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A decorated Late Postclassic Mixtec human skull from Teotitlán del Camino, Oaxaca, Mexico, possibly dating to c.1400–1520 CE. The type of adhesive used to affix the mosaic to the skull raised some doubts about the authenticity of the object. Photo P. Erdil. (Collection Nationaal Museum van Wereldculturen. Coll.No. RV-4007-1.)

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Fossilized fashion and social sparkle

Dutch Bronze Age bracelets in context

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Abstract: *This contribution deals with the bronze bracelets found in the Netherlands that are datable between the Late Neolithic and the Middle Iron Age (n=176). We study their context (hoards, funerary contexts, settlements and stray finds), and we relate the specifics of their form and decoration to regional and supraregional traditions. First, we study their role as social signifiers (in reconstructions) of prehistoric identities across those scales, discussing how particular Bronze Age 'costumes' or 'ornament sets' may have been kept from graves and deposited in alternate ways. Then, we study later prehistoric arm-rings for their potential to indicate the scale, orientation and longevity of supraregional contact networks into which the later prehistoric communities of the Netherlands were integrated.*

Keywords: *bracelets, arm-rings, costume, Bronze Age, Iron Age, contact networks.*

1. Introduction: Why arm-rings?

In previous recent articles that showcased parts of the Netherlands Bronze Age Catalogue (NBAC; started by J.J. Butler) of bronze artefacts, we have published tools, such as socketed knives (Butler *et al.* 2011/2012) or sickles (Arnoldussen & Steegstra 2016), and toilet sets, comprising razors or tweezers (Arnoldussen & Steegstra 2018). Whereas such studies have proven their merit in terms of the typological and technical properties of these sets of artefacts, particularly for the tools (knives, sickles), we feel that understanding those objects in relation to Bronze Age persons – gauging their salience in social praxis rather than in functional terms – was difficult. For razors and tweezers, for example, their usage in creating and changing (particular type(s) of) bodily appearance (Arnoldussen & Steegstra 2018)

already brings us somewhat closer to particular Bronze Age personae and the social implications of bronze artefacts. Yet, the often all-too-simple equating of such grooming tools with male warrior identities¹ could signal that, again, a large part of prehistoric communities is left undiscussed. If we wish to target the role of bronze artefacts in the construction of female Bronze Age identities² in what is now the Netherlands, ornaments, such as arm-rings (or bracelets), can play an important role.

In a series of articles on Bronze Age dress, costume and identity, Sørensen (1997, 2010, 2013) has argued how bronze ornaments (in tandem with fabrics and garment additions) (Sørensen 2010: 57, Fig. 6.1) were used to map narratives of the social body onto physical bodies, accentuating bodily form, function³ and social cues (Sørensen 2010: 55–6; Nordez 2017: 12, 2019). The fact that many ornaments, among which arm-rings, are worn on

1 See, for example, Sørensen 1989: 459; Jockenhövel 2003: 138; Steuer 2003: 13; Harding 2008: 192; Rebay-Salisbury 2017: 41; Arnoldussen & Steegstra 2018: 13.

2 As with the razors and tweezers discussed above, the number of Dutch inhumations with assigned biological sex that have been found with such ornaments is insufficient to fully warrant the gender binary suggested (cf. Sørensen 1997: 101), but their exclusiveness is clear, and research elsewhere (e.g. Laux 1971: 173; 2015: 4–9; 2017: 30, 384; Pászthory 1985: 2; Wels-Weyrauch 1989; Neugebauer 1991; cf. Sørensen 1997: 100) has shown the strength of the association between arm- and leg-ring ornaments and female identity (but see Sørensen 2010: 59; Laux 2015: 9–11).

3 This is explicitly also taken to include limited bodily movement, such as with big neck ornaments (cf. Sørensen 2010: 56) or chained-linked leg-rings (cf. Pirling 1980: Taf. 53; Pászthory 1985: 31; Sørensen 1997: 109, Fig. 6, 2010: 58, Fig. 6.4).

the lower extremities, renders them easily visible and suitable media for social messaging. The visibility of arm-rings – even without removing clothing – can signal their importance in sending various social cues (cf. Sørensen 1997: 104, 110; Roberts 2007: 146, 149; Nordez 2017: 19–20). Nordez (2017: 20) aptly characterized this as an interpersonal, cultural, corporeal language⁴:

Les parures véhiculent donc, dans de nombreux cas, une quantité importante d'informations au sujet de l'individu paré. Elles sont matérialisées sur les ornements corporels à travers un langage codé symbolique, qui régit au moins partiellement le choix du type d'objet porté, sa forme, ses décors, la matière dans lequel il est constitué, la partie du corps qu'il pare, les moments auxquels il est porté, etc. L'ensemble de la parure d'un individu et sa tenue vestimentaire permettent souvent à ses contemporains de décrypter l'ensemble de ces données d'un simple coup d'œil.

The spatial grammar of this corporeal language seems to rely on the use or explicit negation of the physical body's axial symmetry (Sørensen 2010: 57), by using (pairs or singular) bracelets or rings on either one or both legs, by contrasting a lower (chest) versus waist register (Sørensen 1997: 99–101, cf. Nørgaard, 2018: 191), or by having neck-rings and headwear (and sometimes pins or clothing embellishments) stressing a central axis (e.g. Sørensen 2010: 57). Notwithstanding the theoretical variability possible in the numbers, types and placement of ornaments on the body (Sørensen 2010: 58), female attire tends to show fixed positions for certain types of ornaments and – unlike male ornaments, which are all removable (e.g. fibulae, pins and daggers) (Sørensen 1997: 102) – tends to have been more frequently placed in fixed positions with respect to the body⁵ or even to have been more robustly attached to it. For some arm-rings, it has been argued that their degree of abrasion shows long – possibly even permanent⁶ – wear of such ornaments, with some possibly being forged onto people's limbs (Lohof 1994: 116; Probst 1999: 300). This suggests that in such cases, arm-rings could carry social meanings over prolonged periods in the wearer's life (Sørensen 1997: 102–3).

It is to be expected that at the regional scale (and possible even at the supraregional scale), such social meaning could be read from ornament combinations by an

audience of onlookers (Roberts 2007: 150). Regionally restricted types of ornaments (e.g. *Haarknoten* fibulae or Sussex loops; Sørensen 1997: 104; Roberts 2007: 143; Laux 2017: 34; Nordez 2017: 272–5, 471, Fig. 301), as well as regionally distinct patterns in ornament placement in graves (Wels-Weyrauch 1989), suggest that locality could be expressed in this way. Yet, it probably was not limited to this. Social stages or standing (e.g. menarche, (openness to) romantic partnerships, supraregional or elite affiliations), could as easily be encoded with changes in ornament display (Sørensen 1997: 107; Nordez 2017: 23–5). This means that (sets of) bodily ornaments could, or even should, change over a person's life, acting as active signifiers of changes in identity (cf. Roberts 2007: 149; Sørensen 2013: 217). The various cases in which unburnt ornaments were added to cremated remains (e.g. Roberts 2007: 146), moreover, stressed the importance (of the meaning) they carried and the unbroken ties between the social persona and the bronze artefact, despite the fragmented and cremated corporal body.

In addition to being important as potential media for showcasing social cues, arm-rings are a suitable category to study because they tend to be a well-represented or even dominant category of ornaments (cf. Roberts 2007: 139 Table 1; Nordez 2017: 83). This holds true for the Netherlands as well. A substantial number of Bronze Age bronze arm-rings are known from the Netherlands: a total of 201 bronze arm- or leg-rings are entered in the NBAC, versus a total of 34 other bronze ornaments (e.g. neck-rings, collars, fibulae). Only pins are known in somewhat comparable numbers (n=176), underlining their importance in Bronze Age apparel in the Low Countries. Of the 201 bronze arm-rings in the NBAC, the majority (n=126) have clear provenance: graves (n=66), hoards (n=46), river or wetland settings (n=8) or settlement excavations (n=6). This allows us to better reflect on their meanings than is the case for the without clear or precise provenance (n=62).

In what follows, we will review the Bronze Age bracelets that have been found in the Netherlands, albeit with some consideration of arm-rings from the preceding Neolithic (cf. Laux 2015: 2–4) and ensuing Early Iron Age (EIA) (cf. Laux 2015: 22–4) periods as well, in order to better characterise the particulars of Bronze Age arm-rings. Some objects are part of a hoard or of an assemblage already published in previous publications on the

4 The worn ornaments thus – in most cases – showcase a significant amount of information about the individual wearing them. This information is materialized as corporeal decorations that utilize a coded symbolic language relying on the type of ornament worn, its decoration, its constituent material(s), the body part where it is displayed, the moment when it is worn, etc. The combination of personal ornaments and clothing often allowed contemporary persons to decrypt such coded information at a single glance (our translation).

5 An aspect that is, of course, in part related to functionality for such objects as toggles, pins and fibulae.

6 Cf. Kristiansen 1974; Laux 1981; Sørensen 1997: 102; Roberts 2007: 149.

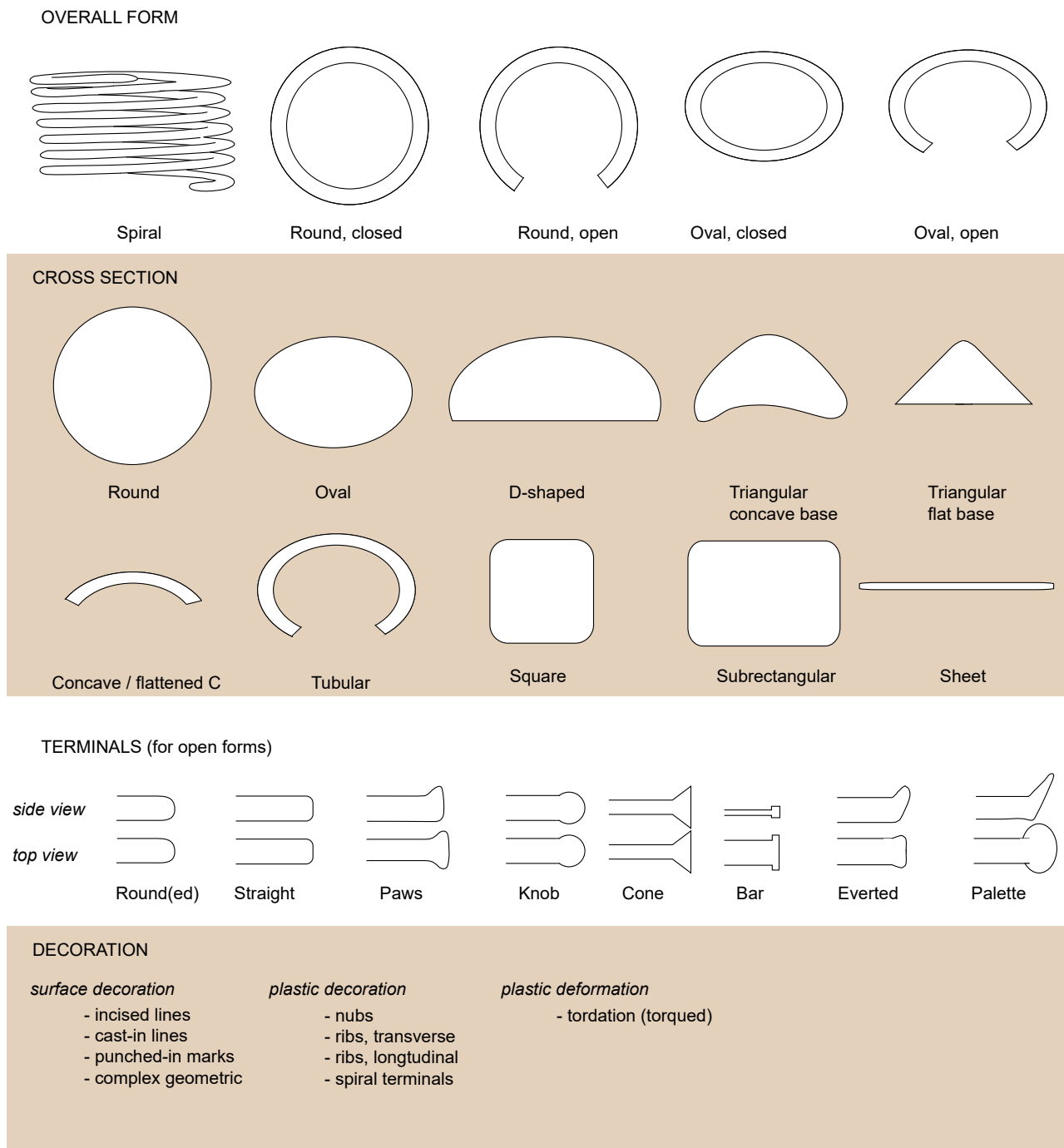


Fig. 1. Basic morphological and iconographic categorization of Bronze Age bracelets found in the Netherlands. Drawing: S. Arnoldussen, Groningen Institute of Archaeology.

NBAC bronzes. In those cases, we have retained those prior descriptions, as long as they are still accurate. We note that the creation of a complete corpus was never the objective for this paper. Many small bronze fragments stored in museum collections could have originally been parts of pins, neck-, leg- or arm-rings, so we have limited ourselves here to a representative corpus of objects whose identification as arm-ring was sufficiently secure. This – unfortunately – means that finds from cremation cemeteries that were left on or added

to the pyre may be underrepresented, as such bronze items tend to severely fragment and melt, defying identification (cf. Hulst 2010: 61-4). Finds for which provenance information is limited to the national level (i.e. for which it is not even known which province the object originated from) have been omitted too (n=13). Unless they are found in inhumation graves, it can be difficult to distinguish between leg-rings and arm-rings, but well-documented cemeteries, such as Ouches à Auzay (Lourdaux & Gomez de Soto 1998), suggest bimodal

distributions for the inside diameters for leg-rings (76–89 mm) and arm-rings (52–67 mm; Nordez 2017: 168, 170, Fig. 75). This helps to target arm-rings within the wider horizon of bodily ornaments.

Before we commence our diachronic overview, we discuss the typology, production and composition of the Dutch Bronze Age arm-rings in general terms.

2. Typology (Figs. 1-2)

Any attempt at categorization and typological characterization of Bronze Age arm-rings must rely on clear and explicit criteria. Bronze Age bracelets can systematically be characterized along four main parameters (Fig. 1): basic form, cross-section, shape of any terminals, and decoration (*cf.* Sprockhoff 1937: 55ff; 1956: 172ff; Pearce 1983: 49; Pászthory 1985: 3-5; Laux 2015: 26; Nordez 2017: 54-8, 172-91).

In cases where such parameters occur frequently in combination, a dedicated terminological label is often used. For example, in the group characterized as ‘omega’ bracelets by Van Giffen (1944: 486), there are several bracelets that – based on their overall omega-shape and everted terminals or palettes – are justifiably placed together yet still vary across the parameters listed. For example, Figure 2 depicts two omega bracelets, from Drouwen (DB 1281) and Uden-Slabroek (DB 2876). They share a basic morphology (oval, open), but the Drouwen example is concave in cross-section and the Uden one triangular (with a flat base). Also, whereas the Drouwen bracelet has modestly everted terminals that protrude about half the height of the bracelet’s cross-section, the Uden one has long (originally fan-shaped) palettes that depart in a clear (even though obtuse) angle from the main bracelet body. With regard to decoration,

three transverse ribs mark the transition from body to everted terminal on the Drouwen bracelet, whereas the Uden bracelet has its main body decorated with (now faint) incised chevrons motifs. The above anecdotal observations on the differences between two bracelets published under the same typological label should not be taken as a proposal to dismiss the (often long-standing) tradition of using such typological labels. In what follows, we will often quote and discuss such typological short-hands as technical terms, but readers should remain aware that such labels may mask an innate variability in form, cross-section, terminal shape and decoration that is best addressed by rendering explicit precisely such parameters.

Whereas some authors have separated bracelets (defined as relatively insubstantial worked strips, worn for ornamental purposes) from arm-rings (defined as more substantial, cast pieces; Pearce 1983: 48), we consider these two terms to be synonyms. We discuss their production below.

3. Production

As moulds for Bronze Age bracelets have not been found in the Netherlands (but see Nordez 2017: 318, Fig. 186), any information on their production sequence has to be deduced from the extant examples (*cf.* Butler 1965: 165-7, 176, 178). The simplest form of bracelet could be a copper alloy wire, hammered into shape on an anvil (Nørgaard 2018: 61), that was cold-worked into a form that could be put on the wrist. Spiral-formed bracelets (e.g. DB 201) may have been shaped this way, but frequently the bronze wire was bent back on itself prior to forming the spirals (with the open ends stranded together; e.g. DB 1886; DB 1272, DB 1273, DB 1274, DB 1275; *cf.* Laux 2017:

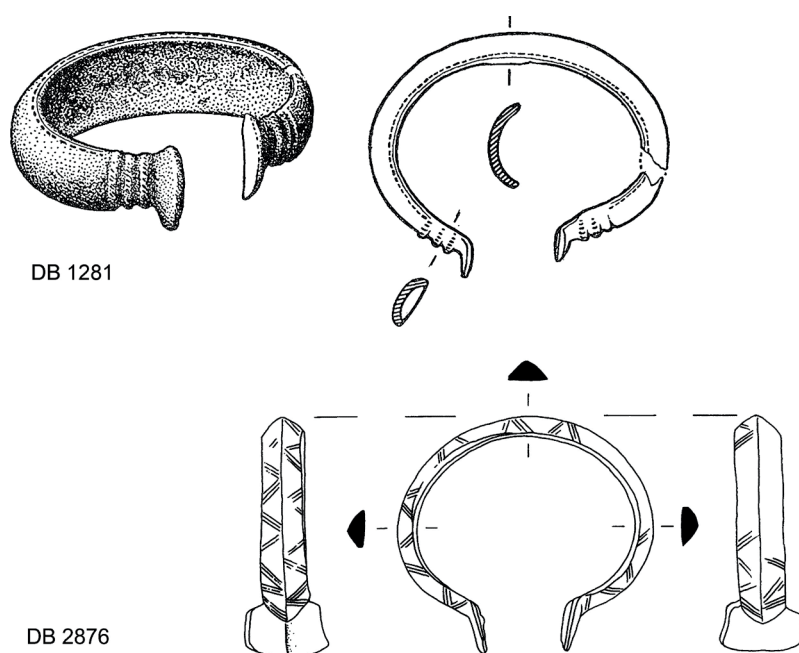


Fig. 2. Different execution of two bracelets classified as ‘omega bracelets’ from Drouwen (DB 1281) and Uden-Slabroek (DB 2876; for details, see below). Drawings GIA (top) and Faculty of Archaeology, Leiden University (bottom)).

Taf. 90: 7-9, Taf. 94: 6). Bronze wire bracelets – particularly those of larger diam. in cross-section – could also be torqued (e.g. DB 1031) or forged into a closed form again (e.g. DB 1032).

Open-form bracelets were mostly formed by hammering a rod-like cast ingot in the desired cross-section and aperture (Rowlands 1976: 93; cf. Van Alphen & Theunissen 2015: 51; Nørgaard 2018: 214). For some of the open bracelets of D-shaped cross-section (especially some fragments from DB 488), the inside surface suggests that the basic shape may have been cast in an open mould – with plastic outside decoration (e.g. ribs) possibly already prepared in the mould (cf. Nordez 2017: 227, 318, 320). Such usage of open or bivalve moulds was also suggested by Nordez (2017: 213, cf. 318 Fig. 186). For the open bracelets with spiral-shaped terminals (e.g. DB 477), post-casting coldworking was used to create the spiral terminals (cf. Nørgaard 2018: 254). More massive, closed bracelets were presumably cast in lost-wax techniques, as is indicated by traces of removed casting channels (Drescher 1955: 137-8; Nordez 2017: 196, 262; Nørgaard 2018: 75; cf. DB 1281). In Estavayer, in Switzerland, a bracelet with everted palettes was found whose casting jets and casting funnel were never removed (Pászthory 1985: Taf. 144: 1610a).

Bracelets of tubular cross-section were made by cold-working bronze ingots into sheet fragments and hammering these into shape. The quite uniform thickness and lack of rippling on the inside of such bracelets (e.g. DB 2877) argues against a fabrication routing in which sheet metal was rolled into a tubular form and only thereafter curved to fit a wrist.

For all bracelets, finer decoration (i.e. excluding more plastic shapes, such as ribs or knobs) was generally punched in or incised post-casting (cf. Nordez 2017: 331 Fig. 139).

4. Composition

Only a very small subset of the Dutch Bronze Age bracelets has been subjected to compositional analysis (cf. Nordez 2017: 314-5). For 14 sites, we investigated the alloy composition of arm-rings using portable X-ray fluorescence (XRF) analysis (Table 1). These are all bracelets housed in the collection of the Drents Museum, in Assen.⁷ The instrument used was a Thermo Scientific Niton XL3t hand-held XRF, capable of simultaneously detecting 25 elements in the analytical range between sulfur and uranium, as well as light elements (Mg, Al, Si, P, S and Cl). Measurements were taken in 'alloy' mode for a duration of 20 seconds, and a minimum of four measurement locations per object were analyzed.

Unfortunately, many of the bronze bracelets housed in the Assen collection showed severe corrosion, resulting in a reduction of copper content in the outer surface (targeted by portable XRF) and (unrepresentative) elevation of tin in the outer corrosion layers (a well-known problem known colloquially as tin-sweating: Meeks 1986: 133; Wouters 1994: 45; Orfanou & Rehren 2015: 392; Nørgaard 2017: 102, 105-6). For three bracelets (DB 1239; DB 1242; DB 1988), copper content measured was below 43 %wt, and these have been omitted as unrepresentative. For three other measurements (on DB 1241, DB 1242, DB 1022), the tin content is high enough (27-42 %wt) to at least warrant cautious interpretation. Lastly, the composition of two gold bracelets from Hijken (DB 1200, DB 1201) is known (Butler & Steegstra 2007/2008: 399).

A bronze bracelet of oval cross-section with everted terminals from the Weert-Boshoverheide cemetery (DB 2920) was analyzed and showed an alloy consisting of 12 %wt tin, 0.5 %wt lead and higher values for antimony (3.3 %wt), silver (1.6 %wt) and arsenic (0.6 %wt). Some nickel (0.3 %wt), zinc (0.05 %wt) and bismuth (0.02 %wt) could also be detected (Theunissen *et al.* 2013: 67). The high values for antimony and arsenic indicate the use of *Fahlöre* copper (Radivojević *et al.* 2019: 158) that has not been remelted often.

The two *Nierenring* bracelets from the Bargerroosterveld 1900 hoard (DB 1186-DB 1187; Butler 1961: 105-6 Fig. 49; Butler & Steegstra 2007/2008: 396-7, 398 Fig. 12; Fontijn 2009: 140) were made of bronze, with fair (c. 10-17%wt) amounts of both tin and lead and values of 0.2-0.4 for arsenic and silver and c. 0.8 %wt antimony. Fragments of a third (sheet, with central longitudinal rib) bracelet from this hoard shared its values for tin, lead and silver, but returned higher values for antimony and arsenic (both c. 1%wt) and nickel (c. 0.6 %wt), suggesting that it differed in base ore or recycling stages from the other bracelets, or even in origins (cf. Arnoldussen 2015: 20).

A bracelet of D-shaped cross-section decorated with groups of transverse incised lines (DB 1167) consisted of c. 12.2 %wt tin and c. 2 %wt lead, with 0.8 %wt arsenic, c. 0.2 %wt silver and antimony and traces (0.09 %wt) of nickel and bismuth. Another bracelet of D-shaped cross-section also decorated with groups of transverse incised lines (DB 1022) from Bargerroosterveld was made of bronze with c. 3 %wt lead and several times as much tin (c. 32 %wt measured, but this may be tin-sweat; cf. Meeks 1986: 133; Wouters 1994: 45). It also contained 1.3 %wt antimony, 0.5 %wt arsenic, 0.2 %wt silver and 0.1 %wt zinc. A group of three such bracelets (D-shaped cross-section, groups of incised transverse lines; DB 1168,

⁷ This was done in cooperation with curator Bastiaan Steffens, of the Drents Museum, and Bertil van Os, of the Cultural Heritage Agency of the Netherlands (RCE, Amersfoort).

Table 1. Compositional analysis through portable XRF analysis of selected bronze bracelets from the Bronze Age and the Iron Age found in the Netherlands.

DB No.	armring description	Place	Toponym	Context	Technique	Strategy
DB 76	D-shaped, paws, decorated	Borger-Odoorn	Odoorn	Unknown	pXRF	Selected: High Cu
DB 76	D-shaped, half	Borger-Odoorn	Odoorn	Unknown	pXRF	Calculated: Average of n=4
DB 145	D-shaped, decorated (vert. grooves), a	Rolde	Westerveld, Klaassteen	Heath reclamation	pXRF	Selected: High Cu
DB 145	D-shaped, decorated (vert. grooves), c	Rolde	Westerveld, Klaassteen	Heath reclamation	pXRF	Selected: High Cu
DB 145	D-shaped, e	Rolde	Westerveld, Klaassteen	Heath reclamation	pXRF	Selected: High Cu, Pb added
DB 145	D-shaped, b	Rolde	Westerveld, Klaassteen	Heath reclamation	pXRF	Selected: High Cu
DB 145	D-shaped, d	Rolde	Westerveld, Klaassteen	Heath reclamation	pXRF	Selected: High Cu
DB 1022	d-shaped	Bargeroosterveld	Unknown	Unknown	pXRF	Selected: High Cu
DB 1167	terminals decorated	Unknown	Unknown	In urn	pXRF	Selected: High Cu
DB 1168	body decorated (vertical grooves)	Drenthe	Unknown	In urn	pXRF	Selected: High Cu
DB 1169	body decorated (vertical grooves)	Drenthe	Unknown	In urn	pXRF	Selected: High Cu
DB 1170	body decorated (vertical grooves)	Drenthe	Unknown	In urn	pXRF	Selected: High Cu
DB 1185	single rib, flared terminals	Bargeroosterveld	1900 hoard	Peat/bog	pXRF	Selected: High Cu
DB 1186	Nierenring	Bargeroosterveld	1900 hoard	Peat/bog	pXRF	Calculated: Fe out, Zn added
DB 1187	Nierenring	Bargeroosterveld	1900 hoard	Peat/bog	pXRF	Calculated: Fe out, Zn added
DB 1200	gold (c. 81 %wt Au)	Hijkersmilde	Nieuw-Solverd	Peat/bog	-	-
DB 1201	gold (c. 78 %wt Au)	Hijkersmilde	Nieuw-Solverd	Peat/bog	-	-
DB 1239	rectangular cross-section	Balloërveld	Tumulus 6	Inhumation grave	pXRF	Calculated: Average of n=3
DB 1241	ribbed, wide, everted terminals (overlap)	Balloërveld	Tumulus 6	Inhumation grave	pXRF	Calculated: Average of n=4
DB 1242	ribbed, wide, everted terminals	Balloërveld	Tumulus 6	Inhumation grave	pXRF	Calculated: Average of n=4
DB 1956	spiral, narrow coils	Elp	Schoonoord	Urnfield	pXRF	Selected: High Cu
DB 1988	spiral, BR/SL	Havelte	Koningskamp, Tumulus II	Barrow	pXRF	Calculated: Average of n=2
DB 2216	D-shaped, paws, decorated, Nr. 1	Erm	Tumulus	Inhumation grave	pXRF	Sel. High Cu, Ag added
DB 2216	D-shaped, paws, decorated, Nr. 2	Erm	Tumulus	Inhumation grave	pXRF	Calculated: Average of n=4
DB 2216	D-shaped, paws, decorated, Nr. 3	Erm	Tumulus	Inhumation grave	pXRF	Calculated: Average of n=4
DB 2216	D-shaped, paws, decorated, Nr. 4	Erm	Tumulus	Inhumation grave	pXRF	Calculated: Average of n=4
DB 2216	D-shaped, paws, decorated, Nr. 5	Erm	Tumulus	Inhumation grave	pXRF	Calculated: Average of n=2
DB 2521	armring	Kessel-Lith	Detector find	River, gravel	pXRF	Selected: High Cu
DB 2895	ribbed, wide, everted terminals	Dreumel	Maas	River, gravel pit	pXRF	Calculated: Average of n=7
DB 2920	armring	Weert	Boshoeverheide	Grave	pXRF	Selected: High Cu

Table 1 continued.

DB No.	Cu	Sn	Pb	Zn	As	Ag	Sb	Ni	Fe	Bi	Mn	References*	Remarks**
DB 76	63,83	24,82	9,64	<0,1	0,57	0,29	0,51	0,10	0,16	<0,1	<0,1	(1)	
DB 76	42,39	36,81	14,66	<0,1	1,63	1,60	2,42	<0,1	1,77	0,14	<0,1	(1)	Oxide crust?
DB 145 a	72,44	26,94	0,08	<0,1	0,36	<0,1	<0,0	<0,1	0,16	<0,0	<0,1	(1)	
DB 145 c	85,85	13,74	0,07	<0,1	0,32	<0,1	<0,0	<0,1	0,36	<0,0	<0,1	(1)	
DB 145 e	78,01	21,69	0,11	<0,1	0,24	<0,1	<0,0	<0,1	0,82	<0,0	<0,1	(1)	
DB 145 b	78,63	20,95	0,05	<0,1	0,34	<0,1	<0,0	<0,1	0,83	<0,0	<0,1	(1)	
DB 145 d	65,61	33,01	0,47	<0,1	0,78	<0,1	0,08	<0,1	0,56	<0,0	<0,1	(1)	D; high-lead high-tin; outlier?
DB 1022	62,06	32,29	3,11	0,11	0,51	0,16	1,37	<0,1	0,20	<0,1	<0,1	(1)	D; high-lead high-tin; outlier? Green patina
DB 1167	84,39	12,20	2,05	<0,1	0,81	0,19	0,16	0,09	0,15	0,09	<0,1	(1)	
DB 1168	83,04	14,60	1,38	<0,1	0,47	0,12	0,12	<0,1	0,20	0,09	<0,1	(1)	
DB 1169	80,78	16,09	1,99	<0,1	0,69	0,09	0,10	<0,1	0,11	0,13	<0,1	(1)	
DB 1170	89,70	7,80	1,70	<0,1	0,39	0,10	0,12	0,05	0,10	<0,01	<0,2	(1)	
DB 1185	71,54	14,04	11,34	<0,1	1,10	0,19	1,07	0,65	0,82	<0,1	<0,1	(1)	Unlike Nierenring metal: too much As
DB 1186	65,66	17,45	15,14	0,10	0,24	0,25	0,84	<0,1	4,32	<0,1	<0,1	(1)	Similar to DB1187
DB 1187	73,12	14,67	10,70	<0,1	0,40	0,27	0,76	<0,1	2,44	<0,1	<0,1	(1)	Similar to DB1186
DB 1200	c.3	-	-	-	-	c. 16	-	-	-	-	-	(2)	Accuracy within 2 %wt
DB 1201	c.9.5	-	-	-	-	c. 12.5	-	-	-	-	-	(2)	Accuracy within 1 %wt
DB 1239	6,19	89,20	0,10	<0,1	3,12	<0,1	0,75	0,22	7,97	<0,2	<0,2	(1)	Sn-Iron crust?? Burned?
DB 1241	71,27	27,58	0,04	0,10	0,68	<0,1	0,96	0,19	0,47	<0,1	<0,1	(1)	Sn-Iron crust?? Burned?
DB 1242	56,51	41,59	<0,01	0,11	1,06	<0,1	0,07	0,32	0,39	<0,1	<0,1	(1)	Sn-Iron crust?? Burned?
DB 1956	87,90	5,07	2,43	<0,1	0,90	1,19	2,12	0,26	0,17	<0,1	<0,1	(1)	
DB 1988	2,69	91,80	0,21	0,30	2,61	<0,1	1,53	0,56	5,70	<0,1	<0,1	(1)	Bronze fully leached-out? Found near ankle of inhumation grave
DB 2216 -1	75,71	8,97	14,54	0,19	0,35	0,11	0,17	<0,1	0,38	<0,1	<0,1	(1)	1 and 2 very similar
DB 2216-2	76,72	8,43	14,04	0,17	0,29	0,07	0,19	0,08	0,45	<0,1	<0,1	(1)	1 and 2 very similar
DB 2216-3	75,38	6,77	17,19	0,10	0,32	0,06	0,15	<0,1	0,30	<0,1	<0,1	(1)	
DB 2216-4	69,36	11,84	17,47	0,43	0,58	0,09	0,26	0,08	0,47	<0,1	<0,1	(1)	1 excluded; 4 different composition, 4 and 5 very similar
DB 2216-5	66,57	11,02	21,17	0,49	0,47	0,09	0,20	<0,1	0,74	<0,1	<0,1	(1)	4 and 5 very similar
DB 2521	79,81	18,00	0,29	<0,03	-	0,08	0,03	<0,01	1,77	0,03	0,08	(3)	
DB 2895	82,90	11,50	5,10	<0,1	0,20	0,15	0,21	0,01	1,17	<0,1	<0,1	(4)	
DB 2920	84,54	12,81	0,50	0,05	0,57	1,58	3,24	0,27	0,85	0,02	0,00	(3)	Two other measurements similar in composition

* References:

- (1) Arnoldussen & Steffens, unpublished
 (2) Butler & Van der Waals 1961: 92-94
 (3) Van Os, unpublished
 (4) Theunissen 2020: 15-32.

** Remarks:

D = Calculated: Fe out

DB 1169, DB 1170) displayed a similar alloy: lead ranged between 1.4-2 %wt, arsenic ranged between 0.4-0.7 %wt, and both silver and antimony were c. 0.1 %wt. Only the tin content of DB 1170 (c. 7.8 %wt) was markedly lower than that of DB 1167 and DB 1168 (14.6-16 %wt).

The bracelet of D-shaped cross-section with paw-shaped terminals and punched decoration (DB 76) from Odoorn contained 9.6 %wt lead and presumably as much tin (distorted by tin-sweating), with silver, arsenic and antimony ranging between 0.3 and 0.6 %wt. Several fragments of three (lavishly) decorated D-shaped

bracelets with paw-shaped terminals were recovered from a tumulus at Erm (DB 2216) proved to reflect three alloys: one with c. 8–9 %wt tin, 14 %wt lead, 0.2–0.3 %wt arsenic and 0.2 %wt each antimony and zinc (and traces of nickel and silver); another with c. 7 %wt tin, 17–21 %wt lead, 0.4–0.5 %wt zinc and 0.5–0.6 %wt arsenic (and traces of silver); and third with c. 6 %wt tin, 17 %wt lead, 0.3 %wt arsenic and 0.2 %wt antimony (and traces of zinc and silver). Here, although the metal was essentially classifiable as leaded tin-bronze, the zinc and tin contents allowed us to reconstruct that different smelts had been used for very similar bracelets that had been deposited together.

Another group of bracelets with D-shaped cross-section (from Rolde-‘Klaassteen’; DB 145) was analyzed for their composition. The tin content may be overrepresented at the surface, with values of 13–33 %wt, but the lead content is low (<0.12 %wt for all but one bracelet (bracelet D; 0.47 %wt)). Arsenic measured c. 0.23–0.33 %wt for bracelets A, B, C and E, which all had no measurable amounts of antimony and silver. Again bracelet D deviates, with c. 0.77 %wt arsenic and 0.77 %wt antimony. As was the case at Erm, discussed above, this set of bracelets deposited together seems to represent a minimum of two smeltings.

For the group of oval, open, sheet bracelets with longitudinal ribbing, measurements are available for three examples (two from Balloërveld Tumulus 6 (DB 1241–1242) and one from Dreumel (DB 2895)). They indicate that the basic alloy was tin-bronze⁸, with some lead (<5 %wt) for the Dreumel one. Arsenic and antimony are present in the trace to 1 %wt ranges, suggesting that it may have seen various remelting cycles (Theunissen 2020). The decorated bracelet with concave C-shaped cross-section made out of thin sheet bronze found at Kessel-Lith (DB 2521; Van Alphen & Theunissen 2015) contained 18 %wt tin, 0.3 %wt lead and less than 0.1 %wt silver, antimony and bismuth (with no detectable zinc or nickel).

Composition could be determined for only a single Urnfield-period spiral arm-ring (DB 1956: Elp-Schoonoord): it consists of bronze with c. 5 %wt tin and 2.5 %wt lead, and with values of 0.9–1.2 %wt for arsenic and silver. Antimony amounts to 2.1 %wt, hinting at a northern Alpine *Fahlore* origin for its base ores (cf. Radivojević *et al.* 2019: 158).

For the two gold bracelets from Hijken (DB 1200, DB 1201), the composition had been published previously (Butler & Steegstra 2007/2008: 399): they consist of c. 81 %wt gold, with c. 16 %wt silver and c. 3 %wt copper (DB 1200) and c. 78 %wt gold, with c. 12.5 %wt silver and c. 9.5 %wt copper (DB 1201), respectively.

In summary, most (n=18) of the bracelets were made of leaded bronze, with 10 of these having lead contents of 9–21 %wt (i.e. the Erm (DB 2216), Bargerooterveld 1900 (DB 1185, DB 1186, DB 1187) and Odoorn (DB 76) bracelets). These are dated to Period V (*infra*, c. 925–750 calBC; Butler & Steegstra 2007/2008: 176), during which leaded bronze was common (cf. Van Impe 1994; Wouters 1994: 42; Johannsen 2016: 158 Fig. 3; Radivojević *et al.* 2019: 166). For one of the Odoorn bracelets (DB 76b), its high (> 1 %wt) content in both arsenic and antimony suggests that probably northern Alpine *Fahlore* copper (Radivojević *et al.* 2019: 158) was used and that it has been frequently remelted since. The same pattern – i.e. high arsenic and antimony – was found for DB 1185, DB 1956 and DB 2920, suggesting a similar origin of their constituent ores. The ‘unleaded’ bronzes (n=8; still showing up to 0.5 %wt of Pb in their alloy), tend to show no silver and nickel, no antimony (only DB 1241 has 0.96 %wt Sb) and just arsenic in the range of 0.24–0.77 %wt. Remarkably, for Erm (DB 2216), Rolde-‘Klaassteen’ (DB 145), Bargerooterveld 1900 hoard (DB 1185–DB 1187) and Odoorn (DB 76a, DB 76b) it could be shown that arm-rings of similar appearance were constructed from different base alloys – hinting at local fabrication or copying of artefacts using different smelts.

5. Catalogue: Diachronic overview of arm-rings

5.1 Bell Beaker culture–period bracelets (Fig. 3)

For the Late Neolithic period, only a single arm-ring (DB 2217; Fig. 3) can be listed. An inventory of Beaker-period grave finds in the UK similarly lists only few examples (Woodward & Hunter 2015: 514).

(DB 2217) Odoorn, *Gemeente Borger-Odoorn, Drenthe*. Part of grave find

Spiral bracelet made of thin copper wire (2 ½ turns, with pointed ends), found between Odoorn and Exloo, during examination by Van Giffen of a Late Neolithic barrow with two enclosing ditches. Museum Assen, Inv. No. 1929/IX.3.

From the famous Odoorn grave find (located between Odoorn and Exloo), which also contained a knife; a copper, diamond-shaped awl; a copper spiral bracelet; two sheet-gold ornaments; two amber beads; and a Beaker ceramic vessel (Museum Assen, Inv. Nos 1929/IX.1–20). The findspot was erroneously called Exloo by Butler & Van der Waals (1966: Fig. 5), but Lanting & Van der Plicht (1999/2000: 40) corrected the find location to Odoorn.

Map reference: c. 245.1/543.2

Documentation: Dagboek 1929, Verslag.

⁸ Tin content measured was 27–42 %wt for DB 1241 and DB 1242, suggesting that here, too, overrepresentation of tin on the surface was measured.



Fig. 3. Late Neolithic spiral copper arm-ring from the Odoorn barrow (drawing GIA, after Butler & Van der Waals 1966: Fig. 5)

References: Van Giffen 1930, 1944: 451 and afb. 24a-25; De Laet & Glasbergen 1959: 98 Fig. 38; Butler & Van der Waals 1966: 50 Fig. 5; Lanting & Van der Plicht 1999/2000: 40.

Parallels: Rückdeschel (1978: 160-2) classifies these as *Arm-spirale mit verjüngten Enden*.

Dating: 2150-2025 BC (Lanting & Van der Plicht 1999/2000: 39-40): "Based on the awl, a date early in A1a (early Rückdeschel's phase A1a) is obvious."

