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

J.J. BUTLER & HANNIE STEEGSTRA

University of Groningen, Groningen Institute of Archeology, Groningen, the Netherlands

ABSTRACT: This, Part III:2C of the publication of Bronze Age metal and amber finds in the Netherlands, is the third part of a catalogue and evaluation of the bronze socketed axes in the Netherlands. Here are classified, listed and mapped 45 complete socketed axes, 20 fragments, and one half of a bronze casting mould. Catalogued are several varieties of faceted socketed axes; socketed axes of Type Sompting and related types; South-East European socketed axes; and specimens of rare types. Attention is given to questions of importation and regional production.

KEYWORDS: the Netherlands, Late Bronze Age, Early Iron Age, socketed axe types, faceted socketed axes, Type Meldreth, Type Sompting, South-eastern (British) socketed axes, South-East European types, imports, regional production, distributions.

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, 43/44 and 45/46. The last part of the series to appear (Part III:2B) began the catalogue of the bronze socketed axes, with emphasis on types current especially in the North-East of the Netherlands and neighbouring areas. This part (III:2C), adding 45 complete socketed axes, 20 fragments, and one half of a bronze casting mould, completes the socketed axe catalogue, dealing especially with 'faceted' socketed axes (with half a dozen variants), socketed axes of type Sompting, socketed axes of South-East European types, and, in addition, several types poorly represented in the Netherlands by only one or a few examples.

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 north-east 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 18).

In general, the northern and western coastal parts of the Netherlands are extremely poor in socketed axes (*cf.* Butler & Steegstra, 2003/2004: p. 199, Map 9), as indeed in all other types of bronzes. Van Heeringen (1992: p. 322, table 57) has tabulated the finds of Late Bronze Age bronzes in the coastal area of the Netherlands; he could record only four socketed axes (add one more recent find), plus eight spear-

heads, one socketed knife, one pin, one bronze sickle, one straight pin, one fibula. In part, this meager find list may be due to the loss of artefacts through geological factors such as dune and bog formation, erosion and marine transgressions. But the difference in find density between the two sections of the country is dramatic. Since there is evidence from excavations in both Noord-Holland (*e.g.* IJzereef, 1981) and Zuid-Holland (*e.g.* Van Heeringen, 1992) for occupation by agriculturalists in the Bronze Age, the causes of the scarcity of the bronzes in these areas surely require further investigation.

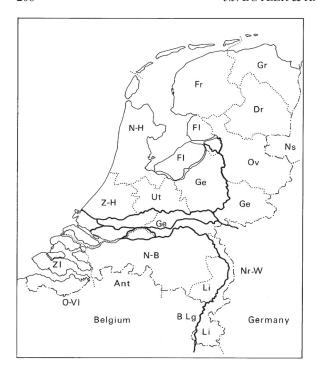
2. NOTES TO THE CATALOGUE

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–B we have already used AXF for flat axe, AXI for low-flanged axe, AXR for high-flanged axe, AXS for stop-ridge 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: Fac = faceted; Lin = linear; Grv = groove; Ang = angles;) (= biconcave; () = convex.

Geographical expressions here abbreviated with lower-case letters with reference to socketed axe types



Map 18. 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-Vl. 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.

are as follows: mel = Type Meldreth; somp = Type Sompting.

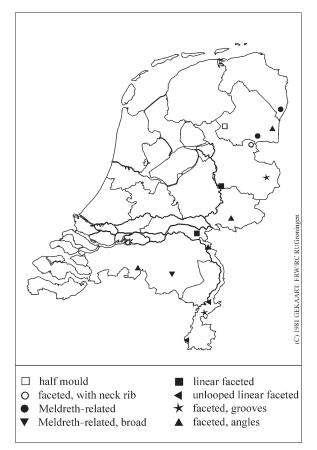
Abbreviations for museums and organisations: BAI = Biologisch-Archeologisch Instituut (now Groningen Institute of Archaeology); RMO = Rijksmuseum van Oudheden; ROB=Rijksdienst voor het Oudheidkundig Bodemonderzoek.

References to literature frequently include the term *Verslag* or *Jaarverslag*. This refers to the Annual Report of the museum concerned. For other literature citations see section 8 below.

A catalogue number preceded by Ki indicates a reference to the catalogue of Kibbert (1984).

3. FACETED, LINEAR-FACETED, ANGLE-FACETED AND RELATED SOCKETED AXES IN THE NETHERLANDS

Some 20 socketed axes with a polygonal body crosssection related to the British-Irish "faceted socketed



Map 19. Faceted socketed axes in the Netherlands.

axe" family are known in the Netherlands. This includes the few with unknown provenance (Cat.Nos 774, 777), vaguely known provenance (Cat.No. 778) or a suspect dealer's provenance (Cat.No. 780).

The Netherlands examples are far from homogeneous. They are divisible into several categories: Cat. No. 772: the Havelte mould; 773: a related axe from Ane; 774–777: Meldreth-related; 778–779: Meldreth-related but with broader body; 780–781: linear-faceted; 782–783: Meldreth-related but unlooped; 784–786, faceted with grooved face; and 787–792: angle-faceted.

Since the number of socketed axes in these categories in the Netherlands is small, and the related material elsewhere is highly scattered, very heterogeneous, and in large measure unillustrated, we confine ourselves here to the minimum necessary search for parallels, in the hope that a fuller treatment in a broader context will some day be possible.

Literature concerning faceted and related socketed axes includes discussions or material contributions by Sprockhoff (1941), Hodges (1956) Butler (1963), Tackenberg (1971), Coombs (in Burgess & Coombs,

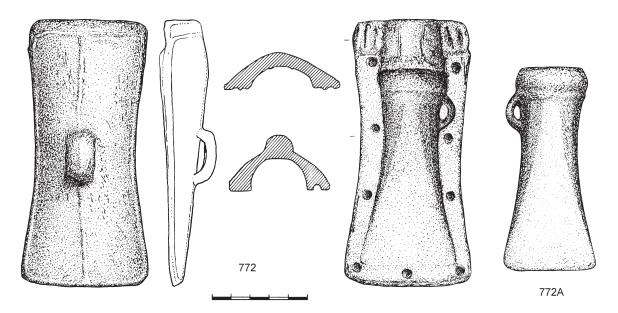


Fig. 107. 772: Havelte, Dr. Bronze half of casting mould for socketed axes (771A: plaster cast).

1979), O'Connor (1980), Schmidt & Burgess (1981), Kibbert (1984), O'Connell (1986), Needham (1990, 1996), Kuśnierz (1998), and Eogan (2000).

3.1. Faceted socketed axes in the Netherlands (AXT: Fac) Figs 107–108

3.1.1. Definition

O'Connor (1980-I): pp. 166–167, II: p. 526, List 127) has classified a number of socketed axes in Northern France, Brittany, Belgium and the Netherlands under the heading "faceted axes". The only example in this list cited for the Netherlands is not an actual axe, but the half of a two piece bronze casting mould, a stray find (a peat-bog deposit, to judge from its patina and state of preservation) from Havelte, in southern Drenthe (our Cat.No. 772). The mould is not part of the presumably contemporary Late Bronze Age hoard from another site ('het Lok') at Havelte, south of the village. The one Belgian find in his list is from Waasmunster, Oost-Vlaanderen (Museum Antwerp, Inv. 2314, ex coll. Hasse; O'Connor, 1980-II, fig. 68:16). Other Continental examples he cites are contained in the West French hoards of Graville-Sainte-Honorine (Seine-Maritime, [O'Connor, 1980: No. 174]); and in the Somme area (subsequently illustrated by Blanchet, 1984: Dreuil [fig. 158], Amiens-St. Roch [fig. 157] and Marler [fig. 161]); O'Connor also cites some examples from Armorican hoards illustrated by Briard (1965: pp. 212–216, fig. 74:7, 11, 12).

O'Connor characterises the Continental faceted axes of his List 127 as related to British faceted axes, but not of British manufacture.

3.1.2. Catalogue of the faceted socketed axes in the Netherlands

CAT.NO. 772. HAVELTE, *GEMEENTE* HAVELTE, DRENTHE. L. 14, w. 6.8 cm. Half-mould for casting a socketed axe with l. 10.4, w. 5.2 cm. Cylindrical mouth, ribbed inside. Nine dowel holes, outside of which are vestigial traces of a keying groove. The exterior, which has a rough unpolished surface, has a thick, broad loop 93.8×2.5 cm) and ornamental ribbing. The cast from it would be of the octagonal-sectioned type (but with the angles of the facets rather softened), with a rounded bulging collar and a second, slighter moulding (broad neck rib) below it; from the neckrib springs a D-shaped loop. Patina: mottled, mainly blackish; perfect preservation; pointing to an origin in peat rather than sand. Found 1907 in the heath field on the Ruiterweg on the north side of Havelte ("het heideveld aan de Ruiterweg onder Havelte"). Museum: Assen, Inv. No. 1907/VII.3. Presented 31 July 1907 by Jan Tromp Meesters of Steenwijk. (DB 105)

Documentation: letter Jan Tromp Meesters to Kymmel, 19 July 1907.

Map reference: Sheet 16H, c. 212/533.

References: Verslag, 1907: p. 7, no.7, p. 4; v. Heemskerck-Düker & Felix, 1942: pl. 97; Butler, 1961: p. 204, fig. 11 and 12; Butler, 1963: Pl. XII:6–8.

The Havelte mould (strictly, one half of a two-piece casting mould) is the only bronze casting mould for socketed axes known from the north of the country. By coincidence or not, one of the very few Bronze Age casting by-products known in the Netherlands, a casting jet found stuffed into the socket of a socketed axe (Cat.No. 663), is from a hoard found at another site at Havelte, 'Het Lok' (Butler, 1961: pp. 207–212, Pl. IV; Butler & Steegstra, 2003/2004: p. 269, fig. 91A).

The Havelte casting mould itself has similarities to, but also differences from, the mould from Erkrath, Kr. Düsseldorf-Mettmann: the only socketed axe mould known from Middle West Germany (Kibbert, 1984: p. 128, Kat.Nr. 599 with detailed description, Taf. 73). See section 3.3 below.

Cat.No. 772A, a plaster cast taken from the Havelte bronze mould, made in 1932, is present in the Assen museum (Inv. No. 1932/II) (DB 870).

Classification of the socketed axe which could have been cast in the Havelte mould is not entirely simple. O'Connor listed it with his faceted axes; Kibbert associates it not with his facettierte Tüllenbeile, but with the axes of his Form Wesseling, Var. Traben-Trarbach; we could associate it with our Wesseling-related axes with trapeze-shaped face panel (Butler & Steegstra, 2003/2004: Cat.Nos 758–762); but it also has affinities with the linear-faceted socketed axes from Nijmegen (Cat.No. 780), Colmschate (Cat.No. 781), or Echt (Cat.No. 784).

On the Continent, very close analogies are not known (except a socketed axe from Waasmunster [East-Flanders, Belgium], cf. O'Connor, 1980: p. 116, fig. 68:16, though this specimen lacks the neck rib). For O'Connor the bulging collar sets these two specimens apart from British faceted axes, e.g. those of Meldreth type. But, in view of the scarcity of close parallels, we are not as confident as was O'Connor that the Havelte mould and its partial parallel at Erkrath demonstrate local production.

The only really good parallel for the Havelte cast in the Netherlands is an axe (Cat.No. 773) from Ane, *gemeente* Gramsbergen, near the eastern border of Overijssel, close to the river Vecht and the German border. Paradoxically, a Scottish axe, found at Rathmell, West Riding of Yorkshire (Schmidt & Burgess, 1981: No. 1593, attributed by them to Type Sompting [though undecorated, and rather atypical among their Sompting axes]) seems rather similar. Also similar is an axe from the hoard of Ferring, West

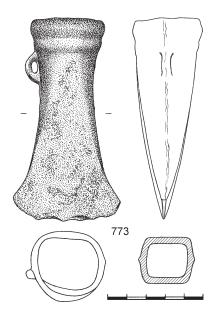


Fig. 108. 773: Faceted socketed axe. Ane, Ov.

Sussex, near the south coast just west of Worthing (Huth, 1997: Taf. 37:1).

So also is a slightly narrower example in the Marler hoard in the Somme area (Gaucher, 1981: fig. 159:H22). The Belgian specimen from Waasmunster, Oost-Vlaanderen, illustrated by O'Connor (1980: fig. 68:13), without a neck rib, could easily be grouped with the Wesseling axes, especially of the variety with trapeze-shaped facial panel (Butler & Steegstra, 2003/2004: fig. 101, Cat.Nos 758–762).

CAT.NO. 773. ANE, GEMEENTE GRAMSBERGEN, OVER-IJSSEL. De Kiefte.

L. 10.7; w. 5.6 cm. Weight 250 gr. Oval socket mouth (on one side slightly flattened), subrectangular socket. Mouth formula: 3.9×3.7; 3.0×2.6 cm. Bulging collar; one horizontal rib, from the base of which springs small D loop (1.7×0.6 cm). Body outline) (, with widely expanded cutting edge; trapeze-shaped facial facet, with slightly rounded sides. Sharp casting seams, removed toward cutting edge. Cutting edge sharpened, but battered. Patina: malachite green, but partly removed, showing bronze colour. Surface much pitted. Inside socket, mostly light green, ochreous loamy encrustation. Found April 1987 by J. Bergsma on a towpath along a ditch, adjacent to a field *de Kiefte*, with metal detector. Museum: Zwolle, Inv.No. POM 7287; purchased from finder in 1989. On loan in *Oudheidkamer* Hardenberg. (DB 872)

Map reference: Sheet 22E, 241.1/515.7 Reference: Verlinde, 1989: pp. 169–171, afb. 4b. 3.2. Faceted socketed axes of or related to the British-Irish Type Meldreth in the Netherlands (AXT:mel) Figs 109–110

3.2.1. Definition

The Meldreth type embraces rather slender socketed axes with a body of biconcave outline, widening gradually toward a broad, curved cutting edge, and a polygonal cross-section of six to ten facets. Meldreth axes are very common in South-East England, but have not yet been comprehensively presented. For Northern Britain, Schmidt & Burgess (1981: pp. 204–211, their Nos 1230 ff.) illustrate some 40 examples. Eogan (2000: pp. 53ff) catalogues 100 examples as his Class 8A–8E in Ireland; he distinguishes five variants, chiefly on the basis of differences in the collar formation.

Typical examples of standard Type Meldreth (the "Meldreth itself" of Schmidt & Burgess, and Eogan's Class 8B) have not been found in the Netherlands; although a single example occurred only one kilometer on the other side of the border with Belgium (there the river Meuse/Maas), in the large hoard (indeed, the largest Late Bronze Age hoard in the Low Countries and adjacent areas) of Heppeneert-Maaseik (Van Impe, 1994: pp. 12 and 33, No. 2). In the Heppeneert hoard the Meldreth axe occurred together with a considerable number of socketed axes of Plainseau type, a few socketed axes with *Niedermaas* affinities, and a single plain pegged spearhead.

The Meldreth axe in the Heppeneert hoard may well be an import from Britain or Ireland; similar examples are plentiful among the axes in Northern Britain of the Type "Meldreth itself" and its Variant Aylsham, and in Ireland among Eogan's Class 8B. Whether it and other Meldreth axes from North Britain, the Somme area and other find-spots on the Continent were imports from England or locally made is perhaps far from settled (*cf.* O'Connor, 1980-I: pp. 166–7; Schmidt & Burgess, 1981: pp. 204–211; Eogan, 2000: under his Class 8B (pp. 55–57, 61–62). Eogan's Cat.No. 317 is the only one, out of his 100 Class 8B examples, with a simple mouth moulding but without collar.

A few socketed axes in the Netherlands are of, or at least related to, the very few specimens grouped by Schmidt & Burgess (1981: pp. 208–211) under the heading of socketed axes of Type Meldreth, Var. Eaton (their Nos 1248, 1248A). These have the body form of the basic Meldreth axes, but have a simple bulging collar. A few similar axes are known on the Continent: Lobenhausen, Kr. Melsungen, Hessen (Sprockhoff, 1941: p. 90, Abb. 72:1), and possibly, because of damaged collar, Bokeloh, Kr. Meppen, in

the Ems-Hase area, Niedersachsen (Sprockhoff, 1941: p. 90, Abb. 77:2).

This collar form is certainly extremely rare in the North British and Irish Meldreth axes, and if this also holds true for Southern England, the few Meldreth axes in the Netherlands would not be of British manufacture.

Our Cat.No. 774 (unprovenanced), is very similar to Schmidt & Burgess Nos 1248 and 1248A. These Type Meldreth, Var. Eaton axes are rare in North Britain and are presumably of southern British origin. But Cat.No. 774 came to the Netherlands Army Museum via the antiques trade, and is perhaps really a modern import.

A few possibly related specimens in the Netherlands – Cat.Nos 777 and 778 – unprovenanced or with a vague provenance, have non-British loop placement.

Meldreth axes are rare in Middle West Germany (but *cf.* Ki 782 from Lobenhausen; Ki 783 is of unknown provenance).

While the Meldreth axes in the Picardy hoards and the single specimen in the Belgian Heppeneert-Masseik hoard, just across the Meuse from the Netherlands, seem to be typical standard Meldreth axes, the four examples in the Netherlands are distinguishable from them; the Netherlands examples have higher-placed loops, three of which are high-placed mini-loops, *i.e.* loops such as occur frequently on the socketed axes of Type Wesseling and not on British socketed axes. None of the four in the Netherlands have a neck rib under the collar. Our specimens are perhaps best to be grouped with the "Type Meldreth variant Eaton" of Schmidt & Burgess (1981: p. 208, Nos 1248–1248B), rare in North Britain but more common in the south.

