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C. Isings - Roman Glass in Limburg

ROMAN GLASS IN LIMBURG

by

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Preface

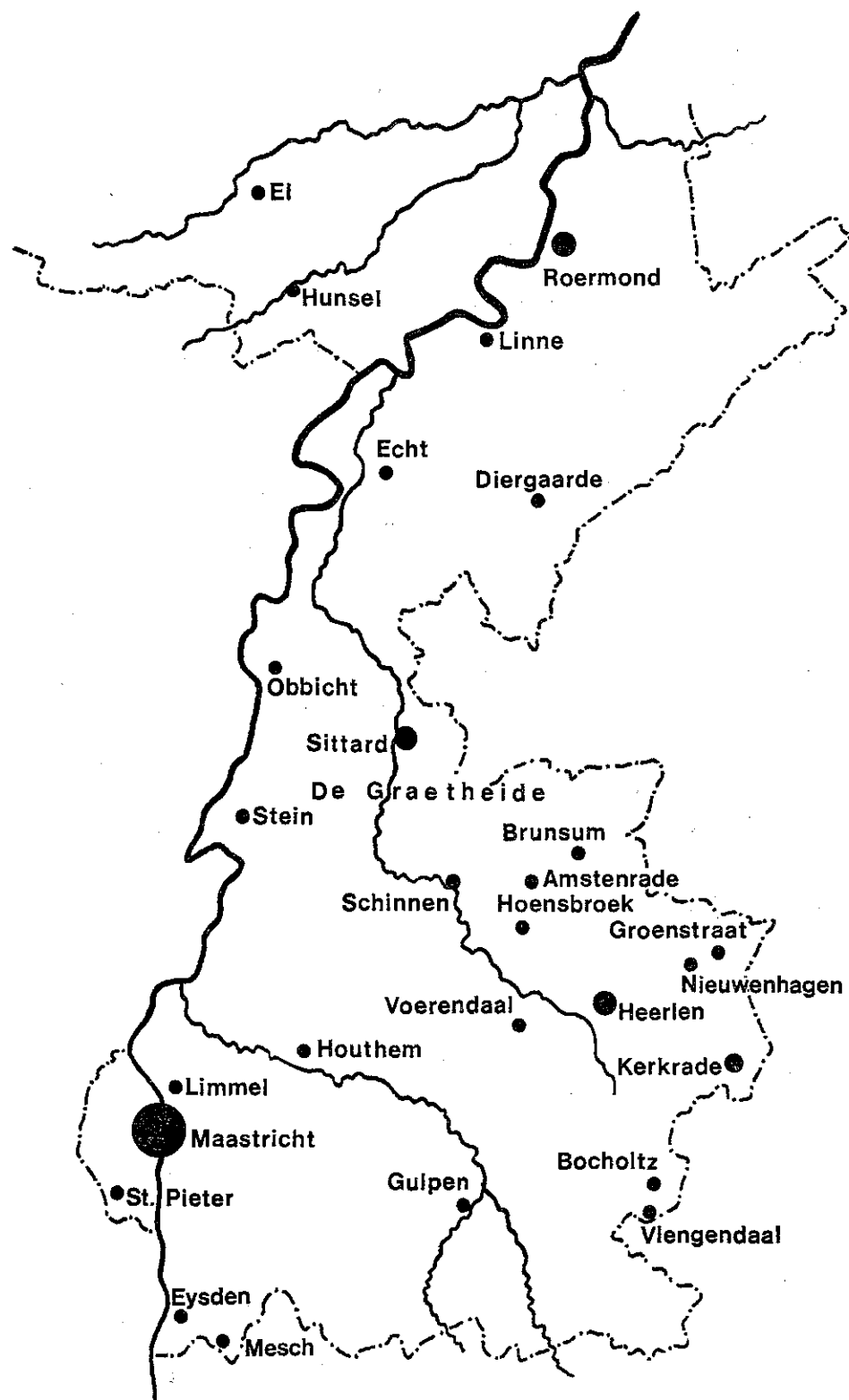
Dutch Limburg is rich in finds from the Roman period and numerous objects have come to light. The most important collections of Roman Antiquities from this region are to be found in the Municipal Museum at Heerlen and in the Provincial Museum 'Bondefanten' at Maastricht. A Dutch catalogue of the Heerlen collection of glass will appear simultaneously, the Dutch edition of the Maastricht collection appears as a catalogue of the museum 'Bondefanten'. Both are combined, with slight alterations, in this English version.

In some cases more references for comparison are given than in others. This is done whenever in cited general works sub-types were not considered, or when more datable material had come to light. References about the objects themselves are kept as concise as possible, a full bibliography being mentioned by either Byvanck, *Excerpta Romana* and/or van Doorselaer, *Repertorium van de Begraafplaatsen/ Répertoire des nécropoles d'époque romaine en Gaule septentrionale*.

I want to express my sincere thanks to those who enabled me to study this interesting material: from the first I have had the untiring help of Dr. J. Sprenger, Maastricht, later also of Drs. J. H. F. Bloemers to whom I am indebted for much information, I am thankful to Drs. I. L. Szénássy, director of the museum 'Bondefanten' for making a Dutch edition of this catalogue possible. I want to express my warm thanks also to Drs. L. E. M. A. van Hommerich, director of Heerlen museum for his permission to study the glass, and to his staff of whom I want to mention especially Mr. Jos. Gielen, who never tired in bringing new finds and information. I remember with great pleasure the days I spent working in both museums. I am very thankful to Prof. Dr. J. E. Bogaers, for his permission to publish the glass from the Maastricht-Belfort excavation before the full publication of this find has appeared, without it the Maastricht catalogue would not have been complete, especially so since this is one of the most important finds from the town itself.

I am thankful to the draughtsmen and woman of the University Workroom who made the drawings publishable and to Prof. Dr. W. A. van Es, Director of the State Service for Archaeological Investigations for the drawings of the Maastricht-Belfort glass, as well as to F. J. Pannekoek and W. Vermeulen, who made the photographs.

Spring 1970, Utrecht.



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Glass from the Roman Period in the Provincial Museum
 'Bondefanten' at Maastricht

The Maastricht collection of Roman glass consists of finds from several sites, some of them unknown, the majority situated in the present Dutch Limburg. Some fragments were found at dwelling sites, such as Roman villae or settlements, the majority of the glass vessels was found in graves, some belonging to dwelling sites already known, others indicating Roman occupation nearby. Part of the collection came to light during regular excavations and the objects were kept in context—a large part however was discovered accidentally and so little documentation is available. The earliest glass dates from the 1st century A.D., the majority from the period of efflorescence of this region: the 2nd and 3rd centuries. In the course of the 3rd century most villae were deserted and towns like Maastricht and Heerlen were fortified—only a few fourth-century glass objects represent the late Roman period. In general the collection provides us with a picture of glass in daily life in this region, ordinary household ware and packing glass as well as fine luxury glass, comparable to glass finds from the Rhineland and from Belgium.

Most numerous are Roman finds in the southern half of Dutch Limburg, here important Roman roads crossed the country, on the Limburg hills many Roman villae have been discovered.

In the South-West, near the Belgian frontier, at Eysden, burials were discovered at a site called appropriately 'het Doodwater' (Dead-water); they date from the second half of the 2nd century¹. In the same region foundations of a villa had been found². At Mesch (municipality of Eysden) prismatic bottles and a conical jug indicate rich graves (or a grave?) from the end of the 1st or the early 2nd century, they too may come from a cemetery near a villa. Gulpen is an important site, during the construction of a tramline six graves in rows of threes came to light, together with a foundation thought to belong to a Roman temple³. Unfortunately only part of the finds was given to the Maastricht museum, the others, described summarily and without illustrations, remained private property and are now untracable. From the description and the dating of the objects now in the Maastricht museum it may be deduced that the graves dated from the end of the 1st and the 2nd centuries. At the site of St. Joseph's asylum another cemetery apparently was cut into, damaging the grave goods among which an oval bowl with snake-thread ornaments, dating from the 3rd or early 4th century. Gulpen may have been situated at a road from Maastricht to Aix⁴, at the confluence of Gulp and Geul the site must have been important as well as pleasant. At Vlengendaal, near the German border (municipality Bochtoltz) a Roman villa was excavated, few glass

¹ Byvanck, *Exc. Rom.* III, p. 14. Van Doorselaer, *Rep.* II, pp. 316.

² Byvanck, *Exc. Rom.* III, p. 13.

³ *De Maasgouw* 1923, p. 10 ff., Beckers, *Voorgesch. Zuid Limburg* pp. 244 ff., Byvanck, *Exc. Rom.* III, p. 15, Van Doorselaer, *Rep.* II, pp. 318 f. J. E. A. Th. Bogaers, *De gallo-romeinse tempels te Elst in de Over-Betuwe.* 's-Gravenhage 1955, pp. 22 ff.

⁴ H. van de Weerd, *Inleiding tot de Gallo-Romeinse Archeologie der Nederlanden.* Antwerpen 1944, map II (road Maastricht-Aix)

fragments are mentioned⁵, from square bottles, a bowl, and from window glass—the latter a necessity in this climate. Maastricht was a civil settlement, later a fortress⁶, parts of wall and two round turrets have been found, as well as other important remains of the town including a Roman bath⁷. Some glass fragments come from the town itself, they date from several periods, the earliest fragment being a marbled bowl (below, nr. 49). More glass came to light in the cemeteries of Traiectum Superius⁸, a twin sarcophagus excavated at Maastricht-Belfort in 1964 e.g. contained much glass, among which glass jars used as urns, and numerous bowls from a set of one type, dating from the 2nd century. The Maastricht-Limmel⁹ cemetery apparently dates mainly from the 2nd and 3rd centuries, one unguentarium being of a first-century type and possibly from an earlier grave. This cemetery may have belonged to another settlement at Maastricht, on the road to the North. At Maastricht-Sint Pieter graves date from the 1st to 4th centuries, a first-century glass rod is the only glass find now in the museum¹⁰. At Strabeek-Houthem many finds were made, part of the Roman road from Maastricht to Heerlen was also discovered. Burials date from the 1st to 3rd centuries, finds from them included a glass beaker¹¹. Voerendaal was the site of a Roman villa, numerous finds have been made¹². A square bottle comes from a grave in one of the cemeteries nearby. Roman graves have been discovered at Kerkrade also, possibly they belong to the inhabitants of a Roman villa¹³, a glass aryballos was found in one grave. The Maastricht Museum possesses one glass object from Heerlen, a flask. The majority of the finds from this *vicus* is in the Municipal Museum of Antiquities (cf. below pp. 59 ff.). At Ubach-over Worms fourth-century glass has been found, in the hamlet of Groenstraat Roman cremation burials date from the second half of the 2nd century and from the 3rd.¹⁴ At Hoensbroek a Roman villa is mentioned a cemetery from the second half of the 2nd century was discovered at the site of the present Dorpsstraat¹⁵ among the grave goods is a glass aryballos. Finds of Roman pottery are known from Amstenrade¹⁶, and some graves have come to light. Unfortunately they are not very well datable. At Puth-Schinnen a fragmentary hexagonal bottle and a fourth-century bottle may belong to graves from a cemetery or cemeteries from which other finds are known¹⁷. Stein was an important site, excavations revealed a *mansio* and a villa, as well as an indigenous fortress and a cemetery from the Roman period¹⁸. No Roman road has been discovered thus far, it is suggested by Van de Weerd¹⁹. The site was occupied from the end of the 1st into the 4th century, its finest objects date from the end of the 3rd, finds from rich sarcophagus

burials include luxury glass with snake-thread ornament. On the moor 'De Graetheide' pre-Roman and Roman finds have been made, glass from Roman graves date from the second half of the 2nd century and from the 3rd²⁰. In 1875 a rich grave was excavated at Obbicht²¹, dating from the Flavian period, finds from other graves date from the same period. Perhaps they belonged to a cemetery for the inhabitants of one of the villae known there²². At Echt-Diergaarde graves were discovered accidentally, probably from a cemetery from the second half of the 2nd century or the early 3rd²³. At Linne a cremation burial was discovered in 1945, the only glass object from this grave is a fragment of a bowl. The road along the left bank of the river Meuse may have passed near Ell-Hunsel, graves found there indicate occupation, possibly on the bank of the Neer.

Three glass vessels are left out of this catalogue intentionally. The Merovingian cemetery excavated in St. Servaes cloisters at Maastricht (a publication of which, by another than the present author, is in preparation) included a rectangular amphorisk, of a type already known from Maastricht museum and a hexagonal bottle, represented also²⁴. A bulbous jug with chain-handle is important because the two others in the collection are only fragments and this is almost complete²⁵. The jug was already an antique, when put into the grave, possibly it had been found accidentally and was re-used, this time in a fifth-century burial.

⁵ Goossens, *Int. Arch. Ethn.* 1918, p. 19.

⁶ Byvanck, *Exc. Rom.* III, pp. 1 ff. Bogaers, *Honderd Eeuwen Nederland. Antiquity and Survival* II, 5-6, 1959, p. 151 f.

⁷ Bogaers, *Nieuws Bulletin van de Kon. Nederl. Oudh. Bond* 1963, pp. 89, 159-161, 211-213, 233-234; 1964, p. 33; 1965, p. 83, 122.

⁸ Bogaers, *Nieuws Bulletin van de Kon. Nederl. Oudh. Bond* 1964, pp. 63 f. and 107 f.

⁹ Byvanck, *Exc. Rom.* III, p. 11, Van Doorselaer, *Rep.* II, p. 326.

¹⁰ Byvanck, *Exc. Rom.* III, p. 6, Van Doorselaer, *Rep.* II, p. 325.

¹¹ Byvanck, *Exc. Rom.* III, p. 20, Van Doorselaer, *Rep.* II, p. 334 f.

¹² Byvanck, *Exc. Rom.* III, pp. 25 ff.

¹³ Byvanck, *Exc. Rom.* III, p. 37, Van Doorselaer, *Rep.* II, p. 323.

¹⁴ Byvanck, *Exc. Rom.* III, p. 39, Van Doorselaer, *Rep.* II, pp. 333f.

¹⁵ Byvanck, *Exc. Rom.* III, p. 41, Van Doorselaer, *Rep.* II, p. 322.

¹⁶ Byvanck, *Exc. Rom.* III, p. 41, Van Doorselaer, *Rep.* II, p. 310.

¹⁷ Van Doorselaer, *Rep.* II, p. 330 f.

¹⁸ Byvanck, *Exc. Rom.* III, p. 44 f. A. E. Remouchamps, J. H. Beckers, J. H. Holwerda, *O.M. Leiden* N.R. IX, 1928, pp. 4 ff.

¹⁹ Van de Weerd, *Inleiding* (cf. note 4), p. 29, no. 19.

²⁰ Byvanck, *Exc. Rom.* III, p. 46, Van Doorselaer, *Rep.* II, p. 332 (Sittard).

²¹ Habets, *Mededelingen Rijksadviseurs*, pp. 27 f., Van Doorselaer, *Rep.* II, p. 329.

²² Byvanck, *Exc. Rom.* III, p. 47 f.

²³ In 1955/56 graves were discovered, finds are in the Echt museum. No mention is made of earlier finds at Diergaarde. cf. Van Doorselaer, *Rep.* II, pp. 314 f.

²⁴ Glazema-Ypey, *Kunst en Schoonheid*, pl. 84.

²⁵ Glazema-Ypey, pl. 82-83.

I. *Unguentaria and small flasks*

1. Inv. no. 480 (*fig. 1, pl. 1*)

Unknown provenience.

H. 6 cm; W. 4.5 cm.

Dark blue glass of good quality. Rim broken and apparently somewhat polished in antiquity. Constriction at base of neck. Patches of white weathering. Type Calvi H. α1. Morin-Jean 37. Isings, Roman Glass 6. Dating from the 1st century A.D.

2. Inv. no. 445 (*fig. 1*)

Found at Maastricht

H. 8.4 cm; W. 2.1 cm.

Greenish, only a few bubbles. Everted, rounded rim, short neck about $\frac{1}{3}$ of total height, constriction at base of neck. Irisation and brown spots of weathering.

This is a variety of Morin-Jean 21, Isings o.c. 8, some specimens may be mentioned in comparison: Ventimiglia, tomb 52 (Museum Ventimiglia); Julio-Claudian period; Vindonissa (Berger, Gläser, 187, pl. 20, 65, p. 76) Flavian; Tongres (De Schaetzen-Vanderhoeven, Oude Land van Loon 1955, p. 5, fig. 2,4 and Vanderhoeven, Glasverzameling, nr. 13) mid 1st century; Mainz (M.Z. 1929/30, pp. 150 f., gr. 30, fig. 13,7) mid 1st century; Pompeii (Napels Museum), previous to 79 A.D.; Babin-dub (Lisičar, Diadora 1960/61, p. 208, fig. 7) 1st century (?); Theux (Vanderhoeven, Verres romains nr. 11, p. 17, De Limbourg, B.I.A.L. xvii, 1883, p. 300); Este, Morlungo gr. 19 (Museo Atestino) probably end 1st century;

Weisenau gr. 40 (Neeb and Kessler, M.Z. 1913/14, p. 47) Claudian-Neronian; Cologne (parallels mentioned by Fremersdorf, Denkmäler iv, pp. 40 f. with pl. 82) 1st century; Ampurias (Almagro, Ampurias II, p. 48, Ballesta gr. 5 and 6, Tiberian-Claudian and Tiberian, p. 49, gr. 7, fig. 7, Claudian, p. 50, fig. 8, gr. 8, 1st century, p. 77, fig. 47, gr. 48, 1st century, p. 89, fig. 67, gr. 70, not datable, p. 98, fig. 81, gr. 16, Neronian. Torres gr. 18, p. 162, fig. 130, Claudian-Neronian, gr. 22, p. 164, fig. 132, Tiberian, gr. 39, p. 172, fig. 143, not datable, gr. 59, p. 190, fig. 162, Tiberian-Claudian. Pi gr. 7, p. 228, fig. 198, not datable. Patel gr. 7, p. 238, fig. 207, Claudian, gr. 13, p. 242, fig. 212, Claudian (?), gr. 18, p. 245, fig. 217, 1st century. Sabadi gr. 6, p. 251, fig. 224, Claudian, gr. 7, p. 252, fig. 225, Tiberian-Claudian, gr. 9, p. 253, fig. 227, Neronian. Bonjoan gr. VII, p. 279, fig. 240, not datable, gr. VIII, p. 271, fig. 241, not datable; Brumath (Strasbourg Museum) not datable. Colchester (May, Colchester, Joslin Coll. gr. 56, pl. LXXXII, p. 269) end 1st century A.D.

3. Inv. no. 446 (*fig. 1*)

Found at Obbicht, in 1882. Gift of J. Meulleners

H. 13.4 cm, d. (greatest) 3.1 cm.

Bluish green, numerous bubbles. Everted, rounded rim. Neck $\frac{1}{2}$ of total height, constriction at its base. Part of rim missing. Some white weathering.

Morin-Jean 21, Isings, o.c. 8. Other examples with neck $\frac{1}{2}$ of total height: Ritterling (Hofheim) type 18, Claudius-

Vespasian; Louvigny-Bavay (Rénault, B.A. 1909, pl. VIII, p. 155) Claudian; Nijmegen (Vermeulen, Hunnerberg, 120A) mid 1st century; Zadar (cat. Valenti, p. 27, Claudian-Neronian, Suic, Muzeji, fig. 35, gr. 3/42, mid 1st century); Cologne (Fremersdorf, Praeh. Zeitschr. 1927, p. 262, fig. 10, mid 1st century, fig. 14: Flavii; Gollub, K.Jb 1962/63, fig. 7.6, p. 75, end 1st century); Giubiasco (Ulrich, Kat. Zürich, p. 560, tomb 72) mid 1st century; Xanten (Houben, Xanten, pl. IIc) mid 1st century; Weisenau (Neeb/Kessler M.Z. 1913/14, p. 40, tomb 6) mid 1st century, p. 44, tomb 26, mid 1st century, p. 49, tomb 50, end 2nd - early 3rd century, probably heirloom); Locarno (Simonett Tess. Gräberf. p. 105, fig. 87,5, Muralto-Liverpool tomb 44, Claudian-Neronian; p. 149, fig. 128, 17, Cadra tomb 14, Claudian-Neronian); Colchester (May, Colchester, pl. LXXXVI, 7. p. 254, Claudian-Neronian; pl. LXXXI, nr. 45, p. 266, end 1st century; p. LXXXI, nr. 48, p. 267, Id; pl. LXXXI, nr. 52, p. 268, end 1st century; pl. LXXXII nr. 57. p. 269, end 1st century; p. LXXXIV, nr. 72, p. 273, 1A); Pompeii (Museum Naples and Antiquarium Pompeii, Nuovi Scavi Pompeii) before A.D. 79; Herculaneum, before A.D. 79; Este (from Palugano, Ospedaletto, excavations 1912, end 1st century; Via S. Stefano, Casa Alfonsi, 1st century; Villa Benvenuti, t. 14, Flavian; Necropoli Nord t. 2, Antonine period, t. 6, Flavian. (Museo Atestino); Ampurias (Almagro, Ampurias II, Torres 9 p. 150, fig. 118, with coin of Vespasian; t. 16, p. 160, fig. 128, mid 1st century (?); Nofre 13, p. 206, fig. 181, not datable); First-century examples in Turin museum from Ornavasso, Caressana, Asti and Crescentino; Tavel (Gagnière, Grenier, Perrot, Gallia 1961, p. 239, figs. 3 and 6, 44-45) Claudian-Neronian; Sannes (Dumoulin, Gallia

1958, p. 228, fig. 35, t. 9) early 2nd century; Stree (van Bastelaer D.R.S.Ch. 1876, p. 254, pl. VII, 20, t. 107) early 2nd century; Vaison (Sautel, Vaison, nr. 2082) Hadrian-Antonine. Tipasa (Lancel, Verrerie, pl. VII, 6 and 8, nrs. 103, 108, 109, end 1st century. Cf. also: Fremersdorf, Denkmäler IV, pl. 82, h, i, p. 40.

4. Inv. no. 465 (*fig. 1*)

Found at Maastricht-Limmel

Ref.: Van Doorselaer, Rep. II, p. 326 (Maastricht-Wijk)

H. 11,2-11,5 cm., d. 3 cm.

Bluish-green, some bubbles. Everted rim, partly rounded, partly folded inward. Concave bottom. Irisation and some milky weathering.

Variety of Morin-Jean 21, Isings o.c. 8/28. Comparable are: Locarno (Simonett, Tess. Gräberf. p. 81, fig. 64,10, Liverpool unten t. 14, Neronian; p. 105 and 107, fig. 87, t. 44, Claudian-Neronian; p. 148, fig. 128, Cadra t. 14, Claudian-Neronian; p. 160, fig. 138, t. 28, Claudian-Neronian); Ampurias (Almagro, Ampurias II, p. 80, Ballesta t. 55, Claudian (?); p. 93, fig. 72, Rubert t. 3, somewhat more convex bottom, not datable; p. 146, fig. 112, Torres t. 3, dated Tiberian by Almagro; p. 150, fig. 118, t. 9 with coin of Tiberius; p. 156, fig. 124, t. 13 with coin of Claudius; p. 242, fig. 212, Patel t. 13, Claudian (?) p. 244, fig. 216, t. 17, with coin of Claudius; p. 245, fig. 217, not datable; p. 245, fig. 218, t. 19; 1st century (?), p. 249, fig. 221, t. 22, not datable; p. 251, fig. 224, Sabadi t. 6, 1st century (?); p. 286, fig. 263, Granada t. 6, mid 1st century; Crescentino (Turin Museum) 1st century; Este (N.d.Sc. 1928, p. 6, fig. 4) 1st century; in Este museum: from Sa. Maria di Carceri, t. 23, end 1st century, from Necropoli Sud t. 23, mid

1st century, from Necropoli Nord t. 6, Flavian; Pompeii, examples from before A.D. 79; Cologne (Germania 1932, p. 282, fig. 2, Neronian; Lux. Strasse t. 4, Gollub in K.Jb. 1962/63, p. 74, mid 1st century); Vindonissa (Berger, Gläser, nr. 186, pl. 20, p. 76) 1st century; Colchester (May, Colchester, t. 32, pl. LXXVIII, p. 261 second half of 1st century. Harden, Camulodunum, nrs. 85 and 87, p. 305, pl. LXXXVIII, Neronian); Weisenau (Behrens, Röm. Gl.Dl. fig. 3) mid 1st century; Tenero (Silvestrini, R.St.Fic. 1940, p. VIII, 12, t. 88, with coin of Vespasian, t. 32, pl. VIII, 14 not datable).