5.2 Early Bronze Age bracelets (Fig. 4)

For the Early Bronze Age period, only the famous Wageningen hoard (Butler 1990: 68-71; Fontijn 2003: 72-3) contained bracelets that can be securely dated to the Early Bronze Age period. In addition to two complete examples (DB 330), fragments of items more tentatively identified as arm-rings were found as well (DB 331-332).

(DB 330) Wageningen, *Gemeente Wageningen, Gelderland*. Part of eponymous hoard

Two open rings or bracelets, with ends roughly broken; cross-sections variable. Diam. outside 6.5-6.7 cm; max. th. 3 mm. Patina: light green. Rijksmuseum van Oudheden (RMO), Inv. Nos RW 5a, RW 5b. Found together with a halberd, dagger, stone axe and bronze flat axe, awl, and a piece of twisted metal (Butler 1990: 68-71, Fig. 13: 4-5).

Map reference: c. 176.5/444.1

References: Butler 1959: 156, 1990: 68, with further references; Fontijn 2003: 72-3, 378.

Parallels: -

Dating: between EBA 1a/late and EB A1b = 2025-1775 BC (Butler & Steegstra 2007/2008: 376, Fig. 1) or 2150-2000 BC (Fontijn 2003: 71).

(DB 331-DB 332) Wageningen, *Gemeente Wageningen, Gelderland*. Part of eponymous hoard

DB 331: L. 6.4 cm; D-section 0.2 cm; DB 332: L. 4.4 cm; D-section 0.2 cm.

Fragments of thin rings, possibly bracelets. Patina: light green. Museum RMO, Inv. Nos RW 6, RW 7. See for more information Butler 1990: 68, and Fig. 13:6-7. Found together with a halberd, dagger, stone axe and bronze flat axe, awl, and piece of twisted metal (Butler 1990: 68-71 and Fig. 13:4-5).

Map reference: 176-177/443.4-444.5.

Reference: Butler 1959: 156; 1990: 68, with further references; Fontijn 2003: 72-3, 378.

Parallels:-

Dating: between EBA 1 late and EB A1b = 2025-1775 BC (Butler & Steegstra 2007/2008: 376, Fig. 1) or 2150-2000 BC (according to S. Needham; Fontijn 2003: 71).

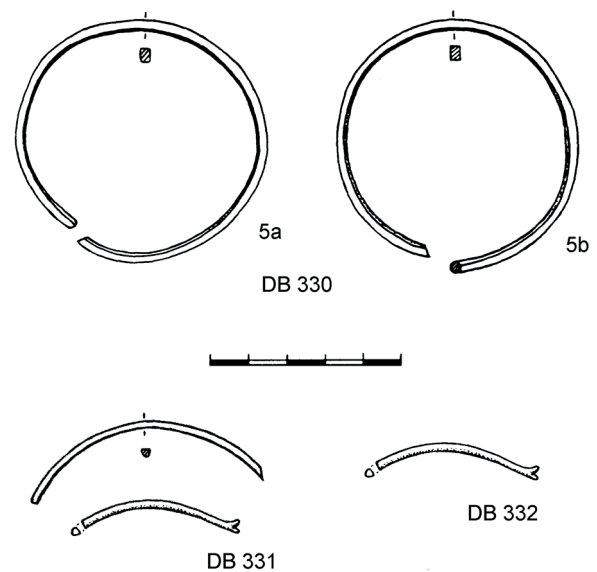


Fig. 4. Top: open bracelets with square cross-section from the Wageningen hoard. Bottom: fragments tentatively identified as bracelet with D-shaped cross-section from the Wageningen hoard (drawings GIA).

5.3 Middle Bronze Age bracelets

For the Middle Bronze Age (MBA), several groups of bracelets can be identified. These originated from barrows (DB 1186-DB 1187; DB 1220; DB 1239, DB 1241-DB 1242; DB 1297-DB 1298) and the Veenenburg (DB 423-DB 428) and Daarlerveen (DB 382) hoards. In one case (DB 1186-DB 1187), a hoard may have been placed in a tumulus.

Based on form, most are open bracelets of concave (DB 1220), rectangular (DB 1239), sub-oval (DB 423-DB 428) or sub-triangular (DB 1278-1298) cross-section. Others, such as the *Nierenring* bracelets from Angelsloo (DB 1186-DB 1187), were presumably cast in closed form. Another group concerns open, wide sheet bronze bracelets with longitudinal ribbing (DB 1241-DB 1242) or occasionally spiral terminals (DB 447).

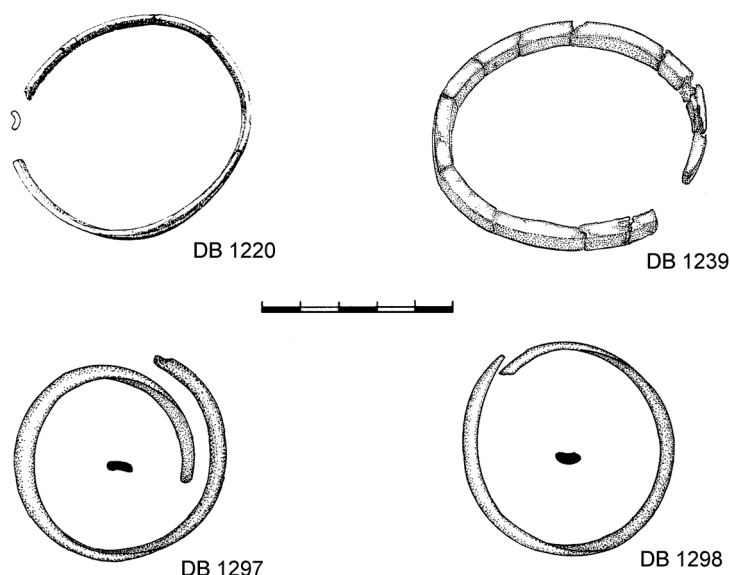


Fig. 5a. Open bracelets made from bars or rods. DB 1220: open bracelet of (inverted) concave cross-section from the grave of what is known as the Dame van Weerdinge; DB 1239: open bracelet of lozenge-shaped cross-section from the Ballooërveld-De Mandenberg tumulus; DB 1297 and DB 1298: open bracelets of sub-triangular cross-section from the Weerdinge-De Paaschberg tumulus.

Open bracelets made from bars or rods (Figs. 5a-5c)

(DB 1220) Weerdinge, Gemeente Emmen, Drenthe. Secondary grave in Kampereschje, Tumulus 2 'Dame van Weerdinge'

Open bracelet, of concave (C-shaped) cross-section, with the concave side facing out when worn. Diam. 6 cm. Patina: dark green, with patches of pale green to almost white. Museum Assen, Inv. No. 1926/III.6. Presumably part of a deposit of ornaments placed inside a tree trunk coffin (Butler 1990: 61) containing 2 wheel-head pins, 1 pin with rolled head, 1 bronze ring and 13 amber beads. The cultural affinity of the objects points to Thüringen or Hessen (Butler 1990: 61; Butler & Fokkens 2005: 389).

Reference: Butler 1990: 59-61 Find No. 4, Fig. 7-6 with further references.

Map reference: 256.52/538.75.

Parallel: -

Dating: MBA-B (Butler 1990: 61) = 1575-1475 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 1239) Ballooërveld, Gemeente Rolde, Drenthe. From Tumulus VI (De Mandenberg)

Open bracelet of lozenge-shaped cross-section. Fragmented but almost complete; plain square terminals. Heavily corroded and broken. From grave, peripheral, secondary, in a tree trunk coffin between two field stones, near eastern edge of tumulus. Excavated 1933 by Van Giffen. Museum Assen, Inv. No. 1933/III.9.

Map reference: 239.460/558.240.

References: Van Giffen 1935: 89-90 and afb. 5b: 9; Glasbergen 1954b: 31.

Parallels: Similarly shaped bracelets are classified as Type South Wonston by Nordez (2017: 211) and dated to c. 1500-1100 BC (*op.cit.*: 305 fig. 182).

Dating: Hallstatt (Ha) A1 (late Montelius III/ZG III) (early Deutsch-Evern), 1200-1125 BC (Butler & Steegstra 2007/2008: Fig. 1).

(DB 1297-DB 1298) Weerdinge, Gemeente Emmen, Drenthe. Tumulus II at 'de Paaschberg'

Two bracelets, found in a tree trunk coffin grave (secondary interment, west side) in which the body position was preserved as an organic discoloration, excavated in 1941 by Van Giffen (1943: 94-7). The bracelets were positioned either side of the discoloration (i.e. on each arm). A necklace of 29 amber beads of varying shapes (cylindrical, biconical, disc-shaped, irregular), of which the largest bead has an oval, worn stringing hole, were found spread over the neck area.

DB 1297: simple bronze band of sub-triangular cross-section (0.6×0.26 cm): diam. 4.8 cm. Patina: green. Museum Assen, Inv. No. 1941/III.2.

DB 1298: as DB 1297: diam. 4.4 cm; sub-triangular cross-section (0.4×0.2 cm). Patina: green. Museum Assen, Inv. No. 1941/III.1.

Map reference: 257.66/537.25

Reference: Butler 1990: Find No. 5, 61-63, with further references.

Parallels: -

Dating: According to Butler (1990: 63), Type 3 timber circle provides a Middle Bronze B *terminus post quem* for the secondary graves = 1575-1475 BC (Butler & Steegstra 2007/2008: 376, Fig. 1), but a slightly older date (c. 1800-1400 BC) is now suggested for such barrows (Bourgeois 2013: 36).

(DB 423-DB 428) Hillegom, Gemeente Lisse, Noord-Holland. From the Veenenburg hoard

Set of six bracelets of sub-oval cross-section from the Lisse-Veenenburg hoard. Found in a sand-extraction pit for the railway on the Veenenburg estate at Hillegom in 1897,

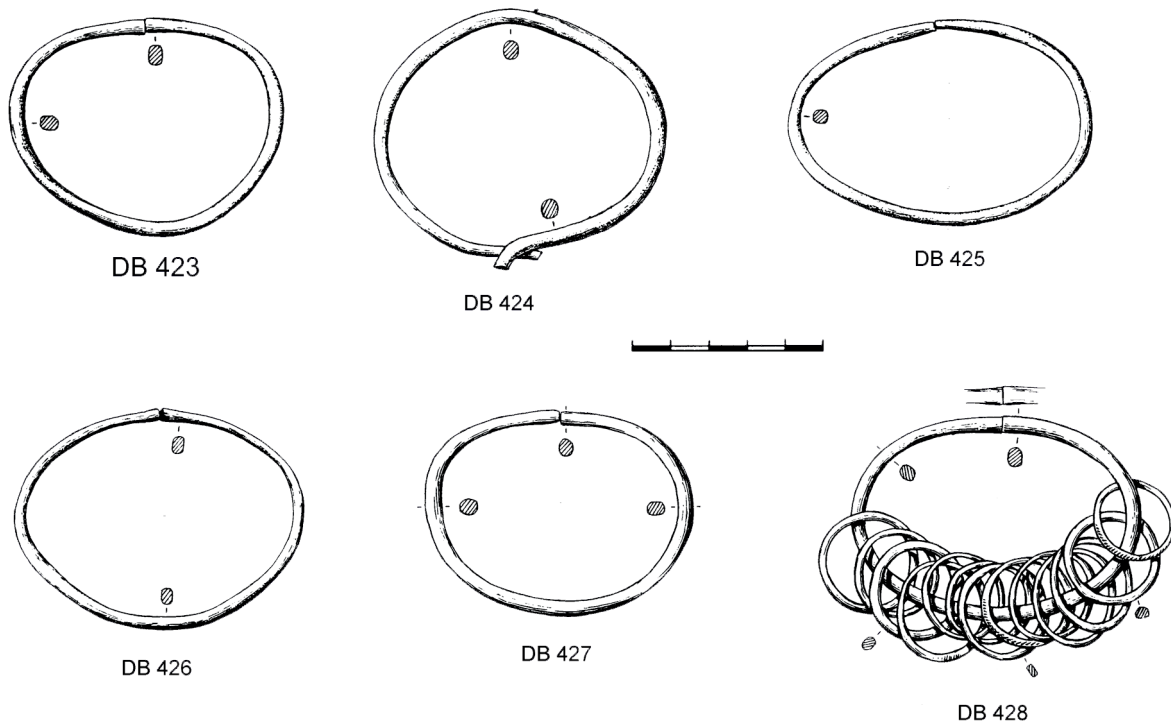


Fig. 5b. Open bracelets made from bars or rods. Bracelets from the Lisse-Veenenburg hoard (note that the association of the 13 smaller rings with DB 428 is uncertain) (drawings GIA).

together with other bronze items, including a tanged chisel (*Ledermesser*), a sheet bronze fragment, two knobbed sickles (Arnoldussen & Steegstra 2016: 96), two pins with flattened biconical heads. The assemblage was recovered c. 40 cm deep from within a 1-1.5 m thick layer of peat, which hints at a votive character for this deposit (Butler 1990: 97-8). It moreover comprises two open bracelets (DB 426-427), three originally open but forged-closed bracelets (DB 423, DB 425, DB 428) and one bracelet with overlapping terminals (DB 427). DB 428 may have supported 13 smaller, closed bronze rings (Inv. No. h 1930/7.47; the largest ring has a diam. of 2.9 cm; two have nicking along their outer margin; the others are plain; all show traces of wear). That they were originally so mounted (*cf.* Nordez 2017: 160 Fig. 69) is not stated in a letter by W. Leembruggen (owner of the Veenenburg estate in 1897), nor shown in his accompanying drawings given to Dr Jesse of the RMO), which could lead to the conclusion that “*this placement occurred subsequent to the finding of the objects, but before they reached the Museum*” (Butler 1990: 98).

DB 423: ends slightly expanded and meeting, diam. 7.3 × 5.7 cm; th. 4 mm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h 1930/7.42)

DB 424: with overlapping ends, diam. 8 × 6.5 cm; th. 4.5 mm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h. 1930/7.43).

DB 425: ends flattened and meeting, diam. 8 × 5.3 cm; th. 3.5 mm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h 1930/7.44)

DB 426: ends slightly expanded and meeting, diam. 8 × 6 cm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h 1930/7.45)

DB 427: diam. 7.2 × 5.4 cm; th. 4 mm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h 1930/7.46)

DB 428: diam. 7.2 × 5.4 cm; th. 4 mm. Patina: bronze colour, with remains of original black patina, with a few spots of green (RMO, Inv. No. h 1930/7.47)

Map reference: c. 99.2/476.7

Reference: Butler 1990: 95-98 with further references.

Parallels: This form of bracelet occurs throughout the Bronze Age and is described by Laux (2015: 142) as “*Offene schlichte Arm- und Beinringe mit rundem bis rundoalem Stabquerschnitt.*”

Dating: The associated pins can be dated to Butler (1990: 98) to Br.D, or c. 1325-1200 calBC (Lanting & Van der Plicht 2001/2002: 134; Fontijn 2003: 10 Fig. 1.4), which is supported by the assumed dates for knobbed sickles (Arnoldussen & Steegstra 2016: 77-87).

(DB 382) Daarlerveen, Gemeente Hardenberg (now Gemeente Hellendoorn), Overijssel

Open bracelet of D-shaped cross-section with very slightly thickened ends (nearly meeting), ornamented with grooves, *pointillé* and small dot-and-ring motif (referred to in German as *Kreisaugen*). Diam. 7.2 (inside 6.1) × 6.5 (inside 5.1) cm; th. 0.65 cm. Patina: clean. Museum RMO Leiden, Inv. No. d 1909/10.1, purchased through Dr C.C. Schot of Hardenberg. Copy in Oudheidkamer Twente, Inv. No. 388. Found under the

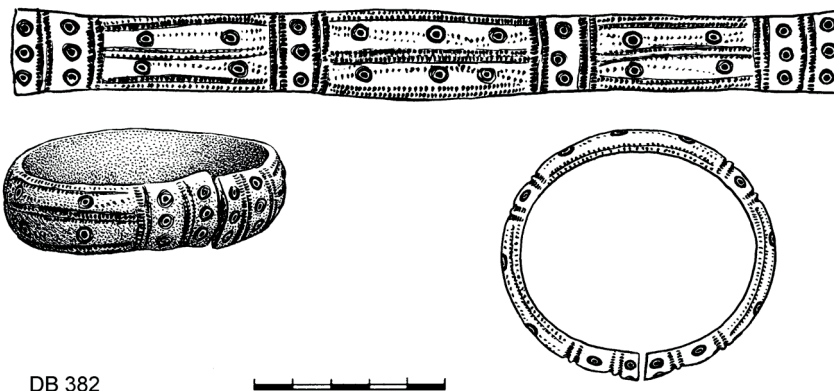


Fig. 5c. Open bracelets made from bars or rods. Bracelet from the Daarlerveen bog (drawing GIA).

Daarlerveen, where peat and sand meet (*“onder het Daarlerveen op de scheiding van veen en zand”*).

Documentation: letter Brendan O'Connor to Butler 15 April 1977; email Brendan O'Connor 1 April 2020 to authors.

Map reference: c. 236/494.

Parallels: The Cornish hoard of Helston, in the UK, contained three bracelets with squared-off terminals bearing the small dot-and-ring pattern, grooves and *pointillé*. They have a swollen central midrib with *pointillé* decoration in the form of chevrons from the central rib to the terminals (Knight 2018 (II): 333, No. SM-F001). One example is in the Salisbury Museum, the other two are in the Royal Cornwall Museum (Truro) but alas not available for study (Knight to O'Connor, pers. comm. 1 April 2020).

References: Evans 1881: 385, Fig. 497; Thomas 1964: 4-6; O'Connor 1980 (II): List 41:6, Fig. 16C; Knight 2018 (I): 47, Fig. 3.5 (photo), (II): 333, No. SM-F001.

Dating: MBA according to Knight 2018 (II): 333; O'Connor 1980 (I): 80; c. 1500-1125 (cf. Roberts *et al.* 2013: 19 Fig. 2.1).

Closed bracelets of the *Nierenringe* type (kidney bracelets) (Figs. 6a-6b)

Kidney bracelets (*Nierenringe*; Laux 2015: 219-24) are annular bracelets that are somewhat oval in shape, with a characteristic bulge in the middle, seemingly imitating the shape of a kidney (*Niere* in German) on the inner side (Butler & Steegstra 2007/2008: 395). *Nierenringe* are predominantly a northwest-German type; only a few outliers occur in Denmark and only one far to the south, in the German state of Hessen (Tackenberg 1971: Karte 43; Butler & Steegstra 2007/2008: 396, Map 3; Laux 2015: Taf. 155).

(DB 1186-DB 1187) Angelsloo (Bargeroosterveld), *Gemeente Emmen*, Drenthe (hoard of 1900)

Matched pair of kidney bracelets (*Nierenringe*), slightly oval in outline, with a bulge bearing punched impressions and bands of grooves. Patina: black. Museum Assen, Inv. Nos 1900/III.30, 35.

Part of hoard, further containing three fragments of one or more bracelets with midrib; a plain palstave with loop, of a western European type (Cat.No. 233); a fragment of a second palstave of the same type (Cat.No. 234); a sickle reworked into a knife (Butler *et al.* 2013: 85-6); and a small rod or pin (lost, unrecorded and not drawn). Found together in a small tumulus, at a depth of c. 25 cm, by an unknown person, under unknown circumstances.

Map reference: c. 261.4/533.6

References: Butler 1961: 105-6, Fig. 49; Butler & Steegstra 2007/2008: 395-8 (Find No. 29, Fig. 12), with further references; Butler *et al.* 2013: 85-6.

Parallels: Three bracelets from Eversheide, near Osnabrück, illustrated by Tackenberg (1971: 309, *Liste* 120, *Taf.* 40: 3-5;

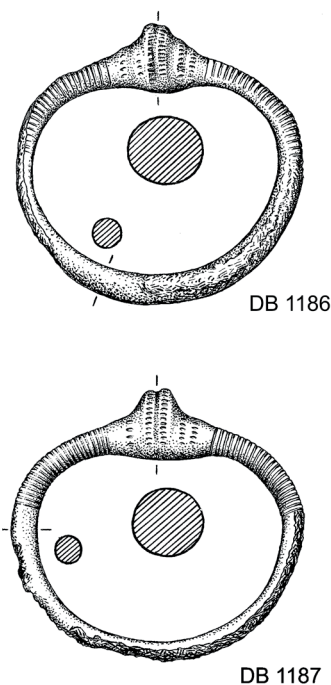


Fig. 6a. Bracelets of the *Nierenring* type from the Bargeroosterveld 1900 hoard (recovered from a tumulus) (drawings GIA).

Laux 2015: Taf. 92: 1334-1336) are almost identical to the two examples from Angelsloo/Bargeroosterveld.

Dating: HaA2 (Period IV/ZG III: late Deutsch-Evern) = 1125-1025 BC (Butler & Steegstra 2007/2008: 376, Fig. 1)

(DB 2897) Elst, Gemeente Rhenen, Utrecht. Het Bosje

Solid bracelet, round in cross-section, with faceted, bulging paws, the two ends meeting. This could be related to Eich-type bracelets (*infra*) or a variation of the corpus of *Nierenringe*. Diam. 7.4×6.35 (outside); 5.95×4.45 cm (inside); th. 0.8 cm. Patina: green, slightly corroded. Collection: Provinciaal Utrechts Genootschap (PUG), Inv. No. RH001.

Map reference: c. 162.3/444.26

Reference: Kooistra 2008.

Parallels: Richter 1970 (118-9) published *Armringe vom Typ Eich*, two of those (Taf. 39: 693-694) with almost the same thickened and faceted paws as our DB 2897. All Eich-type bracelets bear incised decoration and are of solid oval to rhombus cross-section. Two Eich-type bracelets: Richter's 693, a stray find from Eich (Kr. Darmstadt, Hessen, Germany), and 694, an example from a distorted skeleton grave in Heidesheim (Kr. Bingen, Rheinland-Pfalz, Germany), were cast as annular bracelets and split (by sawing) at the faceted discs (which was not entirely successful with the find from Eich). The Eich-type bracelets are dated cautiously by Richter in *Stufe Wölfersheim* (= Reinecke D according to Lanting 2015: 183).

Dating: Reinecke D = Per III = 1325-1200 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

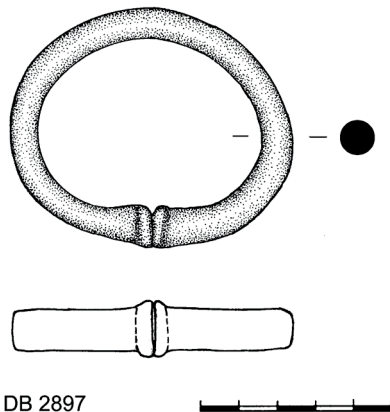


Fig. 6b. Bracelet (Eich type or *Nierenringe* variant) from Elst-'t Bosje (stray find). Drawing H. Steegstra, GIA.

Open bracelets of sheet bronze cross-section (Figs. 7a-7c)

(DB 1241, DB 1242) Ballooërveld, Gemeente Aa en Hunze, Drenthe. Tumulus VI, De Mandenberg

Pair of open bracelets of sheet bronze cross-section with longitudinal ribbing. Smooth inside, with 12 ribs on the outer surface; widest in the centre, tapering towards the ends, which expand into T-shaped terminals, each with two transverse ribs. Found in a secondary inhumation grave, radially situated (N-S), cut into the southern flank of the multi-period

Tumulus VI (De Mandenberg, with two concentric post circles; excavated 1933 by Van Giffen). Grave goods were at the SE end of the grave pit. Excavated 1933 by Van Giffen.

DB 1241: Diam. 5.5 cm; max. w. 3-3.5 cm; unrolled: L. 19 cm; th. 2 mm. Patina: dark green to black. Museum Assen, Inv. No. 1933/III.9.

DB 1242: Unrolled L. 16.1 cm; w. 3.5 cm; th. 2 mm. Patina: blackish, but mostly covered in bright green corrosion. Museum Assen, Inv. Nos 1933/III.9.

Map reference: 239.460/558.240.

References: Van Giffen 1935: 89-90 and afb. 5b:19-19a; Glasbergen 1954b: 23 Fig. 48b, 31; Butler 1965: 171 and Fig. 6, 2007-2008: 377-9; O'Connor 1980 (I): 85, (II) List 42:13; Lohof 1991 (II): 63-64, nrs. 154-2; Van der Sanden & Van Vilsteren 1993: 35; Essink 1996: 61, No. 97.

Parallels: Bracelets from the west bank of the river Elbe in Niedersachsen, Germany: *Manchettenarmbänder* of *Variante Deutsch-Evern* (Laux 2015: Taf. 32-33 and distribution map Taf. 152). This *Variante* was named after the rich female inhumation grave IV (with cremated child) from tumulus 17 (Laux 2015: 96-97, Taf.: 512-514).

Dating: HaA1 (late Montelius III/ZG III) (early Deutsch-Evern; Laux 2015: 98), 1200-1125 BC (Butler & Steegstra 2007/2008: Fig. 1).

(DB 1240) Ballooërveld, Gemeente Rolde, Drenthe. From Tumulus VI (De Mandenberg)

Two fragments of open bracelets (or an anklet or necklace?) of sheet bronze cross-section, with longitudinal ribbing. No portions of the terminals survive. Upper: l. +1.7 cm; w. +1.9 cm; lower: l. +4.9 cm, w. +1.9 cm. From grave, peripheral, secondary in a tree trunk coffin between two field stones, near the eastern edge of the tumulus 'De Mandenberg' (excavated in 1933 by Van Giffen). Possibly found with DB 1239 (*cf.* Glasbergen 1954b: 31). Patina: mottled green-brown. Museum Assen, Inv. Nos 1933/III.9, a.

Map reference: 239.460/558.240.

References: Van Giffen 1935: 89-90 and afb. 5b:9a; Glasbergen 1954b: 31.

Parallels: see DB 1241, DB 1242.

Dating: c. 1200-1125 BC (see DB 1241, DB 1242).

Open bracelets of sheet bronze cross-section with spiral terminals

(DB 447) Emmen, Gemeente Emmen, Drenthe

Open bracelet or anklet of sheet bronze cross-section with spiral terminals. Max. w. of band 2.45 cm; max. th. 0.2 cm; l. unrolled +12 cm. Bracelet or anklet of thin sheet bronze, with four rows of *pointillé* ornament; ends rolled into spirals (4 turns). Excavated 1931-1932 south of the Emmerdennen, in one of the interments in the annex to Tumulus 6, by F.C. Bursch. Patina: light green, heavily corroded and crumbling. Museum RMO Leiden, Inv. No. c 1932/1.16.

Map reference: c. 257.20/533.90.

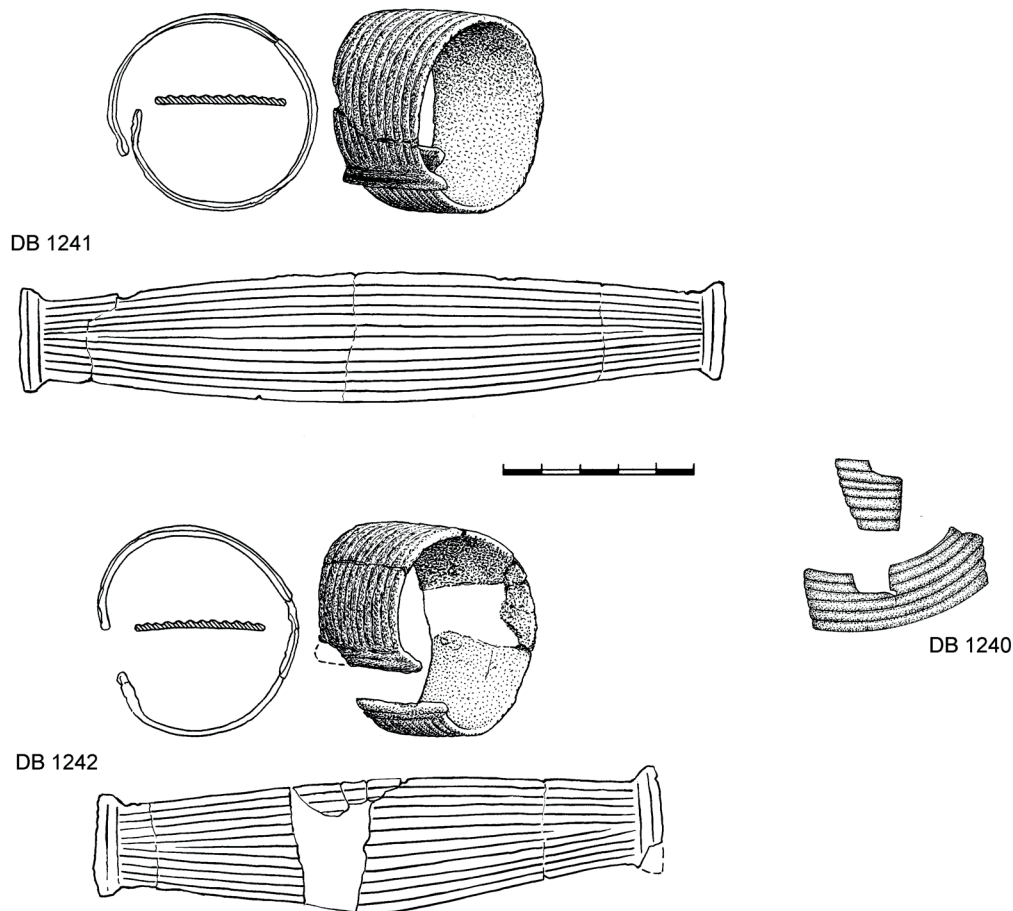


Fig. 7a. Pair of open bracelets of sheet bronze cross-section and two fragments of sheet bronze cross-section from the Ballooërveld-De Mandenberg tumulus. DB 1241-DB 1242: drawings GIA; DB 1240: drawing H. Steegstra (after Van Giffen 1935, afb. 5b:9a).

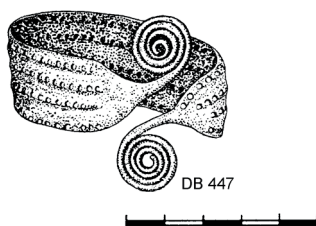


Fig. 7b. Open bracelet of sheet bronze cross-section with spiral terminals from the Emmerdennen-Tumulus 6 barrow (drawing GIA).

References: Bursch 1936: afb. 3:2; Byvanck 1946: 174; Glasbergen 1954b: 23, Fig. 48b: 5; Essink 1996: 58, No. 88.

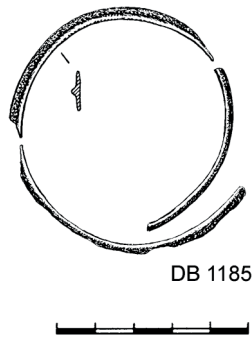
Parallels: In Niedersachsen, only anklets of oval cross-section with 2.5-3.3 mm bands and with spiral ends were found (Laux 2015, his numbers 939-975). In Hessen-Rhein Hessen (Richter 1970: 50-2), there are a few anklets that look a bit like our DB 447: Richter's 293 ("Bergen mit schmaler bündformigen Manchette" from Nieder-Mockstadt, Tumulus 28, and 297 ("Bergen vom Typ Nieder-Roden" from Wallertheim grave 12 (skeleton grave)). Their spirals have at least 5 ½ turns (Richter 1970: Taf. 14: 293, 297). Staldhøj (Haderslev; Nørgaard 2018: 452-3 Fig. 26) yielded another analogue, worn as a bracelet rather than an anklet.

Dating: Bergen mit schmaler bandförmigen Manchette are dated by Richter to Stufe Bessunger Wald on the basis of their decorated spiral ends (Richter 1970: 51). Stufe Bessunger Wald is roughly parallel to Stufe Reinecke C = second part MBA (Lanting 2015: 183). Typ Nieder-Roden: "In einer überwiegenden Mehrheit gehören die Bergen vom Typ Nieder-Roden jedenfalls dem jüngeren Abschnitt der reinen Hügelgräberbronzezeit an" Richter 1970: 53) = second part MBA (c 1200-1000 BC). Nordic Bronze Age II based on the date for the Staldhøj grave (c. 1470-1290 calBC; Nørgaard 2018: 16, 452).

Open bracelets of sheet bronze cross-section with longitudinal midrib

(DB 1185) Angelsloo (Bargeroosterveld), Gemeente Emmen, Drenthe (hoard of 1900)

Three fragments of a sheet bronze bracelet with thin longitudinal midrib. The fragments do not join, but could be from the same object. From the hoard with a pair of kidney bracelets (Nierenringe; DB 1186, DB 1187), a plain palstave with loop of a western European type (Cat. No. 233); a fragment of a second palstave of the same type Cat.No. 234); a sickle reworked into a knife (Butler et al. 2013: 85-6); and a small rod or pin



DB 1185

Fig. 7c. Open bracelet of sheet bronze cross-section with longitudinal midrib (drawing GIA).

(lost, unrecorded and not drawn). Found together in a small tumulus, at a depth of c. 25 cm, by a person whose identity is now unknown, under unknown circumstances. Patina: glossy black. Museum Assen, Inv. No. 1900/III.32A.

Map reference: c. 261.4/533.6

References: Butler 1961: 105-6, Fig. 49; Butler & Steegstra 2007/2008: 395-8 (Find No. 29, Fig. 12), with further references.

Parallels: This cross-section is also seen on longer Period V arm-spirals (e.g. Laux 2015: Taf. 18: 316, 317)

Dating: HaA2 (Period IV/ZG III: late Deutsch-Evern) = 1125-1025 BC (Butler & Steegstra 2007/2008: 376, Fig. 1) based on the *Nierenring* bracelets.

Open bracelet of triangular cross-section with longitudinal midribs (Fig. 8)

(DB 877) Ten Arlo, *Gemeente Zuidwolde, Drenthe*

Open bronze bracelet of triangular cross-section (1.96 × 0.6 cm); diam. outside 6.86-7.37 cm; ends meeting. Inside slightly concave; exterior has a circumferential midrib, flanked on either side by a row of *pointillé*. The top and bottom are slightly thickened and decorated with a row of *pointillé*. The narrowed ends are provided with three rows of *pointillé*, to which a V-shaped pattern connects. Found 22 October 1989 at a depth of approx. 30 cm in a field called Molenoevers, in the valley of the Oude Diep. Patina: unknown. Private collection.

Map reference: c. 223/524

References: Van der Sanden 1992: 176, fig. 7 (photo); Essink 1996: 62, No. 102.

Parallel: the Netherlands: DB 2904, fragment of almost identical bracelet from Barger-oosterveld. Evans (1873: 406; 1881: 385 Fig. 479) depicts an almost identical example from Cornwall with small, incised lines under the edges and maybe a faint dotted line under/above the midrib. In the Swiss palafitte area, plastic longitudinal ribs are rare, and if found they are combined with a barrel-shaped cross-section (e.g. Pászthory 1985: Taf. 159: 1784-1785; Eaux-de-Vives; Bronze final III). Bracelets with comparable cross-section (yet lacking *pointillé*

decoration) are known from Mayen-Tumulus 6 (Joachim 1968: Taf. 17: D1, D2).

Dating: The fibulae associated with the bracelets of Mayen-Tumulus 6 are placed in HEK I (Joachim 1968: 69), so c. 565-520 calBC; cf. Haffner 1976: 99; Lanting & Van der Plicht 2005/2006: 250, 254. Evans (1873: 406; 1881: 385) provided neither context nor dating. For DB 2904, a tentative indirect dating to Period IV could be argued for (*infra*).

(DB 2904) Barger-oosterveld, *Gemeente Emmen, Drenthe*

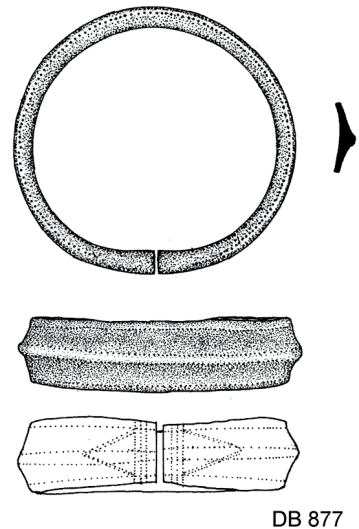
Fragment almost identical to DB 877 above. Found in Barger-oosterveld, came to the museum with a shipment of fragments of presumably one bracelet and two anklets of circular cross-section and a possible button (DB 2931). Patina: green, brown colour where worn. Museum RMO, Inv. No. c 1939/1.3.

Documentation: -

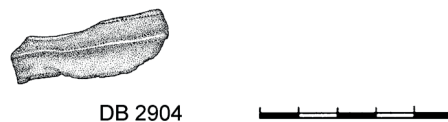
Map reference: c. 259/532.

Parallels: DB 877.

Dating: The associated possible button (or strap mount?) has a mounting bracket not dissimilar to those of the MBA hoards of Landesbergen (Laux 2017: 121, Taf. 26: 1), Eldagsen (LBA-LBA; Laux 2017: 105, Taf. 38: 4-6) and Bargfeld (Laux 2017: 128; Taf. 41: 5-15). The latter hoard (with belt box and *Haarknoten* fibulae) can be dated to the start of Period IV (c. 1125-1015 calBC).



DB 877



DB 2904

Fig. 8. Open (forged closed) bracelets of triangular cross-section, with longitudinal or circumferential midribs (drawings H. Steegstra after photos Provinciale Fotodienst Drenthe (DB 877) and RMO (DB 2904)).

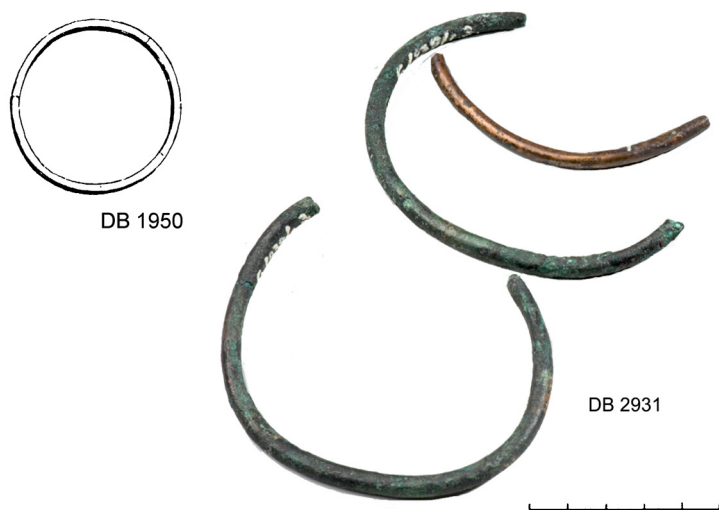


Fig. 9. Undecorated bracelets of round cross-section: DB 1950: annular bracelet from the Kampereschje, found in a child's coffin (drawing GIA); DB 2931: fragments of bracelet and two anklets from Bargerosterveld (photo RMO).

Undecorated bracelets of round cross-section (Fig. 9)

(DB 1950) Weerdinge/Valthe, Gemeente Emmen, Drenthe
Diam. 4.5 cm; th. 0.25 cm. Small, heavily oxidized, bronze arm-ring, broken into several pieces, now embedded in plaster. Found in 1929 in the tumuli field west of the 'Kampereschje,' between Weerdinge and Valthe, in a child's coffin, south of the foot of Tumulus 1. Patina: light grey-green. Museum Assen, Inv. No. 1920/VIII.1.

Documentation: Verslag 1920: 17, No. 83.

Map reference: c. 256.520/529.430

References: Van Giffen 1924: 157; Lohof 1991 (II): 46, Nos 104:1/2/3; Essink 1996: 59, No. 91.

Parallels: -

Dating: MBA based on the barrow into which it was interred Lohof 1991(II): 46.

(DB 2931) Bargerosterveld, Gemeente Emmen, Drenthe
One fragment of open bracelet and two almost complete (l. 8.7 cm) presumed anklets made of bronze wire of round cross-section, undecorated. Found with DB 2904 (an open bronze bracelet of triangular cross-section with circumferential mid-rib) and a possible button or strap mount with squared-off mounting loop, found in Bargerosterveld. Patina: green corroded for the two larger fragments; the smallest fragment shows a metallic yellowish colour. Museum RMO, Inv. No. c 1939/1.3.

Documentation: -

Map reference: c. 259/532.

Parallels: -

Dating: The associated possible button (or strap mount?) has a mounting bracket not dissimilar to those of the MBA hoard of Landesbergen (Laux 2017: 121, Taf. 26 no. 1), or that of the Eldagsen hoard (LBA-LBA; Laux 2017: 105; Taf. 38: 4-6) and Bargfeld (Laux 2017: 128; Taf. 41: 5-15). The latter hoard (with belt box and *Haarknoten* fibulae) can be dated to the start of Period IV (c. 1125-1015 calBC).

