

BRONZE AGE METAL AND AMBER IN THE NETHERLANDS (III:2)
CATALOGUE OF THE SOCKETED AXES, PART B

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ABSTRACT: This, Part III:2B of the publication of Bronze Age metal and amber in the Netherlands, is the second part of a catalogue and evaluation of the bronze socketed axes in the Netherlands. We classify, list and map the socketed axes with imitation wings (without face arches); those with face arches (without imitation wings); those with imitation wings and face arches; those of *Form Wesseling*; and some others. Attention is given to questions of importation and regional production, to the existence of an 'Ems-Weser' or 'Hunze-Ems' axe-producing industry. A subsequent Part III:2C will display types, whether imported or local/regional products, represented by numbers too small in the Netherlands to have a distinctive distribution.

KEYWORDS: the Netherlands, Late Bronze Age, Early Iron Age, socketed axes, types, imports, regional production, distributions, Hunze-Ems industry.

1. INTRODUCTION

Previous articles in the series 'Bronze Age metal and amber in the Netherlands' have appeared in *Palaeohistoria* 32, 37/38, 39/40, 41/42 and 43/44. The last part of the series to appear (Part III:2A) began the catalogue of the bronze socketed axes, with emphasis on the types of relatively frequent occurrence in the Southeast of the Netherlands and neighbouring areas: especially the types *Niedermaas*, *Plainseau*, *Helmeroth* and *Geistingen*. In this part, III:2B, we continue the socketed axe catalogue. We present here four socketed axe families, that are, each with its series of variants, well represented numerically in the Netherlands (Table 2; sections 4, 5, 6 and 9):

- Variants, occurring chiefly in the East-Central part of the Netherlands, of a family with imitation wings and without face arches (section 4, Cat.Nos 589–620, map 11);
- A family with face arches and without imitation wings, characteristic for the Northeast of the Netherlands (section 5, Cat.Nos 635–679, maps 12–13);
- A family with face arches *and* imitation wings (section 6; Cat.Nos 680–712, map 14), also characteristic for the Northeast of the Netherlands;
- A rather widely distributed family in the eastern part of the country and the adjacent German Rhineland is partially identifiable with Kibbert's *Form Wesseling* and related axes (section 9, Cat. Nos 713–737, maps 16–17).

In many respects the classification here presented can make no claim to eternal validity. The socketed axe families and types here distinguished are for the most part also present across the modern borders; but in general the state of publication in the adjacent areas is not such as can provide an adequate, up-to-date overview of types and their interconnections. This condition will change with time, and then some revision will inevitably be possible and necessary. We trust that this presentation will facilitate such a re-evaluation when its time has come.

Section 7 offers comments on the contents and extent of the socketed axe industry and exchange network responsible for the products distinctive of the Northeast of the Netherlands.

Section 8 offers notes on some of the ornamental motifs on socketed axes in the Netherlands and their connections.

2. NOTES TO THE CATALOGUE

For the purposes of this paper we consider the North of the Netherlands to comprise the modern provinces of Flevoland, Groningen, Friesland, and Drenthe, and the northeast corner of the province Overijssel. To the middle-east of the country we reckon the provinces of Utrecht, Gelderland and most of Overijssel. The West of the country comprises Noord-Holland, Zuid-Holland and Zeeland; and the south the provinces of Noord-Brabant and Limburg (Map 8). In general, the northern and western coastal parts of the Netherlands

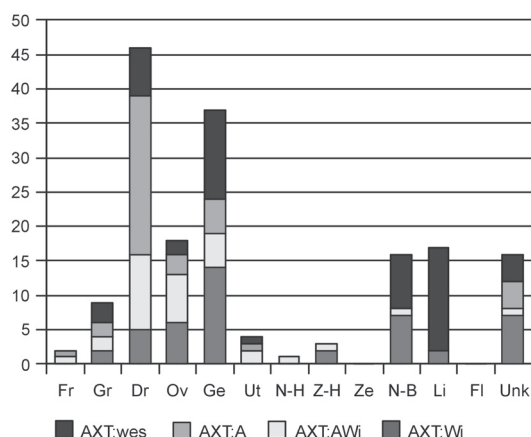
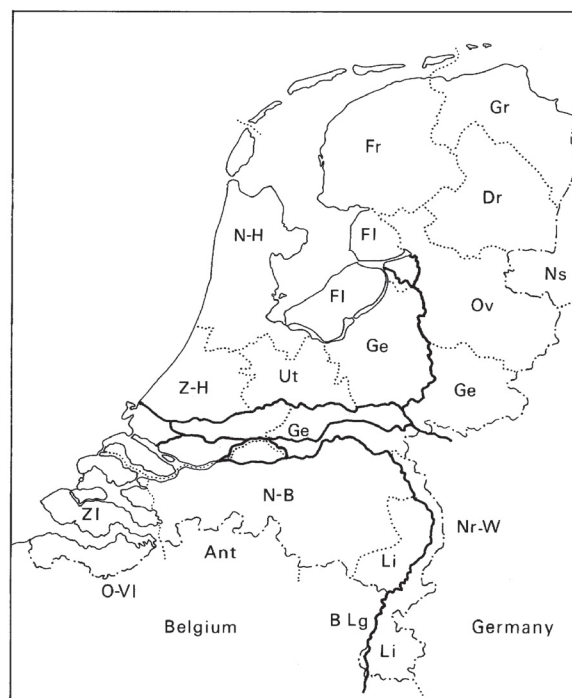


Fig. 40. Number of socketed axes in the Netherlands database (as of March 2005) by major categories and by province. (Unk= unknown provenance).

Note: The total for Gelderland includes eleven socketed axes attributed to Nijmegen, which are mentioned, without drawings, in early 19th century accounts (*e.g.* Westendorp & Reuvs, 1823), but are no longer traceable.



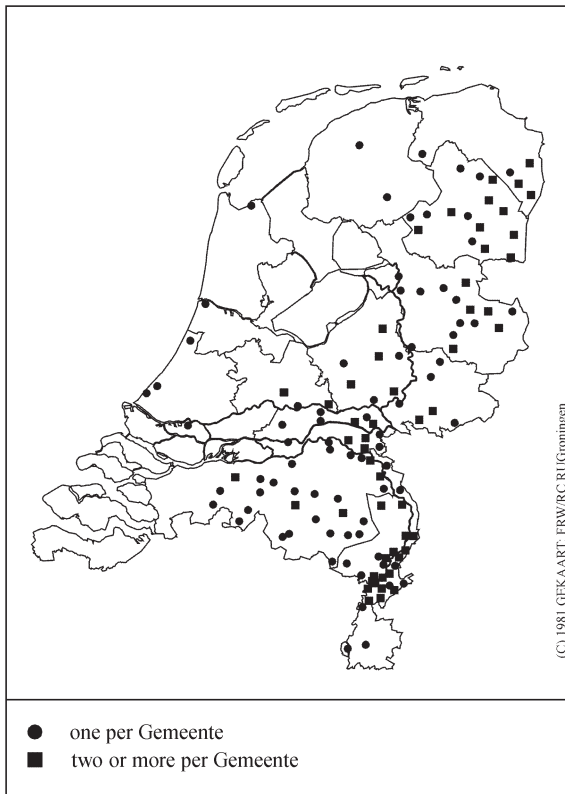
Map 8. Provinces of the Netherlands and neighbouring areas: Fr. Friesland; Gr. Groningen; Dr. Drenthe; Ov. Overijssel; Ge. Gelderland; Ut. Utrecht; N-H. Noord-Holland; Z-H. Zuid-Holland; Zl. Zeeland; N-B. Noord-Brabant; Li. (Neth.) Limburg; Fl. Flevoland. Belgian provinces: O-VI. Oost-Vlaanderen; Ant. Antwerpen; B Lg. (Belg.) Limburg. German *Länder*: Ns. Niedersachsen; Nr-W. Nordrhein-Westfalen. Dot-dash line = national boundary; dotted line = provincial boundary.

Table 2. Number of bronze socketed axes in the Netherlands, of some of the numerically most prominent types, by province. AXT:wes = Type Wesseling and related; AXT:A = with face arches (no 'wings'); AXT:Wi = with 'wings' (no face arches); AXT:AWi = with face arches and 'wings'. Data as of March 2005. Cf. Table 3.

	Fr	Gr	Dr	Ov	Ge	Ut	N-H	Z-H	Ze	N-B	Li	Fl	Unk	TOTAL
AXT:Wi	0	2	5	6	14	0	0	2	0	7	2	0	7	45
AXT:AWi	1	2	11	7	5	2	1	1	0	1	0	0	1	32
AXT:A	1	2	23	3	5	1	0	0	0	0	0	0	4	39
AXT:wes	0	3	7	2	13	1	0	0	0	8	15	0	4	53

Table 3. Number of flat axes (AXF), low flanged axes (AXI), high flanged axes (AXR), stopridge axes (AXS), palstaves (AXP), winged axes (AXW), and socketed axes (AXT) in the Netherlands. UNK here includes specimens only vaguely provenanced, *i.e.* (mostly presumed) province only. Updates (as of March 2005), Part III:2A, p. 264, Table 1.

	Fr	Gr	Dr	Ov	Ge	Ut	N-H	Z-H	Ze	N-B	Li	Fl	Unk	TOTAL
AXF	1	0	1	2	7	0	0	0	0	6	3	1	5	26
AXI	2	0	9	3	8	3	1	0	0	5	14	0	4	49
AXR	0	5	15	14	20	3	6	4	0	15	26	0	10	118
AXS	0	2	3	7	4	0	0	7	0	0	4	0	3	30
AXP	6	15	68	19	42	3	7	20	3	29	53	4	23	292
AXW	1	0	0	0	5	0	1	0	0	4	19	0	5	35
AXT	3	14	62	30	82	7	2	5	0	48	78	0	61	391
TOTAL	13	36	158	75	168	16	17	36	3	107	197	5	111	942



Map 9. All socketed axes in the Netherlands.

are (despite other types of evidence for occupation on sand ridges that thread their way through the areas of peat and clay) extremely poor in socketed axes, as with all other types of bronze axes (Map 9; Table 3).

Besides the catalogue number heading the entry for each object, we cite in brackets a DB number, which identifies the object in our computer database. This will prove to be a convenience for cross-referencing.

The following ABC will explain the code as it is here employed. In Part II:1, II:2, III:1 and III:2A we have already used AXF for flat axe, AXI for low-flanged axe, AXR for high-flanged axe, AXS for stopridge axe, AXP for palstave, AXW for winged axe and L for looped, BM for bronze mould. AXT signifies a socketed axe with loop, AXTU a socketed axe without loop.

Further descriptive features or subdivisions are indicated by letters or punctuation characters added on the right: A = arch on faces; J = expanded blade tips; N = narrow body; Nr = neck rib(s); P = plain (unornamented); Pel = pellet(s); Rb = rib(s); W = wide blade; Wi = 'wings'.

Geographical expressions here abbreviated with lower-case letters with reference to socketed axe types are as follows: frou = Type Frouard; sed = Type

Seddin/Karbow; wes = Type Wesseling.

Abbreviations for museums and organizations: BAI = Biologisch-Archeologisch Instituut (now Groningen Institute of Archaeology); RMO = Rijksmuseum van Oudheden; ROB = Rijksdienst voor het Oudheidkundig Bodemonderzoek.

References to literature frequently include the term *Verslag* or *Jaarverslag*. This refers to the Annual Report of the museum concerned. Other literature citations are located in section 11 below.

A catalogue number preceded by Ki indicates a reference to the catalogue of Kibbert (1984); Ku of Kuśnierz (1998); Ta of Tackenberg (1971).

2.1. Glossary of typology and terminology (fig. 41)

In the descriptions of the socketed axes here presented, the terminology is in part non-standard. Here we explain briefly the terms we use that may require clarification. We explain herewith also a series of non-standard abbreviations which we have occasionally employed in the text and catalogue below in an effort to reduce the burden on writers and readers of lengthy descriptions. The method is simply to replace, where possible, descriptive adjectives with graphic symbols available on the standard keyboard.

Collar: the thickened moulding surrounding the mouth opening. It can vary in form: [] flattened as in fig. 41:12; () bulging as in fig. 41:13; _/ funnel as in fig. 41:14; /_\ conical as in fig. 41:15; < > biconical as in fig. 41:16; <_> stepped biconical as in fig. 41:17; trumpet-shaped as in fig. 41:20. The collar can be decorated with a rim (fig. 41:18) or with a facet (fig. 41:19).

Socket mouth formula: follows the formula a-a×b-b; c-c×d-d; where a-a gives the width and b-b the breadth of the collar, and c-c the width and d-d the breadth of the mouth opening.

Neck ribs: one or more thin horizontal ribs just below the collar.

Loop: usually D-shaped and of more or less round cross-section ('string loops') on type Wesseling; 'elbow-shaped' angular loops are common on 'Hunze-Ems' axes (but rare in the South of the Netherlands).

Loop placement: the loop generally springs from the collar or the base of the collar.

Body outline: most often) (biconcave; some axes are || parallel-sided; / \ expanding sides; \ / funnel; S ogival.

Face ornament: arches and/or imitation wings, of varied length are often present on socketed axes of the types here discussed. The 'wings' are usually rendered as raised surfaces (Kibbert's *Flächenlappen*,

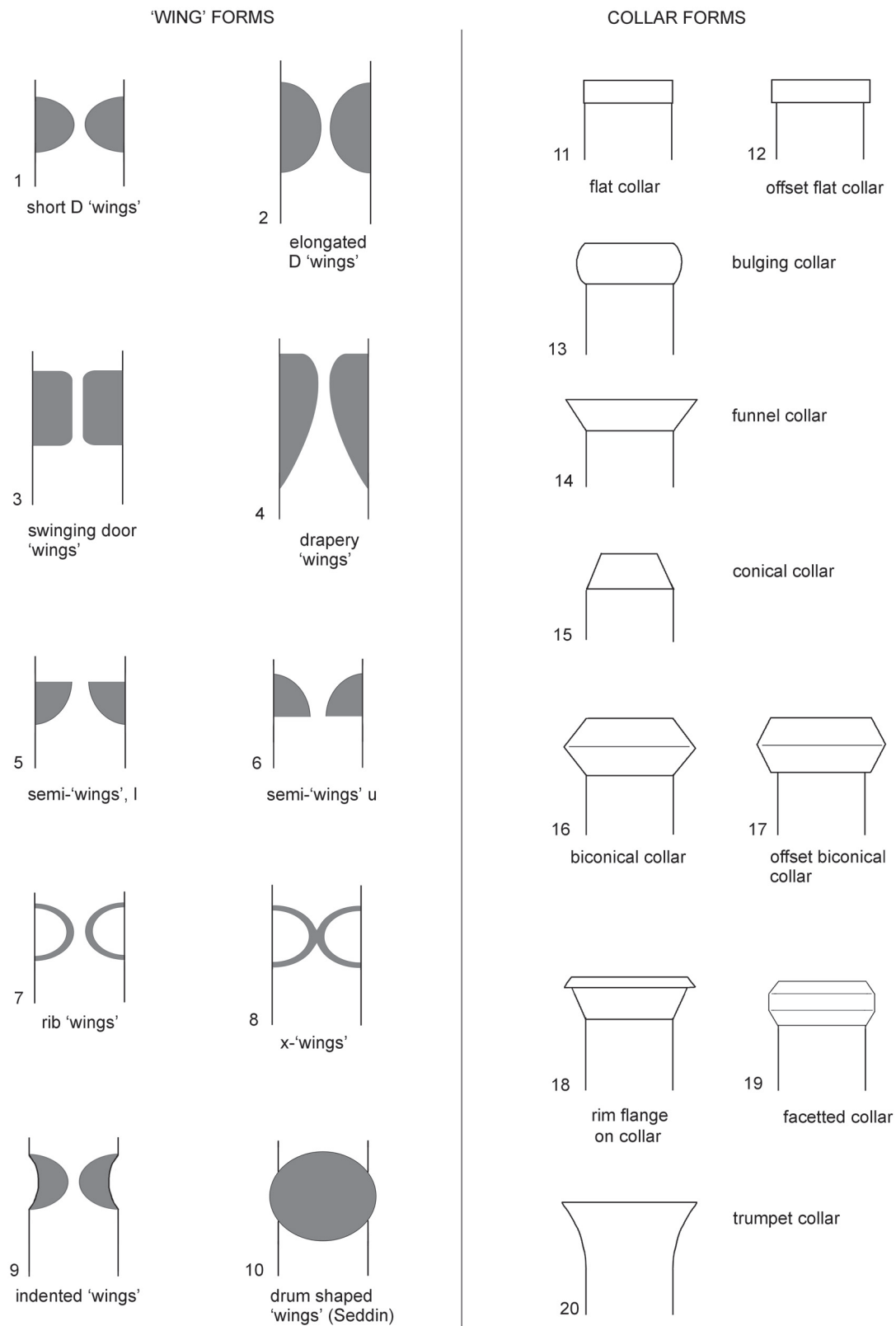


Fig. 41. Glossary for descriptions and abbreviations.

Lappenzier Gruppe A), here simply referred to as ‘wings’; but are sometimes rendered in ribs depicting the outline of wings (Kibbert’s *Rippenlappen*, *Lappenzier Gruppe C*), here indicated as rib ‘wings’ (fig. 41:7–8).

‘Wing’ variants include short D ‘wings’ (fig. 41:1), elongated D ‘wings’ (fig. 41:2); swinging door ‘wings’ (fig. 41:3), drapery ‘wings’ (fig. 41:4); semi-‘wings’ where the ‘wings’ are only partial (upper part or lower part of the ‘wing’ is represented) (fig. 41: 5–6); indented ‘wings’ (fig. 41:9) or drum shaped ‘wings’ (fig. 41:10). A further distinction can be made between specimens on which the ‘wing’ pattern extends from the faces onto the sides of the axe; these are here referred to as ‘wrap-around wings’.

Arch facets on face: various types of socketed axes in Southeast Europe, but also in North Germany and Scandinavia have on each face a more or less flat facet of parabolic outline, the meeting of these facets forming the cutting edge of the axe. In Kibbert’s Middle West Germany such facets occur with varying frequency on socketed axes of his types Frouard, Løvskaal-Bargeroosterveld, Helmeroth, and *Lappenzier*. In the northern part of the Netherlands arch facets are common and characteristic, while in the southern part of the country they are only occasional, occurring on Plainseau axes Cat.Nos 528 and 529 and on Helmeroth axes Cat.Nos 544, 545 and 547.

Also represented as face ornament are one or more *pellets*. Occasional other style motifs are mostly self-explanatory in the text.

Furrowing: in the Late Bronze Age enlivening of the surface of an axe by impressing parallel furrows (a technique not unknown earlier, e.g. on the stopridge axes, Part II:1, Cat.Nos 156–157 in the Middle Bronze Age) is common in the North of the Netherlands. In the South only on a few Plainseau axes (Cat.Nos 518, 531) and a number of Helmeroth axes (Cat.Nos 538–544, 546–548). Characteristically the furrow rows are vertical on the faces and/or sides of the axe.

Blade tips: socketed axes of the types here concerned do not have as a rule widely expanded blade tips. For the exceptional pieces that do have substantial blade tip expansion, we have employed the expression ‘J tips’.

Pouches refer to hollows at the base of the sides, formed by hammering out the cutting edge in a sharpening or resharpening operation. Their occurrence is rather more frequent than is shown in our drawings, indications thereof having sometimes been lost through the omission of shadow rendering of the side view.

Cutting edge: we have distinguished between an

unsharpened cutting edge, a sharpened cutting edge (where evidence of having been sharpened has not been removed by modern re-working), and a sharp cutting edge, i.e. anciently sharpened and still sharp.

3. GENERAL REMARKS CONCERNING SOCKETED AXES WITH ‘WINGS’

In the Late Bronze Age, winged axes – members of the predominant axe family in the broad Central European area, radiating out from there – penetrated hardly at all (apart from a minor concentration along the Maas: Butler & Steegstra, 1999/2000: pp. 128–146, maps 2, 4–6) into northwestern Germany and the Netherlands; where their place was taken by socketed axes, often bearing imitation wings on their faces.

On the genuinely winged axes, the wings are obviously a functional feature; serving (with, normally, the help of a side loop) to bind the axe-head to a wooden handle. It is not in the least obvious why a considerable percentage of socketed axes should have been provided with totally non-functional imitation wings.

Equally striking is the variety of ways in which the imitation wings (hereinafter referred to simply as ‘wings’) are shaped. To some extent these offer a developmental sequence. In appearance closest to functional wings is their plastic representation, by wing-shaped raised portions on the faces (often extending onto the sides in ‘wrap-around’ fashion). The shape of such ‘wings’ can vary. D-shaped ‘wings’ are, one may suppose, imitations of genuine wings on the winged axes of Type Grigny (Kibbert, 1984: pp. 47–56; cf. Butler & Steegstra, 2001/2002: pp. 128–135) or related type. On socketed axes the ‘wings’ may also be D-shaped, elongated D-shaped, short D-shaped, or ‘swinging door’ shaped, or ‘drapery’ (Cat.Nos 615–616); or they can be reduced to semi-‘wings’, only the upper or lower part of the ‘wings’ being delineated. For northern and middle-western Germany the distributions of socketed axes with such plastic ‘wings’ in their several variants have been mapped by Tackenberg (1971: *Karte 9*, *Listen* 12–13) and Kibbert (1984: Taf. 89A); they are chiefly represented in small numbers in the Rhineland and Westfalen. In the Southeast of the Netherlands, however, plastic ‘wings’ occur as *Niedermaas* socketed axes with ‘wings’, in 19 examples, divided among several variants, which we have already catalogued in Part A (Butler & Steegstra, 2001/2002: Cat.Nos 482–500, with figs 5ab and 6–10). For the socketed axes with ‘wings’ in other parts of the Netherlands, see sections 4 and 6 below.

Apart from the ‘wings’ are the rib-‘wings’: with

these, only the outline of each 'wing' is depicted on the face of the axe. Rib-'wings' are clearly a further devolution of the 'wings' idea. According to the provisional map published by Sprockhoff (1941: Abb. 95) socketed axes with rib-'wings' are particularly common in Northwest France and the British Isles, and in Belgium, but occur in only in small numbers in the Rhineland and Westfalen; several varieties have been mapped by Tackenberg (1971: *Listen* 15–19, *Karte* 10). In the southeastern part of the Netherlands thirteen socketed axes with rib-'wings' are known (chiefly on socketed axes of Plainseau type (Butler & Steegstra, 2001/2002: pp. 278–292); there are very few in the northeastern provinces, just the area where the plastic 'wings' are common.

Especially noteworthy is that there are hardly any socketed axes with rib-'wings' in the Northeast of the Netherlands. In Drenthe, one example (a stray find from Bargerooosterveld) is a Plainseau axe, surely imported from the south. But another, from Nieuw-Weerdinge (Cat.No. 686) has rib-semi-'wings' on an axe which is in all other details a 'Hunze-Ems' axe.

Also expressions of the 'wings' idea are (according to Kibbert, 1984) the socketed axes with a drum-shaped swelling in the middle of the body (the Seddin *Var.* Karbow type: Bergmann, 1954: pp. 49–56; Kibbert, 1984: p. 151; Kat.Nr. 727 and Taf. 55) and the indented-waist socketed axes (Kibbert's *Lappenzier Gruppe B*: Kibbert, 1984: p. 145, Kat.Nr. 697–701, and Taf. 54); for the Netherlands see Butler & Steegstra, 2001/2002: pp. 275–6, Cat.No. 490, where an axe from Nijmegen is grouped as a variant of *Niedermaas* type (which it indeed resembles).

4. SOCKETED AXES WITH 'WINGS' (WITHOUT FACE ARCHES) IN THE NETHERLANDS (Figs 42–62; Map 11)

In this section we list and describe socketed axes of the family 'with 'wings', but without face arches'. (Socketed axes with 'wings' and face arches are listed separately below in section 6).

We know of some 62 examples of socketed axes with 'wings' and without face arches in the Netherlands. Of these, 18 (including several varieties) have been re-assigned to the *Niedermaas* type (Butler & Steegstra, 2001/2002), and five (plus one bronze half-mould) to Kibbert's *Form Helmeroth*: types common in the southeastern part of the Netherlands, the Netherlands-Belgian Maas area (including the unusually large hoard from Maaseik-Heppeneert) and the

adjacent German Rhineland.

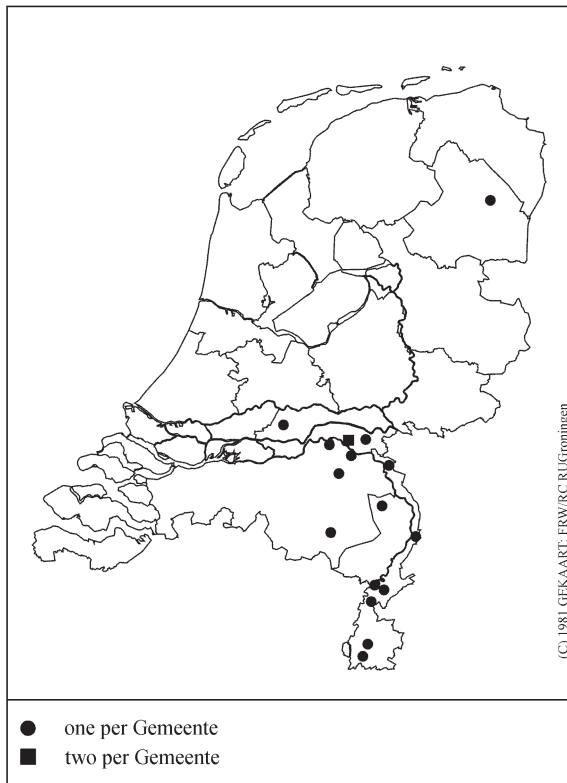
The 44 non-*Niedermaas* examples are here divided into several varieties, that occur predominantly in the east-central and northern parts of the Netherlands, but there are few in Noord-Brabant, and none at all in Netherlands Limburg. Typological distinctions are made chiefly on the basis of variations in the collar form and the number of neck ribs; with further distinctions on the basis of ornamental embellishments. Some of these sub-groups contain only one, or just a few representatives, which add little or nothing to the distribution pattern, but do serve to illustrate connections with other groups, local and farther afield.

4.1. Definitions

The *Niedermaas* socketed axes do not have the markedly (truncated) biconical collar, such as distinguishes the socketed axes with 'wings' described below. Within the category of socketed axes with 'wings' and biconical collar, two variants can be distinguished. In one group the collar is 'offset' from the neck by a slight step. The *Niedermaas* axes with 'wings' often have collars that are offset, but the collars are of forms other than biconical. Most *Form Helmeroth* axes in the Netherlands and Middle West Germany (Butler & Steegstra, 2001/2002: Cat.Nos 536, 546–547; Kibbert, 1984: Kat.Nr. 654–669) also have a step-offset collar, but in the Helmeroth group the collar is truncated-conical rather than biconical. Offset collars are also found among the socketed axes with face arches and 'wings' (below, section 6.2.1).

The majority of the offset-collar sub-group have an oversized, sometimes (Cat.Nos 589, 591, 595, 600) angular loop, as is common on socketed axes in the North of the Netherlands. On six examples the 'wings' are of the wrap-around style, *i.e.* the raised portion extends from the face onto the sides of the body. A few examples (Cat.No. 591 from St. Oedenrode, Limburg, and the unprovenanced Cat.No. 595) have rather elongated-D 'wings'. Swinging door 'wings', such as are found on three of the unprovenanced pieces here listed (Cat. Nos 595–597), are paralleled on the *Niedermaas* socketed axes Cat.No. 489 in Part III:2A (from Bemelen, Limburg) and on Cat.No. 545 (from Ohé en Laak, Limburg, an axe of *Form Helmeroth*); but also on two *Form Helmeroth*-related specimens in Denmark, in the Basland hoard (*cf.* Part III:2A, p. 301, fig. 30b).

The eleven socketed axes of this group have many features in common with the *Niedermaas* axes with 'wings' that occur chiefly in the South of the Netherlands (Butler & Steegstra, 2001/2002: esp. sec-



Map 10. *Niedermaas* socketed axes with 'wings' (without face arches) in the Netherlands (cf. Part III:2A, pp. 273–279).

tion 4.1: 2a–d, fig. 5ab; Cat.Nos 482–500, included on map 3).

One specimen (Cat.No. 601, from 's-Gravenhage, Zuid-Holland) has semi-'wings' such as occurs on Cat.No. 610 (an axe with not-offset biconical collar from Nijmegen, Gelderland).

None of the axes we have placed in this sub-group have further embellishments; a negative feature that helps in differentiating this group from other characteristic Northeast Netherlands types of socketed axes.

Its distribution too (in so far as can be judged from the half-dozen provenanced examples known; five examples, Cat.Nos 595–599, are unprovenanced) is distinctive: whereas the '*Niedermaas*' type is practically confined to the southern provinces of the Netherlands (Noord-Brabant and Limburg, see map 10), the provenanced examples of our present sub-type have been found mostly in Gelderland, occupying a more central position in the East of the Netherlands (Map 11). Three of the remaining six (Cat.No. 589 Millingen, Cat.No. 592 Nederasselt, Cat.No. 593 Zevenaer), are from Gelderland, as against one from Overijssel (Cat. No. 590 Vasse) and only one (Cat.No. 591) from the

southeast (St. Oedenrode, Noord-Brabant). The axes of this variety seem, thus, to occur in an intermediate area between Northeast and Southeast.

For Germany, axes with 'wings' and offset biconical collar have not been illustrated in the works of Sprockhoff, Tackenberg or Kibbert. An offset collar is, however, a common feature on British socketed axes of varied types (Schmidt & Burgess, 1981).

Tackenberg's *Liste 12* and *Karte 9* show some eight socketed axes with D 'wings' and no arches in the Ems-Weser area; two more farther south in the Rhine-Main area, two in Northeast Germany (Bandelwitz and the Plestlin hoard), and one (in the Witkowo hoard) in Northeast Poland. Kibbert illustrates a few more. These seem mostly to be related to the *Niedermaas* varieties rather than to our biconical-collar and offset-biconical-collar groups. However, three socketed axes, cited in Tackenberg's *Liste 12*, in the Danish Basland hoard (Butler & Steegstra, 2001/2002: p. 301, fig. 30b: 3,4) seem to be closely related to a few examples in the Southeast of the Netherlands (Cat. Nos 537 and 545 in Part III:2A and Cat.Nos 604–606 in section 4.3).

4.2. Catalogue of socketed axes with 'wings' (without face arches)

4.2.1. *Socketed axes with 'wings' and offset biconical collar* (11 ex., fig. 42a–b, map 11) (AXT: Wi<_>)

CAT.NO. 589. MILLINGEN, *GEMEENTE* MILLINGEN, *GELDERLAND* (Part of hoard?).

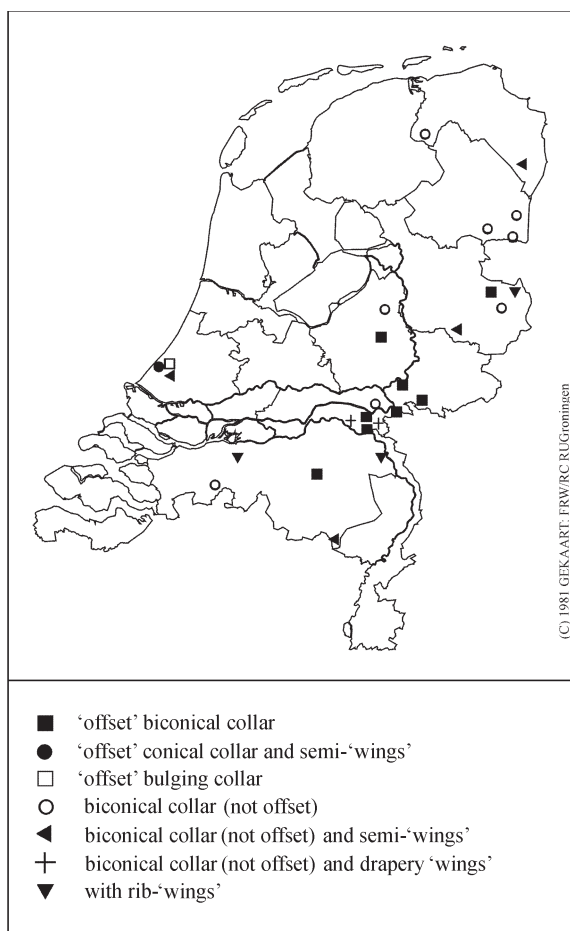
L. 13.8; w. 5.0 cm. Rounded-square mouth opening. <_> collar (formula: 4.3×4.3; 2.85×2.85 cm). From its lower part springs large (5.4×1.0 cm) band elbow loop, of rectangular section and outline. Body outline) (; faces slightly convex. Closely adjoining collar, long wrap-around 'wings', tangent on the faces. Socket subrectangular, with flattened bottom. Fragment of wooden shaft (ashwood) was inside; ¹⁴C dating (GrN-7486): 2760±60 Cal., 2 sigma 1043–1033, 1023–804 BC. Cutting edge sharp, but in part bent. Casting seams present. Patina: now mostly bright bronze, blackish in surface depressions and in socket. Museum: Het Valkhof, Nijmegen, Inv.No. GAS 1972.5.16, at present on loan to Heemkunde Kring 'De Duffelt' at Millingen. (DB 924).

Map reference: Sheet 40D, c. 198/431.

Associations: Dredge find, from possible hoard (with 2 swords, a spearhead and a pin).

Reference: Lanting & Mook, 1977: p. 146.

Dating: The example from Millingen comes from a group of dredge finds which may or may not be a hoard; wood from the socket of the axe has yielded a ¹⁴C date in the two-sigma range of 1003–815 BC.



Map 11. Socketed axes with 'wings' and different collar shapes in the Netherlands.

CAT.NO. 590. VASSE, GEMEENTE TUBBERGEN, OVER-IJSSEL.

L. 12; w. 4.1 cm. Mouth opening subrectangular (formula: 4.2×4.1 ; 2.75×2.85 cm). Heavy $<_{\text{—}} >$ collar, from the lower part of which springs large band elbow loop, 4.3×1 cm. Body outline slightly) (just below collar, 'wings' nearly meeting on faces; the lowest part of their outline is indistinct. Cutting edge sharp. Patina: dull brown. Museum: Enschede, Inv.No. 403. (DB 1043)

Map reference: Sheet 28F, c. 253/495.

CAT.NO. 591. ST. OEDENRODE, GEMEENTEST. OEDENRODE, NOORD-BRABANT. Groot Laar.

L. 11.5; w. 4.4 cm. Nearly circular mouth (formula: 4.1×3.9 ; 3.1×3.0 cm). Heavy $<_{\text{—}} >$ collar; from its lower part springs a large band elbow loop with) (outline ($3.8 \times 1.4/0.8/1.4$ cm). Body outline) (; on neck faint wrap-around 'wings'. Lower part of the axe is () sectioned. Patina: brown-black, with reddish-brown encrustation in places. Very well preserved. Found 1852 at Groot Laar. Museum: 's-Hertogenbosch, Inv.No. 19. (DB 255)

Map reference: Sheet 51E, 396.8/160.8.

Reference: Hermans, 1865: Pl. XX:1, p. 20, No. 19 (5).

Note: a socketed knife (museum 's-Hertogenbosch, Inv.No. 23) was also found at St.-Oedenrode in 1852; but an association of the two objects is unlikely, given their very different patina. Still different in patina is a spearhead (museum 's-Hertogenbosch, Inv.No. 24) found during the removal of an oak hedgerow around Groot Laar at St.-Oedenrode in 1854.

CAT.NO. 592. OVERASSELT, GEMEENTE HEUMEN, GELDERLAND.

L. 10.9; w. 4.8 cm. Circular socket and mouth (formula: 3.75×3.7 ; 2.8×2.7 cm) $<_{\text{—}} >$ collar; body of plano-convex section; 'wings' almost faded away (thus not shown on drawing). Band D-loop (2.85×0.85 cm); prominent casting seam, eccentrically placed; one prominent casting-jet stump. Edge sharp. Surface rough. Patina: mottled, blackish, with some ochreous patches. Found 1902. Museum: Het Valkhof, Nijmegen, Inv.No. AC 26 (old No. E.III. No.17). (DB 1495)

Map reference: Sheet 46A, c. 182/419.

CAT.NO. 593. BEEKSE HEIDE, GEMEENTE BERGH, GELDERLAND. Near Boundary Post 690 (boundary Netherlands-Germany).

L. 10.3; w. 3.7 cm. Subrectangular mouth (formula 3.8×3.3 ; 2.8×2.4 cm). $<_{\text{—}} >$ collar. Partially flanged, biconical collar, from the base of which springs a large but thin D-loop ($2.7 \times 0.7/0.4$ cm). Flattened-oval cross-section at neck, plano-(slightly convex) section below. 'Wings'; edge sharp (recently re-sharpened with file). Patina: black; partly removed by modern filing. Ochreous sand inside socket. Found in the 1920's by G. Kroes in a ditch. Museum: Liemersmuseum Zevenaar, Inv.No. 2476, ex coll. Peter Meisters; acquired with the Meisters collection from Mrs. Marie A. Hendriksen, the housekeeper of Meisters. (DB 1741)

Map reference: Sheet 40G, c. 209.8/434.3.

CAT.NO. 594. GEMEENTE NIJMEGEN, GELDERLAND. River Waal.

L. ± 8.5 ; w. ± 3.3 cm. Rounded rectangular mouth. $<_{\text{—}} >$ collar, with flattish sub-collar from which springs an asymmetrical ribbon loop. Upper part of body, with 'wings', has round cross-section; lower part has () section. Cutting edge sharp. Surface pitted, but smooth to touch. Patina dark bronze, but glossy. Casting seams partly preserved. Interior dull dark bronze. Edge sharp. Very well preserved. Dredge find: ± 1960 presented by one Van Alphen (Roermond), then employed on a dredge. Private possession. (DB 927)

CAT.NO. 595. PROVENANCE UNKNOWN.

L. 10.8; w. 4.7 cm. Subrectangular mouth (formula: 4.1×3.7 ; 2.8×2.8 cm). $<_{\text{—}} >$ collar; from which springs a large elbow loop (4.7×1.0 cm) of oval section. Neck of oval section, with elongated wrap-around 'wings'. Sides parallel, expanding toward cutting edge, which is sharp, with slight pouches. Sharpening facet on face. Patina: mostly light greenish-brown, part black. Fine preservation.



Fig. 42a. Socketed axes with 'wings' and offset biconical collar. 589: Millingen, Ge; 590: Vasse, Ov; 591: St.-Oedenrode, N-B; 592: Overasselt, Ge; 593: Beekse Heide, Ge; 594: gemeente Nijmegen, Ge (drawing HS). See also fig. 42b.

Traces of wood inside. Museum: Het Valkhof, Nijmegen, Inv.No. XXX.d.16; ex coll. Kam. (DB 986)

CAT.NO. 596. PROVENANCE UNKNOWN.

L. 11.3; w. 4.55 cm. Subrectangular mouth opening (formula:

4×3.8 ; 2.8×2.5 cm). Heavy \leq collar, from the lower part of which depends a large flattened-D ribbon loop (3.5×0.7 cm), with) (outline. Immediately below collar, large D wrap-around 'wings', the edges nearly meeting on the faces. Body outline) (. Cutting edge sharp. Private possession. (DB 1749)

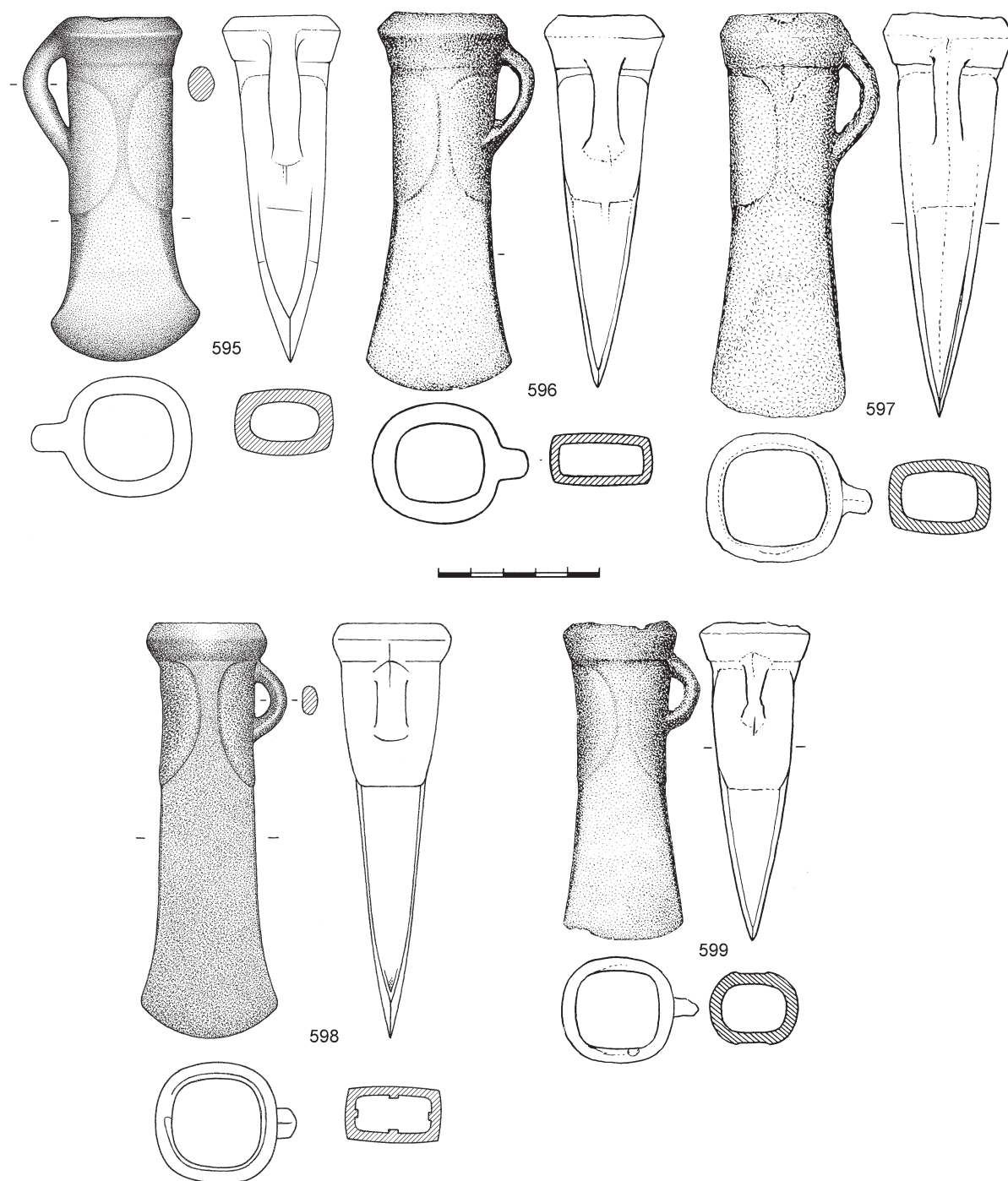


Fig. 42b. Socketed axes with 'wings' and offset biconical collar. 595–599: provenance unknown. See also fig. 42a.

CAT.NO. 597. PROVENANCE UNKNOWN.

L. 12.65; w. 4.2 cm. Subrectangular mouth (formula: 4.3×4.05 ; 3.25×3.1 cm). <_> collar; elongated wrap-around 'wings'; subrectangular cross-section above, rectangular with convex sides below. Large D band loop (4.1×0.8 cm). Patina: brown. Cutting edge has

been resharpened recently. Museum: Het Valkhof, Nijmegen, Inv. No. XXX.d.15 (ex coll. Kam). (DB 1532)

CAT.NO. 598. PROVENANCE UNKNOWN.

L. 13; w. 4.2 cm. Weight 339 gr. Oval socket (mouth formula:

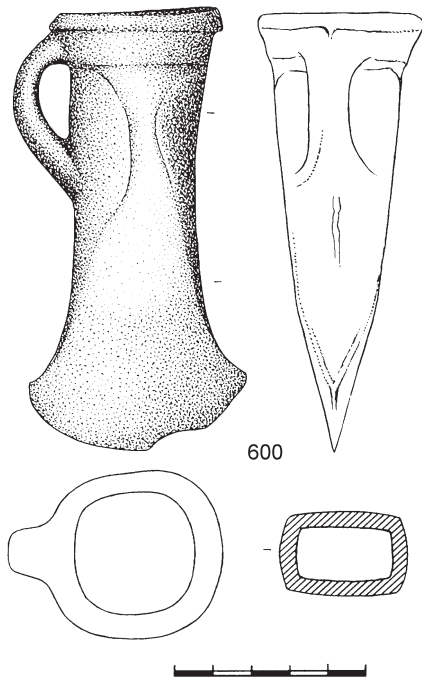


Fig. 43. Socketed axe with 'wings' and funnel collar with rim flange. 600: Bruggelen, Ge.

3.8×3.75; 2.8×2.8 cm) <> collar, from the base of which springs D band loop (2.4×1.0 cm) and prominently moulded wrap-around D 'wings'. Body with parallel-sided outline, expanding slightly toward cutting edge. Body cross-section oval above, rectangular below. Inside the socket are four thin vertical ribs, which begin c. 1.4 cm below the rim, and continue to the base of the socket. Cutting edge sharp; slight pouches. Casting seams mostly removed. Patina: dull black encrustation, in which some sand is embedded (little on exterior, much inside socket; mostly white quartz grains). Museum: Het Valkhof, Nijmegen, Inv.No. 10.2.22.4; purchased from Menco, Arnhem. (DB 985)

Note: Vertical interior ribs are very rare in socketed axes in the Netherlands, but are far more common in South Scandinavia (Baudou, 1960: Taf. IV: VII A1b–c; VII A2c; Taf. V: VII B2a–d, VII C1b; Taf. VI: VII C2a–b, C3), and (on quite different sorts of socketed axes) in Britain (Ehrenberg, 1981: p. 216, Table 1).

CAT.NO. 599. PROVENANCE UNKNOWN.

L. 9.9; w. 3.8 cm. Subrectangular socket; <> collar (mouth formula: 3.65×3.35; 2.65×2.45 cm). Low D-loop (2.45×0.45 cm) springs from base of collar; upper part of oval section, with wrap-around 'wings' (extending onto sides); lower part of rectangular section, with convex sides and faces; cutting edge sharp (one corner slightly damaged). Except the offset collar very similar to Cat.Nos 491–491 of *Niedermaas* type. Patina: mostly reddish brown; in part blue-green. Ochreous encrustation, especially near loop. Museum: Het Valkhof, Nijmegen, Inv.No. XXX.d.17; ex coll. Kam. (DB 1533)

Possibly to be associated with these are:

- a) Socketed axe with 'wings' with offset funnel collar and rim flange (fig. 43)

CAT.NO. 600. BRUGGELEN, *GEMEENTE* APELDOORN, GELDERLAND.

L. 11.6; w. 5.7 cm. Rounded-square mouth with unusual rim flange. Inverted-conical, offset collar (mouth formula: 4.55×4.5; 3.2×3.25 cm). Very large D-shaped band loop with pronounced) (outline (4.5×1.9/1.1/2.1 cm). Body outline nearly parallel-sided, but with widely expanded blade tips. Elongated 'wings'; body cross-section at 'wings' is oval, below it is nearly rectangular. Edge sharp, but slightly damaged. Patina: dark bronze. Found before 1940. Very well preserved. Museum: Het Valkhof, Nijmegen, Inv.No. GAS 1958–2–6, acquired from S.H. Frederiks of Arnhem. (DB 29)

Map reference: Sheet 33B, c. 191/465.

Note: The unusual collar of Cat.No. 600, with a flanged rim, is not matched on any other specimen in the Netherlands, but occurs in western Germany on an 'unclassified' socketed axe from the HaB3 hoard of Ockstadt, Kr. Friedberg (Kibbert, 1984: No. 869; details of hoard cf. his p. 101 under Kat.Nr. 497–500 with further references). Somewhat similar rim flanges are known on a variety of socketed axes in North Britain (Schmidt & Burgess, 1981); indeed, Kibbert's example may well be British. But all these axes are otherwise quite different from Cat.No. 600. The same can be said for an example (a 'faceted' socketed axe) from the 'Epellet Park' hoard of Yattendon, Berks. (Huth, 1992: Kat.Nr. GB 13, Taf. 28:6, with further references).

- b) Socketed axe with semi-'wings' and offset biconical collar (fig. 44)

CAT.NO. 601. 'S-GRAVENHAGE, *GEMEENTE* 'S-GRAVENHAGE, ZUID-HOLLAND.

L. 10.4; w. 4.5 cm. Sub-square mouth opening (formula: 3.6×3.35; 2.8×2.6 cm). <> collar, from which springs D-shaped loop 2.8×0.55 cm. Body outline) (, with expanded blade tips. Semi-'wings' on faces, meeting in centre. Casting seams on sides somewhat eccentric. Cutting edge sharp. Patina: dark green; much of surface abraded. Orange stain inside socket. Collection: Gemeente Den Haag, Afdeling Archeologie, Inv.No. PCHHM90–HH2–ZJ (old No. HH 280). (DB 1357)

Map reference: Sheet 30G, c. 82/457.

References: De Wit, 1964: p. 4, fig. 2; Van Heeringen, 1983: p. 105, afb. 10–5.

- c) Socketed axe with 'wings' and offset bulging collar (fig. 45)

CAT.NO. 602. LATHUM, *GEMEENTE* ANGERLO, GELDERLAND.

L. 7.6; w. 3.1 cm (mouth formula 3.5×?; 2.4×? cm). Bulging collar

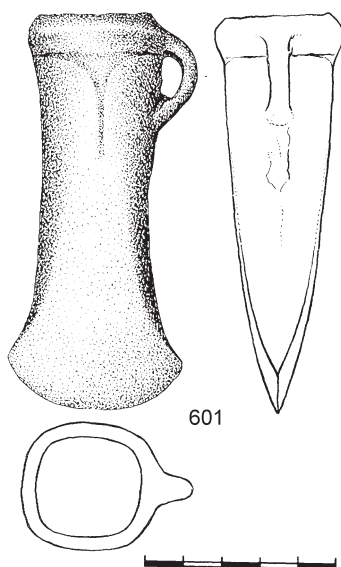


Fig. 44. Socketed axe with semi-'wings' and offset biconical collar. 601: 's-Gravenhage, Z-H.

with slight 'step'; D-shaped 'wings' (faintly discernible). Body section (). Loop (2.4×? cm) anciently broken out. Cutting edge was sharp, but partly blunted. Upper part of body severely damaged anciently. Heavily corroded; the whole surface is pitted. Patina: black. Found Febr. 1, 1985 by present owner at the mouth of a concrete drainage pipe in a gravel quarry. Private possession. (DB 2638)
Map reference: Sheet 40B, c. 198/444.8.

d) Socketed axe with semi-'wings' and offset funnel collar (fig. 46)

CAT.NO. 603. SCHEVENINGEN, GEMEENTE 'S-GRAVENHAGE, ZUID-HOLLAND. Nieuwe Parklaan.

L. 9.0; w. 4.3 cm. Rounded-square mouth. Funnel offset collar with bevelled, markedly oblique rim (formula: 3.7×3.3; 2.9×2.9 cm). Body outline (). D-shaped loop (2.6×0.7 cm) springs from base of mouth moulding. Semi 'wings' hardly visible. Cutting-edge sharp. Patina: part black, part brown. Found May 1884 at Scheveningen (Westbroek Park), during the excavation of the canal ending behind Seinpost. It lay under a peat layer 1 m thick, c. 6 to 8 m under the dunes (at a distance of c. 20 m human bones are reported to have been found. A stone axe is also from the same place). Collectie: Gemeente Den Haag, Afdeling Archeologie, Inv.No. PCHHM90-HH3-ZJ (old No. HH 278). (DB 1356)

Map reference: Sheet 30D, c. 79/458.

References: De Wit, 1964: p. 5; Van Heeringen, 1983: p. 105, afb. 10-6.

Parallels section 4.1: we do not know of any socketed axes certainly clearly belonging to this group outside the Netherlands. None are at any rate illustrated by

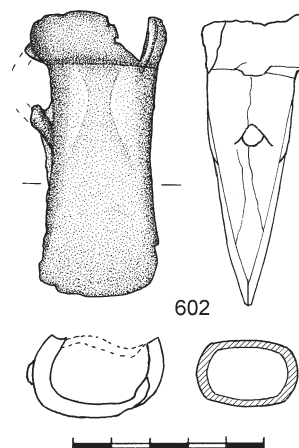


Fig. 45. Socketed axe with 'wings' and offset flat collar. 602: Lathum, Ge (drawing HS).

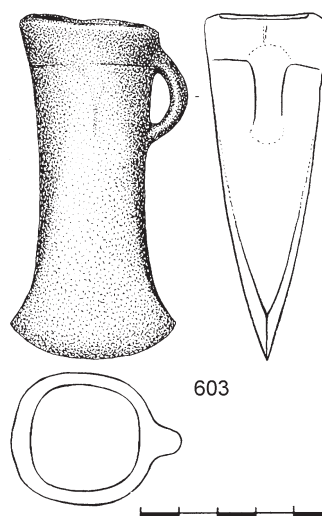


Fig. 46. Socketed axe with semi-'wings' and offset funnel collar. 603: Scheveningen, Z-H.

Sprockhoff, Tackenberg or Kibbert. Somewhat apart, but apparently related, are, however, a few examples in western Germany. Closest, perhaps, is a specimen from the HaB3 hoard of Dossenheim, Rhein-Neckarkreis (Stein, 1979: Kat.Nr. 269, Taf. 79-81, esp. Taf. 80:8), though it does not have a distinct 'step', below the collar, and its 'wings' are atypically formed by two crescentic grooves.

Also similar in most respects, although an unusually small specimen (length only 9.5 cm) is from the *Fertigwaren*-hoard of Nieder-Olm, Kreis Mainz-Bingen (Richter, 1970: Taf. 92C; Tackenberg, 1971: Taf. 14:9 (photo); Kibbert, 1980: Cat.No. K.685; see under his Kat.Nr. 753 for further references). Its angu-

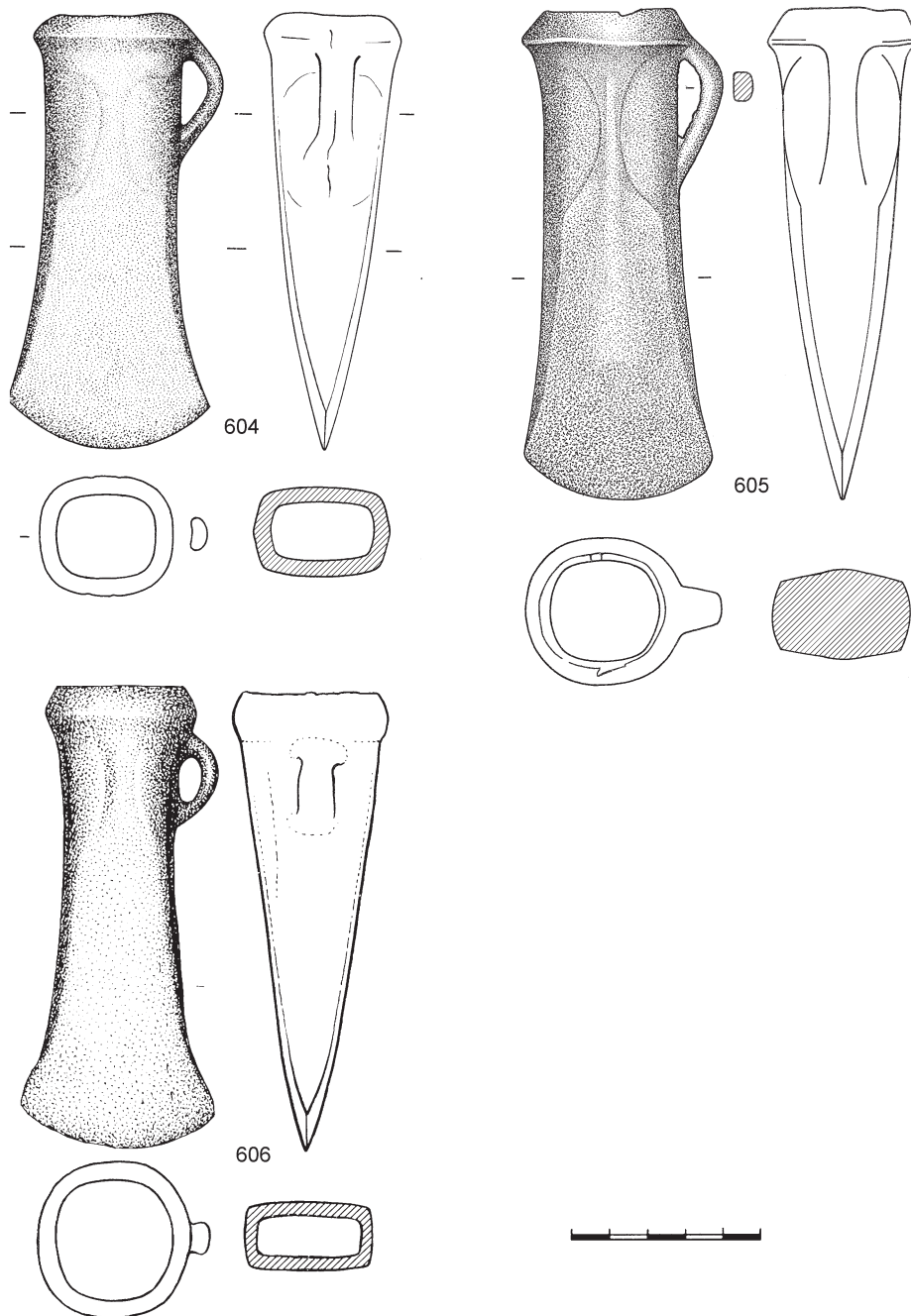


Fig. 47. Socketed axes with 'wings' and biconical collar. 604: Saasveld, Ov; 605: no provenance; 606: Rijsbergen, N-B.

lar loop is especially a link with the North-Netherlands axes. Kibbert (1984: pp. 159–162) would assign the Nieder-Olm hoard to his *Stufe Obernbeck*, a stage earlier than the *Stufe Wallstadt-Ha B3*, although Richter (1970: pp. 170–173) had argued for a Wallstadt dating. Tackenberg, 1971: pp. 216–217) is undecided. In this category also is the socketed axe from the Period V hoard of Afferde, Kr. Hameln-Pyrmont (Jacob-

Friesen, 1967: Taf. 172:1–7 (esp. No. 2); Tackenberg, 1971: pp. 36, 219).

4.3. Socketed axes with 'wings' and biconical collar (fig. 47) (AXT:WiCol<>)

To this group may be assigned the three specimens Cat. Nos 604–606; plus the example with semi-'wings'

Cat.No. 610. None of these have furrow ornament.

Perhaps related, but an eccentric production, is Cat.No. 607 (Dalen, Drenthe), with a quite atypically exaggerated biconical collar and (unlike the others in this subgroup) furrow ornament. Even more eccentric, if the old sketch is reasonably correct, is from the Elzenerveen, Overijssel, with its greatly exaggerated loop (for which *cf.* Cat.No. 616) and its ornament on the face.

CAT.NO. 604. SAASVELD, *GEMEENTE WEERSELO, OVER-IJSSEL*.

L. 11.5; w. 5.3 cm. Subrectangular mouth (formula: 3.6×3.2 ; 2.65×2.25 cm), <> collar from which springs ribbon elbow loop (3.5×0.9 cm). Wrap-around 'wings'. Body outline) (, body cross-section (). Cutting edge sharp. Heavily corroded and recently filed. "*Waarschijnlijk gevonden tussen afval te Saasveld*" [probably found amidst waste material at Saasveld]. Museum: Enschede, Inv. No. 1973–11. (DB 1884)

Map reference: Sheet 28H, c. 253/484.

CAT.NO. 605. PROVENANCE UNKNOWN.

L. 13.2; w. 5.0 cm. Weight 984 g. Nearly circular mouth. <> collar (formula: 4.2×4.0 ; 2.7×2.8 cm), from the angle of which depends a large, D-sectioned, elbow-shaped,) (profiled ribbon loop ($4.2 \times 1.2/0.7/1.2$ cm). Body with) (outline. On neck, somewhat elongated D-shaped 'wings'. Between the 'wings' a thin vertical rib, which extends onto the body of the axe. Cutting edge sharp. Patina: mostly light blue-green, but part encrusted with brownish ochreous material containing much sand. Heavy specimen. Museum: Het Valkhof, Nijmegen, Inv.No. 10.2.22.3. Purchased from Menco, Arnhem. (DB 984)

CAT.NO. 606. RIJSBERGEN (NEAR), *GEMEENTE RIJSBERGEN, NOORD-BRABANT*.

L. 12.3; w. 5.2 cm. Weight 352 gr. Rounded <> collar (formula: 4.1×4.2 ; 3.1×3.2 cm), from the base of which depends a D-shaped ribbon loop, 2.6×1.0 cm. 'Wings' on faces, body of rounded rectangular cross-section. Casting seams present. Edge sharp, J tips. Patina: dark brown. Museum: RMO Leiden, Inv.No. T.R.2; purchased through H. Terhegge, April 1864. (DB 342)

Map reference: Sheet 50A, c. 107/391.

Reference: Butler, 1963b: p. 85 (17).