Kibbert has a few specimens rather similar to our Netherlands examples (his Nr 780 and 783, unprovenanced; 781 from Erle-Östricht, Kr. Recklinghausen in Nordrhein-Westfalen; 782 from Lobenhausen, Schwalm-Ederkreis, far off in eastern Hessen). These few Meldreth-related axes in the Netherlands and Western Germany are, perhaps, products of some secondary production centre(s), the locus of which, from the meagre distribution evidence, cannot be defined closely, but may have been in the south of the Netherlands or the Westphalian area.

In small numbers the "Meldreth itself" axes are known (especially in hoards) in the Somme area in France (Blanchet, 1984: p. 284, fig. 157 [St. Roch]; p. 285, fig. 158 [Dreuil]; p. 289, fig. 161 [Marlers]) and occur as occasional stray finds on the North European plain, even penetrating as far east as the Danzig area: the Górki (Gurki) hoard (Tackenberg, 1971: p. 42),

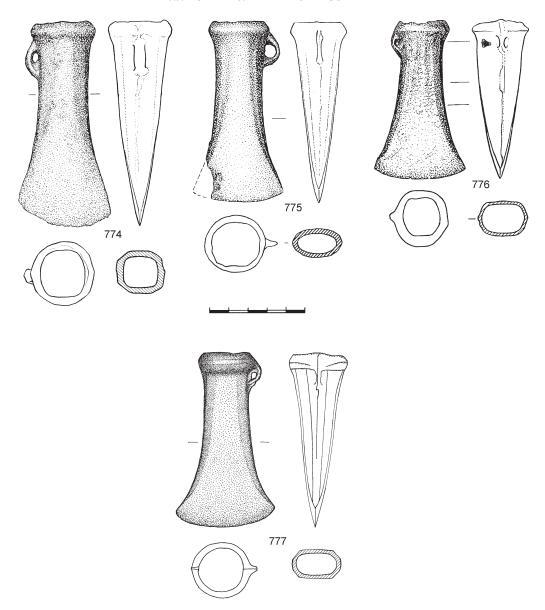


Fig. 109. Socketed axes of Type Meldreth and related. 774: provenance unknown; 775: Ter Wisch/Laudermarke, Gr; 776: Wachtum, Dr; 777: provenance unknown. (777: drawing HS)

O'Connor, 1980-I: pp. 166–7, II: p. 526, List 127, 128; Kibbert, 1984: p. 164, Taf. 59, Kat.Nr. 780–783).

In the Netherlands, two of the four Meldreth-related axes are of unknown provenance (Cat.Nos 774 and 777). The provenanced examples (Cat.Nos 775–776) are both from Drenthe, thus from the north-east of the country.

Dating: the British Meldreth axes are dated by O'Connor to his LBA3; the Irish finds by Eogan to the Dowris phase. The Somme hoards are dated by Blanchet (1984) and by Gaucher (1981) to the corres-

ponding *Bronze final* IIIb; the Górki hoard, according to Sprockhoff (1941), to Montelius V.

3.2.2. Catalogue of socketed axes related to the Type Meldreth in the Netherlands

CAT.NO. 774. PROVENANCE UNKNOWN.

L. 11; w. 4.9 cm. Round/subrectangular mouth, bulging collar (formula: 3.4×3.4; 2.4×2.5 cm). Flattened D loop, 2.2×0.6 cm. Body with eight facets. Edges damaged, very asymmetric edge, asymmetrical casting seam. Patina: black. Museum: Delft, Nederlands Legermuseum: Inv.No. Caa-17, purchased 1952 from Van

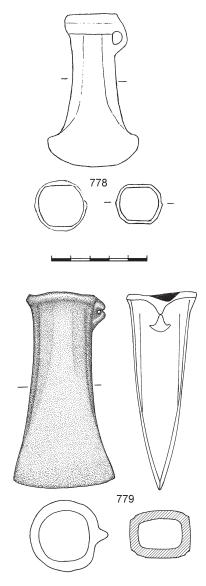


Fig. 110. Socketed axes related to Type Meldreth, broader body. 778: "north-east Overijssel?" (sketch: A. Verlinde); 779: Eindhoven, N-B (drawing HS).

Stockum's Antiek, Den Haag. (DB 1115) *Parallel*: Kibbert, No. 782 (Lobenhausen, Schwalm-Ederkreis, but with different collar).

CAT.NO. 775. TER WISCH/LAUDERMARKE, GEMEENTE VLAGTWEDDE, GRONINGEN. Markkamp.

L. 9.5; w. +3.6 cm. Oval mouth, biconical collar (formula: 3.×3.05; 2.5×2.3 cm); from which depends small thin loop: 2×0.35/0.25/0.4 cm. Light, narrow body of octagonal cross-section; edge sharp. Cutting edge anciently damaged. Patina: mottled grey-green to brownish; orange patches inside socket. Found while ploughing between Ruiten A and Ruiten A-canal. Museum: Groningen, Inv.No.

1921/IV.2. (DB 179)

Map reference: Sheet 18B, 270.40/548.30.

Documentation: H. Groenendijk (provincial archaeologist, Gronin-

gen), dossier Vlagtwedde: No. 34.

References: Butler, 1961: p. 206; O'Connor, 1980-II, p. 586, No.

44; Essink & Hielkema, 1997-1998: p. 299, No. 164.

CAT.NO. 776. WACHTUM, GEMEENTE DALEN, DRENTHE.

L. 8.5; w. 4.85 cm. Rounded mouth, single biconical collar (formula: 2.9×3; 2×2.05 cm) from which springs a small hourglass loop (1.4×0.25 cm) with a perforation only 1.5 mm in diameter. Body narrow in the neck, expanding gradually to a wide cutting edge. Octagonal section; broadly expanded cutting-edge. On the faces, faint vertical furrows. Casting seams present. Patina: blackish; rough surface. Blade sharp. Blowhole on side. Found 0.30–0.40 m under the surface while shoveling in a low-lying field [onder het oppervlak bij het spitten van laag gelegen veld]. Museum: Assen, Inv.No. 1911/III.9, acquired 30 March 1911 from L. Kalter, through mediation of H. Regterink of Oosterhesselen. (DB 113)

Map reference: Sheet 17G, c. 247/527

Reference: Verslag, 1911: p. 9, No. 4; Butler, 1963: p. 87 (not p. 90 fig. 24!); O'Connor, 1980: List 227:No. 42 ("linear-faceted"); Essink & Hielkema, 1997–1998: p. 286, No. 26.

CAT.NO. 777. PROVENANCE UNKNOWN.

L. 9.15; w. 5.2 cm. Weight 120.6 gr. Round mouth opening. Single bulging collar (formula: 3.0×3.05; 2.3×2.25 cm) from which springs a small, thin D-loop. Narrow body with eight facets, flat faces; casting seams present. Blade splays widely. Cutting edge sharp. Patina: black, partly removed. Surface somewhat pitted; otherwise well preserved. Collection: IPP, Amsterdam. (DB 2264)

Note: This specimen served as an 'examination axe', with which in his time Prof. Glasbergen confronted students during oral examinations.

3.2.2.1. Meldreth-related socketed axes with broader body in the Netherlands

Two Netherlands specimens – Cat.Nos 778 and 779 – may be related to the Irish broader version of the Meldreth axes, especially some of those grouped by Eogan under his Class 9E, and by Schmidt & Burgess under Type Gillespie.

The bulging collar and high-placed loop of our Cat. No. 778 distinguish it, however, from its British and Irish relatives.

Our Cat.No. 779, from Eindhoven, Noord-Brabant, rather resembles Eogan's No. 555, a Class 9E axe (but with a largish loop, and internal ribs) belonging to a Dowris-phase hoard found at Trillick, Co. Tyrone (Eogan, 1983: p. 161–2, No. 142:1, Pl. 90:1). But our Eindhoven axe has an incomplete mini-loop, and is thus possibly of local manufacture.

CAT.NO. 778. NORTH-EAST OVERIJSSEL? (EXACT PROV-ENANCE UNKNOWN)

L. 8.1; w. 4.9 cm. Single bulging collar (formula: 3.0×2.7; 2.3×2.2 cm). Octagonal body cross-section; single high-placed loop (th. 0.3 cm); blade tips expanded, slightly recurved. Edge sharp. Patina: originally blackish; has been mechanically cleaned. Top slightly flattened recently; otherwise well preserved. Reddish-brown inside socket. Found c. 1946 at the surface in Lutten, gemeente Hardenberg, between potatoes probably brought from N.E. Overijssel [ongeveer 1946 gevonden aan de oppervlakte te Lutten, gemeente Hardenberg. Waarschijnlijk aangevoerd met aardappelen uit N.-O. Overijssel]. Private possession. Present locus unknown. Sketch: Ad Verlinde, formerly ROB/Rijksmuseum Twenthe. (DB 1778)

Documentation: Stencilled catalogue exibition Zwolle, 1967: No. 145.

Parallel: Kibbert, 1984: No. 780 (of unknown provenance).

CAT.NO. 779. NUENEN, *GEMEENTE* EINDHOVEN, NOORD-BRABANT.

L. 10.2; w. 5.25 cm. Tire-shaped mouth opening (3.7×3.8; 2.7×2.7 cm); tire-shaped narrow collar (casting defect on loop side), from the base of which springs small, narrow loop with) (profile, tiny perforation. Loop 1.7×1.0/ 0.3/ 0.7 cm; perf. 1 mm. Cross-section octagonal. Outline) (. No neck ribs. Faces and sides slightly convex. Facets slightly hollow. Casting seams visible on looped side. Cutting edge sharp. Patina: partly blackish, partly dark green. Surface rough, original surface peeled off along cutting edge. Interior light green. Found with metal detector in a pasture at the edge of the valley of the [in een weiland aan de rand van het dal van de] Hooidonkse Beek, 25 cm below the surface [onder het maaiveld]. Private possession. (DB 2613)

Map reference: Sheet 51G, c. 165.5/388 References: Arts, 2003: pp. 15–16, with drawing

3.3. Linear-faceted socketed axes in the Netherlands (AXT:Fac.Lin) Fig. 111–112.

3.3.1. Definition

O'Connor (1980) has singled out a group of socketed axes which he lists (his List 227), maps (his map 76) and discusses in detail (his pp. 231–233) under the heading "linear-faceted axes".

"This distinctive group of socketed axes has" (he states) "facets bounded by ribs; these facets may be well-defined, flat or grooved, or merely be represented by the ribs on the angles of the axe". O'Connor has, however, distinguished within this grouping a number of variants with a regional character, both in Britain and on the Continent.

The main occurrence of O'Connor's linear-faceted axes is in Southern Britain. O'Connor catalogues some 30 finds in Britain, especially in Southern Britain; they

have been found especially in Dorset and East Anglia, each of these regions with its own variant. Only small numbers occur in North England and Scotland (the three northern examples are classified as "Meldreth axes with embellished facets" by Schmidt & Burgess (1981: Nos 1256–1259). A few examples attributed, without detailed provenance, to "Ireland" have been added by Eogan (2000: Nos 1960–1963), constituting his Class 15 (his pp. 197–198).

For the Continent, O'Connor lists for North-West and North France four finds, for Belgium four finds, and for the Netherlands six finds (but he states explicitly that he does not regard these as a homogeneous group, nor as exports from Britain). For Germany, an unknown number have been found. These are not listed by O'Connor, but a few have been illustrated by Sprockhoff (1941; 1956), Tackenberg (1971) and most recently by Kibbert (1984).

Kibbert's catalogue illustrates (within his more general category *facettierte Tüllenbeile*), a dozen examples, chiefly in Nordrhein-Westfalen (Ki 734–735 under "mit vertikalen Rippen und Rillen"; Ki 769–778 under "facettierte" and related), which can be taken as constituting a regional variant of the linear-faceted type, if we take as defining features the possession of a bulging collar, the fairly standardized form, and the presence of rib decoration on the face in the 'drapery' style. These axes can be with or without a neck rib; two of them have a pellet under the collar.

Some of the West German examples of Kibbert (1984), e.g. Ki 734 (the Wattenheim hoard) and Ki 735 (Dutenhofen, Kr. Wetzlar, Hessen) have considerable similarity to our Cat. Nos 780 (Nijmegen), 781 (Colmschate, Ov) and 784 (Annendaal, Li) with drapery 'ribbing' on the face though not strictly 'faceted'.

O'Connor suggests for the Continental finds at least two sub-groups. The first is characteristic of the East of the Netherlands and the German area between the Rhine and the Weser. Their shape, he states, is not British. He couples this group with the bronze casting moulds from Havelte (Cat.No. 772) and Erkrath (more recently Kibbert, 1984: No. 599), and uses these moulds to support the case for Continental manufacture of the axes of this type.

Actually, neither the Havelte mould or that from Erkrath conforms strictly to the stated definition of the type. The Havelte mould has no ribbing of the angles. Indeed, according to Kibbert (1984: p. 128), it is not certain that the irregular and atypical ribbing in one of the halves of the Erkrath mould, or indeed this half of the mould itself, is in fact original. The exterior of the other mould half does bear rib-and-circle ornament

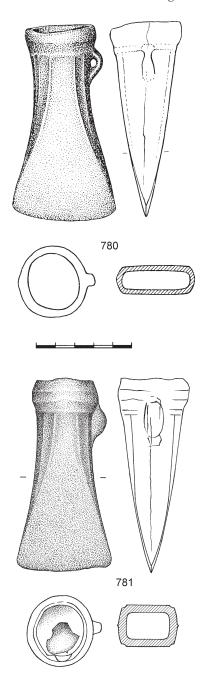


Fig. 111. Linear faceted socketed axes. 780: "Nijmegen" Ge (dealer's provenance); 781: Colmschate, Ov.

(which is not matched on any of the Continental finds of the type, although this rib pattern occurs on British socketed axes from East Anglia: O'Connor, 1980: fig. 74:1,2; see also the hoard of Ferring, West Sussex: Huth, 1997: Taf. 36:1, containing axes of linear-faceted and Sompting types with variously rib- and rib-and-pellet ornament), and on occasional specimens of Armorican type (Briard, 1965).

Four faceted socketed axes in the Netherlands (Cat. Nos 780–783) have ribbed ornament on the angles of the facets, bringing them into the "linear-faceted" category of O'Connor (1980-I: pp. 231–233, II: p. 586 List 227: Nos 42–47). Four of the Netherlands examples have a bulging collar (on Cat.No. 781 horizontally faceted). Three have a neck rib below the collar; two (Cat.Nos 780 and 781) with a loop springing from the neckrib; on the latter the loop is unperforated. Cat. Nos 781 and 783 have a straight cutting edge. Cat.Nos 782 and 783 are unlooped.

A few of the examples on O'Connor's list require correction. His Nos 42 and 43, our Cat.No. 776, are really opposite sides of the same axe (wrongly labelled through JJB's error as a proof-reader, which should have been caught in 1963, but wasn't). O'Connor's No. 44, our Cat.No. 775, we have placed in the "Meldreth-related" group above. His No. 45, our Cat.No. 795, with (according to recent information) a dealer's provenance: the dune area at Monster, Zuid-Holland, is better classified as a Sompting axe of O'Connor's Dorset variant (the Portland variant of Dorothee Bruns, as shown on her poster at the Bronze Age Forum 12–14 November 2004, in Southampton), with rib and pellet decoration (below, section 4). O'Connor assesses the Monster axe as a British product; it may well be a modern import from Britain.

Our four specimens, spread out from north to south in the east of the Netherlands, have evident affinities with some at least of the south-east English examples of O'Connor; but also with some of those in Middle West Germany (Kibbert, 1984: Kat. Nr. 769–775, 777–778; unlooped, 784; most these are from find-spots in Niedersachsen).

Dating: O'Connor sees the origin of the linear-faceted axes in South England, and derives them from the narrow faceted socketed axes there current in his LBA 3 phase. The linear-faceted axes begin in his LBA3 phase, but flourish chiefly in his LBA 4 phase (which overlaps, at least partially, with his Early Iron Age 1).

3.3.2. Catalogue of the linear-faceted socketed axes in the Netherlands

CAT.NO. 780. NIJMEGEN, *GEMEENTE* NIJMEGEN, GELDER-LAND. River Waal (dealer's provenance).

L. 10.4; w. 5.3. Round socket-mouth (mouth formula: 3.75×3.75; 2.7×3.0 cm). Bulging collar + one thin neck rib, from which springs small D loop (1.9×0.7 cm). Body with ogival outline, widely expanding lower part; octagonal cross-section, with angles emphasized by ribs. The expanded cutting-edge is rounded and asymmetrical with respect to horizontal axis; mouth also lopsided. Patina:

blackish; reddish sand inside. Museum: RMO Leiden, Inv.No. e.1906/1.3; purchased from dealer J. Grandjean. (DB 372)

Map reference: Sheet 40C, c. 186/430

Reference: Butler, 1963: p. 90, fig. 24 (erroneously there ascribed to Wachtum, gemeente Dalen).

CAT.NO. 781. COLMSCATE, GEMEENTE DEVENTER, OVER-IISSEL

L. 10; w. 4.9 cm. Circular mouth opening (mouth formula: 3.65×3.8, 2.6×2.75 cm). Weight: 248 gr. Bulging, horizontally faceted collar, from which springs D loop (1.8×0.8 cm); not actually perforated (or, possibly, a perforation is filled up by the secondary iron-pan deposit). Body outline) (with wide blade expansion. Single thin neck rib below collar. Upper part of the body is faceted; the vertical facets are hollowed, and run out in the course of the trapeze-shaped faces. Casting seams prominent, but toward the lower ends removed. The cutting edge is straight, and is sharp, with slight modern battering. Much of the axe is heavily coated with a hard ferruginous deposit, blistery on faces and sides; partly dark brown, partly lighter ochreous brown in colour. The socket is partly filled with the lighter-coloured ironpan. Found October 1997 with metal detector, in low-lying field with much ironpan; depth 15–20 cm. Private possession. (DB 2364)

Map reference: Sheet 33F, 211.9/474.30. *Reference:* Verlinde, 1998: p. 160, afb. 4.