The Maastricht-Limmel cemetery is dated by Byvanck (Excerpta Romana III, p. 11) to the 2nd century mainly. By Van Doorselaer to the 2nd and 3rd centuries.

5. Inv. no. 442 (fig. 1)

Unknown provenience, acquired from Jaeger collection, Heerlen

H. 9.5 cm., d. 3.1 cm.

Bluish green, some bubbles. Everted rim, folded inward. Neck more than half of total height, constriction at base. Somewhat concave bottom. Slightly weathered.

Isings o.c. 28b, which comprises examples with and without constriction at base of neck. Comparable to this specimen: La Calade (Bérard, Gallia 1961, p. 115, pl. VIII, t. 7, mid 2nd century; p. 123, pl. XIII, t. 12, Claudian-Neronian; t. 13, pl. XIV, p. 123, Flavian; p. 134, pl. XIX, t. 19, Claudian-Neronian); Sannes t. 1 (Dumoulin, Gallia 1958, p. 224, fig. 32) end 1st century; Este (Necropoli Sud, Morlungo t. 11, end 1st century; t. 19, end 1st century; t. 23 mid 1st century to 2nd half 1st century. Museo Atestino); Locarno (Simonett, Tess. Gräberf., p. 174, fig. 148, 12, Cadra t. 33, Nero-Vespasian; t. 11, p. 144, fig. 124,

Neronian-Vespasian); Stree, t. 56, (van Bastelaer, D.R.S.Ch. 1876, p. 159 and p. 247, pl. VII, 17) Flavian; Vervoz t. II (Vanderhoeven, Verres Romains, p. 28, nr. 25; Philippe, Homm. Grenier, p. 1248) Flavian; Feurs, Maison Chamoux (Feurs Museum) 1st century; Cologne (Fremersdorf, Denkmäler IV, pp. 43 f., parallels for N 734 and 735) Claudian-Trajanic; Remagen t. 173 (Funck B.J. 122, pl. XXII, 8, p. 266, Flavian; Tipasa (Lancel, Verrerie, nrs 127, 129, 131, 133) mid to end 1st century; Ampurias (Almagro, Ampurias II, p. 148, fig. 114,4, Torres t. 5, with coin of Domitian; p. 149, fig. 116, not datable; p. 150, fig. 118, t. 9 with coin of Titus; p. 159, fig. 127, t. 15, not datable, p. 163, fig. 131, t. 20 not datable; p. 201, fig. 173, Nofre t. 2, with coin of Hadrian; p. 279, fig. 255, Bonjoan t. XXII, with coin of Domitian); Nijmegen (from cemetery OH, Museum G. M. Kam.) previous to A.D. 70; Asti and Palazzolo Vercellese, examples from the 1st century and first half of the second (Turin Museum); Nîmes, Chemin de Beaucaire (in museum Nîmes) end 1st-early 2nd century; Colchester (May, Colchester, pl. LXXXIX, Jarmin coll. t. 3, p. 286) last quarter of 1st century; St. Rémy, child's burial from the second half of the 1st century (St. Rémy museum); Szombathely (Buócz, Arch. Ert. 1960/61, p. 219, t. 1, fig. 3, second half of 1st century, t. X, p. 232, fig. 6, end 1st to 2nd centuries, t. XXXIII, p. 235, fig. 11, end 1st to 2nd centuries); Apt (Dumoulin, Gallia 1958 p. 212, fig. 8) first half of 2nd century; Ventimiglia t. 35 (Ventimiglia Museum) Trajan-Hadrian.

6. Inv. no. 429 (fig. 1)

Found at Eysden, site 'Het Doodwater' at Hoog-Caestert

Ref.: De Maasgouw 1926, pp. 70 and 72; 1927, p. 12; 1931, p. 68

Van Doorselaer, Rep. II, p. 316 (Eysden II)

H. (extant) 11.5 cm., d. 3.3 cm.

Bluish green, some bubbles. Rim missing. Neck ca $\frac{2}{3}$ of total height, with constriction at base. Somewhat concave bottom. Milky weathering.

Same type as nr. 5. Finds from this site date from the middle of the 1st century to the first half of the second.

7. Inv. no. gr. 2-17a (fig. 12,5)

Found in burial 2, nr. 17a at Maastricht-Belfort, exc. 1964

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

H. 13.5 cm., d. 5.4 cm.

Bluish green, with streaks and bubbles. Rim folded outward horizontally and inward. Concave bottom. White patches of weathering on the inside.

Type Morin-Jean 24, Isings o.c. 28b/82 B(2), (82 B(2) may be development of 28b). Comparable are: first-century examples from cemeteries of Palazzolo Vercellese and Crescentino (in Turin Museum); Duklya t. 146 (Inventaria Archaeologica Yugoslavia, Y 67) 1st century; Apt (Dumoulin, Gallia 1964, p. 92, t. 9, fig. 7B) end 1-early 2nd century; Gallia 1958, t. IV, p. 214, fig. 19, probably 2nd century); Straubing (Walke, Straubing, pl. 76,4, p. 49) 2nd century; Nijmegen (Brunsting, Grafveld Hees, p. 177, pl. 9, find 7) second half of 2nd century; Fresin (Schuermans, B.C.R. 1863, p. 141 and 143, pl. III, 6) end 2nd century-early 3rd; San Gavino Monreale (N.d.Sc. 1950 p. 281, fig. 1) end 2nd or 3rd century); York (Harden, in: Eburacum p. 137, fig. 89, HG 16, p. 137) among glass from late 1st to 2nd centuries, with base-marking.

8. Inv. no. 436 (fig. 1)

From the Jaeger collection, Heerlen, find spot unknown

H. 8.6 cm., d. 2.8 cm.

Bluish green tinge, numerous bubbles. Everted rim, folded inward. Concave bottom. Yellow and white weathering. Variety of Isings, o.c. 82 B(2). Comparable are: Fresin (Schuermans B.C.R. II, 1863, p. 142) end 2nd to early 3rd century; Nijmegen, examples from cemeteries KL and WW (Museum G. M. Kam), A.D. 70-240; Cologne (Fremersdorf, Denkmäler IV, pl. 91, comparison to N. 749, 746, 744, one of the examples mentioned found with coin of Domitian); Kreuznach (Behrens, Röm. Gl.Dl. fig. 5) probably from early 2nd century; Apt (Dumoulin, Gallia 1958, fig. 19,6, p. 215, gr. IV) probably IIa; Heidenheim (O.R.L. Lieferung XIII, pl. III, 31) II-III; Remagen, t. 37 (Funck, B.J. 110, p. 64) 3rd century; Colchester May, Colchester, Jarmin coll. pl. XC, p. 288) 2nd century.

9. Inv. no. gr. 1-1

Found at Maastricht-Belfort, burial 1, nr. 1, excavation 1964

H. 18.1 cm., d. 10.9 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63.

Bluish green tinge. A few bubbles. Rim folded outside and inside, somewhat concave bottom. Iridescence and dulling. Part of side missing.

Type Morin-Jean 24/25, Isings, o.c. form 82 B(2), dating from 2nd-3rd centuries, the majority from IIb-III.

10. Inv. no. 2511 (fig. 1)

Found in town-park, Maastricht, 1969 D. at rim: 3.3-3.4 cm.

Bluish green, with numerous bubbles. Rim and part of neck. Rim folded outward and inward. Some dulling.

Probably form Isings, o.c. 82, dating from 2nd and 3rd centuries.

11. Inv. no. 448 (*fig. 1*)
 Found possibly at Stein
 H. 8.5 cm., d. 5.4 cm.
 Greenish, with some bubbles. Rim folded outward horizontally and inward, flattened bottom. White and brown weathering. Small fragment missing, cracked.
 Small variety of Morin-Jean 39 and Isings, o.c. 101 (cf. p. 120 for small specimens) to examples may be added: Aguntum (Ö. Jh. XLII, 1955, sp. 79) from 4th century; Niederembt, gr. 3 (B.J. 1960, p. 486, fig. 28,4) end III-early IV; York (Harden, Eburacum fig. 89, p. 141, nr. 103,1) late Roman; Cologne, Kartäuserhof (Doppelfeld, B.J. 1959, p. 156, Fig. 3,4) 4th century; Cologne Waidmarkt (La Baume, Mouseion, p. 80, fig. 16) 4th century; Cologne, St. Severin (K.Jb. 1962/63, p. 154, fig. 16,6) 4th century; Krefeld-Gellep (Pirling, B.J. 1959, p. 241, fig. 3,5) end IV.
12. Inv. no. 444 (*fig. 1*)
 Found at Obbicht en Papenhoven, gift of J. Meulleners
 H. 8.3 cm., d. 5.4 cm.
 Greyish green glass, a few bubbles. Rim folded outward horizontally, downward and upward. Bottom only slightly concave. Some white and brown weathering. No precise parallel known to me, possibly variety of Isings, o.c. 16. Perhaps comparable to flasks with different rim-types: Weisenau, gr. 40 (Neeb and Kessler, M.Z. 1913/14, p. 48, nr. 11) Claudian-Neronian; Cologne, St. Severin, gr. 78 (Fremersdorf, B.J. 1933, p. 46, fig. 7) IB and gr. P. 3 (K.Jb. 1962/63, p. 137, fig. 2.5) mid-first-century.
13. Inv. no. 447 (*fig. 1*)
 Unknown provenience
 H.: 9 cm. extant, d. 4.5 cm.

- Greenish with numerous bubbles. Rim was everted. Bulbous body. Brown weathering. Rim missing.
 Parallels are mainly near-Eastern, possibly from Mesopotamia (Negro Ponzi, Mesopotamia 1968/69, pp. 316 ff., nr. 1, fig. 153) dating from the Sasanian period. From western sites a possibly second-century bottle from Stree seems to be of similar shape (van Bastelaer, D.R.S.Ch. 1876, pl. VII, 21, p. 163 and 254) and also one from Allogny (Gallia 1956, p. 324, fig. 128) from 3rd-4th century.
14. Inv. no. 477 (*fig. 1*)
 Found at Heerlen, cremation burial near the 'Geleenhof', Valkenburgerweg, in 1925.
 H. 5.5 cm., d. 5.8 cm.
 Bluish green, with numerous bubbles. Somewhat everted rim, folded inward, short neck, flat bottom. Some white weathering. May be compared to late specimens as mentioned by Isings, o.c. form 26 or the small variety of 101, dating from the 3rd century. In view of this the bottle may be dated end II to III.
15. Inv. no. 413 (*fig. 1*)
 Found at the Houterend at Stein, grave 1, nr. 3, in 1924
 Ref.: Beckers, Publ. 1926, p. 367, nr. 3. Van Doorselaer, Rep. II p. 332-333.
 H. 8.3 cm., d. 3.7 cm.
 Cylindrical bottle, bluish green, some bubbles. Everted rim, folded inward, slightly concave base. Some white weathering at one side.
 No exact parallel known to me. A specimen with long neck in the Antiquarium at Pompeii dates from before A.D. 79. A bottle from Fresin (Schuermans, B.C.R. II, pl. III, 14, p. 146) dates from end of the 2nd century or early 3rd. Not datable is a long-necked one from

Cologne (Fremersdorf, Denkmäler IV, pl. 95 left)

16. Inv. no. 453 (*fig. 1*)
 Found at Maastricht-Limmel
 H. 11.5 cm., d. 5.1 tot 5.5 cm.
 Ref.: Van Doorselaer, Rep. II p. 326. (Maastricht-Wijk)
 Mercurius-bottle, without stamp. Greenish, with some bubbles. Rim folded outward horizontally and inward, neck and shoulder awry. White weathering on the inside. Cracked and part of rim missing.
 Type Morin-Jean 19, Isings o.c. 84. As metal and quality of Mercurius bottles are very similar they possibly came from one centre. The majority dates from the 2nd to 4th centuries. To examples may be added: Tongres, gr. LXV in N.E. cemetery (Vanderhoeven, Rom. Glasverz. nrs. 139 and 140) IIIA; Geich (B.J. 1959, p. 414, fig. 42,2) end II-early III; Ospringe (Whiting, Arch. Cant. XXXVIII, p. 127, nr. 151) probably end II; Robechies (Spitaels, Ant. C. 26, p. 120, gr. 2, nr. 684B) end III; Cologne, Waidmarkt (La Baume, Mouseion, p. 82, fig. 21) IIIA; Cologne, Kartäuserhof (Doppelfeld, B.J. 1959, p. 154, gr. 2) IV; Laurenzberg, gr. 2 (B.J. 163, 1963, p. 541, fig. 28,1) mid 3rd century.
17. Inv. no. 415 (*fig. 1*)
 Found at Stein, Houterend, grave 2, nr. 2, in 1924
 H. 11.5 cm., d. 5.5 cm.
 Ref.: Beckers, Publ. 1926, p. 269, nr. 2. Van Doorselaer, Rep. II p. 332-333.
 Bluish green tinge, numerous bubbles, some streaks. Everted rim, rounded. Neck gradually slopes into body. Some weathering.
 No exact parallel known to me. Comparable are (with different rim-types) Mérida (A. E. Arq. 1961, p. 100, fig. 9) dated to A.D. 20-50; Colchester (May,

Colchester, Joslin coll. gr. 51, p. 267, pl. LXXXI) Flavian. With constricted neck: Weisenau gr. 28 (Neeb and Kessler, M.Z., 1913/14, p. 44) early II. The Stein grave dates from the Flavian period.

II. Flasks

18. Inv. no. 424 (*fig. 1*)
 Found at Amstenrade, grave 1 at the Heibergerweg, during digging operations in 1934.
 H. 13.2 cm., d. 7.2 cm.
 Ref.: Van Doorselaer, Rep. II, p. 310
 Bluish green, numerous bubbles. Rim folded outward and downward and inward obliquely, making a mushroom profile. Neck with constriction at base, horizontal ridges are tooling marks. Rather flat, only slightly concave bottom. Some dulling.
 Variety of flask Isings, o.c., form 16, comparable to: specimen with horizontal wheel-engraved lines, from cemetery OH, Nijmegen (anterior to A.D. 70, in the museum Kam); from Hunnerberg cemetery. Nijmegen (Vermeulen, Hunnerberg, type 118, gr. 107) mid-first century; Hofheim type 16, Claudius-Flavii; Colchester (May, Colchester, Joslin coll. pl. LXXV, gr. 3, p. 253) late Neronian; from excavations Colchester (Harden, Camulodunum, p. 304, nrs. 83-84), A.D. 41-65; Saintes (Saint-Germain-en-Laye Museum) from a Claudian-Neronian burial.
19. Inv. no. 475 (*fig. 1 and pl. 1*)
 Found at Stein, Houterend, sarcophagus II, in 1924
 H. 16.5 cm., d. 10.5 cm.
 Ref.: Beckers, Publ. 1926, p. 382, fig. 14, nr. 7 and fig. 16. Van Doorselaer, Rep. II pp. 332-333. Cat. Glastent. Leiden 1962, nr. 289.
 Dark olive green, apparently black, with some streaks and bubbles. Funnel

mouth, rim folded inward. Slender neck with constriction at base, slightly concave bottom. Almost no weathering.

This is an early variety of the flasks with funnel mouths. There are two sub-types, the one with a constriction at the base of the neck, the other without it. A flask with vertical ribs, found in cemetery on at Nijmegen might be one of the earliest of sub-type 1, as its date may be anterior to 70 A.D. A bluish green specimen from Jupille (Vanderhoeven, *Verres tardifs*, pl. xxiii, 6, p. 28, nr. 26) probably dates from the 2nd century. Not datable are flasks from Cologne (Fremersdorf, *Denkmäler* iv, pl. 67, and one with a very short neck, pl. 66, both dated by him to the 2nd century) and from Lillebonne (Morin-Jean, fig. 109).

Examples of the second sub-type often have horizontal engraved lines on the body. A flask from St. Severin cemetery Cologne (Fremersdorf, B.J. 138, 1933, p. 47, fig. 8, nr. 18) dates from the early 2nd century; one from Nijmegen (Brunsting, *Grafveld Hees*, p. 188, find 32) from the Hadrianic period; Kisselbach (Hopstätter, *Germania* 1943, p. 97 ff) dates from the 2nd century. Sarcophagus II at Stein contained objects from different periods, the cremation burial probably dates from the end of the 3rd century A.D.

20. Inv. no. 426 (fig. 2)
Found at Puth-Schinnen, during digging operations at building site in 1935
H. 20.4 cm., d. 13 cm.
Ref.: probably mentioned by Van Doorselaer, *Rep.* II, p. 320.
Bluish green, numerous bubbles. Funnel mouth with rim folded outward. Slightly concave bottom. Some milky weathering. Incomplete and mended. Variety of Morin-Jean 40, Isings, o.c. 104, probably dating like these from 3rd and

4th centuries A.D. Comparable are specimens from Greece (Weinberg, A.J.A. 1962, p. 131, fig. 9) and one from Seltz (Strasbourg Museum) none of them datable. The latter has a ridge under its rim.

21. Inv. no. 2415 (fig. 2)
Found at Stein, Houterend, sarcophagus I, in 1924
H. of neck: 2.4 cm.
Ref.: Beckers, *Publ.* 1926, p. 377, Van Doorselaer, *Rep.* II, pp. 332 ff.
Colourless, impurities not visible. Fragment of neck and shoulder. Cylindrical neck, constriction at its base. Heavy layer of brown weathering.
Morin-Jean 41, Isings, o.c. 103, from 3rd-4th centuries A.D.
22. Inv. no. 2415A (fig. 2 and pl. 1)
Found at Stein, Houterend, sarcophagus II, in 1924
H. (extant) 5.7 cm., d. base: 5 cm.
Ref.: Beckers, *Publ.* 1926, p. 383, no. 8, Van Doorselaer, *Rep.* II, pp. 332-333
Colourless glass, with greenish tinge in thicker parts. Numerous bubbles. Two fragments of base and lower side, some of side, fragment of cylindrical neck, and of shoulder. Cut out base ring. Deep indentations on side made by 'sucking back'. Heavy layer of brown weathering.
In outline variety of Morin-Jean 41, Isings, o.c. 103. Comparable examples with indentations: Cologne (Hagen, B.J. 114/115, 42c, p. 413) probably from 3rd century; Doppelfeld, *Röm. und fränk. Glass*, p. 52, pll. 98 and 99, dated to 3rd century); Split, with different type of neck (von Saldern, *J.Gl.St.* vi, p. 45) not datable.
Sarcophagus II was probably buried at the end of the 3rd century A.D.

23. Inv. no. 1418 (fig. 2)
Found near the so-called Roman villa at Stein (possibly from Germanic hill-fort?)
H. \pm 7.8 cm., d. 8.4 cm.
Ref.: possibly Beckers, O.M. Leiden, 1928, p. 29 B5. Byvanck, *Exc. Rom.* III, p. 44-45
Greenish glass, numerous bubbles. Everted, rounded rim. Body blown into vertically fluted mould. Horizontal wheel-engraved lines above and below fluting. Four fragments, incomplete. Exact parallel not known to me. Mould-blown flasks with vertical or horizontal fluting known among forms like Isings, o.c. 101, e.g. from Mayen (Haberey, B.J. 1942, p. 258, type 8).

24. Inv. no. 418 (fig. 2 and pl. 1)
Found at Stein, Houterend, sarcophagus I, in 1924
H. 19.5 cm., d. 7 cm.
Ref.: Beckers, *Publ.* 1926, p. 376, nr. 5, figs 9-10; van Doorselaer, *Rep.* II p. 332-333. *Cat. Glastent.* Leiden nr. 281.
Colourless glass. Funnel mouth, thick, rounded rim, massive stem. Snake-thread decoration in blue, white and yellow. White spiral thread on neck, shoulder and lower side. Part of foot restored. Some devitrification.
Morin-Jean 64 and Isings, o.c. form 93. The majority is more bulbous, like the Morin-Jean type. There are different snake-thread patterns. Comparable examples: Cologne (Fremersdorf, *Denkmäler* v, pll. 30-41, pl. 11 with colourless snake-thread, pl. 43 with indentations and snake-thread. Datable: pl. 31, p. 45, early 3rd century, pll. 32-33, p. 46, early 3rd century, pl. 35 below, p. 46, from gr. 532, St. Severin cemetery, end II-early III); examples illustrated by Morin-Jean figs 278-281 are not datable, nor is an indented one from Tongres (Vanderhoeven, *Rom. Glasverzameling*, nr. 149).

Sarcophagus I was probably buried at the end of the 3rd century.

25. Inv. no. 2415A (fig. 1)
Found at Stein, Houterend, sarcophagus II, in 1924
H. ca. 7.5 cm., d. 7 cm.
Ref.: Beckers, *Publ.* 1926, p. 381, nr. 3, fig. 14. Van Doorselaer, *Rep.* II pp. 332-333.
Colourless glass. About $\frac{1}{2}$ of body, with base-ring, mouth, neck and part of shoulder. Everted rim, rounded. Between mouth and neck a colourless spiral thread, and one at the lower side. Coil base. Cracked. Milky and brown weathering, the latter as a heavy layer on the body.
An exact parallel not known to me, however flasks like those illustrated by Fremersdorf, (*Denkmäler* v, pll. 46 and 48) among the snake-thread glass from Cologne have a similar shape. Also similar, but without the spiral threads, is an example in the Metz museum and Loeschke, *cat. Niessen* 581.
Sarcophagus II was probably buried at the end of the 3rd century.

III. *Aryballoi*

A. PLAIN

26. Inv. no. 431 (fig. 2)
Unknown provenience
H. 5.7 cm., d. 5.3 cm.
Bluish green, numerous bubbles of all sizes. Rim folded outward horizontally and inward, overlapping into the mouth. Concave bottom with traces of pontil-mark. Dulling. Type Morin-Jean 33, Isings, o.c. form 61, to which may be added: Ospringe (Whiting, *Arch. Cant.* 38, p. 125, pl. xvi) II; Corbridge (A. Ael. 30, pl. VIII, p. 259) II; Buderich (B.J. 1959, p. 388) II; Tongres (Vanderhoeven, *Rom. Glasverz.* nr. 96, pp.

- 46-47) last three decades of 2nd century; Győr-Nádorváros gr. 5 (Bíró, Arch. Ert. 1961, p. 240, fig. 7, 8) II; Remagne-Rondu (Frémault, Remagne, pp. 60 ff, fig. 23) end II; Jakobwillesheim (B.J. 1959, pp. 418 f., fig. 43) III; Burdinne (Vanderhoeven, Verres romains nr. 83) end II - early III; Intercisa (Radnóti, Intercisa II, pl. XXIX, 8, p. 155) probably III; York (Harden, Eburacum fig. 88, HG 227, p. 141) late Roman. This type of broad and flat rim occurs already in the 1st century bottles and is common among those from the 2nd century and later.
27. Inv. no. 433 (fig. 2)
Found at Opgrimby (Belgium) near the Belgian-Dutch frontier, in 1928
H. 4.6 cm., d. 5.9 cm.
Bluish green, with some bubbles. Rim folded outward horizontally and inward again. Concave bottom. The end of the coil used for the handles is folded back over the handles up to the rim. Dulling on the inside.
Variety of Morin-Jean 33 and Isings, o.c. 61. The more oval type of body is later apparently than the bulbous one, an example from Cologne appears to be of this shape (K.Jb. 1955, p. 117, fig. 3) end II-early III.; two others from Cologne were dated by Fremersdorf to the 2nd century (Denkmäler IV, pl. 40). Two bottles from Tongres are still more oval than the Opgrimby one, another is decorated with a spiral coil (Vanderhoeven, Rom. Glasverz., nr. 99-101, pp. 47 f.); a bottle from Ospringe (Whiting, Arch. Cant. 38, p. 125, pl. XVI, 141, group XI) has a more convex bottom, it dates from the second half of the 2nd century; an example from Aquileia is thought to belong to a 2nd century variety of the type (Calvi, Vetri romani, p. 26 f. tipo B)
28. Inv. no. 434 (fig. 2)
Found at Kerkrade, at building site, in 1929
H. 7.3 cm., d. 7.4 cm.
Ref.: De Maasgouw 1929, pp. 33 and 36. Van Doorselaer, Rep. II p. 323.
Bluish green tinge, numerous bubbles. Rim folded outward and somewhat downward, and inward again, making a 'mushroom' profile. Concave bottom. Pontil-mark. White weathering.
Morin-Jean 33, Isings o.c. 61, Calvi p. 26 A α. Cf. also additions mentioned above (nr. 26). The mushroom profile is common from the second half of the 1st century into the 2nd century. Other finds from this site date from the end of the 1st to the 3rd century.
29. Inv. no. 435 (fig. 2)
Found at Groenstraat, municipality of Ubach over Worms.
H. 6 cm., d. 5.6 cm.
Ref.: De Maasgouw 1926, p. 70; Van Doorselaer, Rep. II, pp. 333-334.
Bluish green, some bubbles. Rim folded outward and inward. Concave bottom, end of the coil used for the handles is folded over the handles and the rim. White and yellow weathering.
Morin-Jean 33, Isings, o.c. 61, Calvi, p. 26 A α, cf. above nr. 26. The cemetery is dated by Van Doorselaer (o.c. pp. 333 f.) to the second half of the 2nd to first half of the 3rd century.
30. Inv. no. 449 (fig. 2)
Found at Hoensbroek, in a sand-pit, in 1921
H. 6 cm., d. 5.5 cm.
Ref.: De Maasgouw 1922, p. 47. Van Doorselaer, Rep. II, p. 322
Bluish green, some bubbles of different sizes, numerous at lower side. Irregularly shaped rim, folded outward and inward. Handles made rather carelessly.

