse Oudheidkundige Bond.
BAI	Biologisch-Archeologisch Instituut, Rijksuniversiteit Groningen.
Ber. ROB	Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek.
Ber. RGK	Bericht der Römisch-Germanischen Kommission.
BJ	Bonner Jahrbücher.
CNBM	Centraal Noord-Brabants Museum, 's-Hertogenbosch.
FM	Fries Museum, Leeuwarden.
FNA	Fra Nationalmuseets Arbejdsmark.
GM	Groninger Museum voor Stad en Lande, Groningen.
GV	Groningse Volksalmanak.
IPP	Instituut voor Prae- en Protohistorie, Universiteit van Amsterdam.
Jaarboek MP	Jaarboek voor Munt- en Penningkunde.
MZ	Mainzer Zeitschrift.
Nachrichten NU	Nachrichten aus Niedersachsens Urgeschichte.
NDV	Nieuwe Drentse Volksalmanak.
OJ	Oldenburger Jahrbuch.
OMROL	Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden te Leiden.
PMD	Provinciaal Museum van Drenthe, Assen.
PZ	Prähistorische Zeitschrift.
RMO	Rijksmuseum van Oudheden, Leiden.
RMT	Rijksmuseum Twente, Enschede.
ROB	Rijksdienst voor het Oudheidkundig Bodemonderzoek, Amersfoort.
Terpenverslagen	Jaarverslag van de Vereniging voor Terpenonderzoek.

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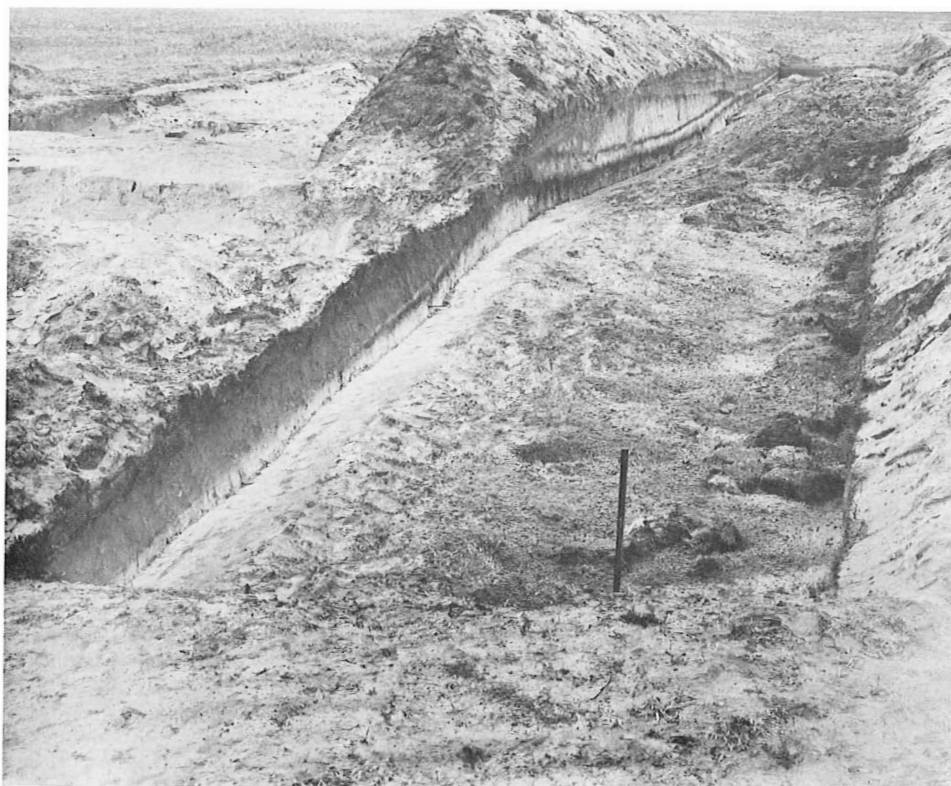
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1. Double podsol. Section C, seen from south-east.