3.3.2.1. Linear faceted socketed axes, unlooped, in the Netherlands (AXTU:Fac.Lin)

CAT.NO. 782. MAASTRICHT, GEMEENTE MAASTRICHT, LIMBURG.

L. 8.45; w. 3.95 cm. Subrectangular mouth opening (formula: 3.2×3.0, 2.2×2.3 cm). Weight 169 gr. (Jacobsen, 1904). Single bulging collar; loopless; no neck rib. Slightly convex faces and sides; four ribs on each face (two along sides, two diverging toward blade end). Patina: blackish, partly removed. Cutting edge has been drastically blunted recently. Museum: Brussels, Inv.No. B.822 (old No. 10101). Donated in 1893 by L. Cavens, ex coll. Melgers. Metal analysis: Jacobsen, 1904: p. 44, Anal. No. 52 (Sn 10.23, Pb 1.212, Fe 0.315, S trace). (DB 1879)

Map reference: Sheet 69A, c. 173/318

References: Jacobsen, 1904: p. 44, Anal. 52; De Loë, 1931: p. 50; O'Connor, 1980: list 227, No. 46; Wielockx, 1986: Hu.100.

CAT.NO. 783. *GEMEENTE* ROERMOND, LIMBURG. Flood plain of the River Maas.

L. 10; w. 4.8 cm. Subrectangular mouth, formula: 3.0×2.8, 2.1×1.85 cm. Large rounded collar, with single rib below it; octagonal cross-section; the angles emphasized by fine ribs; straight cutting edge. No loop. Patina: partly brownish, partly grey-green. Cutting-edge blunted recently; otherwise well preserved. (Inside: sand, some or-

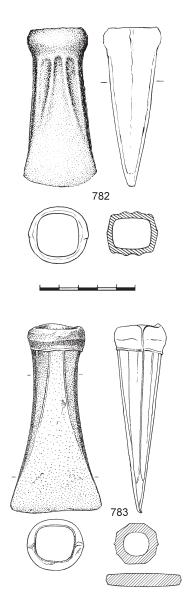


Fig. 112. Linear faceted socketed axes, unlooped. 782: Maastricht, Li; 783: "gemeente Roermond" (flood plain River Maas), Li.

ange, some green). Dredge find in the period c. 1950–1958; exact find-spot unknown, but surely in the neighbourhood of Roermond. Museum: RMO Leiden, Inv.No. 1.1971/11.6, ex coll. L.C. van der Pijl, chief dredge machinist for the firm N.V. Ballastmij. 'de Merwede' (dredged 1958); purchased in 1971, with other items from Van der Pijl's collection, from his heirs (see also Cat.No 814). (DB 1796)

Map reference: Sheet 58D, c. 195/356

References: O'Connor, 1980: p. 586, List 227:47 ("linear-faceted"; fig. 74: No.10; Wielockx, 1986: Hu.118.

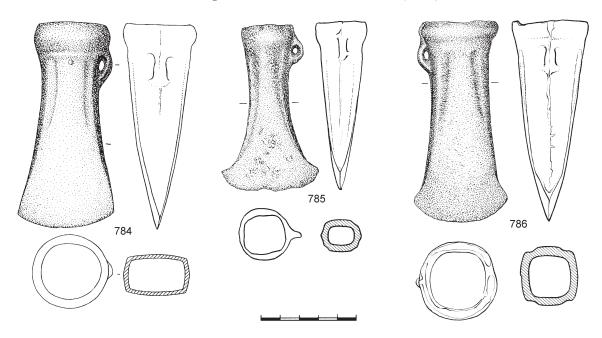


Fig. 113. Faceted socketed axes with face grooves. 784: Annendaal, Li; 785: Saasveld, Ov; 786: provenance unknown.

3.4. Faceted socketed axes with face grooves in the Netherlands (AXT:Fac.Grv) Fig. 113

3.4.1. Definition

A few socketed axes in the Netherlands (Cat.Nos 784–786), related to the faceted socket axe series, are characterised by vertical grooves on the face. The placing of the grooves suggests that they are an alternative rendition of the ribbing of the axes of the "linear-faceted" group. All three have a bulging collar (Cat. No. 784 with a neck rib and a small pellet beneath the collar). Cat.No. 785 has a miniature loop; it has a narrow neck flaring out to a wide skirt, its outline resembling Cat.No. 776 from Dalen which we have here placed in the "Meldreth-related" group, to which it is surely related. Cat.No. 784, from Echt, Limburg, rather resembles the (ungrooved) axe which could have been cast in the Havelte mould.

3.4.2. Catalogue of the faceted socketed axes with face grooves in the Netherlands

CAT.NO. 784. ANNENDAAL, GEMEENTE ECHT, LIMBURG.

L. 10.9; w. 5.1 cm. Circular mouth opening (formula: 4.1×3.90; 3.15×3.0 cm). Bulging collar. Single neck rib, from which springs small, narrow D loop with) (outline; below which is a small, rather faint pellet. Body outline strongly) (, but tips slightly S. Faces flat, with a vertical groove at each edge. Sides slightly ridged, with casting seams preserved. Cutting edge sharp. Patina: dark brown to

dull green to bluish green; in places ochreous. Modern file marks. Inside: ochreous sand. Private possession; for a time on loan to Museum Echt, where it had the inventory No. B.5; later returned to the heirs of the collector. (DB 1006)

Map reference: Sheet 68E, c. 199/346

Parallels: The slightly ogival outline of the Annendaal axe is matched on the (dealer) specimen from Nijmegen (Cat.No. 780) cf. also near Compiegne, River Oise (O'Connor, 1980: p. 585, fig. 74:8, No. 35; Blanchet & Lambot, 1975: p. 42, fig. 30).

Note: The pellet is unusual in the 'faceted' series, though common on socketed axes of Type Plainseau. The wide loop is also a Plainseau feature.

CAT.NO. 785. SAASVELD, *GEMEENTE* WEERSELO, OVER-IJSSEL. (Hondeveld).

L. 8.9; w. 5.2 cm. Subrectangular mouth, single bulging collar, formula: 2.85×2.8; 2.15×2.1 cm, from which depends small loop: 1.7×0.4 cm. Narrow body with eight facets, round faces, casting seams present. Blade splays widely. Edge damaged. Patina: dark brown. Museum Enschede, Inv.No. 565 (old No. 500–231). (DB 1054)

Documentation: Ter Kuile in his copy of Pleyte: p. 36.

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

CAT.NO. 786. PROVENANCE UNKNOWN.

L. 10.75; w. 4.95 cm. Round mouth opening (formula: 4.2×4.2; 2.95×3 cm). Small loop, 2×0.6 cm. Body cross-section subrectangular, but with a shallow vertical groove on each side of the face. Prominent casting seam vestiges. Cutting edge tips slightly expanded. Patina: dark bronze, traces of black. Museum: Delft,

Nederlands Legermuseum: Inv.No. Caa-18, purchased 1952 from Van Stockum's Antiek, Den Haag. (DB 1116)

3.5. Angle-faceted socketed axes in the Netherlands (AXT:Fac.Ang) Fig 114.

3.5.1. Definition

A half-dozen socketed axes in the Netherlands (Cat. Nos 787–792) are of basically subrectangular cross-section, but the angles between faces and sides are chamfered. All have a more or less bulging collar (in two cases horizontally faceted); two (Cat.Nos 791 and 792) have a neck rib below the collar. The loop varies in size and placement: Cat.Nos 787, 788 and 789 have small, Wesseling-type loops, one (Cat.No. 790) a rather large loop; Cat.Nos 791 and 792 have an unusual loop placement; namely the loop springs from the collar, and overbridges a neck rib.

"Angle-faceted" socketed axes have not been generally recognized as a distinct group; axes with this feature are usually divided up among other types. We preserve an open mind for suggestions as to their relationships. Ki 779 (= Tackenberg's Taf.17:2) from Hagen, Kr. Paderborn in Nordrhein-Westfalen is angle-faceted rather than linear-faceted, but in form is evidently related to the linear-faceted axes. Ki 587, from Velmeden, Werra-Meissner Kr. Hessen, is also angle-faceted.

3.5.2. Catalogue of the angle-faceted socketed axes in the Netherlands

CAT.NO. 787. STEVENSWEERT, *GEMEENTE* MAASBRACHT, LIMBURG. Echterweerd.

L. 10.8; w. 5.2 cm. Heavily crushed; bulging collar, below which D loop 1.8×0.6 cm;) (outline, oval section, faces slightly convex. On face two vertical grooves. Cutting edge sharp. Patina: now mostly blue-green; brownish patches. Breaks modern. Found 1997 by J. Janssen (Stevensweert); dredged by dredge 'Pluto'. Presented by owner to museum Stevensweert. (DB 2425)

Map reference: Sheet 68B, 187.6/347.5

CAT.NO. 788. GEMEENTE DOETINCHEM, GELDERLAND.

L. 11.7; w. 5.5 cm. Weight 391.7 gr. Oval socket mouth, but subrectangular socket inside. Bulging collar, with faint horizontal faceting (formula: 4.1×4.0; 3.1×2.8 cm). From base of collar springs a small D loop (1.2×0.6 cm); the casting seams inside the loop have been imperfectly removed. Body outline) (, gradually expanding toward a rather wide cutting edge. The faces are a large trapeze-shaped facet, the angles of which are also faintly faceted; the sides are rounded in section. Four casting jet stumps. Casting seams unusually prominent, and somewhat irregularly flattened by hammering.

Cutting edge well sharpened; its tips have been slightly hammered down. Surface slightly corroded, with tiny pits, but very well preserved. Patina: grey-green. Found in the canalisation of the Oude IJssel. Museum: Kasteel Berg, 's-Heerenberg, Inv.No. 1186 (formerly private possession: Mrs Van Heek; old No. in black ink inside socket: B2). (DB 1738)

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

CAT.NO. 789. *GEMEENTE* ALPHEN, NOORD-BRABANT. ST. JANSBRUG, POPPELSE LEY.

L. 11.1; w. 4.75 cm. Oval socket-mouth externally, sub-rectangular internally (formula: 3.75×4;2.7×3 cm). Horizontally faceted, bulging collar, with hammer marks and stumps of casting jets. Body outline slightly) (; body section octagonal, but all faces gently convex; side angles emphasized by thin ribs, sides near cutting edge slightly S-curved; cutting edge nearly straight. Small low-placed loop, 1.4×0.7/0.4/0.75 cm. Prominent casting seams. Patina: black (partly removed). Very well preserved; but cutting edge filed recently. The finder sharpened the cutting edge, provided the axe with a haft, and experimented with its use. He found the bronze too soft in comparison with modern axe-heads. The damage to the bronze axe was therefore confined to the file marks on the cutting edge, and is otherwise well preserved. Found c. 1938 by De Brouwer, stream-sweeper of Hilvarenbeek, during the sweeping of the stream de Poppelse Lei between Alphen and Goirle, at the level of St. Jansbrug (bridge), where the Poppelse Lei forms the boundary between Belgium and the Netherlands between Alphen and Goirle [door de Brouwer, stroomveger te Hilvarenbeek, bij het stroomvegen van de Poppelse Ley tussen Alphen en Goirle, ter hoogte van St.Jansbrug, waar de Poppelse Lei de Belgisch-Nederlandse grens vormt tussen Alphen en Poppel]. Presented by De Brouwer to museum Hilvarenbeek in 1965. Museum: Hilvarenbeek, Inv.No. H.26. (DB 1099)

Documentation: letter G. Beex to ROB: 15 April 1965.

Map reference: Sheet 57C, c. 131/390.

Reference: Van Doorselaar, Beex & Van Schie-Herweyer, 1969: p. 56.

CAT.NO. 790. "VELUWEZOOM" (Veluwe-edge), GELDER-LAND.

L. 11.15; w. 6.3 cm. Mouth: 4.47×4.09 cm. Mouth opening oval (formula: 4.2×4.0; 3.5×3.1 cm). Bulging, horizontally faceted collar; flattish projection on top of the collar (unusually shaped stump of a casting jet?). From the base of the collar springs a fairly large D loop with) (outline, but slightly angled (3.3×1.5/0.75/1.3 cm). Body outline) (, expanding gradually to a wide cutting edge; the edges have slight facets. Casting seam prominent. Cutting edge sharp, slightly asymmetrical. Very well preserved, smooth surface; patina: remains of light green, partly removed; some yellow loamy deposit. Exact findplace unkown: in one GAS Inventory: "Veluwezoom bij Ellecom?" in another GAS Inventory: "findplace unknown (Veluwezoom bij Ellekom)". Information: L. Swinkels, museum Het Valkhof. Museum: Nijmegen, Museum Het Valkhof, Nijmegen, Inv.No. GAS 1965-8-1, but on loan in museum

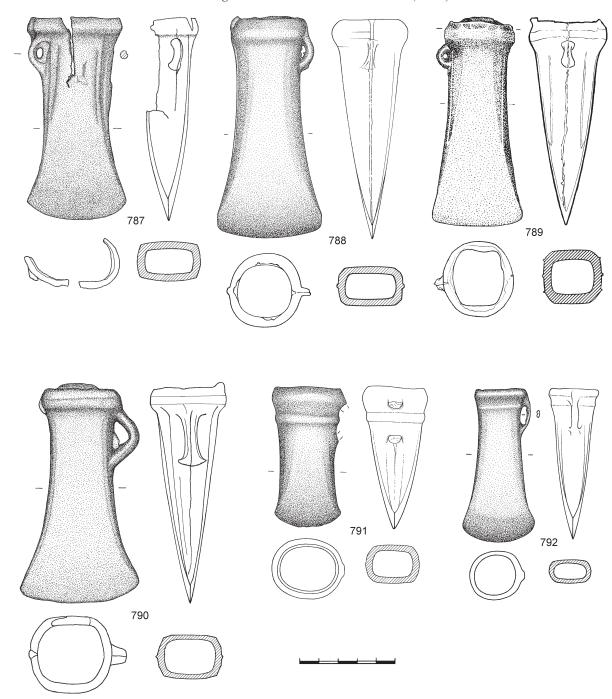


Fig. 114. Angle-faceted socketed axes. 787: Stevensweert, Li; 788: *gemeente* Doetinchem, Ge; 789: Poppelse Ley at St. Jansbrug, N-B; 790: Veluwezoom, Ge; 791: Weerdinge, Dr; 792: Milsbeek/Ven-Zelderheide peat-bog reclamation, Li. (787, 790: drawing HS)

Harderwijk. (DB 737) Map reference: Sheet 40E, c. 203/449

CAT.NO. 791. WEERDINGE, *GEMEENTE* EMMEN, DRENTHE. L. 7.1; w. 3.5 cm. Oval mouth opening. Bulging, nearly biconical mouth moulding (formula: 3.8×3.2; 2.9×2.35 cm) from which

sprung the loop (2.5 cm; which was, however, anciently broken off and is missing). The loop bridged a single neck rib, which is somewhat wider than the usual thin neck-rib. The sides are slightly) (, nearly parallel, with very slight blade-tip expansion. Blade cross-section (_), but with the angles slightly faceted. Prominent casting seams. Patina: part dark glossy green; damaged parts light green.

Private possession (owner's inventory number: 17F52). (DB 2258) *Map reference:* Sheet 17F, c. 257.8/532.2.

CAT.NO. 792. MILSBEEK/VEN-ZELDERHEIDE, GEMEENTE OTTERSUM (NOW GEMEENTE GENNEP), LIMBURG.

L. 8.0; w. 3.8 cm. Round mouth opening (formula: 2.8×2.6; 2.3×2.2 cm). Bulging collar, from which springs thin D loop (2.2×0.5 cm); one thin neck rib. Body with) (outline, (_) section, with faceted angles. Sides are faintly faceted. Irregular hole on one side; also dent (modern damage). Very thin-walled and light. Cutting edge sharp. Blade tips hollow. Faint casting seam on loop side. Sharpening facet on face. Patina: now very dark brown, but traces of green under the loop; inside also greenish. Well preserved. Found 1933–1935 during peatbog reclamation in employment relief project; was in possession of Ir. W.B. Kuhn, the project director; after his death offered by his widow to the local museum in Gennep. (DB 2409)

Map reference: Sheet 46B, c. 196/417.

Reference: Fontijn, 2002: p. 164, fig. 8.9 and p. 330.

4. SOCKETED AXES OF TYPE SOMPTING AND RELATED IN THE NETHERLANDS (AXT:somp) Fig. 115–116

4.1. Definition

The socketed axes of Type Sompting were defined by Burgess (1969, pp. 267–272; cf. Schmidt & Burgess, 1981: pp. 241–247). Very briefly, the axes of the basic type are large and heavy, with a somewhat trapezeshaped body (see op cit. for the full details). Many or most examples have on the face more or less vertical rib, rib-and-pellet, or rib-and roundel ornament. Small examples and unornamented examples also appear. But, as Burgess emphasized, similar ornament often occurs, on other, non-Sompting types of socketed axes, including some small axes in the German Rhineland attributed by Kibbert to his Form Wesseling (Ki 581– 585), identifiable with the Rhineland "linear-faceted" group mentioned above (one similar piece is present in the Netherlands: Butler & Steegstra, 2003/2004: Cat.No. 771, from Emmen, gemeente Dalfsen in Overijssel); on two longer rib-and-pellet-ornamented axes, Ki 615 and 616; and on some Armorican socketed axes.