4.3.2. Socketed axes with 'wings', biconical collar, embellished (fig. 48)

CAT.NO. 607. DALEN, *GEMEENTE DALEN, DRENTHE*.

L. 11.3; w. 5.0 cm. Weight 397 gr. Rounded-square mouth (formula: 4.6×4.2 ; 3.0×2.9 cm). Weight 397 gr. Unusually heavy <> collar, from which springs a very large elbow loop (subrectangular cross-section; 4.3×0.9 cm). Upper part of body has oval cross-section; lower part () section, with slightly convex faces and sides. Body

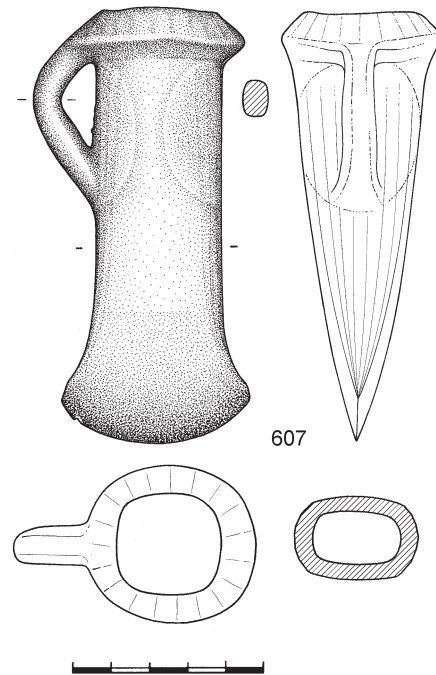


Fig. 48. Socketed axe with 'wings', biconical collar, embellished. 607: Dalen, Dr.

outline parallel-sided, but markedly expanded blade tips. Faintly visible D-shaped wrap-around 'wings'. On the sides and on the 'wings' vertical furrow ornament, on the sides forming concentric V's. The upper face of the collar also has vertical furrows (as on Cat.No. 617). Straight-ground sharpening facet on each face; slight pouches on sides. Casting seams not present, except under the loop. Preservation virtually perfect; no trace of corrosion. Cutting edge sharp. Found about 90 years ago. Patina: dark bronze. Private possession, purchased from son of finder. (DB 2398)

Map reference: Sheet 22E, 247/524.

Note: The furrow ornament on the collar is unusual, but *cf.* Cat.No. 616 (Cranendonck, Noord-Brabant) with herringbone ornament.

a) Socketed axe with 'wings', biconical collar, embellished, exceptional piece (fig. 49)

CAT.NO. 608. SCHOONEBEEK, *GEMEENTE SCHOONEBEEK, DRENTHE*. From the hoard.

L. 14.2; w. 4.9 cm. Circular mouth opening (formula: 4.3×4.2 ; 3.0×3.2 cm). Horizontally faceted <> collar, which has been carefully regularized externally, but left somewhat rough internally. The round-sectioned neck bears, directly under the collar, D-shaped 'wings', nearly meeting, consisting of a concentric series of furrows, which are prolonged vertically down the sides, expanding gradually and only slightly toward the cutting edge. The faces and sides are convex. From the base of the collar springs a large, fan-shaped loop, the expanded base of which is as if glued onto the

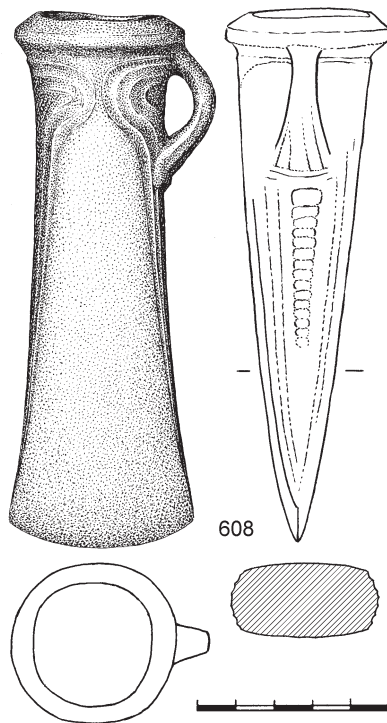


Fig. 49. Socketed axe with 'wings', biconical collar, embellished, exceptional piece. 608: Nieuw-Schoonebeek, Dr (from the hoard, see fig. 92D).

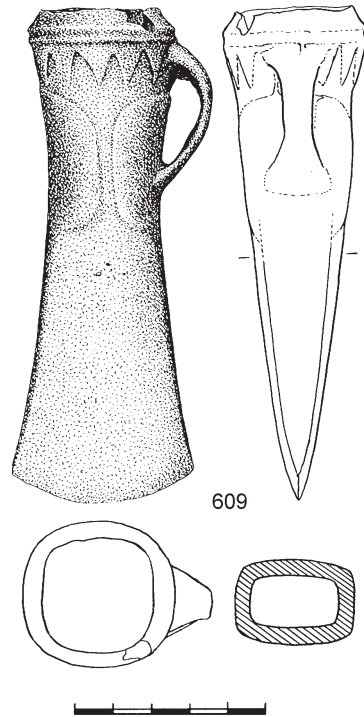


Fig. 50. Socketed axe with 'wings', biconical collar and VVV decoration. 609: De Wilp, Gr.

body. A casting seam is preserved only on the inner face of the loop. Where on the sides the casting seam might have been expected is a vertical column of hammer-facets. The cutting edge is sharp (and has 'recently' been resharpened). The socket, which extends to a depth of c. 9.3 cm, has a flat bottom; each interior face of the socket bears three vertical internal ribs. Patina: black (mostly removed, showing dark bronze colour). Very well preserved. Found 10 June 1894 by A. Ellen and B. Geuchien, in a meadow (property of B. Wilms of Schoonebeek), 50 cm beneath surface, on sand and beneath peat. Cadastral Section A, No. 2495. Museum: RMO Leiden, Inv. No. c. 1894/11.2. (DB 1630)

Associations: Found together with RMO Inv.Nos c. 1894/11.1 (socketed urnfield knife) and c. 1894/11.3 (ornament); and museum Assen Inv.Nos 1894/XII.1a–c (socketed urnfield knife, socketed axe Cat.No. 691 and a pegged spearhead).

Map reference: Sheet 22F, 256.7/521.83.

References: Butler, 1969: p. 98, fig. 47, Pl. 27; Jacob-Friesen, 1967: Taf. 172:8–13; Kooi, 1982: p. 49, fig. 40; Essink & Hielkema, 1997–1998: p. 295, No. 121.

Comments: An exceptional socketed axe. Its length is unusual. The furrow ornament, echoing the faces and 'wings', allies it with various axes in our 'wings', face-arch, and 'wings'-and-face arch groups, but its rendition on this axe recalls to some extent the ornament on the two 'Hunze-Ems' socketed axes in the Bramsche-Estringen hoard in the Emsland (Tackenberg, 1971: Taf. 11). The

horizontal faceting of the collar is also uncommon. The form of the loop is also exceptional; and the vertical ribs inside the socket are quite unusual in the Netherlands.

The Nieuw-Schoonebeek hoard includes a second socketed axe (of AWi type, see Cat.No. 691), two Central European Urnfield HaB3 socketed knives (one of them with incised ornament), a plain socketed spearhead, and an ornamental socketed object (Butler, 1961a: fig. 21; 1969/1979, fig. 75). The Central European socketed knives establish the dating to HaB2/3/Northern Period V (Prüssing, 1982: pp. 142–148, Nos 277–291, Taf. 15–16). An unpublished socketed ornamental object more or less similar to the hitherto unique one from the Schoonebeek hoard is in the Maaseik museum (Belgium).

Dating: Central European HaB3/Northern Montelius V.

b) Socketed axe with 'wings', biconical collar and VVV decoration (fig. 50)

CAT.NO. 609. DE WILP, GEMEENTE MARUM, GRONINGEN. L. 13.1; w. 4.7 cm. Rounded-square mouth opening. <> collar with medial groove, from which depends a row of plastic inverted triangles. From this row springs a large band D-loop with) (outline (4.0×2.0/0.7/1.8 cm). On faces odd-shaped 'wings' not quite meeting on faces. The socket extends to a depth of only 7.2 cm. Eccentric casting seam under the loop. Cutting edge sharp. Patina: cleaned.

Socket-mouth slightly damaged. Found by J. Boels Tienstra in the Ronde Meer “*onder het vast veen op het zand. Er lag een soort slijpsteen in de buurt als gebruikt om een zeis te scherpen*” [under the peat, on the sand. Nearby was a sort of whetstone such as is used for sharpening a scythe]. Museum: Leeuwarden, Inv.No. 7C-1. (DB 198)

Map reference: Sheet 11F, 214.800/570.775.

Reference: Boeles, 1951: p. 482, Pl. VI-7; Butler, 1961a: p. 233; Essink & Hielkema, 1997-1998: p. 298, No. 154.

c) Socketed axe with semi-‘wings’, biconical collar (fig. 51A)

CAT.NO. 610. NIJMEGEN (NEAR), *GEMEENTE NIJMEGEN*, GELDERLAND.

L. 10; w. 4.7 cm; Weight 234 gr. Nearly circular mouth opening (formula: 3.65×3.6 ; 2.75×2.5 cm). <> collar, from which springs D ribbon loop (3.5×0.75 cm), flaring slightly top and bottom. Body outline) (; cross-section (). Semi-‘wings’. Thick casting seams present, on the unlooped side, the casting seam is markedly off-centre. Cutting-edge battered. Patina: glossy dark green. Museum: RMO Leiden, Inv.No. e 1931/2.75, ex. coll. Gildemeester. (DB 438)

Map reference: Sheet 40C, c. 186/427.

Parallels: the German examples Ki 694 (Gohr) and Ki 695 (from the Nieder-Olm hoard, see section 7.1.2 below).

d) Exotic specimen (fig. 51B)

CAT.NO. 611. ELSENER VEEN, *GEMEENTE MARKELO*, OVERIJSSSEL.

L. 11; w. 5.8 cm. Found at a depth of 4.5 m. by peat-labourers, “*Gevonden op een diepte van ongeveer 4.5 m door arbeiders die turf groeven*”. Museum: RMO Leiden, Inv.No. R.N.c. 1876-11; presented by Mr. C.A. Nairac, Mayor of Barneveld. We have not seen this axe. The old drawing shows a truncated-cone collar part, a large V on the face below the collar part (technique unknown: raised, depressed, grooved, incised?); body with strong) (outline and hexagonal section. The side loop is exceptionally long; if correctly drawn, the longest in the Netherlands. (DB 324)

Documentation: letter 28 Nov. 1876, Reg.No. 179, *Ontvangen brieven* Reg.No. 108, 113; Inventaris 10, p. 62, with sketch.

Map reference: Sheet 28D, c. 230.5/476.5.

Note: Partial resemblance to some SE European socketed axes (e.g. Kibbert, 1984: Taf. 44, with rib style ornament).

4.3.3. *Socketed axes with ‘wings’, biconical collar and single neck rib* (2 ex., fig. 52)

These differ from the above chiefly by the possession of a single neck rib. The collar tends to be of the trumpet form. This small group is also predominantly from the East-Central area (five specimens from Gelderland and Overijssel) and only one from the North.

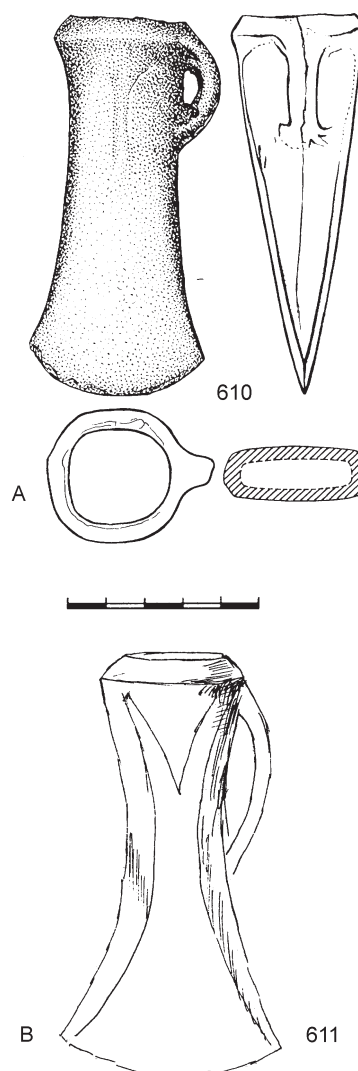


Fig. 51. A: Socketed axe with semi-‘wings’, biconical collar. 610: near Nijmegen, Ge; B: with exceptionally long loop. 611: Elsener veen, Ov.

CAT.NO. 612. BETWEEN BEMMEL AND HUISSEN, *GEMEENTE BEMMEL*, GELDERLAND. Kikkerpoel.

L. 8.9; w. 3.6 cm. Mouth opening and socket rounded-rectangular (formula: 3.9×3.6 ; 2.6×2.4 cm). <> collar (the facets slightly hollow), from the lower part of which springs a large, elongated-D shaped ribbon loop (3.1×0.9 cm). Below collar, single neck rib. Body outline) (. Slight remains of 4 pouring gates. Casting seams slightly asymmetric. D-shaped wrap-around ‘wings’, not meeting. No arches, but faint straight-edged resharping facet on faces. Cutting edge sharp, but has (anciently) damaged part. Dark-coloured sand inside (sample has been preserved). Patina: traces of black patina, mostly removed. Now mostly dull brownish. Found 5 May 2000 with metal-detector, on a sand ridge along the R. Linge,

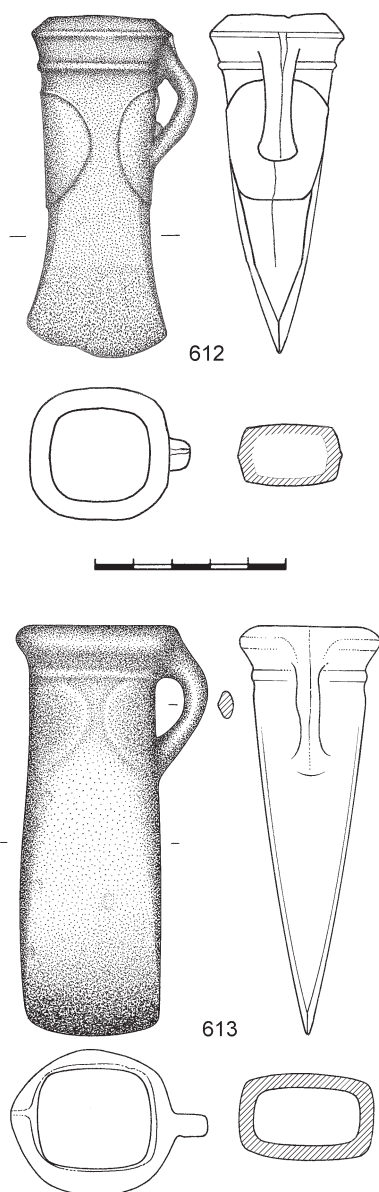


Fig. 52. Socketed axes with 'wings', biconical collar and single neck rib. 612: between Bommel and Huissen, Ge (drawing HS); 613: between Nieuw-Amsterdam and Erica, Dr.

in sand, during the excavation of a basin for biological purposes. Private possession. (DB 2503)

Note: According to information from the Huissen archaeological society, (undated) wooden wickerwork, animal bones, and sherds have been recovered from the same terrain. Iron Age settlement remains occur in the vicinity.

Map reference: Sheet 40C, 191.6/435.4.

CAT.NO. 613. BETWEEN NIEUW-AMSTERDAM AND ERICA, GEMEENTE EMMEN, DRENTHE.

L. 10.8; w. 3.6 cm. Weight 353 gr. Subrectangular mouth. Bulging, nearly <> collar (the rim of which has been flattened), from which springs a large, asymmetrical loop approaching 'elbow' form and with asymmetrical) (outline. Single narrow neck rib, from which depend short D-shaped 'wings' (faint on one face). Body with nearly parallel sides (but toward cutting edge slightly convex outline). Cutting edge blunted. The surface is rather rough, with many tiny pits. Patina blackish, rather glossy, with traces of green under the loop and in the socket. Casting seams have been removed, except inside the loop. Found c. 1926 in a peat cutting by W.C. van 't Sant (Leersum); presented by him in 1981 to H.J. Reusink (Leersum). His widow, M.G. Reusink-de Lange, sold it in 1998 to the Drents Museum, Assen (Inv.No. 1998/IV.2). (DB 1934)

Map reference: Sheet 17H, c. 257/527.

Documentation: Card file Reusink; note and drawing S.H. Achterop to ROB, 09 January 1975; documentation ROB 1975.

Reference: Essink & Hielkema, 1997–1998: p. 288, No. 47.

Note: According to the ROB documentation of 1975, the axe was found in black peat, above which were layers of oxidized peat (*baggerveen* and *bonkveen*) 50 to 60 cm thick. However, on Reusink's original find notes there is no mention of earth types. He had questioned the already aged finder at length, but Van 't Sant was unable to recollect anything further than what already stood in the report (information from the widow Reusink-de Lange, who had been present at that interview).

The parallel-sided, faintly convex outline of this axe is highly unusual.

4.3.4. Socketed axes with drapery wings, biconical collar and one neck rib (2 ex., fig. 53)

CAT.NO. 614. WIJCHENSE MEER, GEMEENTE WIJCHEN, GELDERLAND.

L. 10.2; w. 4.55 cm. Weight: 265 gr. rounded-square mouth (formula: 4.1×3.9; 2.9×2.65 cm). <> collar (the lower member concave) with smooth rim part; from the lower member springs large D ribbon loop (3.3×1.0 cm). At base of the collar, a broad neck rib divided into segments. Below this, long 'drapery wings', the upper part of which are wrap-around and well defined, the lower part fading out, but giving the impression of drapery. Body with oval section above, () below. Cutting edge sharp, but slightly battered; slight pouches. Casting seams in part present, in part worked away. Patina: dark bronze, slight traces of black in occasional pits. Very well preserved. Found December 1979 with metal-detector on south shore of the lake, from which it had been dredged up. Private possession. (DB 1939)

Map reference: Sheet 45F, 178.02/424.03.

References: *The Coinhunter*, June 1987: pp. 6–7; Van der Sanden, 1980: pp. 169–171, afb. 3 (photo), 4 (drawing).

Note: the segmentation of the neck rib is as far as we know unique. Presumably it is a variant of the more common cabled-rib pattern, as on Cat.Nos 630, 632, 657, 671–673, 697.

CAT.NO. 615. NEERBOSCH, *GEMEENTE NIJMEGEN*, GELDERLAND. Stichting Lindenhout.

L. 12.5; w. 4.3 cm. Oval mouth opening. <> collar (mouth formula: 4.5×3.7 ; 3.0×2.5 cm), from lower facet of which springs a large elbow loop ($4.0 \times 1.5/0.6$ cm) with) (outline. On neck one small neck rib and two narrow grooves, below which three pellets arranged as a triangle. On faces elongated drapery 'wings', extending onto sides. Body outline) (. Patina mostly brownish, partly light green corrosion. Cutting edge sharpened. Found while harvesting potatoes, on sand and gravel prolongation of the Nijmegen ridge. Private possession. (DB 2025)

Map reference: Sheet 40C, 183.65/428.10.

Reference: Tuyn, 1977: pp. 24–25, afb. 3.

Note: Close parallels for this axe are not evident; yet many of its features are to be found on socketed axes in the North-of-the-Netherlands repertoire, such as especially the <> collar and the exaggerated ribbon loop with) (profile.

Drapery 'wings' occur on a few 'Hunze-Ems' examples in the Netherlands (Cat.Nos 614, 689, 694 and 712; three of these are from the North, one from the Nijmegen area) and in Middle West Germany, *i.e.* Ki 675–8, with or without facial arches; an example from 'Köln' (Nordrhein-Westfalen) with 'drapery wings', funnel-shaped collar, large D-loop, furrows on 'wings' and sides, is illustrated by Kibbert (his Kat. No 678); British Museum, ex coll. A.W. Franks. See also Tackenberg, 1971: Pl. 12:2 from Merfeld (possible hoard); though also on East German forms (Ki 750–758) that are exotic in West Germany and the Netherlands.

4.3.5. Socketed axe with semi-'wings', biconical collar and one neck rib (1 ex., fig. 54A)

CAT.NO. 616. BUDEL, *GEMEENTE CRANENDONCK*, NOORD-BRABANT. Along Buulder Aa.

L. 1.8; w. 4.95 cm. Weight: 363 gr. Rounded-rectangular mouth (formula: 4.2×4.1 ; 3.1×3.1 cm). Smooth interior with sandy encrustation. Collar strong, biconical. From its base large band loop (4.5×1.1 cm), squashed in. One neck rib with incised herringbone pattern, only a small part present, chiefly alongside loop. Body with oval cross-section (neck), rounded rectangular section below. Semi-'wings', not meeting (3.5 mm apart). Lower part with \ / sharpening facet, pouched on loopless side; the other side is battered. On upper part of collar, faintly, vertical furrows (as on Cat.No. 608). Patina: under the loop, greeny sand encrustation. Rest of surface dark bronze with black mottling. Damage: bite out of one side just above the tip; on one face battered portion. Casting seams mostly

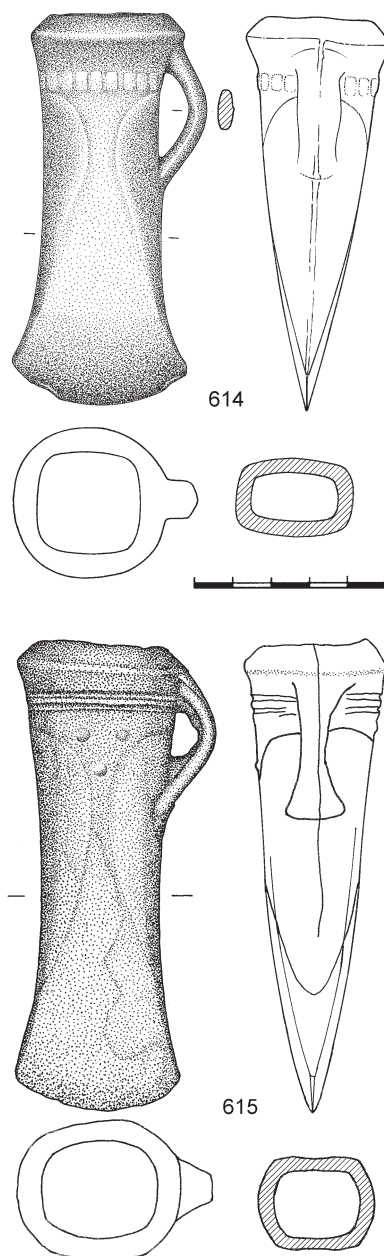


Fig. 53. Socketed axes with drapery 'wings', biconical collar and one neck rib. 614: Wijchense meer, Ge; 615: Neerbosch, Ge (drawing HS).

removed, but present faintly on collar and just below it. Found 16 March 2000 with metal detector in the Driebokstraat, on a field in the valley of the Buulder Aa, in ground possibly dredged up in widening of the Buulder Aa (1990–1995). Private possession. (DB 2497)

Map reference: Sheet 57E, c. 168/366.

Reference: Arts, 2000: p. 13, with figure.

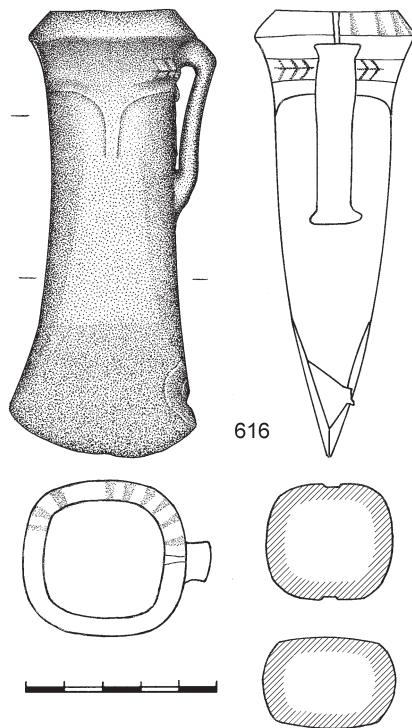


Fig. 54A. Socketed axe with semi-'wings', biconical collar and one neck rib. 616: Budel, N-B (drawing HS).

4.3.6. Socketed axe with funnel-shaped collar with semi-'wings' and one neck rib (1 ex., fig. 54B)

CAT.NO. 617. VRIEZENBERG, GEMEENTE MARKELO, OVER-IJSSEL.

L. 10.5; w. 4 cm. Funnel-shaped collar (4.5×3.0 cm; part missing through casting defect) with flattened, bevelled rim, from which springs large D-loop (4.0×0.8 cm). Neck of oval section; single neck rib, from which hang half-'wings'. Cylindrical body, with slightly S-shaped blade tips. Cutting edge sharp. Patina: dark brown. Museum: Enschede, Inv.No. 1973–12. (DB 1885)

Map reference: Sheet 28D, 231/476.

Note: The find-spot is given by Ter Kuile in his copy of Pleyte (p. 34).

4.4. Socketed axe with 'wings', biconical collar, two neck ribs and VVV decoration (fig. 55)

CAT.NO. 618. EPE, GEMEENTE EPE, GELDERLAND.

L. 12.55; w. 5.2 cm. Oval socket with rectangular mouth (formula: 4.65×4.1; 3.05×2.6 cm). <> collar with 7 plastic pendant V's; 2 neck ribs, 'wings' (with vertical furrows) of subrectangular form meeting on faces (not on sides); very large D-loop (4.6×0.9 cm). Cutting edge crescentic, and battered. Loop inside has vertical fluting (other side has had its surface scraped off). Patina: glossy dark

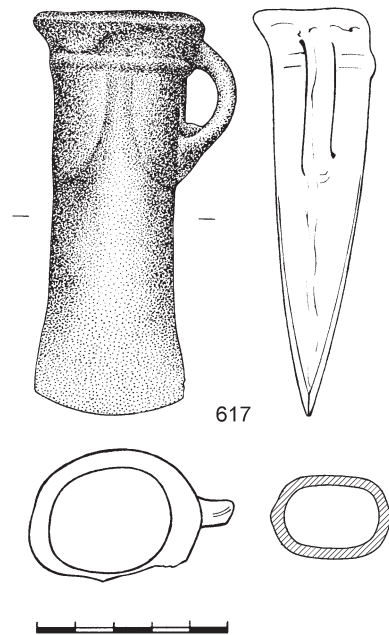


Fig. 54B. Socketed axe with semi-'wings', biconical collar and one neck rib. 617: Friezenberg, Ov. (drawing HS).

green. Museum: RMO, Leiden: Inv.No. F.E.2. (DB 283)

Documentation: *Ontvangen brieven* Reg. No. 29.

References: Pleyte, 1889: Pl. XXIV:8; Holwerda, 1912: p. 9; Holwerda, 1925: p. 103, afb. 38; Butler, 1961a: p. 221, fig. 20.

Note: Lead unifacial cast of this axe in museum Zwolle, Inv.No. 119; gift of G. Haasloop Werner.

4.4.1. Socketed axe with semi-'wings', biconical collar and two neck ribs, embellished (fig. 56)

CAT.NO. 619. ONSTWEDDER HOLTE, GEMEENTE STADS-KANAAL, GRONINGEN (part of hoard).

L. 10.2; w. 4.6 cm. Subrectangular socket (formula: 4.5×4.1; 3.1×3 cm). Heavy collar with bevelled rim; two neck ribs. Heavy rounded side-loop (3.2×1 cm) springs from the collar. Body oval in cross-section, with flat wedge-shaped facets on the faces. On each side are semi-circular raised mouldings, which meet on the faces. Vertical furrows on the sides. Blade-tips are expanded, but broken off. Slight pouches. The crescentic cutting edge is sharp, but has use-marks; it is markedly asymmetrical. Parts of the surface of the axe were never polished smooth after the casting. Patina: black. Found c. 1894 in peat at a depth of 1.80 m below the surface. Museum: Groningen, Inv.No. 1895/I.1; gift of H.J. Schönfeld, Winschoten. (DB 1371)

Associations: Four bracelets and two interlocked rings (museum Groningen, Inv.Nos 1895/Ia–e).

Map reference: Sheet 13A, c. 265/564.

References: Butler, 1960a: pp. 117–122, fig. 1; Jacob-Friesen, 1967:

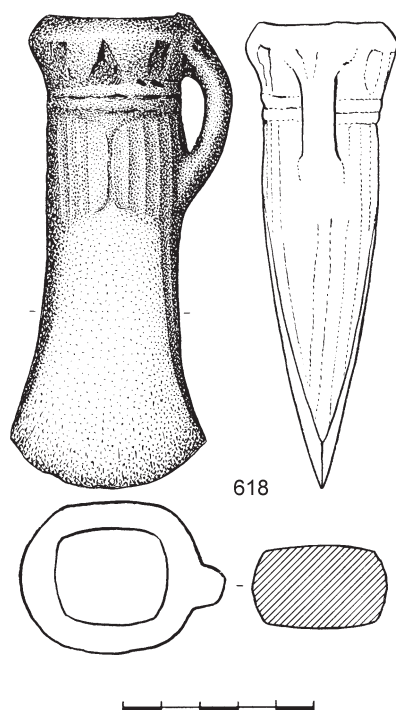


Fig. 55. Socketed axe with 'wings', biconical collar, two neck ribs and VVV decoration. 618: Epe, Ge.

p. 261, Kat. 1737, Taf. 168:8–11; Tackenberg, 1971: pp. 52–53; Essink & Hielkema, 1997–1998: p. 298, No. 156.

Note: The Onstwedder Holte bog hoard comprised, along with the rather atypical socketed axe a pair of omega bracelets (of a variety known from four finds in the North and East-Central Netherlands) and two interlocked flat rings with hatched-triangle incised decoration (Butler, 1965: p. 169, fig. 4).

Dating: Montelius V (Tackenberg, 1971: pp. 52–53).

4.5. Socketed axes with 'wings' and funnel collar (fig. 57) (AXT:WiColV)

CAT.NO. 620. PROVENANCE UNKNOWN; 'FROM RHINE OR WAAL'.

L. 7.9; w. 3.5 cm. Weight 118 gr. Oval mouth. \ / collar with slight break (formula 3.6×3.2 ; 2.7×2.5 cm), from which springs large D-shaped ribbon loop (2.9×0.7 cm). Faces flattish, sides rounded (—); faint 'wings'. Slightly expanding cutting edge. Cutting edge sharp. Patina: glossy black, surface rough. Museum: Allard Pierson, Amsterdam, Inv.No. 6509. Purchased May 1943 from BAI Groningen (Inv.No. 1938/IV.?, where it was ex coll. Blijdenstein). (DB 754)

CAT.NO. 621. EXACT PROVENANCE UNKNOWN; 'VELUWE', GELDERLAND.

L. 11.3; w. 4.6 cm. Subrectangular mouth (formula: 3.9×4.15 ; 2.9×2.95 cm). Subrectangular socket; trumpet-shaped mouth with-

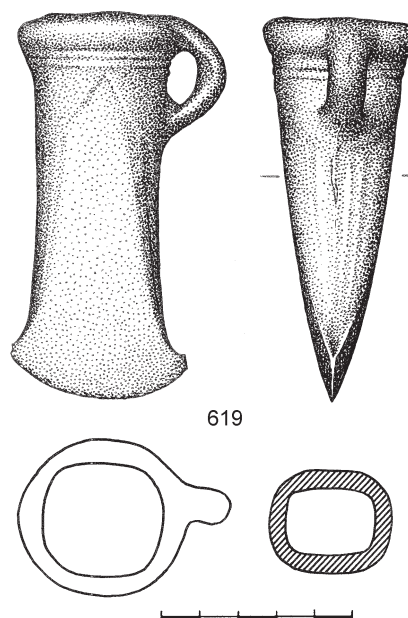


Fig. 56. Socketed axe with semi-'wings', biconical collar and two neck ribs, embellished. 619: Onstwedder Holte, Gr (part of hoard, see fig. 93A).

out collar or neck ribs; D-shaped loop (3.1×0.6 cm). Elongated drapery 'wings' descend to blade-tips. Body cross-section plano-convex. Edge sharp but blunted. Surface somewhat rough. Patina: black. Museum: Apeldoorn, Inv.No. B2. (DB 3)

4.6. Socketed axes with ribbed 'wings', no distinct collar and pellet(s) (2 ex., fig. 58)

4.6.1. With one pellet

CAT.NO. 622. PROVENANCE UNKNOWN.

L. 12.35; w. 4.0 cm. Subrectangular socket (mouth formula: 3.8×3.3 ; 2.9×2.6 cm). < > collar, just below base of which springs D-loop with flattened sides (2.5×0.6 cm), slightly skew. Long body with slightly () (outline, nearly parallel sides, rectangular cross-section. Long D 'wings', outlined by ribs; between which, just below the collar, is a pellet. Slight stop on sides. Casting seams on sides are markedly off-centre, running alongside the loop. Surface rough and pitted; two fairly large depressions on one face. Patina: black (especially in depressions), partly filed off faces; interior black to brown; at depth, greeny. Private possession. Drawing IPP. (DB 855)

4.6.2. With 5 pellets

CAT.NO. 623. MONTFORT, GEMEENTE MONTFORT, LIMBURG. 1e Broek.

L. 11.4; w. 4.2 cm. Loop: 2.9 cm, depending from socket-mouth; under socket-mouth and between rib(?) 'wings' are 5 pellets ar-

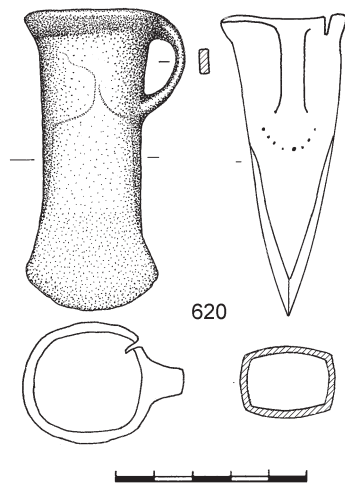


Fig. 57. Socketed axes with 'wings' and funnel collar. 620: from Rhine or Waal (drawing HS); 621: Veluwe, Ge.

ranged as a cross. Museum: Asselt, Inv.No. 242, lost. (DB 63)

Documentation: *Inventaire Philips*, No. 242 with sketchy drawing (which is used here).

Map reference: Sheet 60B, c. 194/348.

Reference: Wielockx, 1986: Cat.No. Hu.105.

Note: Pellets occur also on Cat.Nos 616 and 696–697; see also Part III:A, on some *Niedermaas* axes (Cat.Nos 495–496), Plainseau axes Cat.Nos 512–516, 520–524, 526–528, 531 and some *Form Helmeroth* axes (Cat.Nos 534–535, 543, 548).

Pellets in a T-shaped formation occur on an AWiNr2 socketed axe from Suttorf, Kr. Neustadt am Rübenberge

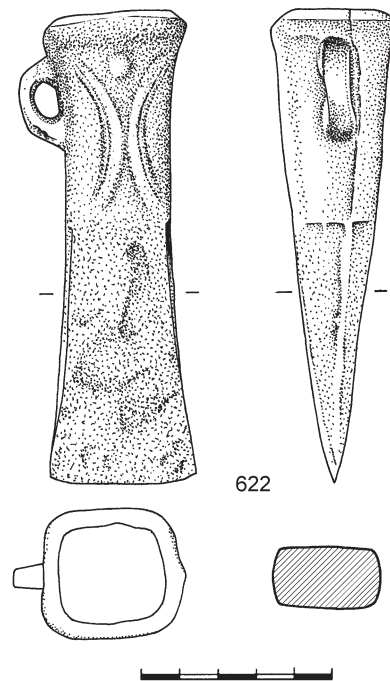


Fig. 58. Socketed axes with ribbed 'wings', no distinct collar and pellet(s). 622: no provenance; 623: Montfort, Li.

(near Hannover, in Niedersachsen, Sprockhoff, 1941: Taf.41:4), and on an AWiNr3 socketed axe from the Plestlin, Kr. Demmin hoard in Eastern Germany (Sprockhoff, 1941: Taf. 42:7; 1956 (II): Taf. 7:9).

Pellet groups in a Y pattern occur on an AWiNr1 socketed axe from Borghorst, Kr. Steinfurt, Nordrhein-Westfalen (Tackenberg, 1971: Taf. 12:1 = Kibbert, 1984: No. 679); and also on an axe with biconical collar and rib 'wings', without face arches, in the Witkowo (Vietkow) hoard in northwestern Poland

(Kuśnierz, 1988: No. 677 = Sprockhoff, 1941: Taf. 47:6). Four pellets in an :: array occur on Cat.No. 706 from Beerze, *gemeente* Ommen, Overijssel, a socketed axe with arches, 'wings' and two neck ribs.

But Armorican socketed axes may also be decorated with groups of pellets; Briard has illustrated examples from the hoard of Guesman de Le Tréhou, Finistère (Briard, 1965: pp. 255, 259, fig. 93). And even on a Type Wesseling axe (Ki 614 from the Rhine at Niederdollendorf) is a triangular group of pellets to be found. Pellets are also often present on socketed axes in Britain. Horizontal rows of pellets occur on a few 'bag-shaped' socketed axes in Ireland (Eogan, 2000: Cat.Nos 1863–1865, 1868, his Type 11 N; all without exact provenance; 1868 with picket fence motif on neck).

Horizontal rows of pellets are found on a few socketed axes in Ireland (Eogan, 2000: Cat.Nos 1863, 1864, 1865, 1868). These axes are of local form ('bag-shaped', and Eogan's Class 11 N); one example, No. 1868, has also the rare picket fence neck ornament (*cf.* our Cat.No. 704).

At the very opposite end of Europe, we find rows and T-shaped patterns of pellets on socketed axes of local types from a hoard at Şpălnaca (Petrescu-Dîmboviţa, 1978: Taf. 245).

4.7. Socketed axes with x-shaped rib 'wings' (2 ex., fig. 59) AXT:WiRbX

An odd special case is represented in the Netherlands by the single example (Cat.No. 624) from Denekamp, Eastern Overijssel close to the German border. Its special features, curiously exaggerated in some respects, are readily appreciated from the drawing.

CAT.NO. 624. DENEKAMP, *GEMEENTE* DENEKAMP, OVER-IJSSEL.

L. 10.2; w. 5.0 cm. Weight 325.5 gr. Mouth formula 4.5×4.0; 3.2×2.9 cm. Subrectangular socket, but oval mouth opening. Sturdy collar, hammered flat on rim; from which springs large, unusually broad, angular loop (3.5×1.7–1.2 cm). On neck, ribbed 'wings', meeting in centre so as to form an X pattern. Body with nearly parallel sides but J cutting-edge expansion, pouched. Body section subrectangular, with diffuse midrib on face. Casting seams present. Cutting edge sharpened, but slightly battered. Patina: black, slightly glossy. Light brown loamy encrustation in pits and protected places and inside socket. Museum: Groenlo, Inv.No. 796 (old No. 258), presented by Ph. Maas of Groenlo. (DB 735)

Documentation: Note J.D. van der Waals and J.N. Lanting 22–10–1976.

Map reference: Sheet 29A, c. 266/488.

Reference: *Geldersche Bode*, 10–07–1935 and 22–07–1935.

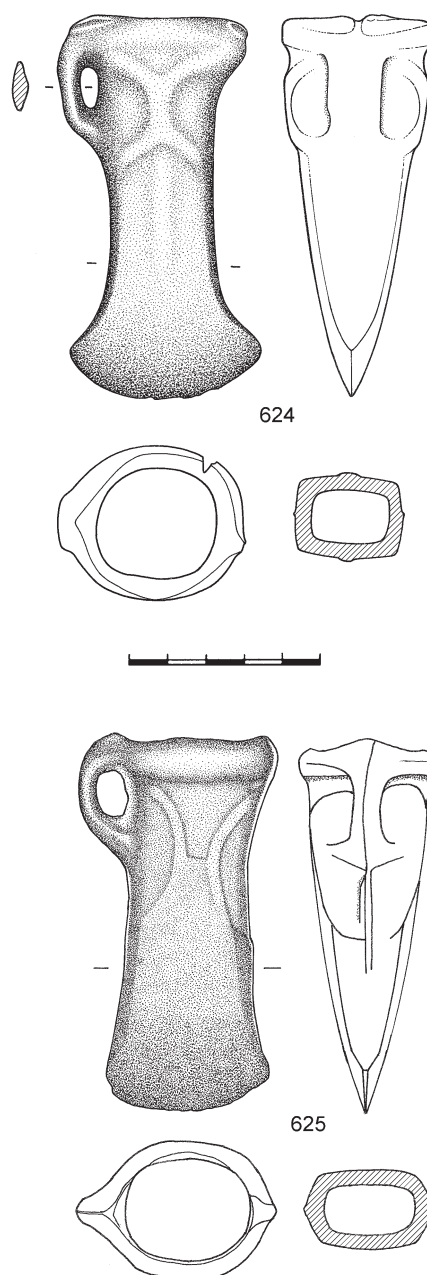


Fig. 59. Socketed axes with x-shaped rib 'wings'. 624: Denekamp, Ov; 625: Ter Aalst, N-B (drawing HS).

Note: This is an unusually heavy socketed axe, with unusual loop form and 'wings' pattern in exceptionally high relief.

Parallels: Close parallels, sharing its peculiarities, and very probably from the same workshop, occur in several rather scattered finds from Germany, briefly mentioned by Tackenberg (1971: p. 37 and Kibbert, 1984: p. 146). Three are in Westfalen: two in the *Liste*

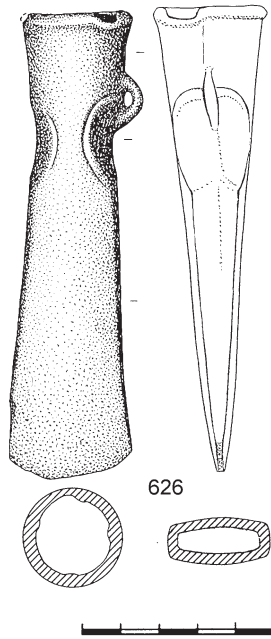


Fig. 60. Socketed axe with indented rib 'wings'. 626: Beugen a/d Maas, N-B.

17 of Tackenberg 1971 ('*Tüllenbeile mit halbrunden Rippen, die sich berühren*'), cf. his Karte 10, inverted-triangles: Dortmund-Brakel, Fröndenberg, Kr. Unna (Tackenberg, 1971: Taf. 15:3 and 15:4 = Kibbert, 1984: Nos 709 and 707); places not far from each other in the Ruhr-Lippe region of Nordrhein-Westfalen. The Dortmund specimen even has the very broad loop and the blade midrib in common with the Denekamp axe. A third example, Kibbert, 1984: No. 708, is not illustrated, but is described as being very similar to his No. 707. A third (not in Tackenberg's list, for a time lost but recently re-discovered) from Stockum, Kr. Mensesche in Hochsauerland (Tackenberg, 1971: Taf. 15:2; Lukanow, 1988: Abb. 29:2). There is one example from Hessen, near where the rivers Fulda and Werra join to form the Weser in Hessen, in the large hoard from Kattenbühl, Kr. Hann. Münden (Gummel, 1915–1925: pp. 21 ff, Taf. Ib, I und n); Tackenberg, 1971: pp. 17, 36, 39, 53 ff, 117 ff, 122, *Liste* 17:1–3, Taf. 15:5). Much farther to the East, examples occur in the East German hoard of Plestlin, Kr. Demmin (Sprockhoff, 1941: Taf. 44:1), and, finally, two examples in the Northwest Polish hoard of Witkowo (formerly Vietkow, Kr. Stolp: Sprockhoff, 1941: Taf. 47:7, 1956:II, Taf. 7:8; Kuśnierz, 1998: Nos 670 and 678).

This is quite a remarkable spread for a such a small

number of objects seemingly identifiable as being by the same hand.

Dating: The Kattenbühl, Plestlin and Witkowo hoards contain 'Hunze-Ems' and other socketed axe types, together with Central European HaB2/3 Urnfield objects.

4.7.1. X- 'wings' related

We list here also a socketed axe from Ter Aalst, *gemeente* Oosterhout in Noord-Brabant (Cat.No. 625), which has features in common with the above-mentioned, and is probably related to them, but is dissimilar in some respects to the other examples here adduced.

CAT.NO. 625. TER AALST, *GEMEENTE* OOSTERHOUT, NOORD-BRABANT.

L. 10.0; w. 4.3 cm. Weight 236 gr. Oval mouth opening. Bulging, irregular collar (mouth formula: 4.6×3.7 ; 3.1×2.8 cm), from which springs fairly large D-loop (3.6×0.7 cm) with) (outline and expanding base. The top of the loop projects above the upper edge of the collar. Body with) (outline but with slight *nick* in the middle of the side. Body section more or less oval above, somewhat convex-hexagonal on lower part. Rib 'wings', more prominent on one face than on the other. Slight cross-rib between 'wings' on looped side. Casting seams prominent. Cutting edge sharp but slightly battered. Large dent low down on one face. Patina black; greeny traces inside the loop. Very well preserved. Partly ribbed 'wings', becoming an oval on the sides; carinated outline. Patina: black. Found around 1937 in the woods near the *Jodenkerkhof* (Jewish cemetery), lying on the surface where a new path had been laid in a field where trees were to be planted. Private possession. (DB 1732)

Documentation: Letter mrs. F. Gaymans-Bouricius to P.J.R. Modderman, 1961.

Map reference: Sheet 44D, 116.10/405.45.

Reference: *Brabants Heem* 30: pp. 91–97, afb. 8 (photo).

4.8. Socketed axe with indented ribbed 'wings' (1 ex., fig. 60)

CAT.NO. 626. BEUGEN A/D MAAS, *GEMEENTE* BOXMEER, NOORD-BRABANT.

L. 12.3; w. 3.2 cm. Mouth formula: 2.65×2.6 ; 1.9×2.05 cm. Single collar; socket circular above; below with slightly convex faces and flat sides; at 'waist' slightly convex faces and angular sides; small D-loop (1.4×0.3 cm). Ribbed inside socket. Cutting edge damaged, blunted; rim damaged. Fine surface, but abraded in spots, some craquelé. Patina: dark brown, partly glossy. Light green where abraded. Some encrustation of reddish earth. Private possession. (DB 731)

Documentation: Letter D. Reynen to Butler, October 1997.

Map reference: Sheet 46D, c. 193/409.

Parallels and dating: Socketed axes with indented 'wings' are classified by Kibbert (1984: pp. 142–149; Nos 697–701; Taf. 89 round dots), under the heading 'Tüllenbeile mit Lappenzier, Gruppe B (mit einziehenden Flächenlappen)'. Kibbert has only five examples, in detail rather inhomogeneous. Three of them are unlooped. The two looped examples are from hoards (Walterfangen I and Maikammer; his Taf. 96 and 98 B respectively) dated to HaB3 (*späte Urnenfelderzeit, Stufe Wallstadt*). But the Beugen axe does not seem to be closely related to any of Kibbert's five examples.

Socketed axes with indented waist are also known in France and Britain. The British examples are treated by Schmidt and Burgess (1981, pp. 178–179) under the heading *Type Ulleskelf*, after a hoard find in Yorkshire. The few finds in northern Britain (in Yorkshire and Lincolnshire) are mapped as stars on their Plate 125. They cite four hoards in southern Britain with waisted socketed axes. O'Connor (1980, I: pp.134–135; II: List 99, map 39) briefly discusses waisted socketed axes in Britain and France; he lists and maps four occurrences in southern Britain (chiefly in 'Wilburton' hoards of LB2 in eastern England: Wilburton, Isleham, Nettleham, Sturry,) and six in France. In Austria they are known in the hoard of Haslau-Regelsbrunn (Pittioni, 1944–46: pp. 15 ff; Müller-Karpe, 1959: p. 128, Taf. 143:A5 (*schwach an der Lappen einziehend*); Mayer, 1977: p. 198, Nos 1114–1115 (*mit bogenumrandetem Lappendekor*; Taf. 80, 81); and in Moravia (Říhovský, 1992: Nos 878–879): Kilčany and Polkovice. Whether the Beugen axe has close similarities to any of these requires further study.

4.9. Fragments of socketed axes with 'wings' (fig. 61)

CAT.NO. 627. CUYK, *GEMEENTE CUYK EN ST. AGATHA*, NOORD-BRABANT. Residential development Valkenhorst. Small fragment (3.2×3.9 cm), from side of the rim. Collar with < outline (the lower part longer, and concave), on which is the stump of a pouring gate, in line with a faint casting seam. The cross-section of the preserved part is oval. On the face are surviving portions of 'wings'. Patina: on the outside, brownish black, with a partial coating of a brownish loamy material. The break surfaces are patinated. Found May 1976 in the side of a drainage ditch for the housing estate then being developed, 85 cm below the surface, in previously wooded terrain. Private possession; owner's Inv.no. 30G (paper label on the inside surface). (DB 943)

Map reference: Sheet 46A, 189.829/414.230.

Documentation: Letters J. Koeling to Butler, 14 Jan. 1999, 4 June 1999.

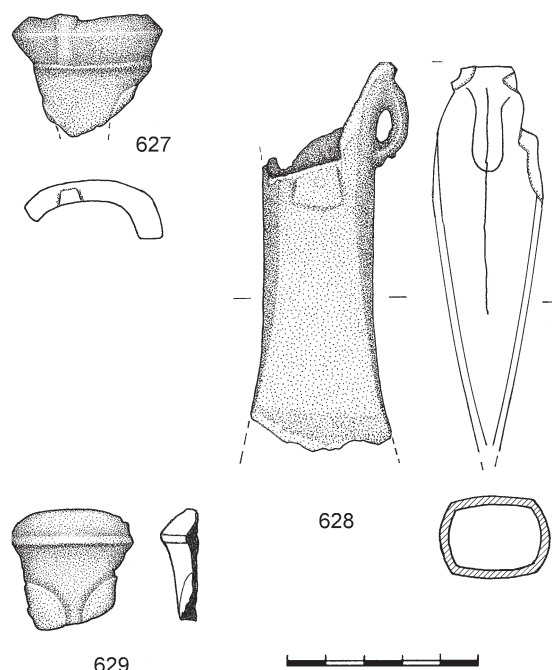


Fig. 61 Fragments with 'wings'. 627: Cuyk, N-B; 628: Neer, Li; 629: Nijmegen, Ge (drawings HS).

CAT.NO. 628. NEER, *GEMEENTE ROGGELEN EN NEER*, LIMBURG.

L. (10.1); w. (3.7) cm. Fragment socketed axe, with imitation 'wings'. Single collar, without ribs; D band loop, 2.4×0.8cm. Patina: glossy brown, partly cracked. In breaks light powdery green, corroded all over the body. Small patches of iron-pan precipitation on one face. Found April 1997 with metal detector in soil excavated from a ditch by W. Geelen. Private possession. (DB 2309)

Map reference: Sheet 58B, c. 197/363.

CAT.NO. 629. NIJMEGEN, *GEMEENTE NIJMEGEN*, GELDERLAND. Van Boetelaarstraat.

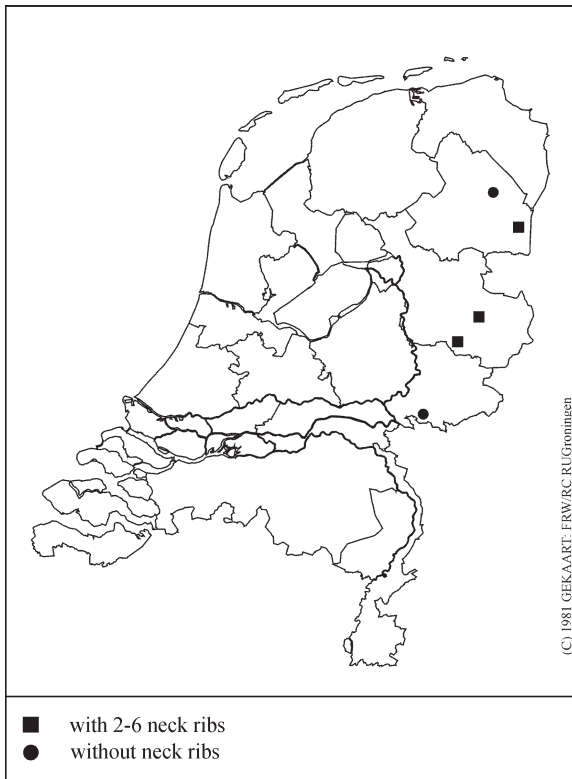
Fragment of socketed axe with 'wings'. Found with metal detector. Collection: Archeologisch Depot Gemeente Nijmegen. (DB 2469)

Documentation: Letter David Fontijn to Butler, 27 July 1999.

4.10. Socketed axes with drum-shaped swelling, Type Seddin/*Var.* Karbow (fig. 62 and map 12) (AXT:sed)

4.10.1. Definitions

These axes have in common as characteristic feature a drum-shaped swelling of the body below the neck. This places them in the Seddin type of Sprockhoff (1956 (I): pp. 92–93, II: pp. 22–23 and *Karte* 9), who listed and mapped 28 specimens (including the bronze cast-



Map 12. Socketed axes of Type Seddin/*Var.* Karbow in the Netherlands.

ing mould from a hoard found at Karbow, Kr. Parchim in Mecklenburg). The largest number (13 examples) come from the South Scandinavian area (Scania and the Danish islands) but there are smaller, widely separated groups in North Germany (8 examples), Hessen (two, or possibly only one: Kibbert No. 729 may really be from Westfalen) and the Netherlands (five including Beek).

The five specimens from the Netherlands all have a side loop. This puts them in the *Typ Seddin/Variant Karbow* of Kibbert (1984: pp. 151–153), since the Scandinavian and East German axes with a similar swelling are loopless; and the few specimens of Kibbert's *Variant Calden* are adzes, having a loop on one face rather than on the side (*cf.* Bergmann, 1954: Abb. 9A).

Four of the specimens here illustrated have find-spots in the Netherlands; for the fifth (Cat.No. 634 = Kibbert's Kat. Nr. 727) it is unclear whether it was found on the German side of the modern common border (Emmerich, Kr. Kleve) or (as in the list of Sprockhoff) on the Netherlands side at Beek, *gemeente Bergh*, Gelderland.

The five specimens in question have various fea-

tures in common (including a trapeze-shaped blade below the swelling) but also differences. Cat.Nos 633 and 634 have no neck ribs; 632 has two neck ribs (cabled, so as to create a herringbone pattern), 630 and 631 have multiple neck ribs (630 with cabling of alternate ribs). Cat.Nos 631 and 632 have a funnel-shape collar (differing in height), 632 a biconical collar, 630 a minimal collar. Cat.No. 634 has rib 'wings' (and is therefore a hybrid of socketed axes with rib 'wings' and those of Type Seddin-Karbow) and on the drum a plastic disc recalling the disc on Cat.No. 707 of the AWi socketed axes series. Cat.No. 631, from the Elsen hoard in Overijssel, is rather a good match for Kibbert's No. 728 from the Calden hoard in Hessen, except for the loop placement.

The form is certainly foreign as far as our area is concerned. Its origin may have been in the South Scandinavian area; Baudou (1960: pp. 25–6, Taf. VII: VII E) sees a derivation from the form of socketed hammers of Period IV in that area. For the Karbow variant, Kibbert (1984: p. 153) favours an origin in North Germany, "perhaps even in the area of the Prignitz group [Mecklenburg], from which comes indeed the only casting mould of Karbow" (our translation). Whether our five are imports or local imitations could perhaps be established when all the North German finds have been illustrated. The angularity of the loops on Cat.No. 630, and the disc on the drum of Cat.No. 634, hint at possible local manufacture rather than import. In the Netherlands, the four or five Seddin/Karbow axes fall within the distribution area of the socketed axes with 'wings' without face arches (*cf.* maps 11 and 12).

Associations and dating: Cat.No. 630, from Angelsloot/Bargeroosterveld, was found with a socketed axe with face arches, astragalus neck ribs, and furrow ornament (Cat.No. 672; see fig. 92B). A Seddin axe from Emlichheim, Kr. Bentheim, not far from the Dutch border, has itself astragalus neck ribs (Sprockhoff, 1956: p. 22, Taf. 6:18, *Karte* 9), and is thus a hybrid in form.

Cat.No. 631, from Elsenerveen, Overijssel, is from a hoard (Verlinde, 1980: Depot IV; Butler & Steegstra, 2001/2002: pp. 294–295, 297, fig. 25a). The hoard includes two additional socketed axes: Cat.No. 710 (an AWi socketed axe with three neck ribs and one pellet) and the other, Cat.No. 536, of *Form Helmeroth*. Also an incomplete Central European Urnfield socketed knife of HaB2/3 type (see fig. 92C).

According to Sprockhoff (1956), Bergmann (1954) and Kibbert (1984), all the Seddin axes (including those in German hoards such as Calden and Karbow,

in burials such as the Seddin House Urn burial and the *Fürstengrab*, as well as the Scandinavian examples) can be dated to Montelius V (cf. Kibbert, 1984: p. 135; also Butler, 1986: p. 148).

4.10.2. *Catalogue of socketed axes with drum-shaped swelling (Typ Seddin/Var. Karbow)*

CAT.NO. 630. ANGELSOO, *GEMEENTE* EMMEN, DRENTHE. Barnars Bos (from the hoard of Bargerooosterveld, 1896).

L. 8.7; w. 3.2 cm. Single collar; rectangular mouth (formula: $2.75 \times 2.55; 1.9 \times 1.9$ cm), from which springs elbow loop, ribbed neck (six ribs, three of which are ornamented with groups of diagonal nicks alternating in direction); body of rectangular section, with drum-shaped swelling below the neck. The edge of the 'drum' is ornamented with nicking and a single incised line. Loop formula: $2.6 \times 1.35/0.6/0.8$ cm. Patina: mottled green and brown, glossy; finely preserved surface, with furrow ornament; but in part severely corroded, with bright green in the abraded parts. Found Dec. 1896 by a sheep raiser, W. Alberts, 50 or 60 cm below the surface in yellow sand, while digging for stones. Museum: Assen, Inv.No. 1894/XII.5. (DB 91)

Association: Cat.No. 672 (museum Assen, Inv.No. 1896/XII.4).

Map reference: Sheet 18C, 261.125/533.200.

References: *Verslag*, 1896: p. 9; Butler, 1960b: pp. 224, 227–231, fig. 12, Pl. XIII; 1961b: pp. 102, 109; fig. 52, 122, Appendix I–b; Essink & Hielkema, 1997–1998: p. 287, No. 35.

Parallels: Kibbert, 1984: Nos 727 (Beek or *gegend von* Emmerich), 728 (Calden, Kr. Kassel), 729 (Balhorn, Kr. Kassel or possibly Bathorn, Münsterland, Westfalen).

CAT.NO. 631. ELSSEN, *GEMEENTE* MARKELO, OVERIJSSSEL. Elsenerveen (from the hoard, see also fig. 92C).

L. 10.3; w. 4 cm. Trumpet collar; four neck ribs; D-loop 2.6×0.45 cm; body of trapeze outline, with drum-shaped expansion below the neck. Rectangular cross-section. Edge sharp. Ancient repair on neck. Faintly hammer-faceted on sides; casting seam somewhat eccentric. Patina: dark bronze to blackish (mechanically cleaned); traces of greyish clay. Found before 1885 in the Elsenerveen. Museum: RMO Leiden, Inv.No. d 1942/12.3. Plaster copy in museum Enschede. (DB 496)

Associations: Cat.No. 536 (in Part III:2A), Cat.No. 710 and a HaB2/3 Central European Urnfield socketed knife (RMO Inv.Nos d 1942/12.1,5).

Map reference: Sheet 28d, c. 231/476.5.

References: *Verslag*, 1942: p. 5; Pleyte, Twente, 1885: p. 22, Pl. XI:1–4; Verlinde, 1980: pp. 9–10, Depot IV.

Dating: Halstatt B2–B3/Montelius V.

CAT.NO. 632. ALMELO, *GEMEENTE* ALMELO, OVERIJSSSEL.

L. 10.1; w. 4.3 cm. Mouth oval (formula: $3.3 \times 3.0; 2.3 \times 2.2$ cm). Biconical collar, from which springs large, slightly angular loop (2.8×0.6 cm); oval neck with two thin ribs, nicked in imitation of

cord; drum-shaped swelling below neck; body trapeze-shaped, of plano-convex section. Cutting edge sharp. Patina: varied, blackish to dark bronze with greenish patches. Surface heavily corroded; has been mechanically 'cleaned' and varnished. Found while gardening. Museum: Enschede, Inv.No. 1978–34, ex coll. Eshuis. (DB 2086)

Map reference: Sheet 28G, 243.00/486.45.

Documentation: KNOB, 1964: column 176.

CAT.NO. 633. BORGER, *GEMEENTE* BORGER, DRENTHE.

L. 9.8; w. 4.2 cm. Mouth formula: $3.1 \times 3.2; 2.1 \times 2.2$ cm. Circular socket mouth. Trumpet collar, from which springs a slightly asymmetrical loop (2.3×0.6 cm). Neck round in section; drum-shaped middle section; straight-sided trapeze-shaped blade part with faintly convex faces, < > sides. Drum is hollow. No obvious casting seams. Patina: mostly brownish; light green patches especially on top; traces of black. Surface somewhat corroded, here and there with fine pits. Found by H. Wester in sandy ground during a rebuilding in a house (Waardeel 22). Museum: Assen, Inv.No. B.1990/X.1 (on long loan.) (DB 639)

Map reference: Sheet 17E, c. 249.9/548.8.