Concave bottom. Yellow weathering on the inside.

Morin-Jean 33, Isings, o.c. 61 and above nr. 26, Calvi p. 26, A α. Comparable examples are: a not datable bottle from Tongres (Vanderhoeven, Rom. Glasverz. nr. 93); one from cemetery KL, Nijmegen (museum Kam, nr. xxa 338 KL) from A.D. 70-240; Ospringe (Whiting, Arch. Cant. 38, pl. XVI, p. 125, nr. 141) from 2nd century, with similar handles; Laurenzberg gr. 5 (B.J. 1963, p. 543, fig. 28, 5) mid 3rd century. Other finds from this site date from 2nd to early 3rd centuries.

31. Inv. no. 450 (fig. 3)
Unknown provenience
H. 4.2 cm., d. 4.8 cm.
Colourless, with greenish tinge. Numerous bubbles and streaks. Rim folded outward horizontally and inward. Concave bottom with pontil-mark. Milky weathering.
Type Morin-Jean 33, Isings, o.c. 61, Calvi, p. 26 A α.
In colourless glass the type could be no earlier than the 2nd century A.D.

32. Inv. no. 466 (fig. 3)
Unknown provenience. Formerly in coll. Olterdissen, Maastricht.
H. 6.8 cm., d. 6.5 cm.
Dark green glass, numerous bubbles of different sizes as well as streaks. Rim folded outward and downward and inward again with mushroom profile. Concave bottom. Some dulling.
Type: Morin-Jean 33, Isings, o.c. 61, Calvi p. 26 A α and cf. above nr. 26. Rim-type common from IB into II, intentionally coloured glass is early also in this type.

33. Inv. no. 1886 XIXA (fig. 3)
Found at Grote Staat, Maastricht, at building site

D. at rim: 3.5 cm.

Ref.: Byvanck, Exc. Rom. III, p. 1

Bluish green, some bubbles. Rim folded outward horizontally. Handles start at shoulder, go along neck and are folded back around cylindrical object. Upper part preserved only. Some milky weathering.

Morin-Jean 33, Isings, o.c. 61, Calvi, p. 26 A. Cf. also additions to above, no. 26.

34. Inv. no. 1033 (fig. 2)
Found in Havenstraat, Maastricht
L. of handle: 2.8 cm.
Ref.: Byvanck, Exc. Rom. III, p. 6
Bluish green-greenish glass, numerous bubbles. Two handles, 'dolphin-shaped', one of them with small fragment of neck. Started on neck and folded back ending with a pressed ridge, thin trail folded back over handle. Dulling.
Morin-Jean 33, Isings, o.c. 61, and above, no. 26, dating from IB into III.

B. DECORATED

35. Inv. no. 451 (fig. 3)
Found at Maastricht-Limmel
H. 5.6 cm., d. 6.1 cm.
Ref.: Van Doorselaer, Rep. II, p. 326 (s.v. Maastricht-Wijk)
Bluish green, numerous bubbles. Rim folded outward horizontally, downward and inward. Coil used for handles ends in trail over handles. Handles start on shoulder and are folded back along neck and rim, one ending further on shoulder, the other starting further on shoulder. Body with spiral coil. Concave bottom. Some white weathering and iridescence.
Morin-Jean 33, Isings, o.c. 61, Calvi, p. 26, A α According to Morin-Jean (p. 86) late specimens have spiral coils or threads. The earliest one is known from

Wancennes (Namur Museum) from a cemetery dating from 1st-2nd centuries. Others come from: Cologne (K. Jb. 1955, pl. 27.1, fig. 2, p. 117, St. Severin cemetery gr. 543) from early III; others cited by Fremersdorf, Denkmäler IV, pll. 30-31; Nijmegen, cemetery WW (Museum Kam, nr. Xxa 339 WW) from A.D. 70-240; Ospringe (Whiting, Arch-Cant. 38, p. 216, pl. XVI, 146 group XLIII) from ± 300 A.D.; Carrawburgh (Charlesworth, A. Ael. 1959, p. 56, fig. 10, 11) late example. Other objects from the site date from the 2nd century A.D.

36. Inv. no. 452 (fig. 3)
Found at Echt-Diergaarde
H. 7.3 cm., d. 7 cm.
Bluish green, numerous bubbles, some of them in streaks. Rim folded outward horizontally and inward, irregularly shaped. Slightly concave bottom. Body with spiral coil. Some milky weathering. Morin-Jean 33, Isings, o.c. 61, Calvi, o.c. p. 26 A α and examples above mentioned.
This bottle may have come from the same cemetery as finds made in 1955-1957, which date from the 2nd century (Van Doorselaer, Rep. II, p. 314-315 (V)).
37. Inv. no. 432 (fig. 3)
Unknown provenience
H. 4.4 cm., d. 4 cm.
Dark bluish green, some streaks. Rim folded outward horizontally and inward again. Handles end in stepped band on the body. Concave bottom. Cracked. Milky weathering on the inside.
Morin-Jean 33, Isings, o.c. 61. This type of handles may be compared to examples from: Saint-Pardoux (Gallia 1954, p. 186 f., fig. 15) probably end I-IIA; Elsloo (Beckers, Zuid-Limburg, fig. 91) from burial datable to ca. A.D. 100; Flavion, gr. 124 (Courtoy, Namurcum 1927, p. 4, fig. 1, nr. 488 BIII) end

I; Cologne, St. Severin cemetery, gr. P. 218 (Fremersdorf, Denkmäler IV, pl. 38 below, illustrated together with similar examples) dated by Fremersdorf to the 2nd century; St. Cierges (Kasser, Jb.S.G.U. 48, p. 173, fig. 44, 2 and 5, layer III) mid-to end II.

38. Inv. no. 411 (fig. 3)
Found at Stein, Houterend, sarcophagus I, in 1924.
H. 3 cm., long: 8.2 cm.
Ref.: Beckers, Publ. 1926, p. 377, nr. 10, fig. 9; Van Doorselaer, Rep. II, p. 332-333; Cat. Glastent. Leiden 1962, nr. 282.
Colourless, blown into a mould. Barrel-shaped, with yellow spiral coils at the ends for hoops, yellow coil rim, handles colourless, feet made separately of colourless glass. Incomplete and restored. Dulling.
The type is known from the Cologne glass, dating from the same period as most of the snake-thread glass (Fremersdorf, Denkmäler V, pll. 96-99, one of them (pl. 96) from gr. 545 of St. Severin cemetery: K. Jb. 1955, p. 121, fig. 3, pl. 29.2 from end II or early III; pl. 99, St. Severin cemetery gr. 200; cf. B.J. 1941, pl. 85, fig. 1, p. 424, end II-III. Masterpieces of Glass, nr. 113). Morin-Jean (pp. 177 f.) dates it to the 3rd century. Examples without spiral coils, but with moulded hoops also occur (Fremersdorf, Saalb. Jb. IX, fig. 2.2, p. 17, dated to the 3rd century A.D.). Sarcophagus I dates from end III, probably.
39. Inv. no. 1418
Found at Stein, near the so called Roman villa (Probably *mansio*)
Length ca. 17 cm
Colourless glass. Fragments of a large barrelshaped bottle, with opaque white spiral coils at the ends for hoops. Almost

no weathering or impurities. Mouth and feet missing, as well as neck.
Type: similar to nr. 38, to which especially two other large examples may be compared (Fremersdorf, Denkmäler V, pll. 91a and 96, the latter dating from end II-early III).

IV. Beakers

40. Inv. no. 416 (fig. 3)
Found at Stein, sarcophagus I, in 1924.
Found standing in Inv. nr. 474 (here nr. 41)
H. 4.6 cm., d. 7.2 cm.
Ref.: Beckers, Publ. 1926, p. 376, nr. 2, fig. 9; Van Doorselaer, Rep. II, pp. 332-333; Cat. Glastent. Leiden 1962, nr. 283
Colourless, with a few bubbles. Rim rounded, thickest part on the inside. Two base-rings, the one cut-out, the other a coil ring. Cracked, some milky weathering.
Type Morin-Jean 81, Isings o.c. 85b, dating from end II or early III into the 4th century. To this may be added: Cologne-Bayenthal (Gollub, K. Jb. 1960/61, p. 63, fig. 11.1) dated to the 3rd century; Esch, gr. 5 (museum Bois-le-Duc) probably late 3rd century.
41. Inv. no. 474 (fig. 3)
Found at Stein, Houterend, sarcophagus I, in 1924
H. 5.5 cm., d. 7.7 cm.
Ref.: Beckers, Publ. 1926, p. 376, nr. 2, fig. 9; Van Doorselaer, Rep. II, pp. 332-333. Cat. Glastent. Leiden 1962, nr. 484.
Colourless, few bubbles. Rounded rim with thickest part on the inside. Two coil base-rings. Some milky weathering and devitrification.
Type Morin-Jean 81, Isings, o.c. 85b, cf. also above, nr. 40. These beakers probably formed a set, together with the next one.
42. Inv. no. 2415
Found at Stein, Houterend, sarcophagus I, in 1924
D. basering: ± 4 cm.
Ref.: Beckers, Publ. 1926, p. 377
Colourless. Two fragments of lower side and base. One base ring cut-out, the other a coil ring. Milky weathering.
Type: similar to the former two described and from a set.
43. Inv. no. 920 I (fig. 3)
Found at Gulpen, during building of St. Joseph's asylum, in 1931
H. ± 5.6 cm., d. 7 cm.
Colourless, with a few bubbles. Fragments of rim and side with complete base. Mended. Rounded rim, turned inwards. Two base rings, one cut out, the inner one a coil ring. Milky layer of weathering.
Morin-Jean 81, Isings, o.c. 85b, cf. also above, no. 40.
44. Inv. no. 1061/XXVII (fig. 3)
Found at Ubach over Worms
H. ± 7 cm., d. at rim 7-8 cm.
Ref.: Van Doorselaer, Rep. II, pp. 333-334
Bluish green to greenish glass, with few bubbles. Fragments of rim, side and base. Rounded rim thickened to inside. Cut out base ring.
Isings, o.c. 85a, dating from end I-II.
45. Inv. nr. 484 (fig. 3)
Found at Strabeek, municipality of Valkenburg-Houthem, from graves found at building site, near motorway.
H. 6.5-7 cm., d. 7.8 cm.
Ref.: Van Doorselaer, Rep. II p. 334
Colourless, with greenish tinge. Streaks. Rim polished and everted. Convex bottom. At 1.3 cm. below rim a horizontal engraved line. Broken and mended, covered by milky weathering. Parallels are not numerous. A brown beaker

from Cologne (Fremersdorf, Denkmäler III, pl. 53, from the Bonnerstrasse) is dated to the 1st century A.D. A bluish green one from Cologne (Fremersdorf, Denkmäler IV, pl. 78, from Luxemburgerstrasse gr. 45) was found with coins of Lucius Verus, it probably does not date from II A but from the 3rd century; Tongres (Vanderhoeven, Rom. Glasverz. nr. 15, p. 23) an apparently black beaker, with wheel-cut lines, not exactly datable; Franchimont (Namur Museum) possibly 2nd century. The form seems to be mainly 2nd-3rd century one.

46. Inv. nr. gr. 2-39 (fig. 12, 6)
 Found at Maastricht-Belfort, grave 2, nr. 39. Excavations in 1964
 H. 7.5 cm., d. 7.5 cm.
 Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
 Yellowish with numerous bubbles. Everted rim, polished, cut out basing and pontil-mark on bottom. Body with horizontal wheel cut lines, 1, 4 and 1 respectively. The type may be compared to similar beakers from Italy, these, however, have a greyish green tinge. Some of them show the typical domed concave bottom, seen often among glass from the 1st century in Italy. Comparable are several examples in the Naples museum of Antiquities (nr. 12262 without decoration, nrs. 109537, 110278, 114780, 114787, 12261, 12287, 12292, 12293, 12295 with wheel-cut lines) and in Locarno museum (nr. 31/361 and 31/362). These date from the end of the 1st century, how long the type continued is as yet uncertain.

47. Inv. no. 2415 (fig. 4)
 Found at Stein, Houterend, sarcophagus I, in 1924
 D. at rim: ca. 8 cm.
 Ref.: Beckers, Publ. 1926, p. 377, nr.

10; Van Doorselaer, Rep. II, p. 322 f. Isings, J.Gl.St. 1969, pp. 27 ff. Fragments of a colourless goblet. Rim rounded and bent inwards. Shape of base uncertain, a fragment of a beaded stem might belong to this goblet. Decoration consists of white spiral coil below the rim and on the lower side and vertical stepped bands on which mould pressed blue and colourless shells are sitting. The metopes between the rows of vertical stepped bands carried snake-thread decoration, of which fragments of a gilded spiral survive. A fragment of an indented beaker with gilded snake-thread ornament might belong to this goblet, however, on the other parts no traces of indentation survive, so another goblet may have existed. A fragment with opaque light blue spiral thread and remains of an opaque light blue applique or handle may belong to some other beaker also. Brown and white weathering.
 The type probably was Morin-Jean 108, variety Isings, o.c. 86. Similar in outline are some goblets from Cologne (Fremersdorf, Denkmäler V, pll. 14-15, 44, 45 and 47, the latter with a decoration similar to snake-thread from the 4th century (e.g. Morin-Jean figs. 290, 291, 293). The 'Muschelpokal' from Cologne, from the first half of the 4th century, may be brought in comparison also, for its outline and for its mould-pressed shells (Doppelfeld, B.J. 1959, pp. 152 ff.) Similar shells occur on fancy-shape flasks from Cologne and Trèves (Fremersdorf, Denkmäler V, pp. 62 ff., pll. 82-83) the former having been found with a coin of Tetricus. The Trèves flask also cannot be earlier than the late 3rd century A.D. Mould pressed shells are also known as handle ends of trullae or handle decorations on pseudo-diatreta (Fremersdorf, Denkmäler V, p. 12 and Doppelfeld, B.J. 1959, p. 162 ff.) The snake-thread spiral

may have been an ornament like the one on a glass bucket from Cologne (Fremersdorf, Denkmäler V, pl. 60, pp. 11 ff and 53), which dates from the second half of the 3rd century. Similar fine ornaments may be seen also on the so-called 'Masterpieces', of which a 4th-century fragment is known. A masterpiece from a Nijmegen sarcophagus is late-Roman also, possibly 4th century (Fremersdorf, Denkmäler V, pll. 70-71, p. 56 f, Isings, J.Gl.St. 1969, p. 30). So the Stein goblet cannot be earlier than the late 3rd century A.D.

48. Inv. no. 2415A (fig. 3)
 Found at Stein, Houterend, sarcophagus II, in 1924.
 H. \pm 11,2 cm., d. at rim: \pm 6.8 cm.
 Ref.: Beckers, Publ. 1926, p. 284, nr. 9; Fremersdorf, Germania 1930, pp. 214 ff; Van Doorselaer, Rep. II, pp. 332 ff; Isings, J.Gl. St. 1969, p. 29.
 Colourless with a greenish tinge. Everted and rounded rim, with cut-out ridge at 0.8 cm. below the rim. Sixfold beaded stem, footstand with rounded rim. Intricate coil handles between rim, stem and foot. Incomplete, restored with wax in 1929, but broken again during world war II.
 Unique piece. Fremersdorf rightly pointed out its similarity to the silver goblets from the Traprain hoard (Germania 1930, p. 217, fig. 4) from the 4th century, but dated the glass goblet to the late 2nd century A.D. The beaded stem is similar to stems of (foot-less) lamps from the 5th to 6th centuries at Gerasa (Kraeling, Gerasa, pp. 519 ff). A unique goblet in terra sigillata in the Leiden Museum was dated to the 3rd-4th centuries A.D. by Braat (Germania 1938, p. 255). Comparable as to the cup-shape is a stemmed goblet in the Liège museum, probably from Egypt, 4th-5th centuries (Cat. Trois Mill. 184).

The multiple folded coil handles recall coil decorations on the so-called pseudo-diatreta (e.g. cantharos Disch-Sangiorgi, Doppelfeld, B.J. 1959, p. 162, from 4th century; third-century beakers from Begram: Cah. Byrsa III, pl. IX), and East-Roman examples (cf. Kisa, A. 8-10, F. 376, 377) as e.g. dylecythoi and jars. This suggests a date no earlier than the end of the 3rd century for the Stein goblet, which means a later date for the find as a whole, than the one generally accepted.

V. Deep and shallow bowls

A. POLYCHROME

49. Inv. no. 472
 Found at Maastricht, Grote Staat, at building site
 Fragment of pillar-moulded marbled bowl of purple and white glass, with rectangles of yellow. Dulling on surface. Morin-Jean 68, Isings, o.c. 3. To examples mentioned may be added: Vindonissa (Berger, Gläser Vindonissa, pp. 15 ff and 17 ff) Tiberian-Neronian, other parallels given; Aislingen (Ulbert, Aislingen und Burghöfe, p. 58, pl. C.1) 1st century; Athens (Robinson, The Athenian Agora V, p. 86, m. 23) mid 1st century; Nahbollenbach (Reusch, T.Z. 1956/58, p. 9, fig. 4) mid 1st century; Thiaumont (Wilhelm, Verrerie, nr. 6) from a second-century site. Comparable in colour: Calvi, Vetri, pl. 10 (gruppo A).

B. MONOCHROME

50. Inv. no. 388 (fig. 11)
 Unknown provenience
 D. at rim: \pm 14 cm.
 Greenish to bluish green, with some bubbles. Fragment of rim and side. Some dulling.

Morin-Jean 68, Isings, o.c. 3, dating mainly from 1st to early 2nd century, but occurring later occasionally. For technique cf. Doppelfeld, Röm. und fränk. Glas, p. 31.

51. Inv. no. 858/xxii, 1-3 (*fig. 11*)
Found at Maastricht, Grote Staat
D. at rim: 18 cm.
Ref.: Byvanck, Exc. Rom. III, p. 1.
Bluish green glass, with some bubbles. Two fragments of rim and side and one fragment of side. Dulling and brown patches of weathering, mainly on inside. Morin-Jean 68, Isings, o.c. 3, dating mainly from 1st into early 2nd century, but occurring later occasionally.
52. Inv. no. 1139 A (*fig. 11*)
Found at Maastricht, Oude Minrebroedersstraat, Post Office.
D. \pm 20,5 cm.
Bluish green glass. Fragment of rim and side. Metallic weathering and iridescence.
Morin-Jean 68, Isings, o.c. 3, dating mainly from 1st to early second century, but occurring later occasionally.
53. Inv. no. 1140
Found at Maastricht, Oude Minderbroedersstraat, Post Office.
D. \pm 21 cm.
Pale greenish to bluish green glass. Fragment of side. Dulling and iridescence.
Morin-Jean 68, Isings, oc. 3, dating mainly from 1st to early 2nd century, but occurring later occasionally.
54. Inv. no. 412 (*fig. 4*)
Found at Stein, grave 1, in 1924
H. 9.5 cm., d. 16.8 cm.
Ref.: Beckers, Publ. 1926, pp. 267-268, fig. 3. Van Doorselaer, Rep. II, pp. 332-333. Cat. Glastent. Leiden 1962, no. 270.

Bluish green glass, with numerous bubbles, some of them in 'foamy' streaks. Rim folded outward and downward vertically. Carinated profile of side imitates terra sigillata form Drag. 29. Base ring cut out. Almost no weathering.

Isings, o.c. 44b. Comparable examples, some of them less carinated in profile: Kretz (B.J. 1938/39, pp. 404 f, fig. 36, 4, to parallels mentioned may be added also a bowl from Bois-la-Louvière, with less carinated side: cf. Faider-Feytmans, Rev. Belge 1940, p. 218, pl. III, 1); Richborough (Richborough III, pl. 15,3, p. 86, no 63) Flavian; fragments from Corbridge (Charlesworth, A.Ael. 1959, p. 49, fig. 7.4); Caerleon no. 14, less carinated side, probably Flavian. (I am very thankful to mr. G. C. Boon for his information and permission to use it); Pompeii, small bowls of similar shape.

Bowls with sloping ribs on the sides may also be brought in comparison: Remagen (Funck, B.J. 122, pp. 265 ff.) Flavian; Orsimont (Brussels museum, unpublished) probably Flavian; Franchimont (Namur Museum) from a cemetery dating from 1B into 2nd century); Corenne (Delmarmol, A.S.A.N. 1861/62, p. 44) IIb-c; Faversham (Masterpieces of Glass nr. 110) not datable by context. The Stein burial dates from the Flavian period.

55. Inv. no. 421 (*fig. 4*)
Found at Ell, municipality of Ell-Hunsel, at digging site called 'de Schupstal'. Gift of P. Hubertus Rietjens
H. 10 cm., d. 19.6 cm.
Pale greenish tinge, numerous pinprick bubbles. Rim folded outward and downward. Base ring probably cut out. Someweathering, incomplete and restored.
Morin-Jean 84, Isings, o.c. 44a. Dif-

ferent sizes occur, but not so many in a large size like this one. The type dates from the second half of the 1st century A.D.

The find itself cannot be dated with certainty, an end first-century date seems probable.

56. Inv. no. 422 (*fig. 3*)
Found at Ell, municipality of Ell-Hunsel, at digging site called 'De Schupstal'. Contained cremation. Gift of P. Hubertus Rietjens.
H. 6 cm., d. 10.2-10.3 cm.
Bluish green, numerous small oval bubbles in horizontal direction. Rim folded out and down. Some white weathering.
Morin-Jean 84, Isings, o.c. 44a, from the second half of the 1st century. If found in the same burial as the former number, it belonged to a set.
57. Inv. no. 423 (*fig. 3*)
Unknown provenience
H. 4.2 cm., d. 9.1 cm.
Greenish tinge, some bubbles. Rounded rim splayed out horizontally. High cut out base ring. Pontil mark. Dulling on surface.
Imitation of metal ware, also comparable to terra sigillata Drag. 35. In glass form Isings 42a in a deeper variety. To examples may be added: Apt, gr. 27 (Dumoulin, Gallia 1964, p. 94, fig. 12F) probably 2nd century; Esch gr. 3 (Ann. du 2nd Congrès des Journées Int. du Verre, Leyde 1962, p. 69), probably 2nd century.
58. Inv. no. 920 R (*fig. 11 and pl. 2*)
Found at Gulpen, during building of St. Joseph's asylum, in 1931.
D. of base: 7.8 and 11.4 cm.
Bluish green glass, with a few bubbles. Fragment of lower side with complete base, of an oval bowl. Base ring cut out.

Pontil mark. On side nicked snake-thread trails. Dulling.

In general outline form Isings, o.c. 97b, more common in the East, than in the West, examples date from 3rd to 4th centuries A.D. One parallel in bluish green snake-thread glass, dating from the 3rd century (Samml. Bremen, pp. 208 f., nr. 30, from Krefeld Gellep). Snake-thread glass is more common in colourless glass, than in bluish green.