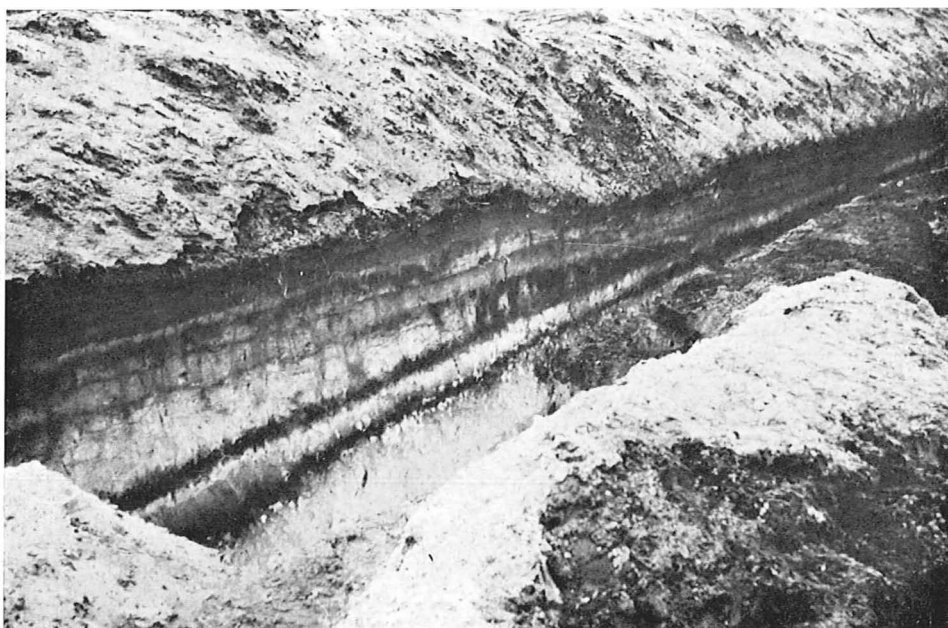


2. Double podsol. Section C, seen from north-east.





1. Double podsol. Part of section C, seen from north-east.



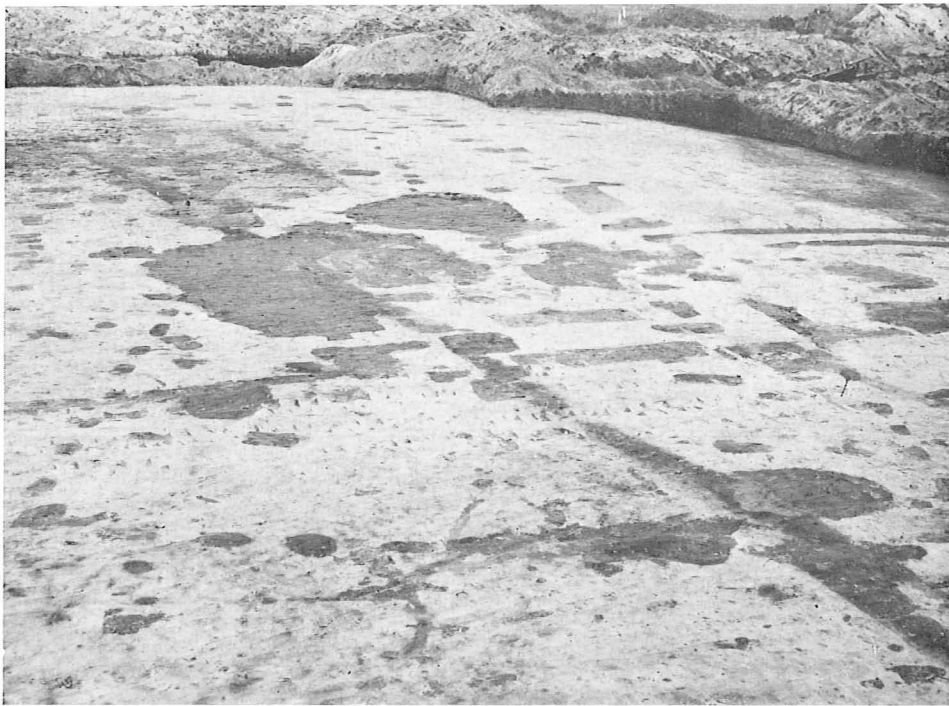
2. Double podsol. Part of section C, seen from east.



1. Post-holes underlying arable layer. Part of section C, seen from east.



2. Reclamation trenches along north-western edge of the *Es*.



1. House-plans XIV, XV and XVI, seen from east.



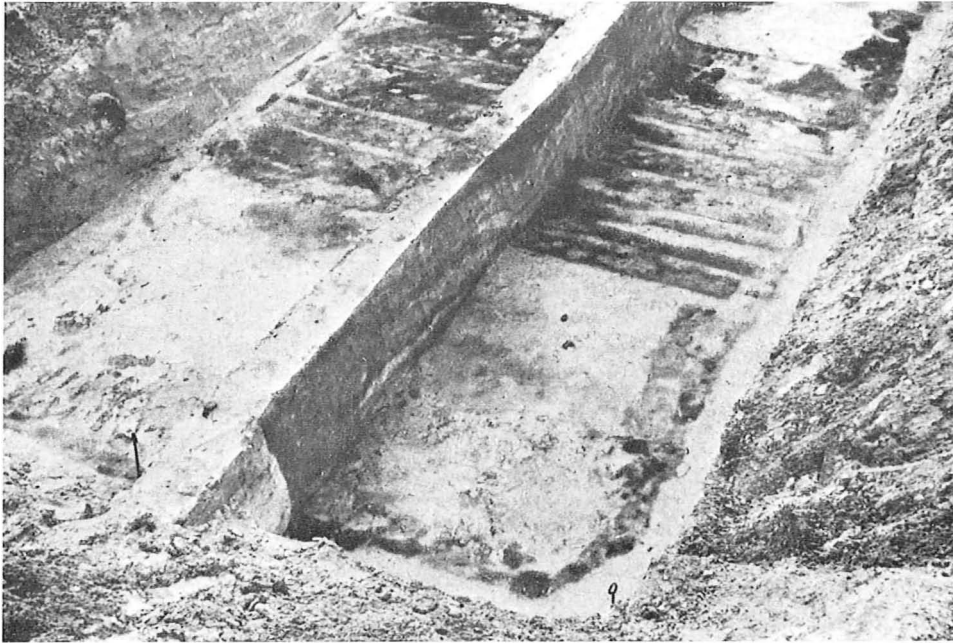
2. House-plans XXXVIII and XXXIX, seen from east.