Although Burgess warned (in 1969) that the form and the decoration on Sompting and related socketed axes needed to be considered separately, mapmakers (including Burgess himself) have tended to concentrate on the ornament (Burgess, 1969: fig. 2 "Distribution of (Sompting and related) socketed axes); mostly in South-East and North-East England; Tackenberg (1979: p. 260, *Liste* 21, adding to Sprock-

hoff, 1956:2, p. 24ff, *Karte* 11) shows very few axes with *Uhrpendelmuster* in North-West Germany (*cf.* Kibbert, 1984: pp. 154–158) and rather more in central North Germany, spreading to the Baltic coastal area. Examples, in so far as illustrated, are not evidently British, except apparently the specimens from Heringsdorf auf Usedom (Sprockhoff, 1941: Taf. 39:1) and in the Bergen auf Rügen hoard (Sprockhoff, 1941: Taf. 53:9,10).

Recent studies (Coombs, 1979a, 1979b; Cunliffe & O'Connor, 1979; Eogan, 2000: his Class 14, p. 97; Northover, 2003 (a,b); Dorothee Bruns (information via e-mail from her forthcoming thesis) have increased the number of variants recognized in Britain and Ireland.

Very few socketed axes in the Netherlands are attributable to the Type Sompting (main or variants), and even these few are subject to reservations as to reliability.

Cat.No. 796 is severely battered, and its typological placement here is uncertain. Cat.No. 793 and Cat. No. 795 are typologically acceptable Sompting axes, but are acquisitions via the antique trade.

Cat.No. 794, attributed to Hunsel, Netherlands Limburg, is in form also very similar to the socketed axes in the hoard of Portland, Dorset, recently declared by Dorothee Bruns to consist of Sompting axes of a "Variant Portland". The Museum Liege (Luik) acquired it in 1924 from Mme. H. Schuermans-Sleegers; how she acquired it is unknown.

Cat.No. 793, allegedly from Overasselt, Gelderland, is undoubtedly a Sompting axe, but came to the Leiden museum in 1949 via the dealer Groneman of Nijmegen.

Cat.No. 795, also undoubtedly a Sompting axe, like Cat.No. 794 of the Variant Portland (Pearce, 1983: No. 433 a-j), is allegedly from a dune location at Monster, Zuid-Holland. It was acquired by the Hague museum via the dealer Peterse (information from V. Kersing, Gemeentelijke Archeologische Dienst, the Hague, July 2005).

Cat.No. 506 is an unornamented Sompting axe, with unperforated loop. It was acquired from the collector G.J. Olst of Ressen, as having been found in the *Gemeente* Nijmegen, but without exact find-spot, by the Gelders Archeologische Stichting (GAS) in 1958.

We have already catalogued this axe as Cat.No. 506 in Part III:2A as a Plainseau axe, but on reconsideration it agrees well with, for example, Schmidt & Burgess No. 1578 from "the Ingleton area", W.R. Yorkshire and No. 1602 from Castle Hill, Burton Agnes, E.R. Yorkshire; also Tower Hill hoard, Ashbury, Wiltshire (Coombs, 2003; Coombs *et al.*, 2003) and others.

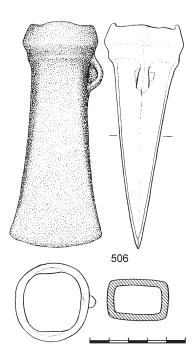


Fig. 115a. Socketed axe of Type Sompting (undecorated). 506: "near Nijmegen", Ge.

Dating: developed Sompting axes are dated in Britain to LBA3 (Ewart Park phase) and LBA4 (Llyn Fawr phase); in Ireland to the Dowris phase (O'Connor, 1980: p. 234; Eogan, 2000: p. 197).

4.1.2. Catalogue of the socketed axes of Type Sompting or related in the Netherlands

4.1.2.1. Undecorated Sompting axe (fig. 115a)

CAT.NO. 506. NEAR NIJMEGEN, GELDERLAND.

L. 12.0; w. 4.8 cm. Round to subrectangular mouth opening (formula: 3.9×4.25; 3.05×3.05 cm). Slightly biconical collar + rib; low loop (1.9×0.6 cm) not open; subrectangular cross-section. Edge sharp. Patina: blackish glossy. Gravel and yellowish loam under loop; ochreous coloured, loam inside socket. Museum: Museum Het Valkhof, Inv.No. GAS 1958-9-31, ex coll. G.J. Olst of Ressen (on loan in museum Ede). (DB 45)

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

4.1.2.2. Decorated Sompting axes (fig. 115b)

CAT.NO. 793. OVERASSELT, *GEMEENTE* OVERASSELT, (NOW *GEMEENTE* HEUMEN, GELDERLAND (dealer's provenance).

L. 13.5; w. 5.1 cm. Round mouth; inverted-cone collar (formula: 4.1×4.5; 3.4×3.4 cm). Neck rib, from which depends small but

broad ribbon loop (2.5×0.9 cm). Body of rectangular section, concave-/_\ outline; five vertical ribs on each face. Cutting edge sharp. Interior partly filled with bronze-impregnated wood. Patina: mottled. According to the *Inventarisboek* purchased 8 June 1949 from dealer Groneman (Nijmegen), but in the Museum cardfile dealer Esser is mentioned. Museum: RMO Leiden, Inv.No. e.1949/6.1. (DB 524)

Map reference: Sheet 46A, c. 183/419 *Reference:* Butler, 1963: p. 94(1).

Parallels: British Type Sompting, common especially in South-East England in British LBA4/beginning of the Iron Age (Burgess, 1969: p. 271; O'Connor, 1980: p. 234; Coombs, 1979: pp. 197–220, 253–268; Cunliffe & O'Connor, 1979: pp. 235–244).

A similarly shaped heavy inverted cone collar is uncommon, but present on a 3-ribbed axe in the Plainseau hoard (O'Connor, 1980: fig. 65B5) and some of the axes of Schmidt & Burgess, 1981: Type Welby (Pl. 88–89).

In W. Germany, Kibbert, 1984: Nos 730 (Hangen-Weisheim, Kr. Alzey-Worms, Rheinland-Pfalz), 731 (Geseke, Kreis Lippstadt, NRW); 732 (without neck rib: Mutterstadt, Kreis Ludwigshafen, RPf). Possibly 733, "Bingen?", and 745 (Kamp-Bornhofen) though these may considered to be Plainseau axes). In Belgium 1 ex. from East-Flanders (in museum Gent), but with broader ribs.

CAT.NO. 794. HUNSEL, *GEMEENTE* HUNSEL, LIMBURG. Near 'the Schans'?

L. 10.6; w. 5.1cm. Round mouth, biconical collar (mouth formula: 3.15×3.15; 2.2×2.2 cm); from which depends small loop (1.95/0.6/0.4/0.6 cm; actually unpierced). Narrow body, widening gradually to broad cutting edge; faces and sides flat; cross-section rectangular. Four vertical ribs with pellets, slightly diverging, on each face. Adjacent to loop, two blowholes; casting seam eccentric. Patina: glossy brownish (where damaged, greenish): peat find? Museum Liège, Inv.No. 24/2; donated (1924) by Mme. H. Schuermans-Sleegers. Plaster cast in Museum Brussels (KMKG): Inv.No. B.1018. Metal analysis (Jacobsen, 1904): Sn 12.84, Pb 1.84. (DB 650)

Map reference: Sheet 58C, 183.92/356.01

Documentation: e-mail H. Heijmans with coordinates to authors. *References:* Jacobsen, 1904: Anal.No. 53; De Loë, 1931: pp. 46–8; Mariën, 1952: fig. 200:3; De Laet, 1982: p. 499; Wielockx, 1986: Hu.79.

Parallels: very similar to specimens in the South English axe hoard from Portland, Dorset ("possibly Verne Fort area", 1857) (Pearce, 1983: Cat.No. 433a–433j).

CAT.NO. 795. MONSTER, *GEMEENTE* MONSTER, ZUID-HOLLAND. (near the Watertower). Dealer's provenance.

L. 10.2; w. 5.3 cm. Circular socket-mouth; biconical collar with cylindrical neck, offset from body; from the base of which springs a small loop (2.2×0.5/0.85 cm). Body with octagonal cross-section, widely expanding blade, with rib-and-pellet ornament (five ribs) on each face. Cutting edge sharp. Patina: blackish. Found 1953 30

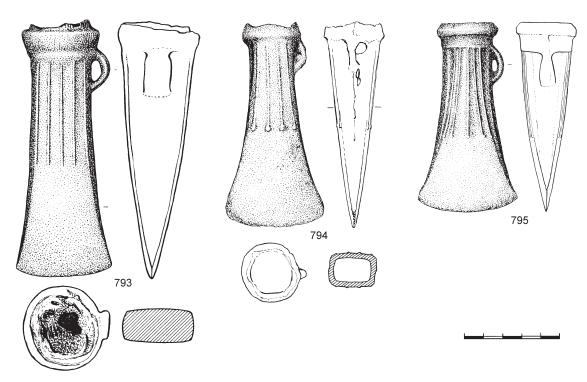


Fig. 115b. Socketed axes of Type Sompting and related. 793: "Overasselt", Ge (dealer's provenance); 794: Hunsel, Li; 795: "Monster", Z-H (dealer's provenance); 796: near Nijmegen, Ge.

cm deep "in de grond derde strandwal" (in the earth of the third dune ridge). Museum: Den Haag, Inv.No. pchhm90.00012.953; purchased from the dealer Peterse (information from V. Kersing, Gemeentelijke Archeologische Dienst, the Hague, July 2005). (DB 1354)

Map reference: Sheet 37B, c. 71/449.

References: Appelboom, 1954: No. 3–4, pp. 80–2 (with photograph), summarized Westerheem III, 1954: p. 91; Butler, 1963: pp. 93–94, fig. 23; Van Heeringen, 1983: p. 105, afb. 10-4; Van Heeringen, 1992: p. 101, fig. 13, site 30-West-23.

Parallel: O'Connor, 1980: linear faceted No. 45.

Note: The collar, single neck rib and low-placed loop would not be out of place in the British series of Sompting axes, to which the Monster axe undoubtedly belongs. The provenance is, however, a dealer's provenance.

4.1.2.3. Uncertain type because of severe damage (fig. 116)

CAT.NO. 796. HOUT, GEMEENTE KESSEL, LIMBURG.

L. 10.5; w. +3.5 cm. Round socket-mouth; double collar, formula: 3.7×3.5; 2.3×2.15 cm; pointed oval cross-section; 6 ribs on each face. Stump of low loop, 1.85×0.6 cm. Severely damaged and abraded. Patina: leathery brown. Museum: RMO Leiden, Inv.No. 1.1938/6.55, acquired from collector L.D. Keus of Venlo. (DB 473) *Map reference:* Sheet 58E, c. 203/369

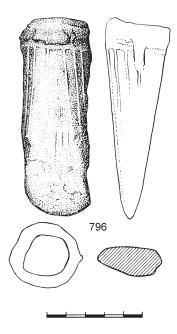


Fig. 116. Uncertain type because of severe damage. 797: Hout, Li.

5. MISCELLANEOUS SOCKETED AXES

In this section we catalogue socketed axes of types scarce in the Netherlands and socketed axes of uncertain classification.

Included are a number of specimens that are, certainly or probably, modern imports to the Netherlands, via dealers or collectors. In accordance with current international practice we register such specimens for the sake of completeness, or because of uncertainty as to their status, for whatever research value they may have as genuine prehistoric objects with unknown or doubtful provenance.

We do not wish categorically to cast aspersions on the integrity of the dealers and collectors who have purchased or sold prehistoric objects in good faith. But, alas, not all buyers and sellers are equally innocent. Bronze socketed axes, like other bronzes, are mostly small, easily portable objects, which in the past were for the most part inexpensive items, worth only a few guilders on the market. It was not the responsibility of an antiques dealer to investigate the alleged findspots of such articles, even assuming that a find-spot was named; nor would it have been worth his while to devote time to the purpose. A local find-spot attribution, true or untrue, would in many cases enhance the purchaseability of an object by local museums and collectors. At present, with greatly enhanced prices for antiquities, the frequent use of metal detectors on other-man's land may play a role in promoting misinformation as to find-spots, as was earlier sometimes the case with dredge finds. Exchanges among collectors are also a possible source of find-spot confusion. The problem is to distinguish the reliable from the unreliable; students of the Bronze Age are entitled to whatever information as may be available that could have a bearing on the reliability of a find-spot; especially with respect to types rare in our area, for which there is no pattern of distribution.

5.1. 'South-eastern' (British) socketed axes in the Netherlands (figs 117a–117b)

5.1.1. Definition

"South-eastern" socketed axes were first defined by one of the present writers (Butler, 1963: pp. 82–86, fig. 21–22, Map VI) to give a name to what then appeared (thanks an exploratory study in the Bronze Age Card Catalogue, later National Bronze Implements Index, housed in the British Museum) to be the most common type of socketed axe present, in overwhelm-

ing numbers, in South-East Britain. The writer was then, however, inadequately informed as to the frequency and typological details of the related socketed axes in France and adjacent areas, and did not then distinguish between his own South-eastern type and those which subsequently became known under the heading of socketed axes of Type Plainseau (Gaucher & Mohen, 1974: fiche 711; O'Connor, 1980(I): p. 161 ff, 173-174; Schmidt & Burgess, 1981: pp. 212-217, Pl. 129; Gaucher, 1981: pp. 227–230; Blanchet, 1984: pp. 279 ff, 302–3; Butler, 1987: pp. 26–27, figs 16–18; Van Impe, 1994; Butler & Steegstra, 2001/2002: pp. 280-292, figs 11-22 and Map 4). These writers have contributed their own interpretations; but it remains true that only a full publication of the British and French material will permit full clarification.

In North Britain, Schmidt & Burgess distinguish four variants, plus an "other South-eastern axes category" (1981: pp. 212–217, their Nos 1267–1294), plus some "related" types (Everthorpe, Welby). We have classified the two specimens here presented as South-eastern rather than Plainseau axes chiefly on the basis of their bulging collars and parallel sides. Cat.No. 797 has possibly never been sharpened, while Cat.No. 798 has been heavily resharpened, as shown by its sharpening facets, widely splayed blade and furrowed blade tips.

Our Cat.No. 797 is nearly identical to Schmidt & Burgess Cat.No. 1273 (from a hoard at Eldwick, W. Riding, Yorkshire, assigned by them to their Variant Shoebury); our Cat.No. 798 is similar to Schmidt & Burgess, 1981: No. 1275, pp. 127–129, assigned to Variant Worthing. These and some others are presumably imports from South-East England

5.1.2. Catalogue of the South-eastern British socketed axes in the Netherlands

CAT.NO. 797 PROVENANCE UNKNOWN.

L. 10; w. 3.3 cm, weight 335.1 g. Subrectangular mouth opening (formula: 3.9×3.65; 2.7×2.5 cm). Bulging collar with flattened rim (old file marks on the flattened surfaces). Broad but shallow step-like neck rib on three sides, most rib-like on looped side; from it springs thick ribbon (but tapering) loop: 1.×0.9/0.6 cm. Body section sub-rectangular; outline very slightly trapeze shaped. Cutting edge blunt. Roughly half of the socket is filled with brown sand, fine brown sand under loop. Faces have file marks. Patina: overall dull black, with slight greenish tinge. According to the present owner, found in the boundary region Belgium/Germany; purchased by him at an exhibition. Private possession. (DB 2518)

Documentation: letter (and photograph) owner to Butler, 3 November 2000.

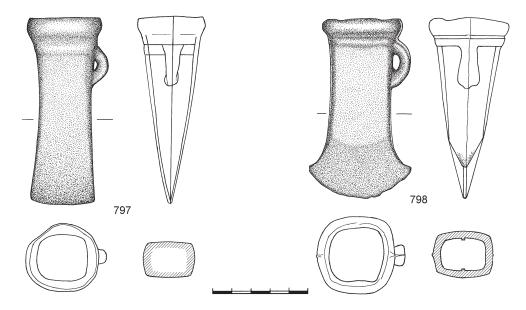


Fig. 117a. British South-eastern socketed axes. 797-798: provenance unknown (drawings HS).

Parallels: For example, Schmidt & Burgess, 1981: No. 1279, from Sproatly, East Riding, Yorkshire (in a hoard, for details referring to p. 160 under No. 916), attributed by them to Type Southeastern, Variety Bilton (p. 214) but (on another page) also to Variant Worthing (their Pl. 85:1279 and Pl. 140 E).

CAT.NO. 798. PROVENANCE UNKNOWN.

L. 9.45; w. 5.35 cm. Weight: 329.8 g. Mouth formula: 4.25×4.15; 3.05×3.1 cm. Collar, one neck rib, from which band loop (2.15×1.15 cm). Ring-punch marks on loop side (4×), one on opposite side. J tips with pouches. Cutting edge sharpened, but battered anciently. Vertical rib on each inside face of socket. Mass of lead in lower part of socket. Casting seams prominent. Resharpening of the axe is indicated by facial facets and by the dimples on the sides of the cutting edge. Patina: dark bronze with light green patches. Private possession. The father of the present owner of this axe purchased it from a (now unknown) dealer as a birthday present for his daughter. (DB 2523)

Parallel: A strikingly similar axe is (for example) from a hoard found at Eldwick, W.R. Yorkshire (Schmidt & Burgess, 1981: No. 1272 (their Pl. 85), assigned by them to their Type "[British] Southeastern, Variant Shoebury", which they cite as "one of the commonest South-eastern forms".