References: *Nieuwe Drentsche Volksalmanak*, 1992: p. 70 with photo; Essink & Hielkema, 1997–1998: p. 285, No. 21.

CAT.NO. 634. BEEK, *GEMEENTE* BERGH, GELDERLAND (or possibly the nearby Emmerich, Kr. Kleve, Nordrhein-Westfalen, Germany).

L. 10.7; w. 4.1 cm; weight 169 gr. Circular mouth (formula: $c. 3.0 \times 3.0; 2.1 \times 2.1$ cm). Biconical collar. On neck, rib 'wings'. Drum-shaped body swelling, bearing a circular plastic disc $c. 2.6$ cm in diameter, on which a small pellet 'perhaps of iron'. Below the drum the body has a trapeze outline. D-shaped loop ($c. 2.6 \times 0.6$ cm). Patina 'mostly dark green-bronze colours'. Found near Elten and Emmerich, unclear on which side of the border of Germany and the Netherlands. Museum: (formerly?) Emmerich. (DB 2619).

References: Sprockhoff, 1956 (I): pp. 92–93, II: p. 22; Kibbert, 1984: p. 151, No. 727 (from which all details are taken).

5. SOCKETED AXES WITH FACE ARCHES (WITHOUT 'WINGS') (MAP 13)

5.1. Definitions

Many socketed axes have on each face an arch-shaped (variously called bell-shaped, inverted-U-shaped, etc.) flat or nearly flat facet. The meeting of the two face facets forms the cutting edge.

Sprockhoff (1956: (I): pp. 88–91) recognized socketed axes with such face facets (*keilförmige Tüllenbeile*) as a principal socketed axe type in North Germany and the South Scandinavian area. He pointed out that such 'wedges' were quite common in Northwest Germany, but uncommon in Northeast

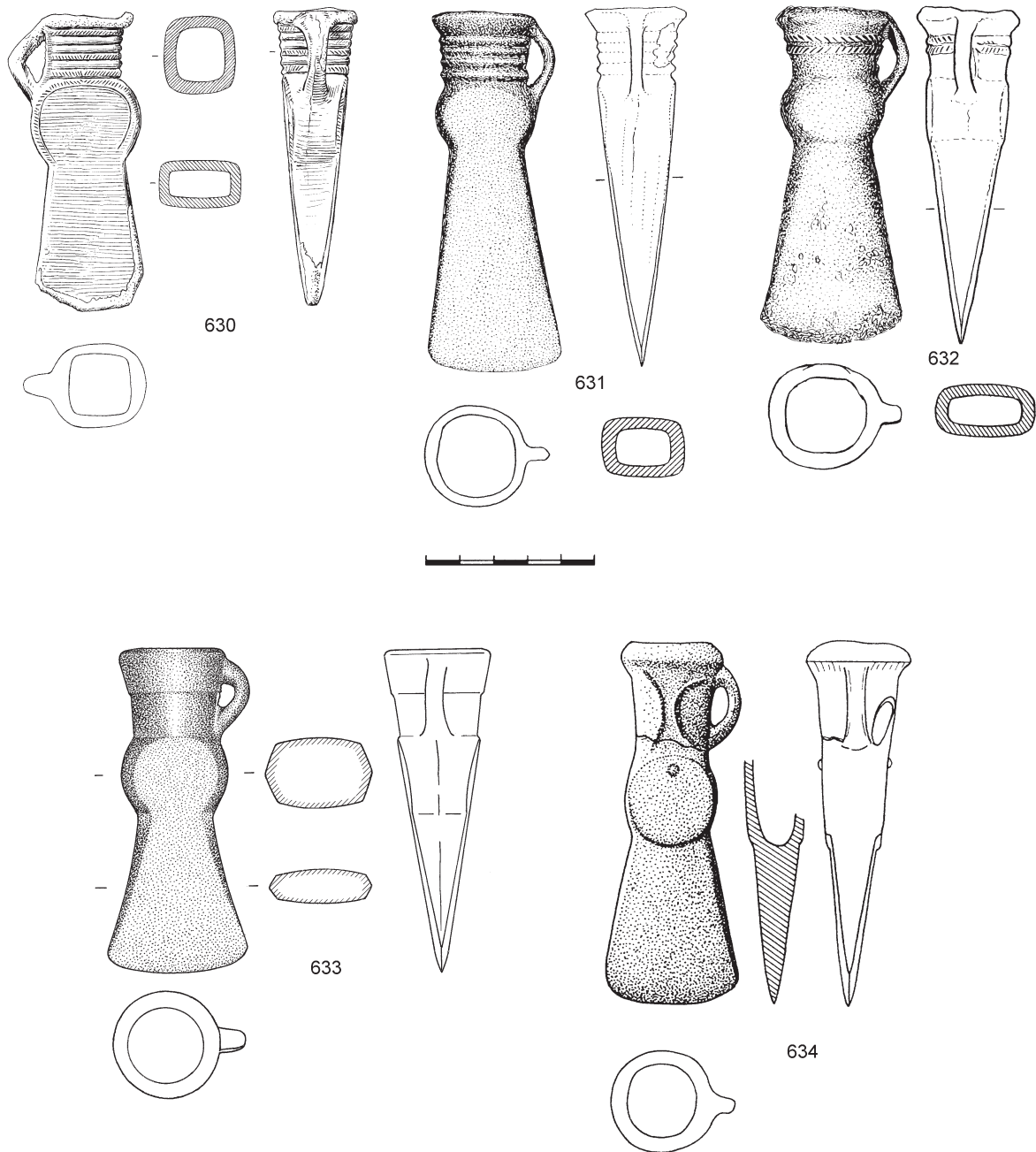


Fig. 62. Socketed axes with drum-shaped swelling (Type Seddin/Karbow). 630: Angelsloo, Dr (from the 1896 Bargeroosterveld hoard, see fig. 92B); 631: Elsenerveen, Ov (from the hoard, see fig. 92C); 632: Almelo, Ov; 633: Borger, Dr; 634: Beek, Ge (or near Emmerich, Germany).

Germany (where Lausitz types, often with arch-shaped facets on the sides, but not on the faces, prevailed). Remarkable also was that the arch-face socketed axes were common in Southeast Europe, but rare in Central Europe, and extremely scarce in western Europe, *i.e.* in France, Belgium and the British Isles.

Tackenberg (1971: pp. 23 ff), in a critical revue of Sprockhoff's theses on this and other subjects, further

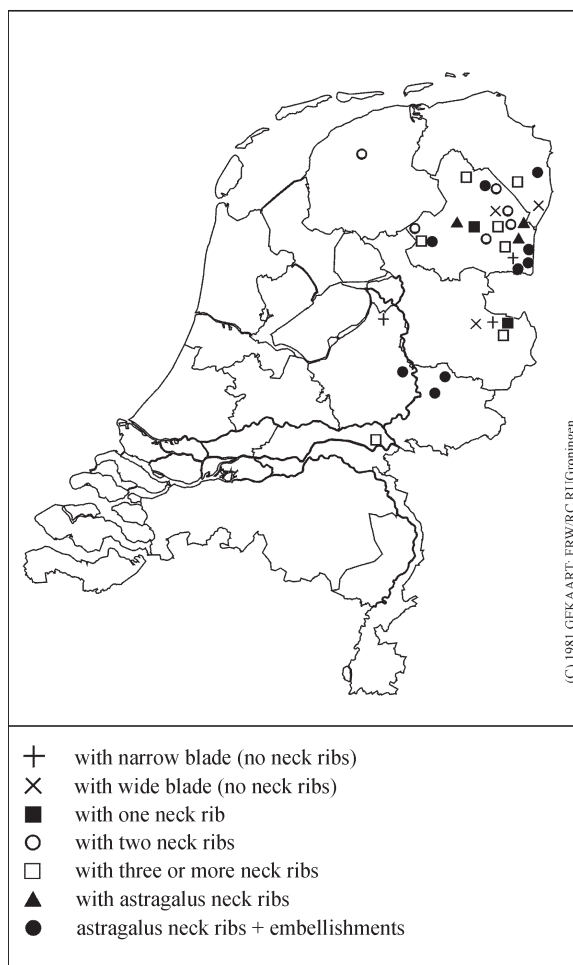
elaborated Sprockhoff's system for socketed axes. He supported his extended system by an impressive series of lists and distribution maps, which are since then the basis for the study of the socketed axe types of northwest Germany (though hopefully soon to be replaced by a *Prähistorische Bronzefunde* volume on the socketed axes of Niedersachsen). Less happy is Tackenberg's rather uncritical application of some of

the classifications of Baudou for southern Scandinavia, and his incomplete and inaccurate inclusion of material from the eastern part of the Netherlands (very little of which was then accessible in the literature).

Tackenberg usefully separates the socketed axes with face arches but without imitation wings from those with face arches *and* 'wings'. Within each of these categories he (1971: pp. 23 ff, with *Listen* 5 to 11 and *Karten* 5 to 10) emphasized that the arch-face socketed axes in his area, Northwest Germany (for which he found a name he considered more appropriate '*Tüllenbeile mit glockenförmig abgesetzten Breitseiten*') were not homogeneous. He distinguished a number of variants – looped and unlooped; without neck ribs, with one neck rib, with two to four neck ribs, with astragalus neck ribs; with various kinds of 'wing' ornament) and listed and mapped these variants separately. Though far from fully illustrated and with often inadequate detail in the lists, these provide the best at present available subdivision of the axes in question. It is in any case clear that the arch-faceted axes are not a single homogeneous type, and that placing the accent on various other features could lead to other divisions. We have, however, chosen to employ Tackenberg's subdivisions, with some additions and modifications, as a basis, rather than to offer now a new system which may again require revision when a fuller treatment of the Northwest German comparable socketed axe material becomes available.

He was followed in this by Tackenberg (1971: pp. 23 ff); under the more appropriate (in his view) designation '*Tüllenbeile mit glockenförmig abgesetzten Breitseiten*'. Tackenberg subdivided these (citing the lists of Sprockhoff 1956 and Baudou 1960, with his own additions and corrections), chiefly on the basis of the number of neck ribs present under the collar (no neck ribs: *Liste* 7, *Karte* 7; one neck rib: *Liste* 6, *Karte* 6; two or more neck ribs: *Liste* 5, *Karte* 5; complicated neck ribs (*i.e.* Sprockhoff's *mit profiliertem Tüllenmund*): *Liste* 8, *Karte* 5; with facial arches and semi-circular 'wings': in his *Liste* 10, and on *Karte* 9 (lozenge symbol). Loopless examples are given separately: *Liste* 8, *Karte* 8.

A further complication is that both in Central and northern Europe authors have not regarded the facial arch-facet as a primary classification determinant. Among these authors are Baudou (1960) for South Scandinavia; Kibbert (1984) for Middle West Germany; Mayer (1977) for Austria, Říhovsky (1992) for Moravia, Novotná (1970) for Slovakia. We must therefore explain why we have nevertheless chosen to follow the Sprockhoff-Tackenberg line.



Map 13. Socketed axes with face arches, without 'wings' in the Netherlands.

On present knowledge it seems probable that the face arch feature ultimately originated with the Transylvanian-Carpathian socketed axes of, for example, the Group C of Rusu (1966: pp. 17 ff). Rusu distinguishes ten principal *varianta* (his figs 3 and 4); of these the variants 2 and C6–C10 seem to have had the most influence on the axe-makers of the more northerly parts of Europe. See also the Type Negrești of Dergăčev, 2002: pp. 137–138, Taf. 109. Arch-faceted socketed axes begin as early as Central European D and Ha A1 (or the multivariouly named Southeast European phases parallel with them). Thus their beginnings surely antedate the first appearance of axes with similar features (*cf.* for example the Hungarian hoard of Edelény-Finke (Kemenczei, 1984: No. 363, Taf. 80) and the hoard from Dragna (Vulpe, 1970: Taf. 67). Indeed, an example with facial arch facets oc-

curs in a hoard in Lower Austria: Wöllersdorf Hoard II (Schauer, 1971: p. 143, Taf. 142:17; *cf.* Müller-Karpe, 1959–I: p. 280, II: Taf. 135B–136) with a date equivalent to the *Riegsee-Baiersdorf Stufe* (= Reinecke D). The socketed axe in this hoard is of a Southeast European type, it has not only face arches, but an angular loop; interesting in view of the frequent occurrence of angular loops on socketed axes in the Northeast of the Netherlands; *cf.* the hoard from Drajna (Vulpe, 1970: Taf. 67). It would thus seem that socketed axes with face arches had made their appearance in Southeast Europe well before the first appearance of socketed axes with similar features in North Germany and Scandinavia; although the Rusu Group C axes continue on, as it seems, until the equivalent of Ha B2/B3. Some of these arch-faceted Southeast European axes were, perhaps, the prototypes for the versions that established themselves in North Germany, South Scandinavia and the Netherlands in Northern Periods IV to VI, as indeed briefly argued by Tackenberg (1971: pp. 27–28). The northern varieties do not seem to be identical with those in East-Central Europe, but the resemblances (often, indeed, including similar ribbed patterns on the faces) are such that a derivation seems certain. The extent to which the actual Southeastern European products penetrated as imports onto the North European plain and onward into South Scandinavia would, surely, benefit from detailed research.

The face arch presumably originated as a sharpening facet and a means of thinning down the blade section of the socketed axe to enhance its utility for chopping. It was evidently employed on axes of varying form. At some stage the arch facet became a convention that was widely adopted. Whether the thinning down was accomplished in the casting mould or by post-cast hammering down, or by both methods, does not seem to have been investigated; in some cases the side view shows the blade section as (but only one example in the Netherlands!) biconcave, in other cases the side view of the blade is V-shaped. In some cases the arch facet seems to cut through ribbed decoration on the face. In the case of the socketed axe from Arnum, Kr. Hannover (Tackenberg, 1971: Taf. 10:4ab) the face arch partly obliterates plastic ‘wings’. A parallel series in Southeast Europe has square-topped instead of arch-shaped face facets, seen also on Kibbert’s Kat. Nr. 664 from Frankfurt, and also finds reflection on North European axe types; even in the Netherlands occasional examples are known of socketed axes with such square-topped sharpening facets (*i.e.* Cat.Nos 608, 617, 621).

5.2. Catalogue of socketed axes with arch facets (without ‘wings’) in the Netherlands

In the Netherlands 45 examples of socketed axes with face arches, but no ‘wings’, are here catalogued (Cat. Nos 635–679). Seven of these are without recorded provenance. A few could perhaps be considered to belong to separate types: two (Cat.Nos 639, 661) are loopless; four (Cat.Nos 640–643) have a distinctively trapeze-shaped body and tiny loop.

In the South of the Netherlands, socketed axes with such face facets are very exceptional. We know of only three or four examples: Part III:2A, Cat.Nos 528 from Swalmen, Netherlands Limburg, and 529, Bladel, Noord-Brabant, both Plainseu axes; and Cat. No. 544 from Diergaarde, Netherlands Limburg, and possibly Cat.No. 547, of unknown provenance, both *Form Helmeroth* axes. There are also a very few examples in the Belgian Maas valley (in the Heppeneert-Maaseik and Lutlommel hoards). In France we know of only occasional examples, *e.g.* in the well known Amiens-Plainseu, Nantes-Jardin des Plantes and Vénat hoards.

In view of the extreme regional differentiation between socketed axes with face arches and those without, it seems inescapable to recognize the presence or absence of such facets as a major classificatory feature. Paradoxically, however, the arch facet cannot be used to define a type, since elsewhere, as well as in the Southeast of the Netherlands, face arches occur on socketed axes of very varied types. To deal with this dilemma, we regard the arch-faced socketed axes in the Netherlands as belonging to a family, which can be divided into rather a number of what might be considered types and varieties. These are, we hope, sufficiently cross-referenced in the text so that the relationships within and among them can be appreciated.

Within this broad family, a further distinction can be made between the axes which, in addition to the facial facets, have or do not have imitation wings on the upper part of the body. Here again a major regional dichotomy emerges: in the Northeast of the Netherlands imitation ‘wings’ on socketed axes are, with very few exceptions, raised surfaces, whereas in the South the ‘wings’ are almost always rendered as ribs on the face of the axe.

Another complication is the presence in the Netherlands of a small number of arched, wingless examples without loop. Still another is that while most examples have more or less parallel sides, there is a small group with a distinctly trapeze-shaped blade (section 5.2.2).

In the Netherlands, mapping showed that to a remarkable degree arch face socketed axes occur in the Northeast of the country, and are almost entirely absent in the southern provinces. We must therefore take this fact as a basic point of departure for consideration of the Netherlands material. Further, we divide the arch face axes into those with and those without 'wing' ornament. These two divisions have, however, a similar northeastern distribution, and thanks to the sharing of many features are evidently products of the same industry.

We list separately a small group with a distinctly trapeze-shaped blade (section 5.2.2, Cat.Nos 640–643), but for the most part we have followed Tackenberg's example. It will be seen that practically all of Tackenberg's subgroups are represented by at least a few examples in the northern provinces of the Netherlands. In interpreting Tackenberg's lists and maps, there are, however, some problems. Since a high proportion of the axes on Tackenberg's lists are not illustrated, we are unable to check the relevance of all the listed examples in any given category. This problem will presumably be dealt with eventually via the *Prähistorische Bronzefunde* programme. The second, related problem is Tackenberg's adoption of the lists of Baudou; he assumes a degree of identity between some North German and the more or less equivalent South Scandinavian types that is probably unjustified, and will some day require a critical revision.

The face arch appears with varying frequency on several of Kibbert's types in his Middle West German area. It occurs on some of the long, narrow, chisel-like socketed axes of his type *Frouard Var. Reupelsdorf* (his Taf. 48, 49; distribution of the ten examples (some without provenance) plus half a dozen *nahestehende* in his area, mostly Rhein-Main region, his Taf. 88B, for its unmapped wider distribution, mostly South France, see his pp. 134–136). On the Frouard axes, the arch-facet is characteristic. In the Netherlands we have only one possible example of the Frouard-Reupelsdorf type, the axe from Brucht, *gemeente Hardenberg*, Overijssel (below, Cat.No. 646). The find-spot is in the NE corner of Twente, not far from the German border. The geographically nearest Frouard-Reupelsdorf axe in Kibbert's presentation is the example dredged up near the Rhine-Lippe confluence at the prolific find-spot Aue 2 near Wesel, Kr. Rees (No. 999 in his *Nachtrag* on p. 211). This is an exceptional piece in two respects. Its location is exceptional, in that it is far outside the Frouard Rhein-Main concentration area. Typologically, it is also unlike the other Frouard axes in that it has neck ribs quite in the style

of the 'Hunze-Ems' axes *mit profiliertem Tüllenmund* and in that the arch-facet is enclosed in parallel U-furrows: both North-Netherlands and Emsland characteristics. Thus the Aue 2 axe is not really a typical Frouard-Reupelsdorf axe, but a hybrid.

In Kibbert's *Form Helmeroth* (his Taf. 50, 51; distribution in Kibbert's area his Taf. 88D), the face arch occurs on most of the specimens, while, in contrast, it is absent on all but one of the ten Netherlands Helmeroth axes (Butler & Steegstra 2001/2002: Cat. No. 544, from Diergaarde, Netherlands Limburg). Further occurrences are on some examples of socketed axes with 'wings' and arches under Kibbert's *Lappenzier A* group (his Taf. 52); and the few under his *nordische Form VIIC2* (his pp. 160–162, distribution Taf. 89, triangles) and *Form Lövskal-Bargeroosterveld* (Kibbert's Taf. 49). Tackenberg's maps 5 to 10 also show that on the western part of the North German plain the face arch occurs on socketed axes of variegated, if family-related types and sub-types.

In the Netherlands, we see a marked regional differentiation in the adoption of the face arch. While in the southeastern part of the country it is very rare, it became quite common and characteristic in the Northeast and Middle-east areas of the country; so much so that among the socketed axe finds in the provinces of Friesland, Groningen, Drenthe and Overijssel, out of a total of 63 provenanced 'northern' socketed axes, 50 provenanced examples have face arches. And in the North we clearly see on such axes a local development of the style of embellishment. It therefore seems necessary to discuss the socketed axes in the Netherlands possessing facial arch facets as a separate group with its own distinctive history.

The North Netherlands socketed axes with the facial arch facets fall into two main groups: those without 'wings' (here section 5) and those that have 'wings' as well as facial arches (here section 6). Within each of these groups, further distinctions are made on the basis of the number of neck ribs and other features. We follow the example of Tackenberg (1971), who divides the arch-faceted axes on the basis of the number of neck ribs (no neck ribs: his *Karte* 8 and *Liste* 7), with a predominantly Ems-Lower Elbe distribution; one neck rib: his *Karte* 6, and *Liste* 6 (mostly in the Weser-Elbe area; two to four neck ribs: his *Karte* 5, *Liste* 5, chiefly in the Weser area). Further, we note what we term 'embellishments', such as imitation-cord on the neck ribs and the application of furrow ornament on the faces and/or sides. The examples in the Netherlands thus constitute, if united as a family, a far from homogeneous group.

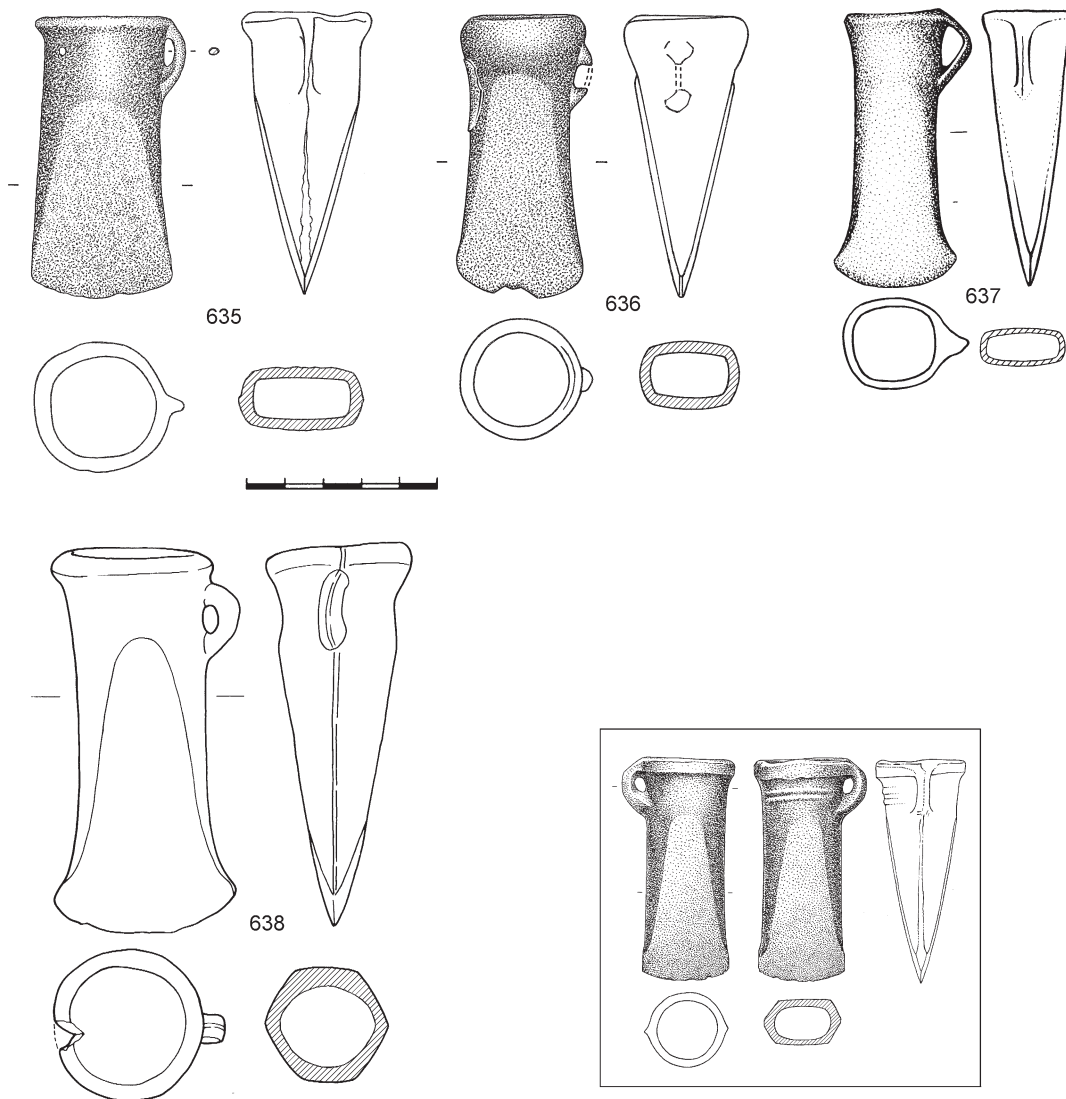


Fig. 63. Socketed axes with face arches, with narrow blade, without neck ribs. 635: Vasse, Ov; 636: Emmen, Dr; 637: Valthermond, Dr; 638: Wezep, Ge (drawing: ROB, Amersfoort). Inset: Cat.No. 656 (from Drouwenerveld, Dr) with no neck rib on one side and two neck ribs on the other.

The simplest version of the socketed axe with facial arches, that without neck ribs, is represented in the Netherlands by only a few axes.

One example was found in intact condition in the hoard of Drouwenerveld, Drenthe (Cat.No. 656). This axe has on one face no neck ribs, and two neck ribs on the other. Thus, on the one face the axe can be attributed to the *Typ Schinna* of Sprockhoff (1956: Abb. 17:6, *Karte 6*) but on the other face to his *Typ Oberneck*. We have therefore illustrated this axe (as inset at scale 1:3) on figure 63 and listed it in section 5.4.2, as it can possess only one catalogue number.

5.2.1. *Socketed axes with face arches, with narrow blade, without neck ribs* (fig. 63) (AXT:AN)

CAT.NO. 635. VASSE, GEMEENTE TUBBERGEN, OVER-IJSSEL.

L. 7.4; w. 3.7 cm. Subrectangular socket. Narrow () collar (mouth formula: 3.7×3.5 ; 2.7×2.5 cm), from which springs a small, thin D-loop (2.1×0.4 cm). Nearly parallel sides; neck with round section; arch-facet on face. Cutting edge sharp. Patina black; surface rough and pitted; well preserved. Small blow-hole under socket-mouth moulding on the side opposite the loop. Casting seams present. Found in heath field close to the church. Museum: Enschede (Inv.

No. 11144; old number: 0.365). Purchased for a box of pills, after long having served, on the estate *de Hazelbekke*, as counter-weight on a clock. (DB 1346)

Map reference: Sheet 28F, 253.30/495.

Reference: Ter Kuile, 1909: p. 9.

CAT.NO. 636. EMMEN, *GEMEENTE EMMEN*, DRENTHE.

L. 7; w. 3.35 cm. Weight 107 gr. Circular mouth. Single () collar (mouth formula: 3.25×3.2 ; 2.55×2.5 cm) from the base of which springs a small D-loop (1.7 \times 0.6 cm; broken out). Cast-on repair on the side opposite the loop. Slight neck of oval cross-section; on each face large arch facet. Found 1991 at the edge of the sand ridge (*Zandzoom*), opposite the Ericsson factory, while harvesting potatoes. Patina: originally dark brown, but surviving chiefly in one place on the side, almost all having peeled off, showing mottled green. Private possession. (DB 680)

Map reference: Sheet 17H, 225.25/530.75.

Reference: Essink & Hielkema, 1997–1998: p. 290, No. 67; *Nieuwe Drentse Volksalmanak* 111, p. 94.

Comment: very similar to Typ Schinna socketed axes, but the strong bulge of the collar is atypical.

CAT.NO. 637. VALTHERMOND, *GEMEENTE ODOORN*, DRENTHE.

L. 7.35; w. 3.25 cm; Weight 67 gr. Mouth formula: 2.7×2.45 ; 2.2×2 cm. Unusually small specimen; slightly conical collar; thin small angular loop, flattened oval cross-section (round sides, flattened faces). Faint but certain arches on faces. Cutting edge sharp. Patina: blackish (one side partially cleaned). Found by a peat worker, W. van Klinken, in peat site 19 (in register: 119), Noordkant Valthermond, *gemeente Odoorn* at a depth of 2.5 m below of surface of *'t bovenveen*. Museum: RMO Leiden, Inv.No. c. 1892/9.1. Purchased through mediation of G.J. Landweer of Nieuw-Buinen. (DB 354)

Map reference: Sheet 17F, 262.450/547.00.

Documentation: *Ingekomen brieven* 1892: 156, 161; *verzonden brieven* 1892: 159, 167.

Reference: Essink & Hielkema, 1997–1998: p. 24, No. 89.

CAT.NO. 638. WEZEP, *GEMEENTE OLDEBROEK*, GELDERLAND. De Heugte.

L. 9.9; w. 4.9 cm. Circular mouth and socket (formula: 4×4 ; 3.1×3.1 cm). Slight collar. On neck small D-loop, 2.1 \times 0.65 cm. Long, parallel-sided body, of oval cross-section above, the facial arches provide a hexagonal section below; slightly everted blade tips. Casting seams present. Present locus unknown. Found with metal detector in the moor north of Wezep by R. de Heer of Wezep. Upper part has a slight crack and is slightly distorted. According to the finder/former owner this axe was purchased from him by the ROB, but the ROB denies this, but neither the ROB nor the former provincial archaeologist R. Hulst, know its present location, nor is it known to the museums of Arnhem and Nijmegen. Patina: not recorded. According to Hulst's account there is a crack in the upper part of the

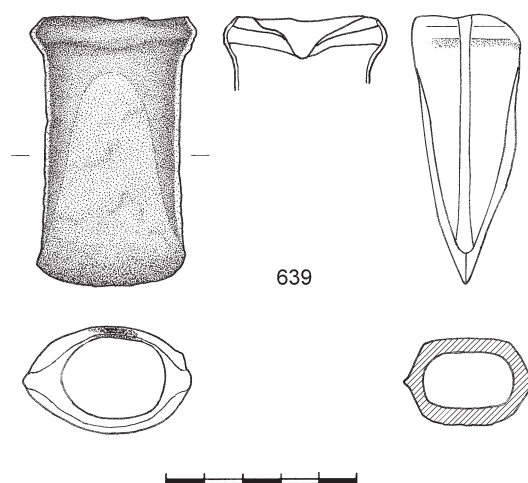


Fig. 64. Socketed axe with face arches, narrow blade, without neck ribs; unlooped. 639: Rhenen, Ut (drawing HS).

axe, which is slightly distorted. Drawing: ROB, Amersfoort, here reproduced. (DB 886)

Map reference: Sheet 27B, c. 196/498.

References: *Jaarverslag ROB* 1989: p. 149; Hulst, 1989: p. 187 afb. 4, p. 189.

a) Socketed axe with face arches, *narrow blade, without neck ribs; unlooped* (fig. 64) (AXTU:AN)

CAT.NO. 639. RHENEN, *GEMEENTE RHENEN*, UTRECHT.

L. 7.1; w. 4.0 cm. Oval mouth; (), somewhat <> collar with casting defect on one side; parallel sides, with very slightly expanded cutting edge. No loop. Mouth formula: 4.4×2.8 ; $2.5 \times (1.9)$ cm. Cross-section hexagonal; arch-facet on faces. Cutting edge sharpened but battered. Very prominent casting seams. Patina: black, with dull green patches. Surface rough and corroded. Irregular bulge on one face. Found c. 1997 in sand pile. Private possession, acquired by exchange. (DB 2430)

Map reference: Sheet 39E, c. 166/443.

Parallels and dating: the hoard from Barsinghausen, Kr. Hannover, contains three socketed axes with facial arches and without neck ribs, two of them looped (but one of these with the loop unperforated) and one loopless; also in this hoard are three iron socketed axes and several rings of bronze and iron rings of the *Wendelring* type. The hoard is attributed to Hallstatt D/Northern Period VI (Jacob-Friesen, 1963: pp. 424, 426–427, Abb. 425–434) (*cf.* Nordic Type Baudou VII C2).

Possibly the hoard from Plaggenburg, Kr. Aurich (Jacob-Friesen, 1963: Taf. 173:1–6, his Kat.Nr. 839), which contains two socketed axes, one looped and one unlooped, but Tackenberg (1971: p. 27) denies that

these two axes have proper arch facets. Tackenberg (1971: pp. 26–27, *Karte* 8 [square symbols] and *Liste* 8, Taf. 10ab) lists and maps the Barsinghausen axes and seven additional specimens from Northwest Germany, but omitting Plaggenburg; he illustrates only one (Fürstenau, Kr. Bersenbrück (?), Taf. 10ab). He supports a suggestion that the socketed axes with arch facet and lacking neck ribs and loop are characteristic for *Niedersachsen* in North European Period VI; in which case our Cat.No. 639 from Rhenen could be an import from that area. Whether all the North German specimens mapped by Tackenberg, taken over from Baudou or added by himself, are really indistinguishable from the numerous examples on the same map from Denmark and South Sweden is a question that would require detailed re-investigation.

5.2.2. *Socketed axes with face arches, wide trapeze-shaped blade, without neck ribs* (fig. 65) (AXT:AW)

CAT.NO. 640. BUINERVEEN, *GEMEENTE BORGER, DRENTHE*. Moshammen (possibly hoard with Cat.No. 712).

L. 9.5; w. 6.1 cm. Oval mouth, <> collar, very small loop (1.4×0.5 cm). Mouth formula: 4.1×3.7; 3.0×2.7 cm. Most of the face is arch facet. Sides convex. Blade Δ . Edge slightly bent, has been recently sharpened. Casting seams present. Surface has been scraped off, numerous file scratches. Slight blowhole at base of collar. Patina: originally black (faint traces). Now mostly blackish/greenish. Inside mostly light green. Laboratory treated. Found Oct. 2000 by farmer Veldman in a potato-shed among potatoes ‘from the same field’, and with similar patina as Cat.No. 712, an AWi axe with drapey ‘wings’, three neck ribs, and furrow ornament. Thus a possible hoard, though ‘from the same field’ offers no guarantee of association. Private possession. (DB 2532)

Map reference: Sheet 12H, 254.97/551.05.

Parallels and dating: Kibbert: späte ‘Nordic VII C2’, his Nos 760–766, Taf. 89B (triangles): mostly in the Weser area.

CAT.NO. 641. PROVENANCE UNKNOWN.

L. 8.7; w. 5.7 cm. Rounded socket and mouth (formula: 3.9×3.9; 2.9×2.8 cm). Bulging collar with small high placed loop: 2.1×0.75 cm. Blade cross-section (—); arch facet on each face. Cutting edge sharpened but battered. Patina: black. Casting seams preserved. Museum: Assen, Inv.No. 1962/II.188; ex coll. Snijders de Vogel. (DB 1012)

Reference: Essink & Hielkema, 1997–1998: p. 297, No. 143.

CAT.NO. 642. WOLLINGHUIZEN, *GEMEENTEVLAGTWEDDE, GRONINGEN*.

L. 9.2; w. 6.0 cm. Oval socket mouth (formula: 4.2×3.8; 3.1×2.75 cm). (), horizontally faceted collar, from which springs small D-loop (2.0×0.8 cm). Body with widely splayed () (outline, oval sec-

tion, but prominent facial arch facets. Inside the socket, three vertical ribs behind each face. Casting seams present, but removed on lower part of the sides. Cutting edge sharp. Small blowhole on one side. Patina: dark brown, light green in surface pits; has been waxed. Green in socket. Found 1992 by owner, with metal detector, west of the Wollinghuizerweg, during reconstruction of the stream Ruiten Aa, in the area of the meanders. Private possession. (DB 898)

Map reference: Sheet 13D, c. 272.5/557.7.

Reference: Jaarverslag ROB, 1992: p. 139.

CAT.NO. 643. BRUINE HAAR, *GEMEENTE VRIEZENVEEN, OVERIJSEL*. De 24 akkers.

L. 10.3; w. 5.9. Flattened-oval mouth opening (formula: 3.1×2.75; 4.1×3.9 cm). (), somewhat <> collar, from the base of which springs small thin D-loop (1.5×0.55 cm). Body outline () (but gradually expanding to wide cutting edge; cross-section oval, but large arch-facet on each face. Casting seams visible. Cutting edge sharp. Patina: dark bronze. Surface rough, part porous. Found Summer 1937 in peat, at a depth of 1.5 m. Museum: Enschede, Inv.No. 908 (old No. 500–242). (DB 1063)

Map reference: Sheet 28E, 242.4/499.4.

Documentation: *Dagblad van het Oosten, Twents zondagsblad*, 11 August 1938.

Parallels and dating: Kibbert has nine similar axes (Ki 760–765 and 1005), under the heading *Tüllenbeile der nordischen Form VII C2*, based on the classification of Baudou (1960), who dates them to the Northern Periods V and VI. Three of Kibbert’s examples – Ki 764, 765 and 1005 – are, however, with unknown or vague provenance; the others are from the Weser area (distribution his Taf. 89B triangles).

Jacob-Friesen 1967 (Taf. 173:3) illustrates two axes and a bronze mould in the hoard from Plaggenburg, Kr. Aurich.

Tackenberg illustrates a number of examples: *Wülfer*, Kr. Lemgo (Taf. 8:4=Ki761); *Neuhaus*, Kr. Paderborn (Taf. 9:3=Ki760); *Rott-Nösingfeld*, Kr. Lemgo (Taf. 9:2= Ki 762); *Wehden*, Kr. Wesermünde (Taf. 9:5), some of these being also in Kibbert. The published provenances are all in the Weser area; but seven unpublished examples from the Emsland are in the museum at Oldenburg (Oldenburg Inv.Nos 1113–1117, 1119–1120). Presumably these as well as the Netherlands specimens are imports from farther east.

Of special importance is the Period VI hoard from Barsinghausen, Ldkr. Hannover (most recently Wegner, 1996: p. 435, Kat.Nr. 21:1, with previous references), containing three bronze Baudou VII C2 axes (one of them with loop, one with unperforated loop, and one loopless) along with iron socketed axes and *Wendel*- and other rings.

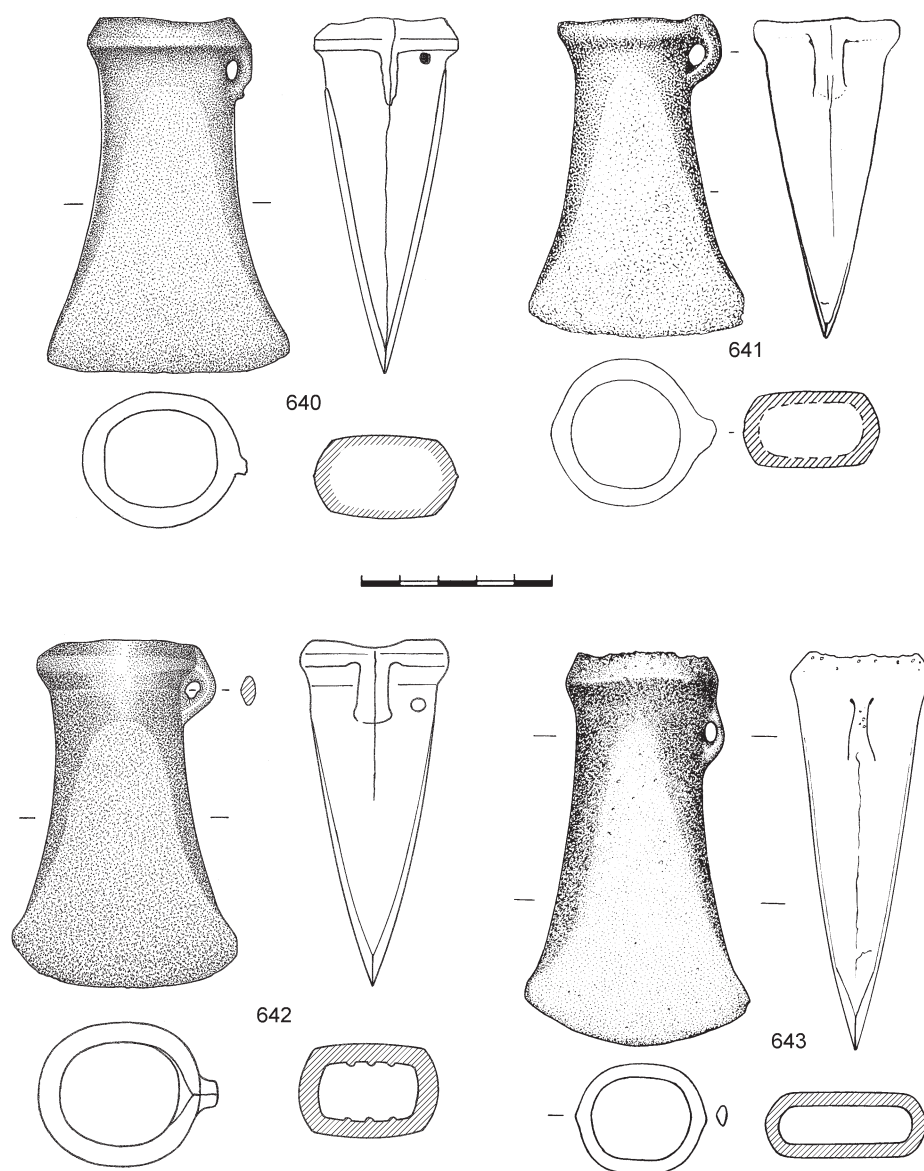


Fig. 65. Socketed axes with face arches, wide trapeze-shaped blade, without neck ribs. 640: Buinerveen, Dr (from possible hoard see fig. 93C); 641: no provenance; 642: Wollinghuizen, Gr; 643: Bruine Haar, Ov. (640: drawing HS)

The contents of this hoard are paralleled in the Danish Period VI hoard from Antworskov (Slagelse), on Zealand (Broholm, 1946: hoard M 215, pp. 243–244, and 247; Liversage, 2000: p. 42, fig. 19; with metal analyses from this hoard pp. 112–113, sample Nos 781–791). The Antworskov hoard has looped socketed axe(s) of this family together with *Wendelringe* and other Period VI ornaments. The metal analyses from the Antworskov hoard are all of Liversage's NS metal, but their tin contents are oddly variable (from less than 2% to over 9%; both the analysed socketed

axes have less than 2% tin). Lead content in the analysed objects in this hoard varies from 0.3 to 2.8%.

5.2.3. *Socketed axe with face arches, with furrow decoration, tranche blade, without neck ribs* (fig. 66)

CAT.NO. 644. OUD-SCHOONEBEEK, GEMEENTE SCHOONEBEEK, DRENTHE. Wilms Boo.

L. 10.2; w. 5.3 cm. Weight 288 gr. Oval mouth opening. (), stepped collar (mouth formula: 4.3×4.1; 3.3×3.1 cm). D-shaped band loop

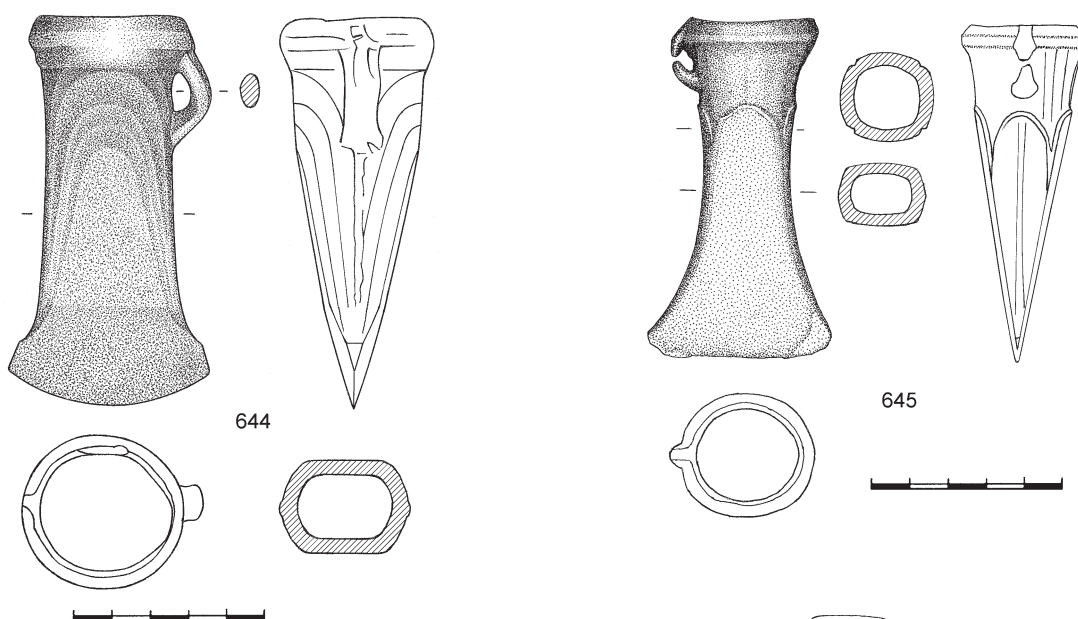


Fig. 66. Socketed axe with face arches, with furrow decoration, tranche blade, without neck ribs. 644: Oud-Schoonebeek, Dr.

(2.6×1.0 cm). Body outline: parallel sides, expanding sharply toward cutting edge; blade tips hammered down. Cross-section: upper part oval; large arch-facet on each face, outlined by faint but nevertheless distinct concentric hammered facets. Straight-ground sharpening facet on each face. Thick casting seams, somewhat eccentric. Cutting edge sharp. Patina: very dark brown (with high gloss of modern polish). Slight traces of a light brown loam in surface recesses. Found 1957–8 in peaty earth, thrown up during placing of an oil-pumping installation (*jaknikker*). Found among branches and twigs, with part of the wooden haft; but these wood remains were not saved. Private possession. (DB 687)

Map reference: Sheet 22F, 257.43/519.19.

Reference: Essink & Hielkema, 1997–1998: p. 295, No. 123.

Comment: Noteworthy is the massive, horizontally faceted collar with heavy loop, the furrow decoration of the blade, and the truncated blade tips.

5.2.4. *Socketed axes with face arches, miscellaneous, without neck ribs* (2 ex., fig. 67) (AXT: A.misc)

CAT.NO. 645. GEMEENTE ZWEELOO, DRENTH. Paarde-landsdrift.

L. 9.0; w. 4.8 cm. Weight 146.2 gr. Mouth formula: 13.5×3.3; 2.45×2.4 cm. Slightly oval, nearly circular mouth. <> collar, from which springs a small, incomplete D-loop. (1.7×0.6 cm). Neck with oval section, vertically faceted. Prominent, slightly raised arch-facets on faces and on sides. Body flares out to wide, straight, sharpened cutting edge. Patina partly ochreous, partly black. Heavily

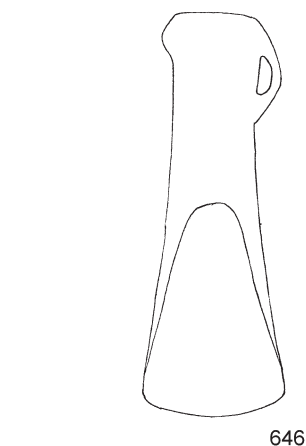


Fig. 67. Socketed axes with face arches, miscellaneous, without neck ribs. 645: gemeente Zweeloo, Dr (drawing HS); 646: Brucht, Ov (sketch A.D. Verlinde, ROB).

corroded. Found 1986, while harvesting potatoes. Museum: Assen, Inv.No. 1986/XII.3. (DB 690)

Map reference: Sheet 17G, 244.30/535.63.

Reference: Essink & Hielkema, 1997–1998: p. 296, No. 137.

CAT.NO. 646. BRUCHT, GEMEENTE HARDENBERG, OVER-IJSSEL. Helenahoeve.

L. 10.5; w. 3.6 cm. Rounded-rectangular mouth. <> collar, from which springs small D-loop. Long, slender body. Patina: light brown, glossy, corroded. Found c. 1960 by one Slager of Brucht while ploughing. Presented by him to the Oudheidkamer Hardenberg, Inv.No. 0313; but not now present. Sketch: Ad Verlinde, ROB. (DB 1891)

Map reference: Sheet 22D, c. 237/506.80.

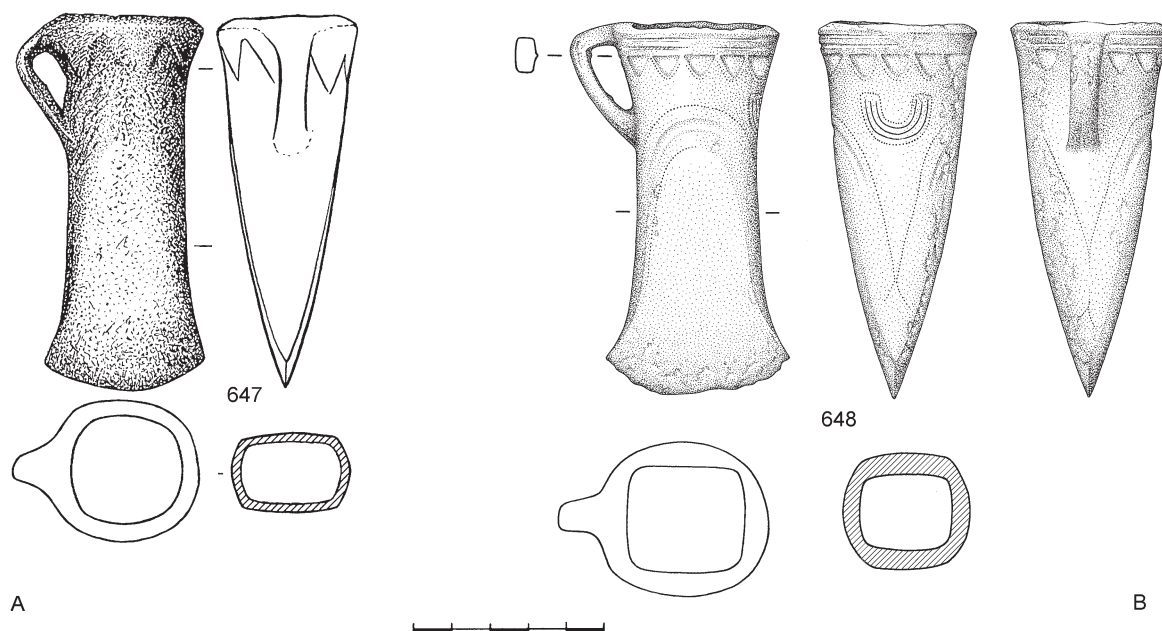


Fig. 68. A: Socketed axe with face arches, no neck ribs, VVV embellishment. 647: Exloërmond, Dr; B: with ribbed collar and incised VVV-decoration. 648: Wapse, Dr.

Comment: We have not seen this axe; we know it only from an outline drawing and description by A. Verlinde (ROB/Museum Enschede); it is now missing. The outline suggests that it is a Frouard-Reupelsdorf axe (Kibbert, 1984: pp. 131–135, his Nos 630–638, distr. his Taf. 88B), though that type is otherwise unrepresented in the Netherlands; it could be an import from the German Middle Rhine area.

Parallels: Kibbert, 1984: Taf. 48,49.

Distribution:

Tackenberg (1971: *Liste 7*, *Karte 7*) lists 45 examples of socketed axes with face arches and without neck ribs, (a few illustrated on his Taf. 8 and 9) supplementing the lists of Sprockhoff and Baudou. Several generally similar axes (but more trapeze-shaped) are illustrated by Kibbert (1984: Nos 760–765) as belonging to the Nordic Form VII C2 of Baudou.

Tackenberg lists an example (his No. 1) from Exloërmond (Drenthe), citing Pleyte, 1882: (Drenthe) Pl.33:7, but the axe in question is really the socketed axe from the Havelte hoard (see Cat.No. 689).

A bronze casting mould for an axe of this type occurred in the hoard from Schinna (Gde. Stolzenau, Kr. Nienburg, Niedersachsen; most recently Wegner, 1996: pp. 278–280, Kat.Nr. 5.1a–f, with previous references). The numerous further socketed axes with arch facets and without neck ribs in South Scandinavia were listed and mapped by Baudou, 1960: pp. 181 ff,

Karte 13; those in Northwest Germany were discussed, listed and mapped by Sprockhoff (1956: Abb. 17:5, *Karte 6*, pp. 17–19) under the heading ‘*Typ Schinna*’; with additions for North Germany by Tackenberg (1971: pp. 26–30; *Liste 7*, *Karte 7*).

Tackenberg’s map combines the Northwest German distribution with that of Baudou for the South Scandinavian area and Schleswig-Holstein; the impression is thus given of the fairly uniform spread of a single variant over a huge area, extending as far as the minor concentration in Northwest German the Ems region. It seems unlikely that this is really so; many or most of the very numerous axes in the South Scandinavian area of this sort are small and hexagonal-sectioned, while the North German variants tend to be larger and with deviant features (*cf.* Tackenberg, 1971: pp. 23 ff; Kibbert, 1984: pp. 136–137).

Origin of socketed axes with face arches:

In view of their small number in the Netherlands, axes of the Schinna-Obernbeck type can be presumed to be imports from the South Scandinavian-Northwest German area; narrowing down the area (or areas) of origin will perhaps be possible when a larger number of axes have been illustrated.

Possibly of local origin in the ‘Hunze-Ems’ area could be Cat.No. 644 from Schoonebeek, Drenthe (this is not an axe from the Schoonebeek hoard), Cat.

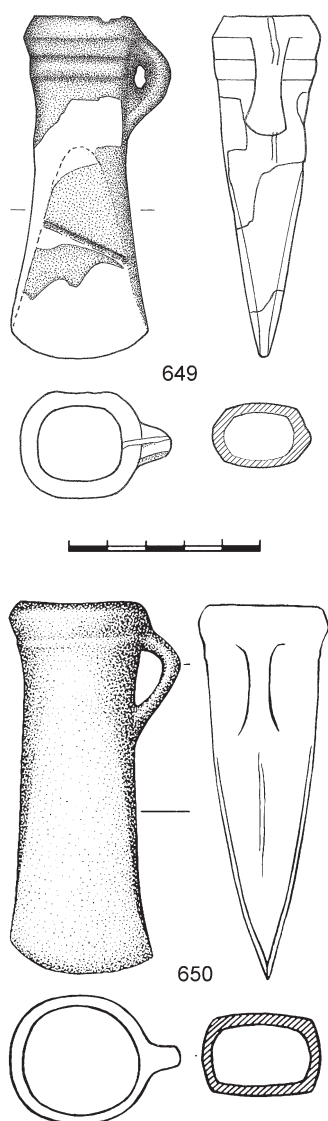


Fig. 69. Socketed axes with face arches and one neck rib. 649: Eursinge, Dr (drawing HS); 650: Vasse, Ov.

No. 657 (Valthe, Drenthe) and the axe of unknown provenance (Cat.No. 658).

5.2.5. *Socketed axe with face arches, no neck ribs, VVV embellishment (fig. 68A)*

CAT.NO. 647. EXLOERMOND, *GEMEENTE ODOORN*, DRENTHE.

L. 9.7 cm. Rounded section, flattened on faces; subrectangular socket; elbow-shaped loop of pointed-oval section springs from bevelled, slightly conical socket mouth; six plastic pendant triangles below rim. Facial arches almost faded away. Patina: clean.

Blade sharp. Found July 1860 by T.L. Zuidema of Exloërmond, 6 feet deep in peat. Museum: Assen, Inv.No. 1860/1.2, presented by finder. (DB 74)

Map reference: Sheet 17F, c. 259/549.

References: Pleyte, 1882 (Drenthe): p. 31 (with reference to Pl. XXXIII:4, but this is a tanged knife!), Pl. XXXIII:7; Butler, 1961a: p. 233; Essink & Hielkema, 1998: p. 292, No. 92.

5.2.6. *Socketed axe with face arches, with ribbed collar and incised VVV-decoration (fig. 68B)*

CAT.NO. 648. WAPSE, *GEMEENTE DIEVER*, DRENTHE. De Laken

L. 10; w. 4.9 (mouth formula: 3.2×2.8 ; 4.55×4.1 cm); width with loop 5.6 cm. Weight 300.5 gr. Mouth opening rectangular with rounded corners. The upper 2 cm of the body is funnel-shaped; the slight collar has two grooves. Angular ribbon loop, 3.3×1 cm. From the collar depends a row of inverted triangular depressions, outlined by pointillé. On the face, an arch facet is outlined top and bottom by two concentric furrows, outlined by pointillé which extends into a large V on each side. High up on the non-looped side is a pattern consisting of three U-shaped concentric semi-circles outlined by pointillé. Patina: one side well preserved, smooth dark brown, the other face corroded. Found c. 1985 during potato harvesting on the field 'de Laken' by owner. (DB 2173)

Map reference: Sheet 16F, 213.5/540.2.

Comment: The generally similar to the other socketed axes in the AVVV series, Cat.No. 648 from Wapse in Southwest Drenthe has some distinctive features: especially the depressed rather than raised V's, the concentric incised semi-circles, and the pointillé patterns on the faces and sides.

We are grateful to E. Mols (*School in Bos*, Frederiksoord) for knowledge of this axe.

Parallels: in the Netherlands the *concentric-semi-circles motif* in the Netherlands is found on the socketed knife from the Havelte hoard (Butler, 1986: p. 158, fig. 25:5); the socketed knife fragment from the Drouwenerveld hoard (Butler, 1986: p. 136, fig. 4:30; pp. 146–148; p. 162, fig. 29); the double-T knife from Appelscha (Butler, 1973: p. 20, fig. 5); and on an unpublished pegged spearhead (our DB 653) from Grave (Noord-Brabant). In France the motif is present on pins from Villethierry (Mordant, 1990: pp. 71–104).

Map reference: Sheet 16F, 213.50/540.12.

Reference: Essink & Hielkema, 1997–1998: p. 286, No. 30.

Dating of the semi-circles motif: HaB1–HaB2/3 (cf. Butler, 1986: p. 148).

5.3. *Catalogue of socketed axes with face arches and one neck rib (fig. 69) (AXT:ANr1)*

CAT.NO. 649. EURSINGE, *GEMEENTE WESTERBORK*, DRENTHE.

L. 9.0; w. 3.5 cm. Weight 142 gr. Socket opening rounded-rectangular (formula: 3.1×2.85 ; 2.1×2.0 cm). Collar $<>$; from its lower part

springs slightly elongated D-loop with) (outline (2.6×1.0/0.7/1.1 cm). Directly under collar, broad (0.6 cm) neck rib. Body outline) (, section rounded-rectangular, on lower part arch-shaped facial facet, with slightly convex faces and more strongly convex sides. Casting seams rather eccentric. Roughly diamond-shaped blowhole c. 3×5 mm on non-looped side. Cutting edge sharp. Patina: glossy dark brown; a considerable part of the original surface has peeled off, there dull green/brown; inside ochreous. Remains of wood inside socket. Found Sept. 1997 by farmer Mrs. H. Hoving while harvesting potatoes. (DB 2502)

Map reference: Sheet 17B, 237.600/539.525.

Reference: *Nieuwe Drentse Volksalmanak* 1999, pp. 85–86 (177–178), fig. 7 (photo).

Note: Such a flat neck rib is uncommon, but cf. the ‘winged’ specimen Cat.No. 687 from Herveld, Gelderland.

CAT.NO. 650. VASSE, *GEMEENTE* TUBBERGEN, OVER-IJSSEL.

L. 9.9; w. 3.8 cm. <> collar; single rib on neck; slightly angular loop, 3×1.2/0.55/1.1 cm. Arch-facets on faces. Patina: mottled (green, brown, grey-green). Interior agrees exactly with Cat.No. 660. Museum: Zwolle, Inv.No. 120. Found 1903 (with Cat.No. 660?) in the ‘Witte Veen’, but according to Ter Kuile (1909) found in the Vasserveld. (Flip Woltering re-checked the Inventory cards of the Museum in 1969, and names the Vassen cemetery as the find-spot; contrary to the Inventory Book). Gift of J. Groothuis of Tubbergen. (DB 249)

Reference: Ter Kuile, 1909: p. 9; Hijzeler, 1961: p. 54.

Documentation: letter Ad Verlinde (with the information above) to authors, 26 April 2003.

Parallels: Baudou, 1960: Taf. V:VII 1b, Taf. VI:VII C3.

5.3.1. *Socketed axe with face arches, with one neck rib and VVV embellishment* (fig. 70) (AXT: ANr1.VVV)

CAT.NO. 651. NO PROVENANCE.

L. 11; w. 4.8 cm. Mouth formula: 4.45×4.1; 3.05×2.9 cm. <> collar with plastic pendant triangles; on neck, rib with plastic triangles above (faint) and below; large loop: 3.3×0.95 cm; arch shaped furrowed decoration. Edge sharp. Finely preserved. Patina: black. Museum: Burgerweeshuis Arnhem, Inv.No. 2706. (DB 43)

5.4. Catalogue of socketed axes with face arches and two neck ribs (AXT:ANr2)

Somewhat better represented in the Netherlands is the variety with two neck ribs, belonging to the *Typ Obernbeck* (Sprockhoff, 1956: *Karte* 7, Abb. 17:6); Kibbert, 1984: Nos 646–7, Taf. 49; Baudou, 1960: Taf. V:VII C1a).