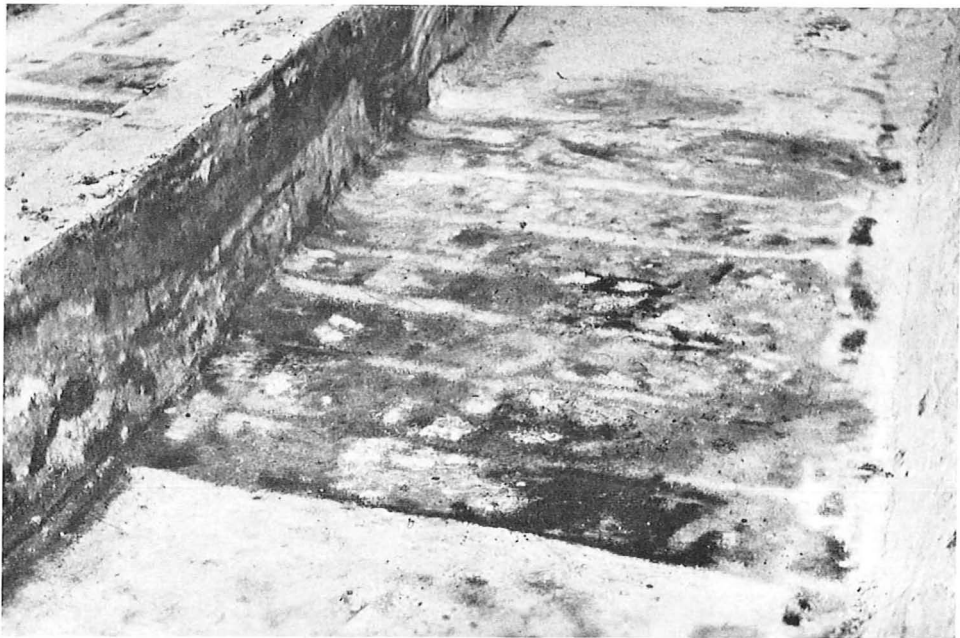
1. Sunken hut: filling of pit.