59. Inv. no. 1061/xxviii (*fig. 11*)
Found at Ubach over Worms.
D. at rim: 17 cm.
Ref.: Van Doorselaer, Rep. II, p. 333-334.
Bluish green glass, with horizontal spikes and bubbles. Rim folded outward and downward. Cut out base ring. Dulling.
Isings o.c. 47, imitation of terra sigillata Drag. 31, dating from mid-first to 2nd centuries.
60. Inv. no. 1618 (*fig. 3*)
Found at Opgrimby (Belgium) in 1928.
H. 4 cm., d. \pm 8.2 cm.
Bluish green glass, with some bubbles. Rim outplayed horizontally, with tip folded upwards and downwards. Coil base. Fragmentary bowl. Milky weathering in some parts.
Imitation of metal ware and of terra sigillata types like e.g. Ritterling 14. In glass related to Isings, o.c. 42. The earliest datable example is a mishappen bowl at Tongres (Vanderhoeven, Rom-Glasverz. no. 39) from a Koninksem burial dating from the second half of the 2nd century A.D.; Similar in outline is Caerleon 16A (dating from A.D. 140-230). (For information and permission to use it I am very thankful to mr. G. C. Boon). Other examples probably represent a later variety in imitation of metal bowls like those found at Traprain (cf.

Cologne, Haberey, Germania 1934, pl. 30, from 4th century and the Egyptian variety: Harden, Karanis, 246-255, class III, iii a, p. 96, posterior to Constantine.

61. Inv. no. 443 (fig. 3)

Found at Groenstraat, municipality of Ubach over-Worms, in 1926.

H. 5.2 cm., d. rim: 10.4 cm.

Ref.: De Maasgouw 1926, p. 70; Van Doorselaer, Rep. pp. 333-334.

Bluish green, numerous bubbles. Thick rounded rim. Cut out ridge at 2.6 cm. below rim, base ring cut out. Some milky weathering and pink weathering within ridge.

Imitation of metal bowls and of terra sigillata Drag. 38. Form Morin-Jean 85, to which may be added: Merken (museum Bonn) from ca. A.D. 175; Nijmegen (Brunsting, Grafveld Hees, gr. 21, p. 183) ca. 280 A.D.; the form also occurs without base ring e.g. one found in a fourth century burial at Nijmegen, in 1951.

Other finds from the site date from the 2nd century to early 3rd century.

62. Inv. no. — (fig. 4)

Found possibly at Maastricht, Grote Staat.

H. 3.9 cm., d. 27.5 cm.

Colourless with greenish tinge. Fragments of rim, side, bottom and base, about $\frac{3}{4}$ of a shallow bowl. Some bubbles. Polished all over. Broad, horizontal rim, rounded; at the rim, near the side, two wheelcut ridges separated by a groove. Foot triangular in section. Within, on bottom, a wheelcut circle in relief. Milky white weathering.

Pressed and rotary polished bowls of similar shape of coloured glass are known from the 1st century A.D., colourless bowls from the 2nd century onwards (cf. Harden, Camulodunum, pp. 300

ff. Isings, o.c., form 5; Charlesworth, A.Ael. 1959, pp. 83 ff. and Transactions of the Cumberland and Westmoreland Ant. and Arch. Soc. 1960, pp. 34 ff; Berger, Gläser Vindonissa, pp. 25 ff; Alarcão, Vidros romanos Conimbriga, p. 76). They may have been made in Alexandria, as is generally accepted. Some may have come from a Western centre, as is thought for a green bowl in the Tullie House Museum, Carlisle (Charlesworth, Transactions ... l.c., p. 35, thinks Italian manufacture possible). Fragments from Conimbriga (Alarcão, Vidros romanos Conimbriga nrs. 103 and 104, p. 76 are compared to Class I B II of Karanis, cf. Harden, Karanis, nrs. 74 and 76). Fragments from Dura Europos present some similarities, other centres in the Near East might be possible also (Clairmont, The Glass Vessels, p. 18 ff.). They probably belong to the 2nd century (cf. Barag, review of Clairmont, I.E.J. 1967, p. 197). Fragments from Caerleon date from before 140, one found with Hadrianic pottery (Information from G. C. Boon, to whom I am very thankful.)

63. Inv. no. gr. 2-19/20

Found at Maastricht-Belfort, burial 2, nos. 19 and 20, excavated in 1964.

H. \pm 3.5 cm., d. 11.2 and 14.5 cm.

Ref.: Bogaers, Nieuws Bulletin van de Kon. Ned. Oudh. Bond 1964, p. *108.

Colourless glass, two shallow bowls crushed on top of each other. Horizontal rim with a cut-out ridge at the under side. Cut-out base ring. Covered with milky layer of weathering.

Possibly a variety of Isings, o.c. 42. Comparable also is a bowl with a double ridge, from Tongres (Vanderhoeven, Rom. Glasverz. nr. 37). A bowl from Apt, gr. 27 (Dumoulin Gallia 1964, p. 94, fig. 129) probably dates from the 2nd century. Other bowls with some-

what comparable (not identical) shapes of rim were found at Cyprus (Vessberg, S.C.E. iv,3, fig. 42,15 and 43,4) and in the Cave of Horror, Israel (Barag, I.E.J. 1962, p. 210, figs. 1 and 5), the latter from the Hadrianic period.

64. Inv. no. gr. 2-21

Found at Maastricht-Belfort, burial 2, no. 21, excavation in 1964.

H. 2.5 cm., d. 17-17.5 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Fragment of colourless bowl, completely crushed. Rim horizontal, with cut-out ridge at the under side. Cut out base ring. Covered with milky layer of weathering.

The same type as the abovementioned bowls.

65. Inv. no. gr. 2-22b

Found at Maastricht-Belfort, burial 2, no. 22b, excavated in 1964.

H. \pm 3 cm., d. \pm 13.5 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Fragment of colourless glass, with yellowish tinge, crushed.

Horizontal rim with cut-out ridge at the under side. Cut-out base ring. Milky weathering.

Type like the abovementioned.

66. Inv. no. gr. 2-23 (fig. 12,8)

Found at Maastricht-Belfort, burial 2, no. 23, excavation in 1964.

H. 3.6 cm., d. 12 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108

Colourless glass with greenish tinge. Horizontal rim with cut-out ridge on the under side. Cut-out base ring, pontil mark. Iridescence and white weathering. Mended.

Type similar to the abovementioned, but deeper variety.

67. Inv. no. gr. 2-24

Found at Maastricht-Belfort, burial 2, no. 24, excavated in 1964

H. \pm 2.7 cm., d. \pm 10 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108

Yellowish glass, almost colourless. Horizontal rim, with cut-out ridge on the under side. Cut-out base ring.

Type similar to the abovementioned.

68. Inv. no. gr. 2-34 to 35b

Found at Maastricht-Belfort, burial 2, nos. 34, 35, 35a and 35b, excavated in 1964.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Four shallow bowls crushed on top of each other. Types of rims and bases probably similar to those of the abovementioned bowls, forming a set with them.

Type similar to the abovementioned.

69. Inv. no. gr. 2-36 (fig. 12,10)

Found at Maastricht-Belfort, burial 2, no. 36, excavated in 1964.

H. 1.7 cm., d. 18.4 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Yellowish glass. Horizontal rim with cut-out ridge on the under side. Cut-out base ring and bottom kicked in higher than the others of this set. Dulling on the surface.

Type similar to the abovementioned.

70. Inv. no. gr. 2-47/47a

Found at Maastricht-Belfort, burial 2, nos 47 and 47a, excavated in 1964.

D. \pm 22 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Two yellowish bowls crushed on top of each other. Rim horizontal with cut-out ridge on the under side like the above-

mentioned. Cut-out base ring. Some milky weathering.
Type like the abovementioned.

71. Inv. no. gr. 2-48 to 49c
Found at Maastricht-Belfort, burial 2, nrs. 48, 49, 49a, 49b and 49c, excavated in 1964.
Nrs. 48 and 49: d. \pm 11 cm., 49 a-c: d. \pm 18-20 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
Five yellowish bowls crushed on top of each other. Horizontal rims with cut-out ridges on the under sides, base ring only visible in one specimen, there cut-out.
Type like the abovementioned.
72. Inv. no. gr. 2-52 to 52c
Found at Maastricht-Belfort, burial 2, nrs. 52, 52a, 52b, 52c, excavated in 1964.
D. 11-15 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
Four yellowish bowls, crushed on top of each other. Horizontal rims with cut-out ridges on the under sides.
Milky white weathering. Base probably cut-out.
Type like the abovementioned.
73. Inv. no. gr. 2-52d
Found at Maastricht-Belfort, burial 2, nr. 52d, excavated 1964.
H. ca. 2.5 cm., d. ca. 13 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
Yellowish glass, horizontal rim with cut-out ridge on the under side. Cut-out base ring. Crushed. Milky weathering.
Type like the abovementioned.
74. Inv. no. gr. 2-55 (*fig. 12,9*)
Found at Maastricht-Belfort, burial 2, nr. 55, excavated in 1964.
H. 3.7 cm., d. 18.2 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
Yellowish glass. Horizontal rim with cut-out ridge on the under side. Cut-out base ring.
Type similar to the abovementioned.

75. Inv. no. gr. 2-56
Found at Maastricht-Belfort, burial 2, no. 56, excavated in 1964.
H. \pm 2.5 cm., d. \pm 10 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.
Fragment of yellowish bowl, horizontal rim with cut-out ridge on the under side. Cut-out base ring.
The type is the deep variety of the abovementioned bowls.
76. Inv. no. gr. 1-21 (*fig. 13,21*)
Found at Maastricht-Belfort, burial 1, no. 21, excavated in 1964.
H. 3.7 cm., D. 10.7 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63.
Colourless with greenish tinge, few bubbles. Fragment of a bowl with rounded rim. Polished all over. Milky weathering in parts and some iridescence. Restored.
Isings o.c. 80, to which may be added: Apt gr. 28, (more curved side, however) Dumoulin, Gallia 1964, p. 102, fig. 22K) possibly III; Diamante (N.d.Sc., 1960, p. 424, fig. 5) II-III; Caerleon, 10 (information from G. C. Boon, whom I thank for his permission to use it) A.D. 140-230; Dura Europos, a deeper variety with groove below the rim (Clairmont, Glass vessels, p. 25, p. III, 95).
77. Inv. no. gr. 1-22
Found at Maastricht-Belfort, burial 1, no. 22, excavated in 1964.
H. 4.18 cm., d. 6.7 cm.
Ref.: Bogaers, Nieuws Bulletin Kon.

Ned. Oudh. Bond 1964, pp. *63 f.
Almost colourless, with greenish tinge. Few bubbles. Polished all over, traces of polishing clearly visible in the layer of weathering. Rounded rim. On the under side of bottom circular grooves made by polishing. Iridescence on bottom, covered with milky layer of weathering.
Type similar to former.

VI. *Patera*

78. Inv. no. 418A (*fig. 4 and pl. 1*)
Found at Stein, Houterend, sarcophagus II, in 1924
H. 3.8 cm., d. 11.3 cm. with handle: 19.2 cm.
Ref.: Beckers, Publ. 1926, possibly p. 381, nr. 1, fig. 14, 1; Van Doorselaer, Rep. II, pp. 332-333. Cat. Glastent. Leiden 1962, nr. 281.
Dark olive green, apparently black. Some bubbles. Thick rounded rim bent inwards, undercut at the outside. Base ring probably cut out, pontil mark. Broad and flat pressed handle surplus glass folded back in a thin trail over the handle. Restored. Almost no weathering.
Morin-Jean 137, Isings, o.c. 75a. Most specimens made of greenish, bluish green or colourless glass, some with snake-thread decoration: Stree, bluish green from gr. 37 (Van Bastelaer, D.R.S.Ch. 1876, pl. VIII, 27, pp. 251-252) end I-early II. With snake-thread: Cologne (Hagen, B.J. 114/115, p. 412, nr. 40 and p. 413, nr. 42) both from 200 A.D. or later.
The sarcophagus burial probably dates from the end of the 3rd century, but contains objects that may be earlier.

VII. *Jugs and bottles*

A. SQUARE BOTTLES

79. Inv. no. 370 G. 6
Found at Vlengendaal (municipality Bocholtz) at site of Roman villa in 1911/12.
H. of body: 10 cm.
Ref.: Goossens, I.A.E. 1918, p. 19,1. Byvanck, Exc. Rom. III, p. 17.
Bluish green with a few bubbles. Part of one side only preserved. Some dulling on surface.
Type Morin-Jean 14, Isings, o.c. 50a. The finds from the villa are dated to the 2nd and 3rd centuries A.D.
80. Inv. no. 370 G.7
Found at Vlengendaal (municipality Bocholtz) at site of Roman villa in 1911/12.
Base: 7.3 \times 7.3 cm.
Ref.: Goossens, I.A.E. 1918, p. 19,1. Byvanck, Exc. Rom. III, p. 17.
Bluish green, with a few bubbles. Base marking: part of one circle preserved. Fragment of lower sides and corner of base. Some dulling.
Type Morin Jean 14, Isings, o.c. 50a. The finds from the villa are dated to the 2nd and 3rd centuries A.D.
81. Inv. no. 370 G.10
Found at Vlengendaal (municipality Bocholtz) at site of Roman villa, in 1911/12.
Base: 4.8 \times 4.8 cm.
Ref.: Goossens, I.A.E. 1918, p. 19,1. Byvanck, Exc. Rom. III, p. 17.
Bluish green to greenish, with some bubbles. Base marking: 2 concentric circles. Pontil mark. Part of base preserved. Small bottle, type Morin-Jean 14, Isings, o.c. 50 The base marking is an ordinary one, known in different

- sizes (cf. Fremersdorf, K.Jb. 1965/66, p. 31, B.VI). The villa is dated to the 2nd and 3rd centuries, A.D.
82. Inv. no. 385 (3034 IIIA) (*pl. 2*)
Found at Maastricht, during restoration of Our Lady's Church, in 1926.
Base: 5 × 5 cm.
Bluish green glass, with some bubbles. Base fragment, with marking: circle with cross in the centre, inscribed in a square. Some white weathering.
Morin-Jean 14, Isings, o.c. 50. Similar marking, but on a larger sized bottle, from Welwyn and from Baldock (Charlesworth, J.Gl.St. 1966, fig. 11, pp. 33 ff.) and on one from Silchester thought to be variations of the same marking, possibly from the same workshop.
83. Inv. no. 387 (*pl. 2*)
Unknown provenience.
Base: 7 × 7 cm.
Bluish green glass with some bubbles. Fragment of base, with corner. Pontil mark. Base marking: two concentric circles, with a cross in the centre. Some dulling.
Morin-Jean 14, Isings, o.c. 50. Base marking comparable to others with cross in the centre and possibly from same workshop (cf. abovementioned: Charlesworth, J.Gl.St. 1966, pp. 33 ff.)
84. Inv. no. 425 (*fig. 5*)
Found at Voerendaal, in cremation burial.
H. 9.5, sides: 4.2 × 4.2 cm.
Bluish green glass, with numerous bubbles. Rim folded outward and inward. Neck with constriction at its base. On sides a faint marking (oval ring). Base marking: three concentric circles in relief. On two adjoining sides near the bottom tooling indents. Iridescence and dulling in surface.
Morin-Jean 14, Isings, o.c. 50a, dating

from mid-first century well into the 3rd. Rimtype: Charlesworth, J.Gl.St. 1966, p. 26, type 1a), occurring from end 1st century (e.g. Lövenich, B.J. 1955/56, p. 480, fig. 39,1) onwards. The base marking is an ordinary one (cf. Fremersdorf, K.Jb. 1965/66, p. 31c). Side markings occur on bottles and jars in Italy (among Pompeii and Herculaneum finds) but are also known from the provinces.

85. Inv. no. 457 (*fig. 5*)
Found at Mesch (municipality of Eysden), in a gravel pit on the 'Steenenberg', in 1932.
H. 14 cm., base 7.3 × 7.3 cm.
Ref.: De Maasgouw 1932, p. 72. Van Doorselaer, Rep. II, pp. 316-317.
Greenish glass, with streaks and bubbles. Rim with mushroom-like profile. Slight constriction at base of neck. Multi-ribbed handle. Base marking: 2 concentric circles. Cracked and mended, part of rim missing. Yellow weathering on inside.
Morin-Jean 14, Isings, o.c. 50a, dating from mid-first century well into 3rd. Rim: variety of Charlesworth, J.Gl.St. 1966, type 1b, occurring already early, but also in bottles dating from end 2-early 3 (cf. Boide-Buis, De Pierpont, A.S.A.N. 1900, p. 51; Penteville: Courtoy A.S.A.N. 1934, pp. 15 ff). Multi-ribbed handles are common during the 1st and 2nd centuries (Morin-Jean pl. 2β and γ: Roman 1) but may be seen also on later examples (Neuss: Lehner, B.J. 1904, p. 313, nr. 2, pl. xx,2, from second half of 3rd century). The base marking is an ordinary one (cf. Fremersdorf, K.Jb. 1965/66, p. 31.B). Other finds suggest one burial dating from end 1st into 2nd century.

86. Inv. no. 458 (*fig. 5*)
Found at Mesch (municipality of Eys-

den) in gravel pit on the 'Steenenberg', in 1932.

- H. 14 cm., base 7.4 × 7.4 cm.
Ref.: De Maasgouw 1932, p. 72. Van Doorselaer, Rep. II, pp. 316-317.
Greenish glass, with some bubbles. Broad rim folded outward and inward, slightly 'undercut'. Slight constriction at base of neck. Multi-ribbed handle. Base marking: two concentric circles. Fragments of rim and handle missing. Cracked. Yellow weathering on inside. Some iridescence.
Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1a. Almost identical with the former number, abovementioned, but slightly wider.
Probably from a set of bottles in the same burial, dating from end 1 into the 2nd century.

87. Inv. no. 462 (*fig. 5*)
Found at Mesch (municipality of Eysden) in gravel pit, on the 'Steenenberg', in 1932.
H. 14.2 cm., br. 7.4 × 7.4 cm.
Ref.: De Maasgouw 1932, p. 72; Van Doorselaer, Rep. II, pp. 316-317.
Square bottle, greenish, with numerous bubbles. Infolded rim. Multi-ribbed handle. Base marking: two concentric circles. Some fragments of side missing. Cracked. Milky and yellow patches of weathering on the inside.
Type Morin Jean 14, Isings, o.c. 50a. Rimtype Charlesworth (J.Gl.St. 1966) 1c, slightly less narrow. Similar type to the two former from the same site, belonging to the same set, with only slight differences between them. Dating from the same period.

88. Inv. no. 464 (*fig. 5*)
Found at Mesch, (municipality of Eysden), in gravel pit on the 'Steenenberg', in 1932.
H. 13.8 cm., side 6 × 7 cm.

Ref.: De Maasgouw 1932, p. 72. Van Doorselaer, Rep. p. 316-317.

Square bottle, greenish, with numerous streaks and some bubbles. Rim with mushroom profile. Multi-ribbed handle. Base marking: two concentric circles. Two joining sides show rectangular tooling indents, near the base. Milky weathering and iridescence on the inside.

Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth, J.Gl.St. 1966, variety of 1b (wider than the mushroom type illustrated). Similar to the nrs. 68-70 abovementioned although not identical. Dating from the same period, possibly also from the same burial.

89. Inv. no. 467 (*fig. 5*)
Found at Stein. 'Germanic hill-fort'
H. 11.5 cm. side 5 × 5 cm.
Ref.: Square bottle, greenish to bluish green tinge, some bubbles.
Broad rim, folded out and in, neck narrowing to its base. Multi-ribbed handle. Sides with traces of a mould with rather rough surface, probably made of wood. Base marking: dots in the corners, one circle around central dot. Pontil mark. White and yellow weathering on the inside.
Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1b, variety). Base marking may be compared to three examples from Cologne (Fremersdorf, K.Jb. 1965/66, p. 31, A.II)

90. Inv. no. 476 (*fig. 5*)
Found at Maastricht-Limmel.
H. 9.2 cm., base: 4.2 × 4.2 cm.
Ref.: Van Doorselaer, Rep. II p. 326 (s.v. Maastricht-Wijk).
Square bottle, bluish green, with numerous bubbles. Infolded rim. Neck put obliquely on body. Faint marking on sides. Flat handle. Base marking: three concentric circles. Two joining sides

show rectangular tooling indents. Some milky weathering.

Morin-Jean 14, Isings, o.c. 50a, with rim Charlesworth 1c.

Base marking is an ordinary one, (cf. Fremersdorf, K.Jb, 1965/66 p. 31, c. xv). Flat handles occur from the 1st century (e.g. Berger, Gläser Vindonissa, pl. 81, 82 (199), p. 79) onwards. The Limmel cemetery is dated to the 2nd century by Byvanck, Van Doorselaer dates it to 2nd and 3rd centuries. The earliest burials may have been from the end of the 1st century. This very carelessly executed bottle may date from 2nd or 3rd century.

91. Inv. no. 1402 (fig. 6)
Found at Gulpen, in cremation burial, during construction of tramway Maastricht-Vaals, near Neuborgh castle, in 1922.
H. 17.5 cm., base: 8.4 × 8.4 cm.
Ref.: De Maasgouw 1923, p. 10; Beckers, Zuid Limburg, pp. 244 f.; Van Doorselaer, Rep. II, p. 318 f.
Square bottle, bluish green, with streaks and numerous bubbles. Mushroom type rim. Multi-ribbed handle. Base marking: squares in corners, 3 concentric circles in middle. Fragments of sides missing, mended. Some yellow weathering on inside. White weathering and iridescence on surface.
Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1b. Similar base markings occur at Weisenau (Behrens, M.Z. 1925/26, fig. 5, p. 66) 1b; Cologne (Fremersdorf, Denkmäler IV, pl. 116. left, dated by Fremersdorf to ca. A.D. 100. Fremersdorf, K.Jb. 1965/66, p. 31, c. xviii); London (Roman London fig. 65, 32. Charlesworth, J.Gl.St. 1966, fig. 3 and appendix 1, 44) Flavian.
For other finds at the site cf. above p. 3. Finds seem to date from 2nd century to early 3rd for the majority, but as 6

burials were found exact dating is not possible.

92. Inv. no. 1403 (pl. 2)
Found at Gulpen, cremation burial found during construction of tramway Maastricht-Vaals, near Neuborgh castle in 1922.
Base: 10.5 × 10.5 cm.
Ref.: De Maasgouw 1923, pp. 10-11; Beckers, Zuid Limburg, pp. 244-245; Van Doorselaer, Rep. II pp. 318-319.
Fragment of square bottle, bluish green, numerous small bubbles. Base marking: two concentric circles, in the corners: ccpc Pontil mark. Milky weathering and iridescence, most of it on the inside.
Type Morin-Jean 14, Isings, o.c. 50. Lettering occurs with different other markings, in some cases P is retrograde. (cf. Kisa III, p. 950, nrs. 108-110 and Charlesworth, J.Gl.St. 1966, p. 34; Fremersdorf K.Jb. 1965/66, pp. 29 f.)
Comparable though not identical markings: Cologne, villa of Köln-Müngersdorf (Fremersdorf, Köln-Müngersdorf, p. 92, pl. 48, Streufunde 3) stray find near cremation burials, possibly from end 1st century. Cologne (Loeschke, Cat. Niessen, nr. 258); Mainz-Kastel (C.I.L. XIII, 10025, 115, and M.Z. 1931, p. 119, fig. 17); Carrawburgh (Charlesworth, A. Ael. 1959, pp. 52 f., fig. 9) 2nd century or later; Juslenville (Vanderhoeven, Verres romains, nr. 60) probably 2nd century; Neuss (Lehner, B.J. 1904, pl. xx, 2) IIIb. Provenience unknown: Zahn Sammlung Schiller, nr. 305.
For the dating of the burials found at Gulpen cf. above, nr. 91. There has been another bottle with the base marking ccpc and one circle, being ca. 21 cm in height and with base of 5 × 5 cm., of type Isings 50b. Another bottle had base marking within a circle possibly comparable to Charlesworth,

J.Gl.St. 1966, p. 34, fig. 12 and above nr. 82. Both have disappeared (cf. Maasgouw 1923, p. 10).