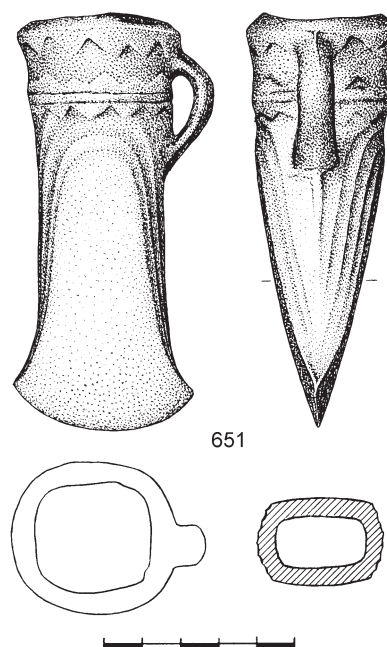


Fig. 70. Socketed axe with face arches, with one neck rib and VVV embellishment. 651: no provenance.

5.4.1. *Socketed axes with face arches and two neck ribs, short variety* (fig. 71)

CAT.NO. 652. FREDERIKSOORD, *GEMEENTE* VLEDDER, DRENTHE

L. 7.2; w. 3.25 cm. Oval socket and mouth opening (formula: 3.4×3.1; 2.7×2.4 cm). Small loop (2×0.45 cm) depends from collar; has been squashed. Arch facet on faces with 2 small neck ribs above. Cutting edge battered. Patina: glossy dark green. Museum: Oudheidkamer Ommen, no number (ex coll. Gerrits). (DB 1733)

Map reference: Sheet 16E, c. 209/540

References: Butler, 1986: p. 145, fig. 13 upper; Essink & Hielkema, 1997–1998: p. 295, No. 127.

CAT.NO. 653. LEEUWARDEN, *GEMEENTE* LEEUWARDEN, FRIESLAND.

L. 8.4; w. 4.9 cm. Oval socket and mouth opening, formula: 3.8×3.35; 3.05×2.55 cm. Flattened D-loop (2.35×0.5 cm.) depends from collar. Arch facet on the faces with 2 small neck ribs above. Edge sharp. Found by the gardener J. Koning in 1985 in transported earth (probably of local origin, dredged out of the Van Harinxmakanaal) in a flower bed on the Zwettestraat in the industrial estate Nijlân, on the south side of Leeuwarden. It contains the fragment of a wooden shaft, identified as of oak by W.A. Casparie (B.A.I.); ¹⁴C dating: *GrN*- 19825, 2610±45 Cal., 2 sigma calibration: 893–879, 837–759, 686–665, 637–591, 579–545 BP. Museum: Leeuwarden, Inv.No. 1985–V–1. (DB 659)

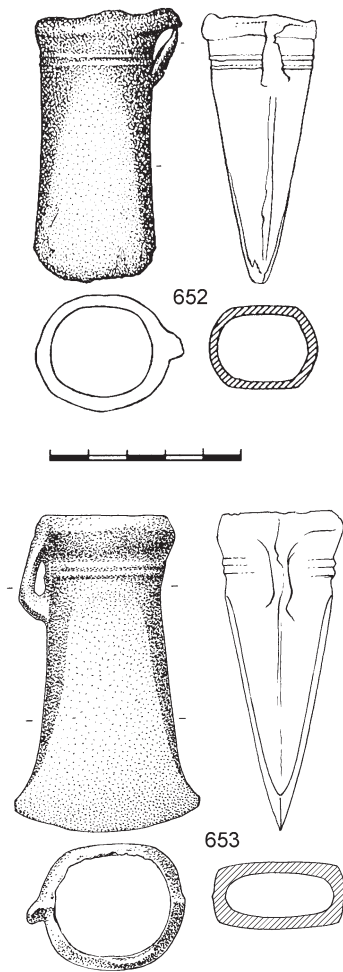


Fig. 71. Socketed axes with face arches and two neck ribs, short variety. 652: Frederiksoord, Dr; 653: Leeuwarden, Fr.

Map reference: Sheet 6C, 180.42/577.98.

References: Butler, 1986: p. 145, fig. 13 under; p. 164, note 4; Essink & Hielkema, 1997–1998: p. 301, No. 183.

5.4.2. Socketed axes with face arches and two neck ribs, longer examples (2 ex) (fig. 72)

CAT.NO. 654. OUD-AALDEN, *GEMEENTE ZWEELOO*, DREN-
THE.

L. 10.3; w. 4.1 cm; Weight: 225.5 gr. Subrectangular mouth opening. Rounded-<> collar (formula 4.0×3.7 ; 2.8×2.7 cm), from which springs large D-loop (3.0×0.5 cm). Two thin neck ribs. Body outline) (, oval cross-section, with arch facet on each face. Casting seams partially removed. Cutting edge was sharp, but some modern battering. Patina: mottled brown, with light green patches where damaged. Light brown loamy encrustation, especially inside socket, slight on outside. Surface rather rough; some modern damage from rough 'cleaning'. Found by a farmer in the garden behind his farm-

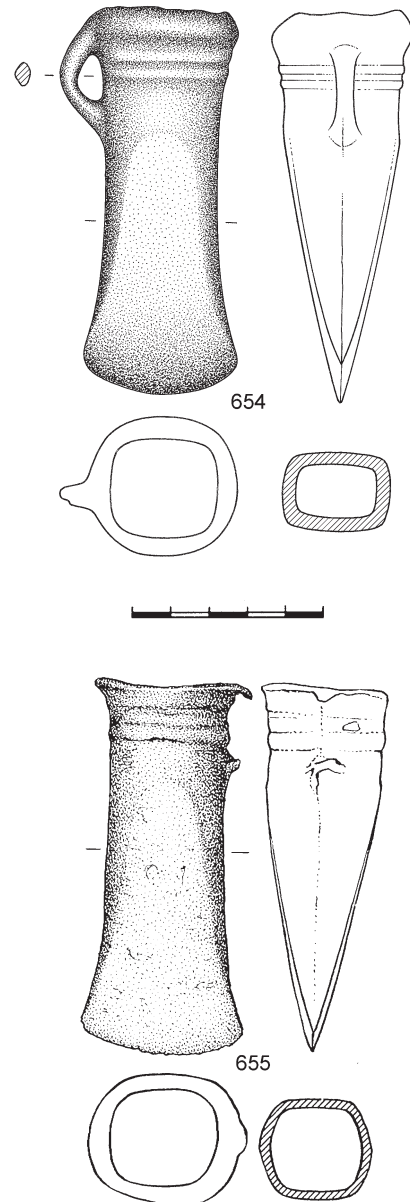


Fig. 72. Socketed axes with face arches and two neck ribs, longer examples. 654: Oud-Aalden, Dr; 655: near Beilen, Dr.

house. Private possession. (DB 2259)

Map reference: 17G, c. 244.9/534.3.

CAT.NO. 655. NEAR BEILEN, *GEMEENTE BEILEN*, DREN-
THE

L. 9.9; w. 4.4 cm. Subrectangular mouth opening, formula: 3.7×3.3 ; 2.9×2.6 cm. Flat topped but irregular rim; concave-inverted conical collar, slightly battered. From the top of the collar spring the stumps of a miscast loop ($2.3 \times ?$ cm). Body outline slightly) (; neck part with oval section, with arch-facet on faces. Cutting edge asymmetrically

sharpened. Patina: very dark brown, almost black. On the face illustrated is a small circular modern bore-hole. Museum: Assen, Inv. No. 1897/XI.1, acquired from J. Schulman of Amersfoort. Found 'years previously' south of Beilen.

Map reference: Sheet 17B, c. 231/542. (DB 94)

References: *Verslag*, 1897: p. 9, No. 13; Butler, 1960b: p. 231; Essink & Hielkema, 1997–1998: p. 284, No. 4.

Parallels: these few very short examples with two neck ribs in South Drenthe, closely resemble the Danish examples such as those in the Period IV hoards of Midskov (Broholm, 1946: hoard M 38) and Vestbjerg (Broholm, 1946: hoard M 77), and can be presumed to be actual imports. The axe from Leeuwarden, Friesland (Cat.No. 653) is perhaps more 'Oberneck' than South Scandinavian.

5.4.3. *Socketed axe with face arches, with two neck ribs on one face* (fig. 73)

CAT.NO. 656. DROUWENERVELD, *GEMEENTE* BORGER, DRENTHE. (from the hoard)

L. 9; w. 3.5 cm. Oval socket, outer mouth formula c. 3.8×3.6 cm. Arch facet on both faces, 2 neck ribs above on one side. From collar depends) (shaped D-loop: 2.45×0.45 cm. Casting seams on both sides. Edge battered. Patina: dark green. Museum: Assen, Inv.No. 1984/XII.4. (DB 666)

Map reference: Sheet 12G, 248.8/552.5.

References: Butler, 1986: p. 136, fig. 4; pp. 145–146; Essink & Hielkema, 1997–1998: p. 285, No. 20.

Note: A small number of axes with this kind of duality are mentioned by Tackenberg, 1971: pp. 255–256, *Liste* 6: Nos 1, 6, 18). In the typology of Sprockhoff (1956: pp. 90–91) the face without the ribs belongs to Typ Schinna, whereas the ribbed face is an example of Typ Oberneck.

Parallels for Type Oberneck: hoard Oberneck, Kr. Herford, Nordrhein-Westfalen (Sprockhoff, 1956 (II): pp. 19, 34, 117, Taf. 10:12,15); Tackenberg, 1971: Taf. 6:4; Kibbert, 1984: No. 647, p. 64) see also the two socketed axes classified under *Var. Løvskal* by Kibbert), from the hoards of Oberneck (p. 64) and Hillesheim (p. 147) respectively (see section 7.1.2 below). The interior socket ribs in these two axes may suggest that they were actually cast in the South Scandinavian area, where such ribbing is characteristic for *Løvskal*/Oberneck axes in Period V. There is an unusually large example in the *Basland* hoard (Denmark): see (Part III:2A, p. 295, p. 301, fig. 30b; similar in many respects to the isolated example Ki 653 from Haltern-Lavesum, Kr. Recklinghausen (= Tackenberg, 1971: Taf. 10:2).

Related is the socketed axe in the Danish hoard of

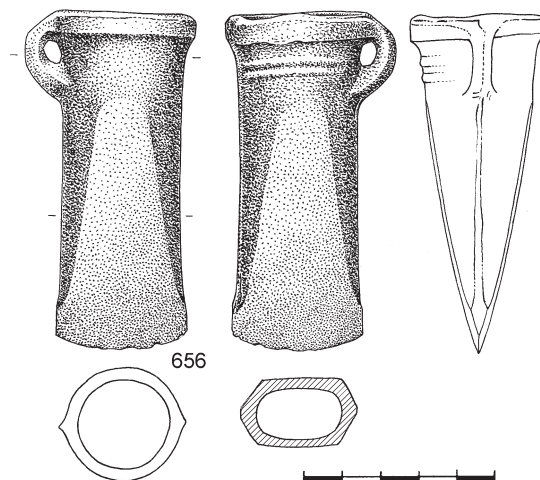


Fig. 73. Socketed axe with face arches, with two neck ribs on one face. 656: Drouwenerveld Dr (from the hoard, see fig. 91).

Fisbaek (Jacob-Friesen, 1967: p. 240, Taf. 122 No. 591; Broholm, 1946 (III): p. 205, hoard M 94a, assigned to Period IV).

Note: There are interesting discrepancies between the drawings of this socketed axe in the publications of Tackenberg and Kibbert. Tackenberg's version shows, faintly yet clearly, furrow embellishment, not shown by Kibbert. In return, Kibbert's axe has three longitudinal ribs (Baudou Form E) inside the socket, a feature not shown by Tackenberg.

5.4.4. *Socketed axes with face arches and two neck ribs, embellished* (fig. 74) (AXT:ANr2. Emb)

CAT.NO. 657. VALTHE, *GEMEENTE* ODOORN, DRENTHE. Valthermeer.

L. 7.8; w. 3.15 cm. Subrectangular mouth opening (formula: 3.75×3.4 ; 2.55×2.4 cm).) (collar, with cable decoration on its base, directly below which two neck ribs. From the collar springs D-loop (2.0×1.0 cm with) (profile. Body with parallel sides,) (section. Arch facet, outlined with three concentric grooves, occupies the entire face, the furrows forming ogival V's on sides. Casting seams present. Cutting edge is asymmetrical, and recently abraded. Patina: dark brown, glossy; with abraded patches. Found in 1938, west of the *Hunebedden* D33–34. Private possession. (DB 746)

Map reference: Sheet 17F, 254.52/540.59.

CAT.NO. 658. PROVENANCE UNKNOWN.

L. 10; w. 3.85 cm. Subrectangular mouth opening (formula: 4.0×3.6 ; 2.95×2.85 cm). Inverted-conical collar with bevelled rim; from the collar springs large D-loop with) (profile. Two neck ribs. Body outline slightly) (; neck with oval cross-section. Facial arch

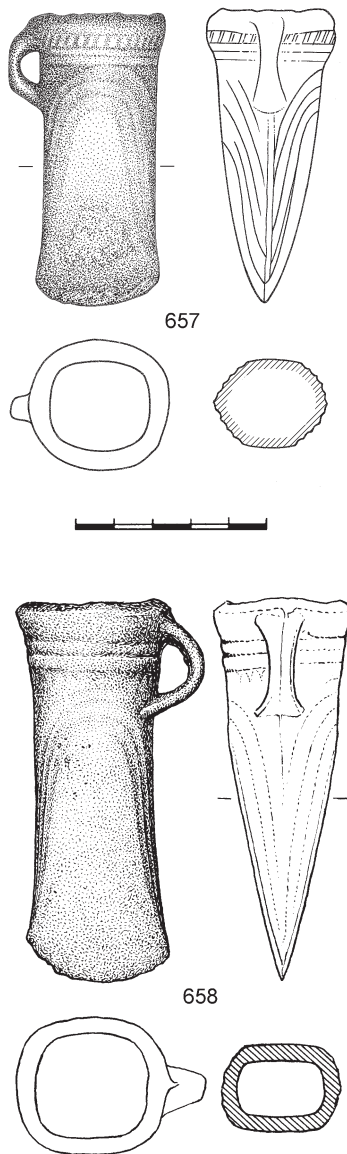


Fig. 74. Socketed axes with face arches and two neck ribs, embellished. 657: Valthermeer, Dr; 658: no provenance.

is outlined by concentric furrows, forming V's on sides. Cutting edge sharp, but one corner damaged. Present locus unknown. (DB 2228)

Note: We know this axe only from a good-quality BAI-drawing, but no further information could be found.

These may, in view of their embellishments, be of local origin. A related axe from Hannover (Fischergasse) is illustrated by Tackenberg (1971: Taf. 7:2): long body with parallel sides, heavy, <> collar, exaggerated flattened-D-loop. On the lower part of the collar are incised inverted diagonally hatched triangles; the one

neck rib is cabled; there is furrowing around the face arch. The incised hatched pendant triangle ornament suggests a relationship to the plastic pendant triangle decoration of our section 11, though the technique of the ornament is different.

5.5. Catalogue of socketed axes with face arches and three neck ribs (fig. 75) (AXT:ANr3)

CAT.NO. 659. ZEEGSE, *GEMEENTE VRIES*, DRENTHE.

L. 11.3; w. 4.0 cm. Rounded-square mouth opening. <> collar (formula: 3.85×4.0; 3.0×2.9 cm), from which springs large D-shaped band loop (3.8+shield-shaped expanded foot; 1.1/0.9/1.6 cm). Three neck ribs. Body outline slightly (, section oval but large arch facet extending to the base of the neck ribs. Eccentric casting seams. Cutting edge sharp. Patina: brownish; rough surface. Found July 1950 at the border of the bog and the solid ground [*op de rand van het veen en de vaste grond*] by E. Sijbring of Schipborg, during the reclamation of the bog. Museum: Assen, Inv.No. 1955/IX.2b. Purchased from J. Schuurhuis of Schipborg. (DB 1315) Hoard with Cat.No. 696?

Map reference: Sheet 12B, c. 239/565.

References: *Verslag*, 1955: p. 133 (in *Nieuwe Drentse Volksalmanak* 1957); Butler, 1961a: p. 232, No. 19; Essink & Hielkema, 1997–1998: p. 296, No. 129.

N.B.: the patina of Cat.Nos 696 and 659 cannot be compared, as Cat.No. 696 has been cleaned.

Parallel: socketed axe with furrowed arches from the Plestin hoard (Sprockhoff, 1941: Taf. 43:5)

CAT.NO. 660. VASSE, *GEMEENTE TUBBERGEN*, OVERIJSEL.

L. 10.8; w. 3.4 cm. Rounded-off square mouth opening (formula: 3.6×3.5; 3.2×2.9 cm). Slight collar, no wider than the three neck ribs below it. From the ribbed zone springs D-loop with (profile (2.9×1.7/0.5/1.7 cm); Body outline parallel-sided; cross-section of neck oval, arch-facets not sharply defined. Cutting edge sharp, slightly asymmetrical. Patina: patchy (light green, dark green, brown); surface porous and rough. Original surface corroded away. Found 1903 (uncertainly with Cat.No. 650) in the Witte Veen. Museum: Zwolle, Inv.No. 122. Gift of J. Groothuis of Tubbergen. According to Ter Kuile (in his copy of Pleyte) found in the Vasserveld. (DB 250)

Reference: Ter Kuile, 1909: p. 9.

CAT.NO. 661. NIEUWE PEKELA, *GEMEENTE NIEUWE PEKELA*, GRONINGEN.

This specimen is known only from drawings and descriptions in 19th century literature; its present locus is unknown.

L. 4½ inches (Westendorp). Three neck ribs. Loop broken off and missing. Arches on faces. Body outline ogival. Found, according to Westendorp presumably on information from the named finders, with a wooden haft 2½ feet long. Found 1815, by J. Aten, J.



Fig. 75. Socketed axes with face arches and three neck ribs. 659: Zeegse, Dr; 660: Vasse, Ov; 661: Nieuwe-Pekela, Gr (drawing: HS, after Pleyte 1882); 662: gemeente Bemmelo, Ge.

Nieboer and H. Rozewinkel, in a peat bog “on the farm of the widow Poortman, Zuidribs. kant No. 24”, under five feet peat, two feet above the sand; when Westendorp saw it in or before 1820 it was in the possession of a Professor Uilkens in Groningen. (DB 654)

“Gevonden in 1815, in één der venen van de beneden Pekel A, op de plaats van de weduwe Poortman, Zuidribs. kant No. 24; 2 voeten boven het zand en 5 voeten onder het veen en ± 14 voeten boven de oppervlakte der zee, door Jan Aten, Jan Nieboer en H.

Rozewinkel.”

Map reference: Sheet 13AZ, 262.3/564.2.

Documentation: Groenendijk, dossier Nieuwe Pekela no.7;

References: Westendorp, 1820: pp. 285 (drawing), 283–296; Pleyte, 1877: (Friesland) pp.120–121, Pl.XLV:1; Sprockhoff, 1956: I:95, II:21; Essink & Hielkema, 1997–1998: p. 298, No. 155.

CAT.NO. 662. GEMEENTE BEMMEL, GELDERLAND. River Linge.

L. 13.9; w. 5 cm. Large, heavy example. Oval mouth opening. Pronounced <> collar (formula 4.8×4.44; 3.5×3.1 cm), from the lower part of which springs large band loop with elbow outline and) (shape (4.8×2.0/0.9/2.0 cm). Three neck ribs. Body outline) (. Faint arch-facets. Cutting edge sharp. Practically the entire surface has been ground and polished recently. Original patina (surviving traces): mottled green, rough surface. Found 1949 “*bij graafwerk in de Lingewal, op een diepte van 1.4 m* (during excavation work in the bank of the Linge, at a depth of 1.4 m)”. Museum: Het Valkhof, Nijmegen, Inv.No. GAS 35; purchased 1952 from finders. (DB 20) Map reference: Sheet 40C, 189.40/437.60.

Parallels:

Three-neck-rib example (with (cabled ribs): in hoard Plestlin, Kr. Demmin (Sprockhoff, 1956: Taf. 43:5, Taf. 8:11); related three-neck-rib examples in NW Poland, *i.e.* in the Montelius V hoard of Witkowo (Sprockhoff, 1941: Taf. 47–51; Ku 628, 630). In Denmark, in the Montelius IV hoard of Løvskaal (Viborg amt, middle Jutland), Broholm, 1946 [III]: p. 202, M.84); Jacob-Friesen, 1967(II): Taf. 171:1–7 (esp. No. 6). In Southeast England, in the LB3 hoard from Minnis Bay, Birchington, Kent (Worsfold, 1943: pp. 28–47; O’Connor, 1980(II): pp. 384–386, Find No. 156, fig. 59:15).

5.6. Catalogue of socketed axes with face arches and multi neck ribs, embellished (fig. 76) (AXT: ANr3+.Emb)

CAT.NO. 663. HAVELTE, GEMEENTE HAVELTE, DRENTHE. Part of hoard.

L. 11.5; w. 5.0 cm. Mouth formula: 4.4×4.3; 3.4×3.3 cm. Conical collar with pendant plastic triangle ornament, below which is a collar of oval cross-section, bearing a series of horizontal transverse incised lines. Arch-shaped facial facets. Indistinct vertical fluting on the sides. Large elbow loop (3.9×1.05 cm) extends from the top moulding to below the collar. Cutting edge asymmetrically sharpened. Inside the socket of the axe was found a casting jet (museum Assen, Inv.No. 1872/I.17B): two conical runners, each with a vertical seam on each face; joining arch-wise and surmounted by a disc-like head. Width 4.6 cm; height 2.85 cm. Found during ploughing in a field near a pond called ‘Het Lok’, in sandy soil. Patina: light green, part of which has been mechanically removed. Well preserved. Found

before 1872 by F.J. Meeuwes of Havelte, while ploughing. Museum: Assen, Inv.No. 1872/I.17A. Presented by H. Meeuwes of Havelte, via the *burgemeester* of Nijeveen, December 1872. (DB 1845) Associations: socketed axe Cat.No. 689, a socketed urnfield knife (Inv.No. 1872/I.16) and a casting jet (Inv.No. 1872/I.17B) all in museum Assen.

Documentation: Letter W.B. Boeles (Assen Museum) to C. Leemans (RMO Leiden) 30 December 1872 (RMO *ontvangen brieven* 1872: No. 80); accompanied by pencil drawing by B. Kymmel (published in Butler, 1961a: *Bijlage* I, Pl. IV).

Map reference: Sheet 16H, 211.30/530.50.

References: Pleyte, 1882: I 76, II Pl. 33:5 (on the plate erroneously provenanced Exloërmond, *gem.* Odoorn); Butler, 1961a: pp. 199–233, 207–212, Pl. IV, fig. 14, 213 *Bijlage* I; Butler, 1986: p. 162, fig. 29; Essink & Hielkema, 1997–1998: p. 291, No. 81.

Note 1: Tackenberg lists an example (his No. 1) from Exloermond (Drenthe), citing Pleyte, 1882: (II) Drenthe, Pl.33:7, but the axe in question is the axe from the Havelte hoard (Cat.No. 663).

Note 2: A second casting jet from the Netherlands (in museum St. Odiliënberg, Inv.No. 1–5) was found in Heel (*gemeente* Beegden, Limburg) with a metal detector “*in afgeschraapte grond in een baggergebied*” [in scraped ground in a dredge area].

CAT.NO. 664. NOORDBARGE OR ZUIDBARGE, GEMEENTE EMMEN, DRENTHE

L. 10.0; w. (3.7); th. 3.6 cm. Weight 212 gr. Mouth opening subrectangular (formula: 4.0×3.6; 3.0×2.7 cm). <> collar, from which springs D-band loop (2.6×1.3 cm) with) (outline. On neck four faintly plastic thin ribs, the lowermost with traces of cable pattern. Arch-facet on each face, outlined by two concentric furrows. Prominent, somewhat eccentric casting seams on upper half. Cutting edge sharp, slightly battered, especially in one corner. Surface corroded. Patina: brownish-black to greenish, partly scraped off; had brown encrustation. Found 1967 among potatoes transported to the potato-flour factory ‘Excelsior’ at Nieuw-Amsterdam. Museum: Assen, Inv.No. 1969/XII.31; purchased from J. Oost of Nieuw-Amsterdam. (DB 1321)

Map reference: Sheet 17H, c. 257/532.

References: KNOB, 1970: p. 2, 21; Essink & Hielkema, 1997–1998: p. 289, No. 62.

CAT.NO. 665. TWEDE EXLOERMOND, GEMEENTE ODOORN, DRENTHE.

L. 9.9; w. 3.35 cm. Weight 245.6 gr. Mouth opening subrectangular. Mouth formula: 3.95×3.8; 2.75×2.75. (), overhanging collar, the top of which has been slightly hammer-flattened. From it springs a large (3.2×0.9 cm) D-shaped ribbon loop, with lozenge section. Under the collar six close-set thin neck ribs. Body oval in section, but most of each face is occupied an arch-facet. On the sides a pattern of furrows forming concentric V’s. Body outline parallel-sided, but with cutting edge tips only very slightly expanded. Cutting edge sharp, but with recent battering. Casting seams have been removed, but are still present on and under the loop. Inside the subrectangular

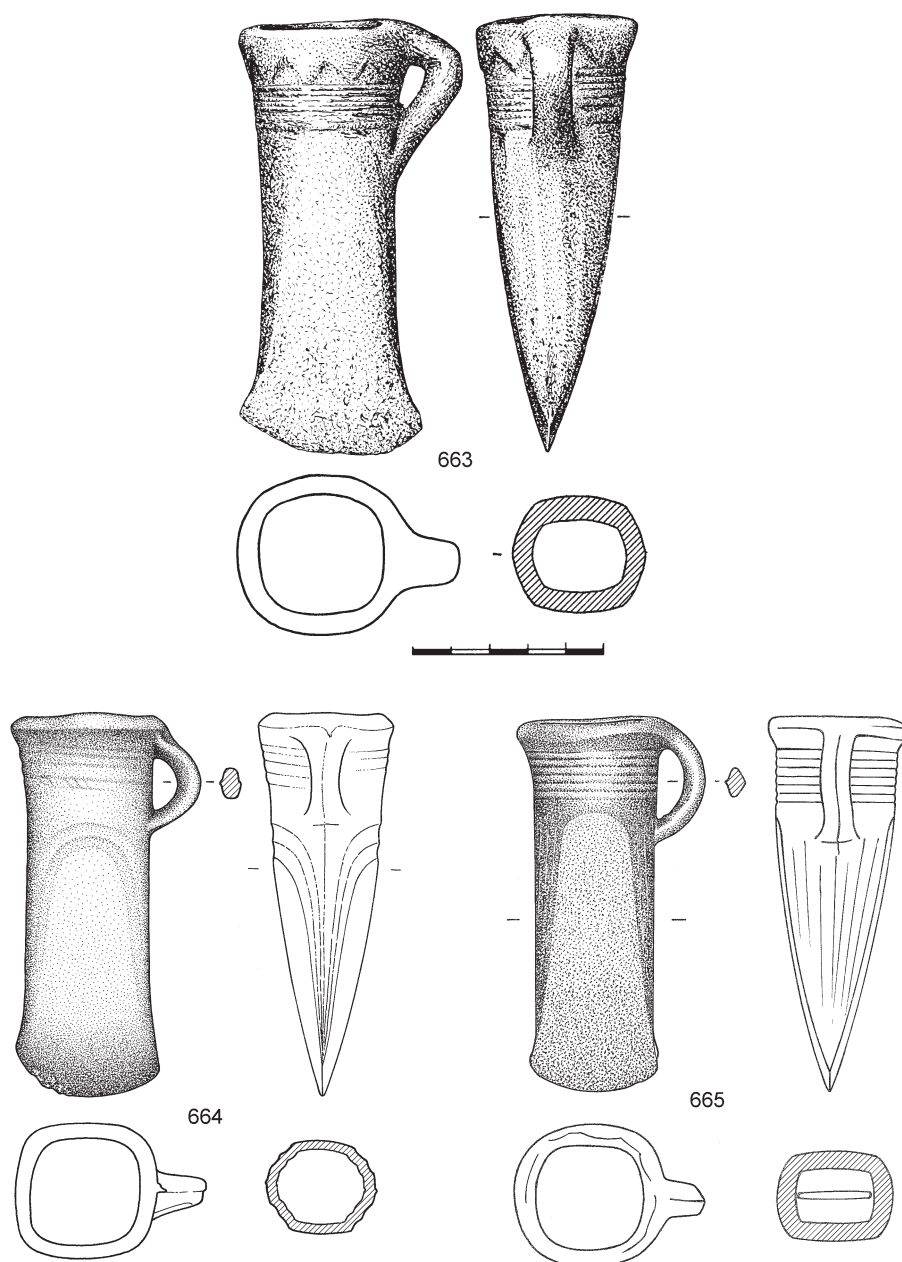


Fig. 76. Socketed axes with face arches and multi neck ribs, embellished. 663: Havelte, Dr (from the hoard, see fig. 92A); 664: Noordbarge or Zuidbarge, Dr; 665: Tweede Exloërmond, Dr.

socket, at its base, is a horizontal rib. Patina: dark glossy green to blackish; slight corrosion pitting. Found by peat diggers; came into possession of a doctor, in whose family it remained; the axe was for a time with a family member in Canada, but was later repatriated and purchased by museum Assen, Inv.No. 1998/IV.1. (DB 1716)

Documentation: Undated note J.D. van der Waals to Butler.

Map reference: Sheet 17F, c. 259/548.

References: Essink & Hielkema, 1997–1998: p. 294, No. 110; *Nieuwe Drentse Volksalmanak* 118: pp. 183–184, fig. 14.

Parallels: Germany: a four-neck-rib example: ‘Land Oldenburg’ (Tackenberg, 1971: Taf. 7:1. Tackenberg’s *Liste 5*, supplementing lists of Sprockhoff and Baudou, contains other possibilities among its specimens with two to four neck ribs).

Poland: five- and seven neck-rib examples, with furrows surrounding arches: Plestlin hoard (Sprockhoff, 1941: Taf. 42:5, Taf. 43:7). A few examples have been found in Northwest Poland (Kuśnierz, 1998): No. 628

Uścikowiec; No. 627 *Skibno*; No. 630 *Witkowo* (from the hoard formerly known as *Vietkow*, Kr. *Stolp*); No. 632 *Śląsk* (formerly *Silesia*, without exact provenance). These examples, except possibly No. 628, have features suggesting that they stem from the same workshops as those from the ‘Hunze-Ems’ area.

England: one example is known in Southeast England, in the hoard from *Minnis Bay*, *Birchington*, *Kent* (Worsfold, 1943: pp. 28–47; O’Connor, 1980(II): pp. 384–386, Find No. 156, fig. 59:15). It is unornamented, but all its features, including the “bell-shaped facets” on the faces and the large loop, point to its origin in the ‘Hunze-Ems’ area.

5.7. Socketed axes with face arches and astragalus neck ribs (figs 77–80)

5.7.1. Definitions

Herewith we list socketed axes in the Netherlands with face arches and with neck ribs following the pattern narrow-wide-narrow and elaborations of this scheme. These correspond in part to the group ‘*mit profiliertem Tüllenmund*’ of Sprockhoff (1956), who combines under the heading ‘*mit profiliertem Tüllenmund*’ axes with the narrow-wide-narrow neck rib pattern and also examples with multiple neck ribs which we treat separately in section 5.5.

Sprockhoff (1956: pp. 90 ff) included in his list, accompanied by his *Karte 7* (plus symbol) and *Taf. 8:2,11,13*, under the heading ‘*Beile mit profiliertem Tüllenmund*’ eleven finds from the Netherlands. This included eight provenanced finds from *Drenthe*, plus three attributed to ‘*Drenthe*’ but without known find-spot, and one attributed to *Leiden*, *Zuid-Holland*, allegedly in the *RMO Leiden*, which we have not been able to track down. His list was amended by Butler (1960b: p. 231) with details as to inventory numbers for the Netherlands examples. Our new list (supplemented with a few examples that also have plastic VVV ornament on the neck) increases the number slightly, and confirms the predominance of *Drenthe*.

For Sprockhoff, socketed axes ‘*mit profiliertem Tüllenmund*’ were a most important component of his short list of types illustrating his ‘*Ems-Weser Kulturkreis*’. His list of 1956 had, however, only four find-spots in the *Ems-Hase* area and three farther East in *Niedersachsen* and *Westfalen* (including the hybrid *Neuenwalde*, Kr. *Wesermünde* specimen: Sprockhoff, 1941: *Taf. 41:1*) and two considerably farther East: *Plestlin*, Kr. *Demmin* in *Mecklenburg-Vorpommern* (Sprockhoff, 1941: *Taf. 44, 46–47*) and *Vietkow*, Kr. *Stolp* (now *Witkowo* in western Poland; Kuśnierz,

1998: Cat.No. 629; corded neck ribs, furrow ornament).

Tackenberg (1971: p. 257, *Liste 9*; *Karte 8*) adds three specimens: one in the *Ems-Hase* region (*Augustenfeld*, Kr. *Cloppenburg*), one in the North Rhine area (*Duisburg*) and one at *Hamburg*. Some of these are not illustrated; exceptions are: *Lähden*, Kr. *Meppen* (Sprockhoff, 1941: *Taf. 41: 3AB* (with cord-imitation on the neck ribs, furrow ornamentation on faces and sides); *Duisburg-Heiliger Brunnen* (Tackenberg, 1971: *Taf. 10:5*); the hoard of *Augustenfeld*, Kr. *Cloppenburg* (Sprockhoff, 1956: p. 9, *Taf. 8:1,2* (the socketed axes in the hoard are each of different type). Kibbert (1984) has one more recent example (his No. 999, from the *Lippe-Rhein* dredge site near *Wesel*, Kr. *Rees*, *Nordrhein-Westfalen*); with cord-imitation neck ribs and furrow ornament.

Beyond this region there are a few strays to the East: to *Plestlin* and *Witkowo*. The impression remains of a regional speciality, the production of which was centered in the North of the Netherlands and the adjacent Northwest German area.

Hybrids include the *Neuenwalde* specimen mentioned above and a few examples with the astragalus rib motif on axes of different body form, *i.e.* with drum-shaped swelling on the body (*Seddin* type) from *Emlichheim* (Sprockhoff, 1956: *Taf. 6:8*).

Farther removed are the socketed axes in Britain and Ireland that have an astragalus neck rib pattern on an Irish-type body, to which Sprockhoff called attention (1941: p. 84, 86, *Abb.68*). Further examples have been illustrated by Eogan, 1983: p. 308 (fig. 92:1; from the *Ballinderry* hoard) and by Schmidt & Burgess, 1981: pp. 201 ff, Nos 1191a–1199 (Type *Dowris*, Var. *Dungiven*, map Pl. 127; No. 1000 Type *Fulford*; Nos 1138–1140 Type *Gillespie* Var. *Luncarty*). These axes are not similar in form to those attributable to ‘*Hunze-Ems*’ workshops, and other explanations must be sought for the resemblances (*cf.* Tackenberg’s discussion, 1971: pp. 27–28).

5.7.2. Catalogue of the socketed axes with face arches and astragalus neck ribs

CAT.NO. 666. EXLOËRVEEN, GEMEENTE ODOORN, DRENTHE.

L. 9.3; w. 4.1 cm. Weight 218 gr. Subrectangular mouth. Mouth formula 4.0×3.7, 3.1×2.9 cm (), faceted collar, from which springs large D-loop (3.1×0.9 cm), slightly distorted. Neck of oval section, with 2 thin – one broad – two thin neck ribs. On each face large arch-facet, reaching almost to the base of the neck ribs. Cutting-edge asymmetrically sharpened. Prominent casting seams. Patina: blackish, but in part scraped off, showing dark bronze. Surface

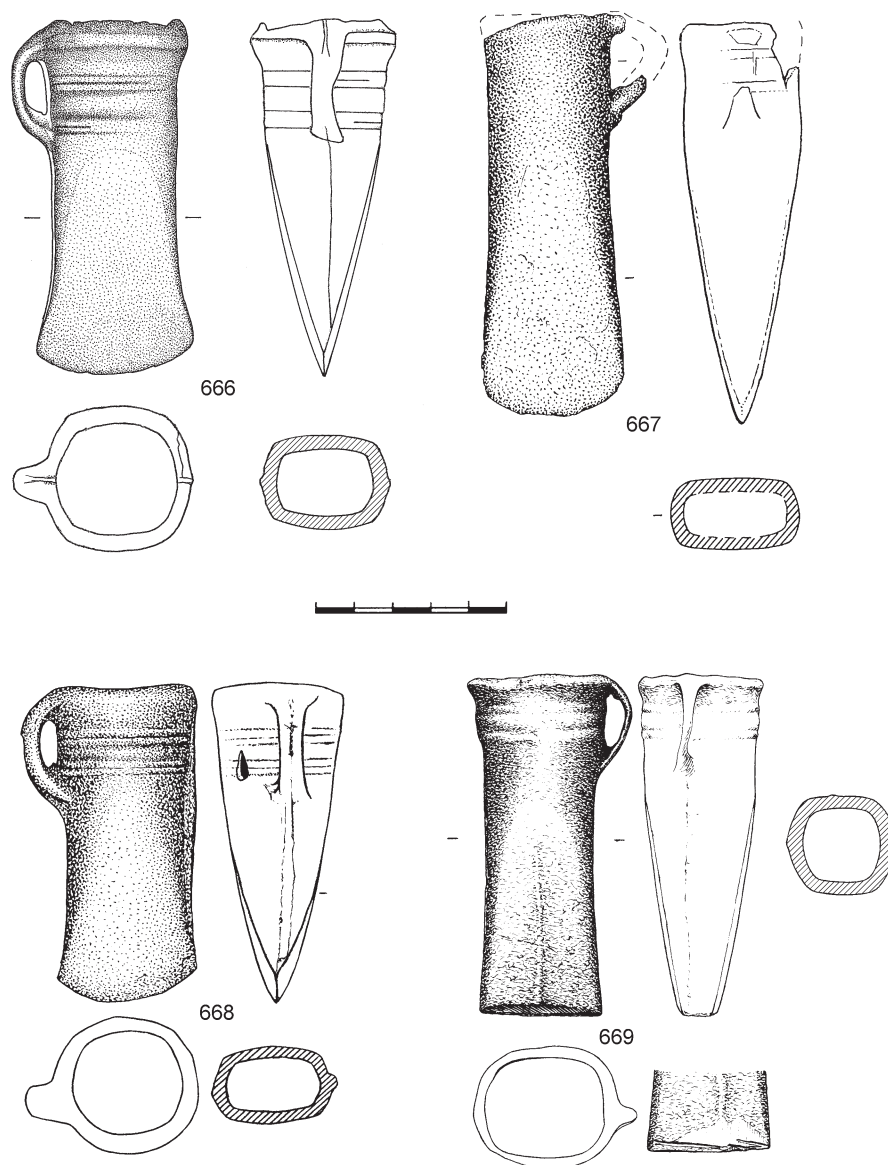


Fig. 77. Socketed axes with face arches and astragalus neck ribs. 666: Exloërveen, Dr (drawing HS); 667: gemeente Emmen, Dr; 668: Spier, Dr; 669: Emmen, Dr.

abraded, with many scratches. Found 1883. Museum: Assen, Inv. No. 1883/VIII.1. (DB 84)

Map reference: Sheet 17F, c. 257/545.5.

References: *Verslag* 1883, p. 10, No. 12; Essink & Hielkema, 1997–1998: p. 292, No. 93.

CAT.NO. 667. GEMEENTE EMMEN, DRENTHE.

L. 10.5; w. 3.2 cm. () collar (part of which is broken away) from which springs stump of loop with () profile, most of which is also broken away. Neck ornament consisting of narrow – broad – narrow ribs is mostly abraded away, but is preserved and plainly visible between the two stumps of the loop. Body outline with very slight () (

almost parallel-sided; neck part with oval cross-section; large arch facet on face, with indistinct edges. Cutting edge sharpened but anciently abraded. Patina: dark brown, almost black. Surface mostly rough, but original smooth surface survives in part. Museum: Assen, Inv.No. 1962/II.182. (DB 1011)

Reference: Essink & Hielkema, 1997–1998: p. 289, No. 58.

CAT.NO. 668. SPIER, GEMEENTE BEILEN, DRENTHE

L. 8.45; w. 3.7 cm; Weight 175.5 gr. Circular mouth opening. Formula: 3.8×3.6; 2.9×2.7 cm. () collar, from which springs large D-loop (3.6×1.2/0.6/1.0 cm). On neck, 2 narrow – one broad – 2 narrow ribs. Arch-facet on face almost faded away. Body out-

line: parallel-sided, but with very slight cutting edge expansion. Prominent, thick casting seams. Small perforation (casting defect) on collar. Cutting edge markedly asymmetrical. Patina: black, craquelé. Found during peat-digging; no further details known. Ex. coll. Beijerinck, temporarily in study collection GIA. (DB 2227)
Documentation: Glasbergen diary, Thursday 6 December 1956.
Reference: Essink & Hielkema, 1997–1998: p. 284, No. 8.
Note: The diary of Prof. W. Glasbergen records a visit by him and prof. H.T. Waterbolk to W. Beijerinck (Wijster) on 6 Dec. 1956. Along with mention of various other objects in Beijerinck's collection is a drawing by W. Glasbergen of this socketed axe, with the note "Spier, gev. bij turfgraven" [*Spier, found in peat digging*]. Beijerinck's collection subsequently passed to the Academy of Science; but this socketed axe somehow escaped being recorded or inventorized. How it came into possession of the BAI in Groningen, is also unrecorded (information from J.N. Lanting).

CAT.NO. 669. EMMEN, *GEMEENTE* EMMEN, DRENTHE.
 L. (9); w. (3.2) cm. Subrectangular mouth opening (formula: 3.9×3.3; 3.1×2.5 cm). Slight, <> collar, from which depends moderately large, but unusually thin D-loop. Neck mouldings (thin – broad – thin). Body outline nearly parallel-sided; cross-section oval, but arch-shaped facet on face, down the centre of which a vertical seam is present. The lower part of the blade has been sawn off and the object has apparently been secondarily employed as a hammer. Found along the Valther(zand)weg. Private possession, but the original owner is deceased, and his widow no longer able to find it (possibly lost during a house removal). (DB 681)
Map reference: Sheet 17H, c. 257/537.
Reference: Essink & Hielkema, 1997–1998: p. 290, No. 68.
Parallels: examples in museum Oldenburg (Inv.No. 1183), from Augustenfeld hoard, Ldkr. Cloppenburg (Tackenberg, 1971: p. 257, Liste 9:1, p. 258, Liste 11:3); and Ku 629 from the Witkovo hoard (see section 7.1 below).

a) Socketed axes with astragalus neck ribs, embellished (fig. 78a–b) (AXT:ANrAstrag.Emb)

14 socketed axes with astragalus neck ribs in the Netherlands are here listed. Most have an oversized, often angular loop, occasionally extravagant, sometimes cabled. One has a row of pellets; two have plastic pendant triangles on the neck. The atypical Cat.No. 679 has arches on the sides.

CAT.NO. 670. VRIESCHELOO, *GEMEENTE* BELLINGWEDDE, GRONINGEN.
 L. 12.8; w. 5.1 cm. Loop 4.6×0.9 cm. Rectangular mouth opening, formula: 4.5×4.5; 3.2×3.1 cm. <> collar; large 'elbow' loop of rectangular section; 2 ribs + broad rib + 2 ribs on neck; arch-facet on each face, with faceted surround. Nearly parallel sides slightly everted at edge. Cutting edge sharp but slightly battered. Casting seam eccentric: runs along edge of loop. Remains of wood (5 cm)

inside socket mouth. Somewhat porous surface; finish is imperfect except on faces. Rib inside socket, horizontal, at bottom. Patina: blackish (partly removed). Preservation excellent, but deep scratches on one face (plough damage?). Found 1953–4 by J. Egges of Vriescheloo, while manually picking potatoes. Presented by him to present owner before 1955. Private possession. (DB 2039)

Note: Information from H. Groenendijk: The find-spot is on the sand ridge of Bellingwolde/Vriescheloo, just above the margin of the Dollard clay deposit. The correct find spot was established in an interview with the finder in 1985 [*Vindplaats op de westelijke flank van de zandrug van Bellingwolde/Vriescheloo, juist boven de grens van de Dollard klei-afzetting. Tijdens gesprek met vinder in 1985 juiste vindplaats vastgesteld*].

Map reference: Sheet 13A, 270.580/567.415.

Documentation: *Memoriaal* Glasbergen, 10–05–1955; Groenendijk: *dossier* Bellingwedde, No. 9.

References: Butler, 1960: p. 231; Essink & Hielkema, 1997–1998: p. 297, No. 146.

Parallels: three socketed axes from the Plestin hoard (Sprockhoff, 1941: Taf. 44:8,9,12).

CAT.NO. 671. EXACT PROVENANCE UNKNOWN (PROVINCE GRONINGEN?)

L. 13.2; w. 4.7. Rectangular socket mouth (mouth formula: 4.6×4.3; 3.25×2.9 cm). Flattened-<> collar, from which springs large elbow-shaped ribbon loop (3.8×1.3 cm); neck mouldings (two thin ribs with imitation-cord; wider rib with row of raised pellets; two thin ribs with imitation-cord). Arch-shaped, slightly convex facet on faces, enclosed within concentric furrows extending onto and forming concentric V's on the sides. Cutting edge sharp. Rectangular socket. Patina: black. Very well preserved (faint traces of modern scrubbing). Was long in Groningen museum without inventory number or information relating to provenance. Museum: Groningen, Inv. No. 1964/X.2. (DB 1364)

References: Glasbergen, 1957: Pl. VIII:3; Butler, 1961b: fig. 16 (right); Essink & Hielkema, 1997–1998: p. 301, No. 180.

CAT.NO. 672. ANGELSLOO, *GEMEENTE* EMMEN, DRENTHE. Barnars Bos (part of two-axe hoard: Bargoosterveld 1846).

L. 12.5; w. 4.2 cm. Subrectangular socket mouth (formula: 4.5×4.7; 3.1×3.4 cm). Heavy <> collar, from which springs from which springs a large elbow-shaped loop (3.0×0.8 cm). Neck with three ribs (narrow – broad – narrow, the narrow ribs ornamented with imitation cord in the form of groups of diagonal nicks alternating in direction). Body with trapeze-shaped outline. Arch-shaped facial facets, outlined by furrows which also covers the sides as concentric V's. Patina: mottled green and brown, glossy; finely preserved surface, with distinct hammer-finishing traces; but in part severely corroded, with bright green in the abraded parts. Found 1896 at Barnars Bosch near Bargoosterveld, c. 2 km. east of the *hunebed* of Angelsloo, 0.60 m below the surface in yellow sand, by the labourer W. Alberts while digging for field stones. Museum: Assen, Inv.No. 1896/XII.4. (DB 90)

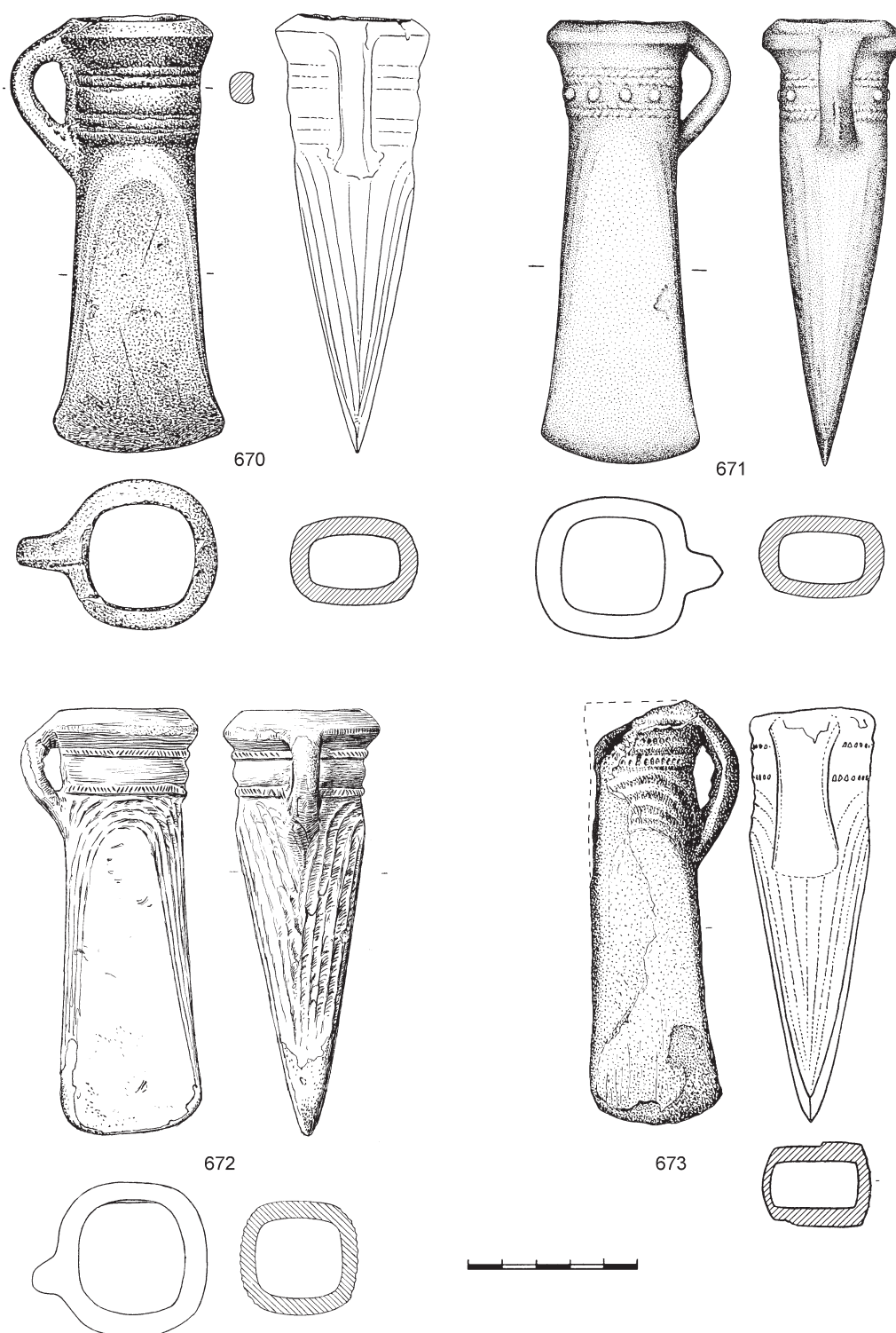


Fig. 78a. Socketed axes with astragalus neck ribs, embellished. 670: Vriescheloo, Gr; 671: possibly province Groningen; 672: Angelsoo, Dr (from the 1896 Bargerosterveld hoard, see fig. 92B); 673: Uffelte, Dr. (see also fig. 78b)

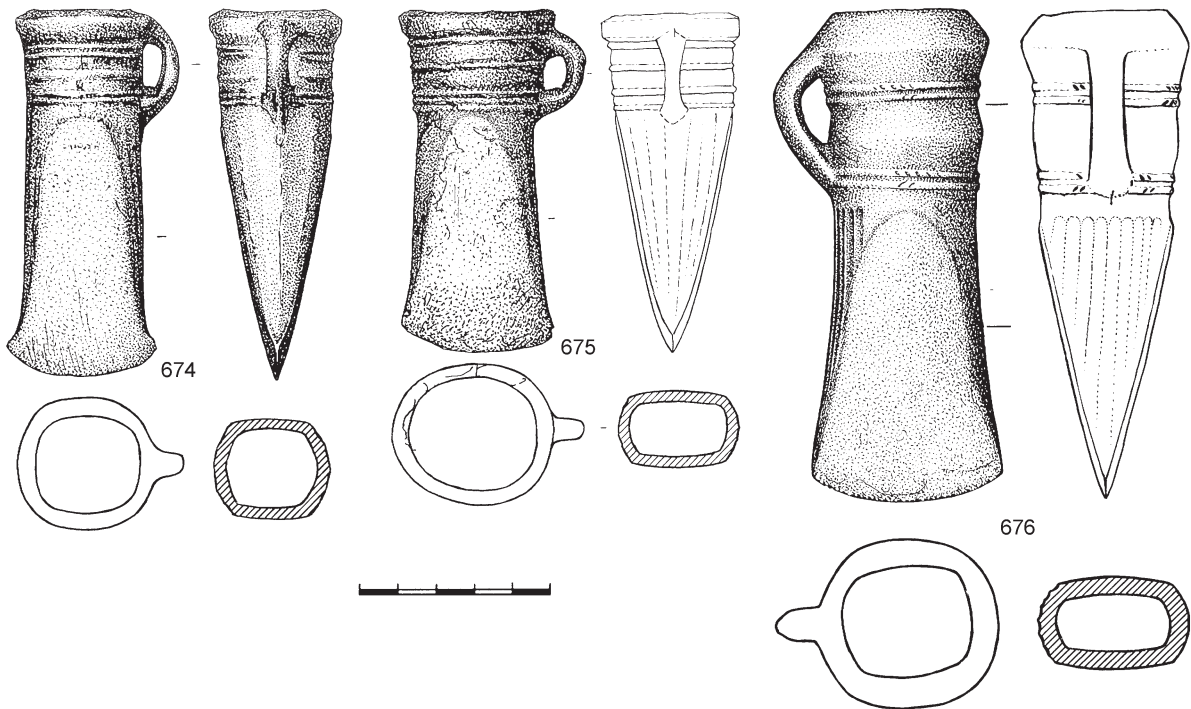


Fig. 78b. Socketed axes with astragalus neck ribs, embellished. 674: Schoonebeek, Dr; 675: Gasteren, Dr; 676: Verwolde, Ge. (see also fig. 78a)

Association: Cat.No. 630, a socketed axe of type *Seddin-Variante Karbow* (museum Assen, Inv.No. 1894/XII.5).

Map reference: Sheet 18C, 261.125/533.200.

Reference: *Verslag*, 1896: p. 9; Butler, 1960b: pp. 228–231, fig. 12; Butler, 1961b: pp. 102–103, 109: fig. 52, 122, Appendix I–a; Essink & Hielkema, 1997–1998: p. 286, No. 34.

Note: For a time this axe was incorrectly marked 1878/VI.9; for the rectification see J.D. van der Waals, in Butler, 1960b: Bijlage II, pp. 228(54)–(57)231.

CAT.NO. 673. UFFELTE, *GEMEENTE HAVELTE*, DRENTHE. (Dealer's provenance)

L. 12.6; w. 4.0 cm; Weight 316 gr. Mouth severely damaged; had a heavy, possibly <> collar, from which springs a large, flattened-D-shaped band loop, unusually broad, with) (outline (4.8×2.1/1.5/2.0 cm). Neck ribs (narrow-wide-narrow); the two narrow ribs embellished with punched pointillé. Arch-facets on faces, outlined by concentric fluting, extending onto sides forming concentric V's. Cutting edge sharp. Severely damaged (ancient break), c. half of original surface preserved. Patina: glossy leathery brown. Found "ergens in het veld, achter de Uffelter Esch" [somewhere in the field, behind the Uffelter Esch]. "In 1887 door A. Jetling uit Zwolle aan de heer Leemans ter beoordeling gezonden" [in 1887 sent by A. Jetling of Zwolle to Mr. Leemans, director *Rijksmuseum van Oudheden*] for determination. Museum: RMO Leiden, Inv.No. c. 1899/5.1; purchased 1899 from antique dealer J. Grandjean of Nijmegen. (DB 1639)

Map reference: Sheet 16H, c. 215/534.

Documentation: Letters RMO, 5 Jan. 1887, 10 Jan. 1887; Essink & Hielkema, 1997–1998: p. 291, No. 83.

Parallels Cat.Nos 672–673: two socketed axes from the Plestlin hoard (Sprockhoff, 1941: Taf. 44:6; Taf. 46:1).

CAT.NO. 674. SCHOONEBEEK, *GEMEENTE SCHOONEBEEK*, DRENTHE

L. 9.8; w. 4.0 cm. Subrectangular mouth opening. Formula: 3.6×3.5; 2.75×2.6 cm <> collar, from which springs D-loop with) (outline (3.0×1.2/0.05/1.1 cm). On neck, rib pattern (2 thin, one wider, one thin, one wider, two thin). Body outline: parallel sides, but with slightly out-turned cutting edge tips. Arch-facet on face reaches almost to base of neck ribs. On sides, vertical fluting. Cutting edge sharp. Patina: dark bronze colour. Finely preserved. Found 1927 by P. Willems of Schoonebeek, by the normalization of the Schoonebeeker Diep. Museum: Assen, Inv.No. 1930/II.9, purchased from finder. (DB 144)

Map reference: Sheet 22F, c. 255.5/520.5.

References: *Verslag*, 1930: p. 20, No. 64; Essink & Hielkema, 1997–1998: p. 295, No. 122.

CAT.NO. 675. GASTEREN, *GEMEENTE ANLOO*, DRENTHE.

L. 9.1; w. 4.0 cm. Oval mouth opening. Horizontally faceted collar (formula: 4.1×3.6; 3.4×3.0 cm), from the base of which springs D-loop with) (profile (2.4×0.8/0.35–0.7 cm). Body outline) (; arch-facets on face; sides fluted. Neck ribs (narrow – broad nar-

row – broad – 3 narrow). Cutting edge sharpened asymmetricaly. Patina: brown. Surface fine but in part crumbled away. Found October 1937 “*bij het slootgraven c. 0.50 m diep in het heideveld ten noorden van Gasteren*” [during digging of a ditch c. 0.50 m deep, in the heath field north of Gasteren]. Museum: Assen, Inv.No. 1937/XI.9; purchased from finder J. Staats of Anloo. (DB 147)
Map reference: Sheet 12G, c. 241/562.5.

References: Butler, 1961a: p. 231; Essink & Hielkema, 1997–1998: p. 283, No.1.

CAT.NO. 676. VERWOLDE, *GEMEENTE LOCHEM*, GELDERLAND.

L. 13; w. 5 cm. Subrectangular mouth opening. Large <> collar (formula: 4.7×4.4; 3.4×3.0 cm), from the angle of which springs large flattened-D-shaped loop (4.2×0.9 cm). Neck ribs: two narrow – one very broad – two narrow; the narrow ribs are embellished with imitation-cord punch marks. Body outline slightly) (. Arch-facets on faces; the sides are ornamented with vertical to slightly diagonal fluting. Cutting edge sharp, slightly asymmetrical. Patina: black. Well preserved surface, with occasional pits. Found (variously dated 1926, 1929 and 1932 in records) during heath reclamation, at 0.50 m depth. Museum: Zutphen, on loan from Meester H.W. Heuvelstichting at Borculo; but stolen in 1977. (DB 1152)

Map reference: Sheet 34A, 226.16/470.12.

Reference: *Archief Oudheidkundige Vereniging ‘de Graafschap’* 1, 1926: p. 126, with unnumbered plate.

Parallel: socketed axe from the Augustenfeld hoard (in museum Oldenburg, Inv.No. 1183).

Note: The neck-rib pattern with alternating imitation-cord is matched on an axe from Lähden, Kr. Meppen (Sprockhoff, 1941: Taf. 41:3ab, smaller D-loop, tire-shaped collar), *cf.* partially, on an arches-and winged axe: between Bramsche and Estringen, Kr. Lingen, in hoard (Tackenberg, Taf. 11:1); Plestlin, Kr. Demmin, in hoard (Sprockhoff, 1941: Taf. 42:3); see also Witkowo (Sprockhoff, 1941: Taf. 47:12) and Wesel, Lippe mouth area (Kibbert, 1984: Taf. 77:999).

b) Socketed axes with astragalus neck-ribs, VVV embellishment (fig. 79) (AXT:ANrAstrag.VVV)

CAT.NO. 677. TWELLO, *GEMEENTE VOORST*, GELDERLAND.

L. 14.1; w. 5.1 cm. Mouth formula: 4.8×4.6, 3.05×3.1 cm. Socket subrectangular, nearly oval; section above oval-subrectangular; below rectangular with convex sides. Massive <> collar, with plastic pendant triangles; on neck, 2 fine ribs, broad rib with bold plastic zigzag band, 2 fine ribs. Arch facets form faces. Massive D-loop (5.5×1.45/0.85/2.1 cm), the base of which expands into three prongs. Plastic ornament is emphasized by the unpolished condition of one sunken fields surrounding them. Faces are very smooth: sides less so, with traces of hammer finishing. Edge sharp but battered. Patina: black, greenish inside and in depressions on the surface. Museum: Apeldoorn, Inv.No. 152.72. (DB 8)

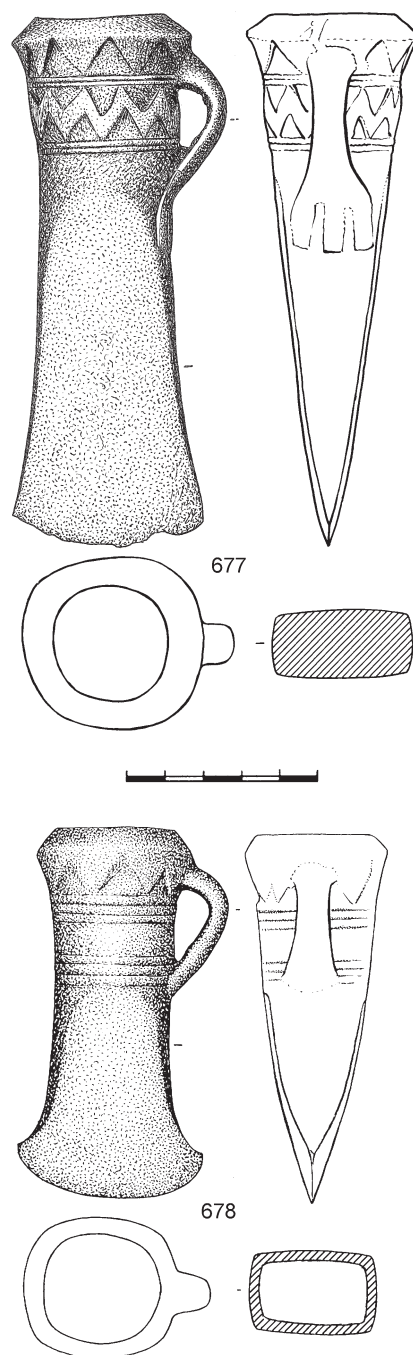


Fig. 79. Socketed axes with astragalus neck ribs, VVV embellishment. 677: Twello, Ge; 678: Het Medler, Ge.