2. Sunken hut: six-post hut at floor level.

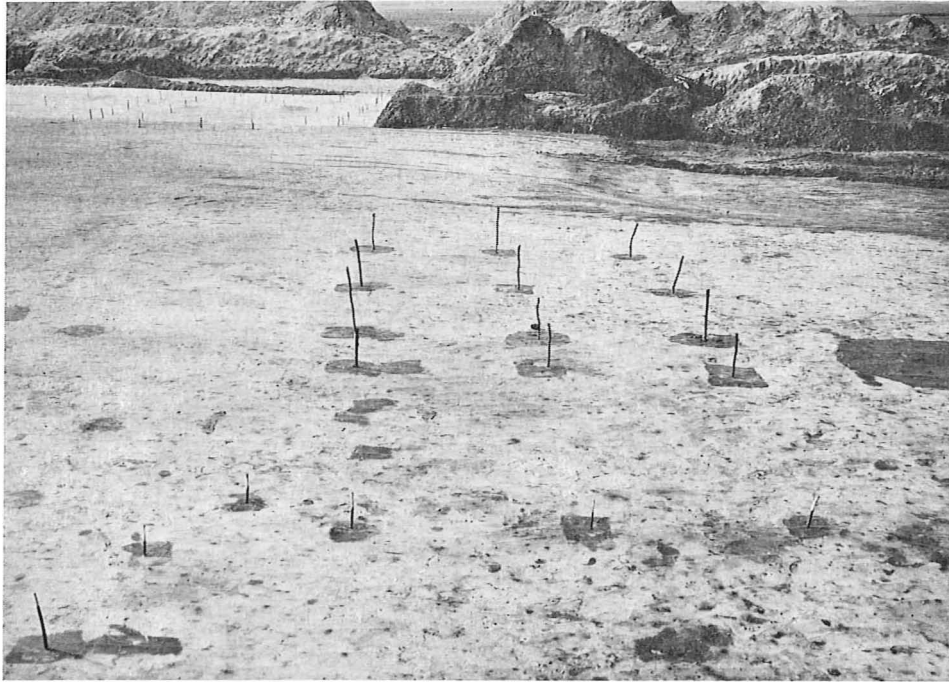


1. Sunken hut: large hut 83 at floor level, seen from north-east.

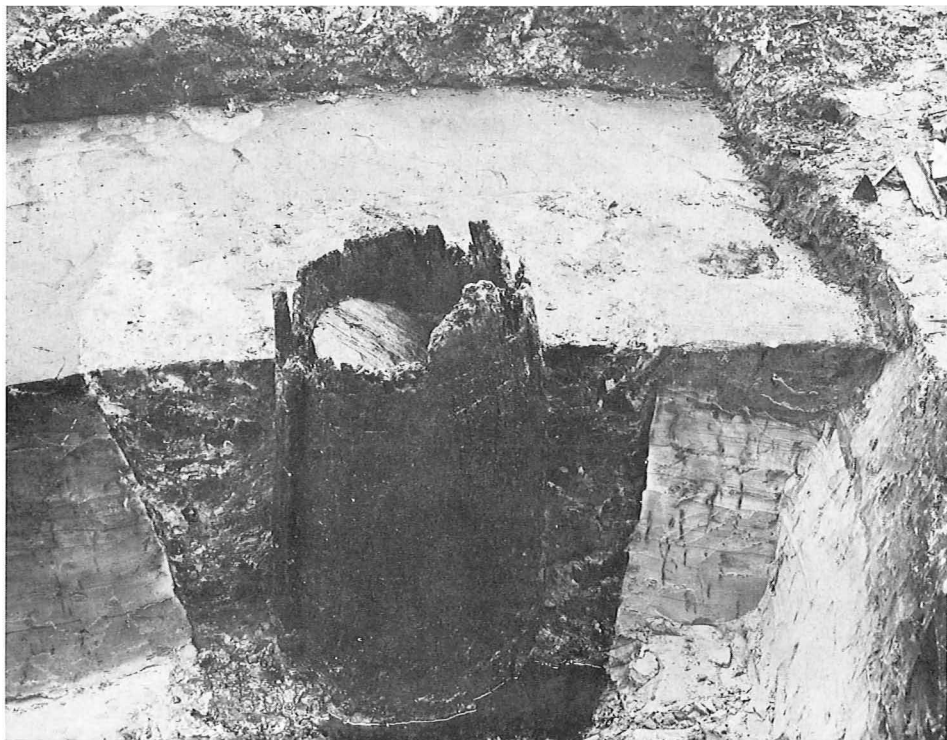


2. Sunken hut: large hut 83 at floor level, seen from south-west.

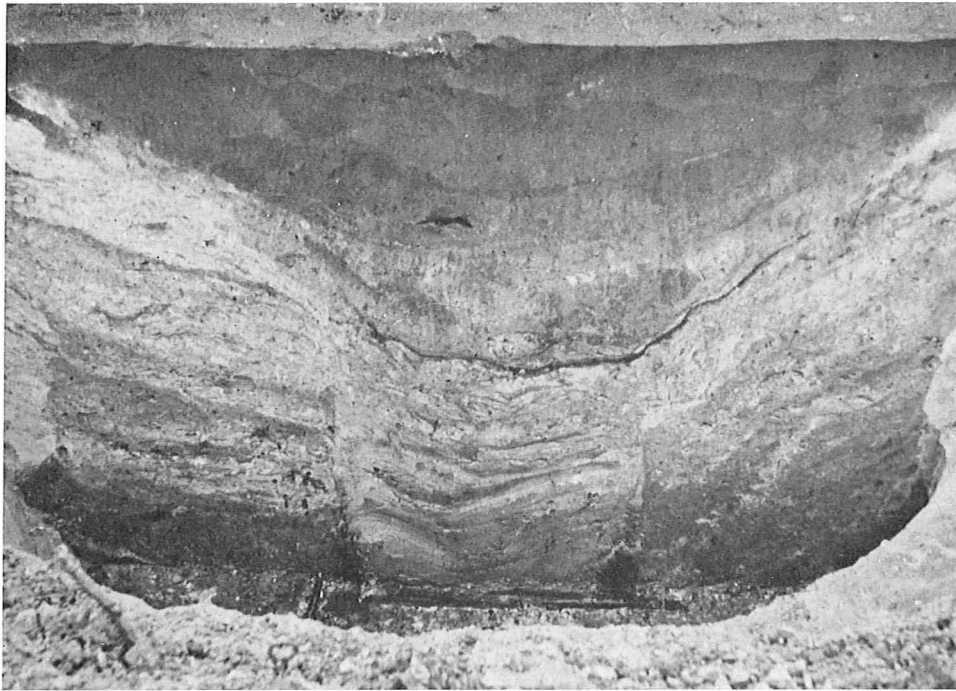




Twelve-post granary in front of house VIII, seen from east.



Well 3, seen from west.