Undecorated bracelets of variable cross-section

(DB 2928) Houten-Hofstad, Gemeente Houten, Utrecht

Open bracelet (diam. 5.1 cm; w. 5.4 mm; th. 2.2 mm) made of bronze wire of lozenge-shaped cross-section, changing into D-shaped cross-section at the ends. Found in 2008 (Find No. 674) during excavation of test trench 13/15 in a cultural layer dateable to the MBA. A knobbed sickle, three small awls and a small lump of melted bronze drops were also found in the same layer. No drawing.

Map reference: 140.97/447.23.

Reference: Ter Wal & Kalisvaart 2016: 71, 74-75, afb. 6.5, 129.
Dating: EBA by stratigraphy and association (Ter Wal & Kalisvaart 2016: 71, 74-75, afb. 6.5, 129).

5.4 Transition Middle to Late Bronze Age (Period IV-V) bracelets

Spiral double-wire bracelets (Fig. 10)

A total of nine bronze double-wire spiral bracelets are known from both funerary contexts (DB 1272-DB 1275) and hoards (DB 1886). While typological sub-groups for the spiral wire bracelets have been defined previously (e.g. by Sprockhoff (1957 (I): 177) and Tackenberg (1978: 47 ff.)), due to low numbers per type and overall (n=21) Laux (2015: 64-6) decided to discuss all these under the header of *Armspiralen aus dünnem Doppeldraht*. The bracelets are made of thin bronze wire with a consistent diameter; the wire is bent back to form an eye on one side and twisted around each other at the end (*Variante a*) or with an eye on both sides with the wires intertwined (*Variante b1*; but with incised decoration to cover this up); or the twisting happened somewhere in the middle of the bracelet (*Variante b2*). The arm-spirals from Niedersachsen come from hoards as well as from graves, and it is striking that *Variante b2* comes exclusively from urns. All double-wire arm-spirals are dated

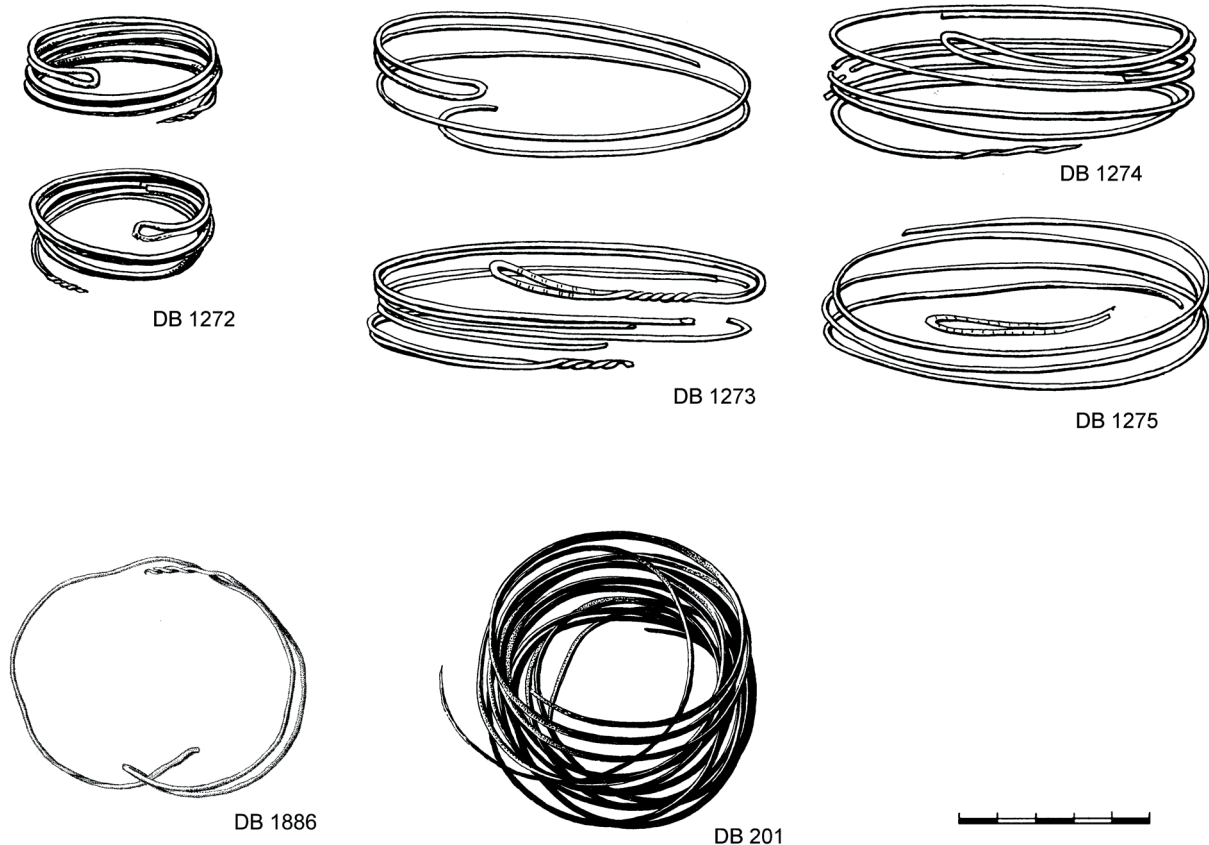


Fig. 10. Spiral double- and single-wire bracelets (drawings GIA).

by Laux (2015: 65) to Period V, with only the grave find of Daverden dateable to the beginning of Period VI (based on its terrine-shaped urn; c. 750-575 calBC). They concentrate in the area between the lower Elbe and Weser (Laux 2015: 64-6).

(DB 1272-DB 1275) Drouwen, Gemeente Borger, Drenthe. From the 1939 'Princess of Drouwen' hoard

Wire bracelets from hoard or grave deposit (*Totenschatz*) placed at edge of tumulus in an urnfield excavated by Van Giffen in 1939 (cf. Kooi 1979: 91-3, Figs. 87-8). The rich Drouwen hoard included rare imports from the northern European area (Butler 1986: 133-68, and references therein), among which a bronze 'hanging vessel' (DB 1270; belt box, cf. Nørgaard 2018: 74); a spectacle fibula (DB 1271; cf. Kleijne & Phillipeau 2107: 41-2); seven cast omega bracelets, double-wire bracelets and rings (DB 1272, DB 1273, DB 1274, DB 1275); bronze buttons (DB 1283); jet beads (DB 1287); a drawing aid (DB 1284; compass?); spacers (DB 1285, DB 1286); and a bronze ring (DB 1282). When ploughed up, the objects must have been intact, because all observable breaks were unpatinated. The complete hoard is in the Museum Assen, inventoried under Inv. Nos 1939/XII.4a-s.

DB 1272: Two identical double-wire bracelets. Rings of round-sectioned wire bent double, coiled, and with the ends twisted together. Museum Assen, Inv. No. 1939/XII.4C.

DB 1273, DB 1274, DB 1275: Four double-wire spiral bracelets. Originals now lost (but see drawings). These larger specimens were presumably intended as bracelets. Museum Assen, Inv. Nos 1939/XII.4D-F.

Map reference: c. 249.25/552.75

Documentation, parallels and references: see Butler & Steegstra 2007/2008: 383-92, Find No. 26 with further references. See Laux (2015: Taf. 18-19) for comparanda in Niedersachsen.

Dating: HaB3 = 950-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 1886) Elsen, Gemeente Markelo, Overijssel. From the 1846 hoard

DB 1886: Lock-ring of thin doubled wire; ends twisted together. Th. of wire 1.2-1.6 mm. Museum Enschede, Inv. No. 385.

The hoard further contained one spiral bracelet (DB 1886), two other bracelets (DB 1031, DB 1032; *infra*), two omega bracelets (DB 1033, DB 1034; *infra*) and a fragment of a socketed axe (DB 1854, in museum RMO). Museum Enschede, presented to the museum around 1930 by Mr and Mrs Van Dam of Enschede. Found March 1846, wound together, in an earthen bank which marks off a cultivated field, at a depth of "4 to 5 feet" (c. 1.17-1.47 m).

Map reference: c. 233.5/476.3.

Reference: Butler & Steegstra 2007/2008: Find No. 28 with further references.

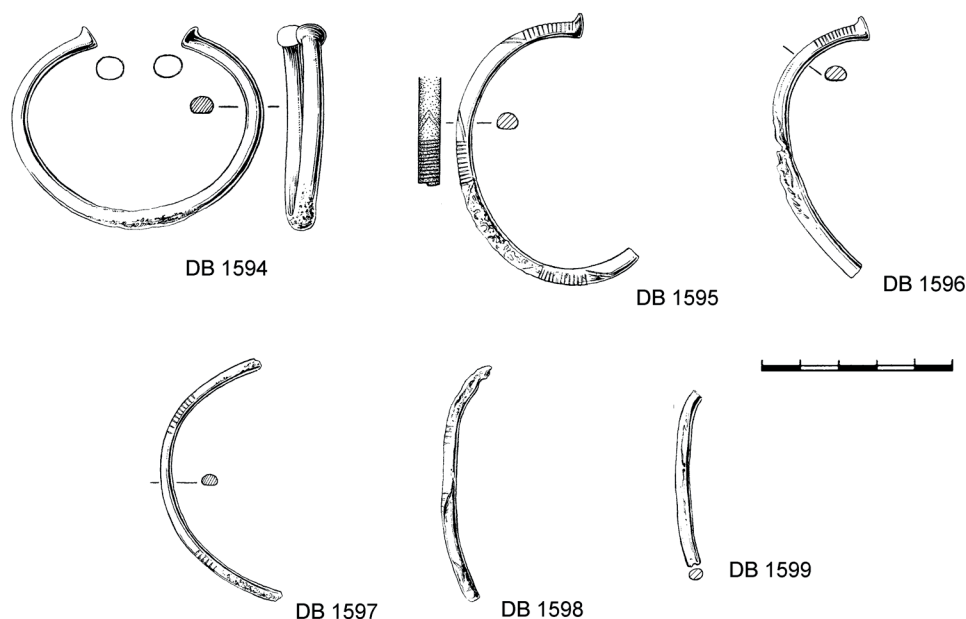


Fig. 11a. DB Open bracelets with slightly expanded, everted terminals ('paws') from Nijmegen-St. Maartenskliniek. DB 1594 and DB 1595: intact; DB 1597, DB 1598 and DB 1599: fragments. Drawings ROB (now RCE); detail DB 1595: H. Steegstra (GIA).

Parallels: Appeln, Ldkr. Cuxhaven, Germany: Laux 2017: Taf. 94: 6; Taf. 101: 8.4.

Dating: Period V/HaB3 (Butler & Steegstra 2007/2008: 395.) = 925-800 BC (Butler & Steegstra 2007/2008: 376: Fig. 1). Also suggested by the Period V dating of the Appeln hoard (Laux 2017: 100).

(DB 201) Langedijke, Gemeente Ooststellingwerf, Friesland

Two spiral bracelets of thin, flat wire, w. 3 mm, diam. c. 7 cm. Found interlocked, in 1933, during dredging of a peat-filled pingo south of Langedijke. Patina: dark brown (on a few spots the original bronze colour is visible). Museum Leeuwarden, Inv. No. 218-43.

Map reference: c. 215.40/552.90.

References: Verslag 1936, 21-22, Pl. 3; Boeles 1951: 483, No. 13, Pl. VII:3; Byvanck 1946: 162, afb. 40; Fokkens 1991: 201; Essink 1996: 65, No. 109.

Parallels: Similar flat spiral bracelets can be found in Laux (2015: Taf. 16: 299-302), where they are classified as *Jung-bronzezeitliche lange Armspirale, Variante Schloss Marienburg* (Laux 2015: 59-61).

Dating: Based on the comparanda in the Schloss Marienburg hoard (Laux 2015: 60) presumably dateable to the start of Period V or slightly earlier (c. 1000-750 calBC; Butler & Steegstra 2007/2008: 376, Fig. 1).

Open bracelets – generally of D-shaped cross-section – with slightly expanded, everted terminals ('paws') (Figs. 11a-11c)

For the transitional period of Middle to Late Bronze Age (c. 1125-925; HaA2-HaB1/Period IV), there is a sizeable group of bracelets with paw-shaped terminals (e.g.

DB 1594-1599). These originate from funerary contexts (DB 1102-1103, DB 1594-1599), hoards (DB 1303-1304, DB 1366-1369) or unknown contexts (DB 76a). Their cross-section is either D-shaped (DB 76a, DB 1303-1304, DB 1594-1596) or oval to subrectangular (DB 1102-1103, DB 1366-1369).

(DB 1594-DB 1599) St. Maartenskliniek, Gemeente Nijmegen, Gelderland

Six slender, bracelets more or less D-shaped in cross-section from a presumed grave group further consisting of an urn (DB 1592), accessory vessel (DB 1593), bronze wire (DB 1600), bronze wire spiral (DB 1601) and a bronze chain of 26 small rings (DB 1602). Found together, in 1955, at the foot of the Kwakkenberg-Kops Plateau, close to the St. Maartenskliniek. No further information is available (acquisition via the antiquities trade by the Museum Kam, now Museum Het Valkhof). Patina: the bronze objects were cleaned and restored in the laboratory of the Rijksdienst voor het Oudheidkundig Bodemonderzoek (ROB; since 2009 Rijksdienst voor het Cultureel Erfgoed (RCE)) in Amersfoort after acquisition by Museum Kam (now Museum Het Valkhof) and inventoried under Inv. Nos 1.1955.12-14.

DB 1594: without decoration (Inv. No. 1.1955.12);

DB 1595, DB 1596 (Inv. Nos 1.1955.13, 13A) have incised ornament. All three have paw-shaped terminals.

DB 1597, DB 1598, DB 1599: ornamentation is similar to that of DB 1595 and DB 1596, but the terminals are missing (Inv. Nos 1.1955.14A-C).

Map reference: c. 190.5/427.2

Reference: c. 190.5/427.2

Parallels: Similar open bracelets of D-shaped cross-section with incised decoration and everted terminals can be found

in the Afferde hoard (Kr. Hameln-Pyrmont, Germany; Laux 2015: *Taf.* 51: C:2, with *Nierenring*, socketed axe with plastic 'wings,' and plain spearhead) and the Haimbach hoard (Kr. Fulda, Germany; Richter 1970: *Taf.* 56: 996, *Taf.* 94: 4-5, a rich hoard consisting of Oerel-type spectacle fibulae, annular bracelets, open bracelets of D-shaped cross-section with incised decoration and everted terminals, open bracelet of D-shaped cross-section with paws and incised decoration, bracelets of a central European type, pins, neck-rings, sickles, a set of plain interlocked rings with small rings attached, a mould for a looped high-winged axe, a plain spearhead, a wheel-headed ornament) in western Germany (Butler & Steegstra 2007/2008: 403-404, Fig. 17).

Parallels are also found in the French scrap-metal hoard (rich in ornament fragments; these include palette bracelets (solid and half-hollow), with and without incised ornament) of Dreuil (Somme, France; see Blanchet 1984: 287, Figs. 159-160). Across the Channel, similar bracelets occur in the scrap-metal hoard of Minnis Bay, Birchington, Kent, UK (O'Connor 1980: Fig. 61 Nos 41-44).

Dating: The Afferde hoard is dated to the transition Period IV-V on basis of the open bracelets (Laux 2015: 59). The Haimbach hoard is dated to Period IV on the basis of its *Steggruppenringe* (c. 1125-925 calBC) and to Period V on the basis of its spectacle fibulae of the Oerel type (c. 925-750; Richter 1970: 153-4, *Tafeln* 94-95). The Dreuil hoard is dated to Bronze final III on the basis of its carps-tongue swords (Blanchet 1984: 279, c. 1025-800 calBC). The pottery said to have been found in association has its best parallels in HaA1 (c. 1200-1125 calBC; Ruppel 1990: Beilage 2; Van den Broeke, pers. comm. February 2020).

(DB 1303-DB 1304) Hijkerfeld, Gemeente Beilen, Drenthe. Part of hoard

DB 1303: Two fragments of open bracelet of D-section, diam. 0.6 cm, with slightly expanded paw-shaped terminal(s). Patina: grey-green, breaks patinated. Museum Assen, Inv. No. 1941/V.8.5.

DB 1304: Two fragments of bracelet of D-section; diam. 0.7 cm, with slight paw-shaped terminal expanding to 0.8 cm. Patina: grey-green, breaks patinated. Museum Assen, Inv. No. 1941/V.8.6.

Both bracelets are part of hoard with three longitudinal, multi-ribbed omega bracelets (see below; DB 1299, DB 1300, DB 1301), one omega bracelet with three transverse ribs adjacent to the terminals (DB 1302), two dome-shaped bronze buttons (DB 1305, DB 1306), one disc-headed pin (*Scheibenkopfnadel*, DB 1307), fragment of another disc ('washer' DB 2683), and fragments of several wire ornaments (DB 2682). Found around 1938 in the Hijkerfeld, 2-3 km north-east of the potato factory Oranje at the Oranjekanaal, close to Diependal. Museum Assen, Inv. Nos 1941/V.8(1-12); purchased May 1941 from J. Huizinga of Assen.

Map reference: c. 226.5/547.5

Reference: Butler & Steegstra 2007/2008: 382-3 (with further references) and Fig. 4:5-6.

Parallels: see DB 1594.

Dating: Period V (c. 925-750 calBC) on the basis of the omega bracelets (Butler & Steegstra 2007/2008: Fig. 1).

(DB 76a) Odoorn, Gemeente Borger-Odoorn, Drenthe

Bracelet, diam. 6.7 cm; open with slightly expanded paw-shaped terminals. Ornamented with groups of transverse incised lines and longitudinal double row of *pointillé*. Patina: dark green. Museum Assen, Inv. No. 1863/I.13a. Found with DB 76b, a fragment of arm-ring or anklet (*infra*), circular cross-section, diam. 7.8 cm; th. 0.5 cm heavily corroded, with mottled green patina.

Map reference: c. 253/541.

Reference: Butler & Steegstra 2007/2008: 399-400: Fig. 14C.

Parallels: Two identical bracelets are known from the hoard of Ostrhauderfehn (Laux 2015: *Ktlg* 1267 and 1268 and *Taf.* 174A). Other comparanda are two bracelets from the hoard of Afferde, Kr. Hameln-Pyrmont, Germany (Jacob-Friesen 1967: *Kat.* 900, *Taf.* 172: 1-7) and two bracelets with a double row of *pointillé* from the hoard of Onstwedder Holte (DB 1366-1369; *infra*), Butler & Steegstra 2007/2008: 400-3 and Fig. 15.

Dating: Period V (c. 925-800 BC) on the basis of contents of the German Ostrhauderfehn hoard, found in a leather pouch in the moor. This hoard also contained a socketed Urnfield knife (Period V), a flame-shaped spearhead (Period V), two interlocked rings, tube beads, two spacers and three perforated beads (Laux 2015: 169: 983-984 and *Taf.* 174A).

(DB 1366-DB 1369) Onstwedder Holte, Gemeente Stadskanaal, Groningen. From hoard

DB 1366: Bracelet; w. 8.0; th. 1.0 cm; paws: 1.55 × 1 cm. Wt: 100 g. Oval open outline; oval cross-section, slightly flattened inside. Thins slightly toward paw-shaped terminals, which expand into plates facing one another. Ornamentation: two lines of close-set punched impressions on each side; groups of parallel, incised, transverse lines on outer face adjacent to each terminal. Patina: black, with traces of grey-green, very well preserved. No casting seams visible. Museum Groningen, Inv. No. 1895/I.1a.

DB 1367: Bracelet like DB 1366 above; w. 8.0; th. 1.05 cm; paws expanded into plates: 1.6 × 0.9 cm. Wt 104 g. Patina: black, with traces of grey-green, very well preserved. Museum Groningen, Inv. No. 1895/I.1b.

DB 1368: Bracelet; w. 7.2, th. 0.9 cm. Paws: 0.8 × 0.6 cm. Wt 45 g. Oval open outline, thinning toward terminals, which expand into knobs or discs much less pronounced than those on bracelets (1-2.). Ornamentation: a single, longitudinal line of close-set punched impressions on each side; groups of parallel, incised, transverse lines not only adjacent to the terminals, but at intervals on the body of the bracelet. Patina: black, with traces of grey-green, very well preserved. No casting seams visible. Museum Groningen, Inv. No. 1895/I.1c.

DB 1369: Bracelet like DB 1368 above; w. 7.1; th. 0.9 cm. Paws: 0.85 × 0.6 cm. Wt: 49 g. Museum Groningen, Inv. No. 1895/I.1d.

The hoard from Onstwedder Holte also contained a pair of interlocked flat rings (DB 1370) with incised decoration

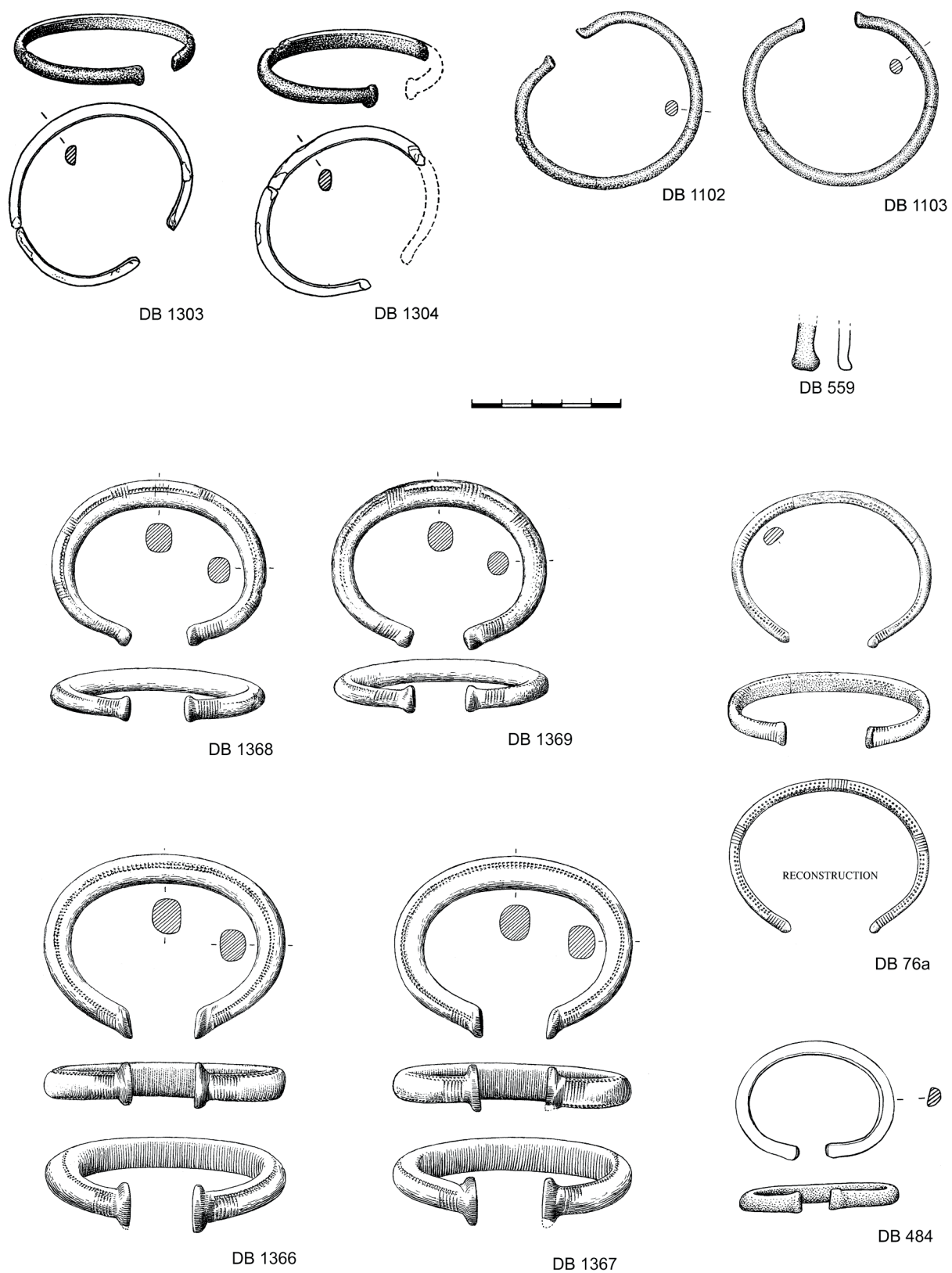


Fig. 11b. Open bracelets with slightly expanded, everted terminals ('paws') and D-shaped (DB 76a; DB 1303, DB 1304), oval (DB 1102, DB 1103) or rounded to subrectangular (DB 1366, DB 1367) cross-section (drawings GIA).

of hatched triangles, and a socketed axe (DB 1371). Museum Groningen, Inv. Nos 1895/I.1a-e (bracelets and rings) and Inv. No. 1895/I.1 (axe). It was offered to the Groninger Museum in 1895, and at that time it was said to have been found 1.8 m below the surface level at Onstwedder Holte (Butler & Steegstra 2007/2008: 401; Museumverslag 1895: no. 2). Based on the location and the date of recovery, it most likely represents a hoard discovered during peat-cutting in a local bog.

Map reference: c. 265/564

Reference: Butler & Steegstra 2007/2008: 400-403, Find No. 31 and Fig. 15.

Documentation: Museumverslag 1895: No. 2; Butler & Steegstra 2007/2008: 400-3, Find No. 31 and Figs. 15-16.

Parallels: DB 76a and in the hoards of Ostrhauderfehn (Laux 2015: *Ktlg* 1267-1268 and *Taf.* 174A) and Afferde, Kr. Hameln-Pyrmont, Germany (Jacob-Friesen 1967: *Kat.* 900, *Taf.* 172: 1-7).

Dating: HaB1-HaB3 = c. 1025-800 BC (Butler & Steegstra 2007/2008: 376 Fig. 1, 402-3).

(DB 1102-DB 1103) Westerheide, Gemeente Hilversum, Noord-Holland. Tumulus 108

Pair of open bracelets, of slightly oval cross-section with slightly expanded paw-shaped terminals. Excavated from a tumulus by A. Perk, 25 October 1855, on Section C, Kadastraal No. 79, close to the street called the Doodweg. Found with DB 1104, a fragment (l. +5.1; th. 0.5 cm) of presumably the same type of bracelet, a small Scandinavian (Period V) *Vasenkopfnadel* (DB 1101, now lost), a small spiral of bronze and a triangular rod of bronze. From the same location, 32 urns were recovered. All objects are part of the collection of the Provincie Noord-Holland. The above bracelets are inventoried under numbers 5284-01 (DB 1103) and 5284-02 (DB 1102) and currently on loan to Museum Hofland, Laren.

DB 1102: diam. 6.4 × 5.8 cm and **DB 1103:** diam. 6.6 × 6.0; th. 0.5 × 0.51 cm. Patina of both bracelets: dull green. Surface burnt, but not distorted. Museum Laren, Inv. Nos 5284-02 and 5284-01, respectively.

Map reference: c. 473.3/141.1

References: Janssen 1856: 83-5, Pl. X: 3-6; Wimmers 1988: 117-9 Fig. 1, 126-7 Fig. 6, 133 fig. 9, 134 Fig. 10.

Parallels: see DB 1303, DB 1304 above.

Dating: HaB3 = 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 559) Wijchen, Gemeente Wijchen, Gelderland

L. +1.8; w. 0.6; th. 0.4 cm. Fragment of an open bronze bracelet with slightly expanded, everted terminals ('paws'; partly cemented to bones). Found in a wide, stout, 'Hallstatt' urn, in the shipment of 22 August 1932, from the street called the Heumenseweg, terrain G. Museum RMO, Inv. No. e 1932/9.79 (Inv. No. small urn e 1932/9.78), acquired through Mr Bloemen of Wijchen.

Map reference: c. 181/423.

Reference: -

Parallels: DB 1102, DB 1103.

Dating: c. 1000-750 calBC. The fragment was recovered from a short-necked *Kegelhalsurne* with geometric decoration in the form of triangles on the shoulder. These are found in Van den Broeke (2012: 59) form types 25 and dated to the 10th and 9th centuries BC (*cf.* Arnoldussen & Ball 2007: 185-7), but may locally continue up into Van den Broeke Phase A (c. 750-700 calBC; Van den Broeke 2012: 36 Fig. 2.9, 59).

(DB 484) Loo/Mallem, Gemeente Berkelland, Gelderland. Urnfield

Diam. outside 5.4; inside 4.4 cm. Open bracelet, D-shaped cross-section, with slightly thickened terminals. Found in an urn in grave 4 during the RMO excavations of 1938 of the urnfield along the Haaksbergerweg. Patina: light green; powdery surface (burnt but not distorted). Museum RMO, Inv. No. e 1939/2.9.

Map reference: c. 243/485

Reference: -

Parallels: DB 1102, DB 1303.

Dating: End Late Bronze Age or Early Iron Age on the basis of the pot (biconical, or *Schräghals*, urn), c. 925-700 BC.

(DB 2881) Ambyerveld, Gemeente Maastricht, Limburg. From urn

Open bracelet (l. 6.9 cm; th. 0.6 cm) with slightly thickened ribbed ends of C-shaped (concave) cross-section. Decorated with alternating zones of diagonal incised lines. Found in tree pieces in urn U26 of the Maastricht-Ambyerveld urnfield. Patina: dark green. Collection unknown.

Map reference: c. 179/320

Parallels: This motif is found on bracelets with paw-shaped ends from the Swiss palafitte region, the *Ringe mit gegossener Flechtbandverzierung* (Pászthory 1985: 159-60; *Taf.* 77: 920-925). Pászthory (1985: 160) dates these bracelets to the "späte Urnenfelderzeit".

Reference: Dyselinck 2013: 98, Fig. 3.27-2.

Dating: HaB3 (Bronze final III b; c. 925-800 calBC) according to Dyselinck (2013: 98).

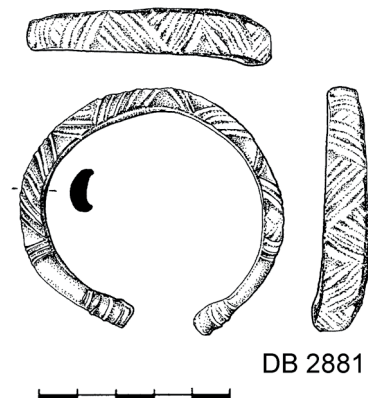


Fig. 11c. Open bracelet with slightly expanded, everted terminals ('paws') and D-shaped (concave) cross-section (drawing BAAC).

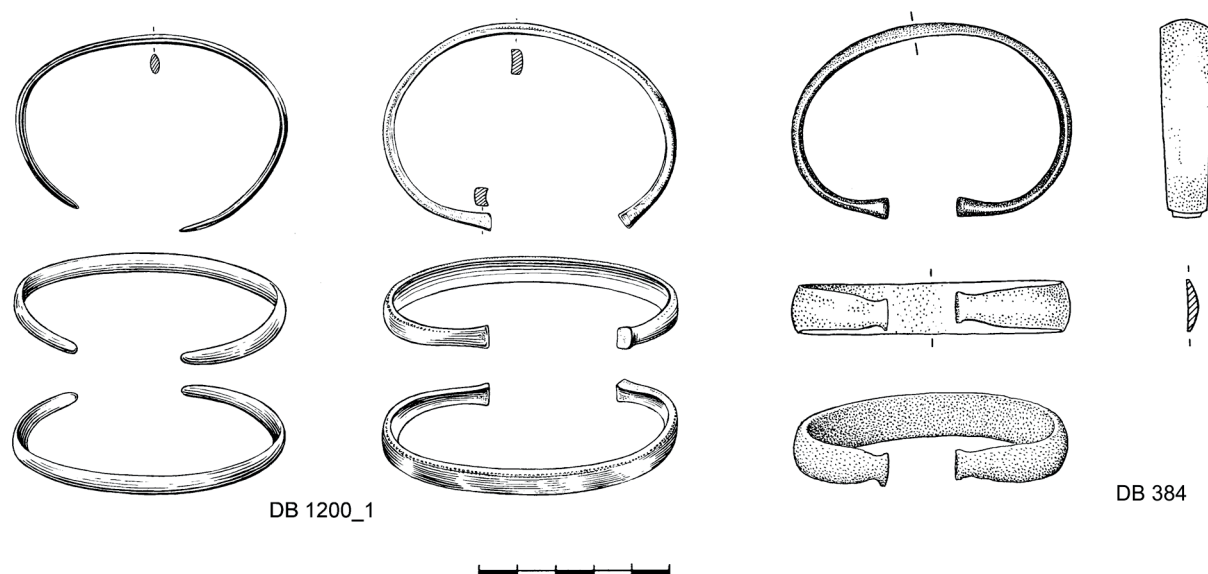


Fig. 12. Open gold bracelets of D-shaped (DB 384, DB 1201) or lenticular (DB 1200) cross-section (drawings GIA).

Gold bracelets (Fig. 12)

In total, three gold bracelets are known from Late Bronze Age votive deposits from the Netherlands: one bracelet was found near a stream valley (DB 384) and two come from a bog (DB 1200, DB 1201). These are open bracelets of D-shaped cross-section (DB 384, DB 1201) or oval to lenticular cross-section (DB 1200). Their terminal is tapering in the case of DB 1200 and flattened in the case of DB 384, DB 1201, showing a restriction of the width at the start of the terminal and slightly widening again.

(DB 384) Lunteren, Gemeente Ede, Gelderland

Gold open bracelet of D-shaped cross-section with terminals; external diam. 7.34×5.12 cm; max. w. 1.4 cm, gently tapering toward the ends, which then constrict to a w. of 0.7 cm before expanding into small, opposing terminal discs 0.9×0.6 cm and 0.84×0.6 cm, respectively. There are a few small deep modern nicks. The bracelet was found before 1910 during ploughing of a field belonging to the farm Vorst-Engelaar in the Gemeente Ede, south of the Barneveldse Beek, a stream that forms the boundary between the Gemeente Barneveld (to its north) and Ede, on the western Veluwe, in the Dutch province of Gelderland. The toponym Lunteren is actually 5.5 km away, yet has become entrenched in the literature (Butler & Van der Waals 1960: 95). Wt: 76 g. Museum RMO, Inv. No. e.1910/12.1. Documentation: letter 10 November 1910 from E. van Donckelaar (Barneveld) to the then Director of the Rijksmuseum Amsterdam, at present in the RMO Leiden.

Map reference: c. 170/456.

References: Pleyte 1889: Pl. 15: 12; Butler & Van der Waals 1961: 91, 95-9, 97 Fig. 46, Pl. XII: 2; Heemskerck Düker & Felix 1942: Pl. 105.

Parallels: For both the cross-section and disc-ended terminals, there are ample comparanda in goldwork from Ireland and the UK (although not combined on a single bracelet; Butler & Van der Waals 1961: 97).

Dating: Period V (Butler & Van der Waals 1961: 91) = 925-750 BC (Butler & Steegstra 2007/2008: 176).

(DB 1200) Hijkersmilde, Gemeente Midden-Drenthe, Drenthe. Nieuw-Solverd

Part of a hoard, found together with DB 1201. Found by C.H. and J. Janssens during peat cutting, lying in the peat at a depth of 0.80 m under the then surface, not far above the underlying sand in Section C.

Diam. 7.75 cm; w. 0.69 cm; terminal plates 0.6×0.45 cm. Solid gold bracelet of irregular, open form; outer face convex, inner concave, with flat sides; slightly expanded, rectangular-ended terminals. The outer edges are ornamented with a double row of punched impressions, each pair being so placed that one impression falls on each side of the ridge (evidently made with a double punch). Hammer marks are visible on the sides close to the terminals. Wt 40.144 g. Composition of gold: c. 19.5 carats, i.e. (accuracy within 2%) Au c. 81%, Ag c. 16%, Cu c. 3%; S.G. 16.3. Museum Assen, Inv. No. 1921/V.2, purchased May 1921 from H. Janssens, father of the finders.

Documentation: Verslag 1921: 12, sub 15.

Map reference: c. 225/549.

References: Sprockhoff 1926: 71, Taf. 1: a, c; Butler & Van der Waals 1961: 92-3, Fig. 42 (right); Appendix 1 (98-99, No. 1).

Parallels: A similar example in gold can be found in the Period V hoard from Barum (Sprockhoff 1926: 74, Taf. 1c).

Dating: Period V (c. 950-725 BC; Butler & Steegstra 2007/2008: 376, Fig. 1) on the basis of the German Ostrhauderfehn hoard, found in a leather pouch in the moor. This hoard also contained a socketed Urnfield knife (Period V), a flame-shaped spearhead (Period V), two interlocked rings, tube beads, two spacers and three perforated beads (Laux 2015: 169 *Nummern* 983 and 984), *Taf.* 174A.

(DB 1201) Hijkersmilde, Gemeente Midden-Drenthe, Drenthe. Nieuw-Solverd

Part of a hoard, found together with DB 1200. Found by C.H. and J. Janssens during peat cutting; lying in the peat at a depth of 0.80 m under the then surface, not far above the underlying sand in Section C.

Solid gold bracelet of irregular, open form; lenticular cross-section; slightly tapering toward thin rounded ends. Diam. 7.15 cm; w. 0.55 cm; th. 0.2 cm. Wt 21.367 g. Composition of gold: c. 18.7 carats, i.e. (accuracy within 1%) Au c. 78%, Ag c. 12.5%, Cu c. 9.5%; S.G. 16.0. Museum Assen, Inv. No. 1921/V.2a. Purchased May 1921 from H. Janssens, father of the finders.

Documentation: *Verslag* 1921: 12, sub 15.

Map reference: c. 225/549.

Reference: Butler & Van der Waals 1961: 92-3, Fig. 42 (left); Appendix 1 (98-9, No. 2).

Parallel: The motif with a row of double *pointillé* on bracelets may have a regional or local currency because it is also seen on a bronze bracelet from the Period V Ostrhauderfehn hoard and on two bronze bracelets from the Period V Onstwedder Holte hoard (DB 1366, DB 1367) and the bronze bracelet DB 76a from Odoorn (*supra*).

Dating: Period V (c. 950-725 BC; Butler & Steegstra 2007/2008: 376, Fig. 1)

5.5 Late Bronze Age to Early Iron Age bracelets

Open bracelets with dot-circle decoration ('Kreisaugen') (Fig. 13)

From two locations in Drenthe and one on the Veluwe, open bracelets decorated with (among others) dot-circle motifs are known. These can be concave (DB 2216), flat (DB 2218) or ovoid (DB 316) in cross-section and presumably all originate from funerary contexts. Later prehistoric dot-circle-decorated bracelets are uncommon in our region (as they are in western France (cf. Nordez 2017: 187-9, but see O'Connor 1980 (II): Fig. 63B: 2) and Niedersachsen (but see Laux 2015: *Taf.* 88: 1284 for an exception and DB 382 (*infra*)). On palette bracelets from Niedersachsen, Bohemia and Switzerland, a similar motif occurs, but in those cases the circles are incised and larger – and are accompanied by incised decorations, such as transverse lines; (alternating) diagonal lines; punched ribbing; triangles; semi-circles and curved, bow-shaped lines (cf. Laux 2015: *Taf.* 85: 1243-1245 and *Taf.* 88: 1284; Pászthory 1985: *Taf.* 102-129;

Kytlicová 2007: 254ff). Such bracelets are dated mostly to Period IV–VI (Laux 2015: 207, 212) or HaB3 (Kytlicová 2007: 172).

(DB 2216) Erm, Gemeente Coevorden, Drenthe

Five fragments of three heavy, bronze open bracelets with dot-circle decoration (*Kreisaugen*), of concave cross-section. Found in a tumulus at Erm. XRF results (section 4) show that Nos 1-2 are part of the same bracelet, Nos 4-5 are part of a second bracelet, and No. 3 is part of a third bracelet. Patina: green-oxidized. Museum Assen, Inv. No. 1909/VIII.7, purchased 31 August 1909 from P. Drenth and H. Egberts of Odoorn.