CAT.NO. 678. HET MEDLER, *GEMEENTE VORDEN*, GELDERLAND.

L. 9.8; w. 4.9 cm. Subrectangular socket, mouth formula: 4×3.8, 3.15×3 cm. <> collar, with seven pendant plastic triangles; neck ribbed (3 narrow – 1 broad – 3 narrow); cross-section sub-rectangular; arch-facets (slightly raised) on faces. Blade sharp, slightly

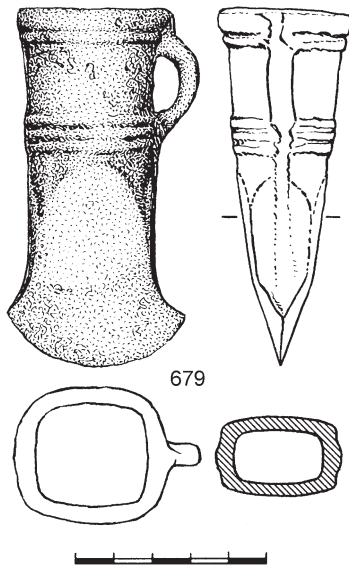


Fig. 80. Socketed axe with astragalus neck ribs, atypical. 679: no provenance.

asymmetrical; sides slightly pouched. Loop large and elbow-shaped: 3.5×1.3/0.9/1.55 cm. Patina: dark bronze; otherwise well preserved. Reddish encrustation inside socket. Found 1940–1945 while labouring grassland [*bij scheuren grasland*] at a depth of 25 cm. Museum: Zutphen, Inv.No. V 505, but stolen during a break-in in 1977. (DB 1153)

Map reference: Sheet 34C, c. 223/457.8.

c) Socketed axe with astragalus neck ribs, atypical (fig. 80)

CAT.NO. 679. PROVENANCE UNKNOWN.

L. 9.5; w. 4.75 cm. Oval socket with rectangular mouth, formula: 4.1×3.6; 3×2.8 cm. Double collar, from which springs large D-loop. Body with parallel sides but with J blade tips. At level of base of loop, group of three transverse parallel thin ribs. Arch-facet on each face and side. Edge sharp, asymmetrical; 'pouches' on sides. Top flattened (recently filed). Very prominent casting seams. Patina: dark bronze; traces of black and green. (Inside: light green). Museum: Het Valkhof Nijmegen, Inv.No. XXX.d.18 (ex coll. Kam). (DB 1534)

Note to ANrAstrag socketed axes: The basic list of socketed axes of this group goes back to the publications of Sprockhoff, (1941: 1956), with additions by Butler (1960b, p. 231, Tackenberg (1971), Kibbert (1984), Kuśnierz (1998). Distribution for Germany has been mapped by Sprockhoff (1941: p. 85, Abb. 67; Sprockhoff, 1956 (II): Karte 7) and Tackenberg (1971: Karte 8); for the Netherlands by Butler (1960b: p. 224 (46), fig. 22 triangles).

Noteworthy is the clustering of the finds in the North of the Netherlands (along the Hondsrug and Westerwolde sand ridges, the Bourtanger bog and the moorland and the river Hunze); and in the adjacent Ems-Hase area of Northwest Germany, where another half-dozen finds were known. These two areas can be considered as one, because of the typological similarity of the axes concerned, and because the two districts were connected in prehistoric times by numerous wooden trackways; although Casparie (1984: pp. 41–94) doubts that the trackways were through routes.

Sprockhoff regarded the astragalus socketed axes as an important element in distinguishing his otherwise rather thinly distinguishable 'Ems-Weser Kreis' of the Late Bronze Age. Actually the astragalus axes concerned are represented by only three examples in the area between the Hase and upper Elbe, so that 'Hunze-Ems-Hase' would be a more accurate designation of the core area. Much farther to the east are the two Baltic-area finds of Plestlin in Pomerania and Witkowo in Northwest Poland, each with several examples.

To the south of the core area, there are two finds in the area between the Rijn and the IJssel; plus two finds stray (Wesel and Duisburg) in the German North Rhine area.

Astragalus neck ribs in Germany and Poland:

- *Lähden*, Kr. Meppen, Niedersachsen: Sprockhoff, 1941/2: Taf. 41:3; cabled neck ribs; furrows;
- *Duisburg*-Heiliger Brunnen, Nordrhein-Westfalen: Kibbert, 1984: No. 652; Tackenberg, 1971: Taf.10:5;
- *Plestlin*, Kr. Demmin, Mecklenburg-Vorpommern: from large hoard (Sprockhoff, 1941: Taf. 42, 44, 46; 1956: II: pp. 20, 27, 35, 118, Taf. 8–13; cf. our section 7.1.2). Among the 39 socketed axes from this hoard illustrated by Sprockhoff are several *mit profiliertem Tüllenmund* and face arches, including examples with furrow ornament, some with elbow loops, and other features that indicate a close relationship to the 'Hunze-Ems' ANr.Astrag socketed axes of this paper;
- *Near Wesel*, Kr. Lippe-Rhein junction, site Aue 2, Nordrhein-Westfalen: with imitation cordon neck ribs; unusually narrow body. Kibbert, 1984: No. 999 (on Taf. 77) with further references.
- *Wesel*, Kr. Rees, hybrid socketed axe: with respect to general form and loop placement, a Plainseau axe, but with astragalus neck ribs and no arches (Joachim, 1973: pp. 265–266, Bild 5:5).

Dating: Hallstatt B3 (according to Joachim 1973);

- *Witkovo* (formerly Vietkow, Kr. Stolp), NW. Poland: one axe in the hoard: Sprockhoff, 1941: Taf. 47:12; Kuśnierz, 1998: No. 629. Kuśnierz' drawing shows clearly what is not so evident in Sprockhoff's photo, namely that the four thin neck ribs have imitation cord, and the body furrows around the face arch. (Other 'Hunze-Ems' axes in this hoard: see below under section 7.1).

Hybridization: astragalus neck ribs occur on a socketed axe of Type Seddin, *Var. Karbow* from Emlichheim, Kr. Bentheim (Sprockhoff, 1956: Taf. 6:18).

6. SOCKETED AXES WITH FACE ARCHES AND 'WINGS' (fig. 81–89, map 14) (AXT:AWi...)

6.1. Definitions

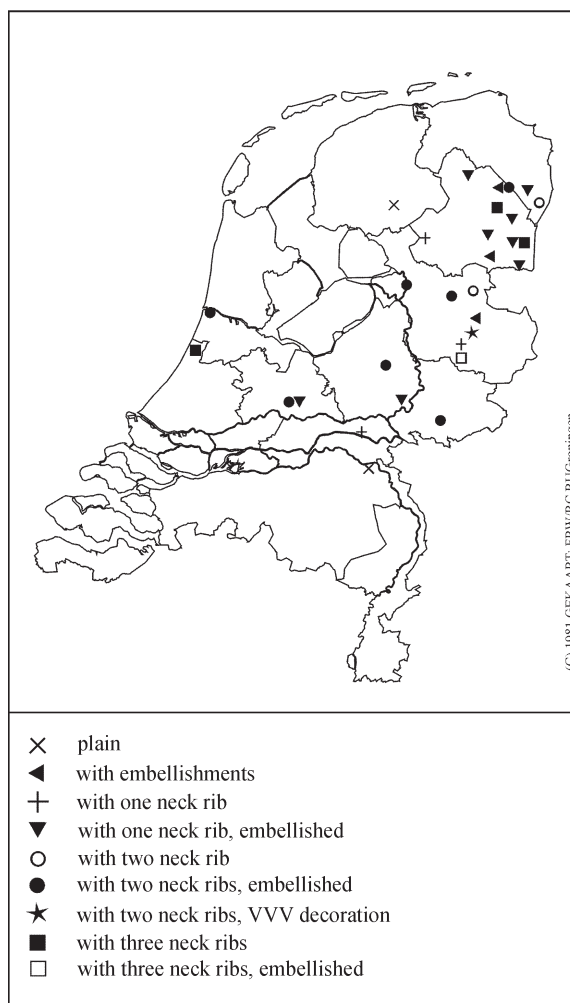
The peak products of the regional axe-producing industry in the Late Bronze Age fall within the category of the socketed axes with both face arches and plastic 'wings'. Here we list all 32 socketed axes in this category in the Netherlands.

Such axes result from a convergence of two different traditions of socketed axe design – the socketed axe with face arches, that came in from, or via, northern Germany; and the socketed axe with plastic 'wings', that must have originated somewhere in the West Central European area where the Central European winged axe was familiar.

A distribution map of socketed axes with face arches and 'wings' in the Netherlands shows that this combination is quite common in the northeast of the Netherlands, but, on present knowledge, is practically unrepresented in the Southeast of the country. Furthermore, AWi socketed axes are quite scarce in the neighbouring areas of western Germany and Belgium. This distribution amply justifies treating them as a distinct category. The occurrence on such axes of a variety of distinctive features confirms their characterization as products of a local industry centered in the Northeast of the Netherlands.

It is striking that no AWi socketed axes have been recorded in the southern provinces of Noord-Brabant and Limburg, and only occasional examples have been found in the western provinces. Drenthe predominates strongly, with 11 specimens, Groningen adding two specimens and Friesland only one to the northern total (Overijssel has seven examples and Gelderland five).

Qualitatively, too, the AWi socketed axes have a



Map 14. Socketed axes with face arches and 'wings' in the Netherlands.

special character. Most of them are sturdy, comparatively thick-walled castings, as if intended for heavy work. On the other hand, most specimens are bearers of rather elaborate plastic ornamentation, considerably varied in detail (no two specimens alike) suggesting that they were also prestige objects.

As we have done with some other categories, we have experimentally subdivided the AWi socketed axes according to the number of neck ribs present. Examples with one neck rib (12 examples) and with two neck ribs (13 examples) predominate; no-neck rib (two examples), offset-collar (four) and three-neck rib axes (two examples) are less common. Their areas of distribution do not coincide (map 14): the single-neck-rib examples are somewhat predominant in the northern provinces, double-neck ribs are slightly more prevalent in Overijssel and Gelderland. Examples with no

neck ribs and three neck ribs are too few to show a distribution pattern.

In each sub-groups the large-sized loop, springing from a prominent collar, occurs on almost all of the specimens. The loop may be D-shaped or angular in plan, bar or ribbon in cross-section.

Ornamental embellishments occur on almost all of our AWi socketed axes. Furrow ornament (fluting), often surrounding and echoing the arch-facet shape, and/or forming concentric V's on the sides, is present on nearly two-thirds of the specimens (19 examples). Several examples have one or more pellets on the face, in a few cases enlarged into a circular or semi-circular plastic disc. Plastic pendant V or VVV ornament occur on a few specimens. On several examples hammer impressions have been used ornamentally.

Since socketed axes belonging to our AWi category are rather scarce in the Southeast of the Netherlands and in western Germany, and are completely absent, to the best of our knowledge, in Belgium and northern France, they can be claimed as the distinctive products of a local industry serving the Northeast of the Netherlands and its environs.

Parallels in western Germany: Tackenberg's *Listen* 10 and 11 show nine examples of socketed axes with face arches and 'wings' in the Ems-Weser area. Seven of these are with D-shaped 'wings' (*Liste* 10, round dots), along with four examples in the Netherlands (a woeful understatement), one farther South (in the Niederolm hoard, not shown on his map), and two far to the East (in the Plestlin and Witkowo hoards). He also lists one find in Denmark (the Basland hoard).

Actually, some of these are not really appropriate to this list: the Basland specimens in Denmark have no face arches: cf. our new drawings in Part III:2A, p. 301, fig. 30b; neither does the Niederolm specimen, according to the drawing of Kibbert (his Kat.Nr. 689), and would really be more at home in Tackenberg's *Liste* 12. The seven Ems-Weser examples are not, in fact, a notably homogeneous group.

Tackenberg has a separate listing (his *Liste* 11, *trapezes* on *Karte* 9) for a small group of socketed axes with face arches and elongated 'wings' in drapery style. To this group he assigns axes from three hoard finds in Northwest Germany (Augustenfeld, Merfeld, Bramsche/Estringen) and two axes in the Netherlands (Cat.No. 689, from the Havelte hoard in Drenthe, and Cat.No. 694, from Onstwedde, Groningen). An example is also present in the Plestlin hoard in Northeast Germany (Sprockhoff, 1941: Taf. 44:7). For the Netherlands we can add two more examples: Buinerveen, Drenthe (Cat.No. 712) and Vlagtwedde,

Groningen (Cat.No. 698). This is a useful grouping; the examples have many common features, although cutting across our system of subclassification based on the number of neck ribs (for example, the Havelte axe has one neck rib, Vlagtwedde has two neck ribs, Buinerveen has three).

6.2. Catalogue of socketed axes with face arches and 'wings', without neck ribs (6 ex., fig. 81–82) (AXT:AWi.)

Herewith we list six examples. However, only three of these (Cat.Nos 682–684) can be considered to be a moderately homogeneous sub-group of Northeast Netherlands character. All three have a trumpet-shaped, offset collar, elbow loop, and furrow ornament.

Cat.No. 680 (Oudeschoot, Friesland) has a 'northern' large loop, but a flattish collar more resembling those on some *Niedermaas* socketed axes, or, isolated, the single-neck-rib example Cat.No. 694 (Onstwedde, Groningen), and the lone three-neck-rib example Cat. No. 711 (from Emmen, Drenthe).

The axe Cat.No. 681 (Nieuw-Gassel, Noord-Brabant) has a trumpet neck but no collar, and has an atypical, foreign appearance when compared with the other AWi socketed axes in the Netherlands. It may be an import from eastern or southeastern Europe, yet the angular loop may suggest local manufacture.

Cat.No. 685 is a special case. The absence of neck ribs aligns it formally with this sub-group; yet in other respects it is closely allied, and is possibly from the same workshop as Cat.No. 705 (from the Uddelerveen, Gelderland), which has however two neck ribs.

CAT.NO. 680. OUDESCHOOT (NEAR), GEMEENTE HEEREN-VEEN, FRIESLAND. River Tjonger.

L. 11; w. 4.7 cm. Subrectangular mouth opening. Flat collar (formula: 4.5×4.2; 3.0×3.0 cm), from which springs large elbow-shaped band loop (4.6×0.7 cm). Body outline) (. Cutting edge sharp but somewhat battered. Casting seams present. On neck, wrap-around 'wings', almost meeting on face. Part of oak shaft preserved inside the subrectangular socket. Casting seams present. Patina: cleaned. "Opgebaggerd in 1956, ten westen van Mildam door Provinciale Waterstaat, bij verbreding en verdieping van de Tjonger, juist tussen de beide bruggen in" [dredged up in 1956, west of Mildam, by the Provincial Waterstaat during widening and deepening of the Tjonger, just between the two bridges]. Museum: Leeuwarden, Inv. No. 4A–12, purchased from E. Scholten of Dronten. (DB 195)

Map reference: Sheet 16B, 193.15/548.15 – 193.70/548.93.

References: *Leeuwarder Courant*, 27 March 1956; Elzinga, 1964: p. 33; Halbertsma, *Sneeker Nieuwsblad* No.11: pp. 2, 19; Essink & Hielkema, 1997–1998: p. 301, No. 181.

6.2.1. *Socketed axe with face arches and 'wings', without neck ribs, atypical*

CAT.NO. 681. NIEUW-GASSEL, *GEMEENTE* BEERS, NOORD-BRABANT. De Krekelberg.

L. 8.9; w. 3.8 cm; Weight 152.8 gr. Oval mouth (formula 3.88×3.5 ; 2.6×2.6 cm). Flattened rim. Trumpet-shaped neck, with oval section, without distinct collar or neck ribs. 'Wings', extending onto sides. Body with) (outline; its lower part has very slightly convex faces and sides, with flat faces, convex sides. From the neck springs slightly angular ribbon loop. Cutting edge sharp. Patina: remnants of black, with occasional patches of ochreous loam. Mostly light green to dark bronze. Surface mostly rough, but lower part has been recently filed. Found 1964 by M. Schaap while ploughing. Museum: Grave, no Inv.No., presented by A. Schoones. (DB 1887)

Map reference: Sheet 46A, 181.50/415.98.

Reference: Verwers, 1981: p. 28, afb. 17.

6.2.2. *Socketed axes with face arches and 'wings', without neck ribs; embellished (fig. 82) (AXT:AWi.Emb)*

CAT.NO. 682. GIETERZANDVOORT, *GEMEENTE* GIETEN, DRENTHÉ

L. 11.35; w. 5.0 cm. Subrectangular mouth opening. Massive inverted-conical collar (formula 4.3×4.5 cm), from which springs elbow-shaped D-loop (4.1×0.8 cm). Body outline parallel-sided, but with slightly evert blade tips. On faces arch-facets outlined by concentric fluting. Of thick metal. Cutting edge asymmetrically sharpened. Patina: black (mostly removed). Found 5 feet below surface. Museum: Assen, Inv.No. 1857/I.1. (DB 71)

Map reference: Sheet 12H, c. 250/560.

References: Butler, 1961a: p. 232, No. 15; Essink & Hielkema, 1997–1998: p. 291, No. 79.

CAT.NO. 683. *GEMEENTE* EMMEN, DRENTHÉ OR PROVINANCE UNKNOWN?

L. 9.7; w. 3.4 cm; Weight 171 gr. Subrectangular mouth (formula: 3.65×3.3 ; 2.8×2.85 cm). Trumpet collar with slight step, from the top of which springs elbow-shaped loop (3.7×8.95 cm) with asymmetrical greatly exaggerated) (outline, fanning out from 0.45 cm in its middle to 2.5 cm at its base. D 'wings'. On each face an arch facet. Vertical furrows on sides and on 'wings'. Cutting edge sharpened. Patina: originally black; now dark green to blackish, partly filed off. Surface rough. Museum: Assen, Inv.No. 1962/II.183. No record as to how acquired. (DB 1010)

Reference: Essink & Hielkema, 1997–1998: p. 289, No. 59.

CAT.NO. 684. VRIEZENVEEN, *GEMEENTE* VRIEZENVEEN, OVERIJSSSEL. Kanaal Almelo-Haandrik.

L. 13; w. 4.8 cm. Subrectangular mouth opening. Massive inverted-conical collar (formula: 4.5×4.5 cm) from which springs large elbow band loop, dumbbell-shaped ($4.3 \times 1.4/0.9/1.5$ cm). Adjoining

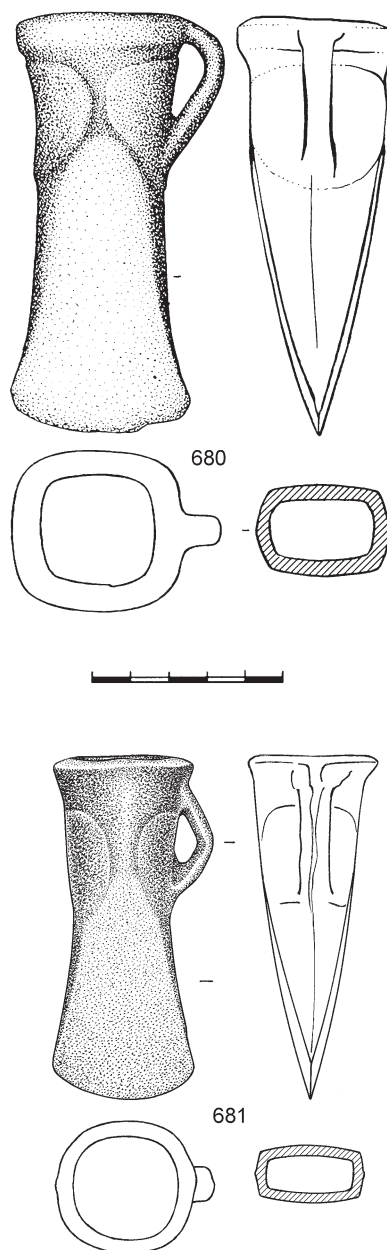


Fig. 81. Socketed axes with face arches and 'wings', without neck ribs. 680: near Oudeschoot, Fr; 681: Nieuw Gassel, N-B.

the collar, kidney-shaped wrap-around 'wings'. Body outline) (. On faces, arch-facet outline by fluting, also forming concentric V's on the sides. Heavy specimen. Cutting edge sharp. Traces of wood inside socket. Patina: black. Surface slightly corroded; grey-green deeply corroded patches. According to owner, purchased c. 1955–57 from a scrap-iron dealer, J. de Vries of Vriezenveen; who had in turn acquired it from the collection of a then deceased teacher in Vriezenveen. De Vries, however, denied (17–02–1968) having ever seen the axe. Private possession. (DB 1828)

Map reference: Sheet 28B, 237.70/491.



Fig. 82. Socketed axes with face arches and 'wings', without neck ribs, embellished. 682: Gieterzandvoort, Dr; 683: gemeente Emmen, Dr; 684: Vriezenveen, Ov; 685: Dalen, Dr.

CAT.NO. 685. DALEN, *GEMEENTE* DALEN, DRENTHE. Reindersdijk.

L. 13.2; w. 4.9 cm. Subrectangular socket mouth. Trumpet-shaped mouth with bevelled edge (formula: 4.7×4.7; 3.4×3.25 cm), from which springs large loop (5.4×1.4/0.8/1.4 cm) with) (profile, tending toward elbow shape. Slight step between mouth part and neck part. On the neck a plastic half-disc depends from the mouth part; from this 'disc' hangs a thin rib, separating the plastic D-shaped wrap-around 'wings', which extend onto the sides. Body outline) (. On the lower part of the face an arch-facet, outlined by concentric fluting, which form concentric V's on the body part of the sides. The 'disc', vertical rib, and the upper part of the 'arch' are ornamented with punched nicks. The 'wings' have a surface pattern of concentric hammer impressions. Cutting edge heavily battered. Fragment of wooden shaft (hardwood) was preserved in the socket. Patina: dark brown, with green corrosion. Has been laboratory treated. "*Gevonden bij de Stuww in het dal van het Drostendiep, tijdens het scheuren van een stuk grasland*" [found by the dam in the valley of the Drost brook while labouring grassland]. Traces of wood from the socket determined as wood from a deciduous tree. Private possession. (DB 670)

Map reference: Sheet 22E, 248.45/522.35.

References: Essink & Hielkema, 1997–1998: p. 286, No. 28; *Nieuwe Drentse Volksalmanak*, 1994: pp. 93–94 (185–186).

Note: Similar in many respects to the 2-neck rib example Cat.No. 705 (q.v.)

6.2.3. Socketed axe with face arches and rib semi-'wings', without neck ribs, embellished (fig. 83) (AXT:ARbWi.Emb)

Only one example is known in the Netherlands; there are no examples found in the adjacent areas of Germany.

CAT.NO. 686. NIEUW-WEERDINGE, *GEMEENTE* EMMEN, DRENTHE. Siepelveen.

L. 11.85; w. 4.6 cm. Oval socket with subrectangular mouth, formula: 4.8×4.6; 3.6×3.3 cm. Biconical, funnel-shaped collar; very large angular side-loop, 4.7×0.9 cm. Arch-facets on faces; fluted sides. Vestigial ribbed imitation 'wings'. Cutting edge sharpened asymmetrically. Patina: grey-green; casting defect on rim. Found 24 Febr. 1928 in oxidized peat "*in het grauwe veen (bolster) te Nieuw-Weerdinge, in plaats 37 te Nieuwe Schutting onder Nieuw-Weerdinge*". Museum: Assen, Inv.No. 1928/II.2; acquired from A. Harder of Siepelveen. (DB 142)

Map reference: Sheet 18A, 263.000/541.2–262.575/541.800.

References: *Verslag*, 1928: p. 13, No. 20; Butler, 1961a: p. 232, No. 12; Essink & Hielkema, 1997–1998: p. 288, No. 49.

Parallels in Germany and Poland:

- *Liesborn*, Kr. Beckum, Nordrhein-Westfalen. Tackenberg, 1971: Taf. 15:1, *Liste* 19:1; Kibbert,

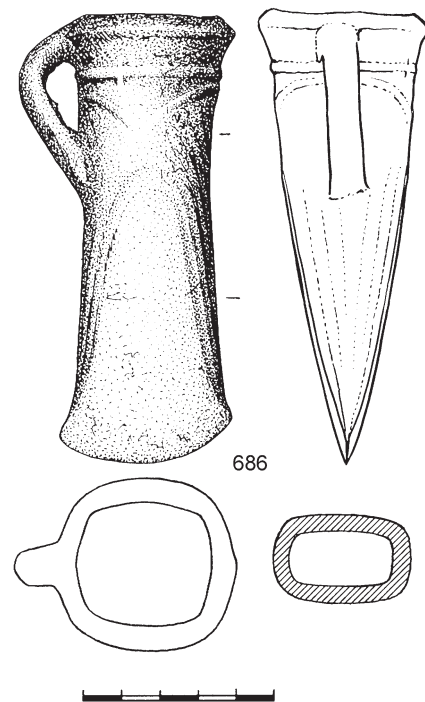


Fig. 83. Socketed axe with face arches and rib semi-'wings', without neck ribs, embellished. 686: Nieuw-Weerdinge, Dr.

1984, No. 710: (biconical collar – 1 neck rib – doubled rib 'wings' – large angle loop – furrow ornament on sides);

- *Stockum*, Kr. Lüdninghausen, Nordrhein-Westfalen. Tackenberg, 1971: Taf. 15:2, *Liste* 16:4; Kibbert, 1984: No. 706 (biconical collar – 1 neck rib – doubled rib 'wings' – large angle loop);
- *Wiesbaden*, (near), Hessen (from hoard). Cf. Tackenberg, 1971, *Liste* 19:3, citing Herrmann, 1966: Taf. 193:5. Double rib 'wings'; two neck ribs according to Tackenberg (p. 259, *Liste* 19:3);
- *Plestlin*, Kr. Demmin (from the hoard). Sprockhoff, 1941: Taf. 42:8 (= Tackenberg *Liste* 19:2);
- *Witkowo*, NW Poland (in hoard). Several examples. Ku 671; 672 (with horizontal bar on face); 677 (with one neck rib and four pellets in Y formation).

6.3. Socketed axes with face arches, 'wings' and one neck rib (10 ex., fig. 84a–c) (AXT:AWiNr1)

6.3.1. Definitions and dating

The Northeast Netherlands regional character of this sub-group is attested by the list of find-spots: of the ten examples, six are in Drenthe and one in Friesland;

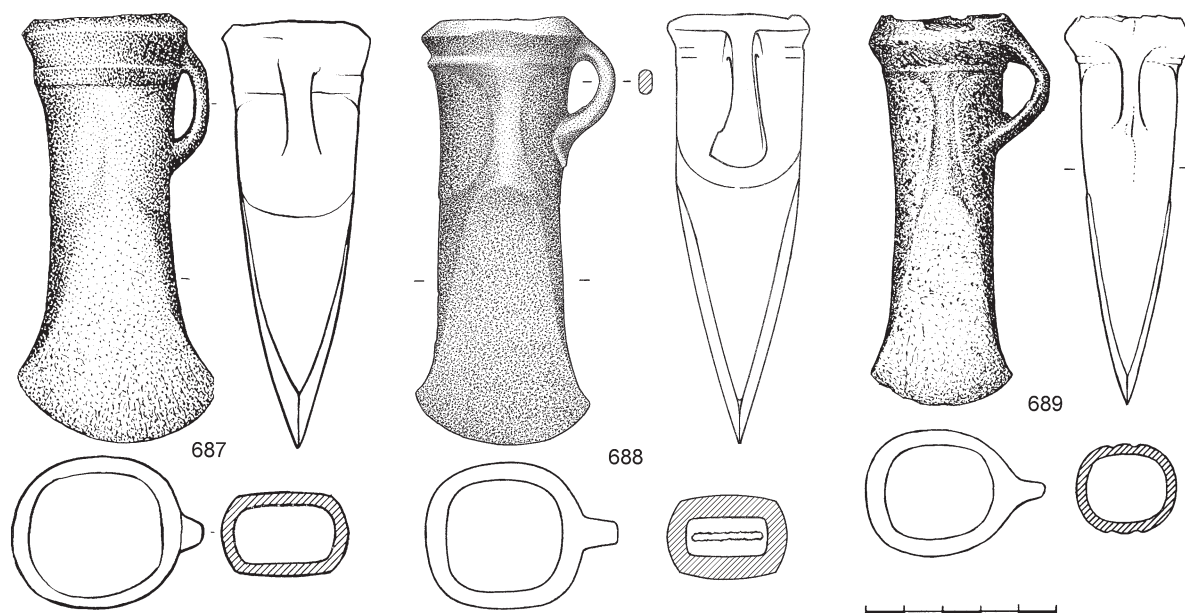


Fig. 84a. Socketed axes with face arches, 'wings' and one neck rib. 687: Herveld, Ge; 688: gemeente Rijssen, Ov; 689: Havelte, Dr (from the hoard, see fig. 92A). See also fig. 84b–c.

with only one in Overijssel, two in Gelderlands and none at all in the southern provinces (Map 14).

All ten have large 'northern Netherlands' loops. Six have a biconical collar; three (Cat.Nos 687, 697, 691) a funnel-shaped collar; one (Cat.No. 694) a flattened collar.

Furrow facial ornament occurs on six specimens. Two (Cat.Nos 696 (Zeegse, Drenthe, and 697, Emmerschans, Drenthe) have a pair of pellets on the face. Two (Cat.Nos 694 (Onstwedde, Groningen), and 697 (Emmerschans, Drenthe) have punch marks imitating cord on the neck rib.

The axe from the Havelte hoard, Cat.No. 689, has a partial midrib between the drapery 'wings', producing what might be termed an 'inverted wineglass' appearance (*cf.* Cat.Nos 702, 705, and 706). The small and rather decorative axe Cat.No. 695, from Odoorn, Drenthe, has a pendant plastic triangle below the neck rib, as with Cat.Nos 703 (Velsen, Noord-Holland) and 704 (Werkhoven, Utrecht), both listed in the AWiNr2 category.

Dating: The Havelte hoard, with socketed axes Cat. Nos 663 and 689, a Central European Urnfield socketed knife and a casting jet (all in Museum Assen, Inv. Nos 1872/I.16–18) is dated by the knife to Hallstatt B2/3 and Montelius V (Butler, 1986: p. 148).

6.3.2. Catalogue of socketed axes with face arches, 'wings' and one neck rib

a) Socketed axes with face arches, 'wings' and one neck rib; no embellishments: (AXT:AWiNr1) (fig. 84a)

CAT.NO. 687. HERVELD, GEMEENTE VALBURG, GELDERLAND.

L. 11.3; w. 5.2 cm. Oval mouth opening, formula: 4.5×4.05 , 3.55×3.3 cm. High <> collar, from the underpart of which depends a large flattened D-loop (3.5×0.7 cm). Single flattened neck rib. Directly thereunder D wrap-around 'wings'. Body outline strongly) (, though there is no trace of resharping. Patina: glossy dark green (partly removed). Museum: RMO Leiden, Inv.No. H.E. 82. (DB 301)

Map reference: Sheet 40C, c. 180/435.

Note: For the single flat neck rib *cf.* Cat.No. 649 from Eursinge, gemeente Westerbork, Drenthe.

CAT.NO. 688. GEMEENTE RIJSEN, OVERIJSEL.

L. 11.2; w. 4.6 cm. Subrectangular socket. Mouth formula: 4.15×3.9 ; 3.1×3 cm. <> collar, from lower facet of which springs large D-loop, with) (outline, expanding at base into a sort of plinth (3.6×0.9 cm, expanding at base). On neck single thin rib; directly adjoining it, wrap-around D 'wings'. Sides parallel, with slightly expanding blade tips. Arch-facet on face, with slightly convex faces and sides.

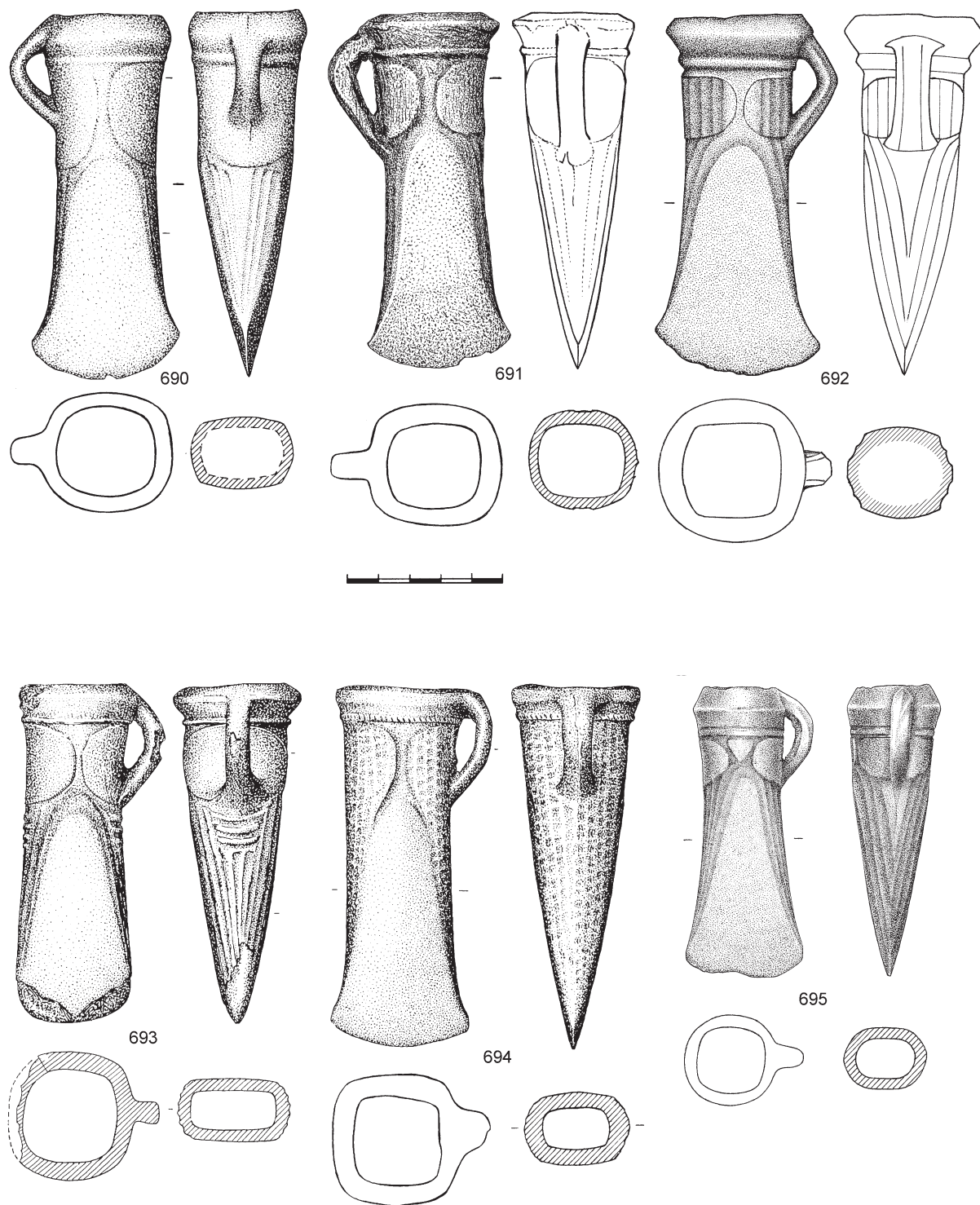


Fig. 84b. Socketed axes with face arches, 'wings' and one neck rib. 690: Ellecom, Ge; 691: Schoonebeek, Dr (from the hoard, see fig. 92D); 692: Werkhoven, Ut (drawing HS); 693: Gelpenberg, Dr; 694: Onstwedde, Gr; 695: between Odoorn and Klijndijk, Dr. See also fig. 84a-c.

Cutting edge sharp. Inside socket, a horizontal ridge at its base. Patina: mottled green; but mostly scrubbed off. Surface much pitted. Found c. 1962 during shifting of earth on the factory terrain Ter Horst, most probably of local origin, but possibly from earth moved from the surroundings of Rijssen. Museum: Oudheidkamer Riessen, Inv.No. 309; on permanent loan from museum Enschede. (DB 847) *Map reference*: Sheet 28D, 232.48/481.04.

CAT.NO. 689. HAVELTE, *GEMEENTE* HAVELTE, DRENTHE. Part of hoard.

L. 10.5; w. 3.75 cm. Oval socket; mouth formula: 3.75×3.35; 2.9×2.45 cm. <> collar, beneath which is a neck rib. Body of oval section. ‘wings’ of elongated type between which is, on the upper part of the body, a thin rib; below an arch-shaped facet. Large D-loop (3.7×1 cm) of) (shape, springing from socket-mouth moulding. Edge sharp, with use marks; socket mouth has slight recent damage. Found during ploughing in a field near a pond called ‘Het Lok’, in sandy soil. Patina: light green, part of which has been mechanically removed. Well preserved. Museum: Assen, Inv.No. 1872/I.18. Presented by H. Meeuwes of Havelte, via the *burgemeester* of Nijeveen in December 1872. (DB 1846)

Documentation: Letter W.B. Boeles (museum Assen) to C. Leemans (RMO Leiden) 30 December 1872 (RMO, *ontvangen brieven* 1872, No. 80); accompanied by pencil drawing by B. Kymmel (published in Butler, 1961a: Bijlage I, Pl. IV).

Associations: Socketed axe Cat.No. 663, a Central European socketed Urnfield knife of Hab2/3 (Inv.No. 1872/I.16) and a casting jet (Inv.No. 1872/I.17B), all in museum Assen.

Map reference: Sheet 16H, 211.30/530.50.

References: Pleyte, 1882: I 76, II Pl. 33:5 (on the plate erroneously provenanced Exloërmond, *gemeente* Odoorn); Butler, 1961a: pp. 207–212, Pl. IV, fig. 14, *Bijlage* I; Butler, 1986: p. 162, fig. 29; Essink & Hielkema, 1997–1998: p. 291, No. 82.

Parallel: (but with cabled midrib): socketed axe from the two-axe hoard from Augustenfeld (Kr. Cloppenburg; Sprockhoff, 1956(II): Taf. 8:1). Found with a socketed axe with face arches and astragalus neck ribs (two thin—one broad—two thin; the thin ribs herringbone-cabled).

Parallels in Germany:

- *Wesel*, Nordrhein-Westfalen: area of confluence Rhine and Lippe; hoard II according to Kibbert, his Kat.Nr. 675 and Taf. 100 D4 (but with vertical furrows);
- *Merfeld*, Kr. Coefeld, Nordrhein-Westfalen: from probable hoard of five socketed axes; Kibbert, 1984: Cat.No. 676 and 677. Two examples, with biconical collar; large D-loop; ‘inverted wineglass’ motif on face; furrow ornament on ‘wings’ and sides. Also in the find are a furrow-embellished socketed axe of Kibbert’s *Form Helmeroth var. Kirchhoven* (Kibbert, 1984: No. 668; Tackenberg, 1971: Taf. 12:4; a socketed axe with face arches

and five neck ribs (Kibbert, 1984: No. 651) and rectangular-sectioned socketed axe with rib ‘wings’ (Kibbert, 1984: No. 711);

- *Borghorst*, Kr. Steinfurt, Münsterland, Nordrhein-Westfalen: with square mouth opening; biconical collar; single neck rib; large D (or faintly angular) loop. Punch impressions imitating cord on the neck rib, and also lining the edges of the wrap-around D ‘wings’. Group of four pellets in Y formation between neck rib and ‘wings’. Furrow ornament on sides. Tackenberg, 1971: *Liste* 10:9, Taf. 12:1; Kibbert, 1984: No. 679, p. 144.

Dating: Montelius V (Tackenberg, 1971: p. 35);

- *Witkowo* (formerly Vietkow): from large hoard in NW Poland. Kuśznierz, 1998: Cat.Nos 677; but with rib ‘wings’ and Y-shaped pellet group.

Note: the two Merfeld axes here cited are in some respects the best parallels for the (however, unembellished) socketed axe from the Havelte hoard (Cat.No. 689).

- b) Socketed axes with face arches, ‘wings’, and embellishments (fig. 84b–c) (AXT:AWiNr.Emb)

These axes have the same elements as those of the foregoing group, but have, additionally, varied ornamental features. All examples have an exaggerated loop, either D-shaped or angular. Seven of them have furrow ornament. One (Cat.No. 694) has long ‘drapery wings’ (as does Cat.No. 689 from the Havelte hoard). Pellets occur on two specimens; one has a plastic triangle.

CAT.NO. 690. ELLECOM, *GEMEENTE* RHEDEN, GELDERLAND. Avegoor.

L. 11.85; w. 4.8 cm. Oval mouth, formula: 4.2×3.9; 3.2×3 cm. () collar, from which springs large D-loop with) (outline (3.8×0.8 cm). Immediately below it, on oval-sectioned neck, single thin horizontal rib and wrap-around D ‘wings’. Body with) (outline. On each face large arch-facet. On the convex sides, V-shaped hammer-facets. Cutting edge sharp. Patina: has been cleaned. Found by one Klaarhamer during digging of a utilities trench for the *huishoudschool*; sold by him to the collector C. Roosa (Velp). Present locus unknown; sold by the widow of Roosa. (DB 1801)

Map reference: Sheet 40E, 202.65/449.13.

Reference: KNOB, 1956: kol 258.

CAT.NO. 691. SCHOONEBEEK, *GEMEENTE* SCHOONEBEEK, DRENTHE. From the hoard.

L. 11.6; w. 4.65 cm. Subrectangular socket; mouth formula: 4.3×3.95; 3.1×2.75 cm. <> collar; 1 neck rib thereunder; D-‘wings’; arch-facet on face, large elbow loop: 4.6×0.9 cm. Faceting

on sides. Museum: Assen, Inv.No. 1894/XII.1a. Found in a field, 0.50 m under the surface, c. 50 m S. of the house of B. Wilms (Sect. A. No. 2495) in *gemeente* Schoonebeek. (DB 1175)

Associations: Found together with RMO Inv.Nos c. 1894/11.1 (Central European Urnfield HaB2/3 socketed knife) and c. 1894/11.3 (ornament); and museum Assen Inv.Nos 1894/XII.1a–c (socketed knife, socketed axe Cat.No. 608 and a pegged spearhead).

Map reference: Sheet 22F, 256.7/521.83.

References: De Laet & Glasbergen, 1959: p. 32; Butler, 1961a: p. 222, fig. 21; 1969: p. 98, fig. 47; Eischveld-Bosch, 1980: fig. 3–5; Kooi, 1982: p. 49, fig. 40; Essink & Hielkema, 1997–1998: p. 295, No. 120.

CAT.NO. 692. WERKHOVEN, *GEMEENTE* BUNNIK, UTRECHT. L. 11.6; w. 5.25 cm; weight 442 g. Mouth formula 4.8×4.55 ; 3.2×3.05 cm. Subrectangular mouth opening. <> collar; single neck rib. Large, heavy, slightly angular ribbon loop: $4.4 \times (1.9-1.1-1.8)$ cm. Narrow wrap-around 'wings'. Face arches. Body outline: nearly parallel sides, expanding somewhat toward cutting edge. Cutting edge sharp, very slightly battered. Furrow ornament on 'wings' and loop, encircling face arches and on the sides. No casting seems visible. Most of the surface is smooth and glossy. The patina colour differs on one face: the lower part is glossy dark brown, the upper part glossy grey-green; the other face is entirely glossy grey-green. Inside the socket, a partial deposit of azurite. Found 5 Febr. 2005 with metal detector SW of the cloister on the same field as Cat.No. 704 (part of hoard?). Private possession. (DB 2647)

Documentation: E-mail 9 February 2005 with photographs finder to Butler.

Map reference: Sheet 39A, c. 445.8/145.8.

CAT.NO. 693. GELPENBERG, *GEMEENTE* ZWEELOO, DREN-
THE.

L. 11; w. 3.75 cm. Round socket mouth, formula: $+3.8 \times 4.2$; 3.05×3 cm. Round cross-section, with arch-facet on face; <> collar, with single neck rib below it; large loop (3.85×0.8 cm); D-'wings'; fluted sides (horizontally below the 'wings', outlining arch, vertically on sides). Patina: glossy dark brown; finely polished surface, which however is crackled and peeling off in places, exposing light green powdery patches. Found c. 1950 by W. Kamps, c. 200 m North of the road from Aalden to Witteveen, and c. 200 m SE of the wood of the 'Gelpenberg'. Private possession. (DB 1754)

Map reference: Sheet 17G, c. 243.3/534.3.

References: Butler, 1961a: p. 232, No. 20; Essink & Hielkema, 1997–1998: p. 296, No. 136.

CAT.NO. 694. ONSTWEDDE, *GEMEENTE* STADSKANAAL, GRONINGEN.

L. 11.7; th. 4.4 cm. Subrectangular socket, mouth formula: 4.15×4.25 ; 2.8×2.9 cm. Expanded collar and one neck rib (diagonally nicked in imitation of cord); somewhat triangular-shaped imitation 'wings' and arch-facet on face; large D-shaped loop (3.9×1 cm). Socket opening square, with rounded corners; top of socket-mouth

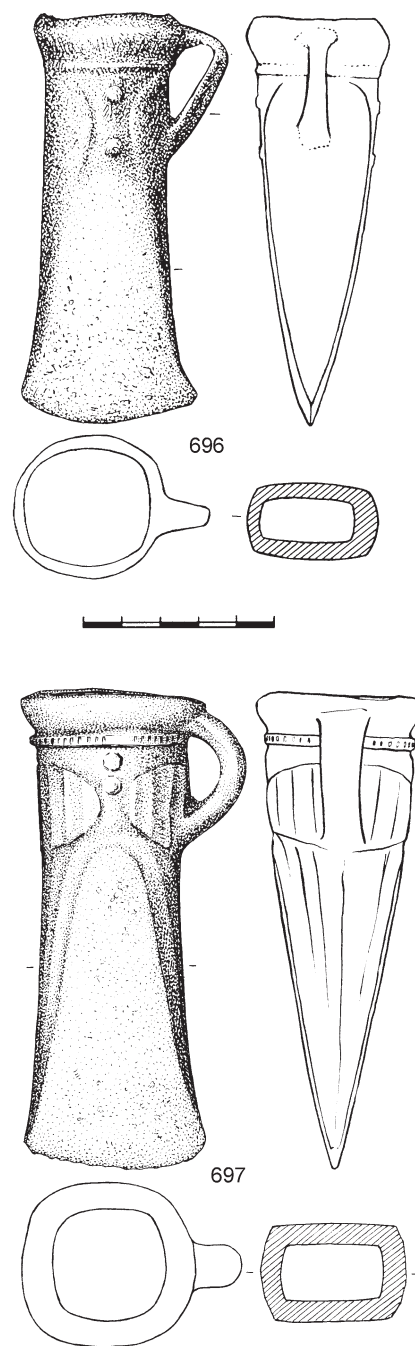


Fig. 84c. Socketed axes with face arches, 'wings' and one neck rib. 696: Zeegse, Dr; 697: Emmerschans, Dr. See also fig. 84a–b.

moulding has been hammered flat. Surface of 'wings' and sides bear vertical hammer-fluting, with the individual hammer-marks visible. Patina: mostly bronze colour, with traces of black. Excellent preservation; clear work traces. Museum: Groningen, Inv.No. 1967/VII.1; purchased 1993 from Mrs. Huitzing of Groningen. (DB 187)

Map reference: Sheet 13C, c. 266/562.

References: Butler, 1961a: p. 218, fig. 19 (right); Essink & Hielkema, 1997–1998: p. 299, No. 161.

CAT.NO. 695. ODOORN, *GEMEENTE* ODOORN, DRENTHE. Between Odoorn and Klijndijk.

L. 9.55; w. 3.8 cm. Oval mouth with subrectangular mouth opening. Mouth formula: 3×2.95 ; 2.2×2.15 cm. $< _ >$ collar, from the upper part of which springs a heavy flattened-D-loop (3.2×0.65 cm). Single neck rib; a slight groove separates it from small wrap-around ‘wings’, between which a plastic inverted pendant triangle. Rather pointed arch-facet on faces, outlined by furrows, which also form concentric V’s on the sides. Patina: very dark green, with light green corrosion patches. Cutting edge anciently battered. Sand encrustation. Found between 1975 and 1983 on parcel of tenant farmer B. Kuik of Odoorn, while harvesting potatoes. Private possession. (DB 2061)

Map reference: Sheet 17F, 253.50/540.30.

Reference: Essink & Hielkema, 1997–1998: p. 294, No. 109.

Note: One complete and one broken axe-hammer of type Muntendam were found at almost the same spot.

CAT.NO. 696. ZEEGSE, *GEMEENTE* VRIES, DRENTHE.

L. 10.9; w. 4.6 cm. Rounded mouth (formula: 3.95×3.8 ; 3.35×3.15 cm). Rounded body; arch-facets on faces; ‘wings’, between which are two pellets on each face; rounded collar with single neck-rib; elbow-shaped loop: 3.65×0.5 cm. Patina: cleaned. Found July 1950 during reclamation in boggy earth, at the margin of the peat with solid ground, at a depth of 1 m [“*tijdens ontginning in veengrond, op de rand van het veen en de vaste grond, op een diepte van c. 1 m*”] by B.E. Kuipers of Zuidlaren. Hoard with Cat.No. 659? Museum: Assen, Inv.No. 1955/IX.2a; purchased 1955 from J. Seidel (Garnwerd) who had acquired it from the finder. (DB 1314)

Map reference: Sheet 12B, c. 239/565.

References: *Verslag*, 1955: p. 133; Butler, 1961a: p. 232, No. 19; Essink & Hielkema, 1997–1998: p. 295, No. 128.

Note: The patina cannot be compared with Cat.No. 659, as Cat.No. 696 has been cleaned.

CAT.NO. 697. EMMERSCHANS, *GEMEENTE* EMMEN, DRENTHE

L. 12.75; w. 4.85 cm. Subrectangular mouth; formula: 4.65×4.4 ; 3.0×2.95 cm. Inverted-cone mouth moulding, from which springs large D-loop ($3.7 \times 1.2/1.0$ cm). Single neck rib, nicked; below which two pellets. Small D ‘wings’ ornamented with vertical fluting. Body nearly parallel-sided, slightly) (outline; neck section oval. Arch-facet on each face, outlined by fluting; the sides are also fluted. A heavy piece. Cutting edge asymmetrical; was sharp, now battered, with signs of recent damage. Patina: dark green, most of surface pitted. Museum: Assen, Inv.No. 1957/III.1. (DB 1017)

Map reference: Sheet 17H, c. 258/535.

Reference: Essink & Hielkema, 1997–1998: p. 288, No. 53.

Though heterogeneous in details, all eight of the axes in this group in the Netherlands have strong, sometimes even exaggerated North-Netherlands characteristics, and are undoubtedly local products.

6.4. Catalogue of socketed axes with face arches, ‘wings’ and two neck ribs: (figs 85–88) (AXT: AWiNr2)

6.4.1. Definitions

Socketed axes with face arches, ‘wings’ and two neck ribs number 12 specimens in the Netherlands. As a group they are the most fancifully ornamented of our socketed axes; as such they are a high point in the local socketed axe production.

Map 14 suggests that the AWiNr2 socketed axes have their main area of distribution not, as with the socketed axes of AWiNr1, in Drenthe, but rather on both sides of the river IJssel, in Gelderland and Overijssel; with only a few examples in the north, in Drenthe and Groningen; plus a few strays in the west, on the Utrecht ridge and the western dune area.

The larger number (eight examples) have a high collar of funnel to trumpet shape; five examples have a biconical collar, as on axes of our WiCol $< >$ type (section 4.3.4).

On eleven examples the ‘wings’ are of the wrap-around type. Two examples (Cat.Nos 700 and 701) have semi-‘wings’. Cat.No. 712, from Buinerveen, Drenthe, (with, exceptionally, three neck ribs) has drapery ‘wings’.

Three examples (Cat.Nos 708–710) have a row of hanging plastic raised triangles on the neck; a feature found on some axes of other types (see below, section 11). Three examples (Cat.Nos 703–704, 706), have a single pendant raised plastic triangle under the neck ribs. Two examples from Overijssel (Cat. Nos 699, 710) have a single pellet; Cat.No. 706, also from Overijssel, has four pellets placed between the ‘wings’. Cat.No. 707, from Hasselt, Overijssel, has, instead of a pellet, a plastic disc between the ‘wings’. A semi-circular disc is part of the ‘inverted wineglass’ design of Cat.No. 705 (Uddelerveen, Gelderland).

An ‘inverted wineglass’ motif (the stem represented by a partial midrib connecting the bell-shaped face facet with the neck ribs) occurs also on Cat.Nos 685 (Dalen, Drenthe, no neck ribs), 689 (Havelte, Drenthe, one neck rib), 702 (Gasselternijveveen, Drenthe, two neck ribs), 705 (Uddelerveen, Gelderland, two neck ribs) and 706 (Beerze, Overijssel, two cabled neck ribs).

Eight examples have furrow ornament (three examples with the furrows on the sides, two with furrows on the 'wings' and three with furrows on both the 'wings' and the sides).

One example (Cat.No. 706, from Beerze, Overijssel) has diagonal punch strokes on the two neck ribs, providing a herringbone pattern.

Cat.No. 704, from Werkhoven, Utrecht, has two neck ribs divided from each other by a picketfence pattern.

The varied combinations of the decorative elements, so that no two examples are quite alike, makes it difficult to find distributionally significant subdivisions. We have therefore retained the division into sub-groups based on the number of neck ribs; which can be significant in some cases, but not in others (as for example the inverted-wineglass motif demonstrates).

Parallels in Germany and Poland:

- Kr. *Lingen*, Ems-Hase area, Niedersachsen: between Bramsche and Estringen (hoard find). Biconical collar; two neck ribs with nicking in imitation of cord, forming a herringbone pattern; large angular loop; drapery 'wings'. Furrow ornament on 'wings' and sides. Found with another, similar socketed axe, but without (according to the drawing) face arches and without nicking on the two neck ribs; two severely damaged socketed spear-heads (one of which with groove lines and pointillé ornament). Old find, re-illustrated by Tackenberg (1971: *Liste* 11:5, Taf. 11:1–4);
- *Suttorf*, Kr. Neustadt am Rübenberge, Niedersachsen (Sprockhoff, 1941: Taf. 41:4). The short rib pattern on the lower face of the biconical collar on the Suttorf axe recurs not only on Cat.No. 704, but also on typologically unrelated axes elsewhere: e.g. on an axe with vertical facial ribbing in the Mecklenburg Period V hoard of Murchin (Schoknecht, 1974–1975: Abb. 3:13), and on seven 'bag-shaped' socketed axes (mostly unprovenanced or poorly provenanced) in Ireland (Eogan, 2000: Nos 1868–1872, 1873–1874. Eogan places these axes in his Classes 11 N and 11 O. No. 1868 has a row of pellets under the single neck rib (cf. his Nos 1863–1865); 1874 has ribs on the face;
- *Plestlin hoard*, Kr. Demmin, one example with furrows on the sides and 'corded' neck ribs (Sprockhoff, 1941: Taf. 45:11);
- *Witkovo hoard*: one example with no embellishments visible on the photograph (Sprockhoff, 1941: Taf. 47:3).

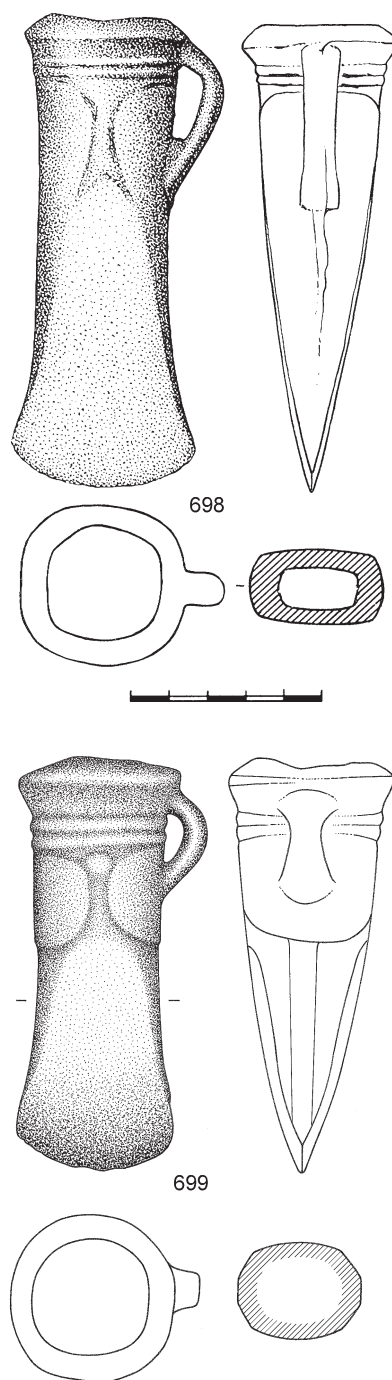


Fig. 85. Socketed axes with face arches, 'wings' and two neck ribs. 698: *gemeente Vlagtwedde*, Gr; 699: *Bergentheim*, Ov.

6.4.2. *Socketed axes with face arches, 'wings' and two neck ribs (2 ex., fig. 85)*

CAT.NO. 698. *GEMEENTE VLAGTWEDDE*, GRONINGEN.

L. 12.5; w. 4.9 cm. Rounded socket (formula: $4.3 \times 4.25; 3.05 \times 3.05$)

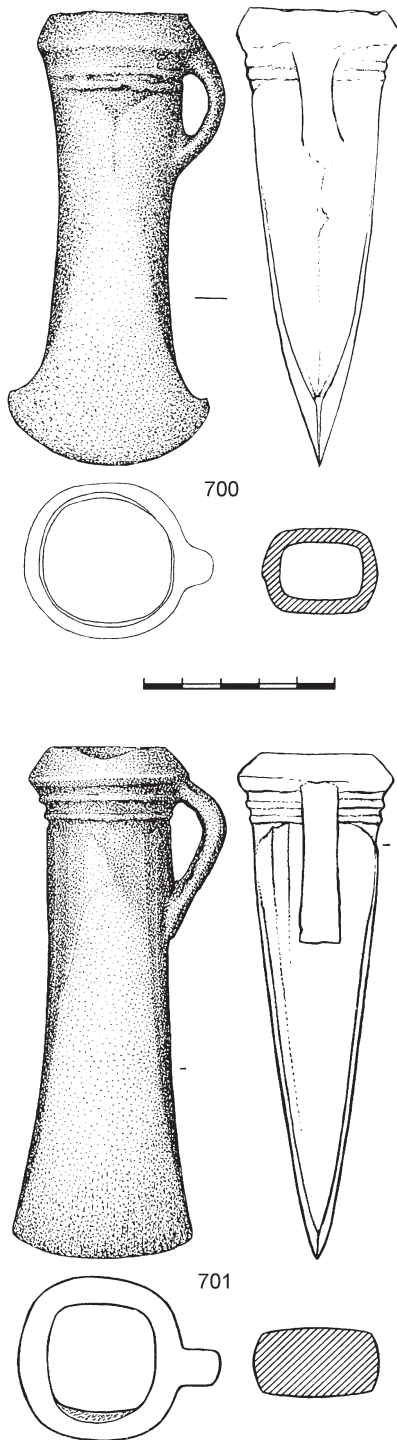


Fig. 86. Socketed axes with face arch and semi-'wings'. 700: de Bijland, Ge (dealer's provenance); 701: Doetinchem, Ge.

cm). <> collar, below which are two thin neck ribs. Large elbow loop, 4.5×0.85 cm. Elongated 'wings', arch-facet on faces. Patina: original patina has been removed; but the axe has subsequently

darkened to brown. Found in the valley of the Ruiten Aa between Smeerling and Jipsinghuizen. Private possession. (DB 1753)

Parallel: an axe from the Plestlin hoard (Sprockhoff, 1941: Taf. 42:2).

CAT.NO. 699. BERGENTHEIM, *GEMEENTE HARDENBERG, OVERIJSEL*.

L. 11; w. 4.1 cm. Mouth formula: 4.3×4.4; 3.0×3.1 cm. Circular mouth; massive <> collar; from base of which springs large D-loop, with D section,) (profile (2.9×0.7/1.4 cm). Body with) (outline. On oval-sectioned neck two neck ribs; pellet; wrap-around 'wings'. Blade part with arch-facet on each face, the surface of which is convex. The sides below the 'wings' have been flattened. Outline of body slightly) (. Socket has flat bottom. Cutting edge sharp. Patina: blackish; surface partly peeled off, showing grey-green. Found by R. Benjamins of Bergentheim. Museum: Oudheidkamer Hardenberg, Inv.No. 0 112. (DB 1892)

Map reference: Sheet 22D, c. 238/505.