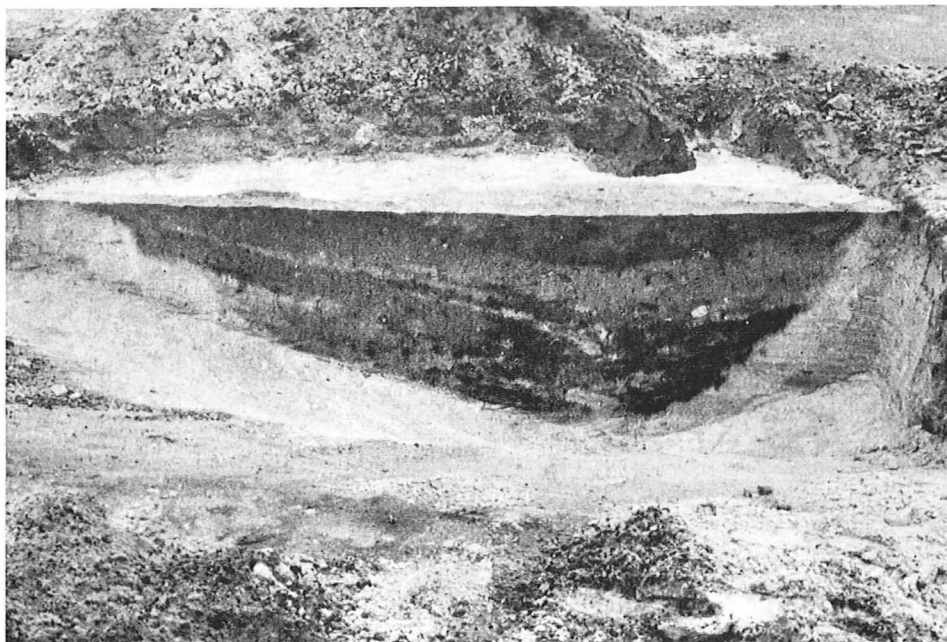


1. Well 7, section.

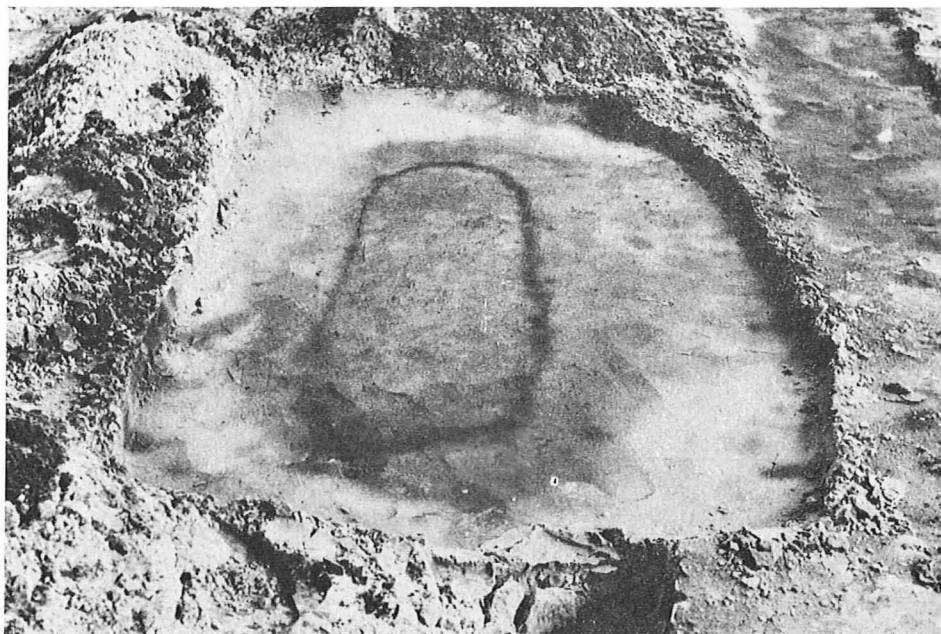


2. Well 1, interior.

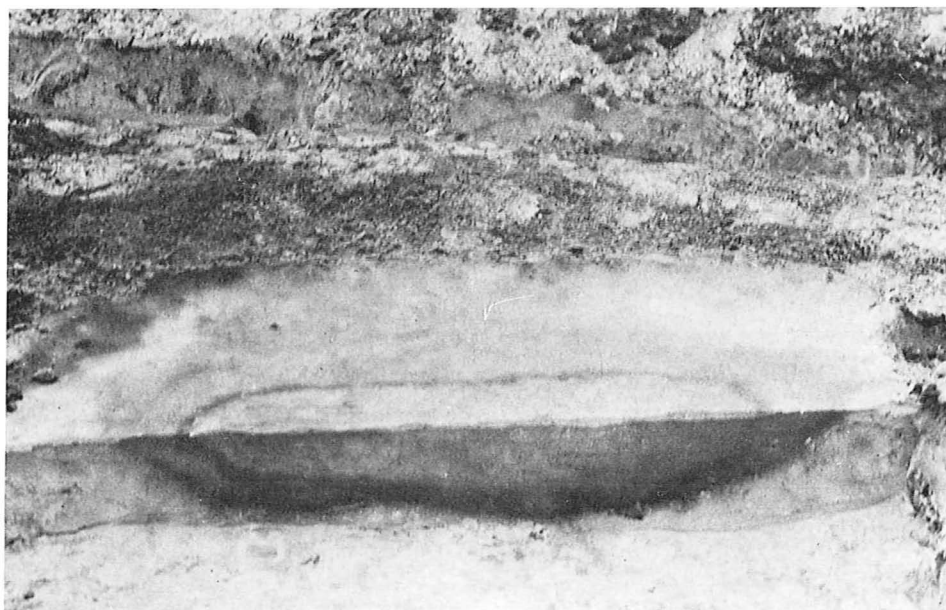




Oven-pit in squares G<sup>w</sup>-62/3, section.



1. Storage-pit in square D<sup>a</sup>-43, seen from south.



2. Section of storage-pit in square D<sup>a</sup>-43, seen from west.



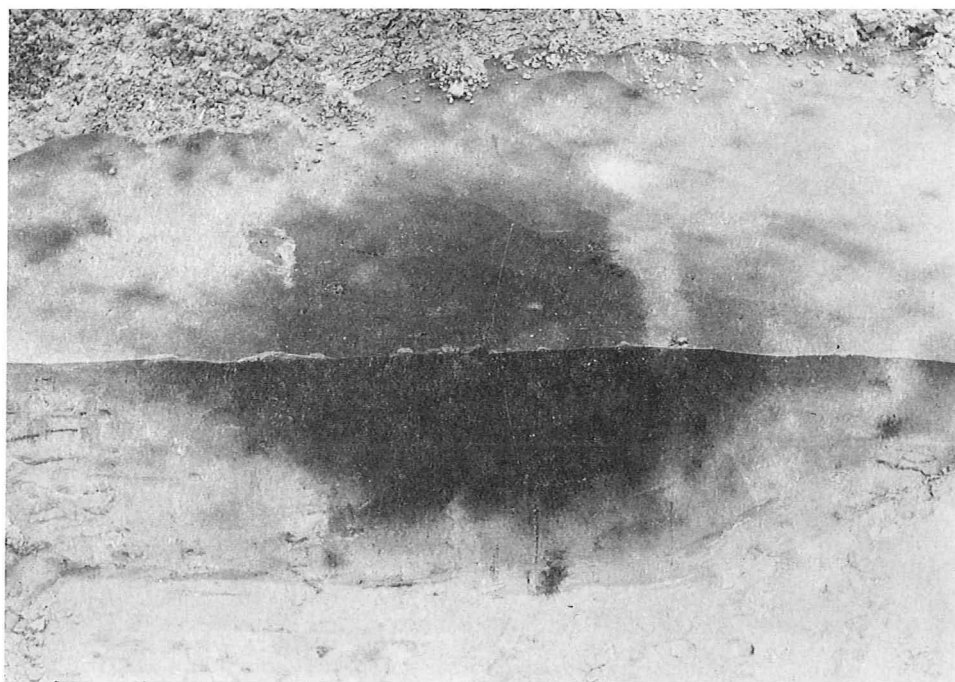
Storage-pits along palisade trenches in squares C<sup>tu</sup>-45/7, seen from south.