5.1.2.1. Possible variant of the South-eastern type, without neck rib (fig. 117b)

CAT.NO. 799. HEES, GEMEENTE NIJMEGEN, GELDER-LAND

L. 10.3; w. 4.6 cm. Single, bulging collar (ext. 3.8×3.5 cm); round socket opening; low loop (1.6 cm); body of rectangular cross-sec-

tion, with expanded, somewhat asymmetrical cutting edge. Patina: reddish-brown to brown. Surface rough. Museum Liège, inventory number unknown, ex coll. Georges Cumont. Sketch: Butler. (DB 649)

Map reference: Sheet 40C, c. 185/428.

Reference: Servais & Hamal-Nandrin, 1929: p. 43, Ee.

Parallels: Similar socketed axes occur in North Britain (Smith & Burgess, 1981: pp. 217–218, Nos 1295–1303, there under the heading "Miscellaneous slender socketed axes with rectangular sectioned bodies". According to them, such axes also occur sporadically elsewhere in Britain, "where they may be regarded as variants of the South-eastern type", cf. e.g. Nottingham, the Great Freeman Street hoard (M.A. Smith, 1957: Card 2 [1]: No. 7). Examples are also present in the "Plainseau" hoards in Picardy (Blanchet, 1984: pp. 281, 284), and elsewhere.

5.2. Socketed axe of "Type Jersey" in the Netherlands (fig. 118)

CAT.NO. 800. HENGSTBERG, *GEMEENTE* UBBERGEN, (NOW: ST. MAARTENSKLINIEK, *GEMEENTE* NIJMEGEN), GELDERLAND. Part of two-axe hoard (with Cat.No. 509).

L. 12.5; w. 3.9 cm. Square mouth; rectangular cross-section; biconical collar (formula: 3.3×3.6; 2.45×2.5 cm) from the base of which springs a D-shaped loop (2.4×0.6 cm). 3 converging ribs on face. Edge abraded. Patina: glossy dark green, with dark brown encrustation. Found 1821 at the 'Oliemolen' (oil mill) while constructing a garden with footpaths [toen men daar een tuin met wandelpaden wilde gaan aanleggen]. Museum: Het Valkhof, Nijmegen, Inv.No. AC 12 (old No. E III No.8), presented 1865 by A.L. Post, owner of the 'Oliemolen'. (DB 1482)

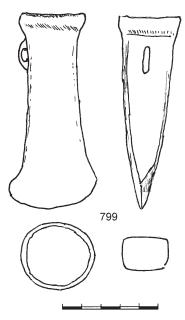


Fig. 117b. Related to British South-eastern socketed axes. 799: Hees, Ge. (sketch JJB)

Map reference: Sheet 40D, c. 190.5/427.3.

Associations: socketed axe Cat.No. 509; of Type Plainseau with large, bulging collar and single neck rib (in museum Het Valkhof, Inv.No. E.III.No.6, ex coll. Guyot).

Documentation: Reuvens 'notebook': p. 190, with sketch by him at unnumbered page (in museum RMO Leiden).

References: Westendorp & Reuvens, 1823: p. 219–220; Scheers & Abeleven, 1873: p. 6, No. AC 8; Abeleven & Bijleveld, 1895: p. 9, No. AE.III.8; Butler, 1961: Pl. XVIII:3; Butler, 1963: p. 85(22); Butler & Steegstra, 2001/2002: pp. 283, 285, fig 12b.

Parallels: Briard, 1965: fig. 98:3, illustrates a similar socketed axe, with a large V rib on the face, which he discusses in connection with his petit "Type Couville", from Miniac-Morvan (dep. Îlle et Vilaine), or (p. 262) to Champ-Houguet en Couville, Manche; which location is intended is not clear. The Type Couville consists of very small socketed axes, while our Cat.No. 800 is, with 12.5 cm length, rather on the long side. In 1836 a hoard was found near Saint-Hélier containing both large and small examples of the type. The British archaeologists called it the "Type Jersey" (see Crawford, 1913: pp. 641–649). How farther to the west, how larger the axes Briard, 1965: p. 263). Probably related is our Cat.No. 622, of unknown provenance, with a similar size and outline, but with face decoration of rib 'wings'.

A few related socketed axes from the German Rhineland are similar in form but with slightly more bulging collar and different ornament: Ki 614 from "Rhein bei Mainz" with a pattern of pellets; Ki 615 from the "Rhein bei Niederdollendorf"; and Ki 616, with rib-and-pellet ornament; the latter from a possible hoard with roughout castings for Gündlingen bronze swords of the Early Iron Age. (Kibbert, 1984: Taf. 100A:1–3, with further references).

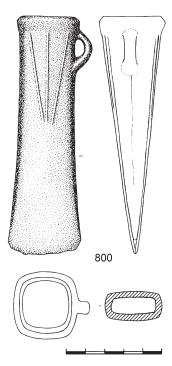


Fig. 118. Related to Armorican socketed axes of Type Jersey. 800: Hengstberg (Nijmegen), Ge (with Cat.No. 508).

5.3. Socketed axe of Lausitz type (Var. Lenzersilge) (fig. 119)

5.3.1. Definition

Lausitz socketed axes, with several varieties, were defined by Sprockhoff (1949/1950: Abb. 17:1; 1956-I: Abb. 17:1, distribution map Karte 3) as *Typ Perleberg-Lenzersilge*, mostly in the Middle Elbe area. Some additions by Tackenberg, 1971: p. 55 ff, p. 265 *Liste* 34, distribution map Karte 14, under the heading "Tüllenbeile mit geraden Randleisten und ornamentaler Stegstütze ohne Mündungsrippen"; Kuśnierz, 1998: pp. 25–69, Kat.Nr. 75–569 (his group II: Lausitzer Tüllenbeile).

The distribution of Lenzersilge axes is, thus, mainly in the Elbe-Oder area, with very few finds farther to the west. They are very scarce in Middle West Germany; Kibbert has a few examples (Ki 750–755), only one of which (Ki 752, from a Late Bronze-Age-Early Iron Age settlement site at Recklinghausen-Süd) is in Nordrhein-Westfalen; but none are in Niedersachsen.

The only example of a Lausitz socketed axe recorded in the Netherlands is Cat.No. 801, a stray find from Achterberg, *gemeente* Rhenen. It is similar to the Recklinghausen specimen, which Kibbert

lists under the heading "resembling the Middle Elbe form Lenzersilge-Darsekau". With its simple mouth moulding without neck ribs, long thin midrib, and plastic arches on the sides, our Cat.No. 801 most resembles the socketed axes of the variety Lenzersilge. East of the Oder, in Western Poland, Kuśnierz (1998: pp. 76–77, Nos 622–626, Taf. 45 triangles) has five examples under the "Lenzersilge-Darsekau" heading, though of these, only one is "Lenzersilge"-like (along with some others he illustrates that are similar-looking but for various reasons are assigned to other types) as against four specimens with neck ribs, and thus "Darsekau" axes.

CAT.NO. 801. ACHTERBERG, *GEMEENTE* RHENEN, UTRECHT. L.8.3; w. (3.0). Weight 133.5 gr. Nearly circular mouth. Bulging collar (formula: 3.5×3.3; 2.4×2.35 cm), from which springs small D loop (1.4×0.5 cm), bridging a very short neck of round section. Narrow body of) (outline. On each face a prominent narrow vertical rib; on each side a prominent arch ornament, the edges of which form side flanges on the face. Casting seams present. Cutting edge sharpened, but anciently battered; one blade tip broken off. Patina glossy dark brown; c. 50% of which is peeled off, showing light green. Found c. 1962. Museum: Amersfoort, Inv.No. Ca 103). (DB 1159)

Map reference: Sheet 39E, 168.500–169.500/442.900–443.500. Parallel: Kibbert, 1984: No. 753 (Nieder-Olm, Kr. Mainz-Bingen). cf. Kibbert's "der Mittelelbe-Form Lenzersilge-Darsekau nahestehend" (Kibbert, 1984: pp. 158–161, Nos 752–755.

Note: According to the Amersfoort museum it was found around 1962; how it came to the museum is unrecorded, thanks to a gap in the finds registration around that time (information from the *conservator*, B. Raven, to authors, in e-mail 12 January 2006). It is therefore difficult to judge whether it may be an ancient or modern import.

Dating: If an ancient import, it would be remarkably isolated as a Lausitz axe in West Germany and the Netherlands. On the other hand, the very reliable Drouwenerveld hoard in Drenthe (Butler, 1986: pp. 137–149; contains a remarkable group of import bronzes, partly of types characteristic of the Middle Elbe area, possibly datable to the same period (HaB1/Northern Period IV) as the axe Cat.No. 801.

5.4. Socketed axes of South-East European types in the Netherlands (figs 120–122)

Nine socketed axes present in collections in the Netherlands are of types especially frequent in the Late Bronze Age (more or less parallel with Central European BzD-HaB3) in South-Eastern Europe, but rare outside that area. They are here presented for the

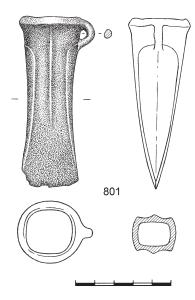


Fig. 119. Socketed axe of Lausitz type (*Var.* Lenzersilge). 801: Achterberg, Ut.

sake of the record; some are certainly, and others probably, modern import. Four examples (Cat.Nos 802, 804, 808, 809) are without recorded provenance. Five specimens are attributed to specific find-places in the Netherlands; four of these have a dealer's provenance. It is seldom possible now to determine whether these attributions are reliable. We present such evidence as may be available, so that the reader may judge for himself.

5.4.1. Socketed axes with asymmetrical saddleshaped mouth in the Netherlands (fig. 120)

These, known in the literature variously as *Schnabeltüllenbeile*, or as "Thracian" or "East Carpathian" socketed axes, or as "*mitteldonauländische Tüllenbeile mit ausgeschnittenem Tüllenrand*", are represented by only two examples in the Netherlands (Cat.Nos 802–803). Both have an asymmetric mouth. One of these, Cat.No. 802, is certainly modern import; it was presented to the BAI Groningen by the Hungarian National Museum in 1920 as an unlocalized find. The other specimen, Cat.No. 803, is attributed to Katwijk aan de Maas; it came into the collection of the Rijksmuseum van Oudheden, Leiden, by purchase from the antiques dealer Esser in 1923.

CAT.NO. 802. PROVENANCE UNKNOWN.

L. 10.7; w. 5.6 cm. Oval mouth opening, with asymmetrically saddle-shaped, bevelled and everted rim, from which springs a D-shaped loop. Body with strongly concave outline; faces and sides

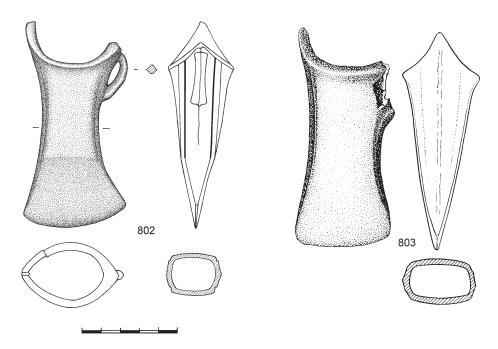


Fig. 120. Socketed axes with asymmetrical saddle-shaped mouth. 802: "Hungary" (drawing HS); 803: "Katwijk a/d Maas", N-B.

convex in section; the angles are grooved. The lower part of the blade has on each face broad sharpening facet. The cutting edge, sharpened, is markedly asymmetrical and strongly curved. Patina: glossy green. The face has been coarsely filed leaving many scratches; preservation otherwise excellent. There is a crack c. 1 cm long descending from the rim on one face. Dark brown earthy encrustation inside the socket. BAI 1920/V.59, presented by the Hungarian National Museum; stolen from BAI c. 1960, thereafter in private possession. (DB 2560)

CAT.NO. 803. KATWIJK A/D MAAS, *GEMEENTE* CUYK EN ST.AGATHA, NOORD-BRABANT. Dealer's provenance.

L. 11.5; w. 5.1 cm. Simple, slight bulging collar, without neck ribs. The mouth opening is saddle shaped and markedly asymmetrical. The loop is broken off. The body outline is somewhat ogival; its cross-section is subrectangular, the angles are grooved. Casting seams present; cutting edge sharp. Museum: RMO, Inv.No. k.1949/5.2, purchased from dealer Esser.

Parallels: Kibbert, 1984: p. 124, No. 563, Taf. 43 from "Sprendlingen", Kr. Mainz-Bingen (mit konkavem Tüllenrand, his Nos 562–570); Mayer, 1977: pp. 186–7, Nos 970–972, Taf. 71 (Schnabeltüllenbeile). No. 970 is from Bürglstein, Salzburg and has been spectro-analysed. See further Mayer, 1977: p. 185 and Note 1. (DB 523)

Known finds of *Schnabeltüllenbeile* in adjacent German territory include *none at all* in the two *Länder* adjacent to the Netherlands, *i.e.* Niedersachsen and

Nordrhein-Westfalen. The nine examples catalogued by Kibbert for Middle West Germany are at a greater distance: two examples attributed to Hessen, three to Rheinland-Pfalz, while four are unprovenanced. Some of the "provenanced" examples are indeed attributed to a general area rather than a specific place. Kibbert evidently regards his whole group of *Schnabeltüllenbeile* in Middle West Germany as requiring a warning sign: he sets all the place attributions in his area, whether specific or general, between quotation marks.

Dating: similar socketed axes occur in many hoards in South-East Europe *e.g.* for Rumania: Říhovský, 1972 (under *Tüllenbeile Gruppe II to VI*, Taf. 43–45); for Austria: Mayer, 1977: pp. 184–185, Kat. Nr. 970–984. Some of the Rumanian hoards are dated by Říhovský (1972: p. 101 and *infra*) to the *erste Jungbronzezeitstufe* (hoard horizon Uriu-Domănești), but others are dated throughout the Late Bronze Age.

5.4.2. South-East European socketed axes with ribbed V, Y or related motifs (fig. 121)

Another large series of South-East European Late Bronze Age socketed axes is characterised by ribbed ornament on the faces, usually with varied V and/or Yshaped patterns. Numerous examples, with many variations, are illustrated in PBF volumes concerned with axes generally, socketed axes in particular, or hoards of a country or area (see Kibbert, 1984; König, 2004; Kuśnierz, 1998; Mayer, 1977; Petrescu-Dîmboviţa, 1978; Říhovský, 1992; Vulpe, 1970).

Seven socketed axes of types, subtypes or variants within this broad category are present in collections in the Netherlands (Cat.Nos 804–810; including two loopless specimens: Cat.Nos 809 and 810). Cat.Nos 804, 808 and 809 are however unprovenanced, and Cat. Nos 805, 806 and 810 have a dealer's provenance.

However frequent such socketed axes may be in Eastern Europe, they are scarce in the West. No socketed axes in this category have previously been recorded from Niedersachsen. For Middle West Germany, Kibbert catalogues eight examples, varying considerably among themselves in details. Of these, only one or two are from the nearby Nordrhein-Westfalen (the axe from Batenhorst Kr. Wiedenbrück in Tackenberg, 1971: Taf. 23:2, *Liste* 38:2; Kr. Gütersloh in Ki 1984: Kat. 575) is, according to Tackenberg (but erroneously) a Lauzitzer Tüllenbeil. Ki 573, attributed to Erwitte (SE of Paderborn), was acquired "aus dem Handel". Three (Ki 571, 576A, 577) are from Rheinland-Pfalz (Ki 571 acquired at an auction sale) and two are of unknown provenance. It would thus seem that the only example with a reliable find-spot in Kibbert's area is his Nr. 577 (Kibbert, 1984: p. 72 and 176, Taf. 90: D7), from the Hillesheim hoard, Kr. Mainz-Bingen in Rheinland-Pfalz. This hoard is dated by Kibbert to his Stufe Obernbeck, equated by him with the later Central European jüngere Urnenfelder and the Northern earlier Period V.

Dating: socketed axes in this category are, broadly, dated to regional equivalents of the Central European Urnfield period (BzD-HaB3).

5.4.2.1. Catalogue of South-East European socketed axes with ribbed V, Y or related motifs in the Netherlands

CAT.NO. 804. PROVENANCE UNKNOWN

L. 9.0; w. 3.9 cm. Subrectangular mouth opening. Broad bulging collar (formula: 3.15×2.85; 1.8×1.8 cm), from which springs D loop (2.1×0.3 cm). Four widely spaced neck ribs, from the lowermost of which depends a double-V rib motif. Body with parallel sides, with ogival expansion of lower blade part, which is no longer hollow. Cross-section subrectangular, with slightly convex faces and sides. Cutting edge nearly straight, sharp, with slight battering. Casting seams present on upper half of sides. Small irregular blowhole under the collar on the non-looped side. Patina dark brown. Private possession; obtained by exchange from another private possessor. (DB 688)

Reference: Essink & Hielkema, 1997–1998: p. 295, No. 124. Parallel: 1 ex. (but with no double V-motif) in museum Vienna (Mayer, 1977: p. 189, No. 1029, Taf. 74); without provenance.

CAT.NO. 805. SLIJK-EWIJK, *GEMEENTE* VALBURG, GELDER-LAND. (Dealer's provenance).