6.4.3. *Socketed axes with face arch and semi-'wings' and two neck ribs (2 ex., fig. 86) (AXT:AWi.semi)*

CAT.NO. 700. PROVENANCE UNKNOWN

L. 11.95; w. 5.35 cm. Oval socket and mouth, <> collar (mouth formula: 4.35×4.15; 3.4×3.3 cm), two neck ribs; faint 'wings' on one face only; arch-facet. Body section oval above, rectangular below. Pouches behind tips of cutting edge. Large loop, of C-section (3.5×0.8 cm). Slight ribs inside socket. Patina: black. Collection: BAI Groningen, but without Inv.No. (DB 1093)

CAT.NO. 701. DOETINCHEM, *GEMEENTE DOETINCHEM, GELDERLAND*.

L. 13.5; w. 4.8 cm. Weight 458 gr. Subrectangular mouth (formula 4.3×4.3; 2.8×2.8 cm). Pronounced <> collar, from the base of which springs a large band elbow loop (4.25×0.9 cm). On oval-sectioned neck two prominent narrow ribs; 'wings' (upper half only, extending onto sides), decorated with vertical furrows. Long body, with nearly parallel sides, widening gradually, but with no extra blade-tip expansion. On faces open-top arch-facets; slightly curved, sharp cutting edge. Patina: partly blackish, partly dark bronze. Very well preserved except for surface cleaning. Museum: RMO Leiden, Inv.No. e 1931/2.98; ex coll. Gildemeester. (DB 444)

Map reference: Sheet 40F, c. 213/443.

Reference: Heemskerck Düker & Felix, 1942: Pl. 96.

6.4.4. *Socketed axes face arches, 'wings', two neck ribs, with embellishments (fig. 87) (AXT:AWiNr2.Emb)*

CAT.NO. 702. GASSELTENIJEVEEN, *GEMEENTE GASSELTE, DRENTE*.

L. 12.6, w. 5.35 cm. An unusually heavy thick-walled socketed

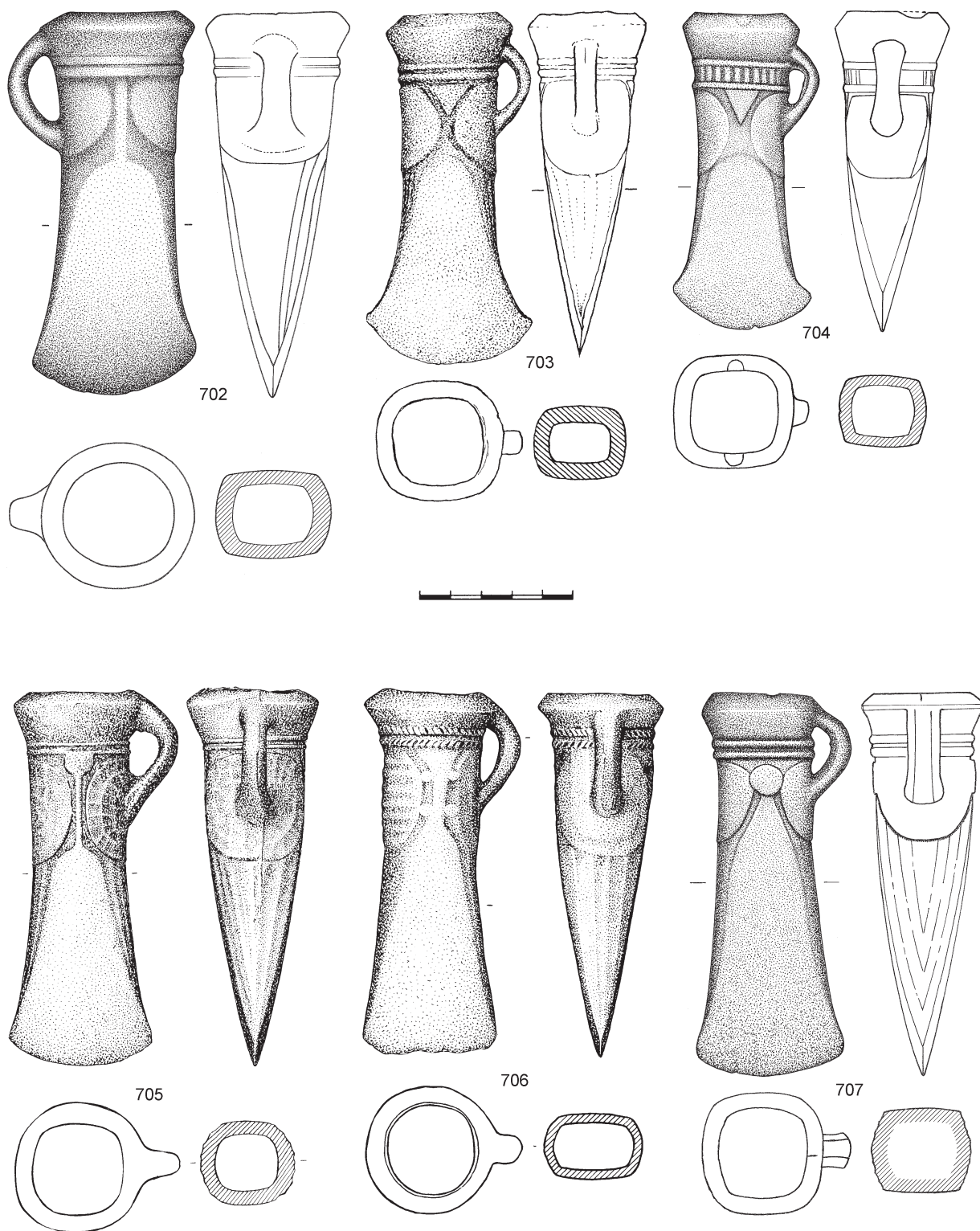


Fig. 87. Socketed axes face arch, 'wings', two neck ribs, embellishments. 702: Gasselternijveeën, Dr; 703: Velsen, N-H; 704: Werkhoven, Ut; 705: Uddelerveen, Ge; 706: Beerze, Ov; 707: Hasselt, Ov (704 and 707: drawing HS).

axe; weight c. 600 gr (weighed on a household scale). Oval mouth; mouth formula: 5.05×4.8; 3.7×3.45 cm. <> collar, from lower part of which springs large D- Loop (4.1×0.9/1/5 cm) with) (outline, D section. On neck T-shaped rib with flat face (on one of the axe faces the horizontal rib appears as two thin ribs, but on the other face the dividing groove is not discernible); wrap-around D-shaped 'wings'. On lower part of faces, prominent arch-facets. Casting seams have been removed, except on the body under the loop. Vertical facetting is faintly visible on the side with the loop. Cutting edge sharp, slightly asymmetrical. Almost all traces of an original patina have been removed. Now very dark bronze to greenish/blackish; occasional traces of green in surface pits. Otherwise well preserved. On one side of the axe the surface is rather irregular, possibly from defective casting. According to the owner, found c. 1973 by a tractor driver while working on farm land, at Boerdijk, c. 500 north of the road Gasselte-Stadskanaal. Private possession; the present owner purchased it from the tractor operator. (DB 684)

Another informant states that the axe was actually found at Bonnerklap, *gemeente* Gieten, but that the tractor driver-finder gave it a fictitious find-spot to avoid having to hand over the axe to the owner of the land on which it was found.

Map reference: Sheet 12H, c. 255/560.

Reference: Essink & Hielkema, 1997–1998: p. 290, No. 75.

CAT.NO. 703. VELSEN, *GEMEENTE* VELSEN, NOORD-HOLLAND.

L. 11.5; w. 5.5 cm. Mouth square with rounded corners. Pronounced <> collar (formula: 4.2×3.9; 3.0×3.0 cm), from base of which springs a large ribbon D-loop (3.1×0.7 cm). Two neck ribs, from which depend D-shaped 'wings' (wrap-around, not quite meeting on face) and a plastic inverted triangle. Body with sides parallel, but widely expanding at base. Cross-section: oval above, () below. Large arch/facet on each face; the sides have vertical fluting enveloping the arches. Collection: IPP, Amsterdam. (DB 713)

Map reference: Sheet 25A, c. 102/449.

CAT.NO. 704. WERKHOVEN, *GEMEENTE* BUNNIK, UTRECHT.

L. 11.3; w. 4.5 cm. Mouth formula: 3.9×3.7; 2.95×2.8 cm. Mouth opening rounded-rectangular. Collar <>, on the upper rim, on each face, are smoothly flattened traces of the pouring channels. From the lower part of the collar springs a sturdy asymmetrical ribbon loop of D section (3.0×0.75 cm). Casting seams are present inside the loop. Under the collar two widely separated neck ribs. Between them, on each face (but not on the sides) nine vertical ribs, forming a sort of ladder pattern. Descending from the lower neck rib is a plastic triangle pendant. The space surrounding it is casting-rough. Also below the lower neck rib, wrap-around 'wings'. On the faces, the 'wing' edges are well apart. On the lower part of the faces are well defined plastic arches. Body outline is) (in section; the sides are strongly convex., the faces slightly convex. There are negative (depressed) seams. Cutting edge sharpened, but slightly corroded. Most of the surface is smooth and glossy. The patina colour differs on the two faces. Loop right: the upper part is glossy

dark brown, the lower part glossy grey-green. Loop right: entirely glossy grey-green. A few blackish patches in depressed places. Very well preserved, except for a small modern-damage place on the green side and slight corrosion traces. Inside the socket, a partial deposit of azurite. Has been minimally treated by R. Leenheer (Allard Pierson Museum, Amsterdam) at the request of the owner. Found (February 24 2004) on a field with metal-detector by owner. (DB 2625)

Map reference: 39A, c. 445.8/145.8.

Documentation: E-mail (with attached photographs) Feb. 25 2004 owner to authors.

Note: The picket fence motif on or just below the collar is an unusual motif, not matched in the Netherlands. In Germany, the nearest and best parallel is the AWiNr2 axe (Sprockhoff, 1941: Taf. 41:4) from Suttorf, Kr. Neustadt am Rübenberge (near where the rivers Fulda and Werra unite to form the Elbe), surely a 'Hunze-Ems' product. Other occurrences of the picket fence motif are on socketed axes of various types and origins. Farther east, in Mecklenburg, the motif is present on a local-type socketed axe in the HaB3/Northern Period V hoard of Murchin, Kr. Anklam in Mecklenburg (Schoknecht, 1974–1975: Abb. 3:13). In quite another direction, a similar motif occurs on an unlooped socketed axe with face arches on a hoard found with sickles and Transylvanian-type socketed axes at Nicolae Bălcescu, near the Black Sea coast in Dobruja, Rumania. Petrescu-Dîmbovița (1978: pp. 73 and 112, Taf. 76B and 77A) assigns the hoard to a phase Gura Dobrogei, contemporary with the Uriul phase in Transylvania. Again in quite another direction, a similar motif is found on seven Irish 'bag-shaped' axes, none however with exact provenance (Eogan, 2000: Nos 1868–1872, 1873, 1874) but surely locally made (in northern Ireland?) and not imports from our area. Such scattered occurrences of an isolated feature in varied contexts are difficult to evaluate, though we need perhaps to bear in mind that the pendant plastic triangle ornament and the 'profilierter Tüllenmund' configuration occur on Irish bag-shaped axes, and the pattern of pellets is also at home in the Carpathian area (Rusu, 1966: pp. 17 ff).

CAT.NO. 705. UDDELERVEEN, *GEMEENTE* APELDOORN, GELDERLAND.

L. 12.3; w. 4.8 cm. Rounded socket and mouth (formula: 4.1×4.3; 3×3 cm). <> collar; two neck ribs at its base; from the lower of these depends a semicircular ornament, and a vertical rib, on either side of which is a 'wing', itself ornamented with shallow fluting; arch-facet on face; fluting on sides. Large D-loop, 4×1.3/0.85/1.4 cm. Cutting edge sharp. Surface toolmarks visible; the fluting has

been executed with the hammer. Patina: glossy dark green, with brown patches. Finely preserved surface with only very slight damage. Museum: Het Valkhof, Nijmegen, Inv.No. GAS 1976-4-94, ex coll. Westendorp. (DB 1830)

Map reference: Sheet 33A, c. 182/474.

Reference: Butler, 1961a: p. 218, fig. 19 (middle).

CAT.NO. 706. BEERZE, *GEMEENTE OMMEN*, OVERIJSEL. Beerzerveld.

L. 12; w. 4.45 cm. Circular socket and mouth (formula: 4.2×4.2 ; 2.9×2.95 cm). $\langle \rangle$ collar, from which springs large loop (3.5×0.9 cm) toward elbow form; two neck ribs with diagonal nicking in imitation of cord; 'wings' (one with concentric, the other with horizontal fluting), between which a bar and 4 pellets; connecting to arch-facets. Cutting edge damaged. Patina: brown. Surface corroded with fine pits; cutting edge anciently blunted. Found 1937/1938 in a field behind the church by H. Stuut, while ploughing. Museum: Zwolle, Inv.No. 5464, acquired 1968 from ex coll. Van der Stadt, Dalfsen. (DB 254)

Map reference: Sheet 22D, c. 233/502.

Documentation: Letter Van Es to Butler, 15 April, 1961.

Reference: Butler, 1961a: p. 232, No. 24.

Parallel: Socketed axe with nicking in imitation cord from the Plestin hoard but without further embellishments (Sprockhoff, 1941: Taf. 42:3; 1956 (II): Taf. 7:12)

CAT.NO. 707. HASSELT, *GEMEENTE HASSELT*, OVERIJSEL. From a farm on the site of former manor house Groot Terwee, along the stream de Weede.

L. 12.75; w. 4.9 cm. Weight 437 g. Subrectangular mouth opening. Heavy $\langle \rangle$ collar (mouth formula: 4×4.05 ; 2.9×3 cm), from which springs large, faceted D-loop (3.1×1.1 cm). Two neck ribs; directly thereunder, comparatively small D-shaped 'wings', with a height of 2.5 cm, extending onto the sides. On the faces the D ribs are rather far apart; the distance between them is bridged by a circular disc, 10 mm in diameter, looking as if it is pasted onto the surface, although actually cast as one piece with the axe. The disc also covers the upper tip of a large ogival facial arch-facet. The arch is outlined by parallel facets, which form concentric V's on the sides. Large, heavy specimen. Fragment of wooden shaft preserved in the socket identified by the ROB Botanical Department as of *Quercus* (oak). River or bog patina, very well preserved. Found September 1999 with metal detector, in dump of earth from a pit c. 3 deep for the construction of a byre. Private possession. (DB 2478)

Map reference: Sheet 21G, 204.10/512.30.

Reference: Verlinde, 2000: p. 150, fig 3.

Note: The large disc and the ogival arch are as far as we know unique decorative features (cf. a half-disc: Cat.No. 685, from Dalen, Drenthe).

Parallels AWiNr2 socketed axes: Ku 672 and 674 in the Witkowo (Vietkow) hoard in Northwest Poland.

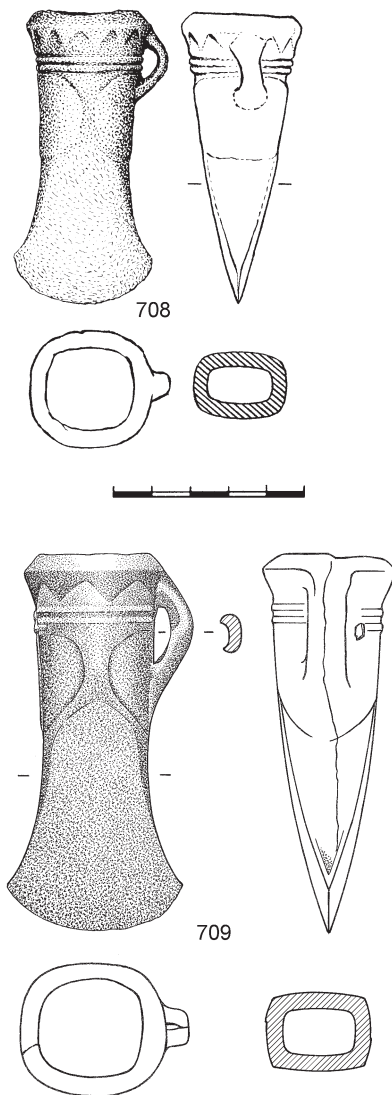


Fig. 88. Socketed axes with face arches, 'wings' and plastic VVV on neck. 708: de Zilk, Z-H; 709: Wierden, Ov.

6.4.5. Socketed axes with face arches, 'wings' and plastic VVV on neck (3 ex., fig. 88) (AXT: AWi.VVV)

CAT.NO. 708. DE ZILK, *GEMEENTE NOORDWIJKERHOUT*, ZUID-HOLLAND. Near the house Druivestein.

L. 7.7; w. 3.7 cm; Weight 131 gr. Rounded socket (mouth formula: 3.35×3.15 ; 2.35×2.2 cm). $\langle \rangle$ collar, ornamented with ring of plastic pendant triangles depending from the carination; two neck ribs; 'wings'; arch-facets on face faint but certain. Section oval above, subrectangular below. Small (shaped D-loop (2.2×0.9 cm). Edge sharp. Patina: mostly black or greenish black. Well preserved. Museum: RMO Leiden, Inv.No. h 1956/6.1; presented by A. van der Schoot of Bennebroek. (DB 1672)

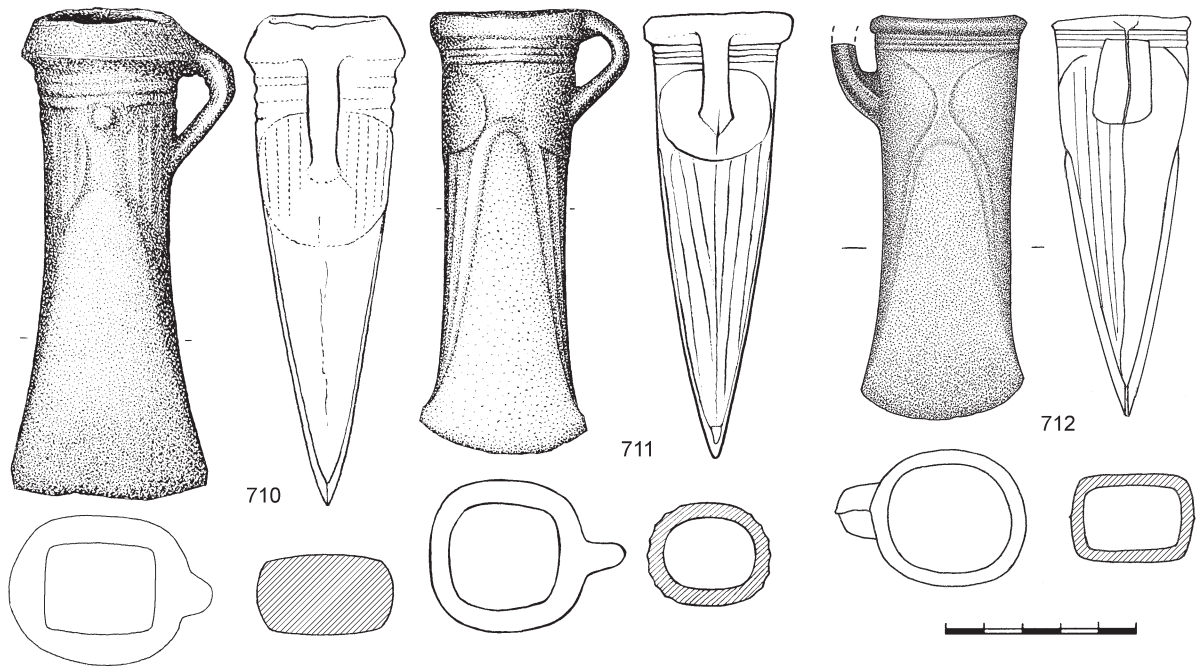


Fig. 89. Socketed axes with face arches and 'wings', three neck ribs. 710: Elsenerveen, Ov (from the hoard, see fig. 92C); 711: gemeente Emmen, Dr; 712: Buinerveen, Dr (from possible hoard, see fig. 93C) (712: drawing HS).

Map reference: c. 97/479.

Reference: Louwe Kooijmans, 1974: p. 354, No. 73.

CAT.NO. 709. WIERDEN, GEMEENTE WIERDEN, OVER-IJSSEL. De Hooilanden.

L. 10; w. 4.6 cm. Mouth formula 3.85×3.5 ; 2.7×2.6 cm. Socket rounded-rectangular. <> collar, with plastic pendant triangles on its lower part. Body with parallel sides, but with J blade tips. Body section oval above, subrectangular below. Two neck ribs below collar. Large asymmetrical band loop (4.0×1.1 cm), hollowed on its inside. Wrap-around 'wings'. Arch-facet (with pointed top) on faces. Markedly asymmetrical casting seam, especially off-centre on un-looped side. Patina: dull dark brown, with dull light green patches. Surviving patches of glossy brown. Pouched. Cutting edge sharpened but battered. Small hole (casting defect) on loop side. Found November 1983 by J.W. Nijsink (Wierden), in a maize field, in a damp area, which had been ploughed to a depth of 35 cm. Museum: Enschede, Inv.No. 1984-I. (DB 2044)

Map reference: Sheet 28B, 237.60/488.

Comment: These two examples of socketed axes with VVV decoration on the neck are a sub-group of the ten examples with such neck ornament in the Netherlands (see below, section 8.2). The ten are too varied as to other features to be considered as a distinct type; yet the absence of the VVV neck feature is not known to occur in neighbouring regions, and thus the axes

bearing this ornament must be considered to be local products.

6.5. Socketed axes with face arches and 'wings', three neck ribs (AXT:AWiNr3) (3 ex. on fig. 89)

These differ only from the AWiNr2 socketed axes by showing three neck ribs on the collar and fluting ornament around the arch-facet.

CAT.NO. 710. ELSSEN, GEMEENTE MARKELO, OVER-IJSSEL. Elsenerveen (from the hoard).

L. 12.9; w. 5.2 cm; Weight 497 gr. Mouth formula: c. 4.1×4.25 ; 3×3 cm. Massive <> collar, from which depends a large elbow loop (3.5×0.8 cm). Three neck ribs, below which a pellet and wrap-around 'wings', extending onto sides, and decorated with vertical fluting. Arch-shaped facet on lower part of face. Patina: dark brown. Found before 1885 in the Elsenerveen. Museum: RMO Leiden, Inv. No. d.1942/12.2. (DB 495) Plaster copy in museum Enschede (Inv. No. 951b).

Associations: Cat.No. 536 (in Part III:2A), Cat.No. 631, and a socketed knife (RMO Inv.No. d.1942/12.1,5).

Map reference: Sheet 28D, c. 233/499.

References: Verslag, 1942: p. 5; Pleyte (Twente), 1885: p. 22, Pl. XI:1-4; Butler, 1961a: p. 218, fig. 19 left; Verlinde, 1980: pp. 23-24, Depot IV.

CAT.NO. 711. *GEMEENTE EMMEN, DRENTHE.*

L. 11.6; w. 4.4 cm. Rounded mouth, formula: 4×4; 2.9×2.8 cm. Prominent collar, below which are three neck ribs. Oval cross-section, with arch-facets on faces, outlined by fluting which also covers the sides; prominent 'wings'; elbow-shaped loop, 3.1×1 cm. Cutting-edge asymmetrically sharpened; use-marks. Patina: dark brown. Museum: Assen, Inv.No. 1906/1.4, presented 23 May 1906 by J. de Waard of Groningen. (DB 104)

References: *Verslag*, 1906: p. 12, No. 5; Butler, 1961a: p. 232, No. 14; Essink & Hielkema, 1997–1998: p. 287, No. 42.

Parallels: Very similar in many respects, though with differences of detail, are the socketed axe Ku 672 from the Polish Witkowo hoard and the unpublished socketed axe 'bei Wildeshausen' (Ldkr. Oldenburg) in museum Oldenburg (Oldenburg Inv.No. 1109).

CAT.NO. 712. *BUINERVEEN, GEMEENTE BORGER, DRENTHE.* Moshammen. (Possibly hoard with Cat.No. 640)

L. 10.6; w. 4.2 cm. Mouth oval/subrectangular (formula: 4.0×3.6; 3.0×2.7 cm). Slight collar, inverted cone, 3 neck ribs. Body outline slightly) (, arch-facets, () sides.) ('wings' (not on sides). Loop part broken off (old patinated break): ?×1.1–1.4 cm. Casting seams present. Edge sharp. Faint traces of fluted outlining of the arch-facets. Patina: originally black (mostly removed, mottled black-green). Has been laboratory treated. Found Oct. 2000 by farmer Veldman in a potato-shed among potatoes from the Moshammen field, together with Cat.No. 640. Private possession. (DB 2531).

Map reference: Sheet 12H, 254.97/551.05.

6.6. Distribution of socketed axes with face arches and 'wings'

The distribution of all the recorded finds in the Netherlands of socketed axes with face arches and 'wings' (thus, regardless of the number of neck ribs and the absence or presence of embellishments) is shown in map 14. It is striking that none have been recorded in the southern provinces, Noord-Brabant and Limburg. There is, thus, a very strong regional bias, in favour of the area of the eastern part of the country that lies north of the big rivers. Gelderland has five examples, especially in the Arnhem-Nijmegen area; Overijssel has seven examples, Utrecht two. But the northern provinces have 14 examples: 11 in Drenthe, two in Groningen, one in Friesland. Only two strays are known from the western coastal area.

6.6.1. *Socketed axes with face arches and 'wings' in Germany*

Looking across the modern border, Tackenberg's *Listen* 10 and 11 (his *Karte* 9) show nine examples in the Ems-Weser region: seven of these with D-shaped 'wings', two with 'drapery wings'. Steide (with fur-

row ornament), Dammerbergen and Arnun have one neck rib; Wildeshausen has three neck ribs. The two-neck rib example from Suttorf (Kr. Neustadt am Rübenberge) is also noteworthy for its T-shaped formation of pellets (*cf.* the three-neck rib example from the Plestin hoard) and its atypical III vertical rib pattern on the collar.

Tackenberg's *Liste* 11 and *Karte* 9 also show two AWi socketed axes from the Ems region and one from Westfalen on which the 'wings' are prolonged (our 'drapery wings'): his No. 3 from Augustenfeld, Kr. Cloppenburg, with herringbone punch marks on the ribs (found with another socket axe which has astragalus neck ribs); No. 4 from Merfeld, Kr. Coesfeld, from the probable hoard already mentioned; No. 5, from a probable hoard found between Bramsche and Estringen, Kr. Lingen (Tackenberg, 1971: Taf. 11:1).

The handful of examples thus known from the Ems-Weser region are clearly few compared with those now known to have been found in the Northeast Netherlands.

Likely exports from the Northeast Netherlands or the German Ems-Weser area are the distant outliers in the Baltic region: in the East German Plestin hoard several examples, with one, two or three neck ribs, and in the Northwest Polish hoard of Witkowo, a two-neck rib, furrow-ornamented example.

We would deduct from Tackenberg's *Liste* 12 his No. 15, the axe from the Niederolm hoard, because it is illustrated by Kibbert (his Kat. 685 with Taf. 53) as having 'wings' but not face arches, and his No. 14, from the Danish Basland hoard, which do not have clearly defined face arches (*cf.* Butler & Steegstra, 2001/2002: fig. 30b); these belong more properly to his *Liste* 12 (triangles on *Karte* 9).

In Middle West Germany, Kibbert has very few socketed axes with face arches and 'wings'. He illustrates only seven examples. Two of these (his Nos 674 and 687) are of unknown provenance. One (his No. 679, from Borghorst, = Tackenberg's *Liste* 10:9) we have already cited (though in Nord-Rhein-Westfalen, it is in the Ems area (= Tackenberg's *Liste* 10:9). Remaining are two of the socketed axes from the probable hoard of Merfeld, Kr. Coesfeld, Nordrhein-Westfalen (his Nos 676 and 677; each with one neck rib, and 677 with furrow ornament) and a single example from the Rhine-Lippe junction area (Wesel II), which also has one neck rib and furrow ornament: a dredge find, so that, strictly speaking, its association with other objects from this find-spot is not guaranteed.

7. EMS-WESER', OR 'HUNZE-EMS', OR 'IJssel-EMS'? THE REGIONAL SOCKETED AXE PRODUCTION IN THE NORTH OF THE NETHERLANDS AND ADJACENT AREA

It began with Ernst Sprockhoff (1941; 1956). In his monumental studies centred on Bronze Age inter-regional trade and the delineation of cultural areas on the North European plain (*Südzone der nordischen Kreis*), he was impressed by scarce but always somewhat distinctive bronzes that occurred in the rather poor and isolated northwest corner of his study area. Chief among these types were the socketed axes *mit profiliertem Tüllenmund* which were, on the basis of a distribution map and list, current in the Northeast of the Netherlands and adjacent German Ems-Hase area, with only a few outlopers farther afield. One of us (Butler, 1961a: pp. 232–233) extended Sprockhoff's findings by correcting and adding to the list of socketed axes *mit profiliertem Tüllenmund* found in the Netherlands, and by associating with them socketed axes of related types that, on the basis of their typology and distribution, suggested local production in the Northeast of the Netherlands and adjacent areas. It was, however, apparent that these types were absent or rare in the Weser area, and indeed not overly common even along the Ems and Hase. Following a verbal suggestion of Willem Glasbergen, we therefore proposed (Butler, 1961a) dropping the 'Ems-Weser' designation of the axe industry in question in favour of 'Hunze-Ems'. The lists and distribution maps of Kurt Tackenberg (1971), did much less than justice to the Northeast Netherlands distributions concerned, but his more complete listings for Germany seemed to verify the scarcity of the axe types in question in the Northwest German area. Meanwhile, some further finds have become known in the Netherlands, thus extending the area of distribution somewhat westward, *i.e.* to the IJssel area and even occasionally beyond (here, maps 13 to 15); while Kibbert has illustrated a few additional finds in the German Nordrhein-Westfalen area. For information as to whether this has also happened in the Ems area we must await the PBF volume on the socketed axes in Niedersachsen. In the meantime, and until it should be proven otherwise, we adhere to the description of this axe industry, and the few other bronze types as may be associated with it (Butler, 1961a) as the 'Hunze-Ems industry'. To its characteristic axe products can be reckoned at least half of our face-arches-no-'wings' family, virtually all of the face arches-and-'wings' family, and most of the family 'wings'-no-face arches. Especially characteristic features include the oversized, often angular loop

and plastic VVV neck ornament.

What, on the basis of our present state of knowledge of the socketed axes in the Netherlands, are the features that identify products of the 'Hunze-Ems' axe-makers? A simple and concise definition is not to be expected. It is evident that the producers in this region did not aim at the serial production of identical axes; but rather catered to a desire for individualization. No two specimens are alike. Ornamental motifs are sometimes borrowed from the products of other regions (*i.e.*, pellets), but sometimes locally developed. A good illustration of the eclectic character of the 'Hunze-Ems' designing practice is afforded by our figure 93 with map 15. It shows the distinctive group of socketed axes, found in the north of the Netherlands and the IJssel area, united by plastic pendant triangles on the neck as well as oversized loop. They are quite varied with respect to the presence or absence of face arches and/or 'wings', the number and arrangement of neck ribs, and their choice of an assortment of embellishments.

Our socketed axes with face arches and without 'wings', are North-European in origin or inspiration, and in the Netherlands they are practically confined to the northeast (section 5; map 13). While the small-looped, unembellished examples could be either import or local, those with an oversized, sometimes angular loop are certainly 'Hunze-Ems'. Some examples are embellished with regionally distinct motifs, such as furrowed surface patterns (Cat.Nos 644, 648, 651, 657, 658, 663, 654, 655, 670, 671, 672, 674, 675, 676) and/or astragalus neck ribs (Cat.Nos 666–679), and/or pendant VVV on the neck (Cat.Nos 647, 648, 651, 663, 677, 678).

In our face-arches- and- wings family (section 6), map 14 shows that their main concentration is in the northern provinces, with some radiation to the centre and west of the country. Oversized, often angular loops are normal. Almost all examples have embellishments, in a wide variety, some quite unusual. More than half have furrow patterns on their surfaces. This family is 'Hunze-Ems' *par excellence*.

The 'wings'-no-face-arches family (section 4; map 11) is rather heterogeneous; it includes elements with varying degrees of relationship to the 'Hunze-Ems' industry. Cat.Nos 607, 608, 609 and 618 have strong 'Hunze-Ems' features.

Cat.Nos 589 to 600 seem to form a somewhat special sub-group. They are united by a distinctive offset-biconical collar form, tend to have elongated 'wings' and avoid embellishment. A small related group, Cat. Nos 604 to 606, has a not-offset-biconical collar. Both these sub-groups have, however, the enlarged loop

in common with the 'Hunze-Ems' products. map 11 suggests (though the number is small and some are unprovenanced) that the group with offset-biconical collar tends to bunch in the Nijmegen area, while the not-offset-biconical collar group has several find spots in the northeast.

All the groups here claimed as 'Hunze-Ems' products are very scarce or absent in the southern part of the Netherlands.

7.1. Hoards containing socketed axes of 'Hunze-Ems' and related types

7.1.1. Poland

Witkowo, Gde. Smoldzino, Woiw. Słupsk (formerly Vietkow, Kr. Stolp). Sprockhoff, 1941: Taf. 47 51; 1956(I): p. 66, Pl. II:15; Kuśnierz, 1998: p. 63, No. 509 with further references. Contains 15 socketed axes, one Central-European Urnfield socketed knife, nine winged axes, one socketed chisel, two anvils, one battle-axe, five socketed spearheads, eight bracelets, bronze wire, hilt of a sword, two neck rings and fragments of stone and bronze. Found in a meadow, in a pot. Formerly museum Szczecin (lost).

Dating: Montelius V-Hallstatt B2–3.

7.1.2. Germany

- *Afferde*, Kr. Hameln (Sprockhoff, 1941: pp. 94, 114; Jacob-Friesen, 1967: p. 275, Kat.Nr. 900, Taf. 172:1–7; Sprockhoff, 1956: pp. 7, 189; Tackenberg, 1971: pp. 36, 219). Contains a socketed axe (resembling *Niedermaas* type with D 'wings'), a pegged spearhead, a *Nierenring*, three bracelets and a penannular bracelet.

Dating: Montelius V (Sprockhoff, 1956: pp. 7, 189; Tackenberg, 1971: pp. 36, 219);

- *Augustenfeld*, Kr. Cloppenburg (Sprockhoff, 1956: II, Taf. 8:1,2; Tackenberg, 1971: pp. 33–35, 257, *Liste* 9:1; p. 258, *Liste* 11:3). Contains two socketed axes, a small chisel, a tweezer and a casting jet.

Dating: Montelius V (Tackenberg, 1971: p. 33);

- *Barsinghausen*, Lkr. Hannover (Jacob-Friesen, 1963: pp. 424, 426–427, Abb. 425–434). Contains three socketed axes with facial arches and without neck ribs, two of them looped (but one of these with the loop unperforated) and one loopless; also in this hoard are three iron socketed axes and several rings of bronze and iron rings of the *Wendelring* type.

Dating: Hallstatt D/Northern Period VI (Jacob-

Friesen, 1963);

- *Bramsche/Estringen*, Kr. Lingen (Tackenberg, 1971: pp. 35–36, 85, 258, Taf. 11). Contains two socketed axes and two broken socketed spearheads. The axes are very similar to one another, but one has face arches, the other not. Both have biconical collar with two neck ribs; drapery 'wings'; large angular loop; furrow ornament on 'wings' and sides. The neck ribs on the face-arch specimen are cabled, herringbone-wise.

Dating: Montelius V (Tackenberg, 1971: p. 36);

- *Hillesheim*, Kr. Mainz-Bingen (Kibbert, 1984: esp. pp. 72–73 [under No. 220]; Taf. 90D). Contains three winged axes (Ki 187, 220, 221), one winged adze (No. 239); five socketed axes of various types (Ki 577, 578, 642, 646, 716), among them a Southeast European example and a Frouard axe.

Dating: early Montelius V/Stufe Obernbeck, according to Kibbert;

- *Nieder-Olm*, Kr. Mainz-Bingen (Tackenberg, 1971: p. 309, *Liste* 120:6, Taf. 14; Kibbert, 1984: Kat.Nr. 685; for associations and references see under Ki 753). Contains two socketed axes, socketed gouge, four bracelets, two rings, one sickle.

Dating: *Jüngere Urnenfelderzeit-Stufe Obernbeck* (Kibbert, 1984: p. 161);

- *Obernbeck*, Kr. Herford, Nordrhein-Westfalen (Tackenberg, 1971: Taf. 6:4; Kibbert, 1984: No. 647, pp. 64 and 147 for references, Taf. 90C). Contains four winged axes (Ki 184–186, 245); three without loop, Nos 184–186, one shouldered with low loop No. 245; socketed axe (Ki 645) of Type Obernbeck.

Dating: Stufe Obernbeck, = early Montelius V, according to Kibbert, 1984: Taf. 102;

- *Plaggenburg*, Kr. Aurich (Jacob-Friesen, 1963: Taf. 173:1–6, his Kat. Nr. 839). Contains two socketed axes, one looped and one unlooped, but Tackenberg (1971: p. 27) denies that these two axes have proper arch-facets. More examples from the hoard: two spearheads, a socketed chisel, two bracelets, a hollow ring and two neck rings.

Dating: Hallstatt D/Northern Montelius VI (Jacob-Friesen, 1963);

- *Plestlin*, Kr. Demmin (Vorpommern), North of Berlin; between Elbe and Oder (Sprockhoff, 1941: pp. 90 ff, Taf. 42–46; Sprockhoff, 1956: II: pp. 20, 27, 35, 118, Taf. 8–13). Contains 40 socketed axes (originally more than 100), eight winged axes, one bracelet, an anvil (and hammer?) and some bronze fragments.

Dating: Montelius V-Hallstatt B2–3.

7.1.3. Denmark

Basland, Jutland (Broholm, [III] 1946: p. 202 M 89; Jacob-Friesen, [I] 1963: Taf. 169:1–10; Kibbert, 1984: pp. 71–73, 141; Butler & Steegstra, 2001/2002: p. 301, fig. 30b). Contains four socketed axes, a winged axe, three socketed spearheads, a sickle, a fragment of a sword blade.

Dating: unclear. Northern Period IV (Broholm, 1946: p. 202); Montelius V according to Sprockhoff (I: 1956, p. 94 note 8) and Tackenberg (1971: p. 77); HaB1 (= late phase of Montelius IV) on the basis of the winged axe (according to Kibbert, 1984: pp. 71–73).

7.1.4. Britain

Minnis Bay, Birchington, Kent (Worsfold, 1943: pp. 28 ff, Pl. XI–XII; O'Connor, 1980(II): pp. 384–386, Find No. 156, fig. 59:15). Large hoard from settlement site, contains three socketed axes, one socketed spearhead, and varied carps-tongue and Central European Urnfield material, also scrap metal.

Dating: LB3 (O'Connor, 1980).

7.1.5. The Netherlands (figs 90–92, scale 1:4)

- Fig. 90: *Drouwenerveld*, Drenthe (Butler, 1986: pp. 133–168, figs. 2–5). Contains intact socketed axe (Cat.No. 656), tanged knife and collar; and fragments of socketed axes, spearheads, knives, tutili, buttons, sickles, punches, bracelets, wire fragments, ribbed tubes and some miscellaneous fragments in a pot. Museum: Assen, Inv.Nos 1984/XII.1–70.

Dating: Halstatt B2–3/Montelius V (Butler, 1986: p. 148)

- Fig. 91–A: *Havelte*, Drenthe (Butler, 1969: fig. 43; 1979, fig. 74; Butler, 1986: p. 162, fig. 29). Contains two socketed axes (Cat.Nos 663 and 689), a Central European Urnfield socketed knife and a casting jet. Museum: Assen, Inv.Nos 1872/I.16–18.

Dating: between Halstatt B2/3/Montelius V (Butler, 1986: p. 148).

- Fig. 91–B: *Bargeroosterveld* (hoard of 1896), Drenthe (Sprockhoff, 1941: pp. 84–86, Abb. 67; 1956 (II) p. 22, Karte 9; Butler, 1961b: pp. 108–111, fig. 52; 1963: p. 83).

Contains two socketed axes: Cat.Nos 630 and 672). Museum: Assen, Inv.Nos 1896/XII.4–5.

Dating: Montelius V.

- Fig. 91–C: *Elsenerveen*, Overijssel (Pleyte [Twente], 1885: p. 22, Pl. XI:1–4; Butler, 1961a: p.

218, fig. 19 left; Verlinde, 1980: pp. 23–24, Depot IV; Butler & Steegstra, 2001/2002: pp. 296–297, Cat.No. 536, fig. 25a).

Contains three socketed axes: Cat.No. 536, Cat.Nos 631 and 710, and a Central European Urnfield socketed knife (museum RMO, Inv.Nos d.1942/12.1–5)

Dating: Halstatt B2–3/Montelius V.

- Fig. 91–D: *Nieuw-Schoonebeek*, Drenthe (Butler, 1969: figs 27, 44; 1979: figs 73,75,76; 1986: p. 161, fig. 28).

Contains two socketed axes (Cat.Nos 608, 691), two socketed urnfield knives, one pegged spearhead, and a socketed ornament. Museum Assen, 1894/XII.1A–C and museum RMO Leiden, Inv. Nos c 1894/11.1–3

Dating: Halstatt B2–B3/Montelius V (Tackenberg, 1971: p. 35; Butler, 1986: p. 148).

- Fig. 91–E: *Elsenerveen*, Overijssel (Pleyte, Twente, 1885: p. 22, Pl. XI:1–4; Butler, 1965: p. 179, fig. 12; Verlinde, 1980: p. 24, Depot V).

Contains a fragment of a socketed axe (= RMO Inv.No. d 1942/12.1, ex coll. W.K. Louff), and two rings and two bracelets (museum Enschede, Inv. Nos 386–387 and 400–401).

Dating: Montelius V/Hallstatt B2–3 (Butler, 1965: pp. 175–176).

- Fig. 92–A: *Onstwedderholte*, Groningen (Butler, 1960a: pp. 117–122, fig. 1; Jacob-Friesen, 1967, p. 261, Kat. 1737, Taf. 168:8–11; Tackenberg, 1971: pp. 52–53).

Contains Cat.No. 620, four bracelets and two interlocked rings. Museum: Groningen, 1895/I.1,1A–E.

Dating: Montelius V/Hallstatt B2–3 (Butler, 1965: pp. 175–176).

7.1.6. Presumed and possible hoards in the Netherlands

- Fig. 92–B: *Zeegse*, Drenthe (Butler, 1961a: p. 232, No. 19; Essink & Hielkema, 1997–1998: p. 296, No. 129). Two socketed axes: Cat.Nos 659 and 696.

- Fig. 92–C: *Buinerveen*, Drenthe. Two socketed axes: Cat.Nos 640 and 712.

- Fig. 92–D: *Werkhoven*, Utrecht. Two socketed axes: Cat.Nos 692 and 704.

- Fig. 92–E: *Susteren Heide*, Limburg (Butler & Steegstra, 2001/2002: pp. 273–274 with further references). Three socketed axes: a Helmeroth socketed axe (Cat.No. 484) and two of *Form* Wesseling (Cat.Nos 726 and 738).

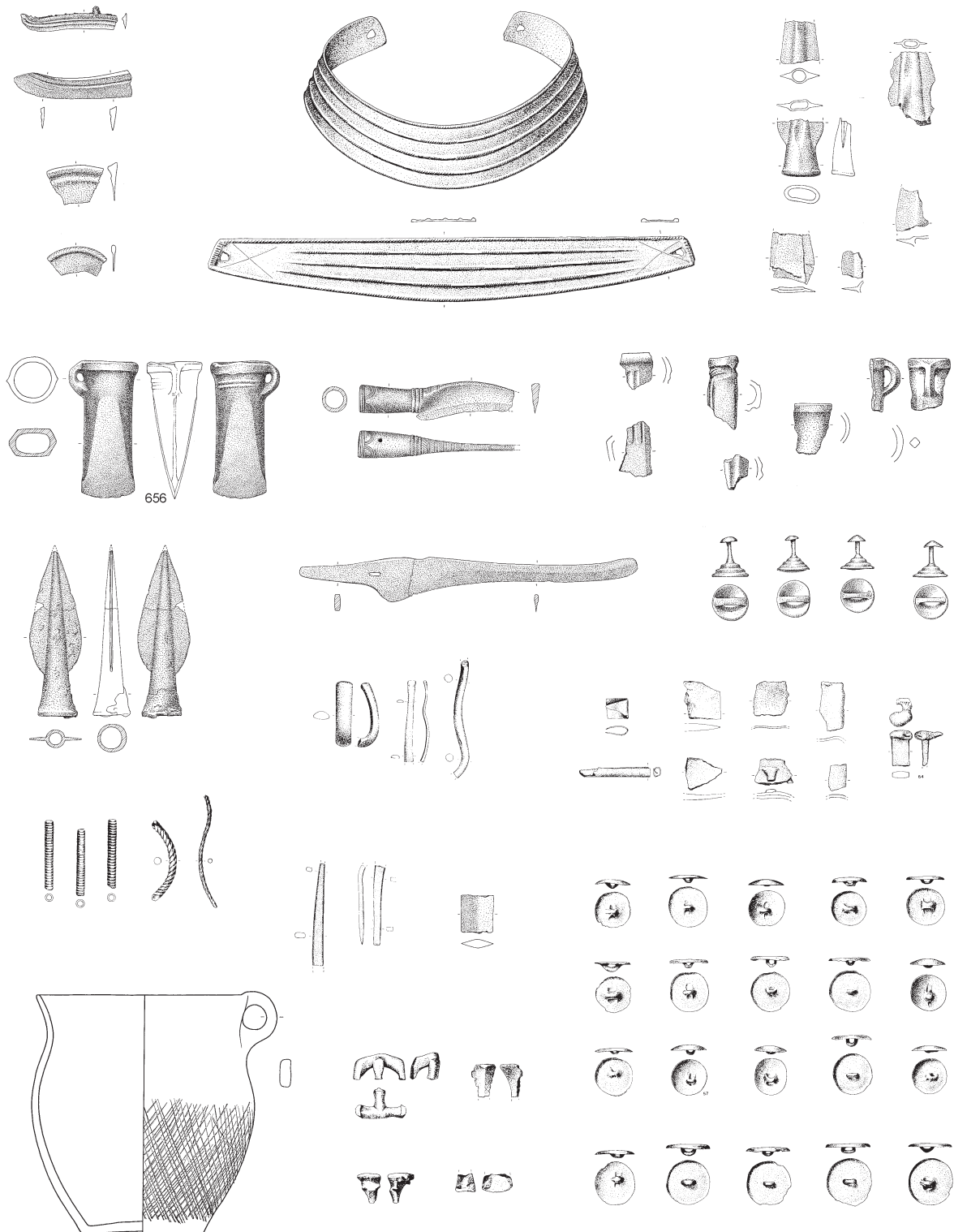


Fig. 90 (Scale 1:4). Hoard, Drouwenerveld, Drenthe. Contains intact socketed axe (Cat.No. 656), tanged knife and collar; and fragments of socketed axes, spearheads, knives, tutili, buttons, sickles, punches, bracelets, wire fragments, ribbed tubes and some miscellaneous fragments in a pot. Museum: Assen, Inv.Nos 1984/XII.1-70.

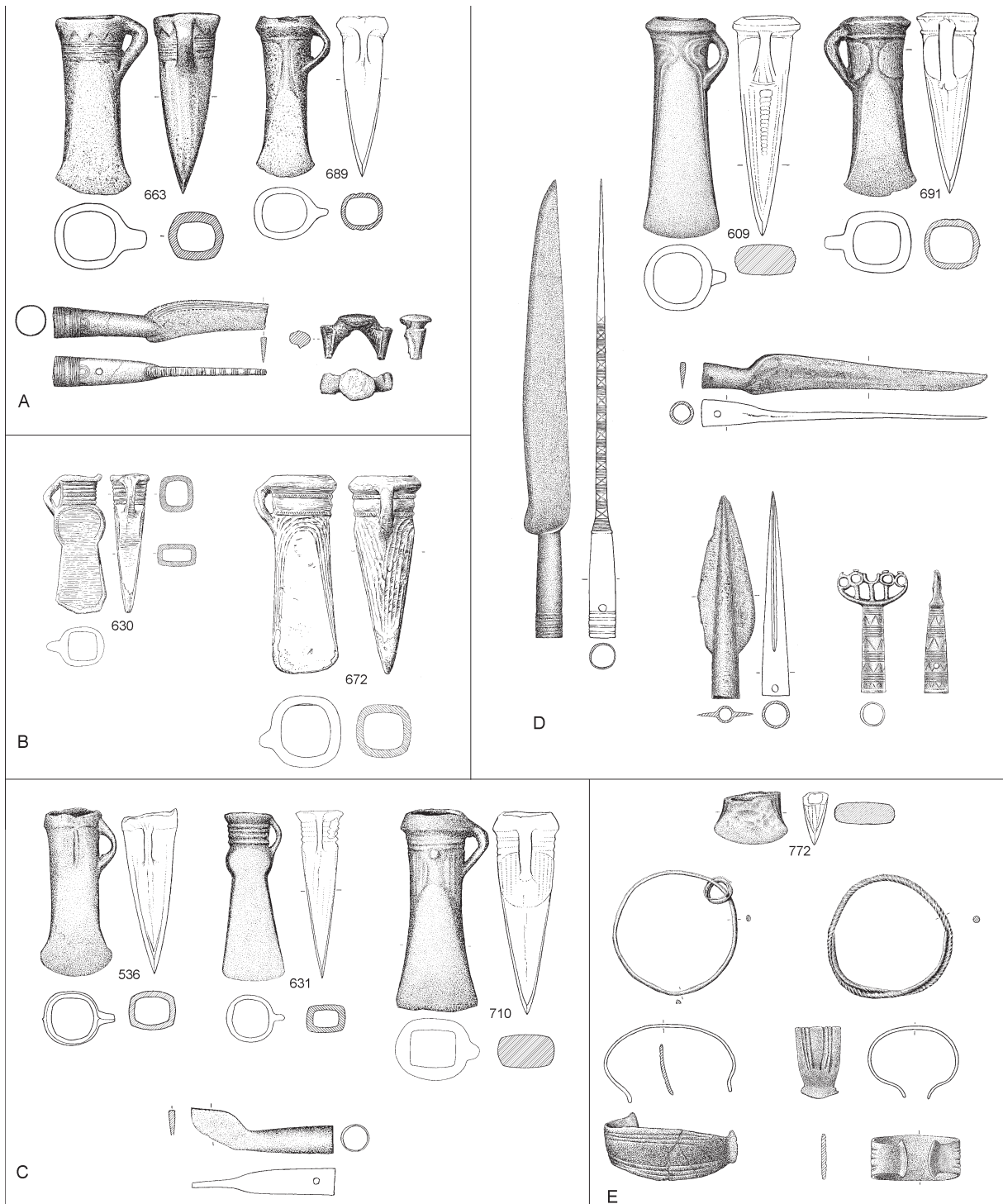


Fig. 91 (Scale 1:4). Hoards with socketed axes in the Netherlands. A: Havelte, Drenthe. Contains 2 socketed axes (Cat.Nos 663 and 689), an urnfield socketed knife and a casting jet. Museum: Assen, Inv.Nos 1872/I.16–18. B: Bargerooterveld, Drenthe. Contains 2 socketed axes: Cat.Nos 630 and 672. Museum: Assen, Inv.Nos 1896/XII.4–5. C: Elsenerveen, Overijssel. Contains 3 socketed axes: Cat.No. 536, Cat.Nos 631 and 710, and a Central European Urnfield socketed knife (museum RMO, Inv.Nos d.1942/12.1–5). D: Nieuw-Schoonebeek. Contains two socketed axes, two Central European Urnfield socketed knives, one pegged spearhead, and a socketed ornament. Museum: Assen, 1894/XII.1A–C and museum RMO Leiden, Inv.Nos C.94/11.1–3. E: Elsenerveen, Overijssel. Contains a fragment of a socketed axe (RMO Inv. No. d. 1942/12.1, ex coll. W.K. Louff), and two rings and two bracelets (museum Enschede, Inv.Nos 386–387 and 400–401).

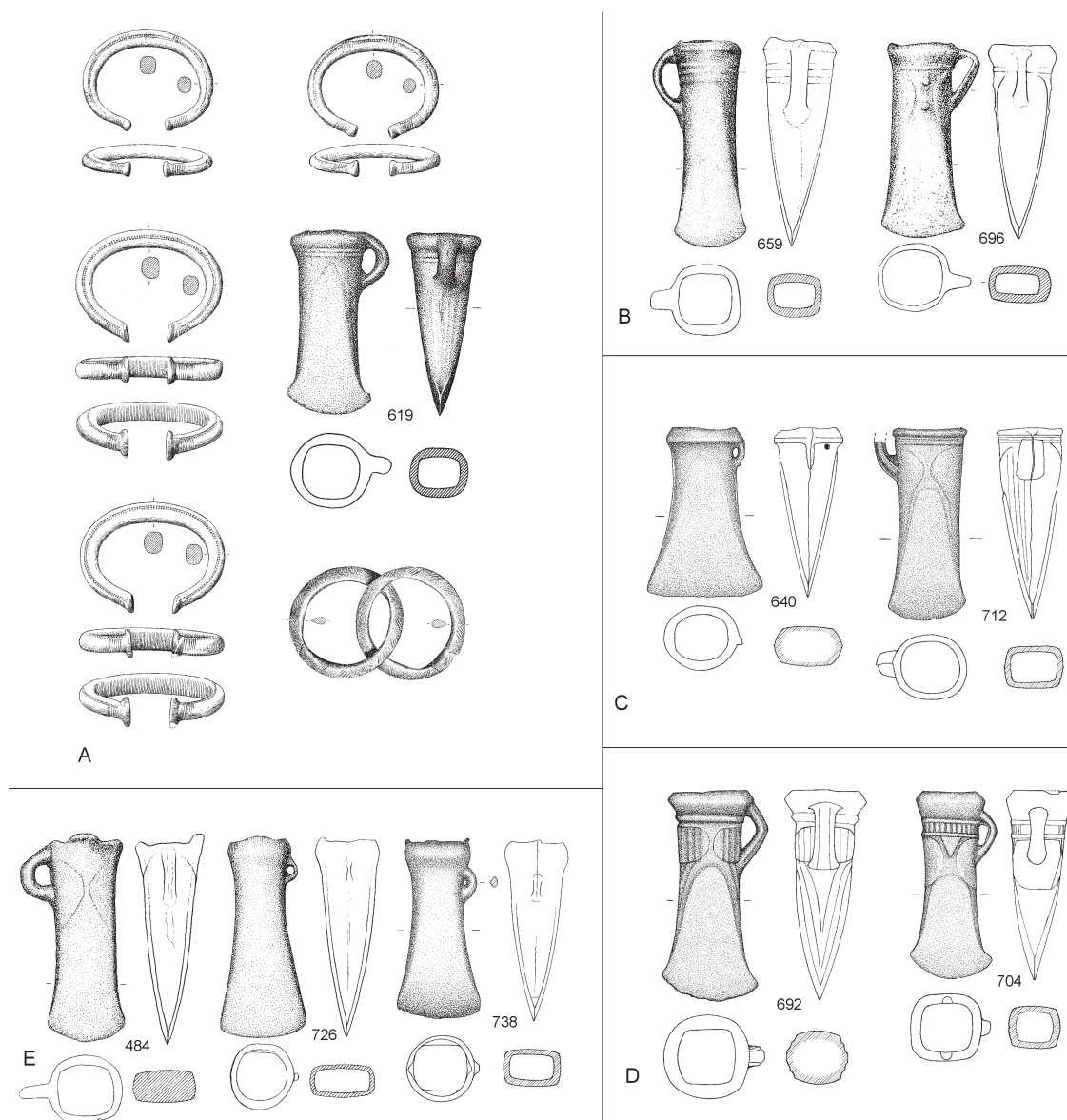


Fig. 92 (Scale 1:4). A: Hoard, Onstwedder Holte, Groningen. Contains Cat.No. 620, four bracelets and two interlocked rings. Museum: Groningen, 1895/I.1,1A–E.

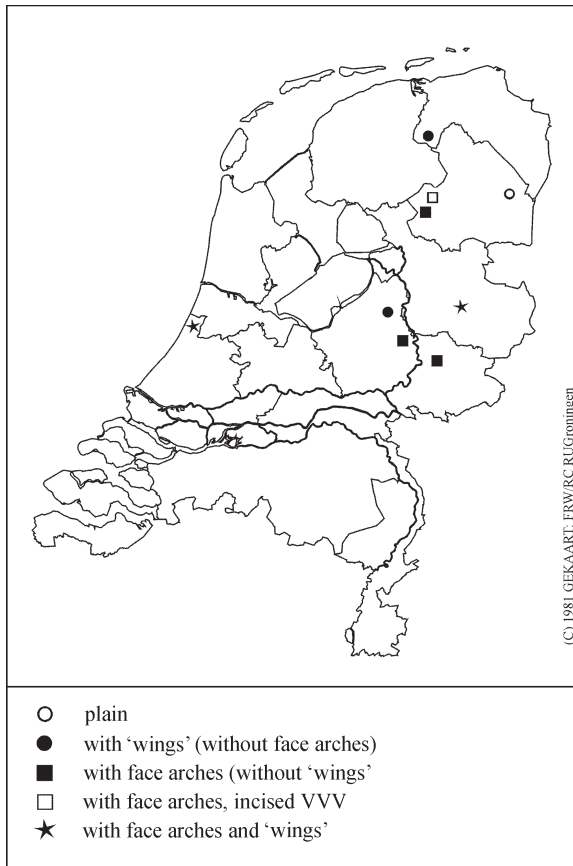
Presumed hoards: B: Zeegse, Drenthe. Two socketed axes: Cat.Nos 659 and 696. C: Buinerveen, Drenthe. Two socketed axes: Cat.Nos 640 and 712. D: Werkhoven, Utrecht. Two socketed axes: Cat.Nos 692 and 704. E: Susteren Heide, Limburg. Three socketed axes: a Helmeroth socketed axe (Cat.No. 484) and two of type Wesseling and related (Cat.Nos 726, 738).

8. NOTES ON SOME ORNAMENTAL FEATURES ON SOCKETED AXES IN THE NETHERLANDS

A particular ornamental motif can not by itself serve to identify a type. The occurrence of a distinctive motif on the products of different areas and on different types can, however, provide interesting insights into intercommunication among their producers and us-

ers, even if we cannot know what exactly a motif may have signified. There was evidently much borrowing of motifs involved in axe production.

If a distinctive motif occurs on many objects in a restricted area, and seldom outside that area, it may be useful in pointing to localized workshop practices and distribution patterns, sometimes cutting across types assigned to various types on the basis of other criteria. In this section we note the occurrence in the



Map 15. Socketed axes with VVV ornament in the Netherlands.

Netherlands of a number of such special motifs on socketed axes and examine, where possible, their relation to the products of other areas.

8.1. VVV neck ornament (fig. 93; map 15)

A series of ten socketed axes in the Netherlands are linked by the presence on the collar of a row of plastic V's: in one case, Cat.No. 648 (Wapse, Drenthe) depressed, in the others in positive relief. All but one of the nine provenanced specimens were found in the Northeast and East of the country; four in the Northeast, four in the IJssel region. A single isolated example (Cat.No. 708) is from the west dune area; one is inprovenanced. Since the plastic VVV motif occurs in such a limited area, is not known elsewhere in the broad region, and is coupled with other characteristics especially coupled with the East and Northeast of the country, local manufacture must be assumed, presumably in South Drenthe or in the area broadly centred on the river IJssel.

Despite the evident heterogeneity of the group, the

common features reinforce the suggestion of local manufacture. Seven of the ten have face arches, so that they can be considered to be a variants of the 'socketed axe with face arches' (section 5) and 'arches and wings' (section 6) groups. All but one have disproportionately large strap-type loops; five of them angular or asymmetrical, others of large D or flattened-D form. Cat.No. 678, from Vorden, Gelderland, has astragalus neck ribs. Four have furrow surface embellishment.

An interesting puzzle, nevertheless, is the presence in Ireland (Eogan, 2000: No. 639) of only one single small, plain socketed axe with more or less similar plastic pendant triangles on the neck. No other features of this axe suggest affinity with the 'Hunze-Ems' VVV axes here presented.

Eogan assigns the "Ireland" specimen to his Class 10E, together with four other specimens without ornament, all unprovenanced, but generally similar to other Irish socketed axes of the Dowris phase. Some sort of contact is to be presumed to account for this isolated VVV presence in Ireland, as also with the much more common Irish socketed axes with astragalus neck ribs (q.v.), and on others the picket fence pattern, on Irish axe body types of the same period; though the mechanism of contact involved is not now evident. Otherwise, the westernmost find of a VVV-decorated axe is the example from the Netherlands west-coast dune area at de Zilk, Zuid-Holland (Cat. No. 708).

8.1.2. List of socketed axes with plastic VVV neck ornament (fig. 93, map 15). Scale 1:3:

Plain:

- Cat.No. 647: Exloërmond, *gemeente* Odoorn, Drenthe (elbow loop).

With 'wings' (without face arches):

- Cat.No. 610: De Wilp, *gemeente* Marum, Groningen (grooved collar, swinging door 'wings', large asymmetrical loop);
- Cat.No. 619: Epe, Gelderland (two neck ribs, large flattened-D-loop, D 'wings', furrow ornament).