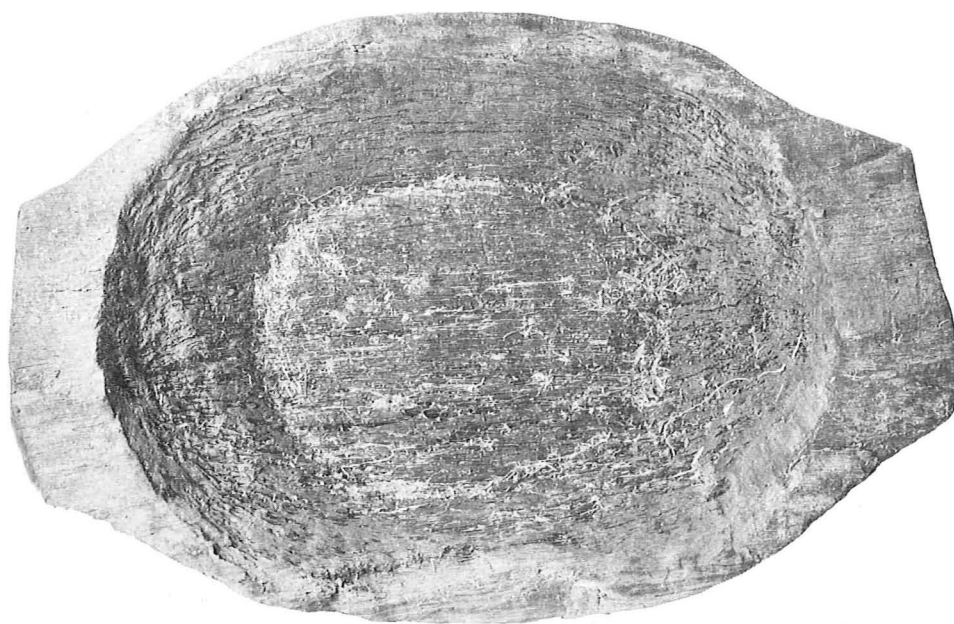
1. Animal grave in squares D<sup>k</sup>-57/8, seen from south.



2. Animal graves in squares E<sup>ef</sup>-47/8, seen from east.



Section of Mesolithic hearth in squares B<sup>wx</sup>-57/8.