1): L. 5.3; w. 1.6 cm. Decoration: three transverse ribs with *pointillé* and dot-in-circles in between; midrib of *pointillé* with oval, bow-shaped lines with *pointillé* above and below on rest of fragment

2): L. 4.4; w. 7 cm. Decoration: three transverse ribs with *pointillé* and dot-in-circles in between; midrib of *pointillé* with oval, bow-shaped lines with *pointillé* above and below on rest of fragment

3): L. 5.5; w. 1.6 cm. Decoration: three transverse ribs with *pointillé* and dot-in-circles in between; midrib of *pointillé* with oval, bow-shaped lines with *pointillé* above and below on rest of fragment

4): L. 4.2; w. 1.7 cm. Decoration: midrib of *pointillé* with oval, bow-shaped lines with *pointillé* above and below on rest of fragment

5): 2.1 × 1.7 cm. Decoration: midrib of *pointillé* with oval, bow-shaped lines with *pointillé* above and below on rest of fragment
Map reference: c. 251/530.

Reference: Essink 1996: 61, No. 99.

Parallels: see DB 2218.

Dating: see DB 2218.

(DB 2218) Havelterberg, Gemeente Westerveld, Drenthe. Tumulus 3

Small fragment (l. 2.3 cm; w. 2 cm; th. 0.6 cm) of (presumably open) bracelet with dot-circle decoration (*Kreisaugen*), of rectangular cross-section. Flattened ends and with flaring ribs and four oval, bow-shaped lines. Found with sherds of a large, roughened pot in Tumulus III ('De Plaggenheuvel') during excavations by Van Giffen from 28 February to 8 May 1943 of a large number of burial mounds on the Havelterberg. Van Giffen compared this fragment with corresponding fragments (DB 2216) in the Drents Museum and concluded that these fragments could easily be refitted into a complete bracelet. A composite drawing was made by H. Praamstra, but it depicts it as an uncommon type. Museum Assen, Inv. No. 1943/III.7b; object not seen by the authors.

Map reference: c. 207/529.

References: Sprockhoff 1937: 47 *Taf.* 18: 6; Van Giffen 1951: 128 *Afb.* 31: 7b; Essink 1996: 60 No. 94.

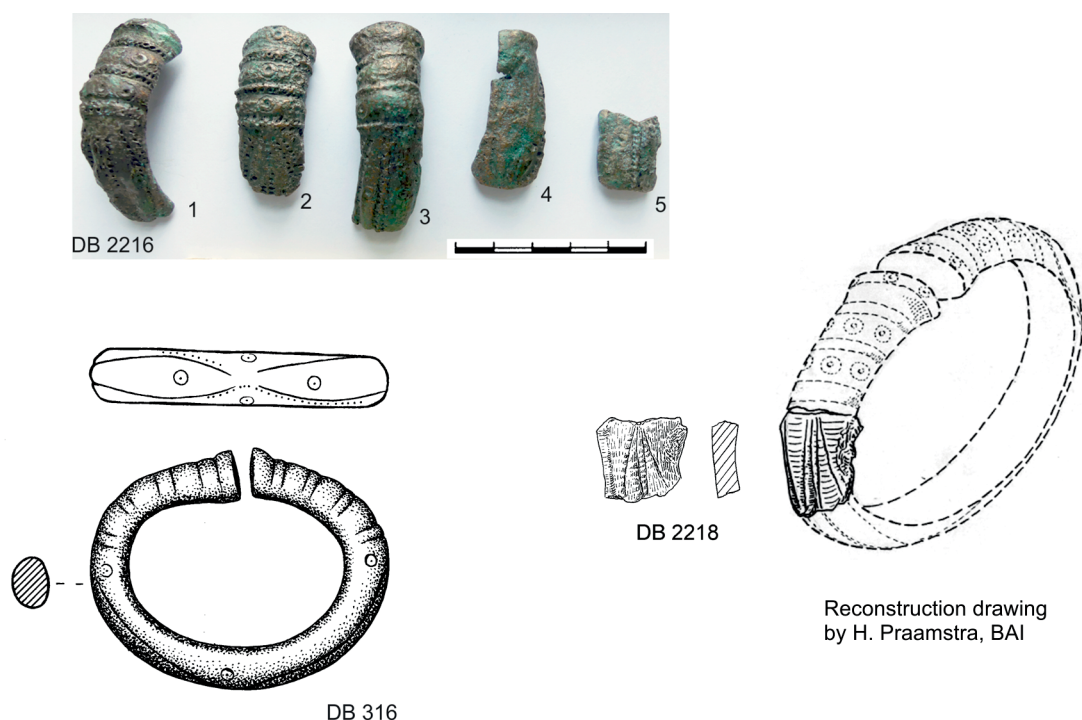


Fig. 13. Open bracelets with dot-circle decoration (*Kreisaugen*) (drawings GIA; photo H. Steegstra).

Parallels: According to Sprockhoff (1939: *Taf.* 18: 6) this type comes from the lower Elbe region (Kr. Ülzen, Germany) and dates to Period IV (c. 1125-925 calBC) of the Bronze Age. See also Laux 2015: 208, *Taf.* 86: 1252-1255, esp. 1255.

Dating: Period IV (1125-925 BC) according to Sprockhoff (1937: 47) and Laux (2015: 208) because of the socketed axe, ribbed necklace (*gerippte Halskrage*), and knobbed sickles in the hoard from Wulfesen.

(DB 316) Lunteren, Gemeente Ede, Gelderland

Open bracelet (diam. 7.8×6.2 ; w. 1.4; th. 1 cm) with dot-circle decoration (*Kreisaugen*), of oval cross-section. Decoration consists of four astragalus pairs of transverse grooves, followed by two pairs of oval, bow-shaped incised lines with *pointillé* above/below and four small dot-in-circles. Slightly thickened terminals (caused by hammering to smooth the ends?). Found at the Leperkoen in a small hill ("*op de berg*"), approximately 50-60 cm below surface level. Within 1.5 m from it, charcoal and a pot were found (the latter broken during excavation, according to a report by M.J. Lit, schoolteacher in Lunteren). Patina: green with brown patches. Museum RMO Leiden, Inv. No. LU 7.

Map reference: c. 171/455.

Reference: Pleyte 1889: Pl. XV; Hulst 2010: 60.

Parallels: A bracelet from the hoard of Pantin (départ. Seine-Saint-Denis, Île de Paris, France). This hoard consisted of three solid bracelets, all with transverse ribs and small, everted terminals, but one of them shows a series of dot-in-line circles and dotted lines (O'Connor 1980 (I): 175, No. 175, (II) Fig. 63B: 2). According to O'Connor (1980 (II): 401), they belong to the

Homburg type (Richter 1970: 155-9), albeit that the dot-in-circle motif is unusual in this type.

Dating: *Stufe* Wallstadt (Richter 1970: 159)/Bronze final III (O'Connor 1980 (I): 206) = HaB3: 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

Open bracelets with 'facing disc' terminals (Fig. 14)

These bracelets differ from the open bracelets with slightly expanded, everted terminals ('paws') in that the terminals expand not just on the outside of the bracelets (as with 'paws,' which maintain their inner circumference), but in multiple directions. This means that the often disc-shaped and round to oval or subrectangular terminal fronts are facing each other. Their cross-section can be either hollow (concave to tubular) or solid (round to oval).

(DB 284) Epe, Gemeente Epe, Gelderland. Wuuster Bergen

Open bracelet of round cross-section with circular 'facing disc' terminals. Diam. of bracelet c. 7.2×6.5 ; diam. of discs 0.9; th. of metal 0.3-0.4 cm. Found by Haasloop-Werner, March 1845, in a small urn (lost sometime prior to 1863) with bone and ash, with another bracelet described as similar (lost sometime prior to 1863) and a bronze pin with cone head and fine transverse lines on neck (Inv. No. FE 4; DB 285). Patina: dull black. Museum RMO Leiden, Inv. No. FE 3, presented March 1863 by Jhr. G. van der Feltz, former mayor of Epe.

Documentation: cat. Holwerda 1908: B.I.586; email H. Pauts (RMO) to authors, 17 October 2019. Three lead copies of this

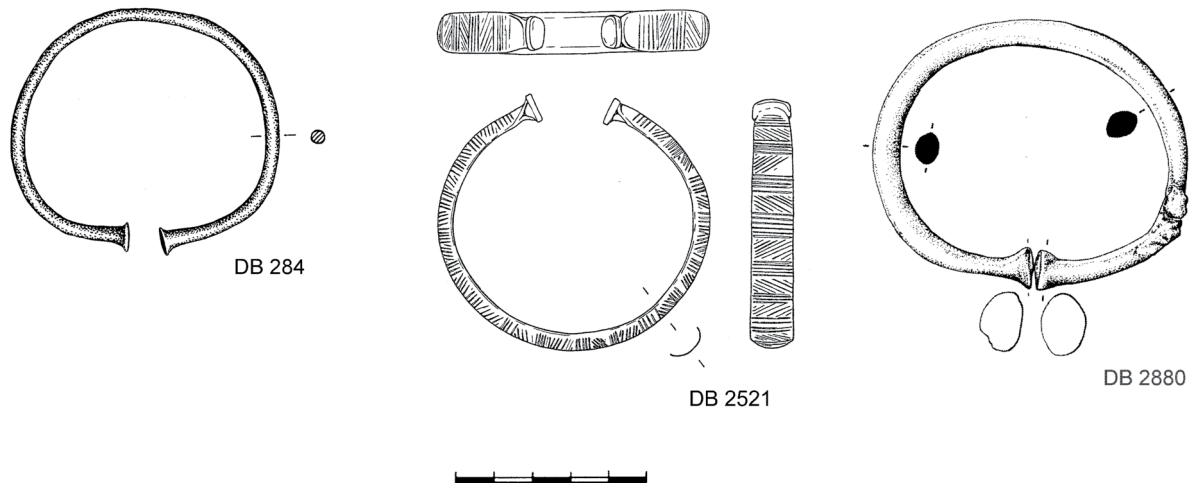


Fig. 14. Open bracelets with 'facing disc' terminals (drawings GIA (DB 284) and BAAC (DB 2521, DB 2880)).

find (two bracelets and a pin, ex collection Haasloop-Werner) are in the RMO stores, inventoried under Inv. Nos HW 29-HW 31).

Map reference: c. 193/482

References: Pleyte 1889: Pl. XXIV: 7; Verhart 1995: 14-16, Fig. 4. Parallels: DB 2880. A similarly shaped bracelet with round, conical, facing disc terminals is known from Nil-Saint-Martin, Belgium (De Mulder 2018: 90 Fig. 10: 5).

Dating: LBA-EIA (Period V-VI) on the basis of the cone-headed pin (cf. Laux 1976: Taf. 63: 716).

(DB 2521) Lith, Gemeente Maren-Kessel, Noord-Brabant. Lithse Ham

Open hammered sheet bronze bracelet of concave (thin, C-shaped; only 0.3 mm in the middle) cross-section and with two flat oval 'facing disc' terminals. Found with metal detector in April 1992 in the Lithse Ham, in a gravel heap, recently broken into two pieces. The finder (and owner) glued the two pieces together. Diam. 64 × 57 mm inside, w. 12 mm. Decoration consisting of alternating zones of diagonal and vertical incisions. XRF measurement (2014 at the RCE): Cu 77-79.8%; Sn 18-21%.b. The object shows small perforations, some made intentionally to attach an organic fill? Patina: river patina with green corrosion. Private collection.

Map reference: c. 156.05/424.88

Reference: Van Alphen & Theunissen 2015: 49-59, 51 afb. 2.

Parallels: Diagonal and/or vertical incised decoration is found in many parts in north-western Europe, culminating in the Late Bronze Age and Early Iron Age. In the Netherlands, we see this decoration on many LBA-EIA bracelets in this paper (*supra*), but there is only this one example made of sheet bronze. From the Early Iron Age, two undecorated sheet bronze bracelets from the Wessenstedt-*Stufe* are known in Germany from the Meinersen child grave, Niedersachsen (Laux 2015: 217-18, his numbers 1310, 1311 and Taf. 91). From France, we have a fragment (with no preserved terminals) of a decorated sheet bronze bracelet of C-shaped cross-section from Dreuilles-Amiens (Blanchet 1984: Fig. 159: 2, and p. 567) and two

decorated bracelets of C-shaped cross-section from the hoard of Saint-Yrieix (Coffyn *et al.* 1981: Pl. 30: 22-23).

Dating: Transition Late Bronze-Early Iron Age (900-800 BC) based on the French and German finds (Van Alphen & Theunissen 2015: 56).

(DB 2880) Ambyerveld, Gemeente Maastricht, Limburg. From urn in male grave

Open bracelet of solid oval cross-section (l. 8 cm; diam. 0.6 cm) with touching, circular, 'facing disc' terminals. Found during BAAC excavation of August-September 2009 and January 2010, on top of urn U26, together with bracelet DB 2881 and three slightly burnt amber beads and a gilded hair-ring on the base of the urn. Possibly deliberately broken in antiquity. Patina: dark green, corroded.

Map reference: c. 179/320

References: Dyselinck 2012: urn U26; Dyselinck 2013: 98-9 and Fig. 3.27-1.

Parallels: DB 284. A similarly shaped bracelet with round, conical, facing disc terminals is known from Nil-Saint-Martin (De Mulder 2018: 90 Fig. 10: 5).

Dating: Dyselinck 2013: 98: HaB3 (Bronze final III b), c. 800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

Open bracelets with everted palettes

Open bracelets with everted palettes form an extensive group of bracelets characterized by the presence of flattened terminals of modest to substantial size, set at right angles to the body of the bracelet (everted terminals; Butler & Steegstra 2007/2008: 375). We consider palettes not exceeding 1 cm in diameter as small, those measuring 1-3 cm modest in size, and any exceeding that range as substantial in size.

In 1944, Van Giffen described these bracelets (from the north of the Netherlands) and coined the term omega bracelets for them (Van Giffen 1944: 486). Such bracelets generally have a concave or (flattened) D-shaped

cross-section. They may – considering their oval-pointed palettes and restricted distribution – represent a regional type (Butler & Steegstra 2007/2008: 375; O'Connor, 1980(I): 209, 210; map 67; note also their absence in Laux 2015). During our inventory of the collections in the RMO and Museum Het Valkhof in Nijmegen, more palette bracelets came to light, originating from the urn-fields of Deurne and Boshoverheide. In 2010, additional palette bracelets had been found during an excavation in Noord-Brabant (Jansen 2011; Van der Vaart-Verschoof 2017). The palette shapes of these 'southern' bracelets vary from round to oval to fan-shaped; their cross-sections are variable in shape; they can be hollow or solid; and there is no ribbing for decoration.

Open bracelets with everted palettes and longitudinal ribbing: the North-Dutch omega bracelets (Figs. 15a-15b)

This group comprises open bracelets with longitudinal ribbing and everted, flattened palettes of modest size that extend in pointed-oval terminals set at right angles to the body of the bracelets. Palette width is generally around one third of the palette length. These bracelets are mostly of straight and flattened C-shaped (concave) cross-section, and all but one come from hoards (descriptions published previously by Butler & Steegstra 2007/2008: 377-95 and repeated below).

(DB 1299-DB 1301) Hijkerfeld, *Gemeente Beilen*, Drenthe. Part of hoard

These three open bracelets with everted palettes and longitudinal ribbing are part of a hoard comprising two more open bracelets of D-shaped cross-section with slightly expanded paw-shaped terminal (*supra*; DB 1303, DB 1304), one omega bracelet with three transverse ribs adjacent to the terminals (DB 1302), two dome-shaped bronze buttons (DB 1305, DB 1306), one disc-headed pin (*Scheibenkopfnadel*, DB 1307), a fragment of another disc ('washer' DB 2683), and fragments of several wire ornaments (DB 2682). Found around 1938 in the Hijkerfeld, 2-3 km north-east of the potato factory Oranje at the Oranjekanaal, close to Diependal. Museum Assen, Inv. Nos 1941/V.8(1-12); purchased May 1941 from J. Huizinga of Assen.

DB 1299: Fragments of an open bracelet with everted palettes and longitudinal ribbing (omega bracelet). Damaged (but c. three quarters well preserved); w. 4.1 cm, narrowing to 2.6 cm. The slightly arched outer surface is entirely ribbed lengthwise, except for the terminal, which has four transverse ribs. The surviving almost intact, pointed-oval palette measures 3.1 × 0.9 cm. Patina: dull grey-green; Inv. No. 1941/V.8(1).

DB 1300: Three fragments of an open bracelet with everted palettes and longitudinal ribbing (known as an omega bracelet). Ancient (i.e. patinated) breaks. Slightly arched outer surface, but with two times seven l.wise ribs flanking a narrow, undecorated centre. W. 4.1 cm, narrowing to 1.65 cm; with

four transverse ribs. Pointed-oval terminals 2.4 × 0.8 cm, ancient (i.e. patinated) break. Patina: as DB 1299, breaks patinated. Inv. No. 1941/V.8(2).

DB 1301: Fragment of an open bracelet with everted palettes and longitudinal ribbing (omega bracelet), with five shallow ribs on each side of the narrow plain field. Patina: as DB 1299, breaks patinated. Inv. No. 1941/V.8(3)

Documentation: Museumverslag 1941: 14, Nos 25, 26; Dagboek 1941; handwritten note Brunsting (with footnote by Van Giffen) with description of the objects.

Map reference: c. 226.5/547.5

Reference: Butler & Steegstra 2007/2008: 382-3, Fig. 4, with further references.

(DB 1276-DB 1278) Drouwen, *Gemeente Borger*, Drenthe (from the 1939 'Princess of Drouwen' hoard)

Open bracelets with everted palettes and longitudinal ribbing (omega bracelets) from hoard or grave deposit (*Totenschatz*) placed at edge of tumulus in an urnfield excavated by Van Giffen in 1939 (*cf.* Kooi 1979: 91-3, Figs. 87 and 88). The rich Drouwen hoard included rare imports from the northern European area (Butler 1986: 133-68, and references therein), among which a bronze 'hanging vessel' (DB 1270; belt box, *cf.* Nørgaard 2018: 74); a spectacle fibula (DB 1271; *cf.* Kleijne & Phillipeau 2107: 41-2); seven cast omega bracelets, double-wire bracelets and rings (DB 1272, DB 1273, DB 1274, DB 1275); bronze buttons (DB 1283); jet beads (DB 1287); a drawing aid (DB 1284, compass?); spacers (DB 1285, DB 1286); and a bronze ring (DB 1282). When ploughed up, the objects must have been intact, because all observable breaks were unpatinated. The complete hoard is in the Museum Assen, inventoried under Inv. Nos 1939/XII.4a-s.

DB 1276: Open bracelet with everted palettes and longitudinal ribbing (omega bracelet), very slightly flattened. Six longitudinal ribs; three transverse ribs adjacent to each terminal. The cross-section is nearly flat. There is a single pellet on the inside surface. Dimensions: diam. 6.7 cm; maximum w. 2.4 cm, narrowing to 1.4 cm; the pointed-oval terminals have a length of 2.3 cm. Inv. No. 1939/XII.4G.

DB 1277: Open bracelet with everted palettes and longitudinal ribbing (omega bracelet), with eight longitudinal ribs; three transverse ribs adjacent to each terminal. The cross-section is flat. Dimensions: diam. 6.7 cm; maximum w. of the body 2.1 cm, narrowing to 1.6 cm; the pointed-oval terminals have a length of 2.5 cm. Inv. No. 1939/XII.4H.

DB 1278: Open bracelet with everted palettes and longitudinal ribbing (omega bracelet), with five longitudinal ribs; four transverse ribs adjacent to each terminal. The inside surface also has five ribs; there is a single transverse rib. Patina: light green encrustation, but partly lustrous dark bronze colour. Finely preserved. Dimensions: diam. 6.6 cm; maximum w. of the body 2.2 cm, narrowing to 1.6 cm; the pointed-oval terminals have a length of 2.4 cm. Inv. No. 1939/XII.4I.

Parallel: A North-Dutch omega bracelet (diam. ±6.5 cm, with five longitudinal ribs and three transverse ribs adjacent to the pointed-oval terminals) was present in the Pierrevillers (Côte

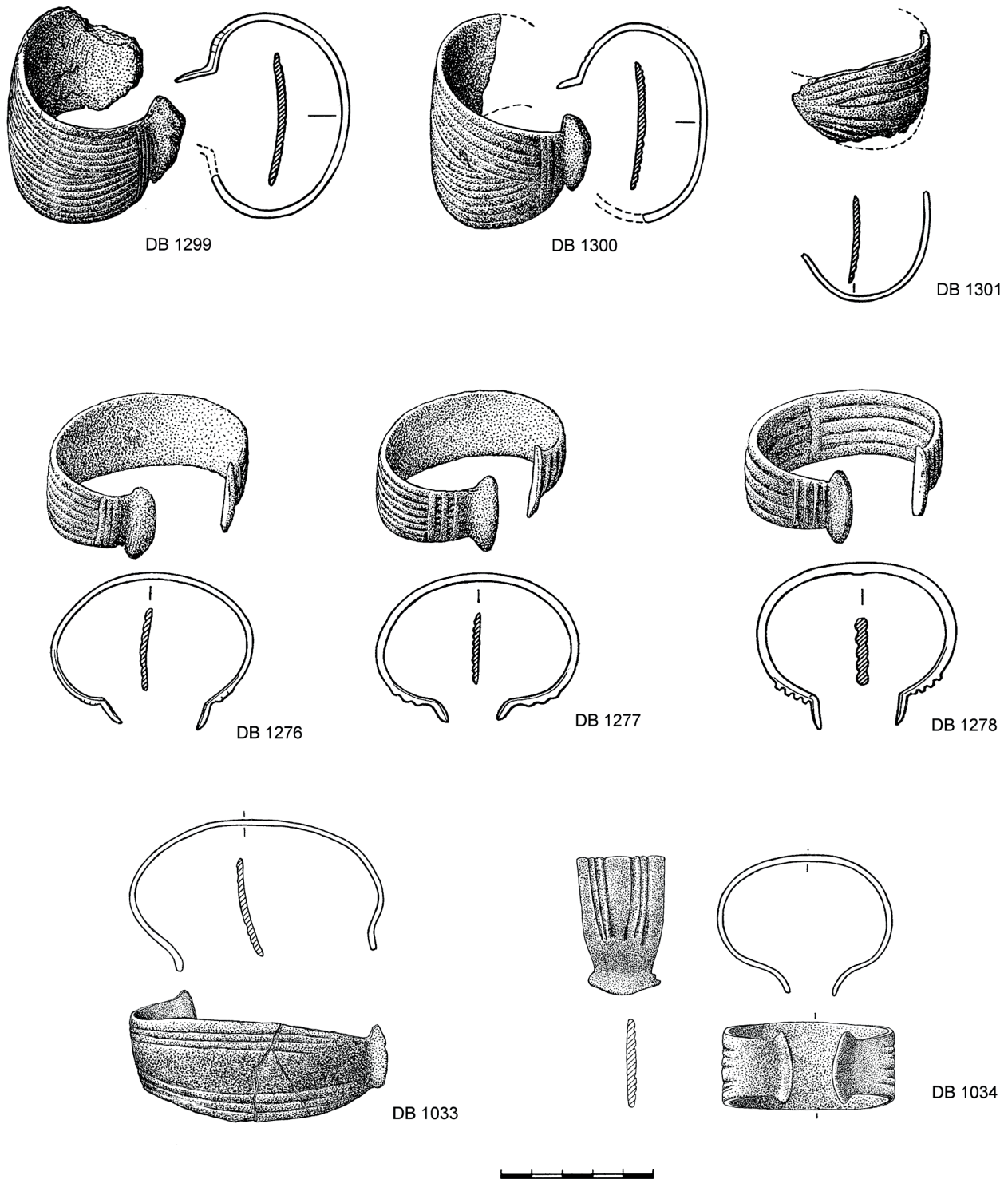


Fig. 15a. Open bracelets with everted palettes and longitudinal ribbing (North-Dutch omega bracelets) (drawings GIA).

de Drince, dép. Moselle, France) hoard, found in 2014 (Griette *et al.* 2019: 134-40, Figs. 1-13). This hoard (Griette *et al.* 2019: Figs. 1 and 3) comprises a spectacle fibula of the Oerel type (Figs. 9-11), placed on a sheet bronze bowl of the Jenišovice-Kirkendrup type (their Figs. 7-8) that had been placed upside down. Inside the bowl were the omega bracelet (Figs. 12-13), a bracelet of the Homburg type (Fig. 4), four ribbed tubular ornaments (Fig. 5) and three pairs of two disc pendants (Fig.

6). Just below this was the rim of a second bowl (too deteriorated to be classifiable), under which – at a lower level – a socketed Urnfield knife, a socketed gouge and two looped winged axes of the Wallerfangen-Schönberg type had been placed flat in the ground (Griette *et al.* 2019: 137-8, Figs. 1-3).

Map reference: c. 249.25/552.75

Documentation, parallels and references: see Butler & Steegstra 2007/2008: 383-92, Find No. 26 with further references.

Dating: HaB3 = 950-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1), end of Bronze final (HaB3; Griette *et al.* 2019: 139).

(DB 1033-DB 1034) Elsen, Gemeente Markelo, Overijssel. From the 1846 hoard

The hoard contained one spiral bracelet, one double-wire bracelet (DB 1866; *supra*), two other bracelets (DB 1031, DB 1032; *infra*) and a fragment of a socketed axe (DB 1854). Museum Enschede, Inv. Nos 400-401; presented to the museum around 1930 by Mr and Mrs Van Dam of Enschede (DB 1854 is in museum RMO). Found March 1846, wound together, in an earthen bank which marks off a cultivated field, at a depth of "4 to 5 feet" (c. 1.17-1.47 m).

DB 1033: Open bracelet with everted palettes and longitudinal ribbing (omega bracelet), of broad oval shape, tapering toward expanded, approximately pointed-oval, everted terminals. The cross-section is slightly curved. Outer surface partly ornamented with groups of grooved lines. Diam. 8.3; w. 3.2 cm. Patina: glossy green (Inv. No. 400).

DB 1034: Open bracelet with everted palettes and longitudinal ribbing (omega bracelet), like DB 1033, but cross-section is flat. Diam. 5.8; w. 2.9 cm; stolen c. 1970 (according to Verlinde 1980: 10). Patina: glossy green (Inv. No. 401).

Map reference: c. 233.5/476.3

Reference: Butler & Steegstra 2007/2008: Find No. 28 with further references.

Dating: Period V/HaB3 (Butler & Steegstra 2007/2008: 395) = 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 31-DB 32) Bruggelen, Gemeente Apeldoorn, Gelderland. From the hoard

The Bruggelen hoard contains four bracelets (DB 30-DB 33), a socketed axe (cat. no. 600), a single-edged Urnfield HaB socketed knife (DB 34; Butler, Arnoldussen & Steegstra 2007: 71 no. 13) and a small rod (DB 35; Butler & Steegstra 2007/2008: 392-4, Find No. 27). Found before 1940, on the Bruggelen estate, 5 km south of the centre of Apeldoorn. No further information available. The hoard was presented to the museum on 7 February 1958 by S.H. Frederiks of Arnhem (as received from the collection of Ms Ooster). Museum: Museum het Valkhof, Inv. Nos GAS 1958-2/6-12.

DB 31: Two joining fragments of a cast, open, sheet bronze bracelet with everted palettes and longitudinal ribbing (omega bracelet), oval in outline, slightly curved in cross-section, with pointed-oval terminals; face lightly ribbed. Patina: dark green, partly brownish, except on breaks, which are therefore assumed to be recent. Inv. No. GAS 1958-2-8.

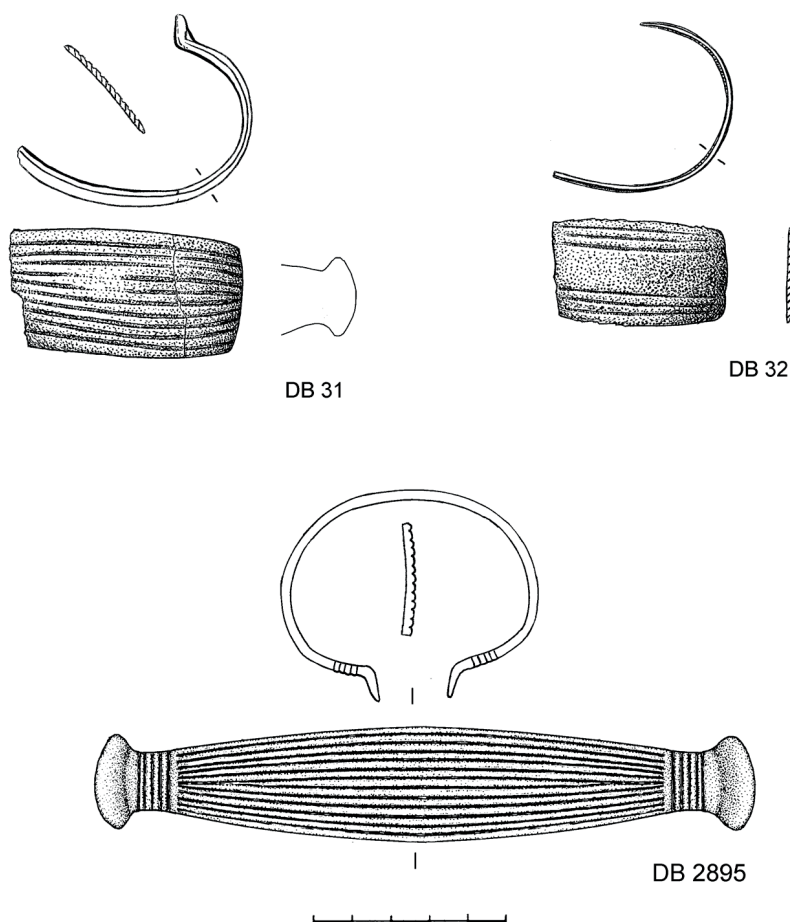


Fig. 15b. Open bracelets with everted palettes and longitudinal ribbing (North-Dutch omega bracelets) (drawings GIA (DB 31 and DB 32), H. Steegstra (DB 2895)).

DB 32: Two joining fragments of a similar bracelet, but with ends missing; ribbed at edges, but plain in centre. Patina: dark green, partly brownish. Inv. No. GAS 1958-2-9.

Map reference: c. 191/465.

Reference: Butler & Steegstra 2007/2008: 392 with further references.

Dating: HaB3/Montelius V on the basis of the fragment of the socketed single-edged knife of the Urnfield HaB type (Butler *et al.* 2011/2012: 71, No. 13).

(DB 2895) Dreumelse Waard, Gemeente West Maas en Waal, Gelderland

Open bracelet oval in outline, slightly arched in cross-section, with 13 longitudinal ribs divided by 11 incised lines and four transverse ribs close to the everted palettes. Diam. outside: 6.7 × 4.1 cm; inside: 6.3 × 3.7 cm; w. of the body 3.15 cm narrowing to 1.7 cm; th. 2 mm. Oval palettes: 2.4 × 0.7 cm. Wt: 61.9 g. XRF metal analysis: Bertil van Os (RCE): Cu 82.91%, Sn 11.49%, Pb 5.12%; traces of As, Ag, Sb, Ni, Fe. Patina: black-bronze, well preserved except for some wear. Private collection. Found around 1993, probably with a metal detector, by Mr H. Janssen, in a gravel pit. Purchased from finder by Mrs G. Borsten, who presented the find (named Gonnie) on 26 January 2020 to the Museum Wijchen.

Documentation: Liesbeth Theunissen (RCE) (pers. comm. 15 November 2019, 26 January and 10 April 2020), the last email containing a slide presentation given by her during the presentation of the bracelet to the museum.

Map reference: c. 157.815-430.600

Reference: Theunissen 2020.

Parallels: Two bracelets in the Hijkerfeld hoard (DB 1299-1301; *supra*) and one bracelet in the Bruggelen hoard (DB 31; *supra*).

Dating: HaB3/Period V (c. 925-800 calBC) on the basis of the fragment of the socketed single-edged knife of the Urnfield type in the Bruggelen hoard (Butler *et al.* 2011/2012: 71, Fig. 5 No. 13; Verlinde & Hulst 2010: 67).

Open bracelets with everted, oval to oval-pointed palettes and transverse ribbing (Figs. 16-16a)

(DB 1302) Hijkerfeld, Gemeente Beilen, Drenthe. Part of hoard

Three fragments of an open bracelet with everted, to oval-pointed palettes and transverse ribbing, with shallow, C-shaped (concave) cross-section; nearly parallel sides, w. of the body 2.25-2.3 cm. Three transverse ribs flanking pointed-oval terminals (2.8 × 1.0 cm). Patina: grey-green, breaks patinated. Museum Assen, Inv. No. 1941/V.8. This example has a narrower body and differs from the other bracelets in the omega series described above in that it has no longitudinal ribbing, although it is evidently closely related. It has three transverse ribs, like DB 1299 and DB 1300.

Part of a hoard with three longitudinal multi-ribbed omega bracelets (see below; DB 1299, DB 1300, DB 1301), two open bracelets of D-shaped cross-section with slightly expanded

paw-shaped terminals (DB 1303, DB 1304; *supra*), two dome-shaped bronze buttons (DB 1305, DB 1306), one disc-headed pin (Scheibenkopfnadel, DB 1307), fragment of another disc ('washer' DB 2683), and fragments of several wire ornaments (DB 2682). Found around 1938 in the Hijkerfeld, 2-3 km north-east of the potato factory Oranje at the Oranjekanaal, close to Diependal. Museum Assen, Inv. Nos 1941/V.8(1-12); purchased May 1941 from J. Huizinga of Assen.

Map reference: c. 226.5/547.5

Reference: Butler & Steegstra 2007/2008: 283-284, Find.No. 25, with further references.

Parallel: One example is known from the Lutlommel hoard (Van Impe 1995/1996: 18 No. 36; Fontijn 2003: 84 Fig. 5.1).

Dating: HaB3 = c. 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1). The Lutlommel hoard is placed at the end of the Late Bronze Age period (Fontijn 2003: 85).

(DB 1279-DB 1281) Drouwen, Gemeente Borger, Drenthe. From the 1939 'Princess of Drouwen' hoard

Four open bracelets with everted, to oval-pointed palettes and transverse ribbing, of shallow C-shaped (concave) cross-section from hoard or grave deposit (*Totenschatz*) placed at edge of tumulus in an urnfield excavated by Van Giffen in 1939 (*cf.* Kooi 1979: 91-3, Figs. 87-8). The rich Drouwen hoard included rare imports from the northern European area (Butler 1986: 133-68, and references therein), among which a bronze 'hanging vessel' (DB 1270; belt box, *cf.* Nørgaard 2018: 74); a spectacle fibula (DB 1271; *cf.* Kleijne & Phillipeau 2107: 41-2); seven cast omega bracelets, double-wire bracelets and rings (DB 1272, DB 1273, DB 1274, DB 1275); bronze buttons (DB 1283); jet beads (DB 1287); a drawing aid (DB 1284; compass?); spacers (DB 1285, DB 1286); and a bronze ring (DB 1282). When ploughed up, the objects must have been intact, because all observable breaks were unpatinated. The complete hoard is in the Museum Assen, inventoried under Inv. Nos 1939/XII.4a-s.

DB 1279A: Open bracelet with everted, to oval-pointed palettes (omega bracelet) and transverse ribbing. The cross-section is a flattened concave C-shape with raised edges. There are three transverse ribs adjacent to each terminal. Dimensions: diam. 7.2 cm; maximum w. of body 2.7 cm, narrowing to 1.6 cm; the pointed-oval terminals have a l. of 2.5 cm. Patina: outside partly glossy dark green, partly light green sandy, inside mottled green sandy, well preserved. Museum Assen, Inv. No. 1939/XII.4J.

DB 1279B: Open bracelet with one everted, to oval-pointed palette (omega bracelet) and transverse ribbing. The cross-section is a flattened concave C-shape with raised edges and three transverse ribs adjacent to the remaining terminal which is missing half of its top. Dimensions: diam. 7.6 cm; maximum w. of body 2.7 cm, narrowing to 1.6 cm; the remaining damaged pointed-oval terminal has a length of ±1.5 cm. Patina: outside partly dark bronze and green, inside mottled green; old irregular break with a lump of green wax used to attach the now missing part. Museum Assen, Inv. No. 1939/XII.4J'.

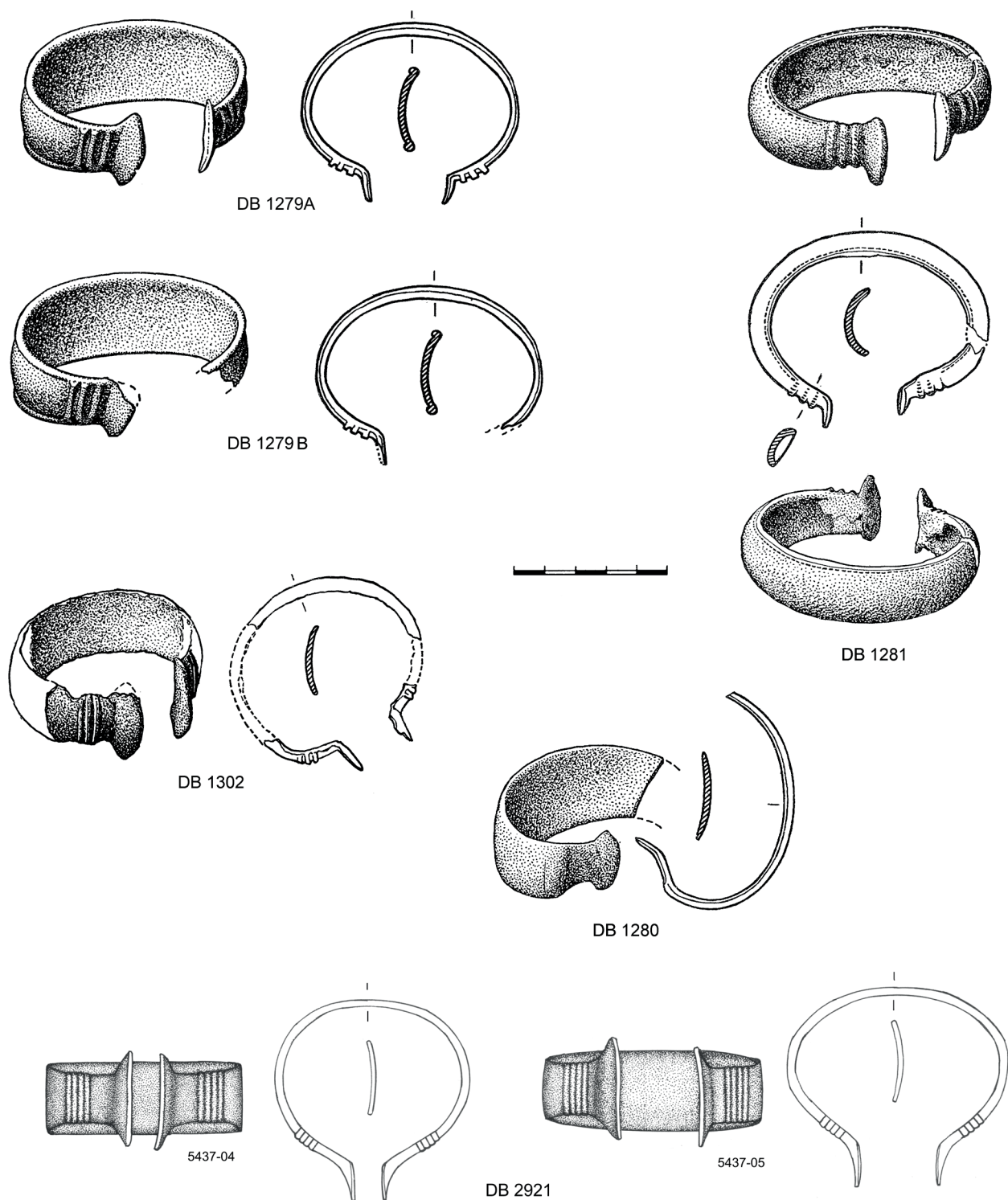


Fig. 16. Open bracelets with everted palettes and transverse ribbing ('omega bracelets') (DB 1279-1281, DB 1302: drawings GIA and DB 2921: H. Steegstra after photos Restaura and notes with dimensions made by Kees Zwaan, Huis van Hilde).

DB 1280: Open bracelet with everted, to oval-pointed palettes (omega bracelet) and transverse ribbing. The cross-section is a flattened (concave) C-shape. There is a broad transverse rib close to the surviving terminal. Diam. 7.2 cm; maximum w. of body 2.5 cm, narrowing to 1.3 cm; the pointed-oval terminal has a length of 1.9 cm. Museum Assen, Inv. No. 1939/XII.4K.