93. Inv. no. 1404 (fig. 6)
Found at Gulpen, cremation burial found during construction of tramway Maastricht-Vaals, near Neuborgh castle, in 1922.
H. 16.8 cm. extant, base: 8.5 × 8.5 cm.
Ref.: De Maasgouw 1923, p. 10; Beckers, Zuid Limburg, pp. 244 f., Van Doorselaer, Rep. II p. 318 f.
Square bottle, bluish green, with numerous small bubbles. Multi-ribbed handle. Base marking: three concentric circles, the two inner ones connected in two places by a small bar. Mouth missing, remainder mended. Milky weathering and iridescence.
Type Morin-Jean 14, Isings, o.c. 50a. No parallel known to me for the base-marking. Found like the two above-mentioned, dating from the same period.
94. Inv. no. gr. 1-13 (fig. 14,13)
Found at Maastricht-Belfort, burial 1, nr. 13, excavated in 1964.
H. 13.3 cm., base: 7.7 × 7.8 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, pp. *63 f.
Square bottle, bluish green, numerous bubbles. Broad rim folded outward and inward. Multi-ribbed handle. Base marking two concentric circles. Pontil mark. Patches of white weathering and iridescence.
Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1a. The base marking is an ordinary one occurring in different sizes (cf. Fremersdorf, K.Jb 1965/66, p. 31, B.VI).
Bogaers dates this burial to the 2nd century A.D.

95. Inv. no. gr. 1-19 (fig. 14,19)
Found at Maastricht-Belfort, burial 1, nr. 19, excavated in 1964.
H. 13 cm., base: 7.1 × 7.2 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, pp. *63 f.
Square bottle, bluish tinge, numerous bubbles. Broad rim folded outward and inward, almost mushroomtype. Multi-ribbed handle. Base marking: trefoil in circle. Pontil mark. Cracked, small fragment from shoulder missing.
Morin-Jean 14, Isings, o.c. 50a, rim: Charlesworth 1a/b. Similar base markings on high square bottles (50b) from Tongres (Vanderhoeven, Rom. Glasverz. 61 and 62, not datable with certainty). Similar, but in smaller size: Cucuron (Gallia 1962, p. 327, fig. 13b) possibly end I or early II. Bogaers dates the burial to the 2nd century.

96. Inv. no. gr. 1-7 (fig. 14,7)
Found at Maastricht-Belfort, burial 1, nr. 7, excavated in 1964.
H. 13 cm., base: 7.65 × 7.9 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, pp. *63 f.
Square bluish green bottle, some bubbles. Broad rim folded outward and inward. Constriction at base of neck. Multi-ribbed handle. Base marking: two concentric circles. Pontil mark. Cracked. Dull white weathering, some iridescence and dulling.
Type Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1a. Base marking is an ordinary one, occurring in different sizes (cf. Fremersdorf, K.Jb. 1965/66, p. 31, B.VI). Bogaers dates the burial to the 2nd century.

97. Inv. no. gr. 1-10 (fig. 14,10)
Found at Maastricht-Belfort, burial 1, nr. 10, excavated in 1964.
H. 13.3 cm., base: 7.6 × 7.9 cm.
Ref.: Bogaers, Nieuws Bulletin Kon.

Ned. Oudh. Bond 1964, pp. *63 f.
Square bottle, bluish green, numerous bubbles, some of them very large. Broad rim, folded outward and inward. Constriction at base of neck. Multi-ribbed handle. Base marking: two concentric circles. Pontil mark. Corner of base missing. Some dulling and iridescence.

Type Morin Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1a. From the same mould as nr. 7 from the same burial (above nr. 96).

Bogaers dates the burial to the 2nd century.

98. Inv. no. gr. 2-16 (fig. 12,4)

Found at Maastricht-Belfort, burial 2, nr. 16, excavated in 1964.

H. 13.5 cm., base: 6.9 × 7.3 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Square bottle, bluish green, many bubbles. Mushroom type rim. Multi-ribbed handle. Base marking: two circles around central dot. Cracked. Some iridescence and whitish dulling. Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1b. Base marking is an ordinary one (Fremersdorf, K.Jb. 1965/66, p. 31, B. IX), very similar is the base of a bottle of type 50b from Tongres (Vanderhoeven, Rom. Glasverz. nr. 69), which cannot come from the same mould, however.

99. Inv. no. 463 (fig. 8)

Found at Mesch (municipality of Eysden) in gravel pit on the 'Steenenberg', in 1932.

H. 26.6 cm., base: 8.4 × 8.4 cm.

Ref.: De Maasgouw 1932, p. 72; Van Doorselaer, Rep. II, pp. 316 f.

Square bottle, bluish green, numerous bubbles. Rim: variety of mushroom type. Multi-ribbed handle. Base marking: two concentric circles, with

inscribed circle segments, forming a wheel-like ornament. Fragments of rim and side missing, some white and yellow weathering.

Morin-Jean 14, Isings, o.c. 50b, from about the same period as 50a (IB-III, possibly some even IV). Rim: Charlesworth type 1a/b (cf. also above, nr. 67). No exact parallel for base marking known to me, similar ornaments occur on bottles from Bois-de-Buis (de Pierpont, A.S.A.N. 1900, p. 51) II B, placed on a different angle on the base; bottle in the Amiens museum; from Cologne (Loeschcke, Cat. Niessen, nr. 355, pl. 55; Fremersdorf, Denkmäler IV, p. 51, pl. 113 and K.Jb. 1965/66, p. 30, c, with a larger diameter of inner circle and with lettering CCPC in corners). For the date of the find cf. above, nr. 85.

B. HEXAGONAL BOTTLES

100. Inv. no. 460 (fig. 6)

Found at Ell (municipality of Ell-Hunsel) site 'De Schupstal', gift of P. Hubertus Rietjens.

H. 9.3 cm., d. 6.5 cm.

Bluish green, squat hexagonal bottle, with some bubbles a few in blisters on the surface. Mushroom type of rim. Handle with three ribs. Base marking: three concentric circles. Pontil mark. Milky weathering on the inside.

Type Morin-Jean 17B, Isings, o.c. p. 64 (a variety of the square bottles). Rim: Charlesworth 1a/b. Hexagonal bottles date from the same period as do the square ones (e.g. Tenero, Silvestrini, R.St.Tic. 1940, p. 327, fig. VIII, 19. Claudian-Neronian, p. 330, fig. VIII, 24. Claudian-Neronian, p. 331, fig. VIII, 20, end 1st century); Locarno (Minusio Cadra gr. 28, Simonett, Tess. Gräberf. p. 160, nr. 28, fig. 138, pl. 12,5,2). Claudian-Neronian; Aislingen (Ulbert, Aislingen und

Burghöfe, p. 63, pl. 13) mid 1st century; Pont (Kreis Geldern, p. 216, gr. 14) 1st century; Pompeii (Napels Museum) anterior to A.D. 70; Stein (cf. below, nr. 103) Nero-Flavii; Mainz (M.Z. 1929/1930, p. 150, fig. 9,2) end 1st century; Tongres (De Schaetzen-Vanderhoeven, Oude Land van Loon 1955, p. 10 f., nr. 3, fig. 3, gr. II) II-early III, Xanten (Houben, Xanten pl. XVIII, 7, with coin of Titus, but probably not earlier than 2nd century; St. Cierges (Kasser, Verrerie, I-4-10-III, Jb.S.G.U. 1961/62, p. 173, fig. 45) end II, but in the same layer first-century fragments also; York (Harden, Eburacum, fig. 88, H. 34 C, p. 137) from a grave posterior to A.D. 250, fragment itself dated to 2nd century; Remagen gr. 78 (Funck, B.J. 1907, p. 152, pl. II,8) end II-early III; Ospringe (Whiting, Arch. Cant. 38, p. 125, pl. XVI) early III; Machelen (Mertens, Arch. Belg. 23, figs. 4-5, p. 7: a very large bottle) mid second century.

Comparable base markings: Cologne (N. 6000 and 398, cf. Fremersdorf, Denkmäler IV, p. 55, parallels to pll. 127-128 and K.Jb. 1965/66, p. 31, C, XVII) and Tongres (Vanderhoeven, Rom. Glasverz. p. 40, nr. 74).

Comparable to the squat variety of hexagonal bottle: one in the Amiens Museum and some very large examples: Hemava (B.C.R. IV), pl. I, fig. 2, pp. 369 f) IIa; Fayt-les-Manage (Faidt-Feytmans, Revue Belge 1940, p. 215) 2nd century; Chastre-la-Chaussee (Cumont, Ann. Brux. XVIII, pp. 371 ff) end II to early III; Amay (Vanderhoeven, Verres romains, nr. 129, p. 114) probably 2nd century; Yerville-en-Caux (E. Chirol, Rev. d. Soc. Sav. de Haute Normandie xxx, pp. 25 ff.) end II-early III.

Whether the small squat bottle dates

from the same period as the large one is, as yet, uncertain. Finds from the 'Schupstal' seem to be mainly 1st-century.

101. Inv. no. 481 (fig. 6)

Unknown provenience

H. 11.7 cm., d. 7.2 cm.

Small bottle, bluish green, with streaks and numerous bubbles, some of them forming blisters on surface. Broad rim folded outward and inward. Handle with three ribs. Base marking: two concentric circles. Pontil mark. Fragment of rim missing, mended. Some iridescence and milky weathering.

Type: Morin-Jean 17B, Isings, o.c. p. 64 (variety 50a). Rim: Charlesworth 1a. Dating from the same period as the square bottles (cf. examples above, the large ones excepted, cited for nr. 100) Base marking an ordinary one (cf. Fremersdorf, K.Jb. 1965/66, p. 31, B.VIII)

102. Inv. no. 482 (fig. 8)

Found at Graetheide (municipality of Sittard)

H. 18 cm., d. 14.5 cm.

Ref.: Van Doorselaer, Rep. II p. 332

Squat hexagonal bottle, pale green, with some bubbles. Rim variety of mushroom shape. Constriction at base of neck, multi-ribbed handle. Faint marking on sides, base marking: four concentric circles. Weathering and iridescence on the inside.

Type Morin-Jean 17B, Isings, o.c., p. 64. Cf. examples mentioned for nr. 100 above, especially the large squat bottles, which seem to date mainly from the 2nd century to early 3rd. Rim-type: Charlesworth 1a/b.

103. Inv. no. 483 (fig. 6)

Found at Stein, Houterend, burial I, nr. 2, in 1924.

H. 11.2 cm., d. 6.2 cm.

Ref.: Beckers, Publ. 1926, p. 367, fig. 3, nr. 2; Van Doorselaer, Rep. II p. 332-333. Cat. Glastent. Leiden nr. 271. Hexagonal bottle, greenish, with a few pinprick bubbles. Rim folded outward and inward, slight constriction at base of neck. Faint marking on sides, but no marking on base. Handle with 5 ribs. Fragment of handle and of shoulder missing. Some iridescence and dulling.

Type: Morin-Jean 17B, Isings, o.c. p. 64, and above nr. 100 (large examples and squat ones excepted). Rim: Charlesworth 1a/c.

The burial dates from the Flavian period.

104. Inv. no. 2407 (fig. 6)
Found at Puth-Schinnen.
H. of body: 4.45 cm.
one side: 1.7 cm.
Ref.: Van Doorselaer, Rep. II, pp. 330 f.
Bluish green with some bubbles. Base marking: one circle. Some dulling on surface. Part of body preserved.
Type: Morin-Jean 17B, Isings o.c. p. 64, cf also comparable examples above, p. 30 nr. 100. Base marking cf. Fremersdorf, K.Jb. 1965/66, p. 31, A. V.
Another possibility: hexagonal ointment bottle.

105. Inv. no. gr. 1-11 (fig. 13, 11)
Found at Maastricht-Belfort, burial 1, nr. 11, excavated in 1964.
H. extant: 15.2 cm (real height possibly ca. 16.5 cm.) Base: one side: 7.4 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63 f.
Hexagonal bottle, greenish, with streaks and bubbles.
Multi-ribbed handle. Base marking: four concentric circles around central

dot. Mouth and part of neck missing. Cracked. Dull white weathering.

Type Morin-Jean 17B, Isings, o.c. p. 64 and examples mentioned for above, nr. 100. Bottle of medium height, perhaps datable to the same period as the large squat bottles of the same shape.

Bogaers dates this burial to the 2nd century.

106. Inv. no. gr. 1-12 (afb. 13, 12)
Found at Maastricht-Belfort, burial 1, no. 12, excavated in 1964.
H. 22.5 cm., base: one side: 8.3 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63 f.
Large hexagonal bottle, bluish green, numerous bubbles, and streaks on shoulder. Mushroom-shaped rim. Multi-ribbed handle. At base of neck traces of tooling. Base marking: four concentric circles. Rim damaged. Dulling and yellow patches of weathering on surface. Contained skulls and bones of several mice, which apparently had perished when trying to get at the contents.
Type: Morin-Jean 17B, Isings, o.c. p. 64 and above, large examples mentioned for nr. 100. Rim: Charlesworth 1b. Very large hexagonal bottles probably date from the 2nd to early 3rd centuries.
The burial is dated to the 2nd century A.D.

107. Inv. no. gr. 1-17 (fig. 13, 17)
Found at Maastricht-Belfort, burial 1, no. 17, excavated in 1964.
H. 15.9 dm., br. of sides: 6 cm.
Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63 f.
Medium sized hexagonal bottle, bluish green to greenish, with numerous bubbles. Rim almost mushroom-shaped. Multi-ribbed handle. Base mark-

ing: two concentric circles with 4 circle segments inscribed, looking like a wheel with four spokes, with dot in the middle. Small fragment of rim missing. Dulling and white and yellow weathering.

Type Morin-Jean 17B, Isings, o.c. pl. 64 and above, nr. 100, datable bottles. Medium sized hexagonal bottles probably datable to the same period as the large ones. Rim: Charlesworth 1a/b. Base marking somewhat similar, though not identical, to marking on square bottle from Mesch, above, nr. 99. The burial is dated to the 2nd century A.D.

C. CYLINDRICAL BOTTLES

108. Inv. no. 430 (fig. 6)
Found at Maastricht-Limmel in 1890.
H. 9.5 cm. d. 6.4 cm.
Ref.: Van Doorselaer, Rep. II, p. 332.
Squat cylindrical bottle, almost colourless, with pale greenish tinge, a few bubbles. Horizontal rim, with folded lip. Side with horizontal wheel-cut lines (1, 2 separated by engraved lines, and 1 line resp.). Flat handle. Slightly concave base. Fragment of shoulder missing. Dulling and brown patches of weathering.
This is a variety of Isings, o.c. 51a, with a differently shaped rim. Colourless or almost colourless cylindrical bottles with groups of horizontal wheel-cut lines, date from the 2nd and 3rd centuries, the majority belongs to the higher variety 51b: Penteville (rim missing. Courtoy, A.S.A.N. 1934, p. 16) end II-early III; Cologne (several examples: Fremersdorf, W.R.J. 3/4, pp. 7 f., end II-early III; Hagen, B.J. 114/115, nr. 38, a-d, III; K.Jb. 1955, p. 117, St. Severin cemetery gr. 543, III); fragments from

similar bottles (Fremersdorf, Saalb. Jb. IX, p. 17, pl. 13,8, compared to bottle from Cologne pl. 12.2) II-III; Fragments from a sarcophagus at Stein (Bogaers, Publ. 1958/59 pp. 191, 201) end II-early III. Cf. also below, nr. 102 and Caerleon 73A (A.D. 140-230) restored with two handles (I thank G. C. Boon for information and permission to use this.)

The cemetery of Maastricht-Limmel dates from the 2nd to early 3rd centuries (Byvanck, Exc. Rom., p. 11, Van Doorselaer o.c.)

109. Inv. no. 456 (fig. 8)
Found at Ubach-over-Worms, at building site, in 1931.
H. 9.6 cm.-10.2 cm., d. 6.6 cm.
Bluish green, with numerous bubbles. Rim folded outward and inward. Sides narrowing to base. Flat handle. Slightly concave base. Some fragments missing, mended. Milky weathering.
Variety of the cylindrical bottle Isings, o.c. 51a, with a broader rim than most. Similar small examples (rim-type excepted) from Cologne (Fremersdorf, Denkmäler IV, pl. 42 below, p. 31: 'this small variety often occurs at Cologne, in colourless glass as well') dated to the early 2nd century by Fremersdorf. A small bottle from Rückingen, however (O.R.L. Lief. xxxviii, pl. v, 4, p. 34.5, gr. 46) probably dates from II-B-III.
Other finds from the site date from the 2nd century A.D.

110. Inv. no. 479 (fig. 7)
Found at Obbicht, in cremation burial, 1882.
H. 34.5 cm., d. 13.5 cm.
Bluish green, with some streaks and bubbles. Rim mushroom-shaped. Constriction at base of neck, handle with 5 ribs. Slightly concave base. White

weathering on inner surface of shoulder, dulling on the outer surface.

Isings o.c. 51b, with rim comparable to square jugs, Charlesworth, J.Gl.St. 1966, 1a/b. The type dates from 1B into the 4th century. To examples one from Lövenich may be added (B.J. 1955/56, p. 480, fig. 39,3) from end I-II.

The jug was found together with unguentarium nr. 3, and probably dates from end I-early II.

111. Inv. no. 478 (fig. 7)

Found at Gulpen, cremation burial, during construction of tramway Maastricht-Vaals, near Neuborgh castle, in 1922.

H. 19.5 cm., d. 8 cm.

Ref.: De Maasgouw 1923, p. 10; Beckers, Zuid Limburg, pp. 244 f.; Van Doorselaer, Rep. II pp. 318 f.

Colourless glass, impurities no more visible. Rim folded outward downward and upward, forming a collar. Flat handle with faint ribs. Side with groups of horizontal wheel cut lines (2, 6 and 3 resp.) Wheel cut circle on base. Opaque milky weathering. Cracked.

Colourless variety of high bottle Isings o.c. 51b, cf. also parallels mentioned above, nr. 108, and sculptured bottle on the Simpelveld sarcophagus in Leiden museum, which may have a similar rim also. O.M. Leiden, 1931, suppl. pp. 27 f., Mnemosyne 1935/36 p. 88 ff., late II. Charlesworth, Studies, p. 6. Similar rims (cf square bottles Charlesworth, J.Gl.St. 1966, type 2b) occur from the second half of the 1st century onwards (examples in Pompeii Antiquarium and in the Naples museum, one of them with horizontal wheel-cut lines). Fragments of an emerald green bottle were found in the Nijmegen castra, probably dating from ca. A.D.

70-104. The same type of rim also occurs on other forms, dating from 1st to 3rd centuries (e.g. on square bottles, Vessberg, Op. Arch. VII, 1952, p. 129, pl. VI,5 = S.C.E. IV, 3, fig. 47,5). Similarity to examples mentioned above, p. 33 may point to a possibly second to early third-century date for this one. The majority of the objects from the 6 graves at Gulpen seem to belong to the 2nd and 3rd centuries.

112. Inv. no. gr. 2-15 (fig. 12,3)

Found at Maastricht-Belfort, burial 2, no. 15, excavated in 1964.

H. 18.1, d. 16.2 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Bluish green with some streaks. Mushroom-shaped rim. Neck with constriction at its base. Multi-ribbed handle. Some white weathering on the inside. Handle for the most part missing. Type Isings o.c. 51a, in its large variety, examples of which date from the Flavian period to the end of the 2nd century A.D. The rim is comparable to type Charlesworth, J. Gl. St. 1966, 1b.

112a. Inv. no. 920-S. (fig. 7)

Found at Gulpen, at building site St. Joseph's asylum, in 1931.

D. at rim: 3.6 cm.

Bluish green with numerous bubbles. Rim, neck, damaged handle and part of shoulder. Rim broad, folded outward and inward. Flat handle. Neck with constriction in the middle. Some white weathering.

Probably cylindrical bottle, type Isings 51, dating from 1B into III. Other finds from the site seem to be mainly late, 2nd and 3rd centuries.

D. CONICAL JUGS

113. Inv. no. 688/7 (fig. 8)

Found at Stein, Houterend, burial 1, in 1924.

H. (extant) 13.2 cm., d. rim: 3.5 cm. Ref.: Beckers, Publ. 1926, p. 286, no. 7, fig. 317; Van Doorselaer, Rep. II, pp. 332 f.

Upper part of bluish green jug, with a few bubbles. Rim folded outward and inward. Constriction at base of neck. Handle with three ribs, one ending in spur on the side. Some milky weathering.

Type Morin-Jean 57, Isings, o.c. 55a, Harden, Ant. J. p. 238 ff., dating mainly from the second half of the 1st century (examples from: Xanten (B.J. 122, p. 418, pl. LVIII,15) Claudian-Neronian; Tavel (Gagnière etc., Gallia 1961, p. 239, no. 48, fig. 8, p. 240) probably Claudian; Locarno (Liverpool unten gr. 44, Simonett, Tess. Gräberf. p. 115, Claudian-Neronian; Minusio Cadra, gr. 14, p. 148, fig. 114, Claudian-Neronian); Tenero (Silvestrini, R.St.Tic. 1940, p. 329, fig. VII, 25, mid first century; p. 331, fig. VII, 26, gr. 88, posterior to Vespasian; p. 327, fig. VII, 29, gr. 33, 1B); Kröv (Koethe, T.Z. 1939, p. 126 f.) Neronian; Aramon (Caylus, Recueil VI, pl. CVI, p. 334 f.) Claudian-Neronian; Aislingen (Ulbert, Aislingen und Burg-höfe, p. 63) 1B; Palazzolo Vercellese and Gravellona (Turin Museum) 1st century. Richborough (Richborough IV, no. 370, p. 158, pit 141) A.D., 75-100; Planig (M.Z. 1925/26, p. 67, fig. 6) end I; Vize (Mansel, Belleten 1940, p. 133, fig. 47) Flavian; Pompeii (Napels museum) anterior to A.D. 79; Este, Necropoli Nord, gr. 4 (Este Museum) late 1st century; Radnage (Ant. J. III, 1923, p. 334, pl. XXXV) Flavian; Hofheim (Ritterling 13) 1B;

In a later variety the neck becomes longer, the body wider.

Burial 1 dates from the Neronian-Flavian period.

114. Inv. no. 461 (fig. 9, and pl. 3)

Found at Mesch (municipality of Eysden) in gravel pit on the 'Steenenberg', in 1932.

H. 17.9 cm., d. 8.2 cm.

Ref.: De Maasgouw 1932, p. 72; Van Doorselaer, Rep. II p. 316 f.

Bluish green to greenish tinge, numerous bubbles, rim folded outward, downward and inward. Long neck, body semicircular in outline. Three-ribbed handle, ending in nicked spur on the side. Very deep bulbous kick. Brown weathering on handle, white weathering on inner surface. Variety of Morin-Jean 58, Isings, o.c. 55a, in the later variety (not illustrated) with high neck and wide body. Faider-Feytmans, Et. Nam. 1952, pp. 76 ff., some of them with pre-moulded ribs. Most examples have a more conical outline than this one, a deep kick is rare. Comparable is a jug from Bexhill (British Museum, London. Charlesworth, A. Ael. 1959, fig. 8,6. Payne, Arch. Cant. 1874, pp. 170 f. Guide to the Ant. of Roman Britain pl. XII, nr. 10, p. 44) from late II. Comparable in shape: Richborough (Richborough IV, nr. 367, p. 158) dating from A.D. 130-150, from a pit containing Flavian material also.

Examples with a more conical outline: Avennes (Vanderhoeven, Verres romains, 79) end I; Vervoz (Vanderhoeven, Verres romains, 80 and Philippe, Homm. Grenier, p. 1247, fig. 4, gr. II) Flavian; Peissant (Faider-Feytmans, Et. Nam. p. 78) end I-early II; Haulchin (Faider-Feytmans, Rev. Belge 1940, p. 216, pl. 1.3) from cemetery dating mainly from 2nd to

3rd centuries; Flavion (Delmarmol, A.S.A.N. 1861/62, p. 14, gr. 200 and Courtoy, Namurcum 1927, p. 3) II A. Other finds from this site date from end I into the 2nd century.

115. Inv. no. 473 (fig. 8)

Found at Stein, Houterend, sarcophagus I, in 1924.

Dimensions: 2.3 × 2.2 cm.

Ref.: Beckers, Publ. 1926, p. 377, nr. 10.; Van Doorselaer, Rep. II pp. 332 f. Pressed mask, bluish green, originally decoration on handle end, possibly on a conical jug, although a more bulbous jug is also possible (e.g. Isings o.c. 55a or b, or 52b). Thin trail from pressing on top of mask. Some dulling.

Masks on handle ends were popular during 1st-2nd centuries (cf. J.Gl.St. 1964, p. 62, notes 18-19). It is somewhat similar to a mask from Cologne, at the end of the handle of a bulbous jug (Fremersdorf, Denkmäler VI, pl. 101, pp. 51, 43, on jug pl. 73) dating from the end of the 1st century. No trace of the jug to which the Stein mask belonged having been found in the grave, the mask may have been used as an amulet after the jug was broken.