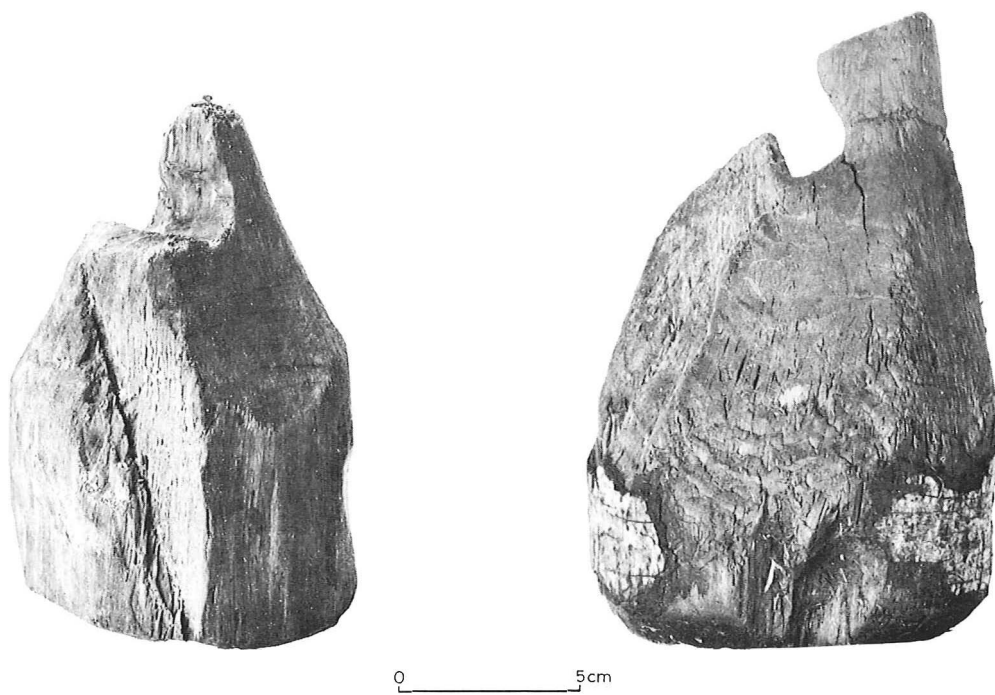


1. Plate of alder-wood (no. 43).

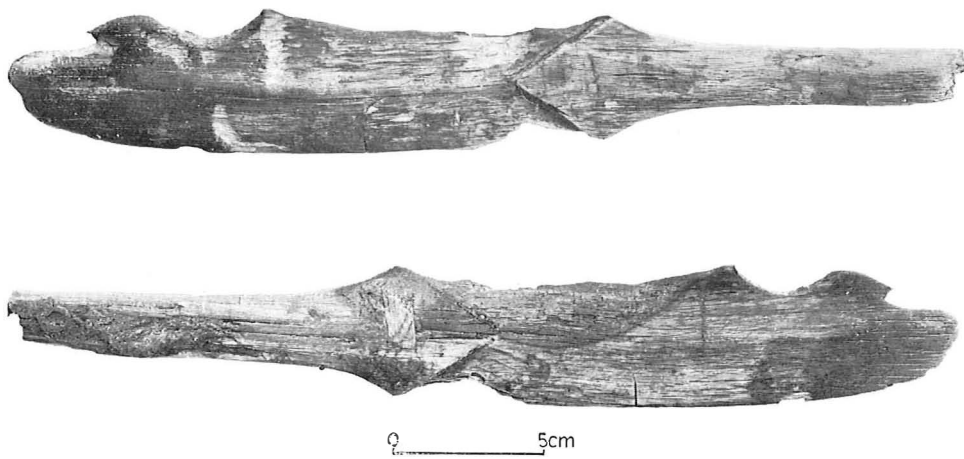


2. Rough-out for bowl of alder-wood (no. 43).





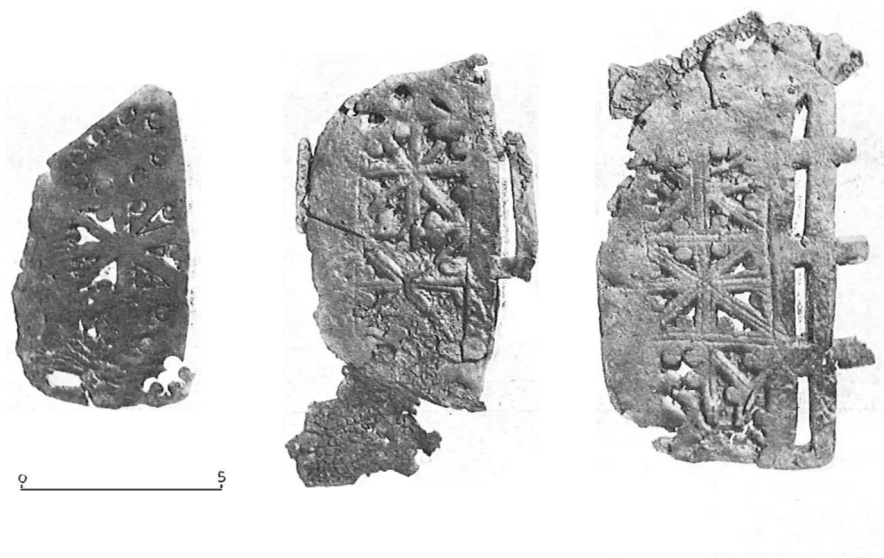
1,2. "Loom-weights" of alder-wood (no. 43, 676).



3. Weaving sword of oak-wood (no. 676).

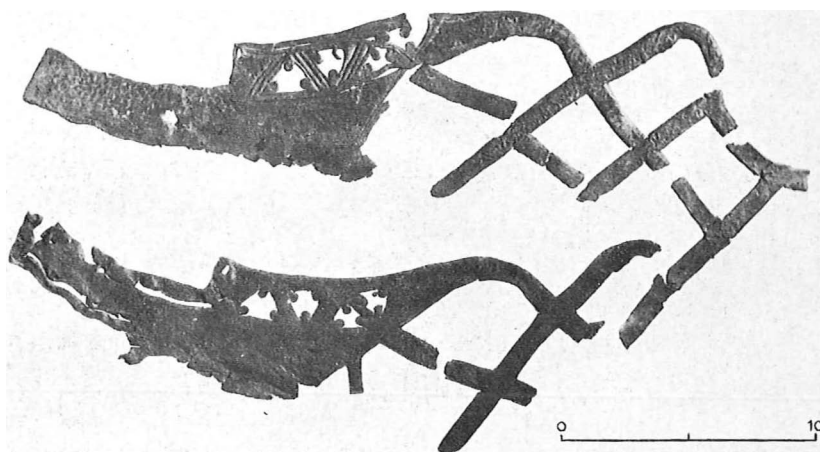


1. Leather bindshoe (no. 676).



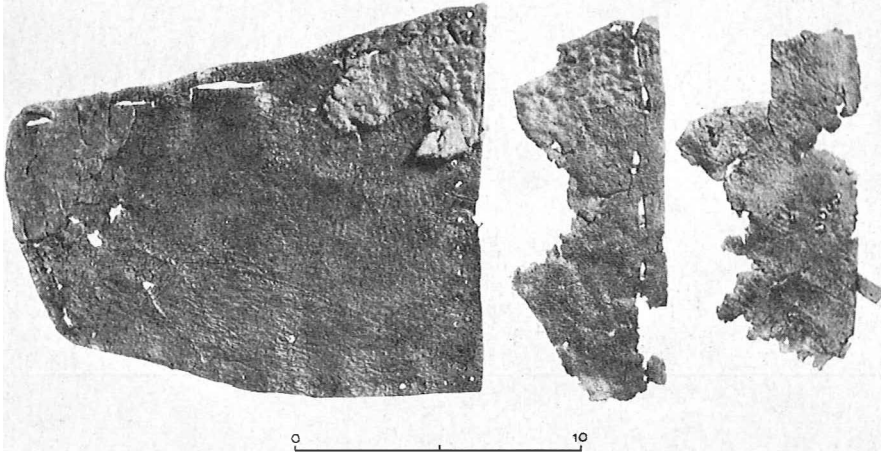
2. Decorated leather fragments of bindshoes (no. 676).



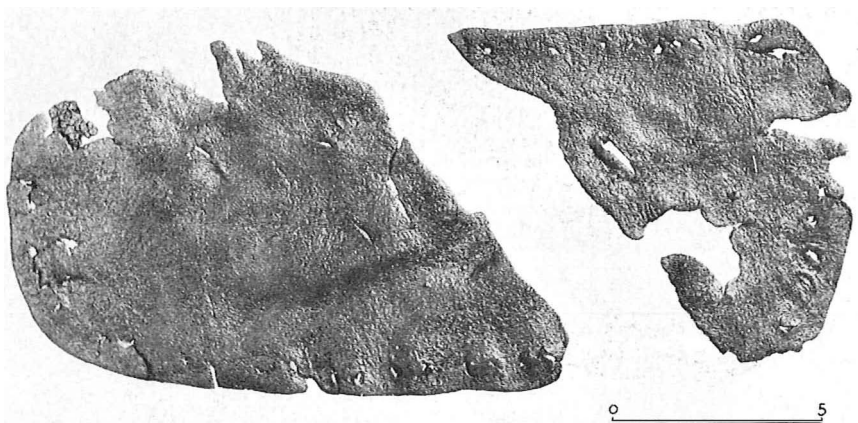


1,2. Decorated leather fragments of bindshoes (no. 676).