L. 11.8; w. 4.9 cm. Oval socket mouth (formula 4.2×3.0; 3.2×2.2); moulding with a broad rib, from which springs a narrow, flattened-D loop (3.0×0.4 cm). Single thin neck rib, from which depends a thin-rib ornament consisting of a Y flanked by long rib 'wings'. In outline, sides nearly parallel; cross-section hexagonal; pointed arches on the sides. Patina: glossy dark brown, with green patches. Purchased by present private owner from a postage stamp dealer in Nijmegen, who in turn had acquired it from a metal-detector enthusiast from Wijchen. The latter said that he had found it with the detector in 1997, but did not wish to have revealed his name or the exact find-spot. Private possession. (DB 2443)

Documentation: verbal communication to Butler 23 March 1999. Parallels: Mayer, 1977: p. 192, Nos. 1056 (no provenance), 1057 (Salzburg, Bürglstein, with facial arch), Taf. 76,77; Eogan, 2000: No. 2026 "Ireland" (but much smaller).

CAT.NO. 806. DRIE, *GEMEENTE* ELST, GELDERLAND. Dealer's provenance.

L. 10.3; w. 4.6. Oval to rectangular mouth, small biconical collar (formula: 3.9×3.7 ; 2.85×2.4 cm), with 2 ribs; high loop, $3.1\times0.45/0.8$ cm; subrectangular section (has peculiar seam surrounding mouth opening). Patina: mottled green. Extensive private collection: heirs Brasem-Hansen. (DB 14)

Parallel: Kibbert, 1984: No. 704 (Grüningen, Kr. Giessen).

Note: Brasem was a barber and collector, resident in Arnhem and Apeldoorn. The Brasem-Hansen collection consisted of c. 260 heterogeneous archaeological objects, purchased in the Netherlands and elsewhere; none of the objects had a recorded provenance. The collection was placed on loan in the then Gemeentemuseum Arnhem in 1935. Some of the objects were lost during World War II. The collection was returned to the owners at the end of 1990s (information in a note by former curator and provincial archaeologist G. Elzinga, dated 28 August 1961, and telephone message from the former curator R. Borman to H. Steegstra 5 January 2006).

CAT.NO. 807. BEESEL, GEMEENTE BEESEL, LIMBURG. 't Haselt.

L. 7.0; w. 3.3 cm. Oval mouth opening; single bulging collar (formula: 3.45×2.4 ; 2.3×2.0 cm), from which springs a small, thin flattened-D loop with irregular perforation. On neck, thin ribs in ___ pattern, the horizontal ribs continuing onto the sides, plus three vertical thin ribs on face. Blade outline slightly / \ shaped, with __/ section. Casting seams prominent. Cutting edge nearly straight, sharp. Patina grey-green, with lighter patches. Excellent preservation. Sandy encrustation inside. Found by owner 1998, with metal detector. (DB 2433)

Map reference: Sheet 58E, 201.90/364.80.

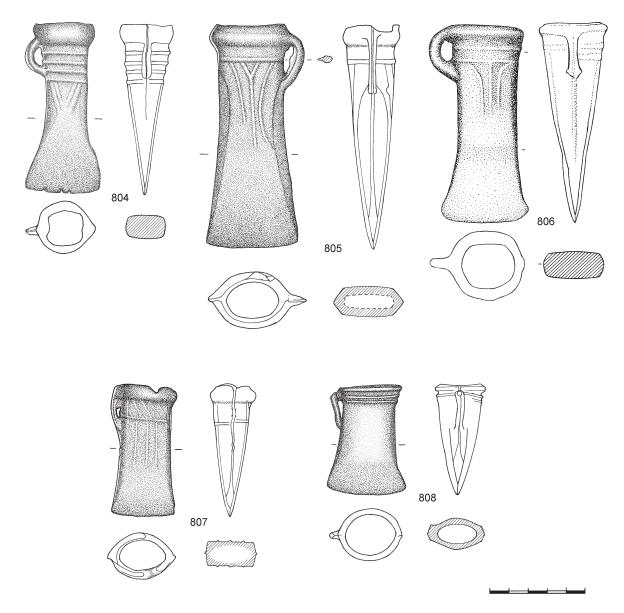


Fig. 121. South-East European socketed axes with ribbed V, Y or related motifs. 804: provenance unknown; 805: "Slijk-Ewijk", Ge; 806: "Drie", Ge; 807: Beesel, Li; 808 (with two neck ribs): provenance unknown. (804–804, 807–808: drawings HS)

CAT.NO. 808. PROVENANCE UNKNOWN.

L. 5.8 cm. Oval socket mouth (2.6×2.1 cm); slightly biconical collar (3.3×2.7 cm). Two thin neckribs. Small loop, battered inward. Body with oval cross-section; hollow faceted alongside prominent casting seams; outline slightly ogival. Cutting edge sharp. Patina: dark glossy green. BAI 1923/X.58, purchased from coll. Hinterstoisser, Salzburg (according to the BAI Inventory Book probably from Hungary) stolen from BAI c. 1960; thereby passed into private possession. (DB 2561)

Parallel: example from Girişu-Roman hoard with 3 neckribs and no facetted collar (Petrescu-Dîmboviţa, 1978: Taf. 266:2).

5.4.2.2. Unlooped South-East European socketed axes

a. with ribbed V decoration (fig. 122 left)

CAT.NO. 809. PROVENANCE UNKNOWN.

L. 8.8 cm (butt end broken off and missing, break patinated). Weight 250.4 gr. Mouth opening oval, formula 5.1×3.8 ; 3.25×2.3 cm. Bulging collar with three horizontal furrows, overhangs slightly. Body outline) (as far as preserved. Body section oval, wit prominent casting seam between two furrowed ridges. On face below collar a pellet enclosed by three concentric V ribs. Patina:

dark green, semi-glossy. Private possession; bought at market in Utrecht. (DB 2519)

Documentation: letter (and photograph) owner to Butler, 3 November 2000. From a private collection with various bronzes of unknown provenance (*cf.* here DB 2518).

Parallels: Poland: Kuśnierz, 1998: Nos 31, 34, 36; similar ornament: O'Connor, 1980-II: fig. 51:12, attributed to the Thames at London.

b. with teardrop ribbed ornament (fig. 122 right)

CAT.NO. 810. LITH, *GEMEENTE* LITH, NOORD-BRABANT. River Maas (dealer's provenance).

L. 7.8; w. 3.7 cm. Oval socket mouth. Mouth formula: 3.3×2.5; 2.3×1.8 cm. Bulging collar, with rectangular projection on each side. Neck with oval cross-section; arch-facets on face; also two concentric tear-drop shaped ribs on face. No loop. Cutting edge sharp. Patina: mottled green. Museum: RMO Leiden, Inv.No. k.1938/11.1. Purchased from A. Sprik (Zaltbommel); according to him, found during excavation of canal lock. (DB 482)

Reference: Heemskerck Düker & Felix, 1942: Pl.110

Parallels and dating: Related socketed axes appear in Late Bronze Age hoards in Rumania, such as Nicolae Bălescu (Petrescu-Dîmbovița, 1978: hoard 109, Taf. 76 and others). The socketed axes in these hoards have varied rib ornament surrounding a perforation in the face of the axe; but despite this and other difference a relationship seems undeniable.

5.5. "Nordic" socketed axe, Baudou Type VIIC2a (fig. 123)

CAT.NO. 811. PROVENANCE UNKNOWN.

L. 9 cm; w. 7.3. Looped socketed axe with round mouth opening, body of hexagonal section, widely splayed blade. Purchased 1884 (for 1 guilder) at a public sale in Amsterdam [aangekocht December 1884 op een openbare verkoping te Amsterdam. Gekocht voor f 1,00]. Museum: RMO, Leiden: Inv.No. B.A.m., but not now present. Drawing: sketch in museum archive kindly made available by dr. L. Verhart, conservator RMO Leiden. (DB 280)

Documentation: RMO Leiden, letter 1884, Reg. No. 212.

Parallels: Very common "Nordic" type (Baudou, 1960: pp. 23–24, 181–186, Karte VI, under Type VIIC2a. Baudou's presentation does not distinguish between specimens with an arch-shaped facial facet and those, like the present example, with a facial panel; together he lists 680 examples in the "Nordic" area (not counting loopless examples, those with a larger collar, and those with neck ribs). Tackenberg's Taf. 8 and 9, Liste 7 and Karte 7 and Kibbert's Nr. 760–768 and 1005 and Taf. 89 (triangles) may require further sorting out. All the variants are rare outside the North European cultural area.

Dating: Mostly Northern Period V; occasionally Period VI (Baudou, 1960; Tackenberg, 1971).

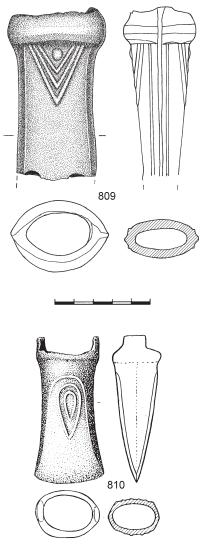


Fig. 122. Unlooped South-East European socketed axes. 809 (with V-decoration): provenance unknown (drawing HS); 810 (with teardrop ribbed decoration): "Lith", N-B.

5.6. Italian 2-looped socketed axe with widened, spade-like blade part (Kibbert, 1984: *Schaufelblatt Tüllenbeile*) (fig. 124)

Definition: One- or two looped socketed axes with spade-like blade, often with various ribs patterns (Carancini, 1984: pp. 175–186).

Dating: Most of the examples listed by Carancini are from the very large hoard (14,800 objects and fragments!) found at Bologna-San Francesco in 1887; dated by Carancini to Bologna II, VIII Century BC; he dates an example from a *pozzo* grave in Tuscany, from Montebradoni, to Tarquinia II, also VIII Century. Kibbert has two examples without loops



Fig. 123. 'Nordic' socketed axe, Baudou type VIIC2a. 811: provenance unknown (sketch kindly made available by L. Verhart).

(Ki 580, 580A), but both with unknown provenance. Otherwise, very rare north of the Alps.

CAT.NO. 812. ECHT, GEMEENTE ECHT, LIMBURG.

L. 12.8; w. 5.6; th. rim 3.4, top of blade part 0.9 cm. Single bulging collar + 1 neck rib; small loop at each side connecting collar and neck rib. Body of rectangular section, expanding into wider blade part, with lugs at junction of body and blade parts. Patina: dark green; upper part corroded. Loamy encrustation inside. Museum Brussels, Inv.No. B.591 (old No. 3577). Acquired 1875, ex coll. Franssen. Metal analysis: Jacobsen An47. (DB 1876)

Map reference: Sheet 60a, 188/346.

References: Comhaire, 1894: p. 185, Pl. 4:48; Jacobsen, 1904: Anal. no. 47; De Loë, 1921: pp. 44–45.

Comment: Findspot given as Bee(r)sel, Ned. Limburg by Comhaire

Parallels: Socketed axes classified by Carancini (1984, pp. 175–177) as asce a cannone con larga spalla spargente tipo San Francesco; especially Variante C: hanno due costolature all'imboccatura e due occhielli laterali (his Cat.Nos 4002–4018, distribution map his Tavola 140).

5.7. Socketed axe of Indonesian type (fig. 125)

CAT.NO. 813. NOORDWOLDE, *GEMEENTE* WESTSTELLING-WERF, FRIESLAND. In a loop of the (canalised) stream "De Linde".

Butt part broken off and missing. Present I. 13.3 cm; w. 9 cm. Narrow socket opening, oval/angular in shape. The body widens out greatly. One face is convex, the other convex with side facets. The crescentic cutting edge has recently been re-sharpened. Patina mottled black/dark bronze. The break surface is patinated. Found August-September 1991 with metal detector, 50 cm under grassy surface, by A. Lankman. Private possession, purchased from finder.

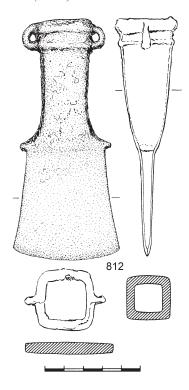


Fig. 124. Italian socketed axe with widened, spade-like blade part. 812: Echt, Li.

(DB 908)

Map reference: Sheet 16E, 205.6/548.7.

Parallels and dating: Socketed axes of the Indonesian Bronze-Iron Age (Van Heekeren, 1958: pp. 8–9, Pl. I). Kibbert (Kat.Nr. 920, 921) records a pair of related axes attributed to "Waldalgesheim", Kr. Mainz-Bingen, Rheinland-Pfalz; he regards the alleged find-spot as very probably false. The Noordwolde specimen is presumably modern import, perhaps by an East India Company employee; how it came to be buried in the ground at its find-spot is unexplained.

5.8. Unclassifiable socketed axes (fig. 126–127)

5.8.1. Looped (fig. 126)

CAT.NO. 814. GEMEENTE ROERMOND, LIMBURG. River Maas.

L. 13; w. 4.95 cm. Circular mouth (formula: 4.35×4.25; 2.8×3 cm). Single bulging, faceted mouth moulding, below which a band of short vertical facets, from which springs a small D loop (2.3×0.6 cm) with hour-glass outline. Body with slightly ogival outline, rectangular section with slightly convex faces and sides. Small blow-hole on one side and one face. Cutting edge sharp. Patina: dark bronze. Found c. 1954–1958 while dredging. Museum: RMO Leiden, Inv.No. 1 1971/11.5; ex coll. L.C. van der Pijl; purchased 1971 from his heirs (see also Cat.No 783). (DB 1794)

Map reference: Sheet 58D, c. 195/355

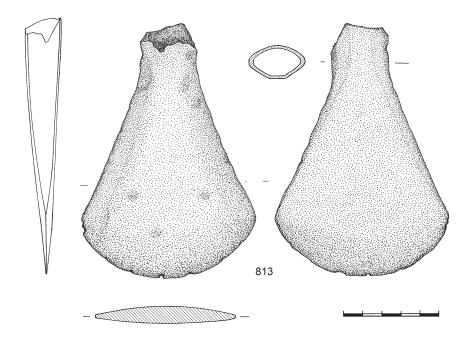


Fig. 125. Socketed axe of Indonesian type. 813. Noordwolde, Fr. (drawing HS)

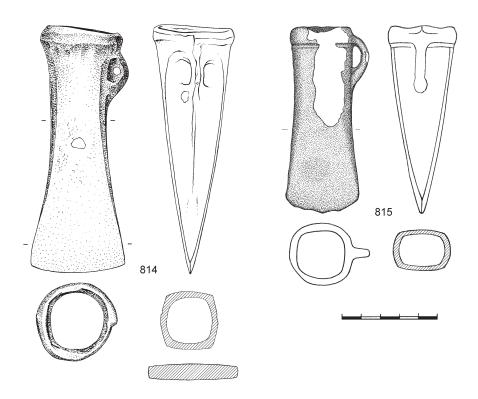


Fig. 126. Unclassifiable socketed axes. 814: Roermond area, Li; 815: Nuenen, N-B (drawing HS).

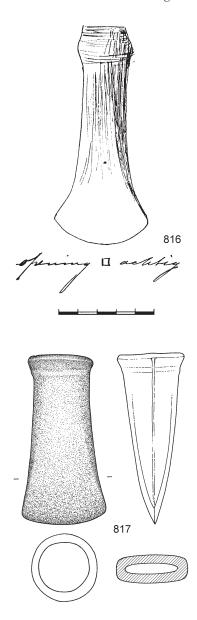


Fig. 127. Unclassifiable socketed axes, unlooped. 816: Holst, Li; 817: provenance unknown.

Parallel: possibly related to Schmidt & Burgess, 1981: No. 1710, an unclassified socketed axe attributed to "County Durham?, discovered in ballast heap, Hebburn on Tyne, October 1992".

CAT.NO. 815. NUENEN, GEMEENTE NUENEN, NOORD-BRABANT.

L. 9.9; w. 3.85 cm. Mouth formula 3.3×3.6; 2.5×2.5 cm. Mouth opening nearly circular. Bulging collar, under which a groove (in place of a neckrib). From collar springs D loop with round section. Body outline) (; faces and sides convex. Patina: ochreous rough; on part of one side peeled off, showing light green. Inside light

green. Found 1995 by W. Vermeulen while hoeing in a plant nursery. Private possession. (DB 2555)

Map reference: Sheet 51G, 164.15/386.80

5.8.2. *Unlooped* (fig. 127)

CAT.NO. 816. HOLST, GEMEENTE POSTERHOLT (NOW GE-MEENTE AMBT MONTFORT), LIMBURG.

L? w? th? Unlooped socketed axe, with square?? socket mouth opening, found NE of de Holst and W. of the Heremietenberg by J. Kuipers. Patina: black. Purchased 6 March 19?? (illegible) by Major van der Noordaa. Present locus unknown, not seen by authors. (DB 2362)

Documentation: Notebook van der Noordaa, with drawing (1:1?), kindly made available by L. Verhart, conservator RMO Leiden. Below the drawing of the axe, "opening [] achtig" (opening rectangular-like).

Map reference: Sheet 68F, c. 200.5/349.5

CAT.NO. 817. NO PROVENANCE

L. 9.0; w. 4.3 cm. Round mouth opening, formula: 3.5×3.6 ; 2.7×2.6 cm. Biconical collar, asymmetrical, one neck rib (on one face); body with (_) section,) (outline with slightly expanding blade. Prominent casting seams. Cutting edge sharp. Patina: bronze colour, blackish in pits. Museum: Weert, no inv. number, no further information available. (DB 739)

5.9. Fragments of socketed axes, classifiable

5.9.1. South Scandinavian origin (fig. 128)

CAT.NOS 818–823. DROUWENERVELD, GEMEENTE BOR-GER, DRENTHE. Parts of 1984 hoard.