116. Inv. no. gr. 2-38 (fig. 12,7)

Found at Maastricht-Belfort, burial 2, nr. 38, excavated in 1964

H. 16 cm., d. 10.1 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *108.

Almost colourless, with yellowish tinge. Horizontal rounded rim, folded downward. Base ring probably cut-out. Handle with square section. Constriction at base of neck. Incomplete and restored.

No exact parallel known to me, may however be compared to a more bulbous variety of Isings, o.c. 55b (e.g.

May, Colchester, pl. xc, gr. 8, Jarmin coll. p. 288: a ribbed specimen. Flavian. Bartlow Hills: Gage, Archaeologia 1834, p. 1 ff, barrow I, possibly 2nd century). The rim has an unusual type.

E. JUGS WITH CHAIN HANDLE

117. Inv. no. 386 G.4 (pl. 3)

Found at Stein, Houterend, sarcophagus I, in 1924

H. of handle: 10.6 cm.

Ref.: van Doorselaer, Rep. II, pp. 332 f.. Not mentioned by Beckers.

Colourless, with a greenish tinge. Part of shoulder, with most of handle, upper part of this fragmentary. Body with vertical ribs, nipt diamondways before final blowing. Chain handle starts on shoulder as two coils, which are nipt together 6 times after which they end as one ribbed band, originally doubled along mouth with a loop above the rim. Dulled.

Chain handles occur on several types of jugs, Morin-Jean illustrates three (figs. 128, 134 and 135) and mentions 4 types of jugs with chain handles (p. 40, note 3, forms 50, 53, 60 and 61, all of them of third- to fourth-century date. As this handle is rather long, it probably belonged to a jug of type 50 (= Isings, o.c. 120c) or 61, or to one as found in a fifth-century grave of the Dark Ages cemetery in St. Servaes's cloisters at Maastricht (Glazema-Ypey, Kunst en Schoonheid uit de Vroege Middeleeuwen, Nijmegen-Amersfoort 1950, pl. 83) of Morin-Jean's type 51. Fragments of chain-handles were found on the Saalburg (Fremersdorf, Saalb. Jb. 1939, pp. 19 f) 3rd century.

118. Inv. no. 469 (fig. 7)

Provenience unknown.

D. rim: 6.4 cm.

Upper part of a colourless jug, with slightly greenish tinge. Some streaks and bubbles. Bowl-shaped mouth with rounded rim, with horizontal trail below it. Vertical ribs on body, nipt diamondways before final blowing. Handle starts as two separate trails on shoulder, these are nipt together 6 times after which they remain joined going on as a ribbed band joined to the rim, doubled and ending with a loop above the rim. Milky and yellow weathering.

General form variety of Isings, o.c. 120. A similar jug found at Colchester (Harden, Glass and Glazes. In: Singer and others, A History of Technology II, Oxford 1956, p. 340, pl. 27 E), exhibited: K. S. Painter, in: Masterpieces of Glass, British Museum London, 1968, nr. 111) it is dated to the 3rd century; another at Mainz Albansberg, together with two others with vertical ribs and chain handles (Behrens, Röm. Gl.Dl. fig. 8. Morin-Jean fig. 128) 3rd-4th century; Vertical ribs, not nipt together: Gelsdorf, Jahn B.J. 1863, p. 224) 3rd century. Without decoration: Strassbourg (Straub, Cimetière, p. 27) 3rd-4th centuries.

The fragments of handles mentioned above (nr. 117) found at the Saalburg are thought to have belonged to similar jugs (Fremersdorf, l.c., pp. 19 f.) dating from the 3rd century.

F. JUG WITH TREFOIL MOUTH

119. Inv. no. 1033 (fig. 11)

Found at Maastricht, Havenstraat, in 1932.

H. ± 10.5 cm., d. 8.5 cm.

Ref.: Byvanck, Exc. Rom. III, p. 6.

Glass with bluish green tinge, with

numerous bubbles. Fragments of neck from just below rim, from side and bottom as well as most of the handle. Flat handle starting low on neck, with (one or more) thumbrest(s) on rim, ending on shoulder with end-trail folded back. Constriction at base of neck. High shoulder. Indented base. Some dulling.

Probably form Isings, o.c. 88, which continues the earlier shape 56. For this specimen with its high shoulder and handle starting near the base of the neck, no exact parallel can be mentioned. The jug probably dates from the 2nd or early 3rd century.

VIII. Rectangular amphorisk

120. Inv. no. 459 (fig. 9)

Found at Graetheide, municipality of Sittard.

H. 15.5 cm., base: 5.7 × 8.8 cm.

Ref.: Van Doorselaer, Rep. II, p. 332. Dark bluish green, with a few bubbles. Rim folded outward and inward. Multi-ribbed handle. Base marking: *tabula ansata* and lettering: v i and illegible letter. Cracked. Some milky weathering and iridescence.

Morin-Jean 16, Isings, o.c. form 90. Morin-Jean dates this to the first two centuries (Roman I), but later examples also occur. To form 90 may be added: Veldidena (Wotschitzky, Ö.Jh. 1959, Beiblatt, col. 55) early II; Pont gr. 2 (Cüppers, B.J. 1962, p. 306) II A; a colourless small example from a Nijmegen sarcophagus dates from the late Roman period (cf. Isings, J.Gl.St. 1969, p. 30).

The base marking probably is v i T, it seems to be identical with a marking from Cologne (Loeschcke, Cat. Niessen, nr. 354, pl. LV), with a similarly faint T. Kisa (o.c. III, p. 949, nr. 97)

mentions a marking VI from Smeermaas, near Lanaken. This might be an identical one.

IX. Large Jars

121. Inv. no. 454 (fig. 10)

Found at Obbicht, grave discovered in a gravel pit, in Roman cemetery on the site 'Het Heidje', East of the church, in 1875.

H. 23 cm., d. 19.3 cm.

Ref.: J. Habets, *Mededeelingen v. d. Rijksadviseurs voor de Monumenten van Geschiedenis en Kunst* 1, p. 27, pl. 10, 1; Van Doorselaer, *Rep. II* p. 329. Bluish green two handled jar, with a few streaks and bubbles. Funnel mouth, rim folded downward and upward, like a collar. Pushed in base. Two Ω shaped handles, with end of the trail folded over the handle. Lid no. 129 found on it. Part of the base missing. Iridescence and milky weathering on inner surface.

Type Morin-Jean 17, Isings, o.c. form 64 (with different rims and handles). Comparable are (not identical) a specimen in the Napels museum, with different rim; London (Roman London, pl. 56) not datable with certainty; Cologne (Fremersdorf, *Denkmäler IV*, pl. 98, and 99/100, with different height of mouth, pl. 100 with small handles) dated by Fremersdorf mid 1st century to 1c, 1c and 1B, none by context); Ventimiglia gr. 69 (museum Ventimiglia) Neronian-Vespasianic; Apt (Dumoulin, *Gallia* 1958, pp. 207-208, 211, one of them not exactly datable, the others ca A.D. 100 or 11A). The Obbicht grave dates from the Flavian period.

122. Inv. no. gr. 2-18 (fig. 12, 1)

Found at Maastricht-Belfort, burial 2, nr. 18, excavated in 1964.

H. ca. 30 cm., d. rim: 13 cm.

Ref.: Bogaers, *Nieuws Bulletin Kon. Ned. Oudh. Bond* 1964, p. *108.

Bluish green to greenish two-handled jar with streaks and a few bubbles. Rim folded outward and inward. M-shaped handles. Pushed in base. Restored.

Morin-Jean 2, Isings, o.c. 63. The high neck, narrowing towards the mouth, is a second-century feature (Morin-Jean, p. 48). Similar is a jar from Nijmegen (Bogaers, *Numaga XII*, 1965, fig. 10) from the early second century; one from Heidenberg (Koethe, *T.Z.* 1939, p. 125) 2nd century; Cologne (Fremersdorf, *Denkmäler III*, pl. 102, from a grave dated by him to the 2nd century and pl. 108, with more angularly folded handles, similar to the Maastricht ones); a jar with a very long neck, handles missing, from Colchester (May, *Colchester*, p. 276, gr. 83/79, pl. LXXXV) from 11A.

123. Inv. no. 468 (fig. 9 and pl. 3)

Found at Obbicht, in 1882. Gift from J. Meulleners.

H. 14.3 cm., d. 16.5 cm.

Bright green glass with some bubbles. Two-handled jar. Rim folded outward and inward horizontally. Short neck, slightly concave bottom. Three-ribbed handles. Horizontal wheel-cut lines on body (one line on upper and lower side resp., two lines on the middle of the side). Iridescence, white and yellow weathering on inner surface.

Morin-Jean 3, which has several variations in details. Comparable examples are not very well datable: a jar in the Trier museum was found with a coin of Domitian (Hettner, *Führer, Trier*, p. 105, fig. on p. 106, 2); Le Bussin, *St. Laurent des Eglises* (Gallia 1961, p. 418, fig. 37) not datable; examples in the Saint-Germain-en-

Laye Museum, one of them from Vaison; examples in the Avignon museum, from Vaison, one of them contained an *Ushabti* and an unguentarium of form Isings 28b (Guimet, *R.A.* 1900, pp. 75 ff., and Sautel, *Vaison*, 1742 ff); Cologne (Fremersdorf, *Denkmäler IV*, p. 49, pl. 107) with parallels, without datable context. Fremersdorf dates the type to A.D. 100, which may be correct; Scarponne (Nancy museum) without datable context.

124. Inv. no. gr. 2-17 (fig. 12, 2)

Found at Maastricht-Belfort, burial 2, no. 17, excavated in 1964.

H. 27 cm., d. rim 12 cm.

Ref.: Bogaers, *Nieuws Bulletin Kon. Ned. Oudh. Bond* 1964, p. *108.

Green to bluish green, glass, with a few bubbles. Large two-handled jar. Rim folded outward and inward horizontally. Pushed in base. Three-ribbed handles. Broken and mended. Dulling on surface.

Morin-Jean 3, Isings, o.c. 65, dating from 1d into 1B. Later examples have higher and narrower necks than the early ones. Comparable to this one: *Hermeskeil* (Trier museum) 2nd century; Remagen gr. 140 (Funck, *B.J.* 1907, p. 144, 4, with somewhat higher neck) 2nd century to early third; Wickenrodt (narrowing neck, has no datable context. *T.Z.* 1956/58, p. 530, fig. 116) dated to A.D. 100.

125. Inv. no. 688 (fig. 10)

Found at Stein, Houterend, burial 2, no. 4, in 1924.

H. 11.5 cm., d. 13 cm.

Ref.: Beckers, *Publ.* 1926, p. 370, no. 4; Van Doorselaer, *Rep. II*, pp. 332-333. Bluish green glass, with numerous bubbles. Bulbous jar. Rim folded outward and downward twice, making

broad collar. Base pushed in. Incomplete and mended. Milky weathering, mainly on rim, together with yellow weathering. Oblique ribs, made by optic blowing.

Morin-Jean 5, Isings, o.c. 67c. This type of jar apparently dates from the Flavian period to Antonine period (Faider-Feytmans, *Et. Nam.* p. 74). To examples mentioned may be added: Grügelborn (Hettner, *Führer Trier*, p. 100); St. Cierges (Kasser, *Jb.S.G.U.* 1960/61, p. 173, fig. 43, 3) dated to 1B, but first-century material came from the same layer; Cologne, Aachenstrasse (Gollub, *K.Jb.* 1960/61, p. 62, fig. 12, 2, not datable; cf. also: Fremersdorf, *Denkmäler IV*, pp. 48 f, for examples mentioned with pl. 106); similar, but without ribs, is a jar from Lövenich (*B.J.* 1955/56, p. 480, fig. 39, 5) from end 1-early 11.

126. Inv. no. 414 (fig. 10)

Found at Stein, Houterend, sarcophagus 11, no. 4, in 1924.

H. 11.7 cm., d. rim 7.3 cm.

Ref.: Beckers, *Publ.*, 1926, p. 381, no. 4, fig. 14; van Doorselaer, *Rep. II*, pp. 332-333.

Bluish green glass with a few streaks and bubbles. Square jar. Everted rim, folded outward and downward twice, making broad collar. Sides with scratches from mould. Base marking: one circle in the centre, Y-shaped ornaments in the corners. Almost no weathering.

Morin-Jean 13, Isings, o.c. 62, the majority dating from the Neronian-Flavian period into the second century, later examples exist also, however. Comparable examples are: Pompeii (Napels Museum); Locarno (Minusio Cadra, gr. 31, nr. 8; Simonett, *Tess. Gräberf.* p. 163, fig. 142) Neronian-Vespasianic; Mainz (*M.Z.* 1928,

p. 67, fig. 1.1) found with coin of Nero; M.Z. 1925/26, p. 130: second half of 2nd century; cemetery of La Calade (Bérard, Gallia 1961, p. 127, gr. 17, p. xvii) Claudian-Neronian; Trier (Hettner, Führer, p. 106, fig. on p. 107, nrs. 6-7) one of them found with coin of Vespasian; Tombe de Hémava (B.C.R. IV, pl. 1.1, p. 369) IIIA; (Corinth XII, nr. 656, p. 103) 1st century; Laurenzberg gr. 2 (B.J. 1963, p. 541, fig. 28,2) mid 3rd century.

127. Inv. no. 1139 (fig. 11)
Found at Maastricht, Oude Minderbroedersstraat, Post Office.
D. at rim: 7-7.1 cm. and 10 cm.
a. Pale greenish with numerous bubbles. Rim-fragment. Rim folded twice outward and downward, making broad collar. Dulling.
b. Bluish green glass with some bubbles. Rim-fragment. Rounded rim, folded outward and downward, making broad collar. Dulling. Morin-Jean 5, Isings 62, 67b or 67c, jars dating mainly from end 1st to 2nd centuries.

X. Ointment jars

128. Inv. no. 428 (fig. 8)
Unknown provenience.
H. 4.8 cm., d. 3.7 cm.
Greenish glass with a few bubbles. Funnel mouth, rim folded inward. Slightly concave bottom. Milky weathering.
Jars with funnel mouths are known from Pompeii, dating from before A.D. 79 (Antiquarium Pompeii). The type seems to be mainly near Eastern (Negro Ponzi, Mesopotamia 1968/69, pp. 330 ff., nrs. 19-23, figs. 153, 158), there are a few Western examples, one from cemetery ww at Nijmegen (period A.D. 70-240), another from a fourth century cemetery at Nijmegen

and a more bulbous jar from Cologne, St. Severin (Fremersdorf, B.J. 1943, pp. 40, fig. 5) from \pm A.D. 300.

XI. Lid

129. Inv. no. 455 (fig. 10)
Found at Obbicht, in a Roman burial in the gravel pit on the site 'het Heidje' near the church in 1875.
H. \pm 6.8 cm., d. 16-16.6 cm.
Ref.: Habets, Mededeelingen Rijksadviseurs p. 27, no. 2. Van Doorselaer, Rep. II, p. 329.
Fragmentary lid, bluish green with a few bubbles. Bell-shaped, rim folded inward. Indented top, no traces of knob remain, brownish white patches of weathering. Mended.
Morin-Jean fig. 11b, Isings, o.c. form 66a, from IB until end II or early III.
The Obbicht grave dates from the Flavian period.

XII. Strigil and rods

130. Inv. no. 417 (pl. 4)
Found at Stein, Houterend, probably in sarcophagus II, in 1924.
Length: 8 cm., 8 cm. and 0.8 cm., d. 0.8 cm.
Ref.: Beckers, Publ. 1926, p. 384. Van Doorselaer, Rep. II, pp. 332-333.
Three fragments of a greenish strigil, with numerous bubbles. At one end probably ending in a ring, part of which remains. Part of the handle with spiral ribs, some dulling.
Comparable are strigils from Hürth-Berrenrath (B.J. 1955/56, p. 473, fig. 34.1) from IIIA; Laurenzberg, gr. 2 (B.J. 1963, p. 542, fig. 28,2) mid-third-century; Cologne and from the Saalburg (Fremersdorf, Saalb. Jb. IX, 1939, p. 21, pl. 10.1, Denkmäler VI, pl. 50, p. 5 f. he dates the Saalburg fragment to ca 200 A.D.); an undat-

able strigil in the Musée Curtius at Liège.

The strigil is probably the 'stick-shaped handle' mentioned by Beckers among the contents of sarcophagus II, which dates from the end of the 3rd century.

131. Inv. no. 471 (pl. 4)
Found at Maastricht-St. Pieter, site 'Klein Pruisen' near Canne.
Length: 25 cm.
Ref.: Sprenger, O.M. Leiden, 1948, p. 32; Van Doorselaer, Rep. II p. 325.
Rod with spiral ribs, green, with a few bubbles. One end with flat disk, at the other end a figure of a bird.
Glass rods of still unknown use (Isings, o.c. 79), are sometimes thought to be stirring rods for cosmetics, but apparently have served as hair needles also (Radnóti, Intercisa II, pl. xxviii, 7, p. 155, nr. 6, and p. 159,86, the latter from the late-Roman part of the cemetery: 3rd-4th century A.D.) Most rods end in disks at both sides. Comparable rods with birds: Cologne (Fremersdorf, Denkmäler IV, pl. 134b, no context mentioned, dated by him to 1st-2nd centuries); Saintes (museum of Saint-Germain-en-Laye no. 24644) probably 1st century; Trier, Altbachtal (Loeschcke, Altbachtal, Heft 2, p. 119, pl. 23, 45) from period 6, probably Flavian; Halder (Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1968, p. *66) stray find, possibly from 1st or 2nd century. Lebanon (Glass from the Ancient World 298) not datable.

132. Inv. no. 470
Found at Maastricht, Sint Bernardusstraat-Oude Minderbroedersstraat at laying of telephone cables in 1932.
Extant length: 5 cm.
Bluish green, with a few bubbles.

Fragment of rod, with spiral ribs. Isings, o.c. 79, dating from Tiberius to end 1st century.

XIII. Miscellaneous

133. Inv. no. 370 Gg (fig. 11)
Found at site of Roman villa at Vlengendaal (municipality of Bocholtz) in 1911/1912.
D. base: \pm 6.5 cm.
Ref.: Goossens, I.A.E. 1918, p. 19. Byvanck, Exc. Rom. III, p. 17.
Bluish green glass with numerous bubbles. Cut-out base ring. Pontil mark. Dulling.
Perhaps from a bowl, uncertain type. Finds from the villa dated to 2nd and 3rd centuries.
134. Inv. no. 402
Found at Ubach over Worms, on digging site, in 1931/32. Gift from Weerts.
D. base: 5.5 cm.
Greenish glass with numerous bubbles. Fragment of base and lower side. High cut-out base ring, with metallic weathering within base ring.
Uncertain shape, may have been bowl, beaker, flask or jug. High base rings mainly date from 3rd and 4th centuries (cf. e.g. Isings, o.c. 109b, 120b and d, 122, 124b, Doppelfeld, Röm. und fränk. Glas, fig. 69, 71, 132).
135. Inv. no. 1061/xxix B (fig. 11)
Found at Ubach over Worms.
D. base: 2.3 cm.
Ref.: Van Doorselaer, Rep. II, pp. 333-334.
Bluish green glass with numerous bubbles. Fragment of bottom and lower side. Dulling.
Uncertain type, may be flask, bottle, beaker, bowl or jug.

136. Inv. no. 1061/XXIX C II (fig. 11)
Found at Ubach over Worms.
D. at rim 9 cm.
Ref.: Van Doorselaer, Rep. II, pp. 333-334.
Almost colourless glass with greenish tinge with numerous pin-prick bubbles. Fragment of rim and side. Rounded rim.
Uncertain shape, may have been cup or bowl or beaker. The metal looks similar to that of 2nd-3rd century glass.
137. Inv. no. 1139 (fig. 11)
Found at Maastricht, Oude Minderbroedersstraat, Post Office.
D. of neck: 3.1 cm.
Bluish green glass with a few bubbles. Fragment of neck, with constriction at its base. Dulling.
Uncertain type of flask or bottle. Probably 1st century.
138. Inv. no. 1140
Found at Maastricht, Oude Minderbroedersstraat, Post Office.
W. 2.5 cm.
Bluish green glass, with spikes and one large bubble making an oblong hollow. Ribbon-shaped handle with thin rib in the middle. Dulled.
Uncertain type of jug or amphorisk.
139. Inv. no. 1418
Found at Stein, near the so-called Roman villa (probably *mansio*).
Small fragment of rim, dark blue. Rim everted, folded outward.
Uncertain shape, possibly beaker of bowl. 1st century A.D.
140. Inv. no. 1418
Found at Stein, near the so-called villa.
D. base 5.4 cm.
Greenish glass. Fragment of coil base.
Uncertain type, possibly flask or jug.
141. Inv. no. 1418 (fig. 9)
Found at Stein, near the so called Roman villa.
D. base 7.9 cm.
Bluish green tinge, numerous bubbles. Fragments of lower side and base. Base pushed in apparently forming a base ring.
This type of base occurs in bulbous jugs (e.g. Isings o.c. 55b) or large jars (e.g. Isings 67c), dating from end 1st into 2nd century.
142. Inv. no. 1418
Found at Stein, near the so-called villa.
Greenish tinge, some bubbles. Ten fragments of side, decorated with vertical ribs, nipt diamondways before final blowing. Almost no weathering. Uncertain type. Similar decoration occurs on jars and jugs from different periods, it cannot be dated with certainty.
143. Inv. no. 1538
Found in Roman grave at Gulpen, during construction of tramway Maastricht-Gulpen, near Neuborgh castle in 1922.
Ref.: Beckers, Zuid Limburg, pp. 244-245. Van Doorselaer, Rep. II, pp. 318 ff.
Greenish glass with a few bubbles. Fragment of cut-out base ring. Milky weathering.
Uncertain type, finds from this site mainly date from the 2nd century.
144. Inv. no. 1540 C (fig. 11)
Found at Linne, 'de Ossenbergh', in cremation burial, in 1945.
D. base 3.6-3.65 cm.
Ref.: Van Doorselaer, Rep. II, p. 324
Bluish green glass with numerous bubbles. Fragment of lower side and base. Cut-out base ring. Pontil mark.
Uncertain type. Other finds from the
- burial date from the second half of the 2nd century.
145. Inv. no. 2141 II A (fig. 11)
Found at Maastricht, Our Lady's church.
D. base: \pm 5 cm.
Ref.: Byvanck, Exc. Rom. III, pp. 1 and 2.
Bluish green glass, almost no bubbles. Fragment of base. Cut-out base ring. Pontil mark. Dulling.
Uncertain shape, may have been flask, bowl, beaker or jug.
146. Inv. no. 2415
Found at Stein, Houterend, sarcophagus I, in 1924.
Fragment of thin colourless glass, with part of a fine thin snake-thread ornament.
Uncertain type, it may have belonged to abovementioned nr. 47, or another object in the same style. The find dates from the end of the 3rd century.
147. Inv. no. 2415 A (fig. 10)
Found at Stein, Houterend, sarcophagus II, in 1924.
Extant H. of handle: \pm 2.5 cm.
Colourless glass. Fragment of rim and blue handle. Rim folded outward and downward, turned inward. Broad handle with thumbrest. Heavy brown layer of weathering.
Uncertain shape, but possibly comparable to a cantharos from Aquileia (Calvi, Vetri, pl. 7, 1, p. 64) which has a rounded rim. The object may have come from the snake-thread workshop(s). The find dates from the end of the 3rd century.
148. Inv. no. 2415 A (fig. 9 and pl. 3)
Found at Stein, Houterend, sarcophagus II, in 1924.
D. of neck \pm 6 cm.
- Ref.: Van Doorselaer, Rep. II, p. 332-333. J.Gl.St. 1969, p. 29, fig. 2.
Colourless glass. Fragments of side and shoulder (line of fracture suggests start of neck, rather than lower side of bowl). Snake-thread ornaments in leaf pattern or rosettes in blue and white. Heavy brown layer of weathering.
Uncertain type, may have been a flask or a jug with broad and flat shoulder (this contrary to my earlier opinion). The snake-thread ornament is of very good quality, comparable with the best known in this type of decoration. The sarcophagus dates from the end of the 3rd century.
149. Inv. no. 2415 A
Found at Stein, Houterend, sarcophagus II, in 1924.
Ref.: Van Doorselaer, Rep. II, p. 332-333.
Colourless glass, with pin-prick bubbles. Fragments of base. Cut-out base ring. Some dulling.
Uncertain shape, metal similar to objects from 2nd and 3rd centuries. The find dates from end 3rd century.
150. Inv. no. 2415 A
Found at Stein, Houterend, sarcophagus II, in 1924.
Ref.: Van Doorselaer, Rep. II, p. 332-333.
Greenish glass, with small bubbles. Fragments of two thick 'dolphin-shaped' handles. Yellow and brown weathering.
Handle Morin-Jean ζ , occurring on his types 34 and 35 and 10 (= Isings, o.c. 100) mainly dating from 3rd and 4th centuries.
151. Inv. no. gr. 1-21 (fig. 13, 21)
Found at Maastricht-Belfort, burial I, nr. 2, excavated in 1964.