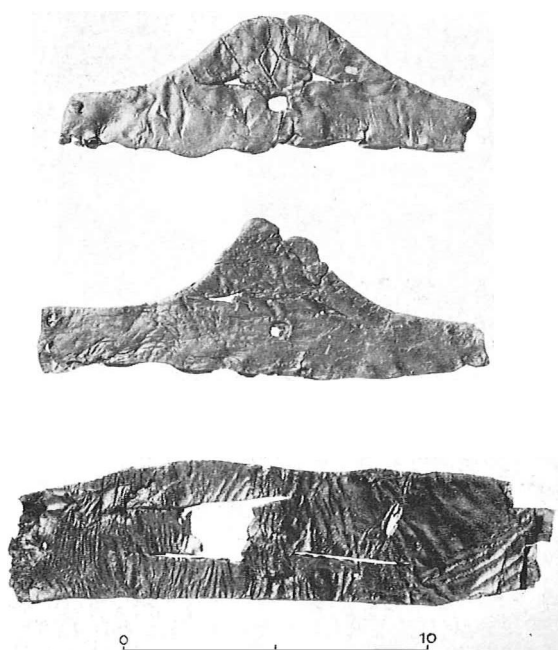




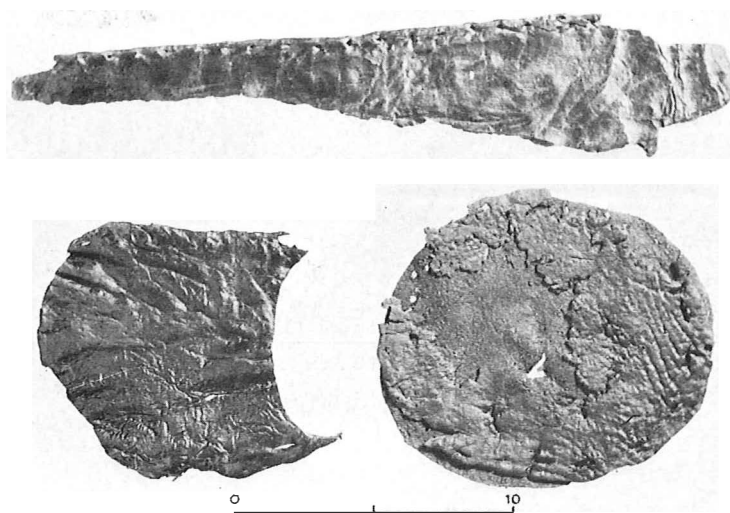
1. Leather fragments, probably of shoes (no. 676).



2. Leather fragments, probably of shoe soles (no. 676).



1,2. Leather fragments (no. 676).





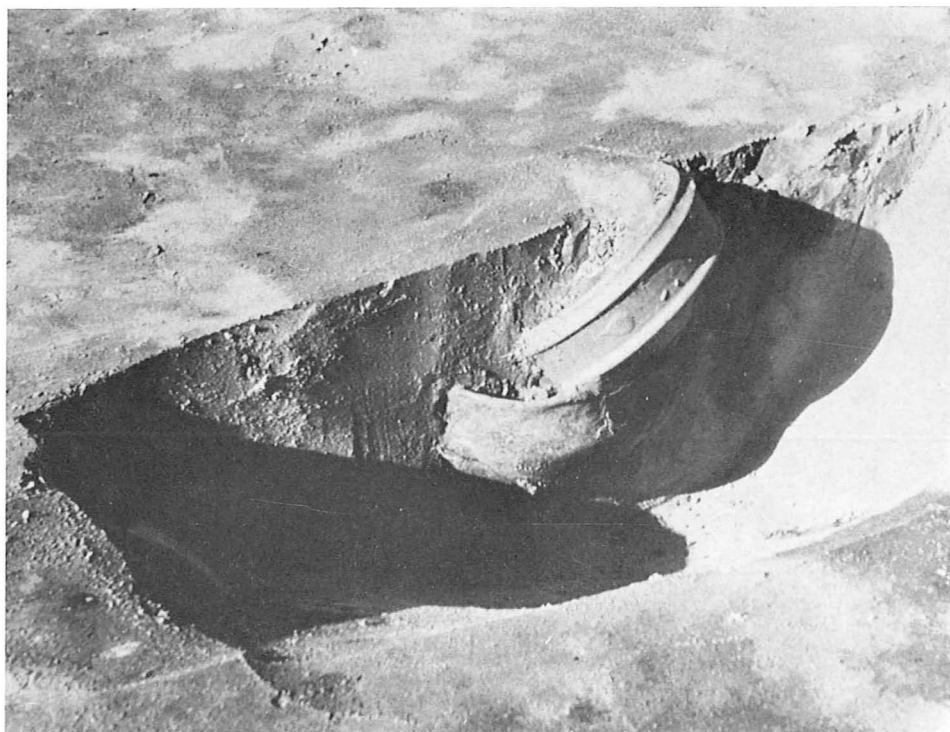
Terra nigra-like pottery, type Chenet 342: Tongeren, Belgium. Foto Museum Luik (upper four) and Museum Tongeren (bottom row).



0 5 cm



Terra nigra-like pottery, type Chenet 342: Bilsen (above) and Herstal, Belgium.  
Foto Museum Luik.



Foundation deposit consisting of hand-made cup and terra sigillata bowl (no. 137), found in a post-hole next to the south-western entrance of house XXXVIII.



Spade marks in "vegetable garden" in squares C<sup>2</sup>D<sup>b</sup>-11/3.