DB 1281: Open bracelet with everted, oval to oval-pointed palettes (omega bracelet) and transverse ribbing. Oval body with C-shaped cross-section. Everted, pointed-oval terminals, adjacent to which a bundle of three transverse ribs. The body is lined with pointillé decoration. The interior of the body is partly hollow-cast; there are some rough protuberances



Fig. 16a. Colour photo of part of the “princess of Drouwen” hoard on which the seven bracelets are visible. The wire fragments were omitted when making this photograph. © Collectie Drents Museum, photo JAV studio's.

and punch marks on the inside. Patina: blackish, glossy. Dimensions: diam. 7.9 cm; maximum w. of body 2.3 cm, narrowing to 1.5 cm; the pointed-oval terminals have a length of 2.3 cm. Museum Assen, Inv. No. 1939/XII.4L.

Documentation: Museumverslag 1939: 30, sub 89; III Dagboek 1939.

Map reference: c. 249.25/552.75

Reference: Butler & Steegstra 2007-2008: 383-392) with further references.

Parallels: DB 1280, DB 1281: one example from the Lutlommel hoard (Van Impe 1995/1996: 18).

Dating: HaB3 = c. 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1). The Lutlommel hoard is placed at the end of the Late Bronze Age period (Fontijn 2003: 85).

Note: In 1965 Dr J.J. Butler published a series of bronze ‘omega’ bracelets, including those from the 1939 Drouwen hoard. These bracelets were included in his Table I (Butler 1965: 196, Table 1) and Pl. I and II (photos), in which he mentions two almost identical bracelets (Inv. Nos 1939/XII.4J and 1939/XII. DB 4J', DB 1279A and DB 1279B, respectively), with a *paarlijst* (pearl frame) along the horizontal sides of the band. This is not correct: it concerns two almost identical bracelets with raised edges. The paper archive listing seven bracelets was digitized in later years causing the ' (prime mark) to disappear, as well as the “A” and “B” after the DB numbers. Bracelet 1939/XII.4J' has therefore not been included in the publications of 1984 and 2007/2008.

Recently, at our request, Dr. Bastiaan Steffens, curator at the Drents Museum in Assen, sent colour photos of the entire hoard, containing seven palette bracelets, one of which is missing a palette and adjacent vertical ribbing, has a concave C-shaped cross section with raised edges and bears the number 1939/XII.4J'. Therefore we are now able to show the correct number of omega bracelets without longitudinal ribbing in the “Princess of Drouwen” hoard. The whole hoard can be seen on the colour photo in Fig. 16A.

(DB 2921 C-D) Markerwaardweg, Gemeente Medemblik, Noord-Holland

Two open bracelets with everted, oval-pointed palettes (omega bracelet) and transverse ribbing. Excavated 2015 by the Leiden Faculty of Archaeology between the roads the Streekweg and the N302 (renamed in 2018 to N307). Found in a prehistoric ditch, neatly packed on a bank covered with reed, together with three Oerel-type spectacle fibulae, a flat-headed pin with central boss, two bronze spacer plates, a stone bead, various smaller and larger interlinked rings and a flint sickle. The three spectacle fibulae were carefully placed onto each other. Collection: Provincie Noord-Holland, Inv. Nos 5437-4,5, exhibited in museum Huis van Hilde (Castricum).

DB 2921 (1): oval-shaped bracelet diam. outside 6.4 × 6.6 cm; w. 2.4 cm; palettes: l. 3.2 cm. Concave cross-section, flattened C-shaped profile. Four ribs occur before the oval-pointed palettes (Inv. No. 5437-04).

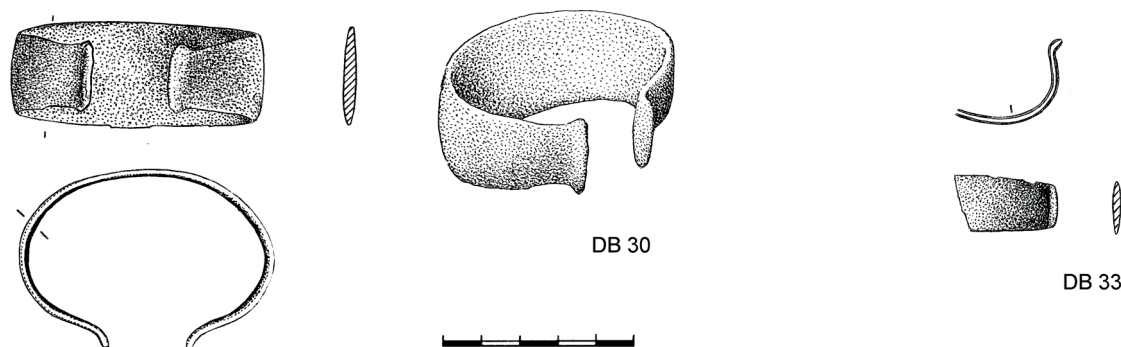


Fig. 17. Open bracelets with everted, oval to oval-pointed palettes and without ornamentation (e.g. ribbing) (drawings GIA).

DB 2921 (2): oval-shaped bracelet, diam. outside: 7.2×6.5 cm; w. 2.6 cm; palettes: l. 3.3 cm. Concave cross-section, flattened C-shaped profile. Four ribs occur before the oval-pointed palettes (Inv. No. 5437-05).

Patina: restored and treated by Restaura (Heerlen).

Map reference: c. 138/523.

Reference: Knippenberg *et al.* 2016: 8-9; Fontijn & Knippenberg 2020: 499-507.

Parallels: see DB 1279, DB 1281, DB 1302. For the interlinked rings, see Laux 2017: *Taf.* 94: 7 (Appeln) or Blanchet 1984: 297, Fig. 167:2-4 (Haulchin). For the Oerel-type fibulae, see Kleijne & Phillipeau 2017: 41-42; Laux 2017: 62).

Dating: 14C dates: c. 1250-850 calBC (Fontijn *et al.* 2020: 507), c. 900-850 calBC based on comparanda (Fontijn *et al.* 2020: 507).

Open bracelets with everted, oval to oval-pointed palettes, no ornamentation (e.g. ribbing) (Fig. 17)

(DB 30, DB 33) Bruggelen, Gemeente Apeldoorn, Gelderland. From the hoard

The Bruggelen hoard contains four bracelets (DB 30, DB 31, DB 32, DB 33), a socketed axe (Cat.No. 600), a single-edged Urnfield HaB socketed knife (DB 34; Butler *et al.* 2007: 71 no. 13) and a small rod (DB 35; Butler & Steegstra 2007/2008: 392-394, Find No. 27). Found before 1940, on the Bruggelen estate, 5 km south of the centre of Apeldoorn. No further information available. The hoard was presented to the museum on 7 February 1958 by S.H. Frederiks of Arnhem (as received from the collection of Ms Ooster). Museum: Museum het Valkhof, Inv. Nos GAS 1958-2/6-12.

DB 30: Open sheet bronze (cast) bracelet with everted (somewhat abraded), pointed-oval palettes, no ornamentation (6.7×4.7 cm; w. 2.7 cm). Almost straight in cross-section, tapering outline. Patina: dark green, partly brownish. Inv. No. GAS 1958-2-7.

DB 33: Bracelet fragments, similar to DB 30, but smaller. Inv. No. GAS 1958-2-10.

Map reference: c. 191/465.

Reference: Butler & Steegstra 2007/2008: Find No. 27, with further references.

Map reference: c. 191/465.

Dating: HaB3/Montelius V on the basis of the fragment of the socketed single-edged knife of the Urnfield HaB type (Butler *et al.* 2011/2012: 71 No. 13).

Open bracelets with everted, fan-shaped (small to considerable in size) palettes

The everted palette bracelets shown below, display oval to fan-shaped terminals of small (<1 cm) to considerable size (> 3 cm), set at right angles to the body of the bracelets. These bracelets show solid (round to oval) or concave (flattened C-shape) or triangular cross-section and were found in hoards, graves and as stray finds. While sharing affinities with the everted palette bracelets from the palafitte areas (especially the types Auvernier and Consise; cf. Pászthory 1985, *Taf.* 98-101), these are invariably of C-shaped cross-section and – unlike ours – display geometric motifs. Among the open bracelets with everted, fan-shaped palettes of Belgium (e.g. Mariën 1949-1950: 64, Fig. 5); Lecarme & Warmenbol 2015: Fig. 4.A64-151 and A66-104) better comparanda can be found. Their distribution spans into northern France, as indicated by their presence in the hoards of Dreuil-les-Amiens, Amiens, Marler, Juvincourt-Damary, St Omer-Lyzel, Saint-Genouph or Aresle-Longue à L'Épine (Blanchet 1984; Butler 2007/2008: 371, Table 1). For Germany (Richter 1970: *Taf.* 58-59) published palette bracelets from Wiesbaden, Bad Homburg, Merfeld, Rüdeshheim-Eibingen and Ockstadt (all with small and medium size palettes) and one with palettes of considerable size (5 cm high, 10.6 cm wide) from Gambach (*Taf.* 59: 1048). In terms of their dating, their hoard associations firmly place these into the final Late Bronze Age (HaB3: 925-800 BC; Butler & Steegstra 2007/2008: 376, cf. Richter 1970: 155-6; Milcent 2012: 137-41; Carpioux & Warmenbol 2013: 98).

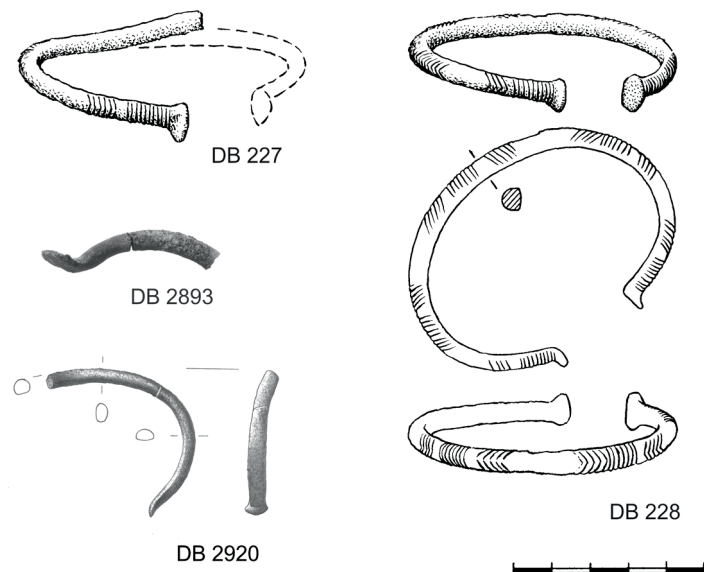


Fig. 18. Open bracelets with small (< 1 cm) everted fan-shaped palettes. Drawings © University of Groningen, Groningen Institute of Archaeology. DB 2893: photo RCE; DB 2920: drawing RCE.

Open bracelets with small (< 1 cm) everted, fan-shaped palettes (Fig. 18)

(DB 227-DB 228) Boshoven, *Gemeente Weert, Limburg. Boshoverheide*

Pair of decorated open bracelets with small (< 1 cm) everted, fan-shaped palettes from the 32 ha Weert-Boshoverheide urn-field (Hissel *et al.* 2012). Found in 1889 during the investigations of P.M. Peters, teacher in Turgchoy (Tungelroy?) in an urnfield near the hamlet of Boshoven, south of the railway Roermond-Antwerp, between guard houses 43 and 44.

(DB 227) Open bracelet with small (< 1 cm) everted, fan-shaped palettes. Dimensions: 7.45 × 5.75 cm. Open body of round cross-section (th. 0.6 cm), bearing incised decoration; outwardly expanded oval everted terminals, one of which is larger than the other. Palettes: 1.0 × 0.8 and 0.8 × 0.5 cm. Museum Maastricht: Inv. No. 249.

(DB 228) Bracelet, similar to DB 227, but part broken off and missing. Palette 1.0 × 0.6 cm. Patina: dull dark green. Museum Maastricht, Inv. No. 248.

Map reference: centre coordinates 172.740/362.010.

Parallels: A fragment of an undecorated palette bracelet with small palette was found in the Marlers (Somme) hoard (Blanchet 1984: 290, 573 and Fig. 162:65 with further references).

Dating: Bronze final Atlantique III (c. 950-800 calBC) according to Blanchet's (1984: 294) dating of the Marlers hoard.

(DB 2920) Boshoven, *Gemeente Weert, Limburg. Boshoverheide*

Fragment of an open bracelet with small (< 1 cm) everted, fan-shaped palettes from the 32 ha Weert-Boshoverheide urnfield (Hissel *et al.* 2012). Broken in antiquity. Diam. +5 cm; oval to

D-shaped cross-section, th. 0.35 × 0.3 cm. Palette damaged and broken off (remaining part: 0.65 × 0.25 cm). Found Sept. 1973 at the Budeler- en Weerterbergen on the Boshoverheide in an urn grave, containing an urn filled with 479 g cremated bones, the burnt arm-ring and an unburnt large bobbin in between the debris, and two pots (fragments of the smallest packed inside the other) upside down on top. The cremated bones belonged to a 40-60-year-old man (analysis E. Smit, University of Amsterdam). Metal analysis: Cu 84.5%, Sn 12.8%, Pb 0.5%; Sb 3.2%, As 0.6%, Ag 1.9%. Patina: corroded, with a few tiny patches of green (visible on the enlarged photo). Private collection.

Map reference: c. 172.740/362.010

References: Theunissen 2013: 54-63; Theunissen *et al.* 2013: 65-70.

Parallels: DB 390.

Dating: HaB3 (c. 925-800 calBC) on the basis of the urn type (Theunissen *et al.* 2013: 65).

(DB 2893) Heythuysen, *Gemeente Leudal, Limburg. Urnfield de Busjop*

L. 4.75 cm. Fragment of solid bracelet of round cross-section with everted, oval palette (≤1 cm). Broken in antiquity. Patina: green-brown, corroded. Found during excavations by Hijzeler in 1951 "in trench 2" at the urnfield de Busjop and discovered in 2007 in the Provinciaal Overijssels Depot Ad Verlinde in Deventer, in a plastic bag labelled "Opgraving Hijzeler, Sleuf 2" (excavation Hijzeler, Trench 2). No further information available.

Map reference: centre coordinates 191.720/361.627.

Reference: Theunissen *et al.* 2013: 51, Fig. 5.1.

Parallels: -

Dating: -

Open bracelets with medium-sized (1-3 cm) everted, fan-shaped palettes (Fig. 19)

(DB 390) Well, *Gemeente Bergen, Limburg*. Urnfield de Hamert

L. +4.5 cm; th. 0.3 cm. Fragment of a bracelet with D-shaped cross-section and oval palette end, 2.2 × 1.2 cm. Found in Harpstedt urn (RMO Inv. No. I 1914/2.32). Patina: burnt. Museum RMO: Inv. No. I 1914/2.33, presented by Mr Ranietz of Düsseldorf.

Map reference: c. 204/397.

Reference: Holwerda 1914: Abb. 24:35.

Parallels: DB 2920.

Dating: Early Iron Age (c. 800-600 calBC) based on the Harpstedt urn.

(DB 2896) Boshoven, *Gemeente Weert, Limburg*. Urnfield

Open bracelet with medium (1-3 cm) everted, fan-shaped palettes and D-shaped cross-section from the 32 ha Weert-Boshoverheide urnfield (Hissel *et al.* 2012). Diam. 6.75 × 5.8 cm. Palettes: 1.1 × 0.2 cm. Five vertical incised lines towards one palette and six vertical incised lines towards the other. Three pairs of seven vertical incised lines spread over the rest of the bracelet. Found between 1889-1890 in an urn by C. Ubaghs during reclamation activities on the heathlands between Weert and Budel amidst the 32 ha Boshoverheide urnfield. Present locus unknown.

Map reference: centre coordinates 172.740/362.010.

Reference: Ubaghs 1890: 26 and PL. V:29; Hissel *et al.* 2012: 127-8, afb. 7.30 and tabel 7.20; Van der Vaart-Verschoof (II), 2017: 231-233, Fig. C34.3.

Parallels: DB 2892; DB 2902

Dating: Late Bronze Age or HaC1 (c. 800-625 calBC; Van der Vaart-Verschoof (II), 2017: 232 with further references).

(DB 758) Luyksgestel, *Gemeente Bergeijk, Noord-Brabant*

L. 6.9 cm; diam. 0.9 × 1.1 cm. Open solid bronze undecorated bracelet of round cross-section, with medium-sized everted palette terminals (2.3 × 1.9 cm). Part of tangled calcined bronze fragments (pyre remains; De Loë 1931: 81). Museum Brussels, ex coll. Charley Poutiau.

Map reference: c. 150/366.

Parallels: The open undecorated example of the Lyzel-à Saint-Omer (Pas de Calais) hoard (Blanchet 1984: 294, 548 No. B7, Fig. 165.7; O'Connor 1980: List 199, Map 68). From Belgium the solid specimen from Schoonaarde (*not* Wichelen as was mentioned in various publications) of round cross-section and with a collar just before the medium size (24-30 mm) palettes can be mentioned (Mariën 1949-1950: 64-65, Fig. 5; Warmenbol *et al.* 1992: 107-8, No. 107, Fig. 107; cf. Lecarme & Warmenbol 2015: Fig. 3.14/MEF/01a and 01b, Fig. 4: A63-166).

References: De Loë 1931: 81; O'Connor 1980: List 199; Blanchet 1984: 294

Dating: Bronze final Atlantique III (Blanchet 1984: 294); LBA-EIA (Fontijn 2002: 367), c. 950-800 calBC (Butler & Steegstra 2007/2008: Fig. 1).

(DB 2892) *Gemeente Susteren-Echt, Limburg*

L. +9.1 cm; w. 1.03 cm. Half of bracelet of hollow cross-section with medium-sized (+1.6 × 0.2 cm) everted, fan-shaped palette. Palette partly broken off in antiquity. The tube is still stuffed with (clay?) core material. Patina: glossy green (not treated). Possibly part of a hoard, as from the same location another bracelet (DB 2869; *infra*) *tutuli*, some (fragments of) rings (varied in size), tubular beads and some other objects have been found. Private collection.

Map reference: Omitted by request of the landowner.

Reference: Verhart 2019: 7.

Parallels: see DB 2869.

Dating: HaB3, c. 925-800 calBC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 2875) Uden-Slabroek, *Gemeente Uden, Noord-Brabant*. Inhumation grave at the Maashorst

Open, undecorated bronze bracelet (diam. 7.1 × 5.85 cm) of angular C-shaped cross-section (2.5 × 1.1 cm), with worn (medium-sized; 3.1 × 0.85 and 3.0 × 0.7 cm; th. 0.2 cm) fan-shaped palette terminals, facing backwards when discovered. Wt: 33.8 g. Found in 2010 during excavations at the Slabroekerheide by the Faculty of Archaeology of Leiden University. Part of set of ornaments (DB 2875, DB 2876) recovered from an inhumation grave. Found under a thick layer of charcoal in an inhumation grave around the deceased's right wrist. Only a few bone fragments were found in the corroded bronze fragments, but a silhouette of the body had preserved *in situ* and was used for measuring its length: 160 cm). Patina: glossy green (has been laboratory treated). Museum 's-Hertogenbosch, Inv. No. US. 07. Under the bracelet a coloured textile fragment was found, interpreted as a long sleeve garment (Van der Vaart-Verschoof 2017: 40).

Map reference: c. 170/408.

References: Jansen 2011: 108-12; Van der Vaart-Verschoof 2017 (II): 221-8, Fig. C32.1 item 07.

Parallels: A comparable palette bracelet (DB 1280) of (angular) C-shaped cross-section is known from the Drouwen hoard (yet this has a broad transverse rib close to the surviving terminal; Butler 2007/2008: Fig. 4:5). In Belgium we found two examples (with transverse ribs adjacent to each terminal) in the Lutlommel-Konijnepijp hoard (Van Impe 1995/1996: Fig. 8). Similar examples of C-shaped cross-sections come from the French hoards of Dreuil (Blanchet 1984: Fig. 199:5, 9, 10) and Lyzel St Omer (Blanchet 1984: Fig. 165 item 2). Blanchet dates these hoards to his Bronze final Atlantique III (950-800 BC).

Dating: HaB3 (Van der Vaart-Verschoof 2017 (II): 225 with further references) / B.f. atl./Bronze final Atlantique III (c. 950-800 BC).

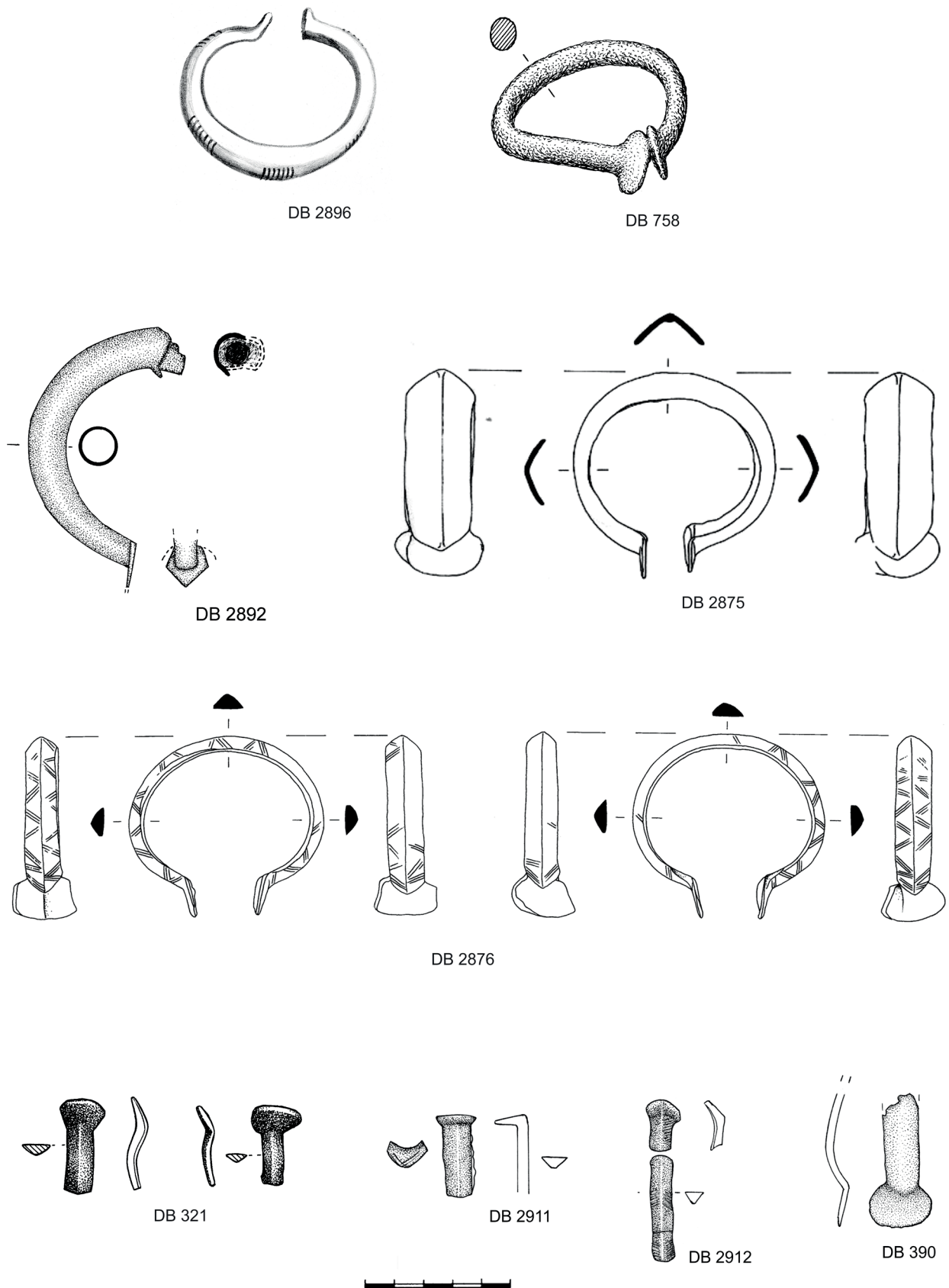


Fig. 19. Open bracelets with medium-sized (1-3 cm) everted fan-shaped palettes. Drawings: C. Ubaghs (DB 2896); Raf Timmermans (DB 2875-DB 2876); GIA (DB 758 and DB 321); H. Steegstra (DB 2892, DB 321, DB 2911 and DB 390).

(DB 2876) Uden-Slabroek, Gemeente Uden, Noord-Brabant. Inhumation grave

Two open bracelets (diam. 6.8×5 cm and 6.7×5.1 cm, respectively) of angular D-shaped cross-section (1×0.5 cm and 1.1×0.5 cm, respectively), with worn (sides worn away) 2×1.35 cm and 2.1×1.5 cm) fan-shaped palette terminals. One palette is of triangular cross-section. Found in 2010 during excavations at the Slabroekerheide by the Faculty of Archaeology of Leiden University. Part of a set of ornaments (DB 2875, DB 2876) recovered from an inhumation grave. When found the bracelets were interlocked, and show traces of long-time wear where they touched. Under the interlocked bracelets was a coloured textile fragment, interpreted as a long sleeve garment (Van der Vaart-Verschoof 2017: 40). Patina: glossy green (has been laboratory treated). Museum 's-Hertogenbosch, Inv. No. US. 08.

Map reference: c. 170/408

References: Jansen 2011: 108-12; Van der Vaart-Verschoof 2017 (II): 221-228, Fig. C32.1:08.

Parallels: For the decoration no matches are known in the Low Countries. In France a single bracelet of comparable triangular cross-section and with hatched triangles and *pointillé* was found at Croix-Saint Ouen, Oise (Blanchet 1984: 261, Fig. 142, but this example has open 'plate' ends). The Bronze final III hoard of Dreuil-les-Amiens, Somme (Blanchet 1984: 287, Fig. 159 no. 14) contains another comparandum. An elaborately decorated (HaB3, Period V) example of C-shaped cross-section comes from Aresle-Longue à l'Épine, Hautes- (France) with hatched triangles and incised horizontal, slashed and vertical lines (Courtois 1960: Fig. 49; Butler & Steegstra 2007/2008: Fig. 3b).

Dating: HaB3 (Van der Vaart-Verschoof 2017 (II): 225 with further references) / B.f. atl./Bronze final Atlantique III (c. 950-800 BC).

(DB 321) Deurne, Gemeente Deurne, Noord-Brabant. Urnfield

Two fragments of open bracelet (l. 3.1; w. 0.9 cm) with medium sized (1.6×1 cm, and 1.8×1.1 cm) everted, fan-shaped palettes of triangular cross-section. Broken in antiquity. Patina: blackish. Museum RMO, Inv. No. ND 106.

Documentation: Cat. Holwerda 1908: B.II.96-141.

Map reference: c. 184/385.

Reference: -

Parallels: -

Dating: - (LBA by analogy to other open bracelets with medium-sized, everted, fan-shaped palettes)

(DB 2911) Deurne, Gemeente Deurne, Noord-Brabant. Urnfield

Fragment (l. 2.9; w. 0.9 cm) of an open bracelet with medium sized (1.3×1.1 cm) everted, fan-shaped palette bearing chevron-incised decoration along the end. This is the only Dutch decorated palette with terminals placed truly perpendicular to the bracelet's body. Patina: blackish. Museum RMO, Inv. No.

ND 29, from "Gallo-Germaansche urn" (Gallo-Germanic urn, presumably an LBA-EIA vessel).

Documentation: Cat. Holwerda 1908: B.II.97.

Map reference: c. 184/385.

Reference: -

Parallels: The palettes on the bracelet from Marche-en-Famenne, Ardennes, Belgium (De Mulder 2018: 90 Fig. 10 No. 6) are similarly placed perpendicular to the body.

Dating: -

(DB 2912) Deurne, Gemeente Deurne, Noord-Brabant. Urnfield

a) L. +1.8; w. 0.8 cm. Fragment of a bracelet of triangular cross-section, broken in the distant past, with fan-shaped palette (1.3×0.9 cm) with midrib. Incised decoration on bracelet part. From urn ND10, found together with other bracelet fragments, rings and pins. Patina: blackish. Museum RMO, Inv. No. ND 10a.

b) Fragment of a bracelet of triangular cross-section, broken, with two groups of transverse incised decoration on one side. Part of ND 10a above? From urn ND 10, found with fragments of bracelets, rings and pins. Patina: blackish. Museum RMO, Inv. No. ND 10e.

Documentation: Cat. Holwerda 1908: B.II.96-141.

Map reference: c. 184/385.

Reference: -

Parallels: -

Dating: -

Open bracelet with large-sized (>3 cm), everted, oval-shaped palettes (Fig. 20)

(DB 2869) Gemeente Susteren-Echt, Limburg

Open bracelet of hollow (tubular) cross-section. Diam. tube outside: 9.4×9.1 cm; inside 6.3×6.2 cm; cross section $1.8-1.7$ cm. Large-sized ($4.4 \times 4.0/3.15 \times 4.2$ cm; th. 0.3-0.15 cm), everted, fan-shaped palettes. Palettes touch and are cast as joint elements. Possibly part of a hoard: *tutuli*, some (fragments of) rings (varying in size), tubular beads and some other objects were also found. Limburgs Museum, Inv. No. L28474. From the same location, another half of a palette bracelet (DB 2892; *supra*) was found, also together with *tutuli*, fragments of rings and tubular beads.

Map reference: omitted at the request of the landowner.

Reference: Verhart 2019: 6-11, afb. 2-3.

Parallels: Mariën (1949-1950: 48, Pl. II) published two (worn) decorated hollow-cast examples (with clay(?) core preserved inside) from the hoard of Jemeppe-sur-Sambre, with cast-together palettes. These bracelets are decorated with four pairs of incised vertical lines each. Inner sizes of the bracelets: 6.7×5.5 cm and $6.6 \times \pm 5.5$ cm; estimated dimensions of the cast-together palettes: 7 cm and 8.6 cm, respectively. In Germany, a hollow palette bracelet from Gambach (Kr. Friedberg, Hessen, Germany; inner diam. 7×6 cm) also shows cast-together palettes (dimensions 5.0×10.6 cm) and is decorated with two groups of 3 and four groups of 10 transverse

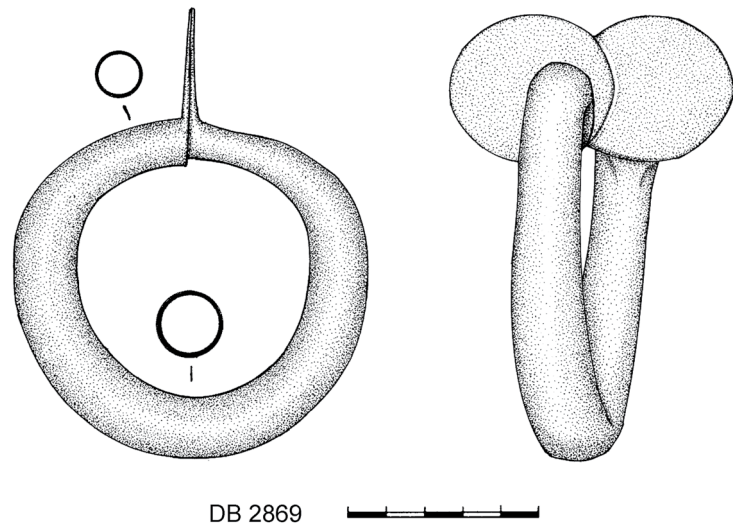


Fig. 20. Open bracelet with large-sized (>3 cm) everted, oval-shaped palettes. Drawing: H. Steegstra, Groningen Institute of Archaeology.

lines, and with 19 small circles-in-circles on its palettes (Richter 1970: *Taf.* 59: 1048). The Late Bronze Age hoard of Soy, Belgium (Van Impe & Warmenbol 2018: 80 Fig. 2: 11-12) also contained two bracelets with large palettes cast as a joint element.

Dating: Based on the comparanda LBA/EIA/Period V according to Van Impe (1995: 24); Richter (1970: 166): *Stufe Waldstatt der späten Urnenfelderzeit* = HaB3, c. 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

Bracelets possibly belonging to palette bracelets, but without palettes (Fig. 21)

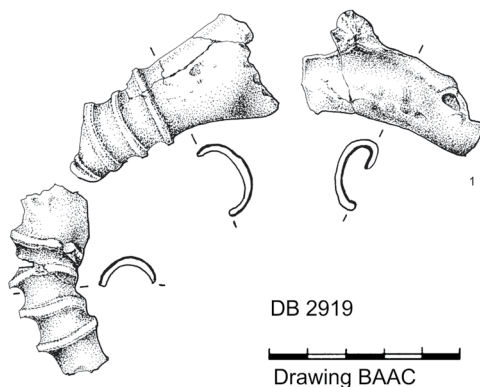


Fig. 21. Open bracelet with transverse ribs (possibly originally had palettes) (drawing BAAC).

(DB 2919) Maastricht, *Gemeente Maastricht*, Limburg. Ambyerveld urnfield

Three distorted fragments (5.9 cm, 5.1 cm, and 5.3 cm, respectively) of an open bracelet of concave (C-shaped) cross-section with transverse ribbing. No palettes preserved. The fragments probably represent one or two bracelets interred in urn U39 of the Ambyerveld urnfield (excavated in August-September 2009 and January 2010; Dyselinck 2013: 98, Fig. 3 No. 28-1). If the fragments indeed belong to one object, it would be more

than 15 cm long, with a cross-section of 2.1 cm. Collection: BAAC, Inv. No. U39. Not seen by the authors.

Map reference: c. 179.5/319.5

Reference: Dyselinck 2013: 98 and Fig. 3.28-1.

Parallels: DB 1281. The Vénat hoard comprised a bracelet with two transverse ribs and a concave (C-shaped) cross-section (Coffyn *et al.* 1981: Pl. 31 no. 18). Other comparanda are found in the Dreuil-les-Amiens hoard, France (Blachet 1984: Fig. 159: 5); the Lutlommel-Konijnepijp hoard, Belgium (Van Impe 1995/1996: Fig. 8: 10), and the settlement of Mez-Notariou à Ouessant, France (Nordez 2017: 196 Fig. 96: 7). Similarly prominent transverse ribbing is seen on some of the hollow-cast *Steggrupperinge* from Hessen, Germany (Richter 1970: *Taf.* 49: 890; *Taf.* 50: 891, 894).

Dating: HaB3 (of Bronze final III b), c. 925-800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

Open bracelets showing torquing, dateable by typology or association to the Late Bronze Age-Iron Age

(DB 938) Weert, *Gemeente Weert*, Limburg. Boshoverheide. Urnfield?

Open bracelet (th. 2 mm) showing partial torquing. Overall shape is spiral (half of one turn is twisted, 2/3 D-section). Found 15 October 1978 on top of a cremation high in a mound on a military training ground, presumably within the 32 ha Weert-Boshoverheide urnfield (Hissel *et al.* 2012). Find consisted of an urn, cremation, charcoal, fragment of a pot with eight grooved lines under its neck and this bracelet. Patina: part dark green, part blackish. Private collection. No drawing. **Map reference:** c. 172.82/361.86

Reference: -

Parallels: Laux (2015: 203; *Taf.* 84: 1227-1235) classifies these as *Gedrehte Armringe*, *Variante Itzenbüttel* and places these in the MBA (cf. Nordez 2017: 219-21, 307 Fig. 183).

Dating: - (Based on context (cf. Hissel *et al.* 2012: 140) and description of pot, tentatively LBA-EIA)

Undecorated bracelets, dateable by typology or association to the Late Bronze Age–Iron Age (Fig. 22)

(DB 2221) Noordbarg, Gemeente Emmen, Drenthe. Urnfield Hoge Loo

Two bracelets found on cremation and under an ancillary cup in urn 252, during 1972–1973 excavations. The first bracelet is made of a bent piece of thick bronze wire; the second has a flattened D-shaped cross-section and narrows to both ends. Museum Assen, both objects are currently missing.

Map reference: c. 260/530.

Reference: Kooi 1979: 17, Fig. 42, 185.

Parallels: -

Dating: Early Iron Age, based on the urn (Kooi 1979: 147)

(DB 76b) Odoorn, Gemeente Borger-Odoorn, Drenthe

Fragment of arm-ring or anklet, circular cross-section, diam. 7.8 cm; th. 0.5 cm. Found with DB 76a (*supra*); a bracelet with slightly expanded paw-shaped terminals and ornamented with groups of transverse incised lines and longitudinal double row of *pointillé*. Patina: mottled green; heavily corroded. Museum Assen, Inv. No. 1863/I.13b.

Documentation: -

Map reference: c. 253/541.

Reference: Butler & Steegstra 2007/2008: 399–400; Fig. 14C.

Parallels: -

Dating: based on claimed association with DB 76a, Period V (925–800 BC).

(DB 2682) Hijkerfeld, Gemeente Beilen, Drenthe. Part of hoard

Fragments, presumably from (thin) arm-rings, with rectangular or round cross-section. Patina: grey-green. Part of the Hijkerfeld hoard, with three longitudinal, multi-ribbed omega bracelets (DB 1299–DB 1301), one omega bracelet with three transverse ribs adjacent to the terminals (DB 1302), two dome-shaped bronze buttons (DB 1305, DB 1306), one disc-headed pin (*Scheibenkopfnadel*, DB 1307), fragment of another disc ('washerDB', DB 2683), and fragments of several wire ornaments (DB 2682). Found around 1938 in the Hijkerfeld, 2–3 km north-east of the potato factory Oranje at the Oranjekanaal, close to Diependal. Museum Assen, Inv. Nos 1941/V.8(1–12); purchased May 1941 from J. Huizinga of Assen.

Map reference: c. 226.5/547.5

Reference: Butler & Steegstra 2007/2008: 382–383 (with further references) and Fig. 45 6.

Parallels: see this section

Dating: Period V (925–750BC) on the basis of the omega bracelets (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 2922) Markerwaardweg, Gemeente Medemblik, Noord-Holland

Closed arm-ring of round (diam. 4.7 × 4.6 cm, th. 0.2 cm) cross-section with (bronze wire strip spiral) dangle. Excavated 2015 by the Leiden Faculty of Archaeology between the roads

the Streekweg and the N302 (renamed N307 in 2018). Found in a prehistoric ditch, neatly packed on a bank covered with reed, together with two palette bracelets (DB 2921; *supra*), three Oerel-type spectacle fibulae (DB 2923), a flat-headed pin with central boss (DB 2926), two bronze spacer plates (DB 2925), a stone bead, various smaller and larger interlinked rings (DB 2927), and a flint sickle (DB 2924). The three spectacle fibulae were carefully placed onto each other. Restored and treated by Restaurera, Heerlen. Collection: Provincie Noord-Holland, Inv. No. 5437-12, exhibited in museum Huis van Hilde, Gastricum. Map reference: c. 138/523.

Reference: Knippenberg *et al.* 2016: 6; Fontijn *et al.* 2020: 499–507.

Parallels: DB 428 for a possibly additional bracelet with dangles. Internationally, bracelet with added rings are also known from the Haimbach hoard (Richter 1970: *Taf.* 95: 11) and from Morigen (Pászthory 1985: *Taf.* 120: 2040), Estavayer (Pászthory 1985: *Taf.* 166: 1939) and Cortailod (Pászthory 1985: *Taf.* 166: 1945).

Dating: 14C dates: c. 1250–850 calBC (Fontijn *et al.* 2020: 507), c. 900–850 calBC based on comparanda (Fontijn *et al.* 2020: 507)

(DB 1032) Elsen, Gemeente Markelo, Overijssel. From the 1846 hoard

Closed (ends meeting; diam. 8.1; th. 0.35 × 0.28 cm) leg- or arm-ring of oval cross-section, on which is a small, irregular coil of thinner wire (diam. 1.7, th. of wire 1 mm). Found with one double-wire bracelet (DB 1866; *supra*) and two palette bracelets (DB 1033, DB 1034; *infra*) and a fragment of a socketed axe (DB 1854). Museum Enschede, presented to the museum around 1930 by Mr and Mrs Van Dam of Enschede (axe fragment DB 1854 is in museum RMO). Found March 1846 wound together, in an earthen bank which marks off a cultivated field, at a depth of “4 to 5 feet” (c. 1.17–1.47 m).

Map reference: c. 233.5/476.3.

Reference: Butler & Steegstra 2007/2008: Find No. 28 with further references.

Parallels: Appeln, Ldkr. Cuxhaven, Germany; Laux 2017: *Taf.* 94: L6, *Taf.* 101, *Kat.* 8.4.