The socketed axe fragment Cat.No. 819 has flat-bottomed grooves on the face, which suggest, despite the small size of the fragment, that it belongs to the *Tüllenbeile mit geraden Blenden* (Baudou, 1960: Type VIIA1, pp. 17–18, Karte 8). The distribution is practically limited to the Danish Islands and Skåne. Fragment Cat.No. 820 apparently comes from one of Baudou's *Tüllenbeile mit Y-förmig verzweigten Blenden* (his type VIIA2, pp. 18–19, Karte 9), with a similar distribution. Both of these are very common and characteristic Scandinavian types.

The other socketed axe fragments (Cat.Nos 818, 821–823) are not closely definable as to type. (DB 764–769) *Reference:* Butler, 1986: p. 145.

5.9.2. *Unclassifiable fragments* (fig. 129)

CAT.NO. 824. ELSENERVEEN, GEMEENTE MARKELO, OVER-IJSSEL (from the hoard).

L. (3.4); w. +(4.8) cm. Fragment; expanded blade; vertical hammer fluting on sides. Part of hoard, found March 1846, with a lock-ring, a twisted ring, a ring of thin wire of oval section, and a bracelet.

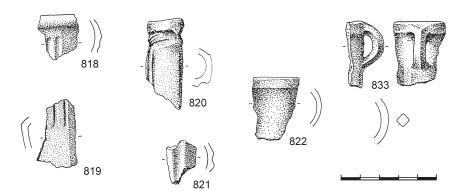


Fig. 128. Socketed axe fragments of South Scandinavian origin. 818-823: from the hoard of Drouwenerveld (Dr.).

"The objects lay, wound together, in an earthen bank which marks off a cultivated field, at a depth of 4 to 5 feet" (Pleyte, 1885: citing *Overijsselsche Almanak* 1847, p. 255 ff). Museum: RMO Leiden, Inv.No. d 1942/12.1. Ex coll. W.K. Louff. (DB 1854)

Note 1: only the fragment of the axe was purchased by the RMO; the other objects were presented to museum Enschede around 1930 by Mr and Mrs Van Dam, who had purchased them from the son of W.K. Louff.

Map reference: Sheet 28D, c. 233/499

Associations: two rings (museum Enschede, Inv.Nos 386, 387) and two bracelets (museum Enschede, Inv.Nos 400, 401).

References: Verslag, 1942: p. 5; Pleyte (Twente), 1885: p. 22, Pl. XI:14; Butler, 1961: p. 218, fig. 19 left; Verlinde, 1980: pp. 9–10, Depot IV.

Note 2: the entire hoard will be discussed in Part IV.

CAT.NO. 825. LINNE, GEMEENTE LINNE, LIMBURG.

L. (2.6); w. 4.45; th. (1.1) cm. Fragment of lower part: cutting edge. Patina: light green, graning: with light brown loamy patches. Found May 4 1963 near "Boord" by H. Hansen of Linne. Museum: St. Odiliënberg, Inv.No. 14/183, old No. 777. (DB 2050)

Map reference: Sheet 58D, c. 196.05/356.8.

Reference: Wielockx, 1986: p. 247.

CAT.NO. 826. KRAANVENSCHE HEIDE, GEMEENTE LOON OP ZAND, NOORD-BRABANT.

L. (2.8); w. 5 cm. Lower fragment (cutting edge) from settlement. We have not seen this fragment. Drawing IPP. (DB 2356)

Map reference: Sheet 44H, c. 132/405

Reference: Roymans & Hiddink, 1991: p. 125, fig. 16.

CAT.NO. 827. MIDDELRODE, *GEMEENTE* BERLICUM, NOORD-BRABANT.

L. (3.5); w. (3.7); th. (1.6) cm. Fragment socketed axe, blade sharpened. Patina: glossy dark light brown, partly removed; light green in some damaged places. Brown loamy encrustation. Found with metal detector in September 1992. Private possession. (DB 2155) *Map reference*: Sheet 45D, 157.050/407.475.

CAT.NO. 828. GEMEENTE ST.-ODILIËNBERG, LIMBURG.

L. (3.9); w. (1.4) cm. Fragment of socketed axe, cutting edge. Rectangular section; cutting edge sharp. Break patinated. Patina: glossy green. Found in Linne, *gemeente* Maasbracht, but in ground from St. Odiliënberg. Museum: St. Odiliënberg, Inv.No. 421-1. (DB 2301)

CAT.NO. 829. BEESEL, GEMEENTE BEESEL, LIMBURG. 't Haselt

L. (3.2); w. 3.65 cm. Fragment of blade of socketed axe; the base of the socket is present in the break surface. Cutting edge sharp. Patina: light green, corroded. Found with metal detector. Private possession. (DB 2314)

Map reference: Sheet 58E, 201.90/364.80.

CAT.NO. 830. HOOGELOON, *GEMEENTE* BLADEL, NOORD-BRABANT. Vossenbussel.

L. +6.1; w. 5.0 cm. Lower part of socketed axe, rectangular section. Faces and sides slightly convex, cutting edge sharp. Outline faintly ogival. Patina: dark green to blackish. Found with metal detector on a field. Private possession. (DB 2622)

Map reference: Sheet 51C, 145.58/378.45.

CAT.NO. 831. OOSTEIND, *GEMEENTE* OOSTERHOUT, NOORD-BRABANT.

L. (6.7); w. 4.55cm. Upper part missing; full break (fully patinated). Body trapeze shaped; rectangular cross section. Cutting edge blunt, slightly damaged. Heavily corroded. Patina: grey greeny and brown. Surface partly peeled off. Heavy scratches. Found with metal detector 25 February 1989 on a ploughed maize field along the border of the stream the Donge, by owner. (DB 897)

Map reference: Sheet 44G, 123.500/407.100. Reference: Jaarverslag ROB, 1990: p. 203.

CAT.NO. 832. WELL, GEMEENTE WELL, LIMBURG.

 $L.\pm4.1~cm.$ Lower fragment with vague mid-rib. Found with metal detector along the Maas, on a field at a depth of 25–30 cm, 100 m S. of the bridge to Wanssum. Private possession. (DB 2557)

Map reference: Sheet 52E, 204.3/395.5

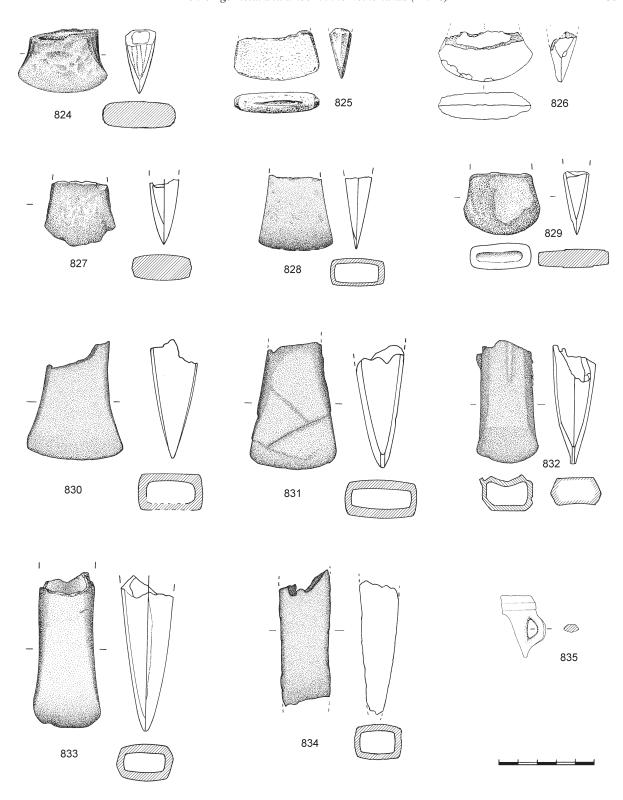


Fig. 129. Socketed axe fragments, unclassifiable. 824: Elsenerveen, Ov; 825: Linne, Li; 826: Kraanvensche Heide, N-B; 827: Middelrode, N-B; 828: *gemeente* St.-Odiliënberg, Li; 829: Beesel, Li; 830: Hoogeloon, N-B; 831: Oosteind, N-B; 832: Well, Li; 833: Neer, Li; 834: St.-Joost, Li; 835: de Waatselaar, N-B. (826: drawing IPP; 830–832, 834 drawing HS).

CAT.NO. 833. NEER, *GEMEENTE* NEER (NOW *GEMEENTE* HAELEN), LIMBURG. Wijnanderhof.

L. +8.2; w. 3.6 cm. Lower part of socketed axe, rectangular section. Patina: light green. Private possession. (DB 1941)

Map reference: Sheet 58D, 197.45/361.87.

CAT.NO. 834. St.-Joost, *GEMEENTE* ECHT, LIMBURG L. (7.2). Found July 2002, with metal detector. Patina: black; severely corroded, heavily pitted. Private possession. (DB 2580) *Map reference*: 109.3/347.2

CAT.NO. 835. DE WAATSELAAR, *GEMEENTE* BERGHEM, NOORD-BRABANT.

L. (3.3) cm. Fragment socketed axe with loop. In collection Provinciaal Depot Noord-Brabant. Drawing: ROB. (DB 2030) *Map reference:* Sheet 45E, c. 167/419

Reference: Verwers & Beex, 1978: p. 7, afb. 9.

CAT.NO. 836. WESTERLAND, *GEMEENTE* WIERINGEN, NOORD-HOLLAND. Lutjeland.

Fragment found by owner. We have not seen this fragment. Private possession. No drawing. (DB 2148)

Map reference: Sheet 14E, 123.28/544.87.

5.10. Socketed axes only known from literature

ACHTERBERG, *GEMEENTE* RHENEN, UTRECHT. De Meent. Museum: Rhenen, Inv.No. Aa 67. Object disappeared. No drawing. (DB 240)

POSTERHOLT, GEMEENTE AMBT MONTFORT, LIMBURG Blade fragment of socketed axe. Patina: brown. Museum: RMO Leiden, Inv.No. l.1913/12.1, but now missing. Purchased via burge-meester Gerardts of Posterholt. No drawing. (DB 547) Reference: Wielockx, 1986: p. 246.

BIEZENMORTEL, GEMEENTE UDENHOUT, NOORD-BRA-BANT. Grave-hoard.

L. ± 11 cm. Grave or hoard. Three socketed axes found in an urn, 1906. J. v.d. Ven of Udenhout dug up, on the Grote Akkerweide behind the Slijkhoef at Biezenmortel, a large, round brown-coloured urn, at the bottom of which were three metal axes of a lenght of c. 11 cm and of the type bronze socketed axe. The urn was completely destroyed. The axes were of Beex's type II (Brabants Heem IV: pp. 96–97). Shortly after finding, the find was turned over to the master of the School, and since then is lost. "Dhr. J. v.d. Ven te Udenhout, groef op de Grote Akkerweide achter de Slijkhoef op Biezenmortel een grote ronde bruingekleurde urn op, waarin zich op de bodem drie metalen bijltjes van c. 11 cm. lang en van het type bronzen kokerbijl bevonden. De urn werd totaal vernietigd bij het uitgraven; de bijltjes waren van Beex's type 11 (Beex, Brabants Heem IV: pp. 96–97). De bijlen zijn kort na de vondst overhandigd aan de 'meester van de school' en sindsdien verdwenen." (DB 747–749)

Documentation: Brabants Heem IV, pp. 96097. Reference: Knippenberg, 1959: p. 50.

EIBERGEN, GEMEENTE EIBERGEN, GELDERLAND

L. 12.5; w. 4.2. According to museum record with profiled mouth mouldings, *Lappen*, and loop; no further details except the dimensions here cited; no drawing. Found 1884 by a farmer named Nijenhuis at location Vesting or Blenkegoor. Museum: Enschede, Inv.No. 0 371; but unfindable 1998. No drawing. (DB 939) *Documentation*: letter A. Verlinde to JJB, 8 June 1998

WEERT. GEMEENTE WEERT. LIMBURG

Desittere (1976: p. 91) states that this axe is a Plainseau-South-eastern axe. Neither further information nor a drawing are available. (DB 962)

References: Desittere, 1976: p. 91; De Laet, 1982: p. 499; Wielockx, 1986: p. 246.

VLAGTWEDDERVELDHUIS, GEMEENTE VLAGTWEDDE, GRONINGEN

L. 9.1; w. 5.2 cm. Well preserved looped socketed axe. Found by S. Swarts along a lane on receltly ploughed farm land, on the edge of a depression that was always pasture. According to E. Knol (curator of the Groninger Museum) lost since 1963. Description is vague. "Fraaie gave kokerbijl met staand oortje voor extra bevestiging aan de steel. Rand op doorsnede afgerond driehoekig. Hals min of meer bol hexagonaal, met duidelijke gietnaad. Snede waaiervormig uitlopend. Gevonden door S. Swarts langs een laan op pas geploegd bouwland, aan de rand van een laagte, die altijd in groenland lag". Museum: Groningen, Inv.No. 1949/IX.1. No drawing. (DB 1386)

Documentation: Groenendijk, dossier Vlagtwedde No. 91; References: Essink & Hielkema, 1997–1998: p. 299, No. 167.

NIJMEGEN, GEMEENTE NIJMEGEN, GELDERLAND. From River Waal.

Socketed axe with imitation wing-ornament according to info from R. Hulst, December 1970. Found in or soon after WWII. No drawing. (DB 1945)

GENNEP, GEMEENTE GENNEP, LIMBURG

Socketed axe recorded in the Archis database of the *Rijksdienst* voor het Oudheidkundig Bodemonderzoek. One of their informants (Ort) states that on 7 June 1887 Mr Houba purchased a socketed axe in Blerick ("die dhr. Houba in Blerick kocht"). Present locus unknown. (DB 2105)

VENRAY, *GEMEENTE* VENRAY LIMBURG. Venrayse Broek. Socketed axe without loop. Found 1910 SW of Smakter Spurkt by someone named Relouw while digging peat. Somehow it came in into the collection of J.A. Donker Duyvis, an artist and collector. Before his death he divided his collection among his interested acquaintances. Present locus unknown. (DB 2106)

Documentation: note JJB in his addressbook I; email J. Donker Duyvis to Butler, dd. 7 juli 1999.

VROOMSHOOP, *GEMEENTE* DEN HAM, OVERIJSSEL Socketed axe, no further details available. Museum: Enschede, Inv. No. 352, but unfindable since 1998. No drawing. (DB 2172) *Documentation*: ltr. A. Verlinde to JJB, 8 June 1998.

HEESBOOM, GEMEENTE BAARLE-NASSAU, NOORD-BRABANT

Socketed axe, found 1843. No further details. Present locus unknown; oral information: D.R. Fontijn, 2004. (DB 2374)

NEAR NIJMEGEN, GELDERLAND

Two socketed axes, mentioned by Smetius and recorded by Johan in the Betouw, were recorded by Reuvens in *Antiquiteiten* II:2, p. 221. No drawings. (DB 2383–DB 2384)

Reference: Reuvens, 1823: p. 221.

NIJMEGEN, GEMEENTE NIJMEGEN, GELDERLAND. Roomschen Voet

Six socketed axes, found together about 1750, present in the collection of Johan in the Betouw. After his death the collection was auctioned in Amsterdam in 1822. Present locus unknown. (DB 2385–DB 2390)

Reference: Reuvens, 1823: p. 221, p. 223. No drawings.

NEAR NIJMEGEN, GEMEENTE NIJMEGEN, GELDERLAND Socketed axe, found before 1822, was part of the collection of Mr Van Schevichaven). Present locus unknown. No drawing. (DB 2393) Reference: Reuvens, 1823; p. 222.

NIJMEGEN, GEMEENTE NIJMEGEN, GELDERLAND

Socketed axe found outside the Hezelpoort at the Lennepe Kamer, shortly before 25 October 1822, while harvesting potatoes. The axe was ".... van gegoten koper met geel gemengd, 4.5 duim Rijnl. lang; aan de scherpte, onder aan de holte, 1.5 duim breed, het gat voor de steel in doorsnede 1 en een achtste duim wijd, de smalle zijde met het meergemelde oortje voorzien" ["of cast copper mixed with yellow, 4.5 Rhineland inches long; at the cutting edge, under the hollow, 1.5 inches wide, the perforation for the shaft 1 and an eighth wide, the side provided with the loop already mentioned"]. Collection Van Schevichaven, present locus unkown. (DB 2395) Reference: Reuvens, 1823: p. 222–223.

BETWEEN DONGEN AND GOIRLE, NOORD-BRABANT (Meijerij van 's-Hertogenbosch)

Socketed axe, found 1785 at the 'Goorlschen Dam' at the farm 'Reij's Hof' S. of the town of Tilburg, while cultivating heath. Presented to Mr Van Breugel of Dordrecht. It is not clear whether this axe was found together with DB 2392. Present locus unknown. No drawing. (DB 2391)

Reference: Reuvens, 1823: p. 222.

BETWEEN DONGEN AND GOIRLE, NOORD-BRABANT (Meijerij van 's-Hertogenbosch)

Socketed axe, found 1785 at the 'Goorlschen Dam' at the farm 'Reij's Hof' S. of the town of Tilburg, while digging heather. It is not known whether this axe was found together with DB 2391. Present locus unknown. No drawing. (DB 2392)

Reference: Reuvens, 1823; p. 222.

6. CONCLUSIONS

Our study of the most frequent category of bronzes in the Netherlands, the socketed axes, has shown the existence of a strong regional differentiation in the axe production in the eastern half of the Netherlands and neighbouring areas. In the south-east of the country, *Niedermaas*, Plainseau, Helmeroth and Geistingen socketed axes predominate. In the north-east, types with face arches and with plastic 'wings', with multiple neck ribs, and/or with plastic VVV ornament prevail (Maps 10–15). There seems on present evidence to have been hardly any interchange between the axe products of these two regions, except perhaps in the case of the 'basic Wesseling' axes common to both areas (Map 16).