D. at rim: 4.4 cm.

Ref.: Bogaers, Nieuws Bulletin Kon. Ned. Oudh. Bond 1964, p. *63.

Colourless with greenish tinge. Three fragments of rim. Everted mouth, rim folded downward and upward. Milky weathering.

Uncertain type, flask or jug. The find is dated to the 2nd century.

XIV. Window Glass

152. Inv. no. 370 G 2 (fig. 11 and pl. 4)

Found at site of Roman Villa Vlengendaal (municipality of Bochtoltz) in 1911/12.

T. 0.37-0.47 cm.

Ref.: Goosens, I.A.E. 1918, p. 19,3. Byvanck, Exc. Rom. III, p. 17.

Moss green, with a few bubbles. Fragment of undulating rim. Dull.

Window glass was made from the 1st century onwards, glass was also used for wall decorations (Haevernick and Hahn-Weinsheim, Saalb. Jb. 1955,

pp. 66 ff.) they were probably cast on a rough surface and then worked into the right shape (cf. Boon, J.Gl.St. 1966,

pp. 42 ff. Harden, Glastechn. Berichte 32K, nr. VIII, 1959, pp. VIII/8-16, however, thinks them made by the 'muff

process). In this case the undulating rim points to casting. The muff process seems to have come into use in the late Roman period (Boon, note 7).

153. Inv. no. 489a (fig. 11 and pl. 4)

Unknown provenience.

T. 0.2-0.6 cm.

Six fragments, one of them not Roman:

a. Olive green glass, two fragments, with some bubbles. Dulling on surface.

b. Bluish green to greenish glass. Fragment with parts of the rims of two adjoining sides. Some iridescence and dulling.

c. Bluish green to greenish glass, with numerous bubbles, some of them large. Two rim-fragments. Tooling marks near the rim. Layering visible.

d. Bluish green, with some bubbles. Rim-fragment. Tooling marks near rim. Layering visible. Dulling on surface.

Similar to no. 152 abovementioned.

154. Inv. no. 1418

Found at Stein, near the so-called Roman villa.

Bluish green glass, with tooling marks. Similar to abovementioned.

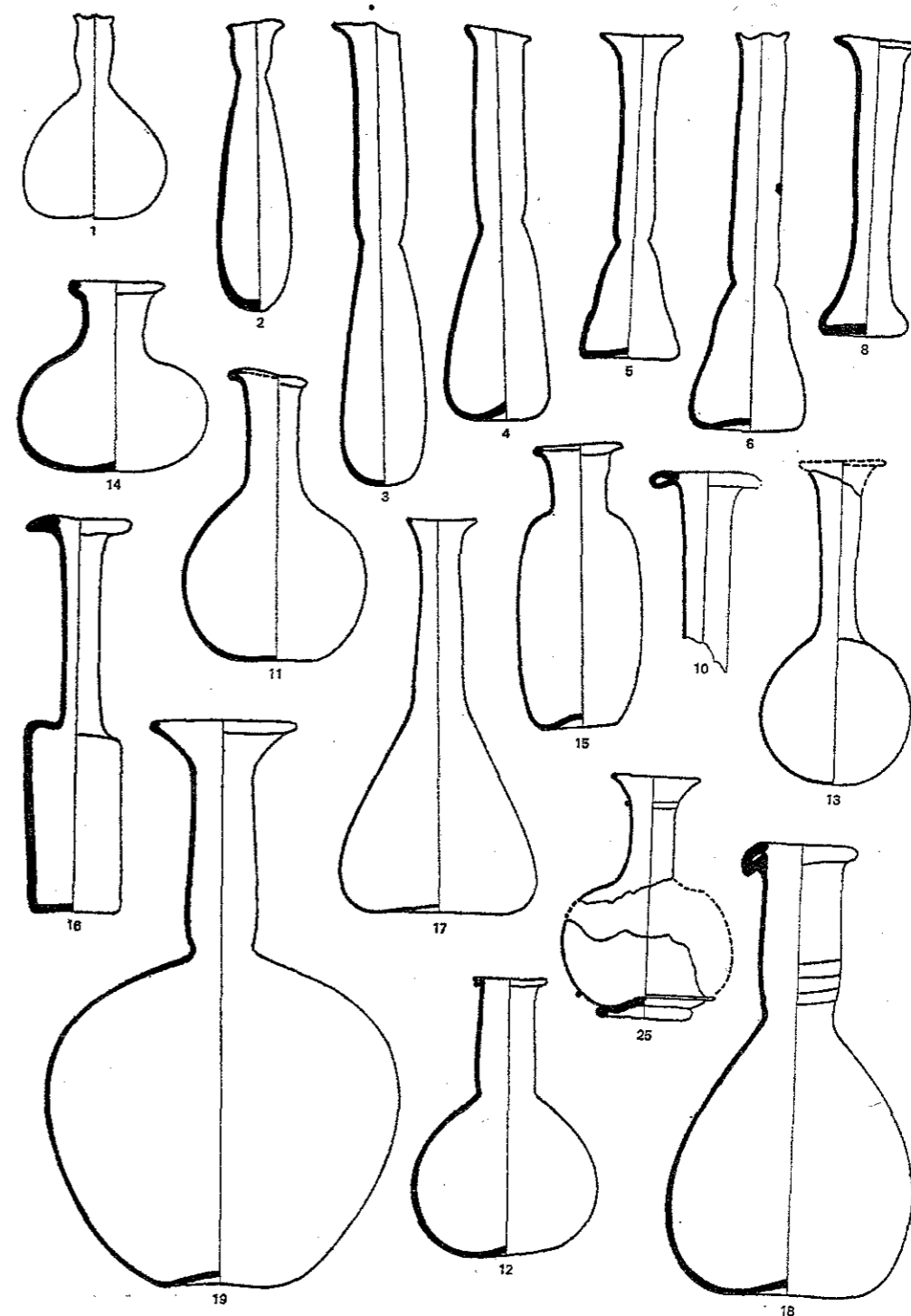
155. Inv. no. 2141 IA, IC, IIB (fig. 11 and pl. 4)

Found at Maastricht, Our Lady's church.

Ref.: Byvanck, Exc. Rom. III, pp. 1 and 2. 2141 IA: Greenish glass, with numerous bubbles. Fragment of rim. Layering visible. Dulling. T. 0.3-0.45.

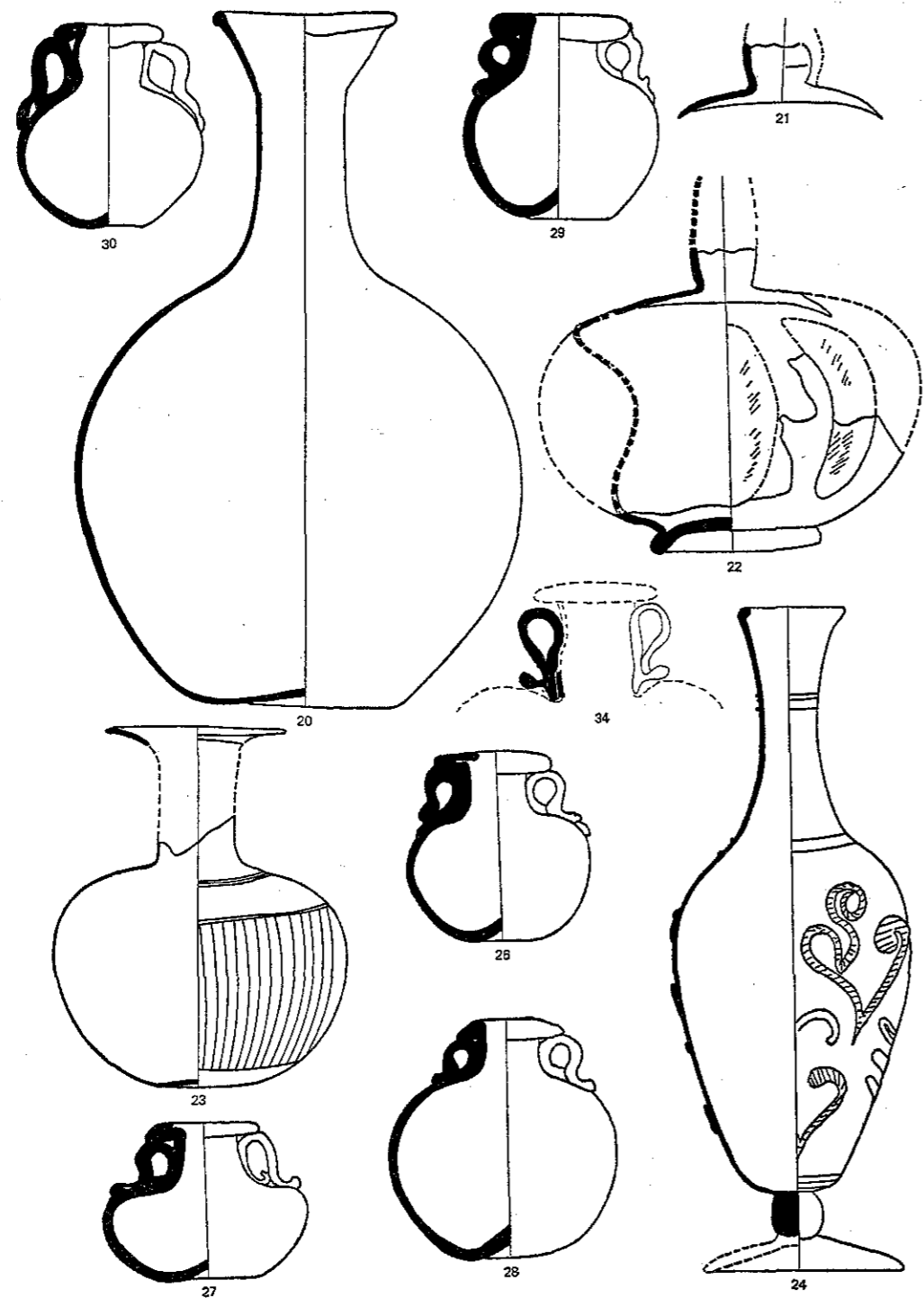
2141 IC: Bluish green glass, with some bubbles. Fragment of rim. Layering visible. Dulling. T. 0.5-0.55 cm.

2141 IIB: Bluish green glass, with numerous bubbles. Dulling. T. 0.4 cm. Similar to abovementioned.



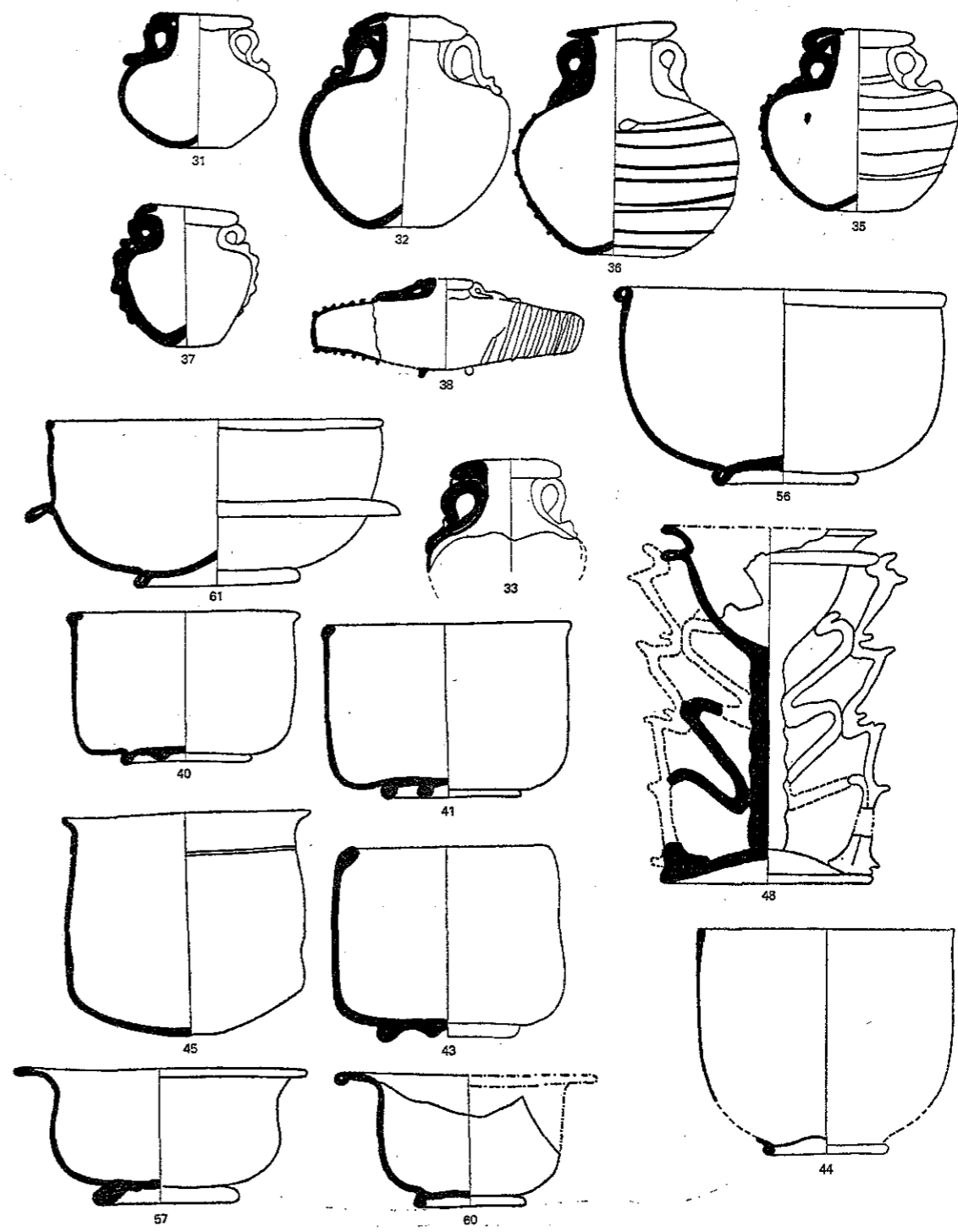
SCALE 55:100

Figure 1



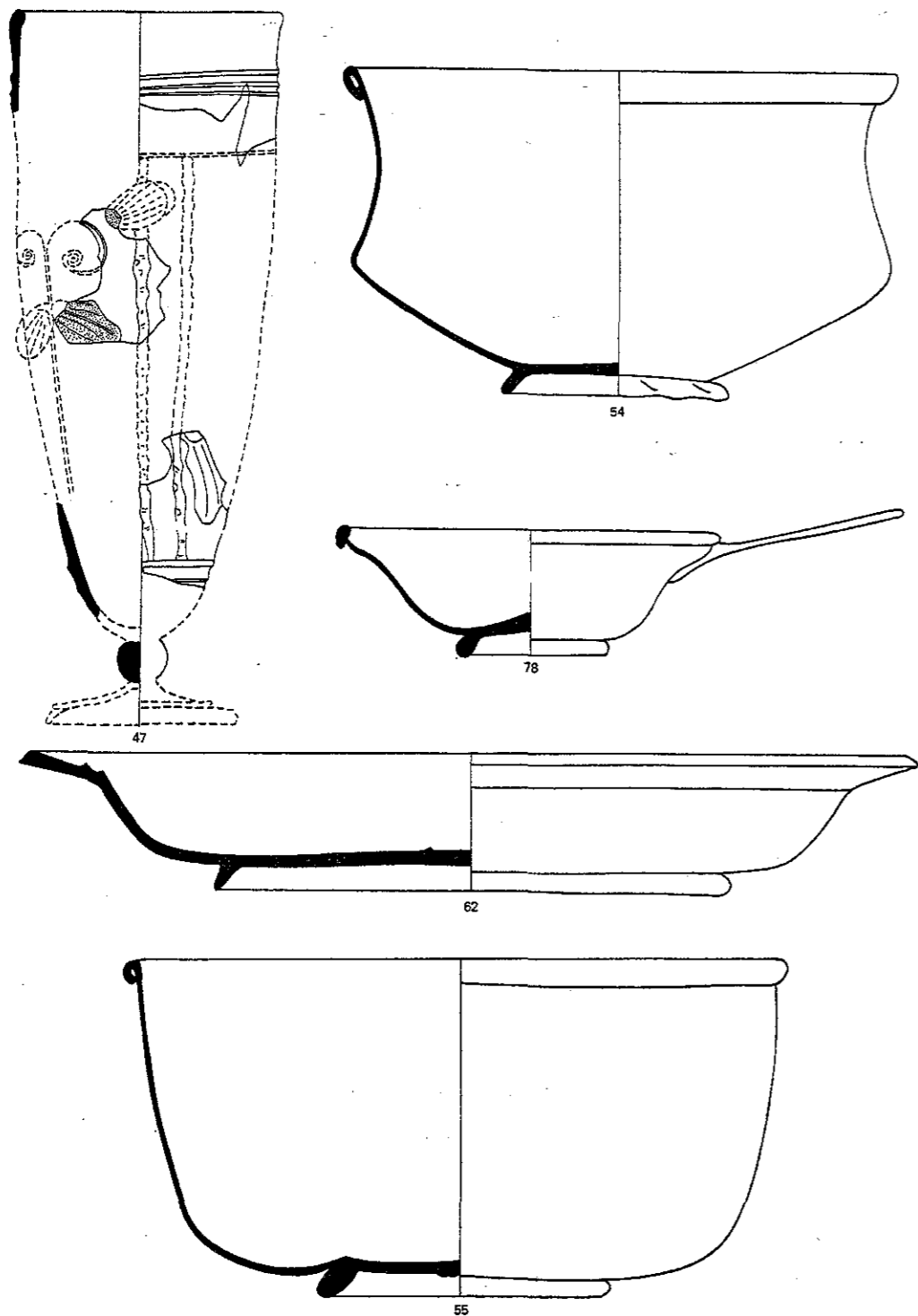
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Figure 2