With face arches (without 'wings'):

- Cat.No. 648: Wapse, *gemeente* Diever, Drenthe (depressed VVV, grooved collar, elbow loop; furrow, pointillé, and concentric-U incised ornament);
- Cat.No. 663: Havelte, *gemeente* Havelte, Drenthe from hoard (multi-ribbed neck, elbow loop, furrow ornament);
- Cat.No. 678: 't Medler, *gemeente* Vorden, Gelderland (astragalus neck ribs, elbow loop);



Fig. 93. Socketed axes with plastic VVV decoration.

- Cat.No. 677: Twello, *gemeente* Voorst, Gelderland (astragalus neck rib with plastic zigzag, elbow loop with claw);
- Cat.No. 651: provenance unknown (plastic zigzag with rib on neck; furrow ornament).

With face arches and ‘wings’:

- Cat.No. 708: De Zilk, *gemeente* Noordwijkerhout, Zuid-Holland (face arches faint; two neck ribs);
- Cat.No. 709: Wierden, *gemeente* Wierden, Overijssel (two neck ribs; elongated D-loop).

8.2. Picket fence neck ornament

The only example in the Netherlands is that from Cat. No. 704, from Werkhoven, *gemeente* Bunnik, prov. Utrecht: an axe with face arches and ‘wings’ and a single plastic triangle depending from the lower neck rib; from the same find-spot and possibly forming a two-axe hoard with Cat.No. 692 (a socketed axe with face arches, ‘wings’ and furrow ornament; *cf.* below, fig. 92D). Both axes are ‘Hunze-Ems’ products.

We have come across the picket fence motif occasionally on socketed axes in Rumania (in the hoard from Nicolae Bălcescu, in Dobruşja, eastern Rumania, between the Black Sea and the Danube: Petrescu-Dîmboviţa, 1978: Taf. 76B, 77A, No. 109), assigned to the First Late Bronze Age stage in that area; North Germany (Suttorf, Kr. Neustadt am Rübenberge: Sprockhoff, 1941: Taf. 41:4) and Ireland (see under present paper, Cat.No. 704).

8.3. Astragalus neck ribs

A series of fourteen examples in the Northeast of the Netherlands have neck ribs in the thin–broad–thin arrangement, or variations thereof (see above, section 5.7). Astragalus neck ribs occur in the Netherlands chiefly on socketed axes with face arches without ‘wings’ (namely Cat.Nos 666–679; on map 13: triangles and black circles). Two of these examples, Cat. Nos 678 and 679, also have the plastic VVV neck ornament. Four examples have imitation-cord nicking on the thin neck ribs.

One (Cat.No. 671) has a row of pellets on the broad rib zone. Seven examples have furrow ornament. One (Cat.No. 677) has not only plastic VVV collar ornament, but also a plastic zigzag on the broad-rib zone and an elaborate claw-shaped loop: the most elaborately ornamented of all socketed axes in the

Netherlands.

Most of these axes with astragalus neck ribs have been found in Drenthe, surely their main centre; one example is from southern Groningen. Three examples are from the IJssel area. None are known from other parts of the Netherlands.

Associations include the find from Angelsloo-Bargeroosterveld (Cat.No. 672, with the Seddin-Var: Karbow socketed axe Cat.No. 630).

For the related examples in western Germany (the ‘Ems’ component of the ‘Hunze-Ems industry’) and their radiation to East Germany (Plestlin hoard) and northwestern Poland (the Witkowo hoard) see above, section 5.7.

8.4. Furrow ornament

Many socketed axes in the Netherlands display ornamental treatment of the surface with parallel furrows. The occurrence of such surface ornament is, however, not uniformly spread among the various socketed axe families.

It is absent on the Form Wesseling axes in the southeast, on the Niedermaas axes, and on all but one or two of the Plainseu axes in that region. On the non face arched and non-Niedermaas axes of the east-central region (our section 5) it is present on five of the 33 axes. In the southeast of the country it is prominently represented on ten of the fifteen Form Helmeroth axes (with equal numbers on the German side of the border), and on a few examples of other types (Cat.Nos 490, 518, 531).

In the Northeast of the Netherlands, it is present on a third of the axes of the Ar (no ‘wings’) family (13 out of 35), but on two-thirds of the AWi family (16 out of 33). But furrowing is scarce on axes of the ‘wings’ (no arches) group, with only only five examples.

The furrowing is differentially applied. On the Helmeroth axes the fluting is vertical. On axes with ‘wings’ and axes with face arches the parallel furrows may bend around the face arches or the ‘wings’. On some Helmeroth axes there is fluting on the collar: vertical on Cat.Nos 543, 544, 546, horizontal on Cat.Nos 547 and 548. On a few examples (Cat.Nos 694, 705) a pattern of individual hammer strokes is present.

8.5. Pellets and pellet groups

See above, section 4.6.2

9. 'FORM WESSELING' AND WESSELING-RELATED SOCKETED AXES (figs 94–106; maps 16 and 17) (AXT:wes)

We owe to Kibbert (1984: pp. 126–131) the concept of socketed axes of *Form Wesseling*: a category not recognized previously by Sprockhoff (1956) or Tackenberg (1971). Seen from a more recent perspective, however, Kibbert's presentation under one roof of his '*schlichte Tüllenbeile von Form Wesseling und formverwante Uhrpendelbeile*' combines several different socketed axe types which should best be considered separately.

The majority of Kibbert's *Form Wesseling* axes are of a simple sort with a single, rather bulging collar moulding, no neck ribs, and usually with a small and narrow, low-placed loop. The outline of the sides is generally) (; the body cross-section usually shows flat or slightly rounded faces and more rounded sides, like this: (), though some have angular side-face junctions, giving the body a somewhat hexagonal or sub-rectangular section.

The specimens so grouped are coupled in his presentation with these (plus some 'related plain examples') with a group of 'form-related axes with pendulum ornament'.

That Kibbert here brings his series of Wesseling and Wesseling-related axes together under the term *Form*, rather than the more usual *Typ*, suggests that he retained a degree of uneasiness in this coupling, despite his arguments in its favour. Perusal of the 36 illustrations (Kibbert's Nos 581–616) reinforces rather than weakens the impression that we are here dealing with a non-homogeneous grouping, and that a deconstruction is required as a prelude to comparison with the socketed axes in the Netherlands.

Kibbert grouped 35 socketed axes in Middle West Germany, plus one bronze casting-mould, under the *Wesseling-and-related* heading. We suggest, however, that five specimens (Kibbert's Nos 609–613) have features (such as neck ribs, and ribbon-like loops), that relate them to the socketed axes that have since come to be classified as *Type Plainseau* (cf. Butler & Steegstra, 2001/2002: pp. 278–292, Nos 501–531 with further references). Several others in Kibbert's list are of varied West European types. His Nos 614 to 616 may be identifiable with the neck rib-less axes such as are present in the Plainseau hoard itself (Blanchet, 1984: fig. 155), though Ki 614 has pellet ornament and Ki 615–616 have rib-and-pellet ornament. And Kibbert's eight 'related axes with pendulum ornament' his Nos 581 to 585A (some, have, however, parallel vertical ribs without pellets) are not all that

similar in size and shape to what we would like to call 'basic Wesseling' axes, the 19 specimens of his Nos 588–608. These 19 axes without ornamentation or neck ribs occur mostly along, or to the west of, the Rhine in Northwest Germany; they thus appear to represent a distinct regional type occurring in an area partly adjoining the Netherlands. How common they are in Niedersachsen and elsewhere in North Germany is as yet unclear; examples are probably included in Tackenberg (1971: pp. 260–261, *Liste* 22, with *Karte* 12), but this list surely requires further sorting out.

The bronze half-mould for casting a longish undecorated Wesseling axe from Erkrath, Kr. Düsseldorf (Kibbert, 1984: his No. 599) has rib-and-circle ornament in a radial pattern on the external face, but not on the inside surface which would have produced this pattern on an axe cast in the mould. It is not clear whether the second half-mould of this find (Kibbert No. 599a on his *Taf.* 73) is original or a modern museum reconstruction.

Kibbert's small Wesseling-related axes with pendulum ornament (rib-and-pellet decoration, or, on some of his examples, with parallel ribs without pellets; his Nos 581–586, 597) and with widely expanded blade, are classified by him as related (*nahestehend*) to his group *Wesseling-Variant Hünxe*, the shorter variant. Pendulum-ornamented axes of various forms, such as they occur in western Europe (especially in Brittany and South Britain), are not very common in Middle West Germany. Kibbert illustrates eight examples, but only four of these actually have a known provenance. Pendulum-ornamented specimens such as Kibbert's examples are hardly represented at all in the Netherlands; only one is known (Cat.No. 771, from Emmen, *gemeente* Dalfsen, Overijssel; unlike Kibbert's examples, it has two neck ribs). Tackenberg's *Liste* 21 and *Karte* 11, supplementing those listed by Sprockhoff (1956: p. 24), show a certain currency of pendulum-ornamented axes (but of varied form) in and around the Elbe area; cf. also the examples in the Mecklenburg Period V hoard of Murchin, Kr. Anklam (Schoknecht, 1974–1975), which has, among its socketed axes of several types, a number of *Uhrpendel* axes of varied form); demonstrating, incidentally, that the pendulum motif can already be present, on axes of various forms, in a Montelius V/HaB3 context. But it is not clear how many of those listed are identifiable with Kibbert's Wesseling sub-group, given that the motif can be found on axes of such a variety of body types.

Typologically Kibbert subdivides his *Form Wesseling* axes into two main variants: *Wesseling-*

Kibbert variant	Nordrhein-Westfalen	Rheinland-Pfalz	Hessen	Unknown
<i>Hünxe</i>	590 591 592	593	588	
<i>Trabant-Trarbach</i>	595 597 602 599 (mould)	596 598 600 603 605		604 606
<i>unlooped</i>				608

Table 4. Number of socketed axes of *Form Wesseling* in Middle West Germany, as listed by Kibbert, 1984.

Hünxe and *Wesseling-Traben-Trarbach* (Table 4). The former contain generally shorter specimens with more strongly curved outline (his Nos 588–593), the latter with longer, less strongly side-curved specimens (his Nos 595–606, unlooped 607–608; *nahestehend* 609–614). With both groups he associates a few similarly formed specimens ornamented with the rib-and-pellet pattern on the faces (*Var. Hünxe*: his No. 581–6; *Var. Traben-Trarbach nahestehend*: his No. 615–616).

On considering the plain Wesseling axes (thus omitting the here irrelevant ‘pendulum/rib-and-pellet’-ornamented specimens) on both sides of the border, the distinction between the (plain) Wesseling-*Hünxe* and the (plain) Wesseling-*Var. Traben-Trarbach* axes seems somewhat arbitrary; there is no clear distinct boundary line either in size or in form between the two groupings.

The unornamented examples of Kibbert’s *Var. Hünxe* (Ki 588 to 593); plus Ki 595, 596, 598 (which, for whatever reason, he assigns to the *Variante Traben-Trarbach*) appear as a reasonably homogeneous group. The same can not be said of the pendulum-decorated examples; some (Ki 584, 585) may well be British. The *Traben-Trarbach* group also suffers from inhomogeneity; Ki 609 to 613 are surely Plainseu axes, and the three decorated examples (Ki 614 with pellets on the face, Ki 614 and 615 with rib-and-pellet) also belong to a separate group (see section 8.3.5a).

9.1. Definitions:

The principal features of the ‘basic Wesseling’ group are the bulging, rather tyre-shaped collar, abbreviated (); the absence of neck ribs; the small-sized side loop, characteristically springing from the base of the collar or just below it. The typical Wesseling loop is generally stringy, or sometimes with) (outline, never rib-

bon-like (as with Plainseu axes and some other West European types), and never large and angular (as with North Netherlands and related socketed axes).

A peculiar feature of the axes of the Wesseling family is the debasement of the side-loop. Most specimens have a loop that is so small and thin, with so small a perforation, that it could hardly have taken a cord or thong strong enough to bind the axe-head to a haft which would be needed for heavy-duty work. Among these are several specimens on which the ‘perforations’ are not actually perforated, but retain a thin casting web. There are also examples where the loop is represented only by stumps, and thus was miscast or has been broken off. Finally, there are a number that have never had a loop at all. The body outline is biconcave, which we abbreviate with the) (symbol. *Function*: The socketed axes of Wesseling type (basic and related) are an unpretentious group of unornamented axes of small to medium size. Presumably they were intended as every-day tools for light work, and not as prestige, display or ritual objects. But most examples have features which are decidedly unfunctional for tools; especially the diminished, incomplete or absent side loop, preventing a serviceable binding to a haft.

It is also paradoxical that a Wesseling-related axe (ritually broken?) was found in apparent association with a Hallstatt C situla and wagon burial on a hill overlooking the Rhine at Rhenen (Cat.No. 749); and that another Wesseling-related axe was associated with a complex stone structure of ritual character at Nijmegen (Cat.No. 768).

Distribution of basic Wesseling axes: In the Netherlands socketed axes that we group under the ‘basic Wesseling’ heading are known chiefly in Limburg and Noord-Brabant, along or not far from the river Maas;

the river apparently facilitated their distribution. A second stream, of 'related' Wesseling type, followed the rivers Rhine and Waal westward and the river IJssel northward, ending in Southeast Groningen.

The Maas trajectory partly parallels the markedly Rhenish distribution of the German specimens, with a roughly equal number of known specimens. The few examples 'with somewhat larger loop' suggest a mini-group along the river Waal at or near Nijmegen, while the few loopless examples suggest a mini-group along the Maas in Limburg and Noord-Brabant. The possible currency of 'basic Wesseling' axes in Niedersachsen and parts of North Germany is at present not assessable; only a few related examples have been illustrated by Tackenberg (1971: *Karte 12, Liste 22, Taf. 16: 2ab, 5, 6*); more may or may not be hiding in his lists.

In England, a single example is known from Yattendon, Berkshire (Burgess, Coombs & Davies, 1972: fig. 17:41).

9.2. Catalogue of socketed axes of basic Wesseling type (Map 16, figs 94a–b) (AXT.wes.basic)

A 'basic Wesseling' group of 18 examples, consisting of axes similar to Kibbert's 'plain Wesseling' axes. Included are a few minor sub-groups with axes differing in one or more details from the 'basic' standard, *i.e.* a loopless variant of the basic Wesseling form and a few specimens with a somewhat larger loop than the usual basic Wesseling.

Two are unprovenanced or dealer-provenanced; two with approximate provenance; 12 of the socketed axes in the Netherlands that we group under this heading are looped; six are unlooped.

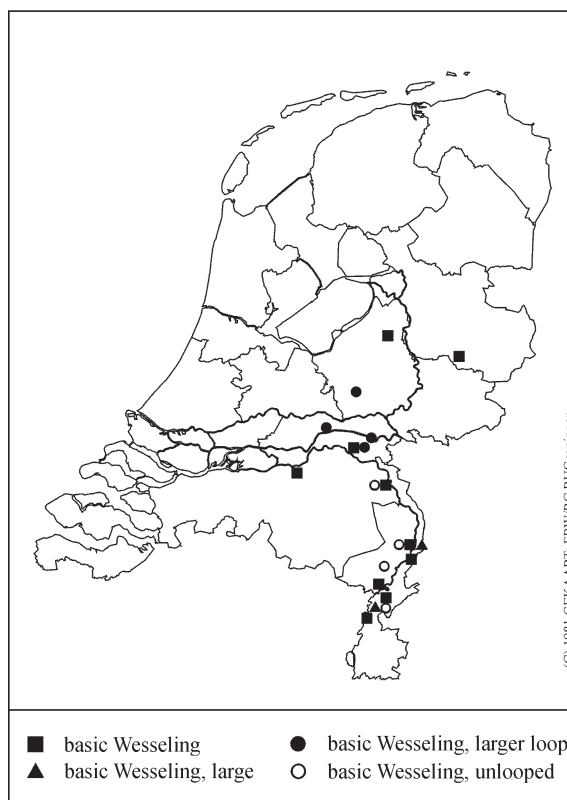
CAT.NO. 713. BATENBURG, *GEMEENTE WIJCHEN*, GELDERLAND. River Maas. (Dealer's provenance)

L. 10.4; w. 5.1 cm. Circular mouth opening (formula: 3.5×3.6 ; 2.7×2.65 cm). () collar, slightly below originates a small D-loop with hourglass outline ($1.5 \times 0.6/0.4/0.6$ cm). Body outline) (with gradually widening blade; section with slightly convex faces and sides. Two 'halves' noticeably unequal. Cutting edge sharp. Patina: mostly dark brown, orange in places. Dredge find from River Maas. Museum: RMO Leiden, Inv.No.e.1938/9.2; purchased from A. Sprik of Zaltbommel, together with Inv.No. e.1938/9.1 (our Cat. No. 317) and Inv.No. e.1938/9.3 (our Cat.No. 486). (DB 479)

Map reference: Sheet 89D, c. 170/426.

CAT.NO. 714. OBBICHT, *GEMEENTE OBBICHT EN PAPENHOVEN* (NOW *GEMEENTE BORN*), LIMBURG. (Dealer's provenance)

L. 9.7; w. 4.8 cm. Subrectangular socket opening. () collar; mouth formula: 3.9×3.3 ; 3.3×2.4 , from the base of which springs a



Map 16. Socketed axes of basic Type Wesseling in the Netherlands.

small D-loop (1.5×0.7 cm), not actually perforated. () body section. Casting seams present. Cutting edge sharp; blade tips slightly truncated. Patina: black; partly removed, showing dark bronze. Museum: RMO Leiden, Inv.No. 1.1950/2.1; purchased from Esser. (DB 527)

Map reference: Sheet 68B, c. 182/338.

CAT.NO. 715. SLEK, *GEMEENTE ECHT*, LIMBURG. Bolven.

L. 10.3; w. 4.4 cm. Oval mouth opening (formula: 3.8×3.5 ; 2.8×2.4 cm). () collar, with stumps of casting jets. Body outline) (; slightly convex faces and sides. Slightly below collar, small loop (2×0.5 cm), but not actually perforated. Cutting edge sharp. Prominent casting seams, slightly off-centre. Patina: glossy brownish green. Corroded in places. Loamy encrustation. Found 1940 by W. Heithuysen, "*bij het maken van een bietenkuil, links van het huis*" [in digging a beet storage pit, to the left of the house]. Private possession. (DB 1005)

Map reference: Sheet 60B, c. 191.4/343.3.

CAT.NO. 716. 'FROM RHINE OR WAAL'. NO EXACT PROVENANCE.

L. 9.8; w. 4.5 cm. Oval mouth opening (formula: 4.3×4.2 ; 3.3×3.05 cm). () collar, from the base of which springs a band D-loop with) (outline (2.2×0.55 cm). Body outline) (; faces and sides slightly convex. Cutting edge sharp. Patina: dark brown; on the face here

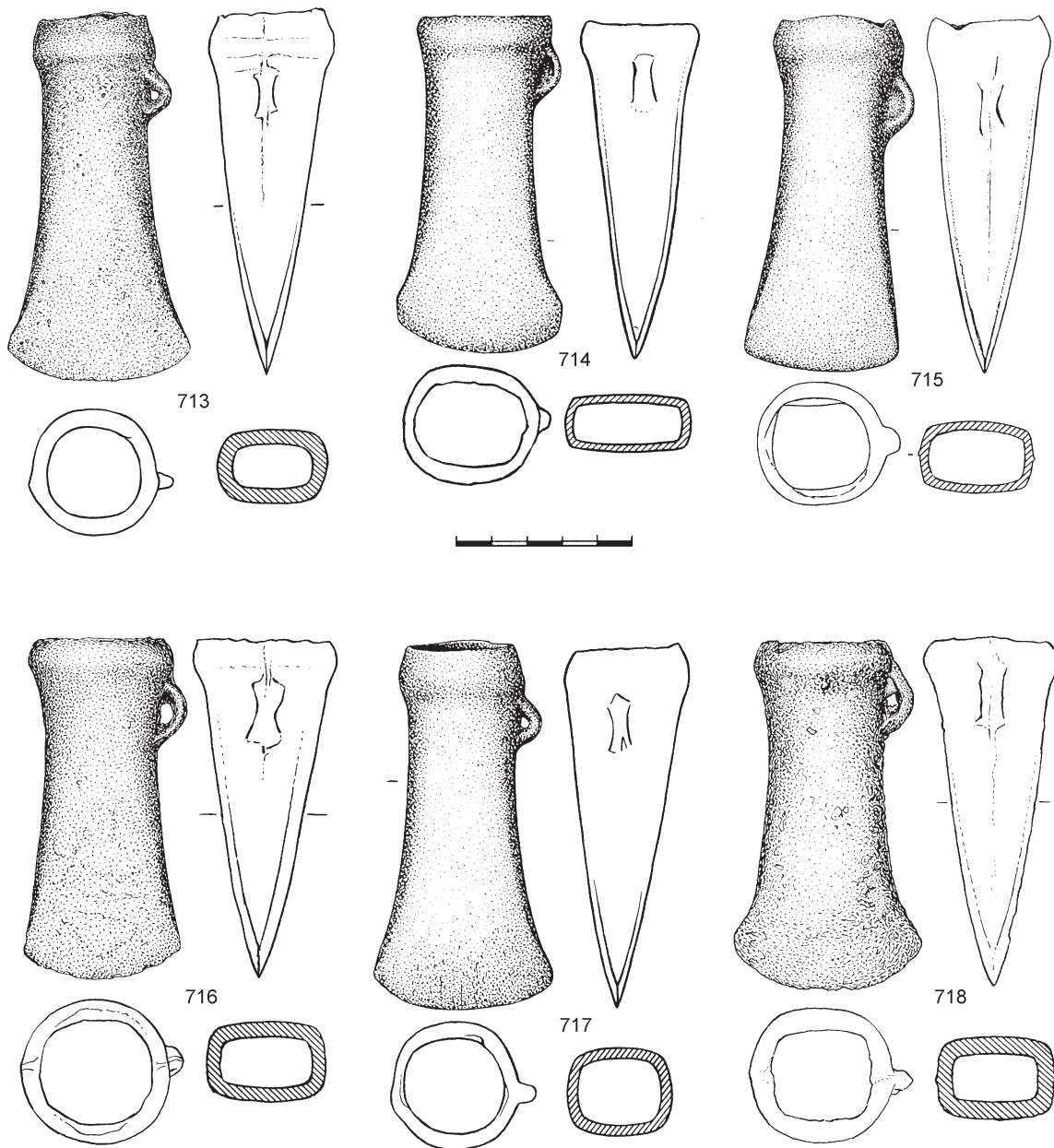


Fig. 94a. Socketed axes of basic Wesseling type. 713: Batenburg, Ge; 714: Obbicht, Li; 715: Sleik, Li; 716: 'Rhine or Waal'; 717: Niersen, Ge; 718: Beegden, Li. See also fig. 94b.

illustrated, with patches of light green; on the other side and around the loop, ochreous patches. Collection: BAI Groningen, Inv.No. 1938/IV.2, ex coll. Blijdenstein, purchased 1938 via dealer Esser; no further information available. (DB 1092)

CAT.NO. 717. NIERSEN, *GEMEENTE EPE*, GELDERLAND.
L. 10.5; w. 5.1 cm. Circular socket mouth (formula: 3.6×3.6 ; 2.8×2.7 cm). () collar, from which springs a small D-loop ($1.6 \times 0.6/0.4$ cm). Body outline) (; subrectangular section, with faces and sides

slightly convex. Cutting edge sharp. From urnfield? Museum: RMO Leiden, Inv.No. e 1908/1.4. (DB 1644)

Map reference: Sheet 27C, c. 189/477.

CAT.NO. 718. BEEGDEN, *GEMEENTE HEEL*, LIMBURG.
Lateraalkanaal.

L. 10; w. 5.3 cm. Rounded-rectangular mouth opening (formula: 4.1×3.9 ; 2.9×2.6 cm). () collar, from lower part of which springs small D-loop (2.3×0.6 cm). Body outline) (, faces and sides

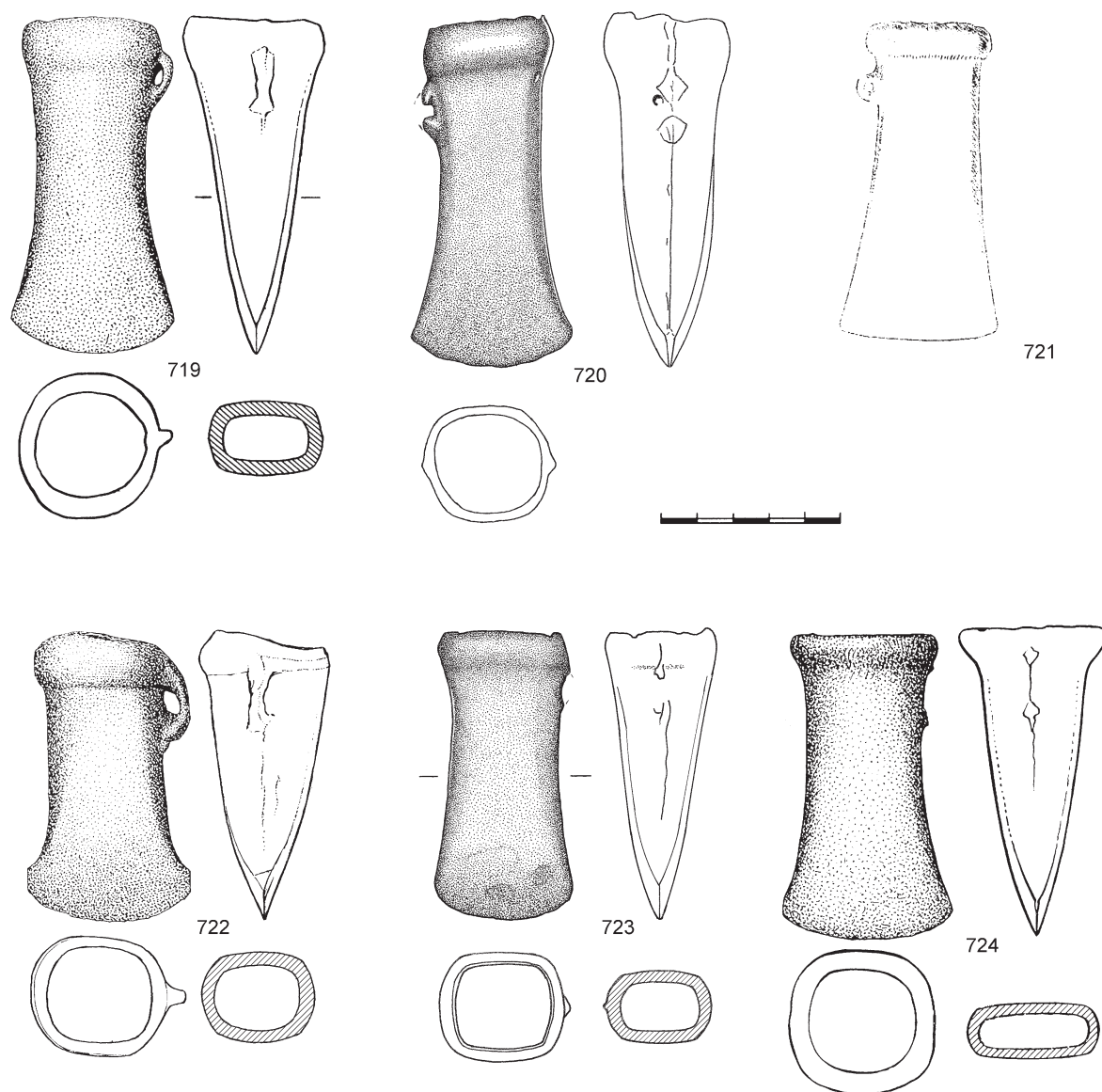


Fig. 94b. Socketed axes of basic Wesseling type. 719: Blerick, Li; 720: Deuteren, N-B (drawing HS, after pencil drawing by J. Boogert of the IPL, kindly made available by D. Fontijn); 721: Boxmeer, N-B (drawing: anonymous); 722: Hericke, Ov; 723: Geloo, Li (drawing HS); 724: "North Limburg". See also fig. 94a.

slightly convex. Sharp J cutting edge. Patina: light green, encrusted with sand and gravel. Surface corroded. Edge resharpened recently. Museum: Venlo, Inv.No. 11385, on loan from coll. Mulder, Roermond. (DB 1781)

Map reference: Sheet 58D, c. 192/355.

CAT.NO. 719. BLERICK, *GEMEENTE* VENLO, LIMBURG.

L. 9.6; w. 4.7 cm. Oval mouth opening (formula: 3.9×4.15 ; 3.15×3.05 cm). () collar, from the base of which springs a small loop (1.6×0.6 cm). Body outline (); nearly flat faces, convex sides. Cutting edge sharp. Patina: partly dark bronze, partly light sandy.

Surface pitted. Dredge find from the Maas, on the north side of the city. Museum: Venlo, Limburgs Museum, Inv.No. 3845. (DB 711)

Map reference: Sheet 52G, 209.25/376.25.

Reference: Wielockx, 1986: Cat.No. Hu.5.

CAT.NO. 720. DEUTEREN, *GEMEENTE* 'S-HERTOGEN-BOSCH, NOORD-BRABANT.

L. 9.9; w. 4.5 cm. Subrectangular mouth (formula: 3.7×3.5 ; 3.0×2.75 cm). () collar, from the base of which springs a small D-loop, 2.0 cm; broken out). Body outline (); in section faces flattish, sides (). Casting seams prominent. Cutting edge blunted. Patina:

green. A small perforation (casting defect) on each side. Found before 1963 (in that year a pencil drawing of it was made by an IPL-Leiden draftsman, J. Boogerd). The then possessor had it from a friend; she understood that it had been found by his father during the building of a house in Deutenen. His sister believes that her father had acquired it from one Van Leeuwen of Deutenen, a friend who collected antiquities (verbal communication, 1999). The axe was stolen during a house removal and is now missing. Not seen by present authors; the drawing is based on the pencil drawing of J. Boogerd. (DB 2445)

Map reference: Sheet 45C, c. 146.95/410.76.

Documentation: Diary of J. Boogerd (in IPL, Leiden), cited in letter David Fontijn to Butler, 3 Febr. 1999.

CAT.NO. 721. BOXMEER, *GEMEENTE* BOXMEER, NOORD-BRABANT.

L. 9.0; w. 4.4 cm. () collar. Very small low loop (0.8 cm). Body outline) (, expanding gently and gradually toward cutting edge. Found 1951 by J. Jansen in the Boxmeerse Broek, along the provincial road to St. Anthonis [*gevonden in 1951 door J. Jansen in het Boxmeerse Broek, aan de provinciale weg naar St. Anthonis*]. Present locus unknown, details are from the anonymous drawing and ROB documentation. (DB 2202)

Documentation: *Berichten van de ROB*, 1951: No. 3; *Heerenveense Courier* newspaper, 2 April 1951.

Map reference: Sheet 46D, c. 194/406.

CAT.NO. 722. HERICKE, *GEMEENTE* MARKELO, OVER-IJSSEL.

L. 7.8; w. 4.6. Subrectangular mouth opening (mouth formula: 3.9×3.5 ; 2.8×2.7 cm). Prominent () collar (less pronounced on other side), from which springs small D-loop (1.9×0.7 cm). Body with () section, parallel sides, expanding at cutting edge, but with the blade tips slightly truncated. Casting seams prominent, eccentric. Cutting edge sharp. Museum: RMO Leiden, Inv.No. d 1942/12.8. (DB 1855)

Map reference: Sheet 34B, c. 233/474.

CAT.NO. 723. GELOO, *GEMEENTE* BELFELD, LIMBURG. Bakerbosch.

L. 8.1; w. 3.85 cm. Subrectangular mouth opening (formula: 3.5×3.1 ; 2.7×2.4 cm). () collar, from the base of which sprang a small D-loop (length c. 1 cm; broken off and missing). Body outline slightly) (; faces and sides convex. Patina: dark brown, corroded. Found 1971 by W. Geraats in the Bakerbosch. Private possession. (DB 845)

Map reference: Sheet 58E, 207.85/370.08.

References: Luys, 1981: p. 91 with photo; Willems, 1983: pp. 211; Wielockx, 1986: Cat.No. Hu.1.

CAT.NO. 724. 'NORTH LIMBURG'. EXACT PROVENANCE UNKNOWN.

L. 8.5; w. 4.8 cm. Oval, somewhat subrectangular mouth opening.

Widely (), somewhat inverted-conical mouth moulding (formula: 4.1×4.2 ; 3.0×2.9 cm), from the base of which depended a small loop now broken away (length c. 2 cm), stumps surviving. Body outline) (; in section, faces and sides slightly convex. Cutting edge sharp. Patina: blue-green. Museum: RMO Leiden, Inv.No. 1 12/12.1; purchased from Kuypers Coenen of Meerlo-Tienray. (DB 386)

9.2.1. *Basic Wesseling, larger specimens* (2 ex., fig. 95)

CAT.NO. 725. VENLO, *GEMEENTE* VENLO. LIMBURG. River Maas.

L. 12.2; w. 4.9. Circular mouth opening (formula: 4.2×4.1 ; 3.5×3.5 cm). () collar a bit below it a D-loop (2.7×0.5 cm). Body outline) (, flattish faces, convex sides. Cutting edge sharp. The drawing is of a plaster cast in Museum Brussels, Inv.No. B. 010. The original axe was purchased 1903 by Mr. Coliez of Longwy (13 Feb. 1903), ex coll. Melgers, via sale Antwerp 1891; its present locus is unknown. (DB 1880)

Map reference: Sheet 52G, c. 209/375.

Reference: De Loë, 1931: p. 42.

Parallels: Cat.No. 726, a large specimen with rather trapeze-shaped blade, was probably found together with two other socketed axes (thus a presumed three-axe hoard) at Susteren 'het Eilandje', Limburg, along the modern border with Germany.

This axe is similar to the larger Type Wesseling specimens of Kibbert, his Nos 604–606; Ki 605 is from the Rhine near Bacharach, Nordrhein-Westfalen (Kibbert places a question mark after 'bei'); Ki 604 and 606 are without provenance.

CAT.NO. 726. SUSTEREN HEIDE, *GEMEENTE* SUSTEREN, LIMBURG. 'Het Eilandje'. From probable hoard consisting of three socketed axes.

L. 11.3; w. 4.8 cm. Oval mouth opening (formula: 3.6×3.8 ; 2.8×2.7 cm). (), somewhat biconical collar with wavy edge, from the base of which springs very small side-loop ($1.7 \times 0.4/0.2/0.4$ cm). Body outline) (, the lower part expanding to trapeze shape. Slightly convex faces and sides. Cutting edge sharp. Surface rough. Patina: dark bronze colour with light green in the low places. Found south of (Germany/Netherlands) boundary pole 112 (probably, according to recent information, actually marker 312) along the border with Germany, on the Susteren Heath, at a place called 'Het Eilandje', with two other socketed axes. Museum: Sittard, Inv.No. 301. (DB 1135)

Associations: Cat.No. 484, *Niedermaas* socketed axe with 'wings' (Butler & Steegstra 2002/3, pp. 273–274) and Cat.No. 738 (socketed axe, Wesseling related).

Map reference: Sheet 60B, c. 192/342.

Documentation: *Maasbode* Sept. 1, 1937 (clipping in old archive RMO, Leiden); section Susteren-Susterderbroek in unpublished *scriptie* Leon van Hoof; e-mail Leon van Hoof to authors Nov. 22, 2001.

Reference: Butler & Steegstra, 2001/2002: pp. 273–274 (with further references).

9.2.2. Basic Wesseling, but with somewhat larger loop (4 examples, fig. 96)

All examples are from Gelderland.

CAT.NO. 727. NIJMEGEN (NEAR), *GEMEENTE NIJMEGEN*, GELDERLAND.

L. 9.8; w. 5.2 cm. Oval socket mouth (formula: 3.8×3.5 ; 3.5×2.9 cm). () collar; from the base of which springs a moderately large but thin D-loop (2.5×0.2 cm). Body outline) (; faces and sides slightly convex. Cutting edge sharpened but battered. Hole on side. Patina: mottled dark brownish; surface rough. Found 1874. Museum: Het Valkhof, Nijmegen, Inv.No. AC 15 (old No. E.III. No.9) (DB 1484)

Map reference: Sheet 40C, c. 186/427.

CAT.NO. 728. HUNERBERG, *GEMEENTE NIJMEGEN*, GELDERLAND.

L. 10.3; w. 4.7 cm. Subrectangular mouth opening (formula: 4.0×3.7 ; 3.0×2.6 cm). () collar, from the base of which springs small D-loop. Body outline) (; faces and sides slightly convex; prominent casting seams. Cutting edge sharp (recently filed). Loam encrustation inside. Patina: partly light green, partly dark bronze (partly mechanically cleaned). Museum: Het Valkhof, Nijmegen, Inv.No. AC 18 (old No. E.III.No.11). (DB 1487)

Map reference: Sheet 40C, c. 189/428.3

CAT.NO. 729. IJZENDOORN, *GEMEENTE ECHTELD*, GELDERLAND.

L. 10.1; w. 5.1 cm. Oval mouth opening (formula: 4.05×4 ; 3×2.8 cm). () collar, faintly faceted horizontally. Below it originates a D-loop 2.4×0.65 cm. Body outline) (. Faces and sides slightly convex. Cutting edge sharp. Body outline) (. Present locus unknown. (DB 2179)

Map reference: Sheet 39G, c. 165/435.

CAT.NO. 730. OTTERLOO, *GEMEENTE EDE*, GELDERLAND.

L. 9.5; w. 4.2 cm. Round socket-mouth (formula: 4.1×4 ; 3×2.9 cm). Biconical collar, from the base of which springs a moderately large D-loop (2.8×0.55 cm) Body with) (outline, in section with flattish faces, convex sides. Cutting edge sharp. Patina: blackish. Surface rough. Found in reclamation at 't Rieselo. Museum: RMO Leiden, Inv.No. e 1936/I.130, ex coll. H.J. Bellen. (DB 461)

Map reference: Sheet 33C, c. 183/456.5.

Parallels: We would group with our 'basic Wesseling' axes Kibbert's Nos 588, 591–593, with lengths of 9.5 to 11 cm, attributed to *Var. Hünxe*; three are from Nordrhein-Westfalen, one each from Rheinland-Pfalz and Hessen.

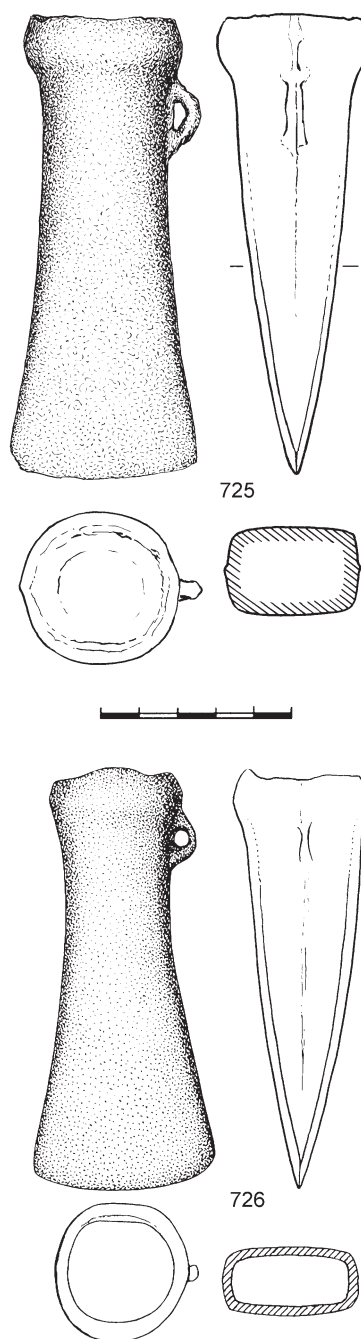
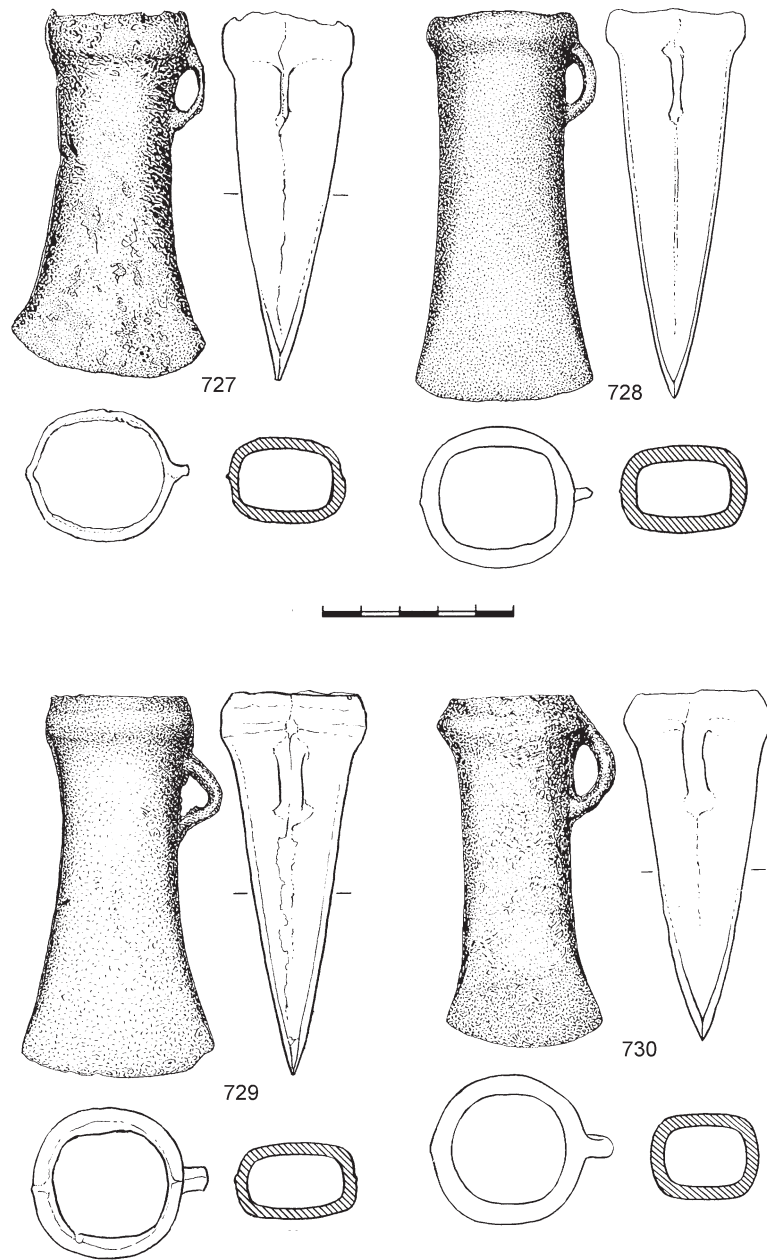


Fig. 95. Socketed axes of basic Wesseling type, larger specimens. 725: Venlo, Li; 726: Susteren Heide, Li (from presumed hoard, see fig. 93E).

Ki 595–598, 600–606, with lengths of 8.7 to 13.5 cm, attributed to *Var. Traben-Trarbach*; plus the Erkrath mould, Ki 599; length *Ausguss* 10.7 cm. Three axes, plus the mould, are from Nordrhein-Westfalen, 6 from Rheinland-Pfalz; two unknown ('Rheinessen?').



96. Socketed axes of basic Wesseling type, with somewhat larger loop. 727: near Nijmegen, Ge; 728: Hunerberg, Ge; 729: IJzendoorn, Ge; 730: Otterloo, Ge.

Ki 607–8, loopless; lengths 9.4 and 11.3 cm; one is from Nordrhein-Westfalen, one unknown.

9.2.3. *Basic Wesseling, but loopless* (6 examples, fig. 97a–b) (AXTU.wes.basic)

The six specimens of this group in the Netherlands are very similar to one another (though varying in size),

and may well have a common origin. Five at least have been found in the south of the country (four from Netherlands Limburg, one from Noord-Brabant; one of the two German specimens, Ki 607 from Pesch, which is not far from Venlo).

Apart from the absent loop, these axes are generally similar in form to the axes of the ‘basic Wesseling’ group.

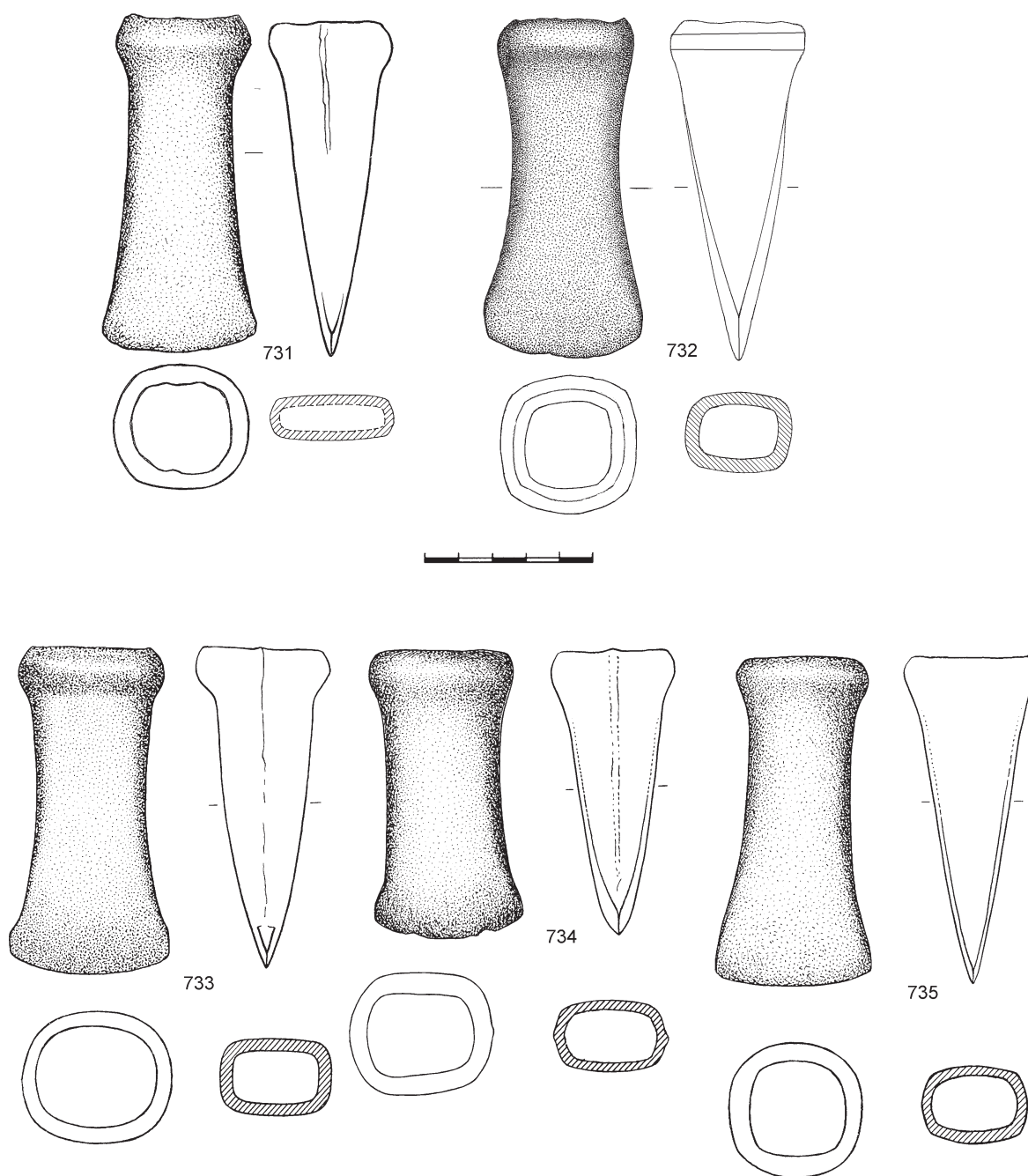


Fig. 97a. Socketed axes of basic Wesseling type, unlooped. 731: "Limburg"; 732: "Maas or Waal" (drawing HS); 733: Neer, Li; 734: Venlo, Li; 735: Montfort, Li. See also fig. 97b.

CAT.NO. 731. 'LIMBURG'. No exact provenance.

L. 10.1; w. 4.65 cm. Subrectangular mouth opening (mouth formula: 4.1×3.7 ; 2.9×2.5 cm). Biconical collar; subrectangular section; edge recently blunted. No loop. Patina: dull blackish, part dull green. Dark red inside. (Has odd *matte* surface, presumably with tin or lead). Museum: RMO Leiden, Inv.No. I 1913/4.2; purchased from Kuypers Coenen of Meerlo-Tienray. (DB 388)

CAT.NO. 732. 'RIVER MAAS OR WAAL', NO EXACT PROVENANCE (dealer's information).

L. 11.8; w. 5 cm. Subrectangular mouth opening. () collar (mouth formula: 4.6×4.2 ; 3.5×3.0 cm); body with) (outline, subrectangular section. Blade sharp. Fragment of wooden shaft inside. Patina: dark bronze. Museum: RMO Leiden, Inv.No. e 1944/10.3. Purchased from A. Sprik (Zaltbommel). Dredge find. (DB 501)

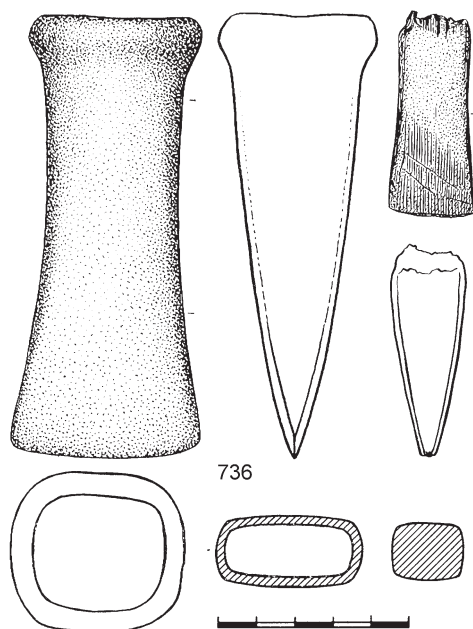


Fig. 97b. Socketed axes of basic Wesseling type, unlooped. 736: gemeente Boxmeer, N-B. See also fig. 97a.

CAT.NO. 733. NEER, *GEMEENTE NEER* (NOW *GEMEENTE ROGGELEN NEER*), LIMBURG.

L. 10; w. 4.8 cm. Oval mouth opening (formula: 4.5×4 ; 3.65×3.15 cm). () collar. Body outline (), but with S blade tips. Body section: faces and sides slightly convex. Cutting edge sharp. Casting seams visible. Patina: dark bronze, with a few small greenish patches; very fresh looking! Perfect state of preservation, except for very fine pits on face. Found in field while building a glasshouse. Private possession. (DB 1700)

Map reference: 58B, c. 197/363.

CAT.NO. 734. VENLO, *GEMEENTE VENLO*, LIMBURG. Uilingshofweg.

L. 8.6; w. 4.6. Rectangular socket mouth moulding (formula: 4.3×3.6 ; 3.3×2.55 cm). () collar, traces of four casting jets. Body outline (), but blade tips slightly hammered into ogival form. Body section (). Prominent casting seams; on one side partially hammered down, on the other side quite bold. Cutting edge anciently somewhat battered; two nicks in edge. Patina: glossy green. Very well preserved, but some ancient scratches on faces. Depth socket: 7.2 cm, U bottom. Found 1954 by agricultural labourers at the former sanatorium [*landarbeiders van het voormalig sanatorium*] Maria Auxiliatrix, at the Uilingshofweg, close to the Trappist Abbey. Private possession. (DB 714)

Map reference: Sheet 58F, c. 210.2/372.3

Documentation: letter Hendriks to Bocxe 5 May 1967 ("found

near/gevonden bij de Uilingshof") and letter Bocxe to Butler 5 Febr. 2001.

CAT.NO. 735. BETWEEN MONTFORT/ST.JOOST, *GEMEENTE ECHT*, LIMBURG. Echt-Klinkhei.

L. 9.9; w. 4.7 cm. Oval to subrectangular mouth opening (formula: 4.05×4.1 ; 2.9×2.9 cm). No loop. On drawing is written: Montfort II, '49, ZL. (We are indebted to Mr J. Smeets of the Roerstreekmuseum in St.-Odiliënberg for his efforts to trace the correct findspot). Present locus unknown. (DB 715)

Documentation: Letter J. Smeets, conservator museum St. Odiliënberg to authors, May 7 2001.

Map reference: Sheet 68E, c. 195.20/347.750.

CAT.NO. 736. (SURROUNDINGS OF) *GEMEENTE BOXMEER*, NOORD-BRABANT.

L. 10.1; w. 4.8 cm. Subrectangular mouth (formula: 4.05×4.05 ; 2.5×2.55 cm). Bulging collar. Body of () section; () outline. Found in sieving potatoes originating in the gemeente Boxmeer. Patina: partly blackish, partly light green; recently treated with glossy substance. Severely corroded. Private possession. (DB 2351)

Documentation: letter D. Reynen to Butler, October 1997.

Distribution: Of the half-dozen loopless Wesseling basic socketed axes in the Netherlands, three, plus possibly one (with province-only), are from Limburg, and one is from Noord-Brabant.

Parallels: Kibbert has only two loopless Wesseling axes: Ki 607 (Pesch, Kr. Grevenbroich, Nordrhein-Westfalen) (not far from middle Limburg; shorter, 9.4×4.6 cm) and Ki 608 ('*Südhessen(?)*, *vielleicht Moorfund aus Eschollbrücken*') (longer, 11.3×4.5 cm), both classified by him under *Form Wesseling*, *Var. Traben-Trarbach*.

Possibly related also is a loopless faceted axe with wide J tips from Leverkusen-Schlebusch ('Manfort', Rhein-Wupper Kr.) in Westfalen, Ki 784; a hoard assigned to Period VI.

9.3. Wesseling-related socketed axes (Map 17) (AXT: wes.rel)

Here we discuss a number of small '*Wesseling-related*' groups with axes generally similar to those of the basic Wesseling group, but with various deviant features. We here distinguish: a) axes with rectangular face panel; b) with trapeze face panel (looped and unlooped); c) with trapeze shaped blade; d) with arch facet on face, e) with a single neck rib; f) with 2 neck ribs and pendulum ribs.

9.3.1. *Wesseling- related socketed axes, with rectangular face panel* (fig. 98a–c) (AXT:wes. rel.| [panel])

Definitions: This sub-group consists of socketed axes of Wesseling form, but with more or less flat faces, separated from the sides by rather distinct ridges. These give, thus, the appearance of having rectangular or trapeze-shaped panels forming the faces.

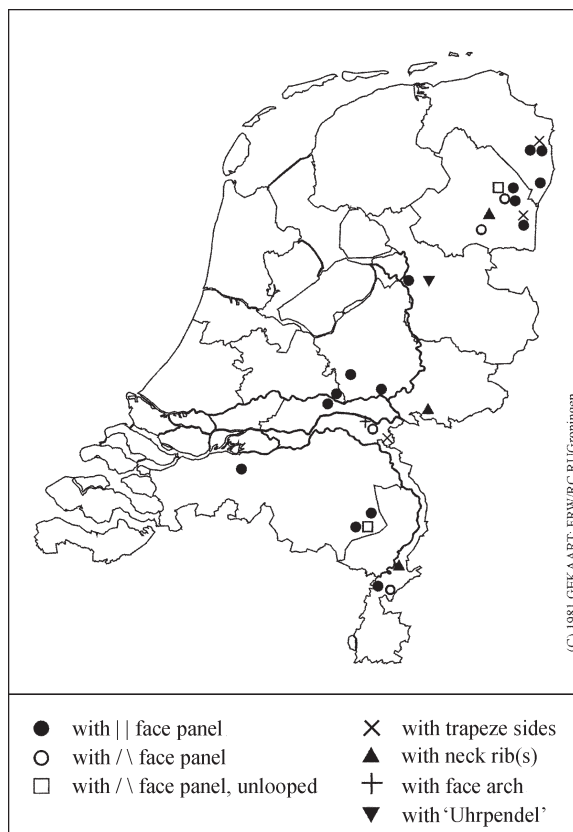
This seems to be the form that Tackenberg intended to single out under the heading ‘*Tüllenbeile mit seitlich abgesetzten Breitseiten*’. On Tackenberg’s maps (12–13), based on the South Scandinavian lists of Baudou and his own lists for North Germany, this group is very numerous. He subdivides them into those with loop and no neck ribs (his *Liste* 22), those with loop and one neck rib (*Liste* 23), those with loop and two neck ribs (his *Liste* 24), and those with neither loop nor neck ribs (his *Liste* 25). All these varieties are widely spread across Northwest Germany; *Liste* 22 has the largest number, the sub-groups have rather smaller numbers.

Tackenberg includes, at the head of his *Liste* 22, one entry from the Netherlands: the bronze half of a casting mould from Havelte, Drenthe. But strictly speaking, because the mould would clearly have produced an axe with one neck rib, it would actually be more appropriate to his *Liste* 23.

Tackenberg heads his *Liste* 23 by citing four examples from Drenthe and Gelderland in the Netherlands: Ter Wisch and Wachtum (both faceted axes, discussed in Part III:2C forthcoming) and Beek near Didam (Cat.No. 769); his *Liste* 24 begins with an example from Arnhem (Cat.No. 756).

Two of the axes on Tackenberg’s *Liste* 22 reappear in Kibbert under the heading *Form Wesseling*: specifically, the name-giving axe from Wesseling itself (Ta 22:4 = Ki 592), the other from Mayen (Ta 22:40 = Ki 593). The Havelte mould and the Ter Wisch and Wachtum specimens resurface in O’Connor’s List 227 under the heading of ‘linear-faceted’ axes, also an inappropriate designation, as there is no linear-faceting on the Havelte specimen.

A few examples with rectangular panel face are illustrated by Tackenberg: *i.e.* his Taf. 16:5 (*Liste* 22:6) from Emsburen, Kr. Lingen; Taf. 16:6 (*Liste* 22:15) from Osnabrück-Eversburg, with J tips, and Taf. 16:2ab from Helmstedt (*Liste* 22:33; short, widely expanded blade with form like the Yattendon specimen; best reference: Burgess, Coombs & Davies, 1972: fig. 17:41).



Map 17. Socketed axes, Type Wesseling related in the Netherlands.

CAT.NO. 737. SOMEREN, *GEMEENTE SOMEREN*, NOORD-BRABANT. Punderman.

L. 10.5; w. 4.5 cm; Weight 300 gr (on kitchen scale). Subrectangular socket mouth (formula: 3.85×3.9 ; 3.1×3.0 cm). () collar, from base of which springs small D-loop (2.2×0.7 cm). Body with) (outline, subrectangular section. Cutting edge sharp, with slight pouches. Casting seams removed. Found end 1997 or beginning 1998 by present owner, with metal detector, at depth of 60 cm, in boggy meadow in the valley of the Aa. Patina: dark brown; porous surface. Diagonal spade scratch on one face. Private possession. (DB 2426) *Documentation*: Letter F. Kortlang to David Fontijn, 6 Aug. 1998, with sketch (copy supplied by Fontijn to present writers).

Map reference: Sheet 51H, c. 179.675/376.600.

CAT.NO. 738. SUSTEREN HEIDE, *GEMEENTE SUSTEREN*, LIMBURG. ‘Het Eilandje’ (from probable hoard of three socketed axes).