Dating: Period V/HaB3 (Butler & Steegstra 2007/2008: 395) = 925–800 BC (Butler & Steegstra 2007/2008: 376, Fig. 1)

(DB 807–DB 808) Drouwenerveld, Gemeente Borger-Odoorn, Drenthe. From the 1984 hoard

Two fragments of bracelets of D-shaped (DB807) and lenticular (DB 808) cross-section. From a hoard also containing an intact socketed axe; a tanged knife; a collar; and fragments of socketed axes, spearheads, knives, *tutuli*, buttons, sickles, punches, bracelets, wire, ribbed tubes and some miscellaneous items. Found in a pot with a single, small, D-shaped handle. Museum Assen, Inv. Nos 1984/XII.1–70.

DB 807: Thin arm-ring of D-shaped cross-section; slightly thickened end. Distorted and with ancient (i.e. patinated) break. Present l. 5.3 cm; w. 0.6 cm at the break; th. 0.3 cm.

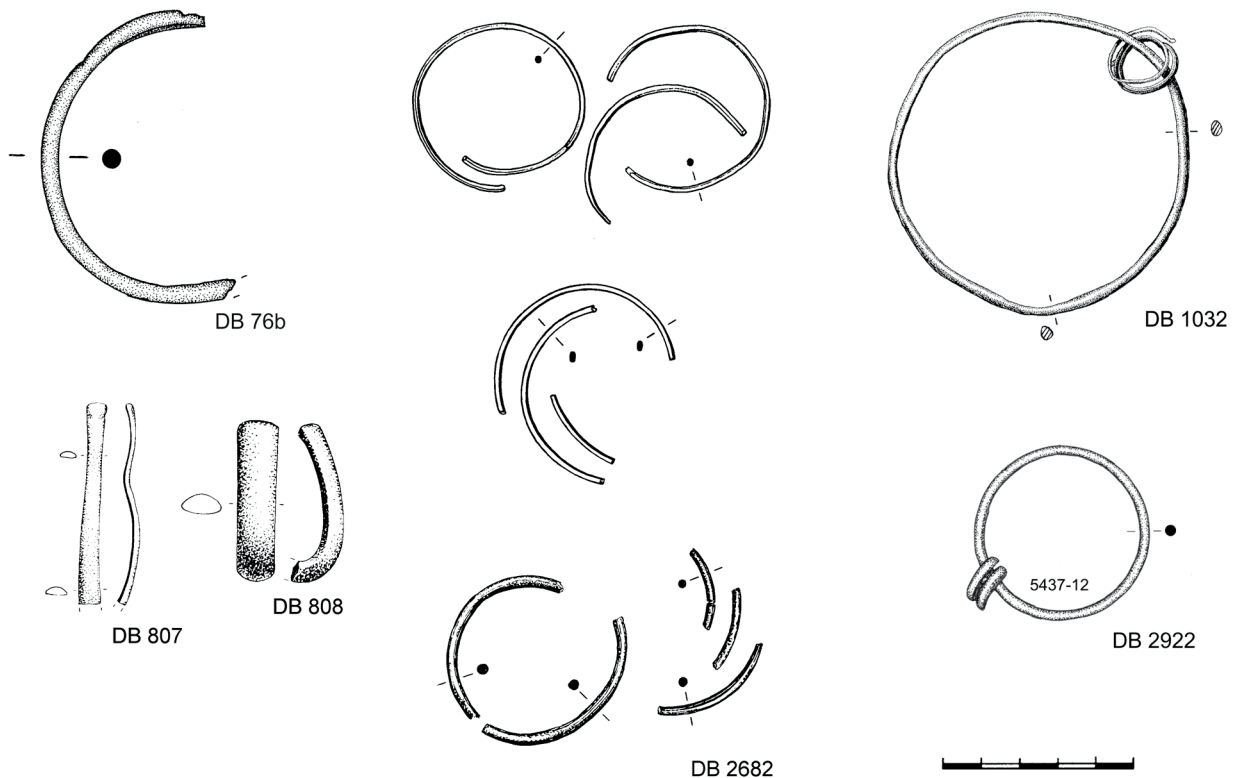


Fig. 22. Undecorated bracelets, dateable by typology or association to the Late Bronze Age–Iron Age (drawings GIA and H. Steegstra (DB 2922 and DB 76b)).

Patina: dull green, somewhat encrusted with sand cemented by iron pan. Inv. No. 1984/XII.39.

DB 808: Thick arm-ring of lenticular cross-section; flattened end slightly widened. Break ancient (patinated). L. +4.2 cm; w. 1.1 cm; th. 0.65 cm at terminal. Patina: dull green, somewhat encrusted with sand cemented by iron pan. Inv. No. 1984/XII.65.

Map reference: 248.8/552.5

Reference: Butler 1984: 139 Fig. 7: 39, 65, 167; Butler & Steegstra, 2003/2004: 268, Fig. 90 and further references.

Parallels: -

Dating: The fragments from the Drouwenerveld hoard can be dated to period V (c. 925-800 BC) (Butler & Steegstra 2007/2008: 376, Fig. 1), on the basis of the axe type and parallels for the ribbed collar, *tutuli*, buttons and lugged sickles in hoards elsewhere (Butler 1984: 137; 1986: 139-42, 145).

(DB 203) Langedijke, Gemeente Ooststellingwerf, Friesland. Tumulus 1

Three fragments of fire-affected bracelet of C-shaped (concave) cross-section. Patina: green oxidation, very corroded. Found in 1928 during the excavation of Tumulus 1 at Langedijke, in a secondary interment placed amidst cremation remains in an urn of Harpstedt affinity (Inv. No. 224-30). Museum Leeuwarden, Inv. No. 224-31. Fragments presently cannot be located in the Fries Museum.

a. Fragments of sheet metal of triangular cross-section, burnt and distorted. L. 7.8; max. w. 3.0; th. of metal 0.12 cm.

b. Fragment of sheet metal, burnt and distorted.

Map reference: c. 214.260/554.32

References: Van Giffen 1929: 39-40, afb. 1-1b; Boeles 1951: 39; Essink 1996: 65, No. 110; Jager & Van Ginkel 2005: 91.

Parallels: -

Dating: Early Iron Age based on the urn.

5.6 Early to Middle Iron Age arm-rings

Bracelets of round cross-section with decorated, narrowing terminals (Fig. 23)

(DB 2906) Krachtighuizen, Gemeente Putten, Gelderland

Bracelet (diam. 7.5 cm) of solid round cross-section (0.4 cm). Terminals slightly narrowing and decorated with four transverse incised grooves. Another group of four transverse incised lines before terminals. Patina: light green, corroded. Museum RMO, Inv. No. e 1949/3.177.

Map reference: c. 171/427.

Reference: -

Parallels: Laux (2015: 212 and Taf.: 1280-1281) list two bracelets with decorated narrowing terminals from Sonnenborstel (Landkreis Nienburg, Niedersachsen).

Dating: The Sonnenborstel assemblage (either an inhumation or a hoard) is dated by Laux (2015: 212) to Period VI, c. 750-575 BC.

(DB 699) Renkum, Gemeente Renkum, Gelderland

Oval (7.6 × 6.6 cm) open ring, the two ends meeting; of thick bar (maximum th. 1.2 cm) of octagonal cross-section. At each end, a group of four incised parallel grooves. Patina: somewhat

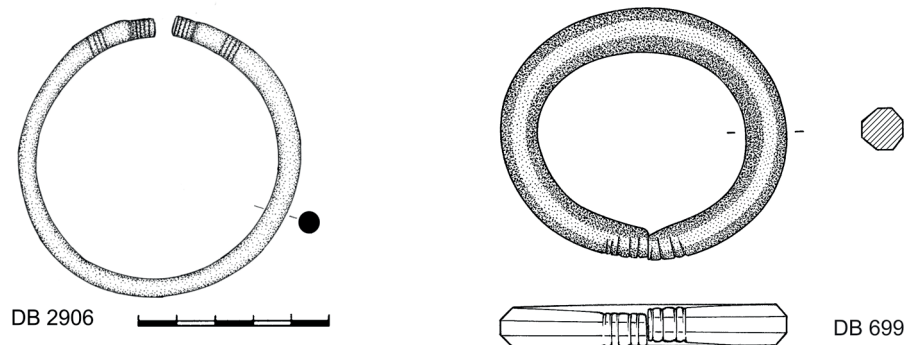


Fig. 23. Bracelets of round and octagonal cross-section with decorated, narrowing terminals (drawings GIA/H. Steegstra).

glossy, mottled green; some patches of a brown encrustation. Found c. 1996 by present owner with the aid of a metal detector, in fire-corridor in woods c. 4 km north of Renkum.

Map reference: c. 177/442.

Reference: -

Parallels: see DB 2906.

Dating: see DB 2906.

Bracelets of round cross-section with continuous transverse decoration (Fig. 24)

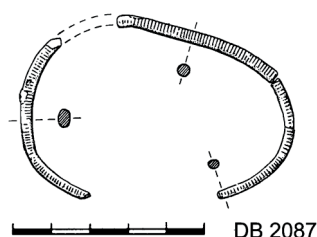


Fig. 24. Bracelet of round cross-section with continuous transverse decoration (drawing RCE).

(DB 2087) Hilbertshaar, Gemeente Tubbergen, Overijssel. Urnfield

Large fragment (c. 80% complete) of a presumably originally open arm-ring of round to oval cross-section, decorated with continuous transverse incised lines. Excavated 1949 by G.J. Eshuis; found with cremation (no urn). Patina: burnt; has been conserved. Museum Enschede, Inv. No. 1978-42.

Map reference: c. 248/491.

References: Hijzeler 1961: 44-5; Verlinde 1987: 125-127, Abb. 69:467.

Parallels: Laux (2015: Taf. 97: 1404 and 1407) classifies these as *Variante Ströhen* of his *Steigbügelarmringe mit gleichmässig gerippter schauseite* (Laux 2015: 234).

Dating: LBA-EIA based on the other pottery from the urn-field (Verlinde 1980: Abb. 68-72). Laux (2015: 235) argues for a dating in his *Wessenstedt*-stufe (c. 750-575 calBC; Butler & Steegstra 2007/2008: 376, Fig. 1).

Bracelets of variable cross-section with torquing ('Enggedrehte Armringe') (Fig. 25)

(DB 1670) Province of Drenthe?

Open torqued bracelet (diam. 6.8 cm; th. 0.3 cm) of square cross-section, terminating in two small, sleeve-shaped ends. Patina: glossy green. Museum RMO Leiden, Inv. No. c 1950/6.2.

Map reference: -

Reference: Essink 1996: 64, No. 107.

Parallels: According to Sprockhoff (1956 (I): 202) bracelets from the Lausitzer Kultur emerge from Period III to Period VI. An almost identical bracelet was found in Lagow, Kr. Oststernberg, Germany (Sprockhoff 1956 (I): 201, Abb. 51: 5). Dating: Lausitzer *Enggedrehte* bracelets occur in Period V-VI (Sprockhoff 1956 (I): 202) = HaB3-HaC = 925-575 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 218) De Heistert, Gemeente Ambt Montfort (now Gemeente Roerdalen), Limburg

Open, (overlapping) spiral-shaped, torqued bracelet. Diam. 6.3 cm, th. 0.3 cm. Stray find. No further information available. Museum Maastricht, Inv. No. 238.

Map reference: c. 201/355

Reference: Verhart 2016: 52-61.

Parallels: DB 1031; Laux 2015: Taf. 84: 1228 (Toppenstedt), 1232 (Watenstedt)

Dating: Comparanda dated by Laux to MBA (Toppenstedt; Laux 2015: 203) and LBA (Watenstedt; Laux 2015: 204).

(DB 2074) Mander, Gemeente Tubbergen, Overijssel. Manderheide, Tumulus 'Mooi Uitzicht'

Four fragments of open, (overlapping) spiral-shaped, torqued bracelet (diam. 5-6 cm). Excavated 1960 by Hijzeler, found with cremation high in a barrow known as Mooi uitzicht. Restored and mounted on plastic by the ROB in 1978. Museum Enschede, Inv. No. 1060.

Map reference: c. 253/497.

Reference: Jaarverslag Oudheidkamer Twenthe 1960: 4-5; NKNOB 6e serie, jrg 13, Afl. 12, kol. 247-248.

Parallels: DB 218, DB 1031.

Dating: Based on comparanda, presumably Early Iron Age

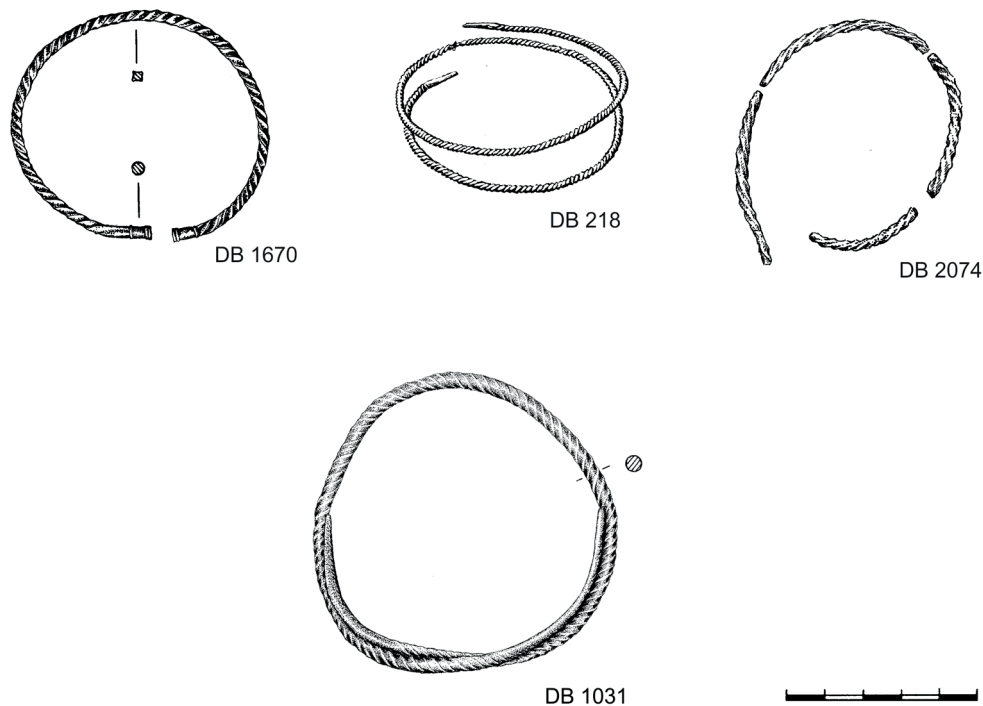


Fig. 25. Bracelets of variable cross-section with torquing (Enggedrehte Armringe) (drawings GIA).

(DB 1031) Elsen, Gemeente Markelo, Overijssel. From the 1846 hoard

Torqued (overlapping) spiral bracelet with tapering (sharpened and untorqued) ends. Diam. 8 cm; max. th. of wire 0.4 cm. Found with one double-wire bracelet (DB 1866; *supra*), a closed bracelet (DB 1032), two palette bracelets (DB 1033, DB 1034; *infra*) and a fragment of a socketed axe (DB 1854). Museum Enschede, presented to the museum around 1930 by Mr and Mrs Van Dam of Enschede (axe fragment DB 1854 is in museum RMO). Found March 1846 wound together, in an earthen bank which marks off a cultivated field, at a depth of 4 to 5 feet. Museum Enschede, Inv. No. 386.

Map reference: c. 233.5/476.3.

Reference: Butler & Steegstra 2007/2008: Find No. 28 with further references.

Parallels: DB 218, DB 2074

Dating: Based on hoard association: LBA; based on comparanda: EIA.

Bracelets of D-shaped cross-section with transverse incised decoration (Fig. 26)

Among the group of bracelets with a D-shaped cross-section, there is a series that is decorated in a characteristic fashion, with alternating undecorated zones (sometimes somewhat bulbous; 'astragalus') and zones decorated with (incised) transverse lines. Whereas their ultimate shape is closed, openings in some bracelets suggest that these are cast as open-shaped and later forged shut. Bracelets combining this cross-section and decorative motif are distributed more widely

in western Germany and central Europe. Haffner (1976: 13, No. 74) states that such bracelets are very typical for the Hunsrück-Eifel Kultur area but also found in the Pfalz. In the Hunsrück-Eifel Kultur, bracelets decorated in such a fashion often occur stacked (anywhere from 2 up to 14 bracelets; Joachim 1968: 66, *Taf.* 15: 16, 18, 20, 22): "Offene, mit Querstrich- bzw. Querrippengruppen verzierte Armringe stellen geradezu eine Leitform der Älteren Hunsrück-Eifel-Kultur dar" (Joachim 1968: 66; cf. Haffner 1976: *Beilage I*: HEK IA2). They can be dated towards in the Middle Iron Age (c. 565-520 calBC; cf. Haffner 1976: 99; Lanting & Van der Plicht 2005/2006: 250, 254).

Whereas the Hunsrück-Eifel Kultur area may be a core region, similarly decorated bracelets are known from Bohemia, where a hoard of 48 anklets with groups of incised lines was found together with two mid-winged axes in the Žeretice hoard (Kytlicová 2007: *Taf.* 169: C). Only four examples are known from Niedersachsen (Laux 2015: *Taf.* 96: 1389-1391) and very few bracelets are known towards the border with the Netherlands. Woltermann (2018: 237, *Abb.* 27) also shows the same picture.

We note that, while their cross-sections are more or less the same, their decoration is not: in the Netherlands we find groups of three to nine incised lines, whereas in Niedersachsen we find incised lines with low ribs in between (Laux 2015: *Taf.* 96: 381, 1384, 1385, 1392) or with incised lines all over the body (Laux 2015: *Taf.* 97: 1402-1404, 1407). The Bohemian anklets are decorated with groups of three to six incised lines (Kytlicová 2007: *Taf.* 169 C).

(DB 145a, DB 145c) Rolde, Gemeente Aa en Hunze, Drenthe. 'Bij den zgn. Klaassteen'

Two bracelets of D-shaped cross-section with transverse incised decoration from a find comprising five bracelets and a fragment of a decorated *Hohlwulstring*. Found July 1936 during the cultivation of a heather field in Westerveld (Rolde) by the farmer L. Wichers in Nijlande. Museum Assen, all objects inventoried under Inv. No. 1937/IV.1, presented by captain H. J. Bellen, 1st infantry regiment of Assen, on 17 April 1937.

DB 145a: three large fragments, diam. 6.4 × 6.3 cm, D-shaped cross-section (0.9 × 0.6 cm). Decoration: groups of transverse incised lines. Patina: mottled grey-green.

DB 145c: three fragments, small part missing; diam. 6.95 cm; D-shaped cross-section (0.9 × 0.6 cm). Faint traces of incised transverse lines. Patina: mottled grey-green.

The find moreover comprised three undecorated bracelets (DB 145b, d, e) and DB 1836 (a fragment of a hollow (neck?) ring of bronze sheet metal (*Hohlwulstring*), cross-section approximately outside 1.74, inside 1.2 cm; th. sheet metal 0.15 cm, decorated with incised paired zigzag lines and alternating diagonal lines or slashes).

Documentation: 24 Dagboek 1937, Verslag 1937: 18, sub 28.

Map reference: c. 239/555.

Reference: Felix 1945: 218, No. 366, Taf. XVII: 126-131; De Wit 1997/1998: 353, Fig. 17.

Parallels: Laux 2015: Taf. 96: 1381, 1384, 1385, 1389-1392. Also, in the Hunsrück-Eifel Kultur bracelets (often worn stacked) decorated in such as fashion are common (e.g. at Weis (stack of five: Joachim 1968: Taf. 14: C2-6), Heimbach (stack of 10-14; Joachim 1968: Taf. 15: A2-15, B2-11), Kärlich (two stacks of four; Joachim 1968: Taf. 15: A2-15))

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350, 353), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 70, DB 307, DB 308, DB 2841) Balloo, Gemeente Rolde, Drenthe. From an excavated tumulus

Fragments of minimally 10 bracelets of D-shaped and subrectangular cross-section with transverse incised decoration. Part of the Balloo find, now containing one complete bracelet and several bracelet fragments, fragments of three hollow neck-rings, an object resembling a fibula or horse gear, an urn and two small pots (De Wit 1998: 347-50, 349 Fig. 13). The old museum (master)record, Inv. No. 1855/I.73, describes the find as a low urn containing cremation remains and bronze objects. Inv. No. 73a are the cremation remains; Inv. No. 1855-I.73b is a fragment of a hollow ring of thin metal and a green-oxidized bronze ring (no mention of decoration); Inv. No. 1855/I.73c is described as "fused fragments of flat, transverse ribbed, green oxidized bronze rings." Museum Assen, Inv. Nos 1855/Ia-j, received from Mr H. C. Carstens, registrar at the district court in Assen. Over time, a few objects (see below) have been added to the find and the numbering has changed, so we are now left with a collection of bronzes that is said to come from an

excavated tumulus, but it is unclear whether or not all of those came from the one urn:

Inv. no. 1855/I.73: low urn (DB 2852) and small pots (Inv. Nos 1855/I.26 and 1855/I.80 respectively).

Inv. No. 1855/I.73f: fragments of hollow neck-ring, decorated (DB 2842).

Inv. No. 1855/I.73g: fragments of hollow neck-ring, decorated (DB 2860).

Inv. No. 1855/I.73h: fragments of hollow neck-ring, undecorated (DB 1837).

Inv. No. 1855/I.73i: fibula? a belt fitting? part of horse gear?; fragments (DB 2843).

DB 70: Diam. 6.5 cm. Open bracelet of D-shaped cross-section with plastic 'astragalus' ornamentation interspersed with transverse incised lines (Inv. No. 1855/I.73b).

DB 307: Diam. 7.2 cm. Fragment of open bracelet of D-shaped cross-section with faintly visible groups of incised transverse lines (Inv. No. 1855/I.73c).

DB 2841: Fragments of multiple bracelets of rectangular cross-section with groups of incised transverse lines (Inv. No. 1855/I.73d).

DB 308: Fragments of five bracelets of square cross-section, fused or melted together (on the pyre?), with faintly visible groups of incised transverse lines (Inv. No. 1855/I.73e).

Map reference: c. 238/555.

References: De Wit 1997/1998: 347-50, with further documentation and references.

Parallels: see DB 2837, DB 2838 below.

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 2837) Gasteren, Gemeente Anloo, Drenthe. From Tumulus 18?

Two complete bracelets of squarish cross-section (0.45 cm; 0.5 × 0.4 cm and 0.35 cm respectively) and one almost complete example, all three partly distorted and green-oxidized, decorated with incised transverse grooves. Museum Assen, Inv. No. 1989/VI.5b.

Found during heathland reclamation of a plot adjacent to an urnfield excavated by Van Giffen in 1939. Found in a small ditch-enclosed mound (2 m diam., 60 cm height) in a concentration of charcoal and cremated bones (De Wit 1997/1998: 251 Fig. 14), with sherds of more than one pot, a dark green-oxidized *Hohlwulst* ring (DB 2839), decorated with groups of alternating vertical lines and one row of lozenge-shaped lines (Inv. No. 1989/VI.d) and DB 2840, three fragments of a pseudo-*Wendelring* neck-ring, green-oxidized (Inv. No. 1989/VI.e).

Map reference: c. 240/561.

Reference: De Wit 1997/1998: 350-63 and Fig. 15.

Parallels: see DB 145a,c

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

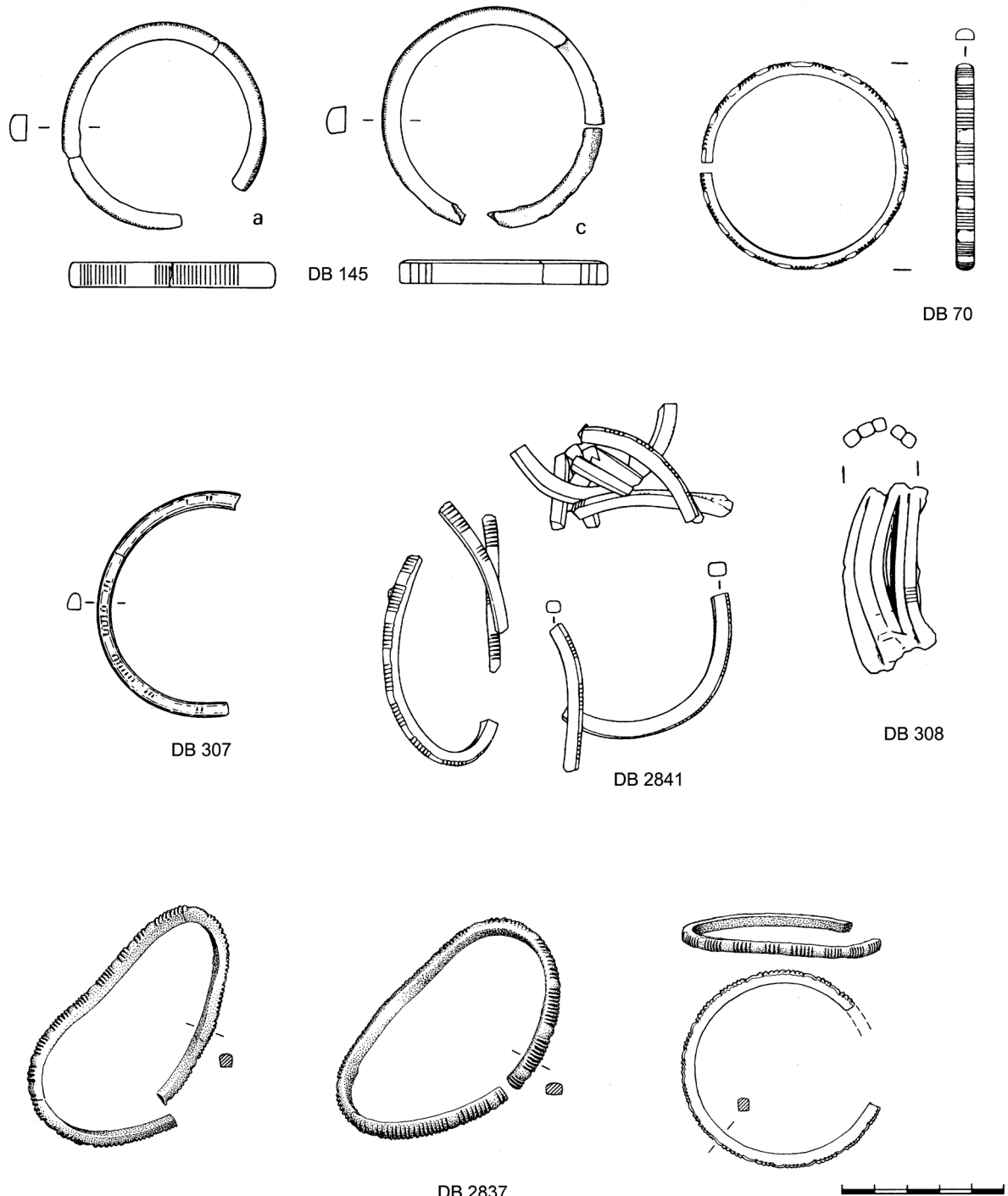


Fig. 26. Bracelets of D-shaped cross-section with transverse incised decoration (drawings GIA).

(DB 1167) Province of Drenthe

Open bracelet of D-shaped cross-section with transverse incised decoration (diam. 6.65 cm; th. 0.6 cm). Ornamented with groups of five to seven transverse incised lines or grooves. Found in urn Inv. No. 1854/XI.2. Patina: mottled dark green. Well preserved. Museum Assen, inv. no. 1854/XI.2a.

Map reference: -

Reference: Essink 1996: 63, no. 104.

Parallels: see DB 145a,c

Dating: - (Based on comparanda, Middle Iron Age?)

(DB 1168-DB 1170) Province of Drenthe

Three open bracelets (ends almost meeting) of D-shaped cross-section, ornamented with groups of four to five transverse ribs. Found in the fragments of an urn In.No. 1854/I.47a), together with a quartz chisel (Inv. No. 1855/I.47) and a small urn (Inv. No. 1855/I.79). Museum Assen, Inv.No 1855/I.49a. Patina: mottled dark green.

DB 1168: diam. 6.3; w. 0.6; th. 0.3 cm.

DB 1169: diam. 6.25; w. 0.45; th. 0.3 cm.

DB 1169: diam. 6.85; w. 0.65; th. 0.45 cm.

Map reference: -

Reference: Essink 1996: 63, No. 105.

Parallels: see DB 145 a,c

Dating: - (Based on comparanda, Middle Iron Age?)

(DB 251) Gemeente Assen, Drenthe

Open bracelet of D-shaped cross-section and decorated with groups of five or six transverse incised lines. Diam. outside: 6.1 cm; w. 0.6 cm; th. 0.3 cm. Museum Assen, Inv. No. 1989/VI.2. Described as "Excavated at 2 hours from Assen" (originally a gift from P. Hofstede), but traded (*cf.* correspondence 1989 no. 82) by the Provinciaal Overijssels Museum in Zwolle for a number of Overijssel finds from the collection of the Drents Museum. The records list originally two bracelets; one of these is now lost.

Map reference: -

Reference: Essink 1996: 63, No.105.

Parallels: see DB 145 a,c

Dating: - (Based on comparanda, Middle Iron Age?)

(DB 896) Remmerden, Gemeente Rhenen, Utrecht

A fragment (l. +2.6; w. 0.6 cm) and a piece of two fragments (l. +4.7 cm; w. 0.6 cm) fused together, all showing a solid round cross-section. Two transverse incised lines can be seen near the terminals. Found in 1988 on the "Plantation" site by Mr Bovenschen and Mr Mom, correspondents of the ROB. Private collection.

Map reference: 165.36/443.61.

Reference: Van Tent 1990: 174-5.

Parallels: see DB 145a,c

Dating: - (Based on comparanda, Middle Iron Age?)

(DB 1022) Bargerosterveld, Gemeente Emmen, Drenthe

Open bracelet of D-shaped cross-section, broken into two pieces. Decoration: two groups of two transverse lines and three groups of three transverse lines. Tapered terminals, decorated with four incised lines. Patina: heavily corroded. Museum Assen, Inv. No. 1962/II.52, presented by Geert Fühler, ex coll. J. Sneyders de Vogel.

Documentation: Jaarverslag 1962; NDV 1964: 277.

Map reference: c. 259/532.

Reference: Helbers 1964: 277.

Parallels: see DB 145a, c

Dating: - (Based on comparanda, Middle Iron Age?)

(DB 2910) Groevenbeekse Heide, Gemeente Ermelo, Gelderland

Penannular bracelet (diam. 7.5 cm; w. 0.8 cm) of D-shaped cross-section (distorted, with two ancient breaks). Decorated with groups of nine transverse lines, interspersed with 'astragalus' zones; terminals (damaged) not decorated. Patina: dark brown and dark green. Part of hundreds of fragments of bracelets, arm-rings, anklets, *Hohlwulstringe*, *Wendelringe*, etc. from a destroyed urnfield (c. 370 graves; Verlinde & Hulst 2010: 139) along the railroad to Ermelo. The associations of the

fragments are unknown. Museum RMO, Inv. No. e 1940/1.105, purchased from J. Bezaan of Putten.

Map reference: c. 169.7/477.5

Reference: Verlinde & Hulst 2010: 138-9; Hulst 2010: 61-4, 63 afb. 26B.

Parallels: see DB 145a,c

Dating: HaD (Hulst 2010: 61), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

Open bracelets of C-shaped cross-section and with incised lines in various patterns (Fig. 27)

(DB 278) Gieten, Gemeente Aa en Hunze, Drenthe. From tumulus

Fragment of a Bronze Age bracelet (presumably open but forged closed, yet broken in antiquity) of C-shaped cross-section. Diam. 7.3 × 5.8; w. 1.3; th. 0.6 cm. Decorated with groups of incised lines in alternating diagonal directions. Found in a tumulus with DB 2370 below. Patina: blackish with patches of green. Museum RMO Leiden, Inv. No. AM 15, ex coll. J. Hofstede, via Koninklijk Museum Amsterdam in 1825.

Documentation: Letter H. Hofstede 4 April 1809; cat. Janssen 1840: B.57; cat. Holwerda 1908: B.II.195

Map reference: c. 248/558.

References: Pleyte 1882: Pl. XLVI: 5; de Wit 1997/1998: 359 and Fig. 25a.

Parallels: - The distinct pattern of delimited transverse zones with oblique decoration and interspersed undecorated zones has no direct parallel.

Dating: HaD (HEK 1) according to De Wit 1997/1998: 360 = 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 2370) Gieten, Gemeente Aa en Hunze, Drenthe

Fragment of a Bronze Age bracelet of C-shaped cross-section. Diam. 7.0 × 6.9; w. 3.4; th. 0.4 cm. Decorated with blocks of incised lines in alternating diagonal directions between three longitudinal lines. Found in the same tumulus as DB 278, above. Patina: dark green with light green patches. Museum RMO Leiden, Inv. No. AM 16, ex coll. J. Hofstede, via Koninklijk Museum Amsterdam in 1825.

Documentation: Letter H. Hofstede 4 April 1809; cat. Janssen 1840: B.58

Map reference: c. 248/558.

References: Pleyte 1882: Pl. XLVI:5; de Wit 1997/1998: 359 and Fig. 25b.

Parallels: - The distinct pattern of delimited transverse zones with oblique decoration and interspersed undecorated zones, along three longitudinal lines, has no direct parallel.

Dating: HaD (HEK 1) according to De Wit 1997/1998: 360, c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 133) Darp, Gemeente Westerveld, Drenthe

Stack of five open bracelets of rounded to subrectangular cross-section. Upper and lower bracelets show a tapering cross-section, suggesting the stack was forged together.

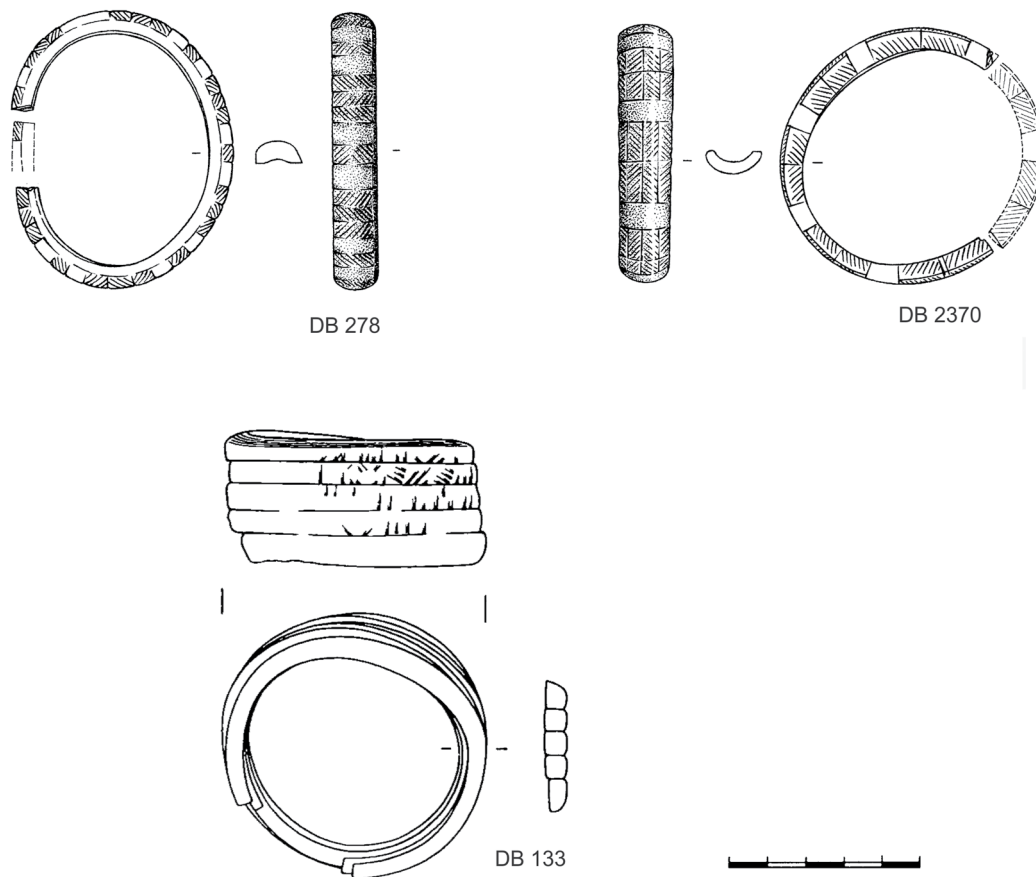


Fig. 27. Open bracelets of C-shaped cross-section and with incised lines in various patterns (drawings GIA).

Decorated with bands of incised diagonal lines (one with bands of alternating diagonals). Three have portions missing. Found in 1924 by J. Spin of Darp, in the wood of the Queen's commissioner, SW of the school at Darp. Patina: mottled brown-green; burnt. Museum Assen, inv. no. 1924/V.1; presented by the Queen's commissioner, Mr J.T. Linthorst Homan of Assen. Map reference: c. 210/531.

Reference: -

Parallels: For the decoration: Haffner 1976: 315 Abb. 118: 5 (Losheim) for possible forged-together stacks: Joachim 1968: Taf. 16: A8-A10; Nordez 2017: 364-365 (albeit there interpreted as resulting from cutting up a slab of wax into bracelet strips).

Dating: - (Presumably Iron Age)

Arm-rings with plastic ornamentation: studded or knobbed arm-rings (Fig. 28)

(DB 551-DB 552) Nieuw-Weerdinge, Gemeente Emmen, Drenthe. Part of hoard (or grave?)

Two solid bronze annular bracelets, with 14 knobs each. Found, placed horizontally and on top of each other at a depth of c. 1.25 m, in June 1925 in Nieuw-Weerdinge during peat digging. At a distance of 1.5 m and at the same depth were found a bronze torc (DB 1649). In the middle of this torque were

placed 15 amber beads, held together by a leather cord with a tie (DB 550; published in brief in Butler 1990: Fig. 3). Patina: dark brown, very glossy, even and well preserved. Museum RMO Leiden, Inv. No. c 1925/7.2-7.3.

Map reference: c. 262/542

References: Remouchamps 1925: 32-35, afb. 34; Van Heemskerck Düker & Felix 1942: 131; Verhart 1993: 71; Essink 1996: 58, No. 89.

Parallels: two identical knobbed bronze bracelets are known from Getelo, *Samtgemeinde Uelsen*, Niedersachsen, Germany (Remouchamps 1925: 32-5, Fig. 35 No. 2; Lindenschmidt 1864 (I.9): Taf. 1: 8). A high-resolution colour photo of the finely preserved Getelo bracelets was kindly made available to us by Dr F. Klimscha and Dr Neumann of the Landesmuseum Hannover. Similar bracelets can be found from the second half of the 7th century BC into the La Tène period, in insular (e.g. Arras culture in East Yorkshire) as well as continental contexts (Savory 1976: 105 No. 20; Leahy 1985: 79; Stead & Rigby 1999: Fig. 115: 2052; Laux 2015: 228-229, Taf. 96).

Dating: Early Iron Age to Late Iron Age based on international comparanda. Scottish Late Bronze Age on the basis of the exceptional amber bead in the Weerdinge bog hoard, which is similar to examples with very large perforations in the hoard from Glentanar (Pearce 1979: 125, Fig. 1: 5); Early Iron Age according to Butler 1992: 50, Fig. 3; Butler & Steegstra

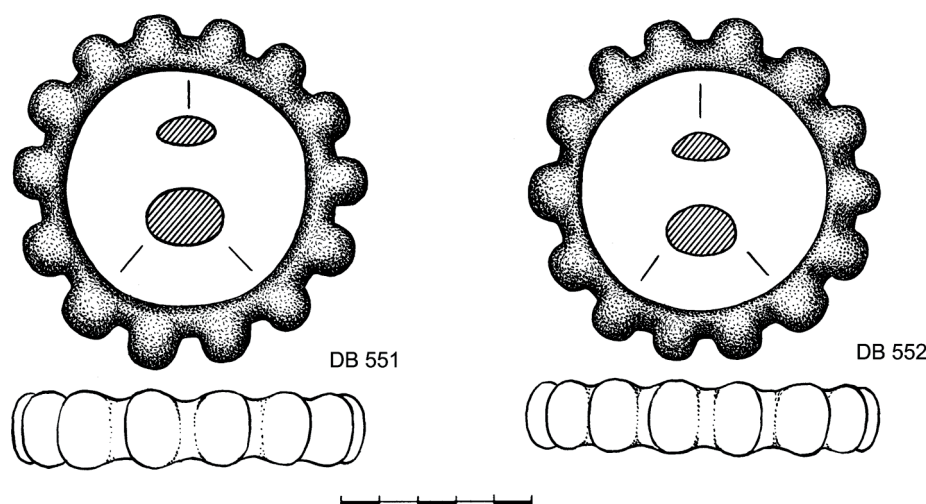


Fig. 28. Arm-rings with plastic ornamentation: studded or knobbed arm-rings (drawings GIA).