Noteworthy is the scarcity of hard evidence for contact between Britain and the Netherlands in the realm of socketed axe production, if our present assessment of the Plainseau axes in Northern France, Belgium and the South-East of the Netherlands is correct and the scarcity of other British types in the North-East of the Netherlands is taken into account. Only fuller publication of the southern British socketed axes can provide an answer to this question.

Note: Regrettably, the PBF volume of Friedrich Laux, Die Äxte und Beile in Niedersachsen II (Stuttgart, Steiner Verlag, 2006), cataloguing all the socketed axes known in that Land, became available only after the completion of the present study, and could not here be taken into account.

7. ACKNOWLEDGEMENTS

We express our heartfelt thanks to all – colleagues, museum directors and curators, private owners of objects, helpers in various ways in the Netherlands and outside – who have contributed to this and related parts of the present study. They are far too numerous to name individually, so we hope they will accept this collective thank-you.

Our special indebtedness to Brendan O'Connor, Peter Karl Schmidt, Colin Burgess and Kurt Kibbert will be evident from the frequency of our citations of their work on the socketed axes from Britain and Middle West Germany.

We have a great debt of gratitude to the Groningen Institute of Archaeology of the University of Groningen for its support and hospitality; and to the editorial staff of its periodical *Palaeohistoria* for its continuing reception of this series.

We must also record our gratitude to the past and present draughtsmen of the Biologisch-Archaeologisch Instituut, now absorbed into the Groninger Instituut voor Archeologie: B. Kuitert, B. Kracht, H.R. Roelink, J.M. Smit and M.A. Los-Weijns; as well as the former part-timers L. Hart and G. de Weerd. A special thanks is due to Jan Smit and Miriam Los-Weijns, for their guidance of the drawing activity of one of the authors (HS).

The distribution map (by HS) is on the basis of the automatic mapping facility provided by J. Kraak and J.T. Ubbink of the University of Groningen Computer Centre

For a contribution to travel costs we are grateful to the Foundation Netherlands Museum for Anthropology and Praehistory. See also the acknowledgements in our Part III:2A–B, *Palaeohistoria* 43/44 and 45/46).

8. REFERENCES

- ABELEVEN, Th.H.A.J. & C.G.J. BIJLEVELD, 1895. Catalogus van het Museum van Oudheden te Nijmegen. Nijmegen.
- APPELBOOM, Th. G., 1954. Een Celt uit de Bronstijd, gevonden te Monster (Z.-H.).; *Mededelingen van de Dienst voor Schone Kunsten der Gemeente 's-Gravenhage* IX, No. 3–4, pp. 80–2 (with photo).
- ARTS, N., 2003. Archeologische vondsten. Nieuwsbrief Archeologie Kempen en Peelland 23 (maart).
- BAUDOU, E., 1960. Die regionale und chronologische Einteilung der jüngeren Bronzezeit im Nordischen Kreis. Studies in North European Archaeology 1. Stockholm.
- BLANCHET, J.-C. & B. LAMBOT, 1975. L'Age du Bronze dans les Musées de l'Oise. *Cahiers Archéologiques de Picardie*, fasc. I, pp. 25–70.
- BLANCHET, J.-C., 1984. Les premiers métallurgistes en Picardie et dans le Nord de la France (= Mémoires de la Société Préhistorique Française 17). Paris, Société Préhistorique Française.
- BRIARD, J., 1965. Les dépôts Bretons et l'Age du Bronze Atlantique. *Travaux du Laboratoire d'Anthropologie préhistorique*. Rennes, Faculté des Sciences de Rennes.
- BRUNS, D., 2004. Socketed Axes of the British LBA/EIA transition. Poster at the Bronze Age Forum meeting Nov. 12–14 2004, Southampton.

- BRUNS, D., 2006. Llyn Fawr reviewed The bronze and iron metalwork of the Late Bronze/Early Iron Age transition in Britain. Unpublished DPhil thesis, University of Oxford.
- BURGESS, C.B., 1969. Some Decorated Axes in Canon Greenwell's Collection. *The Yorkshire Archaeological Journal* (= Studies in commemoration of William Greenwell) 167, pp. 267–272.
- BUTLER, J.J., 1961. De Noordnederlandse fabrikanten van bijlen in de late Bronstijd en hun produkten. *Nieuwe Drentse Volksalmanak* 79, pp. 199–233.
- BUTLER, J.J., 1963. Bronze Age connections across the North Sea. A study in prehistoric trade and industrial relations between the British Isles, the Netherlands, North Germany and Scandinavia c. 1700–700 B.C. *Palaeohistoria* 9, pp. 1–286.
- BUTLER, J.J., 1986. Drouwen: end of a 'Nordic' rainbow? *Palaeohistoria* 28, pp. 133–168.
- BUTLER, J.J. & HANNIE STEEGSTRA, 2003/2004. Bronze Age metal and amber in the Netherlands (III:2): Catalogue of the socketed axes. Part B. *Palaeohistoria* 45/46, pp. 197–300.
- CARANCINI, G.L., 1984. Le asce nell'Italia continentale II (= Pr\u00e4historische Bronzefunde IX-12). M\u00fcnchen, C.H. Beck.
- COMHAIRE, Ch.-J., 1894. Les Premiers âges du métal dans Les bassins de la Meuse et de L'Escaut. Bruxelles, Hayez.
- COOMBS, D., 1979a. The Figheldean Down Hoard, Wiltshire. In:
 Burgess & Coombs (eds), *Bronze Age hoards: Some Finds Old*and New (= BAR British Series 67). Oxford, BAR, pp. 253–268
- COOMBS, D., 1979b. A Late Bronze Age Hoard from Cassiobridge Farm, Watford, Hertfordshire (with a contribution by R. Savage).
 In: C.B. Burgess & D. Coombs (eds), *Bronze Age hoards: Some Finds Old and New* (= BAR British Series 67). Oxford, BAR, pp. 197–233.
- COOMBS, D., 2003. The axes. In: MILES, D. et al, 2003. *Uffington White Horse and its Landscape*, pp. 203–22O. Thames Valley Landscapes Monograph 18, Oxford.
- COOMBS, D., P. NORTHOVER & J. MASKALL, 2003. The Tower Hill Axe hoard. In: D. MILES et al., 2003. Uffington White Horse and its Landscape. Thames Valley Landscapes Monograph 18, Oxford, pp. 203–223.
- CRAWFORD, O.G-S., 1913. Prehistoric Trade between England and France. *L'Anthropologie* XXIV, pp. 641–649.
- CUNLIFFE, B. & B. O'CONNOR, 1979. The Late Bronze Age hoard from Daneburg, Hants. In: C.B. Burgess & D. Coombs (eds), *Bronze Age hoards: Some Finds Old and New*, pp. 235–244 (= BAR British Series 67). Oxford, BAR.
- DESITTERE, M., 1976. Autochtones et immigrants en Belgique et dans le Sud des Pays-Bas au Bronze final. In: DE LAET (ed.) Acculturation and Continuity in Atlantic Europe mainly during the Neolithic perod and the Bronze Age. Papers presented at the IV Atlantic Colloquium, Ghent 1975. Dissertationes Archaeologicae Gandensis 16. Brugge, pp. 77–94.
- DOORSELAAR, A. VAN, G. BEEX & P. VAN SCHIE-HER-WEYER, 1969. Kroniek district D 1963–1965. *Helinium* 9, pp. 46–73.

- EOGAN, G., 1983. *The hoards of the Irish later Bronze Age*. Dublin, University College.
- EOGAN, G., 2000. The Socketed Bronze Axes In Ireland (= Prähistorische Bronzefunde IX:22). Stuttgart, Franz Steiner Verlag.
- ESSINK, M. & J.B. HIELKEMA, 1997–1998. Rituele dispositie van bronzen voorwerpen in Noord-Nederland. *Palaeohistoria* 39/40, pp. 277–321.
- FONTIJN, D.R., 2002. Sacrificial landscapes. Cultural biographies of persons, objects and 'natural' places in the Bronze Age of the southern Netherlands, c. 2300–600 BC. (appeared also as Analecta Praehistorica Leidensia 33/34). Thesis, University of Leiden.
- GAUCHER, G., 1981. Sites et cultures de l'âge du bronze dans le bassin parisien. *XVe supplément à Gallia Préhistoire*. Paris, Editions du Centre National de la Recherche Scientifique.
- GAUCHER, G. & J.-P. MOHEN, 1974. *L'age du Bronze dans le nord de la France*. No. Spécial, Société Préhistorique du Nord.
- HEEKEREN, H.R., 1958. The Bronze-Iron Age of Indonesia. Verhandelingen van het Koninklijk Instituut voor Taal-, Landen Volkenkunde XXII. 's-Gravenhage, Martinus Nijhoff.
- HEEMSKERCK DÜKER, W.F. VAN & P. FELIX, 1942 (3rd ed.). Wat aarde bewaarde. Vondsten uit onze vroegste geschiedenis. Den Haag, Hamer.
- HEERINGEN, R.M. VAN, 1983. 's-Gravenhage in archeologisch perspectief. Mededelingen Rijks Geologische Dienst 37, pp. 96–126
- HEERINGEN, R.M. VAN, 1992. *The Iron Age in the Western Netherlands* (Thesis Vrije Universiteit Amsterdam). Amersfoort, Rijksdienst voor het Oudheidkundig Bodemonderzoek.
- HODGES, H.W.M., 1956. Studies in the Late Bronze Age in Ireland: II. The typology and distribution of bronze implements. *Ulster Journal of Archaeology* 19, pp. 29–56.
- HUTH, C., 1997. Westeuropäische Horte der Spätbronzezeit. Fundbild und Function. (= Regensburger Beiträge zur prähistorischen Archäologie III.) Regensburg, Universitätsverlag/Bonn. Habelt.
- IMPE, L. VAN, 1994. Een depot met kokerbijlen uit de *Plainseau*-cultuur (late Bronstijd) te Heppeneert-Wayerveld (Maaseik, prov. Limburg). *Archeologie in Vlaanderen* IV, pp. 7–38.
- JACOBSEN, J., 1904. L'âge du bronze en Belgique. Partie chimique. Bruxelles, Lamberty.
- KIBBERT, K., 1984. *Die Äxte und Beile im mittleren Westdeutschland II* (= Prähistorische Bronzefunde IX:13). München, C.H. Beck.
- KNIPPENBERG, W.J.Th., 1959. Vondstmeldingen. In: *Brabants Heem* XI.'s-Hertogenbosch, Brabants Heem, pp. 48–50.
- KUŚNIERZ, J., 1998. *Die Beile in Polen III* (= Prähistorische Bronzefunde IX:21). Stuttgart, Franz Steiner Verlag.
- LAET, S.J. DE, 1982. *La Belgique d'avant les Romains*. Wetteren, Universa.
- LOË, A., DE, 1928–31. La Belgique Ancienne. Catalogue descriptif et raisonné, I, Les âges de la Pierre, 1928; II, les âges des Métaux, 1931. Bruxelles, Vromant.

- MARIËN, M.E., 1952. Oud-België. Van de eerste landbouwers tot de komst van Caesar. Antwerpen, De Sikkel.
- MAYER, E.F., 1977. *Die Äxte und Beile in Österreich* (= Prähistorische Bronzefunde IX:9). München, C.H. Beck.
- MILES, D., S. PALMER, G. LOCK, C. GOSDEN & A.M. CROMARY, 2005. Uffington White Horse and its landscape. Investigations at White Horse Hill Uffington, 1989–95 and Tower Hill Ashbury, 1993–4. Thames Valley Landscapes Monograph 18, Oxford.
- NEEDHAM, S., 1990. *The Petters Late Bronze Age metalwork*. London, British Museum Occasional Paper 70.
- NEEDHAM, S., 1996. Bronze Age Metalwork and Metallurgical Debris. In: R.P.J. JACKSON & T.W. POTTER (eds), *Excavations at Stonea Cambridgeshire 1980–85*. London, British Museum Press, pp. 257–260.
- NORTHOVER, P., 2003a. The Tower Hill axe hoard: Metallurgical Analysis of the hoard. In: D. MILES *et al.*, 2003. *Uffington White Horse and its Landscape*. Thames Valley Landscapes Monograph 18, Oxford, pp. 220–225.
- NORTHOVER, P., 2003b. Appendix 5: metallurgical analysis of the Tower Hill hoard. In: MILES, D. et al, 2003: Uffington White Horse and its Landscape. Thames Valley landscapes Monograph 18, Oxford, pp. 287–298.
- O'CONNELL, M., 1986. Petters Sports Field, Egham: Excavation of a Late Bronze Age/Early Iron Age Site. Surrey Archaeological Society, research volume 10.
- O'CONNOR, B., 1980. Cross-Channel relations in the later Bronze Age. Relations between Britain, North-Western France and the Low Countries during the Later Bronze Age and the Early Iron Age, with particular reference to the metalwork (= BAR Intern. Ser. 91). Oxford, BAR.
- PEARCE, S.M., 1983. The Bronze Age Metalwork of South Western Britain i/ii (= BAR British Series 120). Oxford, BAR.
- PLEYTE, W., 1877–1902. Nederlandsche Oudheden van de vroegste tijden tot op Karel den Groote. I. Tekst. II. Platen. (Friesland: 1877; Drenthe: 1882; Overijssel: 1885; Gelderland: 1889; Batavia: 1899; West-Friesland: 1902). Leiden, Brill.
- ŘÍHOVSKÝ, J., 1972. Die Messer in Mähren und dem Ostalpengebiet (= Prähistorische Bronzefunde I:7). München, C.H. Beck.
- ŘÍHOVSKÝ, J., 1992. *Die Äxte, Beile, Meißel und Hämmer in Mähren* (= Prähistorische Bronzefunde IX:17). Stuttgart, Franz Steiner Verlag.
- ROYMANS, N. & H. HIDDINK, 1991. Nederzettingssporen uit de bronstijd en de vroege ijzertijd op de Kraanvensche Heide te Loon op Zand. In: H. Fokkens & N. Roymans (eds), Nederzetttingen uit de bronstijd en de vroege ijzertijd in de lage landen (= NAR 13). Amersfoort, ROB, pp. 111–127.
- SCHEERS, J.H.A. & Th.H.A.J. ABELEVEN, 1873–1878. Beschrijving van de Gemeente-verzameling te Nijmegen van gedenkteekenen van Vóór-Germaanschen, Germaanschen en Romeinschen oorsprong en van lateren tijd. Nijmegen, Vieweg.

- SCHMIDT, P.K. & C.B. BURGESS, 1981. *The axes of Scotland and northern England* (= Prähistorische Bronzefunde IX:7). München, C.H. Beck.
- SERVAIS, J. & J. HAMAL-NANDRIN, 1929. Catalogue sommaire de la section préhistorique du Musée Archéologique Liégeois. Liège, Musée Archéologique Liégois.
- SMITH, M.A., 1957. Bronze Age hoards and grave groups from the N.E. Midlands. *Inventaria Archaeologica GB, Set VI.* London, Garroway Ltd.
- SPROCKHOFF, E., 1941. Niedersachsens Bedeutung für die Bronzezeit Westeuropas. Zur Verankerung einer neuen Kulturprovinz. *Bericht der Römisch-Germanischen Kommission* 31 (Teil II), pp. 1–138.
- SPROCKHOFF, E., 1949–1950. Das Lausitzer Tüllenbeil. *Prähistorische Zeitschrift* 34–35, pp. 76–131.
- SPROCKHOFF, E., 1956. Jungbronzezeitliche Hortfunde der Südzone des nordischen Kreises (Periode V) (= Römisch-Germanisches Zentralmuseum zu Mainz Katalog 16). Mainz.
- TACKENBERG, K., 1971. Die jüngere Bronzezeit in Nordwestdeutschland, I. Die Bronzen (= Veröffentlichungen der urgeschichtlichen Sammlungen des Landesmuseums zu Hannover 19). Hildesheim, August Lax Verlagsbuchhandlung.
- VERLINDE, A.D., 1980. Prehistorische depots uit het Enterveen en Elsener Broek in West Twente. 't Inschrien 12:2, ROB overdrukken 135, pp. 17–25.

- VERLINDE, A., 1989. Archeologische Kroniek van Overijssel over 1988. *Overijsselse Historische Bijdragen* 104, pp. 165–192.
- VERLINDE, A.D., 1998. Archeologische kroniek van Overijssel over 1997. *Overijsselse Historische Bijdragen* 113, pp. 151–170.
- VERWERS, W.J.H. & G.A.C. BEEX, 1978. Archeologische Kroniek van Noord-Brabant 1974–1976, *Bijdragen tot de studie van het Brabantse Heem* 26. Eindhoven, Stichting Brabants Heem.
- VULPE, A., 1970. Die Äxte und Beile in Rumänien I (= Prähistorische Bronzefunde IX:2). München, C.H. Beck.
- WESTENDORP, N. & C.I.C. REUVENS, 1823. Oudheidkundige Berichten. In: *Antiquiteiten* II:2, pp. 219–229.
- WIELOCKX, A., 1986. Bronzen bijlen uit de Brons- en Vroege IJzertijd in de Maasvallei. Verhandeling tot het verkrijgen van de graad van Licentiaat in de Oudheidkunde en de Kunstgeschiedenis aan de Katholieke Universiteit Leuven. Unpublished thesis, Leuven.
- IJZEREEF, G.F., 1981. Bronze Age animal bones from Bovenkarspel. The excavation at 'Het Valkje'. With contributions by J.F. van Regteren Altena and W.J. Kuijper. (= Nederlandse Oudheden 10, Project Noord-Holland). Amersfoort, Rijksdienst voor het Oudheidkundig Bodemonderzoek.