L. 9.5; w. 4.6 cm. Weight 233 gr. Circular mouth becoming subrectangular inside (mouth formula 3.8×3.75 ; 3×2.6 cm). () collar, with stumps of four casting jets; from the base of which springs small D-loop ($2.0 \times 0.5/0.6$ cm). Body outline) (; body section subrectangular with slightly convex faces and sides. Casting seams present, but

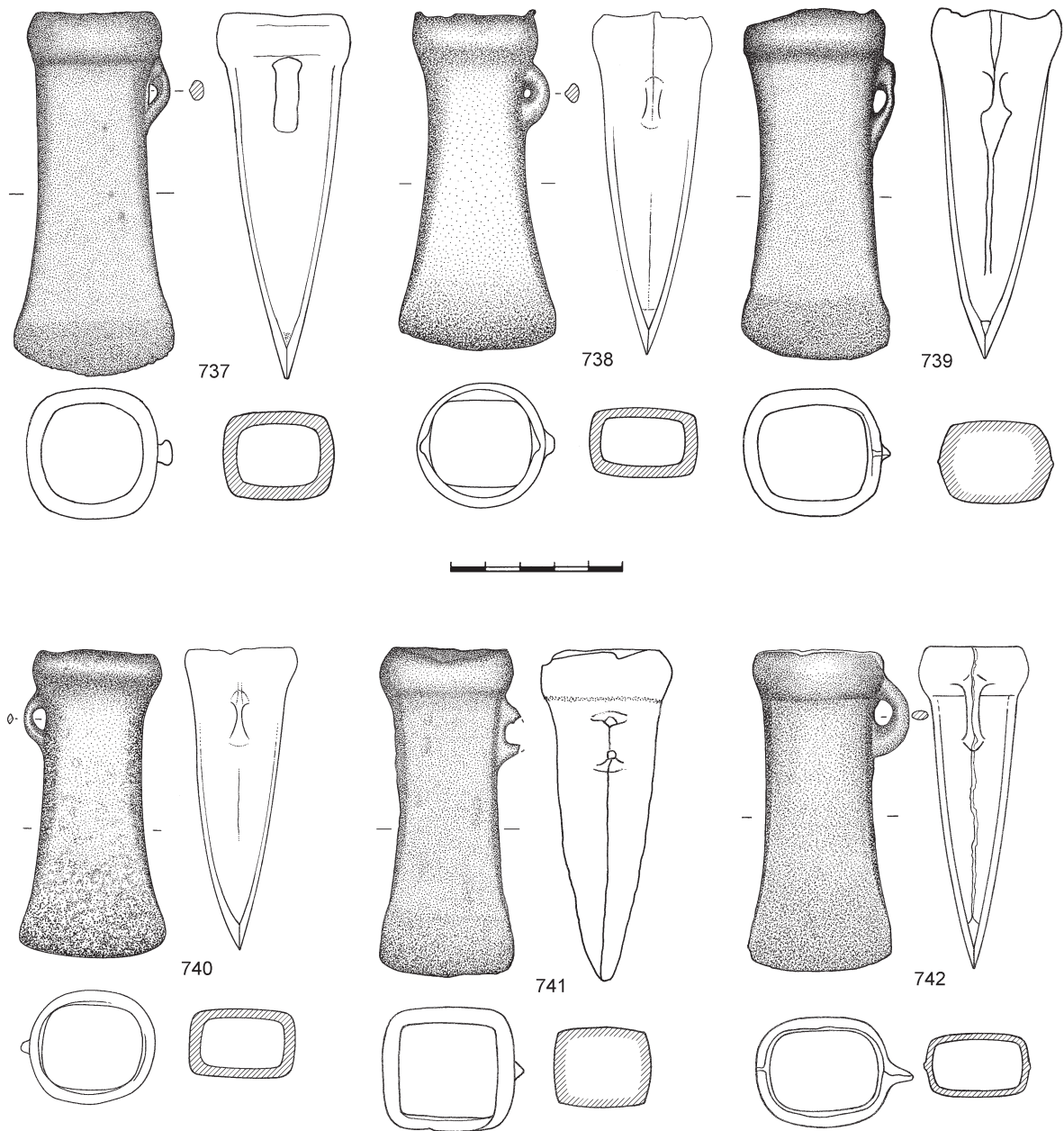


Fig. 98a. Wesseling-related socketed axes, with rectangular face panel. 737: Someren, N-B; 738: Susteren Heide Li (from presumed hoard, see fig. 93E); 739: Den Hout, N-B; 740: Deurne, N-B; 741: Kernhem estate, Ge; 742: no provenance. See also figs 98b–c (739, 741, 743: drawing HS).

removed low down on sides. Cutting edge sharpened, but some ancient blunting, some modern re-sharpening. Patina: black, partially removed, showing bright bronze; some greenish tinge on blade. Found on the Susteren Heide, south of Boundary Post 112 (probably, according to recent information, actually marker 312) along the border with Germany, on the Susteren Heath, at a place called 'Het Eilandje'. Museum: Stein, Inv.No. IIB9 (formerly Museum Sittard,

Inv.No. 302). Part of presumed three-axe hoard. (DB 1136)
Associations: Cat.No. 484 (a *Niedermaas* socketed axe with 'wings' (Butler & Steegstra, 2001/2002: pp. 273–4) and Cat.No. 738.
Documentation: *Maasbode* Sept 1, 1937 (clipping in old archive RMO, Leiden); section Susteren-Susterderbroek in unpublished *scriptie* Leon van Hoof; e-mail Leon van Hoof to authors Nov. 22, 2001.

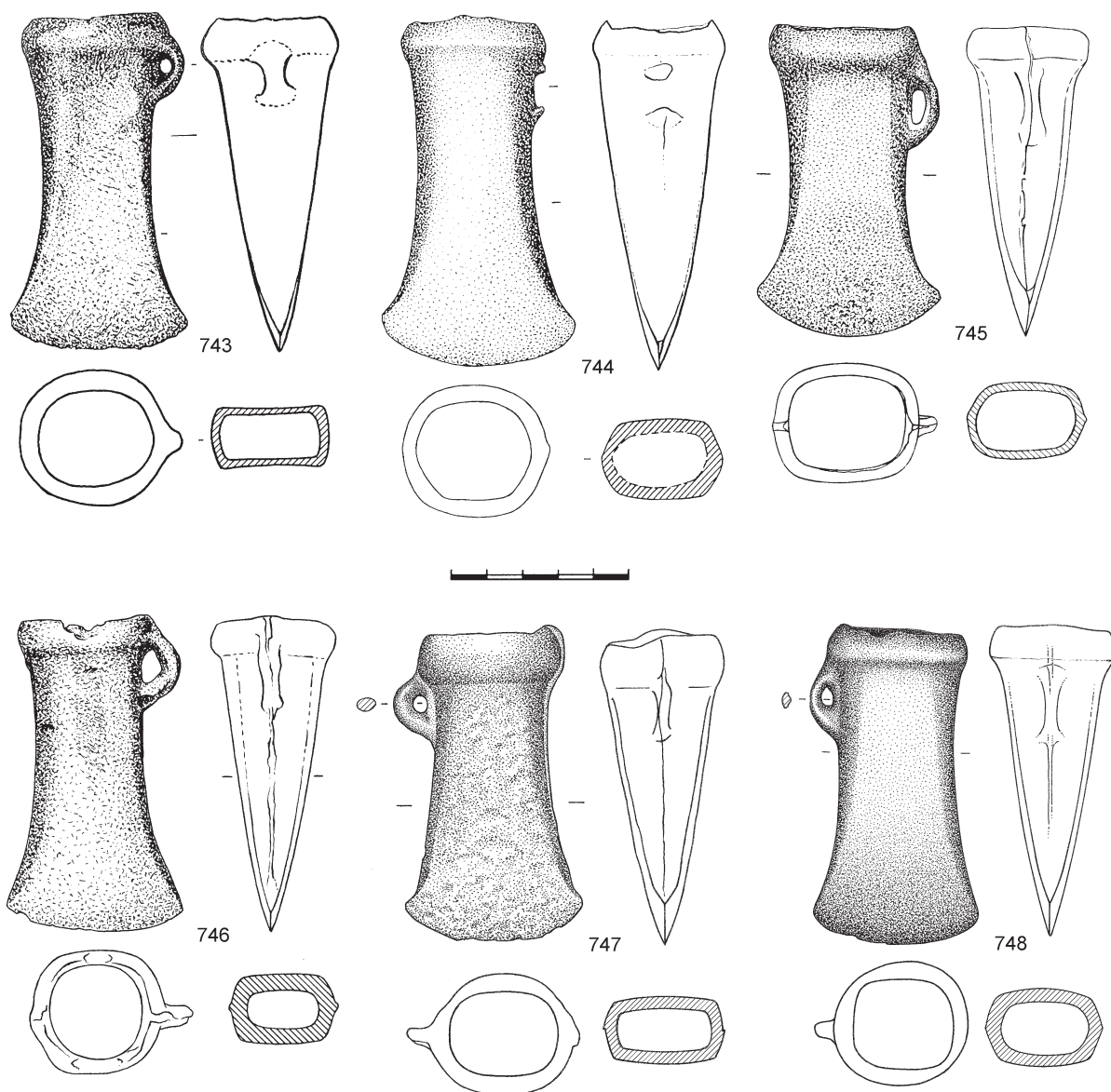


Fig. 98b. Wesseling-related socketed axes, with rectangular face panel. 743: Klijndijk, Dr; 744: *gemeente* Emmen, Dr; 745: 'Westerwolde or East-Drenthe'; 746: Sellingen, Gr; 747: Zwolle, Ov; 748: Vriescheloo, Gr. See also figs 98a,c.

Map reference: Sheet 60B, c. 192/342.

Reference: Butler & Steegstra, 2001/2002: pp. 273–274 (with further references).

CAT.NO. 739. DEN HOUT, GEMEENTE OOSTERHOUT, NOORD-BRABANT. Hespelaar.

L. 10.35; w. 4.3 cm. Subrectangular mouth opening (formula: 4.1×3.8 ; 3.0×2.7 cm). Collar (); longish flattened-D hourglass loop (2.9 cm) of unusual shape. Body with subrectangular section, () outline. Casting seams prominent except toward cutting edge. Patina: black. Surface rough, but cutting edge facets are fairly smooth. Cutting edge sharp; the points of the cutting edge have

been hammered down. Found by the owner September 2000 with metal detector, c. 15 cm below surface in Hespelaar in ground that had been somewhat heaped up with ground from a neighbouring area. Private possession. (DB 2516)

Map reference: Sheet 44D, c. 114.85/408.8.

Note: This is the western-most findspot of a Wesseling (related) axe in the Netherlands.

CAT.NO. 740. DEURNE, GEMEENTE DEURNE, NOORD-BRABANT. Walsburg.

L. 9.0; w. 4.2 cm. Weight 142 gr. Oval socket mouth (formula: 3.7×3.3 ; 3.0×2.5 cm). () collar, from base of which springs small,

thin D-loop with) (outline (1.6×0.3/0.7 cm). Body with) (outline; faces flattish to slightly convex; sides slightly convex. Casting seams partially present. Cutting edge sharp. Patina black, but light green in a few protected places such as under the loop; surface very rough. Recent file marks on faces, sides, rim. Greenish inside socket. Small blow-hole on non-looped side. Traces of wood grain inside socket mouth. Found c. 1975 by T. van der Heiden during digging of a ditch around a sport park. Private possession. (DB 978)

Map reference: Sheet 52C, 183.53/387.39.

Reference: Verwers, 1986: p. 29, afb. 21.

CAT.NO. 741. KERNHEM ESTATE, *GEMEENTE EDE*, GELDERLAND.

L. 9.7; w. 3.9 cm. Rectangular mouth opening (formula: 3.85×3.65; 2.9×2.7 cm). () collar, low small loop (1.85 cm), broken in antiquity; heavily corroded. Casting seams present. Patina: dark green, where damaged: bronze colour; preserved with paraffin-wax. An oak shaft is present in the lower part of the socket. Found 1999 with metal detector by owner. (DB 2488)

Map reference: Sheet 32H, 172.200/451.800.

Documentation: *De Detector Amateur* 49, p. 16, No. 48.

CAT.NO. 742. PROVENANCE UNKNOWN.

L. 9.5; w. 4.3 cm. Weight: 172.3 gr. Subrectangular mouth opening (formula 4.0×3.3; 2.9×2.45 cm). () collar, partly with slight raised rim. D-loop (2.4×0.4 cm) with () section. Body outline) (, but cutting-edge tips have been slightly hammer-flattened. Body cross-section: subrectangular, with slightly convex faces and sides. Casting seams prominent. Cutting edge sharp. Patina: dark bronze; traces of light green in surface pits and inside socket. Museum: Het Valkhof, Nijmegen, Inv.No. GAS 34, ex coll. Oosting (on loan in *Kijk en Luister Museum*, Bennekom). (DB 19)

CAT.NO. 743. KLIJNDIJK, *GEMEENTE ODOORN*, DRENTHE.

L. 9.8; w. 5.0 cm. Oval mouth opening (formula: 4.2×3.9; 3.3×2.8 cm). () collar, from the base of which springs a small D-loop of hour-glass shape (1.9×1.3/0.6 cm). Slightly concave faces, rounded sides. Patina: originally dark brown; most of it removed mechanically, leaving scratched green surface. Found by a farmer in “*een walletje aan de zijtak van het Oranjekanaal westelijk van de weg Odoorn-Emmen*” [in an earthen bank along the side arm of the Oranje canal west of the road Odoorn-Emmen]. Museum: Assen, Inv.No. 1920/VII.3; purchased from finder. (DB 117)

Map reference: Sheet 17F, 253.54/539.5.

References: *Verslag*, 1920: p. 14, No. 61 (erroneously there listed as a stone battle axe); Essink & Hielkema, 1997–1998: p. 293, No. 102.

CAT.NO. 744. *GEMEENTE EMMEN*, DRENTHE (no exact provenance).

L. 9.9; w. 5.4 cm. Oval mouth opening. Bulging, rather biconical collar (formula: 4.2×3.7; 3.3×2.8 cm), from the base of which springs small loop (1.8 cm), broken out, with only stumps surviv-

ing. Outline) (, with strongly everted blade tips. Blade section: faces very slightly convex., sides rounded-<>. Cutting edge sharp. Museum: Assen, Inv.No. 1962/II.187. (DB 1013)

Reference: Essink & Hielkema, 1997–1998: p. 289, No. 61.

CAT.NO. 745. ‘WESTERWOLDE OR EAST-DRENTHE’.

L. 8.9; w. 5.1 cm. Oval mouth opening (formula: 4.25×3.5; 3.3×2.75 cm). () collar, from the base of which springs a D-loop of hourglass outline (2.3×0.8/0.4/0.8 cm). Body outline) (, Convex faces and sides. J cutting edge, sharp. Patina: mostly dark brown, with black patches, some light green; reddish-brown cast. Slightly corroded. Found 1979 between the potatoes at the Coöp. Aardappelfabriek De Toekomst-Twee Provinciën, Stadskanaal. Museum: Groningen, Inv.No. 1980/IV.2, purchased from finder. (DB 1917)

Reference: Essink & Hielkema, 1997–1998: p. 300, No. 177.

CAT.NO. 746. SELLINGEN, *GEMEENTE VLAGTWEDDE*, GRONINGEN. Zuidveld.

L. 8.9; w. 4.95 cm. Oval mouth (formula: 3.85×3.55; 2.6×2.7 cm). Biconical collar, with irregular upper edge; larger D-loop. Body outline strongly) (, faces weakly convex., prominent casting seams. Runners have been broken away so as to leave depressions front and back. Casting seam notably skew, on side away from loop, loop side less so. Patina: has been cleaned; now bright bronze, in pits light green. Surface corrosion pitted; some large pits probably casting defects (esp. on rim). Found 1956–1958 behind the farm while harvesting potatoes. Private possession. (DB 1931)

Map reference: Sheet 18A, 273.580/549.940.

Documentation: Groenendijk, *dossier Vlagtwedde* No. 16.

References: Essink & Hielkema, 1997–1998: p. 300, No. 171.

CAT.NO. 747. ZWOLLE, *GEMEENTE ZWOLLE*, OVERIJSEL. Marslanden.

L. 9.0; w. 5.0 cm; Weight 180 gr. Oval mouth, very irregular; subrectangular socket (formula: 4.1×3.5; 3.0×2.5 cm). () collar, from the base of which springs small D-loop (2.1×0.5 cm). Body outline) (, section (). Casting seams prominent, emphasized by inexact matching of mould halves. Patina: black, in places with greenish cast. Cutting edge sharp. Surface very rough, with many pits. Found with metal detector, at a depth of 15 cm, on a layer of urban rubbish, in grassland, on a terrain of a future industrial estate. Private possession. (DB 994)

Map reference: Sheet 21G, 205.60/500.86.

Reference: Verlinde, 1996: p. 142, afb. 4 (photo).

CAT.NO. 748. VRIESCHELOO, *GEMEENTE BELLINGWEDDE*, GRONINGEN. Loosterveen.

L. 9.0; w. 4.7 cm; Weight 161.4 gr. Oval mouth opening (formula: 4.0×3.5; 3.0×2.6 cm). () collar, from the base of which springs a D-loop with) (outline (2.0×0.6 cm.). Body outline) (, faces and sides convex. Cutting edge sharp. Casting seams present, slightly eccentric. Patina: dull dark brown; original surface present only in traces; present surface has been scrubbed, bronze colour showing

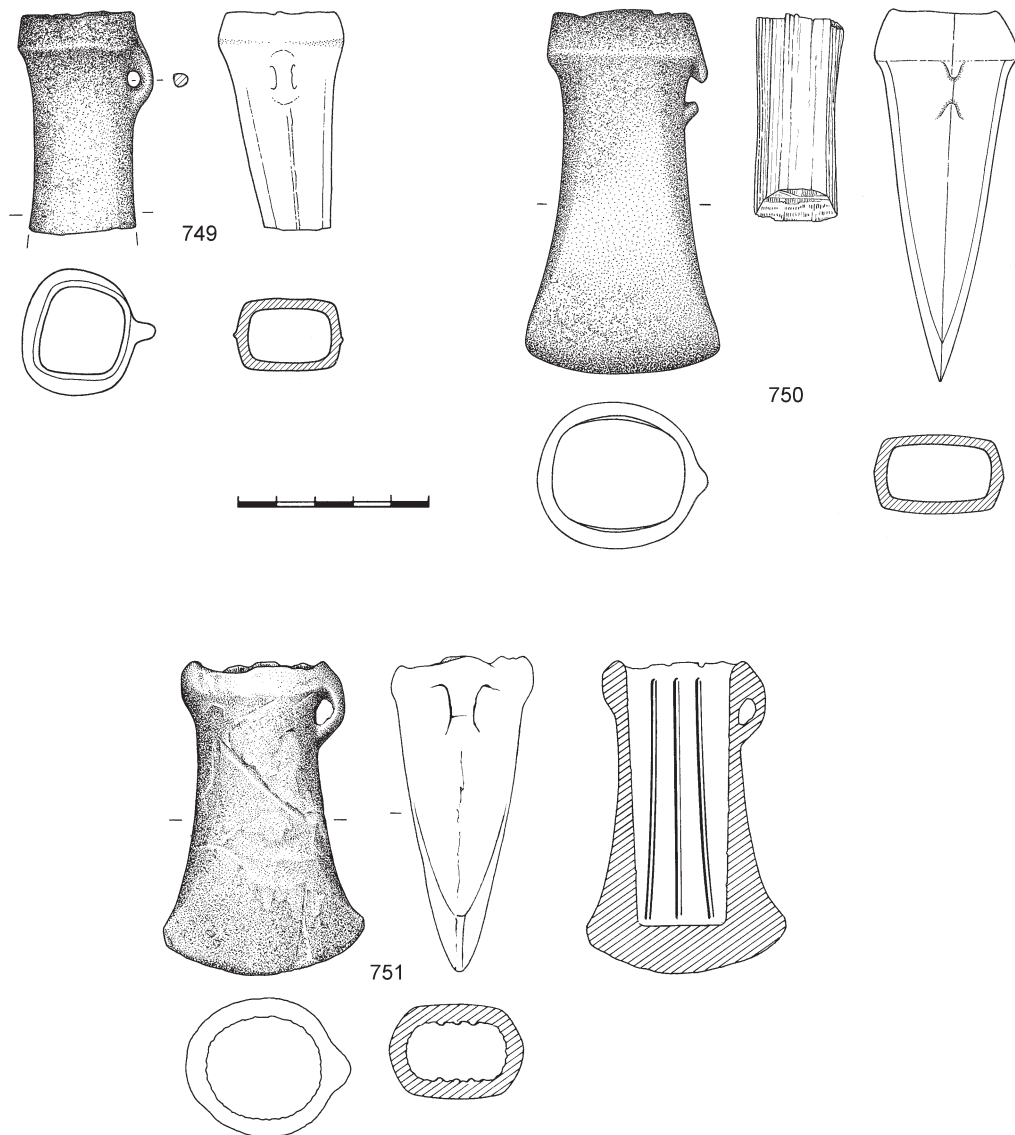


Fig. 98c. Wesseling-related socketed axes, with rectangular face panel. 749: Rhenen, Ge; 750: 'on or near Hondsrug', Dr; 751: buurtschap Westeind, Gr. See also figs 98a–b.

through in places. Much of surface porous; light green corrosion patches. Found August 1994. Private possession.

Map reference: Sheet 13A, 273.12/566.35. (DB 856)

References: *Jaarverslag* ROB, 1994: p. 46; Essink & Hielkema, 1997–1998: p. 297, No. 148.

CAT.NO. 749. RHENEN, GEMEENTE RHENEN, UTRECHT. Koerheuvel. (Disturbed Hallstatt situla grave.)

L. 5.7 cm: the upper half of the axe is preserved); width unknown. Weight 69.5 gr. Mouth opening irregular squarish with rounded corners (formula: 3.2×3.3 ; 2.4×2.6 cm); apparently somewhat deformed by heat. Collar inverted-conical; from its lower edge springs

small D-loop (1.7×0.6 cm). Body outline (as far as preserved) parallel-sided, body section (—). Casting seams present. The break appears to be modern (break edges unpatinated). Patina: dark reddish; bright green in corrosion pits. Found 28 October 1993 by T. van Middelkoop and M. Prosman, in digging out a tree for replanting in anticipation of a building project. Metal detector search and a subsequent excavation by S. van Dokkum for the ROB yielded further finds. From the pit were recovered hundreds of fragments of a large bronze situla (subsequently restored; according to Van Heeringen a late representative of the Kurd type) and various small bronze and iron fragments interpreted as wagon and/or costume parts; including a ring-footed knob and lich pins. (DB 882)

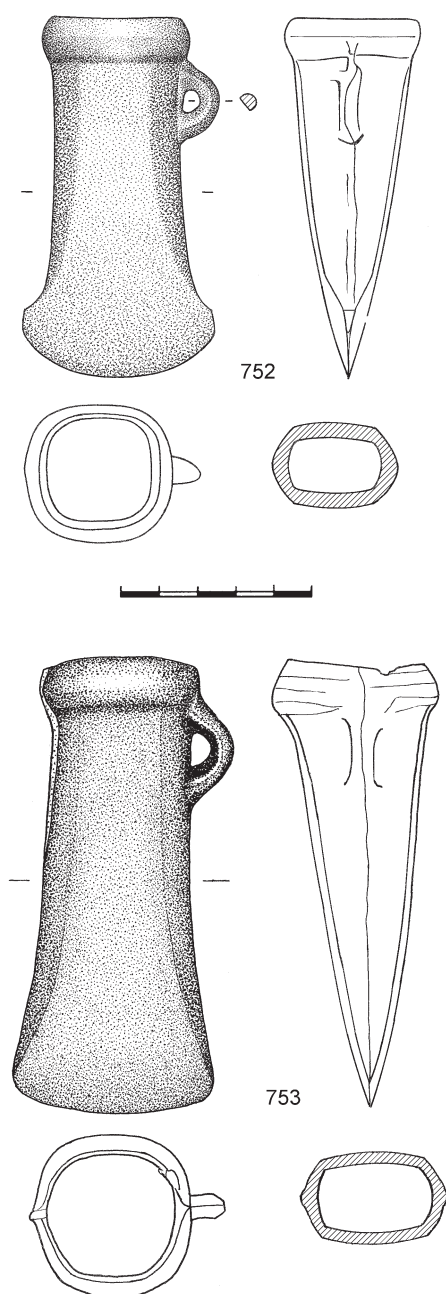


Fig. 99. Wesseling-related socketed axes, with rectangular face panel, large. 752: Tollewaard, Ge; 753: 'from Rhine or Waal' (drawing HS).

Map reference: Sheet 39E, c. 166/441.

References: Van Heeringen, 1998–1999: pp. 69–92; with an Appendix (pp. 93–95) by J.J. Butler.

Dating: According to Van Heeringen 7th century BC; he compares this find with the previously known Hallstatt chieftain's graves in the Netherlands.

CAT.NO. 750. 'on or near HONDSRUG', DRENTHE (exact provenance unknown).

L. 9.7; w. 5.2 cm; Weight 305.1 gr. Subrectangular socket mouth. / \ collar, from the base of which springs small (incomplete) D-loop. Body outline concave-somewhat trapeze-shaped; only slightly convex faces forming large trapeze facet; side somewhat ridged. Cutting edge sharp, but no distinct sharpening facet. Wood (*Quercus*) inside socket. Found 1990, at the potato factory Oostermoer, among potatoes originating on or near the Hondsrug. Private possession. (DB 685)

References: *Nieuwe Drentse Volksalmanak*, 1992: p. 80, fig. 15; Essink & Hielkema, 1997–1998: p. 291, No. 76.

CAT.NO. 751. BUURTSCHAP WESTEIND, GEMEENTE BELLINGWEDDE, GRONINGEN. Between Oude Pekela and Blijham.

L. 8.4; w. 5.3 cm; Weight 205.3 gr () collar (mouth formula: 4×3.7 ; 3.0×2.7 cm), from which springs small ribbon loop with () (shape 2.0×0.6 cm). The body outline is (), but expanding gradually toward a relatively wide cutting edge. Blade cross-section (). Inside the socket are three vertical ribs. The cutting edge is blunted. Patina: brown, where damaged light green. Deep scratches on surface. Fragment of oak haft preserved in the socket; from which a ^{14}C determination *GrN*-19825: 2385 ± 40 Cal.; 2 sigma 757–685, 661–649, 543–389 BC. Found Oct. 1992 during harvesting of potatoes. Private possession. (DB 623)

Map reference: Sheet 13A, 265.250/570.800.

Documentation: Groenendijk, *dossier* Bellingwedde: No. 100.

References: Essink & Hielkema, 1997–1998: p. 297, No. 147; *Jaarverslag* ROB 1992, p. 139.

Parallels: Rather similar axes (but with simpler loop, and without the internal ribs) are classified by Kibbert (1984: Nos 588–592) under his *Type Wesseling* (both under his *Var. Hünxe*, his Nos 595–96, and also under his *Var. Traben-Trarbach* (Nos 595–596). The internal ribs (his type E) are however typical for South Scandinavian axes of Baudou type VIIC2, but are also present in a Løvskaal/Obernbeck specimen from Obernbeck, Kr. Hereford, Nordrhein-Westfalen (Kibbert No. 647; see also his Taf. 90C).

a) Wesseling-related socketed axes, with rectangular face panel, large (fig. 99)

CAT.NO. 752. LIENDEN, GEMEENTE LIENDEN, GELDERLAND. Tollewaard.

L. 9.6; w. 5.1 cm; Weight 258 gr. Subrectangular mouth (formula: 3.8×3.7 ; 2.7×2.75 cm). () collar, from base of which springs D-loop (2.0×0.7 cm). Body with () section, with the angles faintly faceted. Prominent casting seams, partly removed. Cutting edge sharp, with ends expanded but points hammered down. Patina: dark bronze. Found 1972 by Parera (A.W.N., Noordwijkerhout). Museum: Het Valkhof, Nijmegen, GAS G.85.2598. (DB 909)

Map reference: Sheet 39E, 164.38/442.28.

Reference: P.J.R. Modderman & Montforts, 1991: p. 149, afb. 7.1.

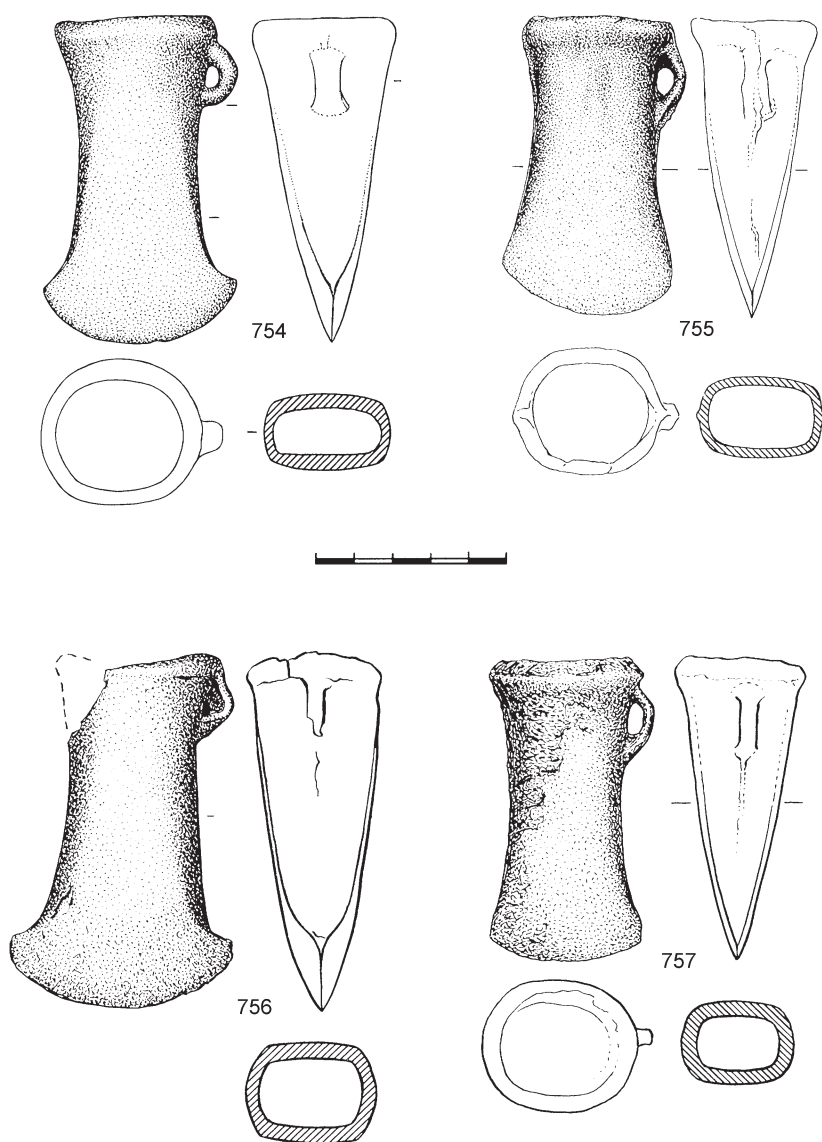


Fig. 100. Wesseling-related socketed axes, with narrow collar and rectangular face panel. 754: no provenance; 755: Valthermond, Dr; 756: Mariëndaal, Ge; 757: 'Rhine or Waal' (possibly de Bijland, Ge).

CAT.NO. 753. 'FROM RHINE OR WAAL'. (dealer's provenance).

L. 12.1; w. 5.3 cm. Weight: 364.8 gr. Oval mouth (formula: 4.2×4.3 ; 3.4×3.25 cm). () collar, lightly faceted collar. Faces flattish, body with () section. D-loop ($2.6 \times 1.1/0.6/1.0$ cm). Prominent casting seams. Cutting edge sharp. Patina: black. Very well preserved. Museum: Amsterdam (Allard Pierson Museum), Inv.No. 6510. Purchased May 1943 from BAI Groningen (Inv.No. 1938/IV.5, ex coll. Blijdenstein). (DB 755)

b) Wesseling-related socketed axes, but with narrow collar and rectangular face panels (4 ex., fig. 100) (AXT:wes.rel||panel.NCol)

CAT.NO. 754. PROVENANCE UNKNOWN.

L. 8.65; w. 5.1 cm. Oval mouth opening (formula: 4.3×3.85 ; 3.4×3 cm). () collar; from which springs small D-loop ($1.85 \times 1/0.7$ cm.); body outline) (; faces and sides convex; sharp J cutting edge. Patina: light green; partly bronze colour. Museum: Apeldoorn, Inv. No. B3 (64). (DB 4)

CAT.NO. 755. VALTHERMOND, *GEMEENTE* ODOORN, DRENTHE.

L. 7; w. 4.55 cm. Oval mouth opening (formula: 4×3.4 ; 3.1×2.65 cm); from which springs a small but elongated D-loop (2.4×0.7 cm). Short body, with) (outline. Sides and faces slightly convex. Cutting edge asymmetrically sharpened. Patina: blackish. Found in Place No. 7, “*in de bovenste zandlaag onder de veenlaag van 7 à 8 voer*” [found in place No. 7, in the uppermost sand layer under the peaty layer of 7 to 8 feet]. Museum: Assen, Inv.No. 1905/IV.2, acquired from J. Blaak of Valthermond. (DB 106)

Map reference: Sheet 17F, 262.750/548.250–264.450/546.125.

References: *Verslag*, 1905: p. 10, No.11; Essink & Hielkema, 1997–1998: p. 293, No. 98.

CAT.NO. 756. MARIENDAAL, *GEMEENTE* ARNHEM, GELDERLAND.

L. 9.5; w. 5.9 cm. (Mouth formula uncertain, due to damage. Narrow) collar, from the base of which springs a small high loop (unpierced; 2.0×0.4 cm). Parallel sides, with sharply expanded blade tips; body section with flattish faces, rounded sides. Wide strongly rounded cutting edge, slightly ragged. Break ancient. Patina: mottled green. Found “*ter diepte van 1.5 el onder de begane grond volgens mondelinge mededeling van Z.A. Nijhoff aan Dr. Janssen*” [at a depth of 1.5 el below the surface, according to verbal statement from Z.A. Nijhoff to Dr. Janssen]. Museum: RMO Leiden, Inv.No. M.A., acquired October 1857. (DB 317)

Map reference: Sheet 40A, c. 187/444.

Reference: Pleyte (Gelderland), 1889: Pl IX:1.

CAT.NO. 757. PROVENANCE UNKNOWN.

L. 8; w. 4 cm. Oval mouth opening (formula: 4.1×3.5 ; 3.6×2.35 cm). Biconical collar, from the base of which springs a small D-loop (2.2×0.5 cm). Body outline) (, section) (. Cutting edge sharp. Patina: black. Collection: BAI Groningen, no Inv.No. and no further information. (DB 1091)

9.3.2. *Wesseling-related socketed axes, with trapeze face panel (5 ex., fig. 101)*

CAT.NO. 758. NEAR NIJMEGEN, GELDERLAND.

Approximate dimensions: L. 10.0; w. 4.6 cm) () collar; very small, low-placed D-shaped string loop (1.0×0.3 cm). Rather straight, slightly diverging sides; body with) (cross-section, faces flat, sides convex. Patina: blackish; rough surface. Museum: Museum Het Valkhof, Nijmegen, Inv.No. GAS 1958–9–29; ex coll. G.J. Olst of Ressen. No drawing (but rough drawing JJB); the axe is now missing. (DB 38)

Map reference: Sheet 40C, c. 186/427.

CAT.NO. 759. SLEK, *GEMEENTE* ECHT, LIMBURG.

L. 10.5; w. 4.8 cm. Oval mouth opening (formula: 3.8×3.75 ; 2.7×2.65 cm), with irregular edges. Heavy bulging, somewhat biconical collar from the base of which springs small D-loop (2.3×0.85 cm), not

actually perforated. Body with) (outline,) (section, with slight vertical channel on one face only. Cutting edge sharp. Strong jet attachments front and back. Prominent, rather asymmetrical casting seams. Patina: has been ‘cleaned’; original probably mottled green, now dark bronze to black. Found 1935 by G. Bongaerts. Private possession. (DB 1004)

Map reference: Sheet 60A, c. 189/344.

CAT.NO. 760. PROVENANCE UNKNOWN.

L. 10.6; w. 4.6 Subrectangular socket, (formula: 4.0×4.0 ; 2.9×2.9 cm).) (collar with slightly flattened rim, but two stumps of casting jets, from base of which springs small D-loop (2.0×0.6 cm). Body section) (, trapeze-shaped facial facets. Outline) (, but blade tips are hammered down. Casting seams prominent, but removed near base of blade. Cutting edge sharp. Patina black; partly scraped off, showing bronze colour. Greenish loamy encrustation in socket. Very well preserved. Museum: Het Valkhof, Nijmegen, Inv.No. XXX.d.35 (ex coll. Kam). (DB 1543)

CAT.NO. 761. HESSELSCHIE GRAAF, *GEMEENTE* OOSTER-HESSELEN, DRENTHE.

L. 10.45; w. 5.05 cm. Single rounded collar (formula: 4.15×4.2 ; 3.15×3.15 cm), with small loop (1.9×0.4 cm) springing from its base. Oval cross section, flattened on faces. Blow-hole on side. Patina: dark brown. Blade end has been recently filed. Found 1863 by J. van der Horst van Lith. Museum: Assen, Inv.No. 1863/I.12; presented by finder. (DB 75)

Map reference: Sheet 17G, c. 245/531.

Reference: Essink & Hielkema, 1997–1998: p. 294, No. 112.

CAT.NO. 762. VALTHE, *GEMEENTE* ODOORN, DRENTHE.

L. 7.0; w. 4.6 cm. Weight 155 gr. Oval mouth; flattened-oval socket (mouth formula 4.3×3.9 ; 3.1×2.9 cm).) (collar, from which springs a small D-loop (1.8×0.7 cm) of) (outline. Slightly expanded blade tips. Cutting edge anciently blunted, but also modern blunting. Casting seams present. Patina: dark brown; partly scraped off, showing mottled light green. Found c. 1983, on farm of A. and L. Boerma between Valthe and Weerdinger Weg, while harvesting potatoes. Private possession. (DB 2118)

Map reference: Sheet 17F, c. 256/540.

Parallels: among his Wesseling-axes Kibbert has clearly two examples: Ki 589 ‘bei Krefeld’, Nordrhein-Westfalen 10.2/4.9 (Var. Hünxe); Ki 603 Freimersheim, Kr. Landau-Bad Bergzabern, Rheinland-Pfalz 11.9/3.1 (Var. Traben-Trarbach – outline very like our Cat.No. 760). In Belgium we know of three axes: one from Rijkervorsel, one from Geel (both province of Antwerpen) and one from Waasmunster (in Oost-Vlaanderen).

A short example, with J tips, is known in a British LB3 [O’Connor] hoard from Yattendon, Berks. (= *Inventaria Arch.* GB 13; Burgess, Coombs & Davies,

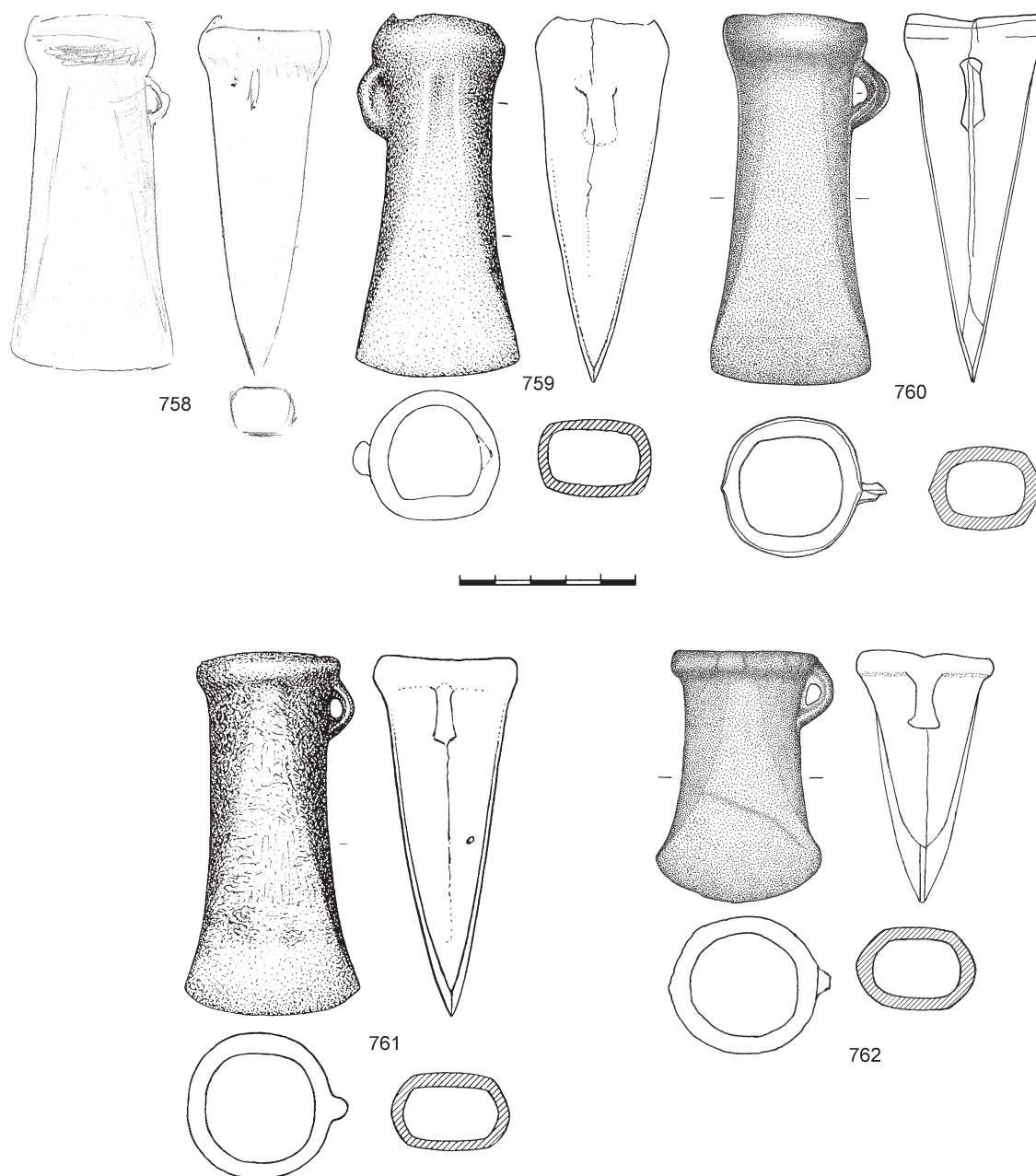


Fig. 101. Wesseling-related socketed axes, with trapeze face panel. 758: near Nijmegen (sketch JJB), Ge; 759: Sleek, Li; 760: no provenance; 761: Hesselsche Graaf, Dr; 762: Valthe, Dr. (760, 762: drawing HS)

1972: p. 260, fig. 17:41; Huth, 1997: Taf. 25–28, esp. Taf. 28:7).

9.3.3. *Wesseling-related, loopless, with trapeze face panel* (2 ex., one North, one South, fig. 102)

CAT.NO. 763. DROUWEN, GEMEENTE BORGER, DRENTHE.
L. 8.4; w. 5.2; weight 210.7 gr. Circular mouth (formula: 3.8×3.75 ;

2.5×2.5 cm). () collar. Body with $< >$ section,) (sides with slightly expanded blade tips. Cutting edge nearly straight; sharpened (some recent blunting). Casting seams present but slight. Found September 1980 by H. Kroezenga (Gasselte) on the terrain of the grass-sod cultivator Queens, along a sandy path between fields. Patina: dark brown, but c. 90% removed, showing mottled green with much pitting. Private possession, owners Inv.No. 1980/X.1. (DB 952)

Map reference: Sheet 12G, c. 248.80/551.15.

Reference: Kroezenga, 1980: p. 136, with drawing.

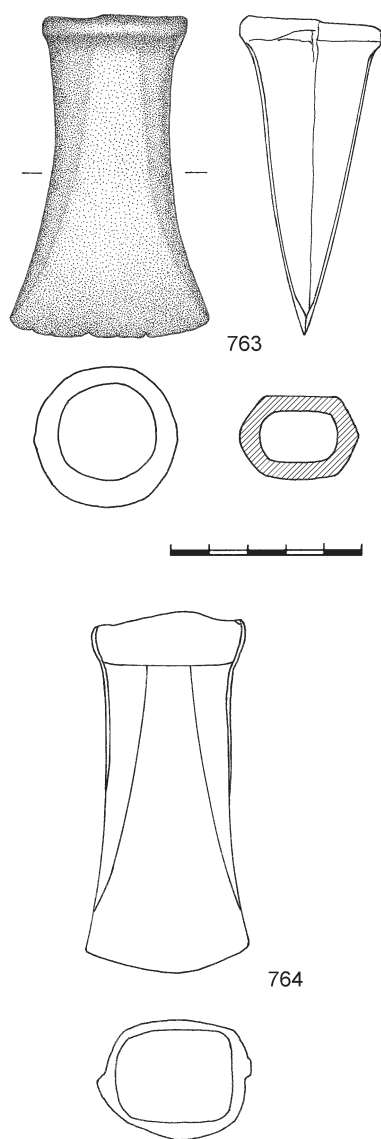


Fig. 102. Wesseling related socketed axes, with trapeze face panel, loopless. 763: Drouwen, Dr; 764: Asten, N-B (drawing HS after a sketch by J. van der Weerden).

CAT.NO. 764. ASTEN, *GEMEENTE* ASTEN, NOORD-BRABANT.

L. 9.4; w. 4.26 cm. Subrectangular mouth opening (formula: 4.0×3.1 ; 3.0×2.4 cm). () collar; no loop. Sides nearly parallel, slightly (). Trapeze-shaped facet on each face; sides rounded. Round perforation under the mouth moulding on one face. Cutting edge sharp. Patina: light green to grey. Found c. 1980 during construction of a greenhouse. The finder allegedly reburied this axe. Information and sketch from Jos van der Weerden, via David Fontijn. (DB 2442)

Documentation: Letter Fontijn to Butler, 19 Jan. 1999.

Map reference: Sheet 52C, 180.1/377.7

Discussion: The socketed axes of related Wesseling type and their 'facial facet' variants are thus more or less equally common in the Netherlands, on the one hand, and the German North Rhine area on the other; they seem indeed to form a continuous distribution.

On the other hand, our 'trapeze panel-face' Wesseling variants are less frequent in the southern part of the country, and in adjacent German territory, than might be expected; indeed, they seem to be more typical for the North and Centre of the Netherlands.

In this connection we may refer to Tackenberg's discussion (pp. 41–44), (*Listen* 22–25) and maps (*Karten* 12 and 13) – unfortunately, however, with few illustrations – of the numerous socketed axes in North Germany that he groups under the heading of '*Tüllenbeile mit seitlich abgesetzten Breitseiten*'. It is rather unlikely that all or most of the dozens of socketed axes on his *Liste* 22 and *Karte* 12, supplemented with the smaller numbers on the other lists and maps cited, plus the related South Scandinavian axes he takes over from the lists and maps of Baudou are close parallels to our Netherlands examples of the related Wesseling group; without the drawings we can hardly even begin to estimate the probabilities. On the other hand, it would not be improbable that at least some portion of these are indeed good parallels for the trapeze-faced socketed axes in the Netherlands. Further discussion must be held in abeyance until the relevant North German material has become accessible.

It may be noted that socketed axes with a trapeze-shaped facial panel are quite common in Ireland (Eogan, 2000; especially in his classes 8 and 9, which parallel the British 'faceted' types). Our short example Cat.No. 762 with modest collar from Valthe, Drenthe, would, had it been found in Ireland, easily be taken to belong to Eogan's Class 9E; but similar axes also occur in the South Scandinavian region (Baudou, 1960: Taf. VI: VII C2a and VII C2b [unlooped]).

9.3.4. *Wesseling-related socketed axes, but with trapeze-shaped blade* (3 ex., fig. 103):

These three axes are clearly related to the axes in the Wesseling tradition, yet different from the Wesseling forms through the adoption of the trapeze body shape and straight cutting edge.

CAT.NO. 765. GROESBEEK, *GEMEENTE* GROESBEEK, GELDERLAND (dealer's provenance).

L. 8.5; w. 5.5 cm. Round socket-mouth (formula: 3.2×3.1 ; 2.2×2.1 cm). Single () collar, small low string loop (1.6×0.45 cm). Body with trapeze outline, hexagonal cross section; straight sharp cutting edge. Patina: black, partly light green. Museum: RMO Leiden, Inv.

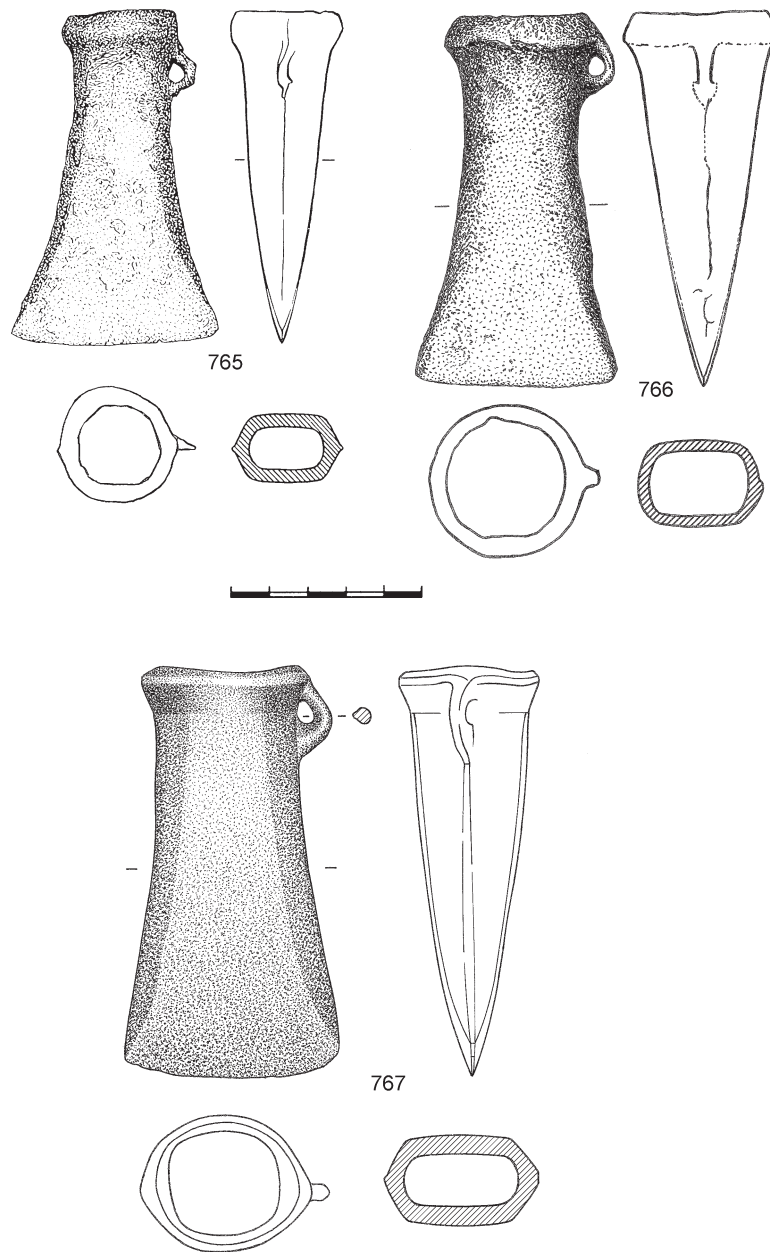


Fig. 103. Wesseling-related socketed axes, but with trapeze-shaped blade. 765: Groesbeek, Ge; 766: Emmen, Dr; 767: Hoornderveen, Gr.

No. e 1902/4.2; purchased from J. Grandjean. (DB 366)

Map reference: Sheet 46B, c. 193/420.

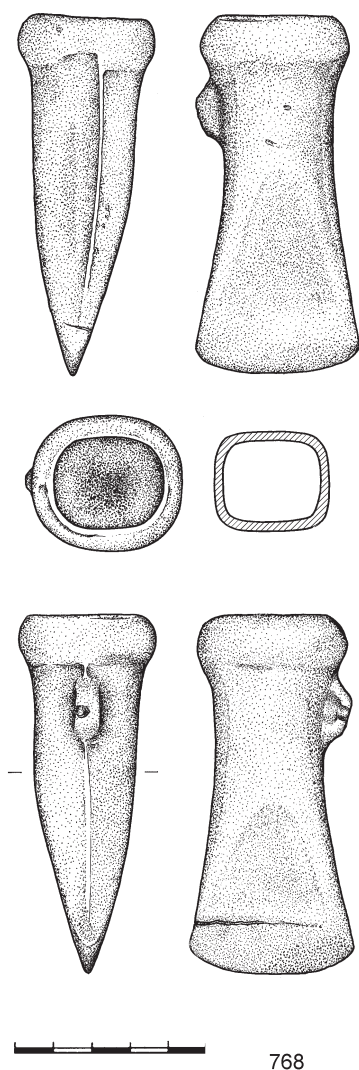
CAT.NO. 766. EMMEN, *GEMEENTE EMMEN*, DRENTHE. Schimmer Es.

L. 9.8; w. 5.3 cm. Weight 290 gr. Subrectangular socket, but oval mouth (formula: 4.1×4.0 ; 2.9×2.9 cm). Body with) (outline, () section. <> collar, from the angle of which springs small D-loop

(1.8×0.6 cm). Wide cutting edge straight, sharp. Casting seams present, but on lower part of blade removed. Patina: original patina removed; now dark bronze, almost black; greenish in surface pits, and inside socket. Surface rough, except toward cutting edge. Found by H. Wolters taking a walk with his dog. Private possession. (DB 1831)

Map reference: Sheet 12H, 255.8/535.7

Reference: Essink & Hielkema, 1997–1998: p. 297, No. 142.



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Fig. 104. Wesseling-related socketed axe, but with arch facet on face. 768: Nijmegen, Ge (drawing B. Brouwenstein, IPP).

CAT.NO. 767. HOORNDERVEEN, *GEMEENTE* BELLINGWEDDE, GRONINGEN.

L. 10.9; w. 5.6 cm. Weight 394 gr. Subrectangular mouth (formula: 4.4×3.7 ; 2.8×2.7 cm). Irregular biconical collar, from which springs small elbow loop (2.3×0.5 cm). Thick-walled body, with trapeze outline and hexagonal section. Thick casting seams. Cutting edge sharp; no distinct sharpening facet. Patina: now dark brown, but greenish under loop and in surface pits; inside socket greenish to ochreous. Well preserved. Found on a parcel of G. Meyer. Museum: Groningen, 1998-IX-2, acquired August 1998 via H. Groenendijk. Legacy F. Kraai (earlier in possession of his father, A.R. Kraai). (DB 652)

Map reference: Sheet 13 AZ, 265.15/566.0.

Documentation: Groenendijk, dossier No. 61.

Reference: Essink & Hielkema, 1997-1998: p. 298, No. 149.

9.3.5. *Wesseling-related, but with arch facet on face* (1 example, fig. 104)

This axe seems to be a normal basic Wesseling axe, with small webbed loop, but its arch-shaped facial facets are, atypically, of unequal size on the two faces. It thus reflects influence from outside the Wesseling family.

CAT.NO. 768. NIJMEGEN, *GEMEENTE* NIJMEGEN, GELDERLAND. Kops Plateau.

L. 9.6; w. 4.3 cm; Weight 228 gr. Oval socket mouth (formula: 3.9×3.6 ; 2.9×2.5 cm); () collar, with a slight rim, casting-jet attachment on one side. Small, low-placed D-loop (1.8×0.8 cm), not actually perforated. Faces flattish, sides rounded; arch-facets on face, not sharply delineated, and slightly hollow. Cutting edge sharpened. Casting seams are off-centre. Horizontal crack on one face; slight casting defect on outside of loop. Patina: mostly dark green, but partly black; surface has many small pits. Found 1995 during archaeological excavation ROB, with metal detector; at junction of the corner of a rectangular stone setting and a row of small stones. Collection: Provinciaal Depot voor Bodemvondsten Gelderland, Nijmegen (in museum Het Valkhof), Inv.No. ROB: Nijm.KH.471/001. (DB 972)

Documentation: *Arnhemse Courant*, 26 August 1994; letter Fontijn to Butler 29 August 1996.

Map reference: Sheet 40C, c. 190/428.

References: Fontijn, 1995: pp. 41-45; 1996: p. 40; 2002, p. 162.

Parallels: Example from Waasmunster in Oost-Vlaanderen (Belgium) with arch expanding to the collar and a loopless example from Gent (Belgium) with low-placed arch-facet.

9.3.6. *Wesseling-related, but with single neck rib* (2 ex., fig. 105)

It is unusual for Wesseling or Wesseling-related socketed axes to have a neck rib. The 'Wesseling' examples illustrated by Kibbert that have a neck rib are, as we have suggested above, really Plainseau axes. Cat. No. 770 has a thickish neck rib, almost a second collar; the small loop has been squashed.

CAT.NO. 769. BEEK, *GEMEENTE* BERGH, GELDERLAND.

L. 9.7; w. 4.7 cm. Oval socket mouth (formula: 4×3.6 ; 3×2.7 cm). Double collar with low loop (2×0.7 cm.), flattened oval cross section (rounded sides, flat faces). Cutting edge sharp. Patina: dark brown. Museum: RMO Leiden, Inv.No. e 1902/9.2, purchased from Th. Keurentjes of Didam. (DB 367)

Map reference: Sheet 40G, c. 209/435.

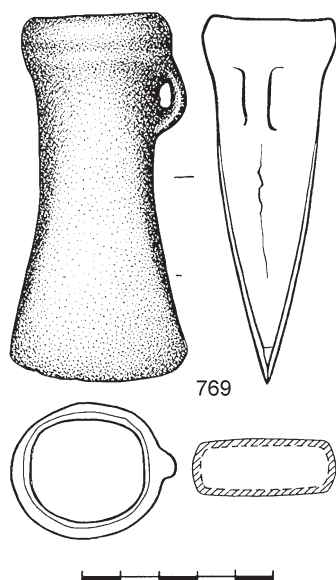


Fig. 105. Wesseling-related socketed axe, but with single neck rib.
769: Beek, Ge; 770: gemeente Zweeloo, Dr.

CAT.NO. 770. GEMEENTE ZWEELOO, DRENTHE. SW of Meppen.

L. 8.5; w. 4.0 cm. Weight 121.3 gr. Severely corroded specimen. Oval mouth (formula: 3.4×3.3 ; 2.5×2.5 cm). Single () collar, plus one rib. Small thin loop (1.4×0.3 cm), partly missing. Body with () section, concave sides. Cutting edge blunted (recently?). Prominent casting seams. Patina: originally glossy dark brown, but c. 90% weathered off, leaving light powdery green, with corrosion pits; ochreous inside socket. Found 1984 while harvesting potatoes. Museum: Assen, Inv.No. 1988/XI.4, on loan from finder. (DB 691)
Map reference: Sheet 17G, 241.625/532.150.

Reference: Essink & Hielkema, 1997–1998: p. 296, No. 138.

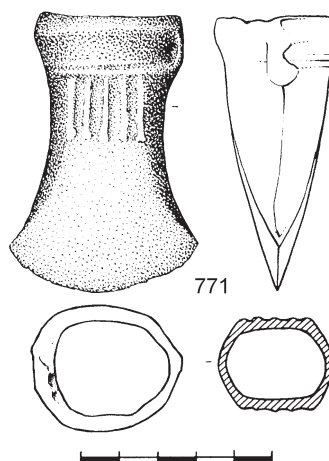


Fig. 106. Wesseling-related socketed axe, with two neck ribs and pendulum ribs. 771: Emmen, Ov.

9.3.7. Wesseling related, with two neck ribs and pendulum ribs (fig. 106)

CAT.NO. 771. EMMEN, GEMEENTE DALFSEN, OVERIJSEL. L. 7.4; w. 5.0 cm. Oval to rectangular mouth, single bulging socket-mouth moulding with 2 ribs (formula: 4×3.35 ; 3×2.5 cm). Section: flat faces, convex sides; splayed sharp cutting-edge; on each face, fine vertical ribs terminating in pellets. Small loop, $1.5 \times 0.5/0.75$ cm. Patina: mottled green. Surface rough. Found 1906 in digging foundations. Museum: Zwolle, Inv.No. 5431, ex coll. Baron A. van Dedem. (DB 253)

Documentation: Letter Van Es to Butler, 15 April 1961; *Zwolsche Courant*, 19 Febr. 1966.

Map reference: Sheet 21H, 212.55/501.07.

Parallels: Kibbert (1984) has a few more or less similar specimens (Ki No. 585–587; but why not also 597?). He groups these, together with some unornamented examples, as at least related (*nahestehend*) to his *Form Wesseling, Var. Hünxe*. His Nos 581, 583, 584 and 586 are, however, of unknown provenance. There remain, thus, four specimens from Nordrhein-Westfalen and one from the Weser area in Hessen, namely: Ki 582 Wasserstrasse Kr. Minden-Lübbecke; Ki 585 Lette Kr. Koesfeld; Ki 585A Leichlingen Rhein-Wupperkr.; 587 (unornamented) Velmeden Werra-Meißnerkr. (Hessen); 597 Gürzenich Kr. Düren (Moorfund).

Note: Whether these, with our Cat.No. 771, are British exports (*i.e.*, small examples of the ‘Type Sompting and related’ series), or indeed Wesseling/Hünxe-related local products, cannot easily be determined at present.

10. ACKNOWLEDGEMENTS

This study was sponsored jointly by the Biologisch-Archaeologisch Instituut (now Groningen Institute of Archaeology) of the University of Groningen and the Instituut voor Prae- en Protohistorische Archeologie Albert Egges van Giffen (now Amsterdam Archaeological Centre) of the University of Amsterdam, on the initiative of their former directors, Professor H.T. Waterbolk and Professor W. Glasbergen. It was financed by the Nederlandse Organisatie voor Zuiver Wetenschappelijk Onderzoek and the two Institutes.

Its execution required the collaboration of the directors and staff of several dozen museums and of innumerable private owners of objects, to all of whom we are most grateful; the enumeration of all their names would require many pages, and to name some and omit others would be invidious. So we hereby thank them all collectively. We must express a special word of thanks to the Groningen Institute of Archaeology for continuing to afford space and facilities.

With few exceptions (*i.e.* with respect to objects illustrated in the literature but now unfindable) the objects were drawn from the originals by professional draughtsmen, either free-lancers in part-time employment at the cost of the Z.W.O., or staff draughtsmen of the B.A.I. (now GIA) and I.P.P. (now AAC). We wish especially to thank B. Kuitert, B. Kracht, L. Hart, G. de Weerd, H. Roelink, J.M. Smit and M.A. Los-Weijns for the high standard of their devoted art-work on the artefacts. Drawings by one of the authors are marked HS.

Our special indebtedness to Kurt Kibbert will be evident from the frequency of our citations of his monumental work on the axes of the *mittlere Westdeutschland* in the *Prähistorische Bronzefunde* series.

The distribution maps (by HS) are on the basis of the automatic mapping facility provided by J. Kraak and J.T. Ubbink of the University of Groningen Computer Centre.

For repeated contributions to travel costs we are grateful to the Foundation Netherlands Museum for Anthropology and Prehistory. See also the acknowledgements in our Part III:2A (*Palaeohistoria* 43/44, p. 318).

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