1997/1998: 174, Cat.No. 187. Laux (2015: 229, Taf. 179) also places these in the Early Iron Age.

Undecorated bracelets of various cross-section (Fig. 29)

(DB 145 b, d, e) Rolde, *Gemeente Aa en Hunze, Drenthe*. 'Bij den zgn. Klaassteen'

Three bracelets without decoration from a find comprising five bracelets and a fragment of a decorated *Holhwulstring*. Found July 1936 during the cultivation of a heather field in the Westerveld (Rolde) by the farmer L. Wichers in Nijlande. Patina: mottled grey-green. Museum Assen, all objects inventoried under Inv. No. 1937/IV.1, presented by captain H. J. Bellen, kapitein 1^e regiment infanterie te Assen, on 17 April 1937.

DB 145 b: complete, open; rounded-rectangular cross-section; ends nearly meeting. L. 7.4 × 7.7 cm; th. 1.1 × 0.6 cm.

DB 145 d: complete, open; D-shaped cross-section; ends nearly meeting. Diam. 7.0 × 6.6 cm; th. 0.9 × 0.6 cm.

DB 145 e: two fragments, part missing; D-shaped cross-section; diam. 7.4; th. 1 × 0.6 cm.

Map reference: c. 239/555.

Reference: Felix 1945: 218, No. 366, Taf. XVII: 126-131; De Wit 1997/1998: 353 and Fig. 17.

Parallels: -

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 1983) Wijster, *Gemeente Midden-Drenthe, Drenthe*. From tumulus (in 1921)

L. +8.7 cm. Bracelet, one fragment (originally two) with end slightly thickened. Oval in shape, but round in cross-section: 0.6 cm. Heavily corroded. Found on the Emelang according to the caption "Emelang, tumulus 1921, Wijster." Museum Assen, Inv. No. 1967/II.3, presented by J.O. Elema of Assen.

Documentation: NDV 1969: 242.

Map reference: c. 234.1/538.

References: Beijerinck 1924: 37-41, Fig. 1-4; Van Giffen 1954: 159-99.

Parallels: For the overall form and the style of the terminals, compare Haffner 1976: 317, Fig. 120: 1, Beilage 5.

Dating: La Tène (Van Giffen 1954: 167); the Emelang barrow group is dated to the Early and Middle Iron Age by De Wit (1988: 354).

(DB 2844) Balloo, *Gemeente Rolde, Drenthe*. From an excavated tumulus

Fragments of thin bracelet(s) of round to D-shaped cross-section, undecorated. Patina: dark green. Museum Assen: Inv. No. 1855/I.73j.

Part of the Balloo find, now containing one complete bracelet and several bracelet fragments, fragments of three hollow neck-rings, an object resembling a fibula or horse gear, an urn and two small pots (De Wit 1998: 347-50, Fig. 13). The old museum (master)record, Inv. No. 1855/I.73, describes the find as a low urn containing cremation remains and bronze objects. Inv. No. 73a are the cremation remains; Inv. No. 1855-I.73b is a fragment of a hollow ring of thin metal and a green-oxidized bronze ring (no mention of decoration); Inv. No. 1855/I.73c is described as "fused fragments of flat, transverse ribbed, green oxidized bronze rings." Museum Assen, Inv. Nos 1855/Ia-j, received from Mr H.C. Carstens, registrar at the district court in Assen. Over time, a few objects (see below) have been added to the find and the numbering has changed, so we are now left with a collection of bronzes that we only know is said to have come from an excavated tumulus, but we do not know whether all of those came out of that one flat urn:

Inv. No. 1855/I.73: low urn (DB 2852) and small pots Inv. No. 1855/I.26 and 1855/I.80, respectively.

Inv. No. 1855/I.73f: fragments of hollow neck-ring, decorated (DB 2842)

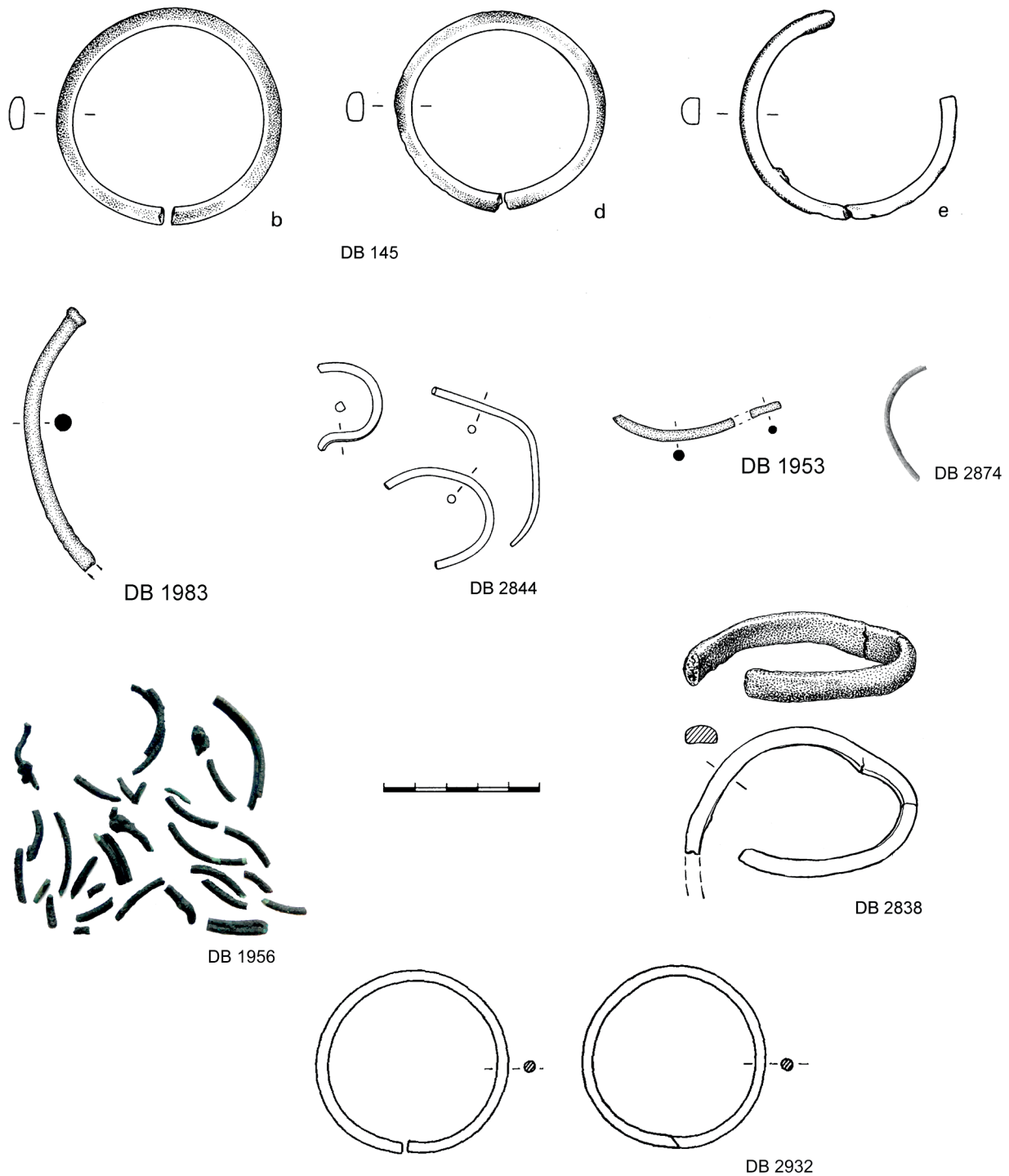


Fig. 29. Undecorated bracelets of various cross-sections dateable to the Early or Middle Iron Age (drawings GIA; photo H. Steegstra (DB 1956)).

Inv. No. 1855/I.73g: fragments of hollow neck-ring, decorated (DB 2860)

Inv. No. 1855/I.73h: fragments of hollow neck-ring, undecorated (DB 1837)

Inv. No. 1855/I.73i: fibula? a belt fitting? part of horse gear?, fragments (DB 2843)

Map reference: c. 238/555.

References: De Wit 1997/1998: 347-50 with further documentation and references.

Parallels: see DB 2837, DB 2838, below.

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 2838) Gasteren, *Gemeente Anloo, Drenthe*. From Tumulus 18?

Major portion of undecorated bracelet, partly distorted and green-oxidized. D-shaped cross-section (1 × 0.6 cm). Museum Assen, Inv. No. 1989/VI.5c.

Found with sherds of more than one pot, a bracelet (DB 2837), three fragments of a dark green-oxidized *Hohlwulst* ring (DB 2839), decorated with groups of alternating vertical lines and one row of lozenge-shaped lines (Inv. No. 1989/VI.d) and DB with three fragments of a twisted neck-ring (pseudo-*Wendelring*) (DB 2840), green-oxidized (Inv. No. 1989/VI.e). Museum Assen, Inv. Nos 1989/VI.5b-e.

Map reference: c. 240/561.

Reference: De Wit 1997/1998: 350-63 and Fig. 15.

Parallels: -.

Dating: HaD on the basis of the *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1).

(DB 1953) Schoonloo/Elp, Gemeente Midden-Drenthe, Drenthe

L. +5.1 cm. Two fragments of a thin, undecorated bronze arm-ring with round cross-section (0.3 cm); found (just as DB 1956) in 1932, during cultivation of heather to forest ground, along the paved road Schoonloo-Elp, just opposite the sandy road Grolloo-Elp, in an urn field near two tumuli and an urnfield, directly below the humus layer. Found in urn with cremation (Inv. No. 1932/X.15). Patina: burnt. Museum Assen, Inv. No. 1932/X.15a.

Map reference: c. 240/545.

Reference: Van Giffen 1934: 100-101, afb. 4-7 (urn only); Essink 1996: 62, No. 100.

Parallels: -

Dating: Late Bronze Age-Early Iron Age based on reported association to an urnfield.

(DB 1956) along the road to Schoonloo-Elp, Gemeente Westerborg, Drenthe

Various fragments of coiled spiral bracelet made of thin (c. 0.7-1.4 mm diam.) bronze wire, tightly coiled. Individual coils became fixed during burning (on the pyre). Found - just like DB 1953 - in 1932 during cultivation of heather to forest ground, along the paved road Schoonloo-Elp, just opposite the sandy road Grolloo-Elp, in an urnfield near two tumuli, directly below the humus layer. Patina: burnt, brittle green-blackish. Museum Assen, Inv. No. 1932/X.29.

Map reference: c. 240/545.

Reference: -

Parallels: -

Dating: Late Bronze Age-Early Iron Age based on reported association to an urnfield.

(DB 2874) Nijmegen (de Boel), Gemeente Nijmegen, Gelderland

Bronze wire fragment, could be from bracelet or hair-ring? Found in Early Iron Age context in Trench 21.

Map reference: c. 186/432

Reference: Van den Broeke 2018: 58-9, Fig. 38.

Parallels: -

Dating: Early Iron Age by context.

(DB 2932) Geldermalsen, Gelderland. Middengebied. Inhumation grave

Two bracelets: one open (diam. 7.4 × 7.1 cm), the other with forged-closed ends (diam. 6.0 × 6.0 cm). Both bracelets have a round cross-section of 0.4 cm. Found during excavation of a small inhumation cemetery in 1992-1993 (Hulst 1999) in an undisturbed female grave (burial pit 1): the open bracelet was on the right wrist, the other on the left wrist. Found with pottery, a neck-ring (torque with terminals), iron knife and ribcage of a pig. Pottery style, ornaments and stable isotopic signal are congruent with a tentative French Aisne-Marne region of origin (Van den Broeke 2012: 384 No. 14; Kootker 2017: 82). Not seen by the authors.

Map reference: c. 147.9/432.5

References: Hulst 1999: 44-5; Vleeshouwer 2012: 30, 56-7; Kootker 2017: 82-3.

Dating: Based on the pottery and the shape of the neck-ring. The pottery corresponds to phase F of the pottery sequence that Van den Broeke has set up for Oss-Ussen. This would imply a date of about 450-375 BC (Van den Broeke 2012: 36, Fig. 2:10). The neck-ring is characteristic of the 5th and 4th centuries BC in the chronology of Hatt and Roualet (1977). Radiocarbon date of 2475 ± 35 BP (Lanting & Van der Plicht 2005/2006: 348).

5.7 Difficult to date decorated and undecorated arm-rings

Here we discuss a group of undecorated bracelets for which a dating on typological and contextual grounds is difficult to impossible, but that presumably are later prehistoric (Bronze Age or Iron Age) in date.

Difficult to date decorated arm-rings (Fig. 30)

(DB 866) Escharen, Gemeente Grave, Noord-Brabant. Along the Raam. Part of hoard

Open bracelet, diam. inside 6.8 × 5.4 cm of square to subrectangular cross-section (th. 0.45 cm) that changes into D-shaped near the (slightly thicker) terminals. Allegedly found in a Raam River valley peat deposit, together with a sword (DB 868, with blade of Rosnoën character, but missing its hilt-plate), a dagger made from a reworked sword (DB 867) and a pegged spearhead (DB 865). Found 17 April 1982 in peat, all close together, during reclamation work in the river arm of the Graafsche Raam, according to finder (and owner). Patina: light green. Private collection.

Map reference: c. 179.62/416.70.

Reference: Verwers 1988: 26-27, afb. 16 (upper); Fontijn 2003: 130 Fig. 7.1, 132, 134, 136, 305.

Parallels: - (no direct parallels known for decoration in combination with the (variable) cross-section).

Dating: - (c. 11315-1125 calBC, provided that the association with Rosnoën-type blades is correct (cf. Fontijn 2003: 117 Fig. 7 No. 2)).

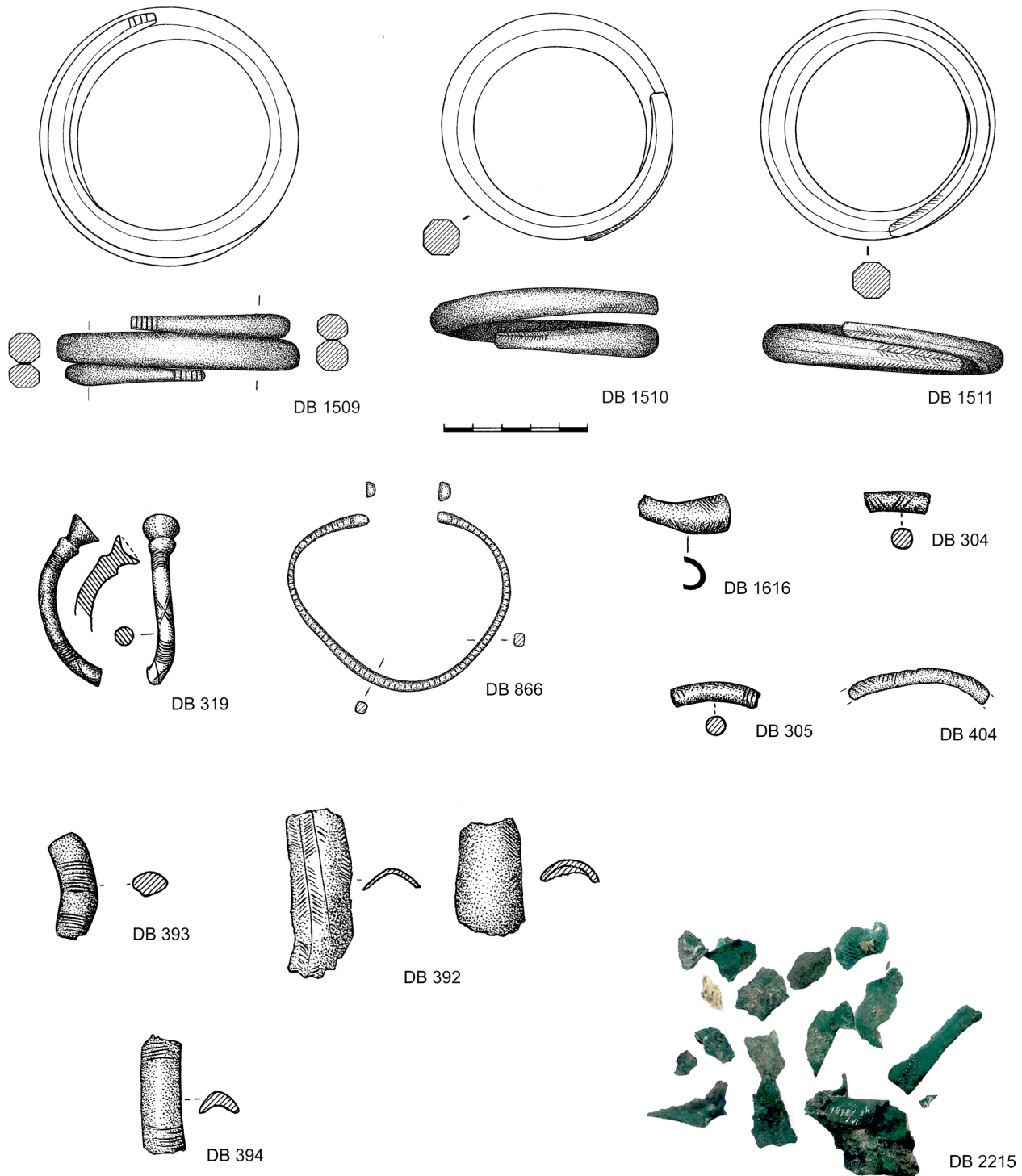


Fig. 30. Difficult to date decorated DB arm-rings (drawings GIA; photo H. Steegstra (DB 2215)).

(DB 1509-DB 1511) Near Ubbergen, Gemeente Berg en Dal, Gelderland

Three (overlapping) spiral bracelets (diam. 8.0, 7.5 and 8.0 cm respectively) made from bronze bars, of round to octagonal cross-section. Their diameter gradually decreases towards the terminals, which show incised decoration. Found c. 1896 near Ubbergen. Patina: glossy green (*edelpatina*); possibly due to the special soil conditions of Ubbergen, with many aquifers

(according to R. Meyer, former restorer of the Museum Het Valkhof). Museum: Museum het Valkhof, Inv. Nos AC 42-44, acquired 1896.

Map reference: c. 191/426.

Reference: -

Parallels: - (Overlapping spirals with decreasing w. towards the terminals – albeit undecorated – are depicted by Laux (2015: Taf. 52: 765, 768) and Pászthory (1985: Taf. 48: 641-647)).

Dating: The comparanda by Laux are dated to the Late Bronze Age (Period V; Laux 2015: 139), those of Pászthory (1985: 123), to the Urnfield period. For the only other bracelet of octagonal cross-section (DB 699), a tentative EIA date was suggested here.

(DB 319) Deurne, Gemeente Deurne, Noord-Brabant

Bracelet fragment (l. +5.8 cm) with hollow cone terminal (diam. 1.2 cm), rib below head; incised decoration on stem. Patina: dull dark green, broken in antiquity. Museum RMO Leiden, Inv. No. 1884/IV, purchased at “*verkoop van Frederik Muller*” (sale by Frederik Muller).

Map reference: c. 185/385

Reference: -

Parallels: For the conical terminal, see Laux 2015: Taf. 87: 1270 (but lacking the concave face).

Dating: Unclear, perhaps not even later prehistoric?

(DB 1616) Blerick, Gemeente Venlo, Limburg

L. +3 cm. Fragment of bracelet of C-shaped cross-section, w. 0.6-1.2 cm. with alternating diagonal incised decoration. Patina: mottled green. Museum RMO, Inv. No. BO 8a (II.139).

Map reference: c. 207/375

Reference: -

Parallels: Similarly shaped terminals are classified by Laux (2015: 211-212, Taf. 88) as *Kleine Armringen mit stempelende*, yet those are bracelets of solid cross-section. Often the ends show decoration.

Dating: - (Laux (2015: 212) dates the *Kleine Armringen mit stempelende* to Period IV-V (c. 1125-750 calBC)).

(DB 404) Herpen, Gemeente Ravestein, Noord-Brabant

Fragment of a solid bronze arm-ring of rounded cross-section with incised decoration (three alternating pairs of four diagonal lines), heavily corroded. L. 4.6; th. 0.52 cm. Patina: dark green. Museum RMO, Inv. No. k 1927/5.3.

Map reference: c. 171/413.

Reference: -

Parallels: cf. Laux 2015: Taf. 75: 1067-1069.

Dating: Unknown. Motif too generic and bracelet too incomplete.

(DB 304-DB 305) Bennekom, Gemeente Ede, Gelderland

Two fragments of solid bracelets of round cross-section with incised decoration. Found together with one fragment of a *Wendelring* (DB 303) at a depth of 3½ feet in a tumulus on Het Laar. Purchased from the estate of Mr Haasloop-Werner at Elburg. Museum RMO Inv. Nos HW 25-27.

DB 304: Fragment of solid bracelet of round cross-section with incised decoration consisting of chevron series of slanted lines. Inv. No. HW 26.

DB 305: Fragment of solid bracelet of round cross-section with incised decoration consisting of series of perpendicular lines. Inv. No. HW 27.

Map reference: c. 175.2/446.2

Reference: Hulst 2010: 70, 145.

Parallels: -

Dating: - (Possibly part of the Bennekom-De Laar urnfield, dated by Hulst (2010: 145) to the (LBA and) EIA).

(DB 392-DB 394) Ermelo, Gemeente Ermelo, Gelderland

Small fragments of bracelets, found in the heathland S of Ermelo, along the railroad at “*bord 34*” (marker 34) (sketch map in Inventarisboek, p. 152, with location of finds: apparently, they were not found together). Museum RMO Leiden, Inv. No. e 1916/4.7,9,12.

DB 392: Fragment (l. +5.6 cm) of bracelet of C-shaped (concave) cross-section (or *Hohlwulstring*?) with incised decoration (herringbone and alternating diagonal lines), found together with fragment of a twisted ring (l. 2.9; th. 0.8 cm). Inv. No. e 1916/4.7.

DB 393: Fragment (l. +3.6) of bracelet of oval cross-section (1.2 × 0.8 cm) with incised decoration. Patina: grey-green, heavily corroded. Inv. No. e 1916/4.9.

DB 394: Fragment (l. +4 cm) of a bracelet of C-shaped (concave) cross-section with transverse incised decoration. Inv. No. e 1916/4.12.

Map reference: c. 169/477.

Reference: -

Parallels: -

Dating: - (Tentatively HaD on the basis of other *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1)).

(DB 2215) Laaghalen, Gemeente Midden-Drenthe, Drenthe

Several fragments of decorated hollow arm- or neck-rings (*Hohlwulstringe*?). Found in 1878 near the Laaghalen tumuli (“*bij het einde der Eekhoutswijk*”), with a bronze pin and cremation remains. Museum Assen, Inv. No. 1878/VI.3k.

Map reference: c. 231/550.

Documentation: Verslag 1878: 5-6;

Reference: Essink 1996: 55, No. 83.

Parallels: -

Dating: - (Tentatively HaD on the basis of other *Hohlwulst*-HEK rings in the Netherlands (De Wit 1997/1998: 350), c. 625-480 BC (Butler & Steegstra 2007/2008: 376, Fig. 1)).

Difficult to date undecorated arm-rings (Fig. 31)

(DB 96) Exloo, Gemeente Borger-Odoorn, Drenthe

Diam. 6.3 × 7.9 cm. Bracelet, with two breaks, heavy, open with ends meeting and of D-shaped cross-section (0.6 × 0.7 cm), with slightly thickened ends (*Endstollen*). Found in 1898 in a tumulus south of Exloo. Patina: dark green, corroded. Museum Assen, Inv. No. 1898/III.12.

Map reference: c. 254/543.

Reference: Essink 1996: 60, No. 95.

Parallels: Slight thickening of the ends (*Endstollen*) are seen on both MBA (e.g. Laux 2015: Taf. 166: 5 (Bleckmar)) and Iron Age bracelets (e.g. Joachim 1990: Taf. 27: 7-8).

Dating: -

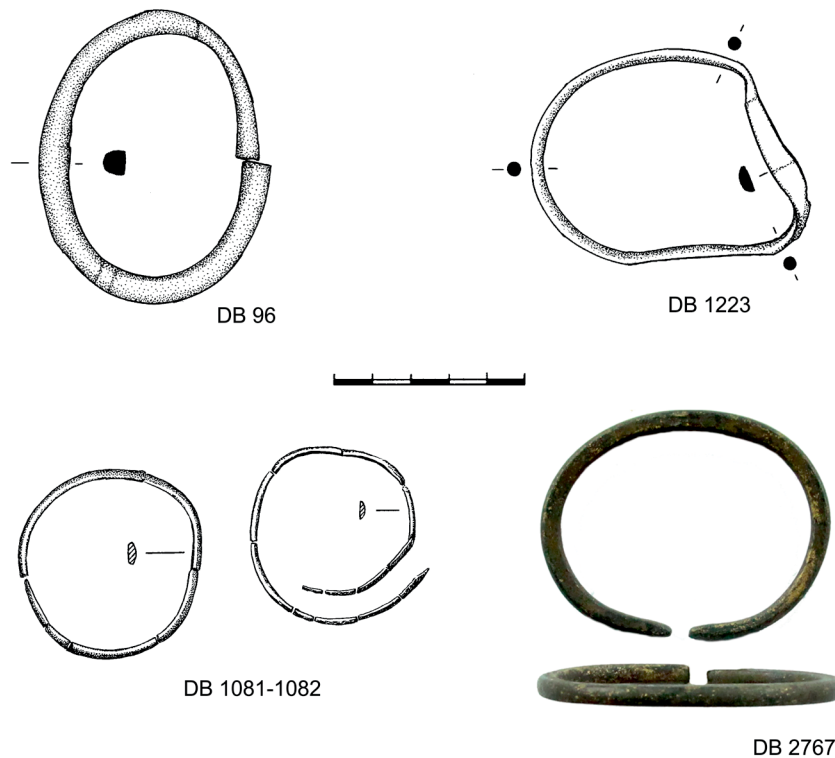


Fig. 31. Miscellaneous poorly dateable undecorated arm-rings. Drawings © H. Steegstra / Groningen Institute of Archaeology; DB 2767: photo PAN.

(DB 1223) Schuilingsoord, Gemeente Zuidlaren, Drenthe. Near Annertol

Distorted anklet or bracelet, diam. outside 7.8×5.8 cm; th. 0.25–0.3 cm. Fragments (all joining) of bronze strip of pointed-oval cross-section. Flattened and broadened to 0.75 cm where repaired (presumably in recent times). Patina: dark green to black, corroded. Found in a natural elevation near the Annertol. Museum Assen: Inv. No. 1926/XII.8, acquired 18 December 1926 with pots or urns from various periods from Mrs A. Hovenkamp of Schuilingsoord.

Documentation: Museumverslag 1926: 13, No. 16.

Map reference: c. 242.9/566.6

Reference: Drentsche & Asser Courant 23 December 1826.

Parallels: Laux 2015: Taf. 49–52: 724–766 (“Offene schlichte Ringe met spitzovalem Stabquerschnitt”); Joachim 1968: Taf. 19: B3; Taf. 21: B56.

Dating: - (Bronze Age or Iron Age?)

(DB 2767) Lithse Ham, Gemeente Oss, Noord-Brabant

Open bracelet (diam. 5.0×6.2 cm) of subrectangular cross-section (height 0.4 cm), tapering towards the ends. Patina: green, corroded. Found around 1990 with metal detector, presumably from dredged Meuse River sediments. Private collection, PAN-00011056.

Map reference: c. 156/425.

Reference: -

Parallels: - (too generic: e.g. Laux 2015: Taf. 60: 891, Taf. 61: 893, 896).

Dating: - (Bronze or Iron Age?)

6. Interpretations: Fossilized fashion and social sparkle?

In the above catalogue, 176 bracelets from 75 sites dating from the final Neolithic period into the Middle Iron Age have been discussed. Here, this corpus will be dealt with in a more interpretative manner.

6.1 Together or apart? Bracelet associations

First, it should be stressed that single bracelet finds dominate ($n=38$; c. 51% of the corpus), and that only few sites ($n=6$, c. 8% of the corpus) yielded more than five bracelets (Fig. 32). The highest count pertains to the Balloo tumulus find, now containing one complete bracelet and several bracelet fragments, fragments of three hollow neck-rings, an object resembling a fibula or horse gear, an urn and two small pots (De Wit 1997/1998: 347–50 Fig. 13); however, the original association of these items is uncertain (see DB 2844, *supra*). The single site with 11 bracelets is the famous Drouwen 1939 hoard of Nordic affinity. It had been placed in the ditch of a tumulus (Kooi 1979: 91–3; Figs. 87–8; Butler & Steegstra 2007/2008: 383–92, Figs. 5–9), and as such it can be classified both as a funerary context, yet simultaneously as a deposit (*Totenschatz*?).

Next in line is the Hijkerveld heathland hoard, containing three open bracelets with everted palettes and longitudinal ribbing, two more open bracelets of D-shaped cross-section with slightly expanded paw-shaped terminals, one omega bracelet with three

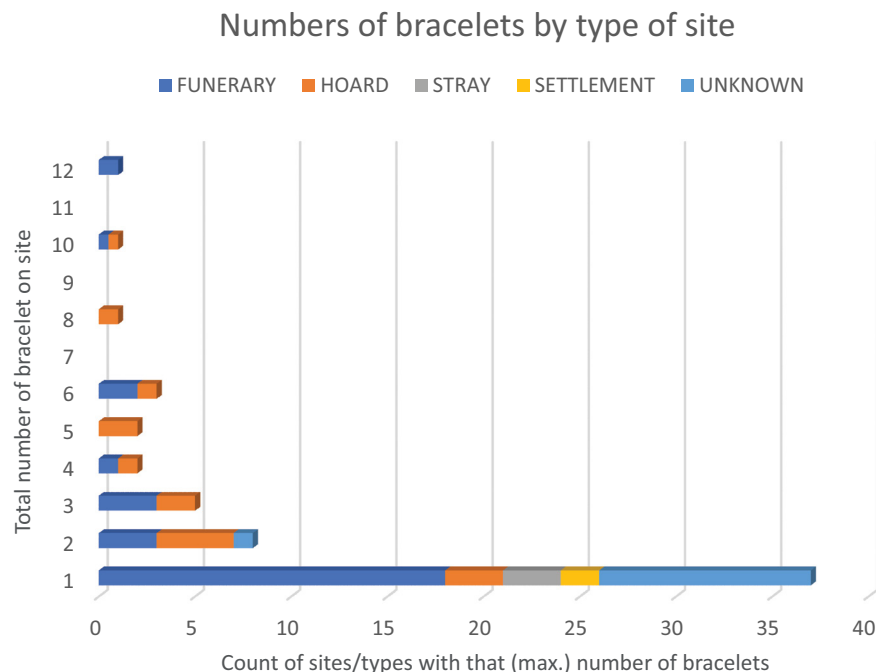


Fig. 32. Total number of bracelets (y-axis) recovered per type of site (numbers of sites on x-axis; total $n=74$). Drawing: S. Arnoldussen.

transverse ribs adjacent to the terminals, two dome-shaped bronze buttons, one disc-headed pin, a fragment of another disc and fragments of several wire ornaments (Butler & Steegstra 2007/2008: 382-3). The 1897 Lisse-Veenenburg hoard was recovered from a depth of 40 cm in the peat and comprised six bracelets of sub-oval cross-section; a tanged chisel; a sheet bronze fragment; two knobbed sickles; and two pins with flattened, biconical heads, at Hillegom (Butler 1990: 95-8). From Weert-Boshoverheide, a total of six bracelet fragments are known, but for these, it is plausible that they were recovered from separate mounds in the 35 ha urnfield (Hissel *et al.* 2012). For the six bracelets from Nijmegen-St. Maartenskliniek (DB 1594-1599; *supra*) a joint funerary provenance (together with an urn, accessory cup, bronze wire spiral, bronze wire fragment and a bronze chain of 26 smaller rings) is suggested by the provenance information of the finds, but since this assemblage was acquired through an antiques dealer, we cannot be certain of the stated association. The five decorated arm-rings from Darp (DB 133; *supra*) were found together, and their burnt state suggests an origin from a cremation grave, but this cannot be proven. Both the Elsen 1846 hoard (comprising one spiral bracelet, one double-wire bracelet, two other bracelets and a fragment of a socketed axe; Butler & Steegstra 2007/2008: Find No. 28) and the Rolde-‘Klaassteen’ hoard (comprising five bracelets and a fragment of a decorated *Hohlwulst*-ring (De Wit 1997/1998: 353, Fig. 17) are dryland deposits with five bracelets each. The dryland hoard of Bruggelen (containing a socketed axe, a socketed knife and a small rod (Butler & Steegstra

2007/2008: 392-4, Find No. 27) and the presumed peat bog hoard of Onstwedder Holte (containing a pair of interlocked flat rings and a socketed axe (Butler 1960b; Butler & Steegstra 2007/2008: 401) each contained four bracelets. The highest number of bracelets coming from a single funerary context is four, at Gasteren; this find pertains to the fragments found with a *Hohlwulst*-ring, a pseudo-*Wendelring*, sherds of more than one pot in a concentration of charcoal and cremated bones underneath a small ditch-enclosed mound (De Wit 1997/1998: 251 Fig. 14). Funerary assemblages and hoards comprising three bracelets are again more numerous. For the funerary contexts, one can mention, for example, the Early Iron Age inhumation grave of Uden-Slabroek (Jansen 2011: 108-12; Van der Vaart-Verschoof 2017 (II): 221-8, Fig. C32.1: 7) or three bracelets, an ancillary cup and a quartz chisel from a Drenthe (Iron Age) urn (DB 1168; Essink 1996: 63, No. 10). For the hoards, the Early Bronze Age Wageningen hoard (Butler 1990: 68; Fontijn 2003: 72-73) or the Late Bronze Age Markerwaardweg hoard (Knippenberg *et al.* 2016; Fontijn & Knippenberg 2020) serve as examples. This said, it is clear from Figure 32 that most funerary contexts and deposits yielded only one or two bracelets. Their relevance and implications will be evaluated in more detail, and by period, below.

6.2 Where found? Contexts of recovery and implications

Using the 64 sufficiently reliably dateable sites (of a total of 74), we can analyze in what types of contexts arm-rings figure most prominently (Fig. 33). The histogram in Figure 33 simultaneously informs on diachronic

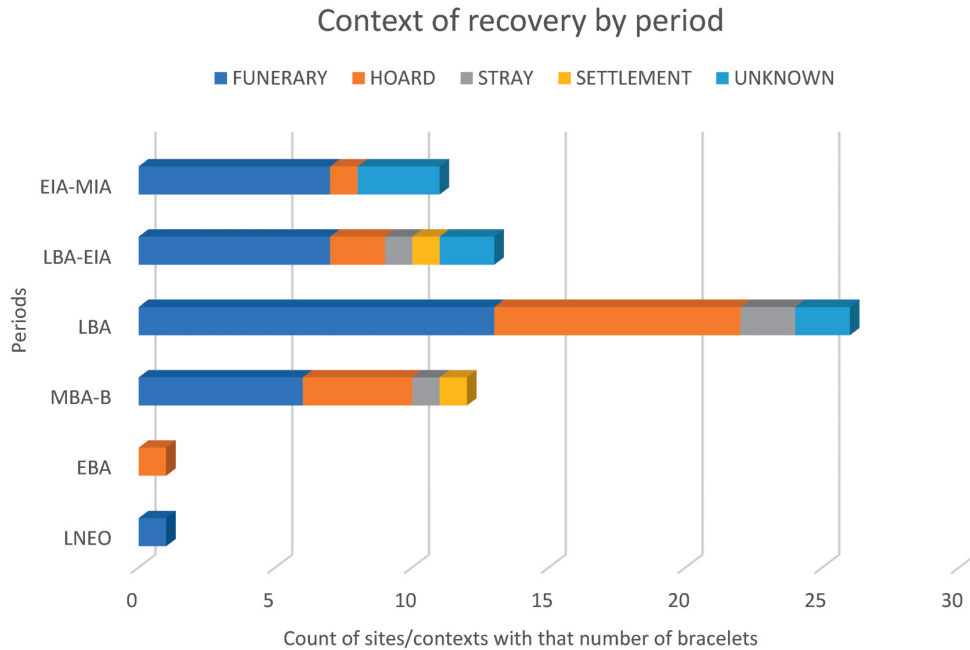


Fig. 33. Count of (x-axis) context of recovery for bracelets by period (y-axis; for 64 reliably dateable contexts (from a total of $n=74$). Drawing: S. Arnoldussen.

differences in the ubiquity of Bronze Age arm-rings from archaeological contexts. It is evident that during the Late Bronze Age, bronze arm-rings were most often interred with the dead or included in hoards. As it hinges on the (problematic) assumed undistorted correlation between *in vivo* prominence and *in terra* deposition, it is tempting but perilous to equate this to a greatest popularity of arm-ring ornaments during the Late Bronze Age too. Moreover, it is clear from Figure 33 that arm-rings were appreciated well before the onset of the Late Bronze Age and continued to be appreciated into the centuries following it.

Late Neolithic and Early Bronze Age

The oldest examples of arm-rings come from funerary contexts and hoard contexts. In a Late Neolithic barrow between Odoorn and Exloo, a richly furnished Beaker-period grave (with flint knife, copper awl, two sheet-gold ornaments and two amber beads) was also provided with a copper spiral bracelet (DB 2217; Butler & Van der Waals 1966: Fig. 5; Lanting & Van der Plicht 1999/2000: 40). For the ensuing Early Bronze Age, only the eponymous Wageningen hoard – with its two bracelets (DB 330) and possible additional bracelet fragments (DB 331, DB 332; Butler 1959: 156, 1990: 68; Fontijn 2003: 72-73, 378) suggest that arm-rings were present from the start of the 2nd millennium BC, despite the overall paucity of inorganic grave goods in this period (De Wit

1988: 361; Lohof 1991: 68-70, 1994: 106; Theunissen 1999: 57; Bourgeois 2013: 164).

Middle Bronze Age-B

It would only be during the second half of the Middle Bronze Age that – most notably in funerary context, but also in hoards – bracelets come more prominently to the fore. For example, two of the secondary interments in the Ballo-De Mandenberg tumulus (DB 1239-1242; Van Giffen 1935: 89-90 and Fig. 5b:9-9a, 19-19a) were provided with two bracelets each. Three of these bracelets were wide bracelets with longitudinal ribbing of sheet cross-section (*Längsgerippte Stollenarmbänder*), whose centre of distribution lies in the zone between the lower Weser and Elbe, in what is now Germany (Laux 2015: Taf. 150). It may be presumed that their supraregional affinity was noticed and known, even if it cannot be simply taken to mean that the wearer was from, or affiliated with, peoples in those areas. It is noteworthy that many of the MBA-B ornaments were recognizably of pronounced non-local styles. For example, the (costume?) set of ornaments deposited with the 'Lady of Weerdinge' hints at connections with Thüringen or Hessen (Butler 1990: 61; Butler & Fokkens 2005: 389). The bracelet (DB 1220) is not as obvious, but the only in the Low Countries with the inverted C-shaped cross-section (convex side to the wrist, concave side to the viewers). The open bracelet or anklet of

sheet bronze cross-section with spiral terminals from Emmerdennen-Tumulus 6 (DB 447; Bursch 1936: Fig. 43 no. 2) may also have explicitly alluded to the Hessen-Rheinessen area, as comparanda are mostly found there (Fig. 34; triangles). Whereas anklets with spiral terminals do occur in Niedersachsen as well, they are of oval sheet bronze there (and not decorated; Laux 2015: his Nos 939-975).

Another example of an decidedly non-local visual style in the ornamentation may be the *Nierenringe* bracelets found at Angelsloo (DB 1186-DB 1187) and Elst (DB 2897). Unfortunately, the Elst bracelet is a stray find and the bracelets from the Bargerooosterveld 1900 hoard (DB 1186-DB 1187) were described as “found in a small tumulus” (Butler 1961: 105-6, Fig. 49; Butler & Steegstra 2007/2008: 395-8 Find No. 29, Fig. 12), yet their association with tools (a palstave, palstave fragment and knife; Butler *et al.* 2013: 85-8) complicates their interpretation as grave goods. The distribution of the *Nierenringe* bracelets focuses on the lower Weser trajectory – fanning out from there in all directions (Fig. 34).

Clearly, in the MBA-B period, non-local affinity was regularly displayed (or retained) in the funerary costume. In the cases where supraregional affinities were less clear, it concerns a bracelet combined with a *Längsgerippte Stollenarmbänder* (DB 1239), a possible child's grave (DB 1950; Lohof 1991(II): 46) or a secondary interment in which two spiral bracelets – one on each arm – were combined with an amber necklace (DB 1297; Van Giffen 1943: 94-7). Based on the coffin sizes at Mander and Weerdinge, we can infer that these graves pertain to subadult or adult individuals (but see DB 1950). It is tempting – but basically unfounded – to interpret the pairs of bracelets as adult female dress attire. Based on the funerary associations, it is difficult to reconstruct any (funerary) customs, but the bracelets occur frequently as matched (DB 1241 and DB 1241; DB 1297) or unmatched (DB 1239 and DB 1240) pairs.

In the case of the (presumably female) grave of Weerdinge-Kamperesje Tumulus 2, an elaborate (non-local!) costume set appears to have been placed into the coffin, but not on the body (Butler 1990: 61). This could suggest that the linkage between social identity (perhaps even ethnicity) and a particular ornament set was so strong that even if wearing that costume set in the grave was considered inappropriate, it still was part and parcel of the social *persona* of the deceased – and interment with the corporal remains was the desired or required biography.

For an unknown number of MBA-B bracelets, remelting may have been the common or desired biography, and settlement finds such as that from Houten-Hofstad (DB 2928; Ter Wal & Kalisvaart 2016: 71, 74-5, 129 and Fig. 6: 5) may represent chance losses that remind us that bracelets may have been very common in settlements, but that their expected biography in the MBA was to

end up in the crucible. It is only when bracelets (or their fragments) end up in graves or hoards that they become archaeologically visible. For the MBA-B, however, the number of hoards with bracelets is limited. The Bargerooosterveld hoard of 1900 already referred to above (Butler 1961: 105-6, Fig. 49; Butler & Steegstra 2007/2008: 395-8 Find No. 29, Fig. 12) contained both tools (palstave, palstave fragment, knife) and ornaments (two *Nierenringe* and a tentative spiral arm- or leg-ring). It is possible that the non-local nature of the *Nierenringe* in this hoard is central to the reasons for its deposition.

Often, Bronze Age hoards in the Low Countries tend to (deliberately?) combine local and non-local objects (Arnoldussen 2015). Such perceivably non-local items could, for instance, be deposited as token deposits from larger scrap imports from other regions – a deed legitimizing the conversion of the wider stock into local forms (cf. Fontijn 2008: 13-5; Fontijn & Roymans 2019: 178-82; Arnoldussen & Steffens 2020: 52). In other hoards, such as the Lisse-Veenenburg hoard, which also comprises tools (tanged chisel and two sickles) and ornaments (set of six bracelets (DB 423-428; Butler 1990: 95-8), a non-local character is not as evident. This hoard has been interpreted by Butler (1990: 98) in gendered terms, as a female votive deposit reflecting both a costume set (pins and arm-rings) and items relating to handicrafts (leather working).

What may have triggered such a votive deposit of a costume set is unclear, but the passing of social-biological thresholds (e.g. menarche, partnerships, pregnancy, old age) is a probable trigger in the deconstruction of particular identities (cf. Fontijn 2003: 244-5 Fig. 12: 3). It is in any case plausible that in the MBA-B some arm-rings were given up and deposited in wetland zones in the landscape (cf. Fontijn 2003: 240). At Daarlerveen (DB 382), an elaborately decorated bracelet of non-local (possibly Cornish?) style was placed in the peat, and at Ten Arlo (DB 877), another complete and decorated bracelet may have been placed in a stream valley.

In conclusion, it seems that in the MBA-B, bracelets were frequently used to mark non-local affinities (whether as contacts or as ethnicity). They appear as pairs of bracelets in inhumation graves (of (sub)adult females?), but they can also be placed in votive deposits (with tools) in both funerary and wetlands contexts. The modest numbers recovered suggest that bracelets were not yet commonplace fashion (everyday attire), but were primarily sparkling signifiers of social significance – whose usage (wearing) was tailored to the occasion and appropriate life phase.

Late Bronze Age

With the start of the Late Bronze Age, the deposition (and usage?) of bracelets became more commonplace.

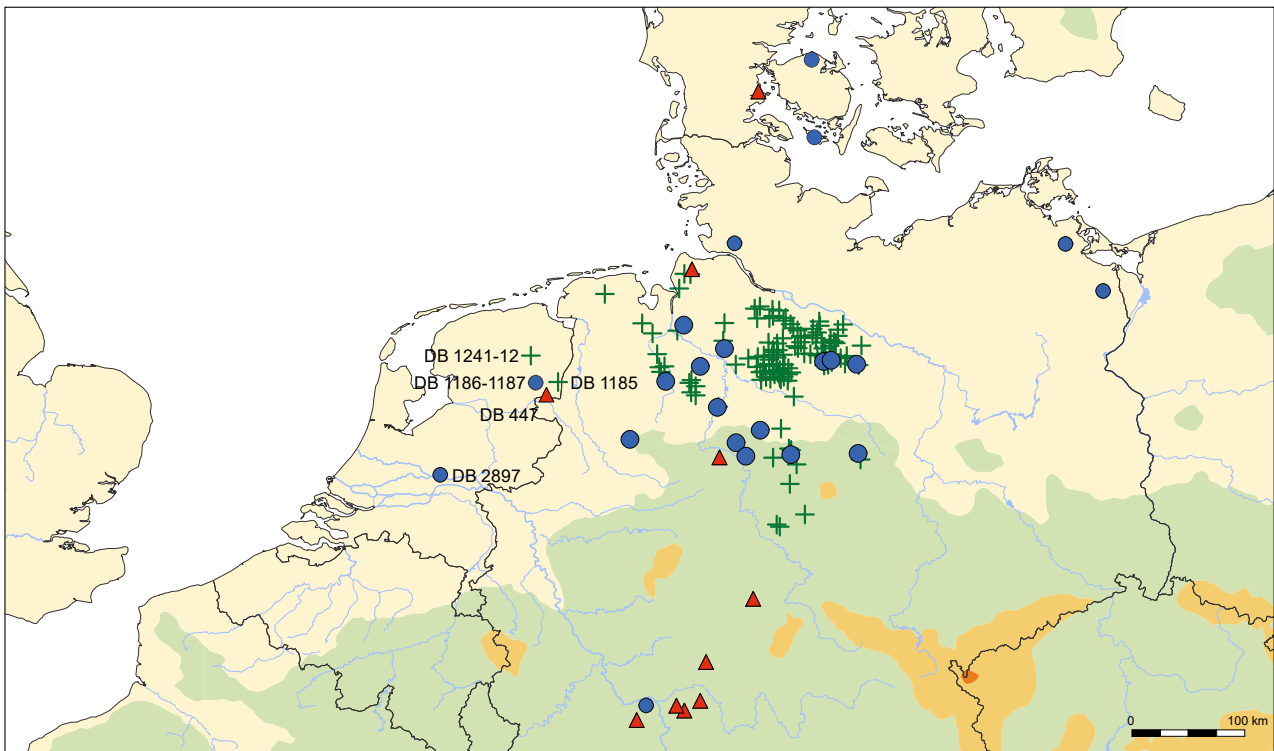


Fig. 34. Distribution of Längsgerippte Stollenarmbänder (green crosses), Nierenringe (blue circles) bracelets and Bergen mit Schmäler Bandförmiger Manschette (red triangles). After: Richter 1970, Taf. 14; Tackenberg 1971: Karte 43; Butler & Steegstra 2007/2008: 396 Map 3; Laux 2015: Taf. 68; Taf. 150; 155. Drawing: S. Arnoldussen.

A total of 22 bracelets or bracelet fragments have been recorded for 13 sites with funerary association. In the cases of the famous ‘Princess of Drouwen’ (Butler 1986: 154-5, Figs. 21-22; Butler & Steegstra 2007/2008: 385-6, Figs. 6a-6b; Kooi 1979: 91-3; Figs. 87-88) and Nijmegen-St. Maartenskliniek (DB 1594-DB 1599), an elaborate costume set may have been placed in a barrow ring ditch (Drouwen) or barrow foot (Nijmegen), perhaps a *Totenschatz* (Hundt 1955: 108; Roymans 1991: 27). As argued for the ‘Lady of Weerdinge,’ above (DB 1220), the costume set may have signalled a social identity that was irreconcilable with (placement on) the dead body (yet still inextricably linked to the deceased), leading to an interment close by instead. At Hilversum-Westerheide (DB 1102-1104; Wimmers 1988: 117-9, Fig. 1), a grave (unknown type) contained a pair of bracelets with slightly expanded, paw-shaped terminals; a fragment of a third, similar bracelet; a small *Vasenkopfnadel*; a bronze spiral; and a bronze rod. This seems to represent a continuation of the MBA-B fashion of wearing paired bracelets (*cf.* DB 284, DB 2876, DB 227-DB 228), with the other bronzes used as fasteners or decoration for clothing.

Unlike at Drouwen, Weerdinge and Hilversum, at Erm (DB 2216; Essink 1996: 61, No. 99) and Havelterberg (DB 2218; Van Giffen 1951: 128; Fig. 31: 7b), only fragments of richly decorated (*Kreisaugen*) bracelets were recovered. Their incomplete state may reflect a combination of deliberate destruction of the objects and



Fig. 35. Context (top) and content (bottom) of the Uden-Slabroek HaB3 inhumation grave (after Bourgois & Van der Vaart-Verschoof 2017: 308 Fig. 2, 311 Fig. 4).



Fig. 36. Distribution of palette bracelets with longitudinal ribbing (purple =), transverse ribbing (red ||), of unclear type (green +) or with fan-shaped palettes (yellow Δ, graded by palette size), overlying a map showing the distribution of bracelets with paw-shaped terminals (blue ◇).

deconstruction of the social message they encoded. In that case, in the northern Netherlands, the contrast between ornament deposition in graves being related to the construction of local identities and ornament deposition in hoards being about the deconstruction of identities (Fontijn 2003: 244) is not as exclusive as it appears to have been in the southern Netherlands. There, both cremation graves and inhumation graves inform us on Bronze Age costume as well. For example, the HaB3 inhumation of Uden-Slabroek (Jansen 2011: 108-12; Van der Vaart-Verschoof 2017 (II): 221-8, Fig. C32.1: 8) contained a rare elite inhumation (adult, sex indeterminate) wearing bracelets and anklets and provided with

a toilet set (Fig. 35). For the Slabroek palette bracelets worn on the left arm, it could be observed that they had worn into each other – suggesting prolonged (or even permanent) wear (Bourgois & Van der Vaart-Verschoof 2017: 308).

For the cremation graves, two urned cremations from Maastricht-Ambyerveld (Dyselinck 2012, 2013) may serve as an example. Urn U26 contained the cremated remains of a male individual, a ‘facing disc’-type bracelet (DB 2880; Dyselinck 2013: 98-9, Fig. 3.27: 1), a gilded (hair?) ring, and three slightly burnt amber beads, and there was a gilded hair-ring on the base of the urn. From urn U39, the remains of possibly two bracelets of



Fig. 37. Content of the Markerwaardweg LBA hoard (from Fontijn & Knippenberg 2020: 500 Fig. 16.1).

concave (C-shaped) cross-section with transverse ribbing were recovered (DB 2919; Dyselinck 2013: 98, Fig. 3.28: 1). The fragmentation in this case was presumably induced by the heat from the pyre, although any deliberate additional fragmentation upon collecting prior to deposition cannot be ruled out. Most other LBA funerary contexts have yielded just a single bracelet (e.g. DB 316, DB 484, DB 589, DB 2893). The fact that such bracelets are invariably affected by fire (but see Kooi 1979: 17, Fig. 42, 185; Roberts 2007: 147) again – like the wear patterns on the Uden-Slabroek examples – suggests that such bracelets were worn for prolonged periods (and even repaired; Verhart 2019: Fig. 3) or even permanently.

Unlike during the MBA-B, it seems that during the LBA, bracelets no longer display supraregional cultural affinities with the northern (Elbe and Weser) and central-west (Hessen and Thüringen) regions. Rather, in addition to tentative and rare southcentral European (DB 2880) or Nordic (DB 1279, DB 1280, DB 1281) affinities, particularly the group of palette bracelets seem to reflect regional (northern v. southern Netherlands) groupings. Particularly the decoration (transverse ribbing or not) and shape (pointed-oval in the north, fan-shaped in the south) of the palettes divides an otherwise homogeneous group of palette bracelets (Fig. 36). The distribution of bracelets with paw-shaped terminals shows no such regional preference, and the only other indications for regional fashion pertain to cases from the central and northern Netherlands of decoration with *Kreisaugen* (DB 316, DB 2216, DB 2218) or double rows of *pointillé* (*infra*: DB 76a; DB 1366-DB 1369; DB 1201, cf. Butler & Van der Waals 1961: 93).

With regard to the hoards with bracelets dateable to the LBA, it is clear that both dryland and wetland locations were chosen. In the northern Netherlands, the hoards of Hijkerfeld (DB 1303-DB 1304, DB 2682; Butler & Steegstra 2007/2008: 382-3, Fig. 4), Drouwenerveld (DB 807-DB 808; Butler 1984: 139, 167, Fig. 7 Nos 39, 65; Butler & Steegstra, 2003/2004: 268, Fig. 90), Elsen (DB 1031-DB 1034; Butler & Steegstra 2007/2008: Find No. 28) and Bruggelen (DB 30-34) were all found in upland coversand landscapes. In the Bruggelen hoard, a bracelet and bracelet fragments were combined with tools (e.g. a socketed axe and part of a socketed knife) and a bronze rod (Butler & Steegstra 2007/2008: 392-4, cf. DB 423-DB 428). At Elsen, four bracelets and a possibly anklet were mixed with the cutting edge of a socketed axe (Butler & Steegstra 2007/2008: 394 Fig. 11). The small bracelet fragments in the Drouwenerveld 1984 hoard are part of a scrap assemblage of varied north-western European, north-western German and southern Scandinavian origins (Arnoldussen 2015: 18-20). The Hijkerfeld hoard, with its eight bracelets, two pins and two buttons (Butler & Steegstra 2007/2008: 382 Fig. 4), may represent the deposition of a double costume set (of Nordic affinity? Butler & Steegstra 2007/2008: 382). The combination of singular (belt box, spectacle fibula, ring pendeloque/'compass') and multiple objects (six wire bracelets, seven omega bracelets, two necklaces (one featuring spacer plates; Arnoldussen 2015: 23 Fig. 5)) in the 1939 'Princess of Drouwen' hoard could suggest that personal ornaments could be extensive (but still pertain to a single person).

The use of spacer plates and redundancies in LBA costume is also borne out by the Markerwaardweg hoard (Fig. 37; Fontijn & Knippenberg 2020), deposited in a ditch in a Bronze Age settlement site in West-Frisia. It contained three spectacle fibulae, two omega bracelets (DB 2922), two spacer plates, a stone bead, a bronze pin and various (interlinked) rings that may have adorned clothing. The tight packing of these objects suggest that this ornament set (and a flint sickle) were deposited as a single (costume) set.

In wetland parts of the landscape, bracelets were deposited during the LBA as well. The Onstwedder Holte hoard (Butler & Steegstra 2007/2008: 400-3) was allegedly found in 1894 at a depth of 1.8 m in the peat and comprised two bracelets with 'paws' (DB 1366-DB 1367), a set of interlocking (arm?)rings and a socketed axe (op.cit: 401 Fig. 15). At Langedijke (DB 201; Essink 1996: 65, No. 109) two interlocked spiral bracelets were recovered from the peat in-fill of a pingo scar, suggesting that in deposition (as in funerary contexts) pairs of bracelets do occur. At Hijkersmilde, another pair of (gold!) bracelets was placed at 0.8 m depth in the peat (DB 1200-DB 1201; Butler & Van der Waals 1961: 92-3), hinting at the fact that the gold bracelet recovered from Lunteren may have been part of a similar votive deposit in the stream valley of the Barneveldse Beek (DB 384; Butler & Van der Waals 1961: 91, 95-9 Fig. 46). Judging by the bracelet dredged from the Meuse River at Lith-Kessel (DB 2521; Van Alphen & Theunissen 2015: 49-59, Fig. 2), major rivers were also suitable locations for bracelet depositions (cf. DB 2767; Fontijn 2003: 240).

Early Iron Age

Most antiquarian descriptions of Urnfield-period finds cannot be dated more precisely than 'LBA-EIA?' and will not be discussed here separately. What these observations do tell us is that the main LBA traditions of incorporating few, mostly (but see DB 2087) undecorated ornaments (and possibly carrying mostly local and idiosyncratic meaning; Fontijn 2003: 204-6) with the deceased onto the pyre and into the cinerary urn, continued unbroken into the Early Iron Age. For just a restricted number of observations, a more precise or substantiated dating to the Early Iron Age (c. 800-600 calBC) can be given, and – save for two exceptions discussed below – they are funerary contexts.

The single EIA settlement context from which a tentative bracelet fragment was found during controlled excavation at Nijmegen-De Boel (DB 2874; Van den Broeke 2018: 58-9 Fig. 38), but this could – based on the small diameter – equally well represent a hair-ring. The only hoard find reasonably securely dated to the Early Iron Age concerns the pair of studded bracelets (cf. Laux's (2015: Taf. 97 *Steigbügelarmringe*) found stacked horizontally in the peat at Nieuw-Weerdinge

(DB 551, DB 552; Remouchamps 1925: 32-5, Fig. 34). The bracelets represented by the other (six funerary, two stray or unknown) contexts also show an increased variety in shapes with respect to the previous period. They comprise a southern palette bracelet (DB 390), open arm-rings of C-shaped (DB 203) or round or D-shaped cross-section (DB 221), tubular (*Hohlwulst*) ornaments (DB 2215), torqued spiral bracelets (DB 2074) and bracelets with narrowing terminals of both octagonal (DB 699) and round (DB 2906) cross-section. This increased visual repertoire could signal that by the Early Iron Age, the social messages encoded through bracelet forms, decoration and bodily placement (e.g. where worn, (a)symmetry, numbers) became increasingly varied and/or increasingly local.

Their usage in the funerary rites, in contrast, appears to be as traditional as before: bracelets occur mostly as singular finds (occasionally with a pin; DB 2215), and the deceased's 'costume of death' (Fontijn 2003: 204) appears elusive and idiosyncratic. Their burnt state (and sometimes attached cremated bones; cf. DB 559, DB 758) indicate they were worn or placed with the person onto the pyre. The notable exception to the rule of singular bracelets placed with EIA pyre remains is grave 252, in the Noordbarge urnfield (Fig. 38; Kooi 1979: 17, Fig. 42, 185; Arnoldussen & Albers 2015). There, a mixed pair of bracelets was placed – with an ancillary cup – on top of the pyre remains in an Early Iron Age urn. The fact that the bracelets were withheld from the pyre yet placed with the mortal remains signals the strong ties between such ornaments and personae. Even when the deceased was not wearing them into the pyre, it was considered only appropriate to keep them with the (transformed, fragmented) person in the grave (cf. Roberts 2017: 146).

Early to Middle Iron Age

For the (Early to) Middle Iron Age periods, most bracelets originate from funerary contexts (n=8), with only a single hoard and three stray or unknown contexts. In terms of morphological and iconographic entropy, they appear to represent a much more restricted set than those of the Early Iron Age. Only three main forms or types appear to be represented: (1) open undecorated

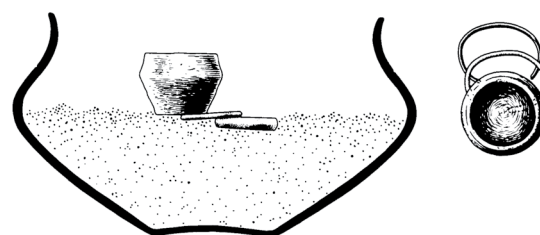


Fig. 38. Noordbarge bracelets DB 2221, placed into urn 252 (from Kooi 1979: 17, Fig. 42, 185).

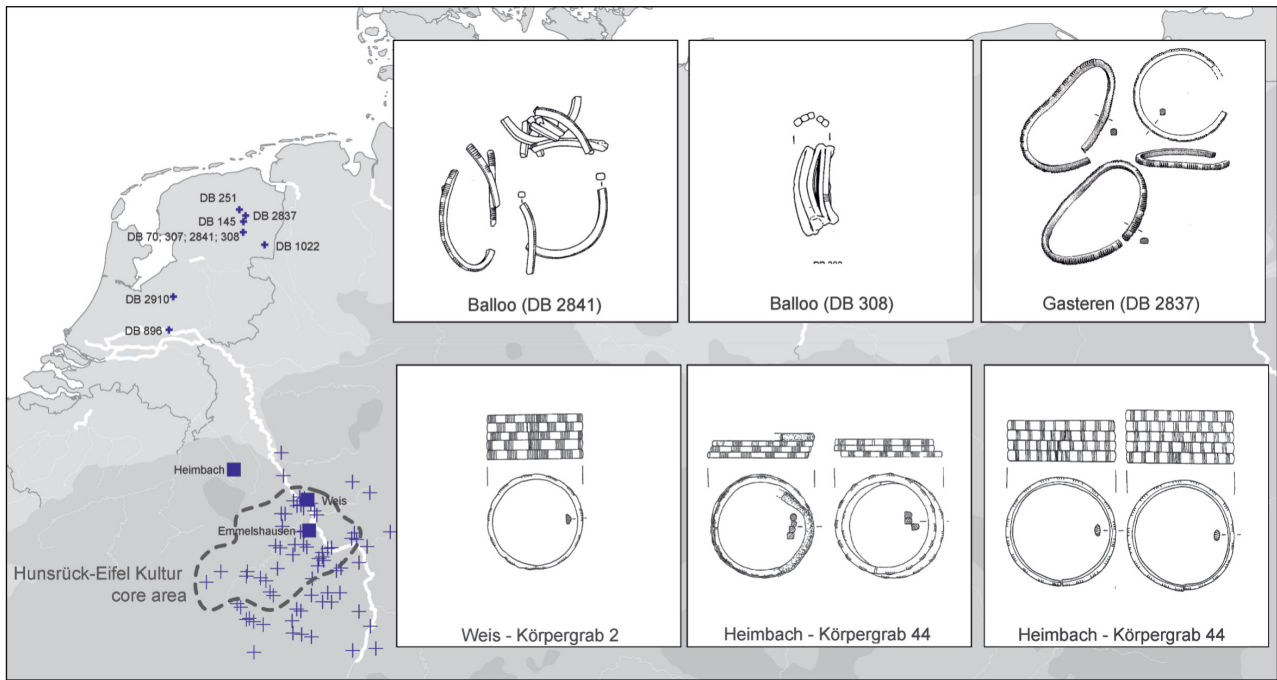


Fig. 39. Distribution of Middle Iron Age bracelets decorated in HEK (Hunsrück-Eifel Kultur) style (Querrippengruppen). Dutch finds are shown as thick crosses (after Joachim 1968: Taf. 15; 15-16; 18; 20; 22; Haffner 1976: 13, 215; Nakoinz 2004: 107 fig. 6.2.43; 186 fig. 7.2.3, Weis: Joachim 1968: Taf. 14c: 2-6, Heimbach: Joachim 1968: Taf. 16A: 4-10, Emmelshausen: Joachim 1968: Taf. 18c: 3-11). Drawing: S. Arnoldussen.

bracelets of round (DB 1983, DB 2844) or D-shaped (DB 145b, DB 2838) cross-section; (2) open bracelets with groups of transverse lines alternating with undecorated zones (DB 70, DB 145, DB 251, DB 307, DB 308, DB 896, DB 1022, DB 1167, DB 1168, DB 2837, DB 2841, DB 2910); and (3) open bracelets with variable incised motifs of C-shaped (DB 248, DB 2370) or rectangular (DB 133) cross-section.

The latter two groups appear closely related to bracelets (Offene, mit Querstrich- bzw. Querrippengruppen verzierte Armringe) known from the older phase of the Hunsrück-Eifel Kultur (Haffner 1976: 13, *Beilage I*; Joachim 1968: 66), datable to c. 565-520 calBC (cf. Haffner 1976: 99; Lanting & Van der Plicht 2005/2006: 250, 254). It is not just in style that they display similarities, but also in terms of patterns of costume and funerary rites: in the central and northern Netherlands – like in the Hunsrück-Eifel Kultur core areas – such bracelets occur as stacks of multiple examples in graves (cf. Joachim 1968: 66 *Taf.* 15: 15-16, 18, 20, 22). In the graves at Balloo (DB 2841, DB 308) and Gasteren (DB 2837), there is evidence of the presence of such stacks as well, but many more singular bracelets decorated in this fashion are known (Fig. 39), hinting at cultural ties between the Hunsrück-Eifel Kultur core area communities and the Lowlands communities downstream on the Rhine. Whereas the present distribution maps seems to indicate these as discrete areas, studies of other types of material culture (most notably pottery) have shown that the intermediate left and right Rhine banks formed

part of a larger, connected cultural area (cf. Nortmann 1994: Fig. 8; Nakoinz 2004: 199).

While the decoration and pattern of wearing (stacks of) bracelets decorated with groups of transverse lines point towards contacts with the upper Rhine Hunsrück-Eifel Kultur communities, this was by no means the only stretch of Europe with which contacts were maintained. For example, analysis of the pottery (Hulst 1999: 44-5; Van den Broeke 2012: 384 No. 14) and metalwork (Hulst 1999: 45) have indicated that the burial customs and stable isotopes (Kootker 2017: 82-3) of a female interred at Geldermalsen-Middengebied wearing two bracelets are consistent with an Aisne-Marne origin and hint at prehistoric mobility vectors (Fig. 40; cf. Van den Broeke & Hessing 2005: 655-6; Kootker 2017: 85).

6.3 Long-term patterns: Fossilized fashion and social sparkle?

The above discussions permit us to discuss the archaeologically visible (i.e. depositional pattern) usage of Late Neolithic to Middle Iron Age bracelets from the Netherlands (Fig. 41). Foremost, it should be stated that the incorporation of bracelets in both hoards and funerary contexts is limited for the period between c. 2100 and 1300 calBC. Bracelets do occasionally figure as part of the costume of a richly furnished Beaker burial (DB 2217; Butler & Van der Waals 1966: Fig. 5) or as scrap in a dryland hoard (DB 330, DB 331; Butler 1990: 68-71), but for the entire timespan of the Early Bronze Age and Middle Bronze Age-A (c. 2000-1500 calBC), their usage

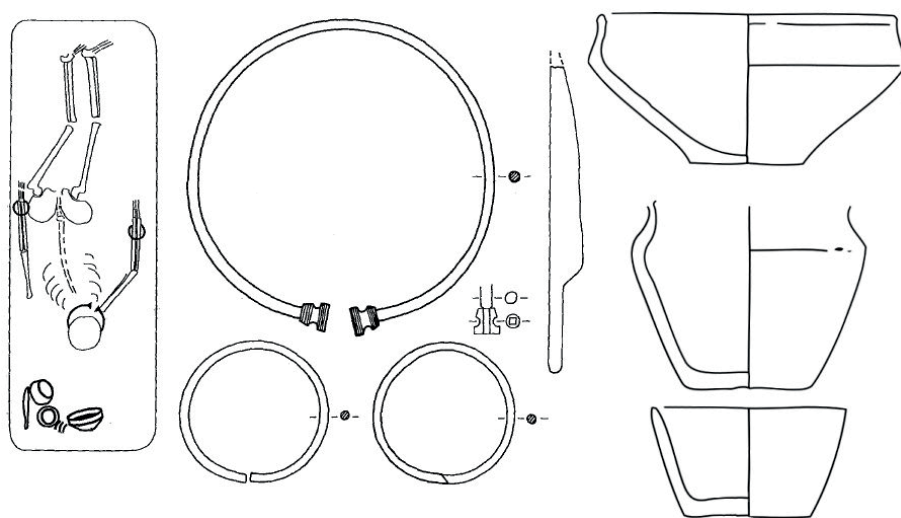


Fig. 40. Inhumation grave 1 at Geldermalsen-Middengebied (after Hulst 1999: 45, Fig. 4).

in funerary contexts (or hoards, for that matter) appears to be extremely rare. It is only with the Middle Bronze Age-B (c. 1500-1000 calBC) that bracelets are less rarely represented in hoards and graves – where they occur in roughly equal measure (Fig. 32). It is in the Late Bronze Age (and Early Iron Age) periods that bracelet finds are most common (with a stronger focus on funerary contexts), but their incorporation into graves stretches into the Middle Iron Age.

If we look at the composition of hoards with bracelets over time, some patterns come to the fore. In the periods up to (and into) the Late Bronze Age, bracelets occur – often with other ornaments – in mixed hoards. The Early Bronze Age hoard of Wageningen (DB 330-332; Butler 1990: 68-71) and the possible Middle Bronze Age-B hoard of Escharen (DB 866; Fontijn 2003: 130 Fig. 7.1, 132) are the rare examples for which an association with (among others) weaponry is evident. In most cases, ornaments dominate or occur as frequently as tools in the mixed hoard assemblages (e.g. the hoards of Bargerboosterveld 1900, Lisse-Veenenburg, Onstwedder Holte and Elsen). For Onstwedder Holte (ornaments and a socketed axe), Elsen (ornaments and socketed axe cutting edge) and Lisse-Veenenburg (ornaments and a chisel, sickle and sickle fragment), one could even argue that these are ornament hoards-plus – in which an ornament set plus a restricted set of tools were deposited. The tasks represented by the tools may involve leatherworking, harvesting (Lisse-Veenenburg) and/or woodworking (Onstwedder Holte).

Hoards comprising solely ornaments are only known for the Late Bronze Age (Hijkerveld) and Early Iron Age (Nieuw-Weerdinge). The composition of the Hijkerveld hoard, with its multiples of bracelets ($n=8$), pins ($n=2$) and buttons ($n=2$; Butler & Steegstra 2007/2008: 382 Fig. 4), has already tentatively been interpreted as a (double or extensive singular) costume set. We have argued above, following Fontijn (2003: 244-5 Fig. 12: 3), that discarding (sets of) ornaments in hoards – in both

dryland and wetland contexts – may have marked socio-biological rites of passage (cf. Sørensen 1997: 107; Nordez 2017: 23-5) in which particular identities expressed by such ornaments were deconstructed, denounced or taken out of commission. A specific funerary custom may have existed in the Late Bronze Age that actually inhibited the wearing of particular ornament sets into the grave. Both the Drouwen 1939 ('Princess of Drouwen') hoard (with its rich, Nordic-affiliated assemblage of belt box, spectacle fibula, seven omega bracelets, double-wire bracelets, rings, buttons and necklace (spacers), Butler & Steegstra 2007/2008: 383-92 and the Markerwaardweg hoard (also displaying a clear Nordic affinity through its three spectacle fibulae, but moreover comprising a pin, necklace (spacers), interlinked rings and flint 'sickle'), Knippenberg *et al.* 2016; Fontijn & Knippenberg 2020) seem to represent cases of a female (ceremonial?) costume that was considered unfit to end up in the grave (or the crucible, for that matter). It is tantalizing to speculate whether it was the pronounced supraregional character of the Drouwen and Markerwaardweg assemblages that made it taboo to add these to the grave. Hence, the option to deposit these as a *Totenschatz* instead was preferred (cf. Hundt 1955: 108; Roymans 1991: 27). At Drouwen, the connection to the deceased may have been retained by depositing these objects in the ring ditch around the barrow (Kooi 1979: 91-3; Figs. 87-8). The Markerwaard hoard appears to have been buried in a ditch within the settlement realm (Fontijn & Knippenberg 2020: 500).

Whereas multiple-object deposits, such as Drouwen 1939 and Markerwaardweg, may more easily be interpreted as deposits of costume deemed unfit to display on the dead, it is plausible that the deconstruction of particular identities through deposition of the signalling ornaments also applied to singular or pairs of bracelets, particularly during the Middle Bronze Age-B and Late Bronze Age. For such acts, rivers (DB 2521, DB 866, DB 2767), stream valleys (DB 877), pingo scars (DB 201)
















	LNEO	EBA	MBA-B	LBA	EIA	MIA
numbers of bracelets	1	3	24	45	12	11
variability in types	-	-	moderate	high	high	limited
burials-hoards			 	 	 	
wet (hoards) dry				 		-
hoard associations		mixed (weapons, tools, scrap)	mixed (tools-ornaments)	gold bracelets (DB 1200-01; DB 384)		
			ornament+tools (Veenburg, Bargerooosterveld 1900)	ornaments & tools (Elsen, Onstwedder holte)		
				ornament hoard (Hijkerveld)	ornament hoard (Nieuw-Weerdinge)	
				<i>Totenschätze</i> ? (Drouwen 1939, Markerwaardweg?)	<i>Totenschätze</i> ? (Nieuw-Weerdinge?)	<i>Totenschätze</i> ? (Nieuw-Weerdinge?)
costume set?	-	-	pairs of bracelets single bracelets pins	pairs of bracelets single bracelets anklets, spirals/linked rings pins, buttons necklaces(spacers)	pairs of bracelets single bracelets (<i>Wendelringe</i> , <i>Hohlwulstringe</i>)	pairs of bracelets stacks of bracelets single bracelets (<i>Torques</i>)
regional affinities			difficult to recognise	palette bracelets (N-NL versus S-NL)	difficult to recognise	difficult to recognise
				double pointillé dec. ? (DB 76; DB 1366-69; DB 1201)		
				<i>Kreisaugen</i> dec. ? (DB 316; 2216; 2218)		
				<i>Kreisaugen</i> dec. ? (DB 316; 2216; 2218)		
supraregional affinities			NW-Germany (ribbed sheet-bronze, <i>Nierenringen</i>)	NW-Germany (<i>doppelspirale</i>)	NW-Europe (studded bracelets, <i>Wendelringe</i>)	Hunsrück-Eifel (DB 308; 28041; DB 2837)
			Upper-Rhine (spiral anklet, W eerdinge grave)	Palafitte? (DB 2881, joint-cast palettes?)		Aisne-Marne (Geldermalsen)
			Atlantic? (DB 382)	Nordic costume set? (Drouwen 1939, Markerwaardweg)		

Fig. 41. Long-term patterns in the archaeologically visible deposition of Late Neolithic to Middle Iron Age bracelets discussed in this study. Drawing: S. Arnoldussen.

or peatbogs (DB 382, DB 2904, DB 1200, DB 1201) were suitable locations. During the Late Bronze Age, pairs of bracelets (in both bronze (e.g. DB 201) and gold (e.g. DB 1200, DB 1201)) were left in the peat, a tradition that continued into the Early Iron Age (e.g. DB 551, DB 552).

Luckily, some ornament sets do appear to have been placed on or with the dead in inhumation graves – suggesting that certain ornament or costume sets could be buried with the deceased. For the Middle Bronze Age ‘Lady of Weerdinge’ it seems that while the taboo on not displaying a particular (ceremonial? noticeably non-local) attire on the dead body was respected (Butler 1990: 61), yet the ornament set displaying pronounced affinity to Thüringen or Hessen (Butler & Fokkens 2005: 389) was still placed in the coffin. For the Late Bronze Age in the southern Netherlands, the inhumation grave of Uden-Slabroek (Van der Vaart-Verschoof 2017 (II): 221-8, Fig. C32.1: 7) clearly illustrates that a costume set of bracelets, anklets and toilet set that displayed evident regional traits (i.e. southern Netherlands; fan-shaped palettes) was deemed fit for interment on the body there.

Unfortunately, despite the fact that whatever ornaments were allowed (or remained) on a body during cremation, their transformation in the pyre and the selective and *pars-pro-toto* approach towards their presentation in the funerary context (cf. Fontijn 2003: 182; Fontijn *et al.* 2013: 297-8) means that for most urn-field graves, the composition of any (funerary) costume is difficult to reconstruct. From what remains, pairs of bracelets (e.g. DB 304, DB 305, DB 1956, DB 2221, DB 2911, DB 2912) were possibly common, occasionally supplemented by a pin (e.g. DB 284, DB 2215) or, more rarely, a gilded hair-ring and necklace (DB 2881). The burnt state and possibly skewed representation by the hand-picking of pyre remains already significantly hamper the reconstruction of later prehistoric fashion or costumes, it should not be forgotten that perishable media (bone, textiles, skin (leatherwork, tattooing, body painting) or hairstyle (shaving, plucking, dying) were presumably used – and presumably more commonly than by using metal ornaments alone – throughout all periods studied here to reflect particular identities both alive and into the afterlife. This caveat of course pertains

to all studies of identity via the funerary record, but we want to explicitly acknowledge the severity with which the above interpretation of fossilized fashion as 'ornament sets' or 'funerary costumes' is impacted by this.

Moreover, specifics of the prehistoric wearers of sparkling arm-rings remain difficult to reconstruct. Whereas – based on international comparanda – a female gender may be presupposed for the original wearers of the Weerdinge (DB 1220), Drouwen 1939 (DB 1276-1278), Markerwaardweg (DB 2921) and Geldermalsen (DB 2932) assemblages, osteological sexing is available only for the latter (F, 34-40 yrs; Kootker 2017: 83, Table 3). Moreover, the fact that bracelets were interred with osteologically male individuals as well (e.g. DB 2880, M, adult; DB 2920, M, 40-60 yrs), suggests we should not be too quick to interpret graves with bracelets as pertaining to a deceased of female gender. Across the corpus, only a single case of a bracelet found in a child-size coffin could be documented (DB 1950), suggesting that perhaps in general bracelets were worn (taken to the grave?) only after a person had reached a certain socio-biological age.

Whereas one might argue that in this study the reconstruction of particular costumes – or their geographical or temporal predominance as prehistoric 'fashion' – has been limited, we feel that at a higher level of analysis even single or stray finds of bracelets have proven their worth. By looking at technological and iconographic details, we were able to outline regional and supraregional affinities for most periods under study. Although it is difficult – and perhaps ill-advised – to consider these as proof of contacts (or even human mobility or ethnic markers), it is clear that the networks of affiliation of prehistoric communities in the Netherlands shifted in orientation (e.g. central European, Atlantic, Nordic) and scale (e.g. local, regional, supraregional) and that such information is decodable from studying ornaments, such as bracelets.

For example, in the Middle Bronze Age-B, the bracelets recovered more often than not displayed a supra-regional affinity, among which connections to the Elbe and Weser area of north-western Germany and the Hessen and Thüringen areas of central Germany appear most clearly (with DB 382 as tentative evidence of an Atlantic contact). In contrast, any local or regional style is hard to reconstruct. In the Late Bronze Age, this changes, and local groups may be represented by bracelets decorated with double *pointillé* rows or *Kreisau* (dot-circle motifs). In any case, the shapes of palettes on omega bracelets delineate separate interaction spheres within the Netherlands (north and south of the main rivers area; Fig. 36). Although contacts with north-western Germany persist into this period (evidenced, for example, in the double-wire spiral bracelets; Laux 2015: 64-6), ties with more far-flung areas

(both central European/palafitte (e.g. DB 2881, DB 2869) and Nordic (e.g. DB 474, DB 808, DB 1279-1281; DB 2922)) are represented as well. With both expansion, redirection and smaller recognizable spheres of interaction for bracelets, the LBA appears as a period of increased social entropy (in which communities at smaller (i.e. regional) scales than before manifested and maintained a use of bracelets as social signifiers (cf. Roberts 2007: 149; Sørensen 2013: 217)), all while being mindful of the appropriateness for the occasion and life phase of the wearer.

For the Early Iron Age, more regional patterns are again more difficult to identify. Moreover, when ornaments, in terms of style fit, into supraregional traditions, these are generally too generic (e.g. 'north-western European' studded bracelets, *Wendelringe* and *Hohlwulstringe*; cf. De Wit 1988; Nakoinz 2004: 92-5; Eimermann & Zuyderwyk 2019) to identify interaction zones with any precision. Remarkably, with the start of the Middle Iron Age, although more regional patterns are still hard to identify, cases could be made for contacts and possibly even mobility between Iron Age communities in the Netherlands and those of northern France (DB 2932) and the Hunsrück-Eifel (Fig. 39) areas. They not only testify to yet another re-orientation in the contextual networks (now focused more towards southern and central Europe), they also demonstrate that the functionality of bracelets as sociocultural signifiers (as social sparkle, in short) remained in fashion throughout the period c. 1300-400 calBC.

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