SCALE 50:100

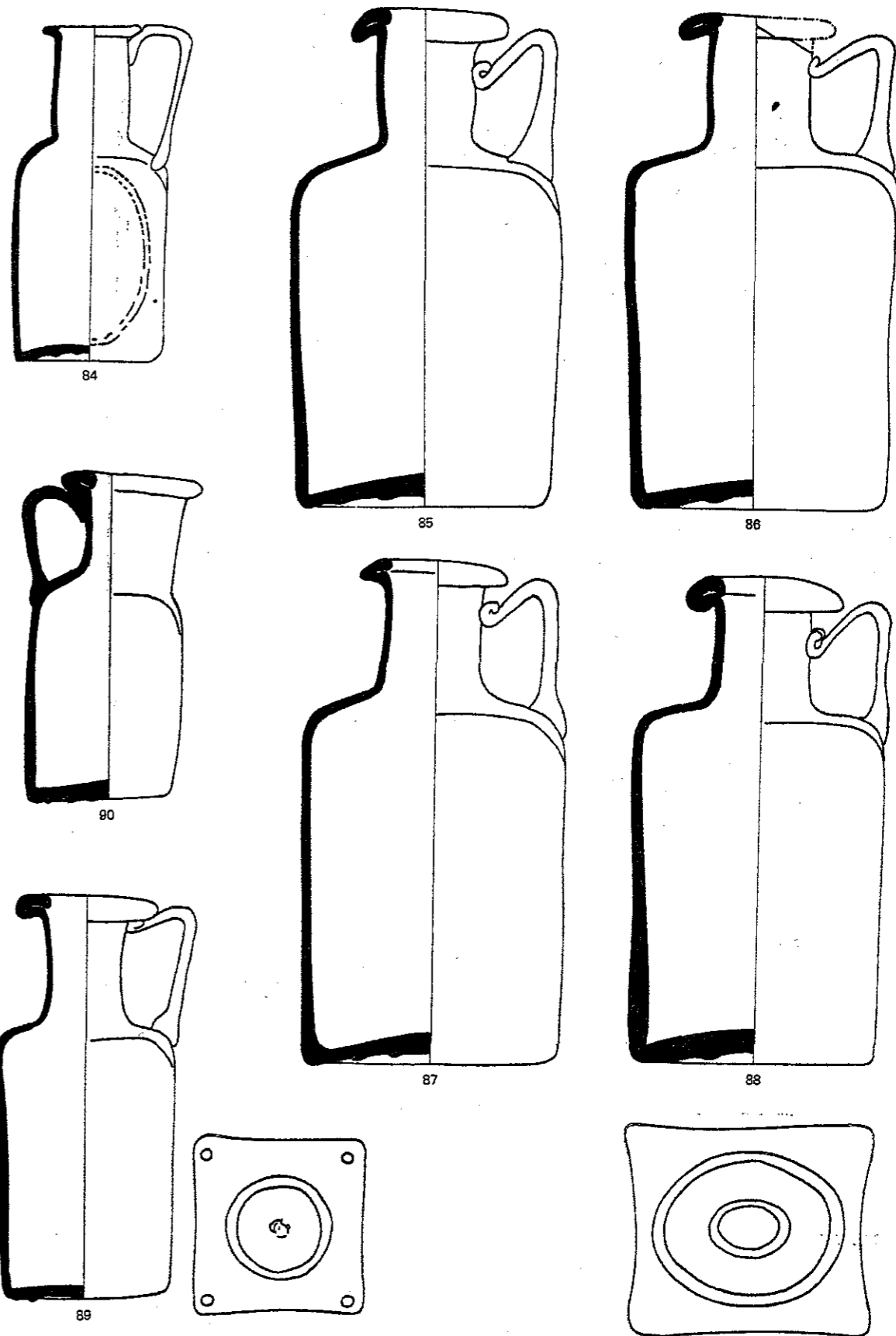
Figure 3



SCALE 55:100

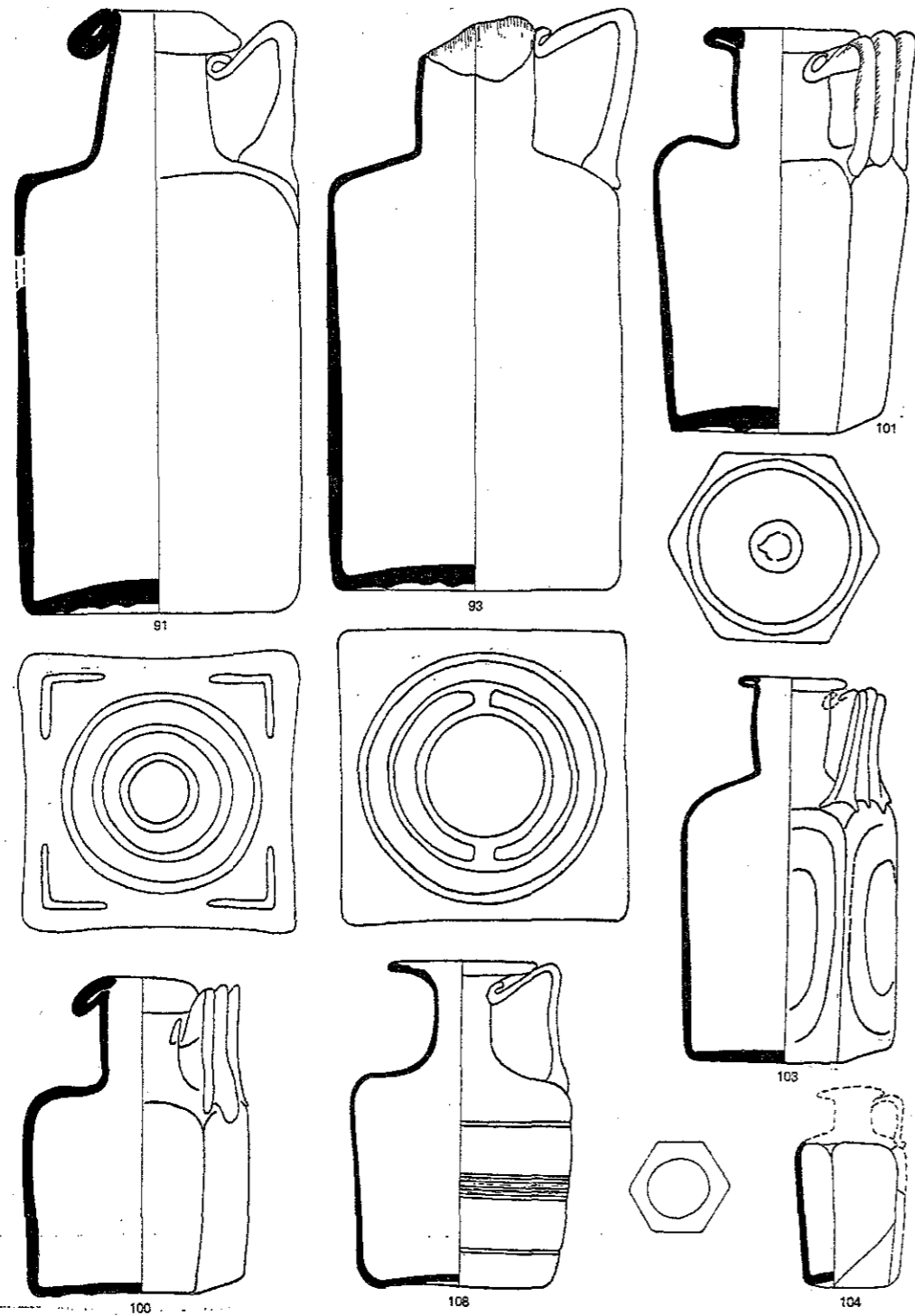
48

Figure 4



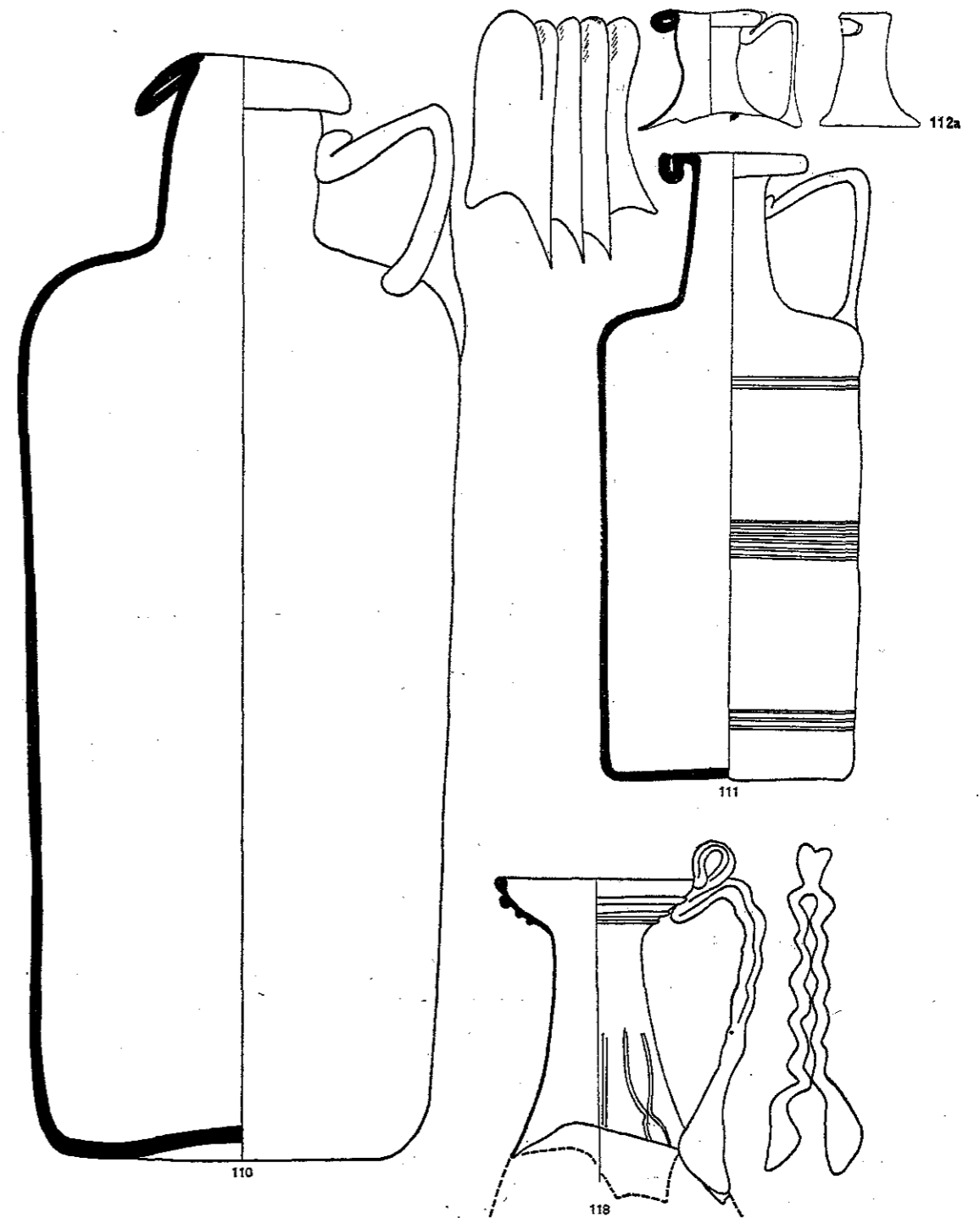
SCALE 60:100

Figure 5



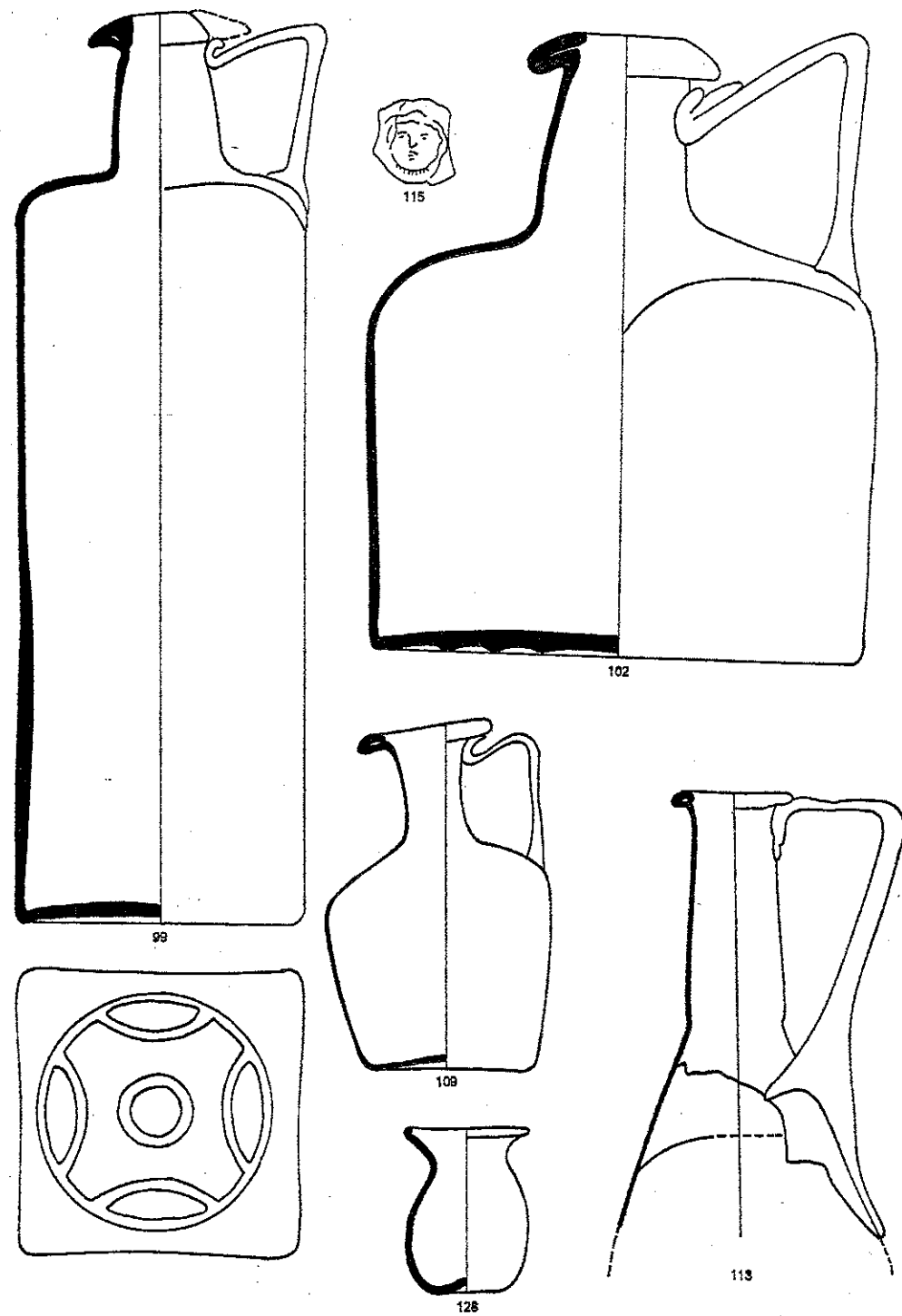
SCALE 55:100

Figure 6



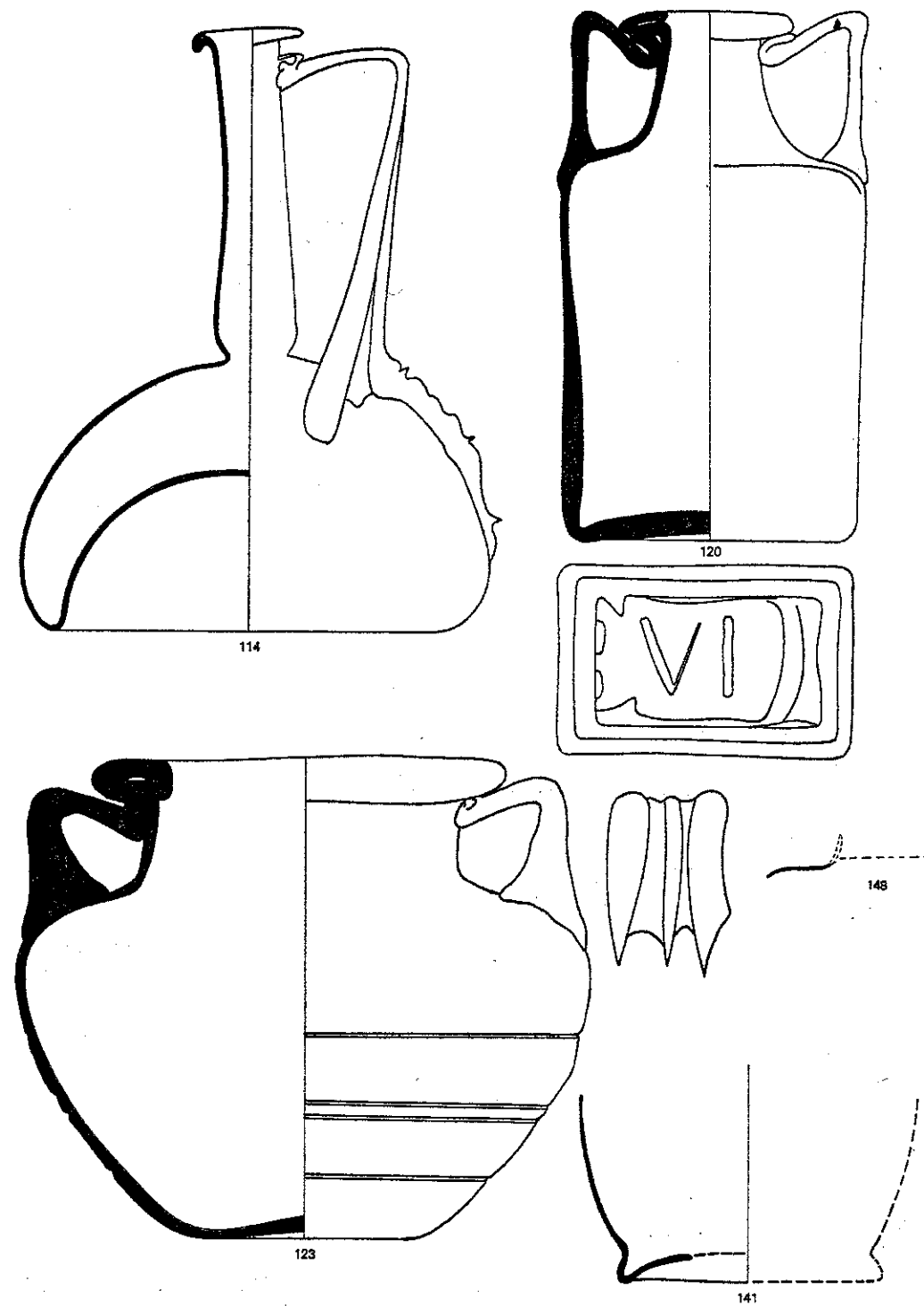
SCALE 55:100

Figure 7



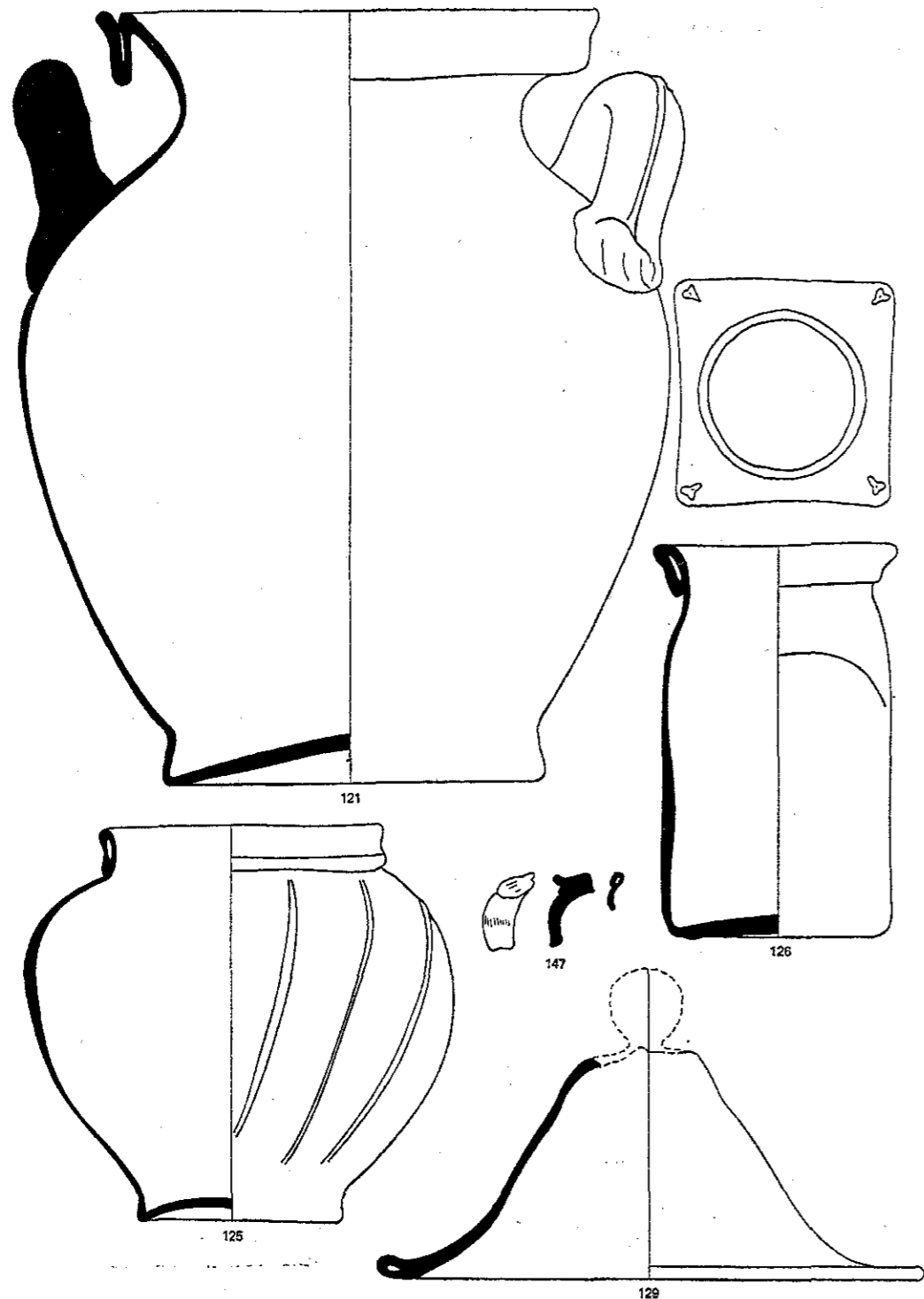
SCALE 55:100

Figure 8



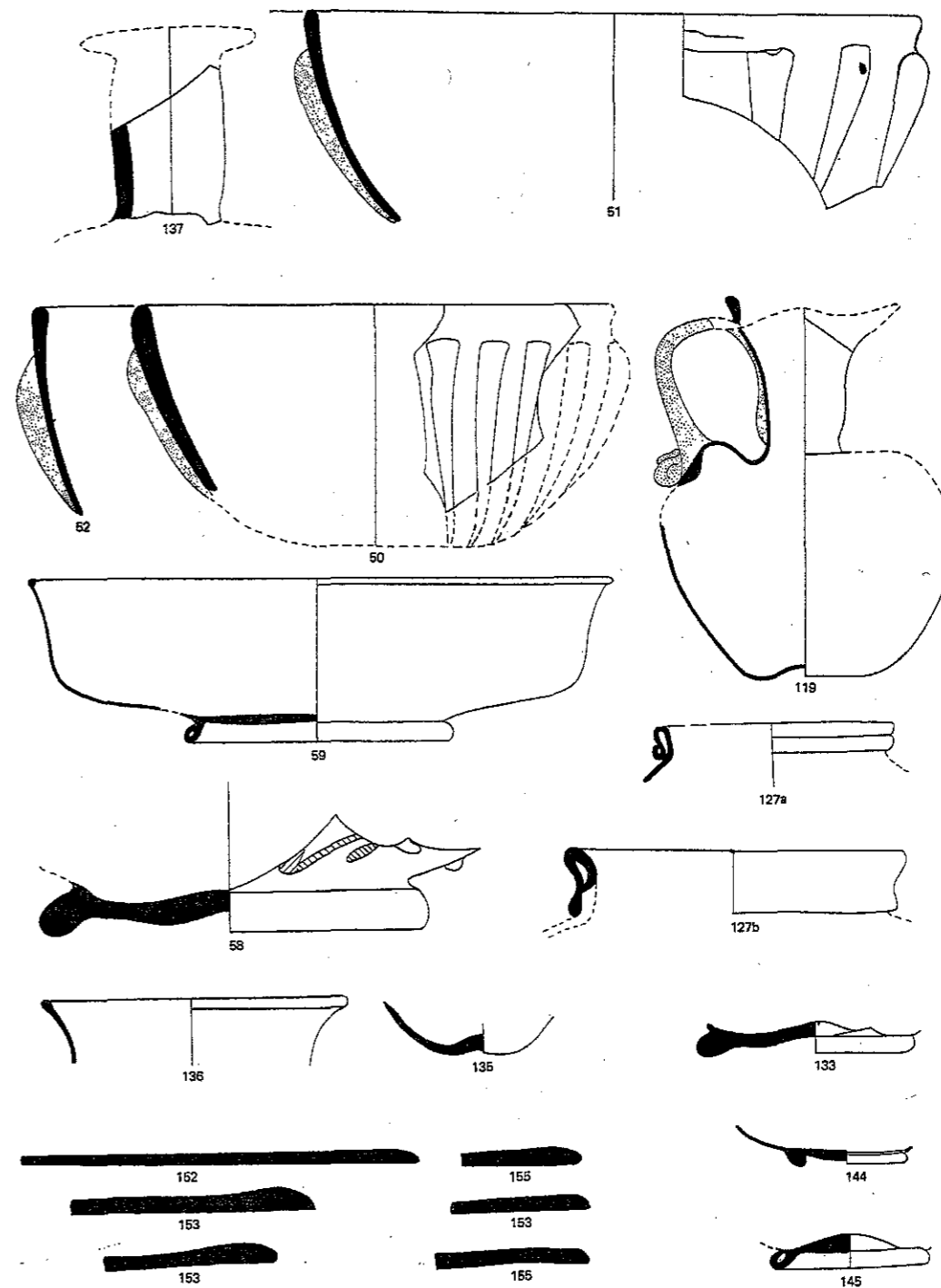
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Figure 9



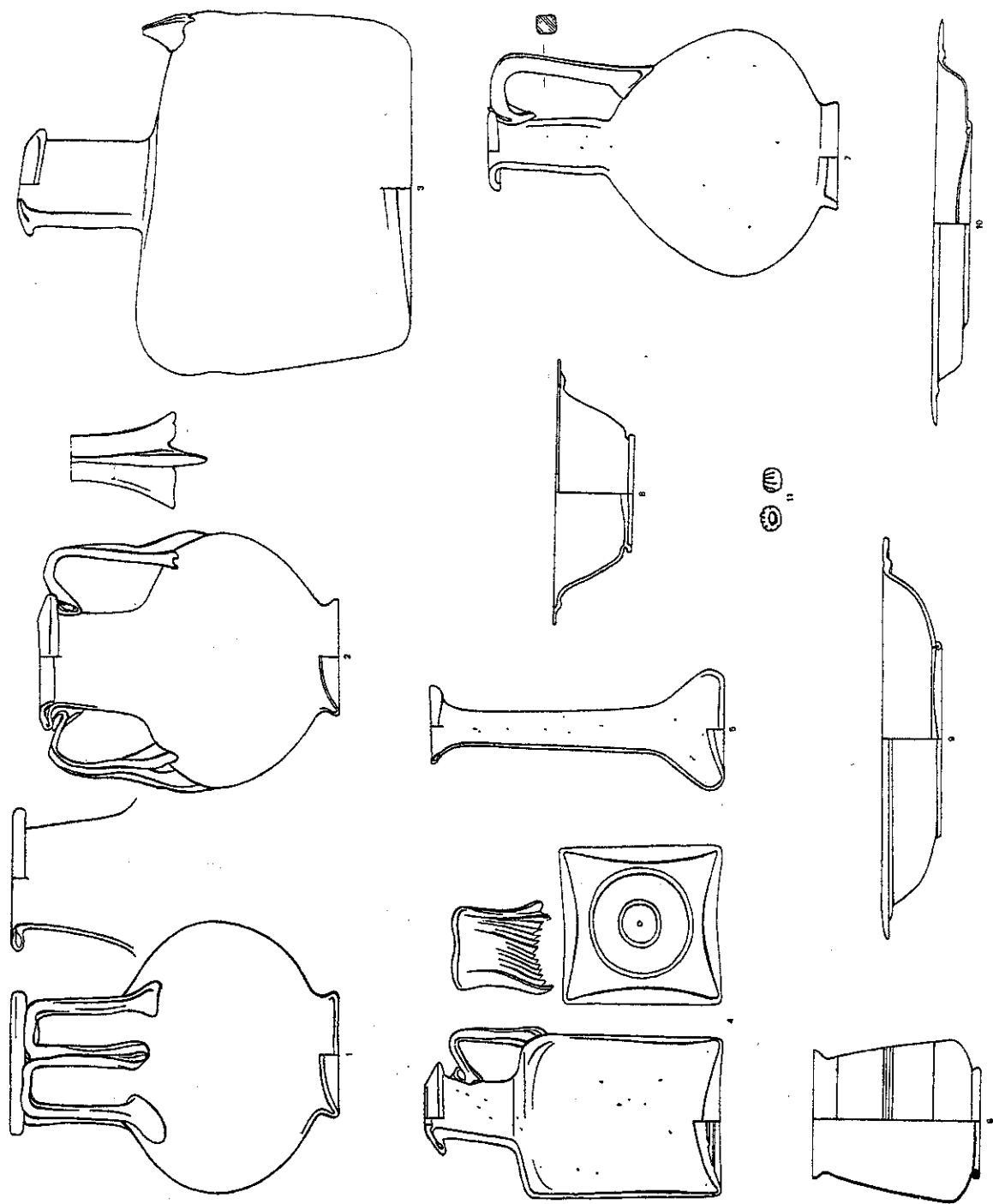
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Figure 10



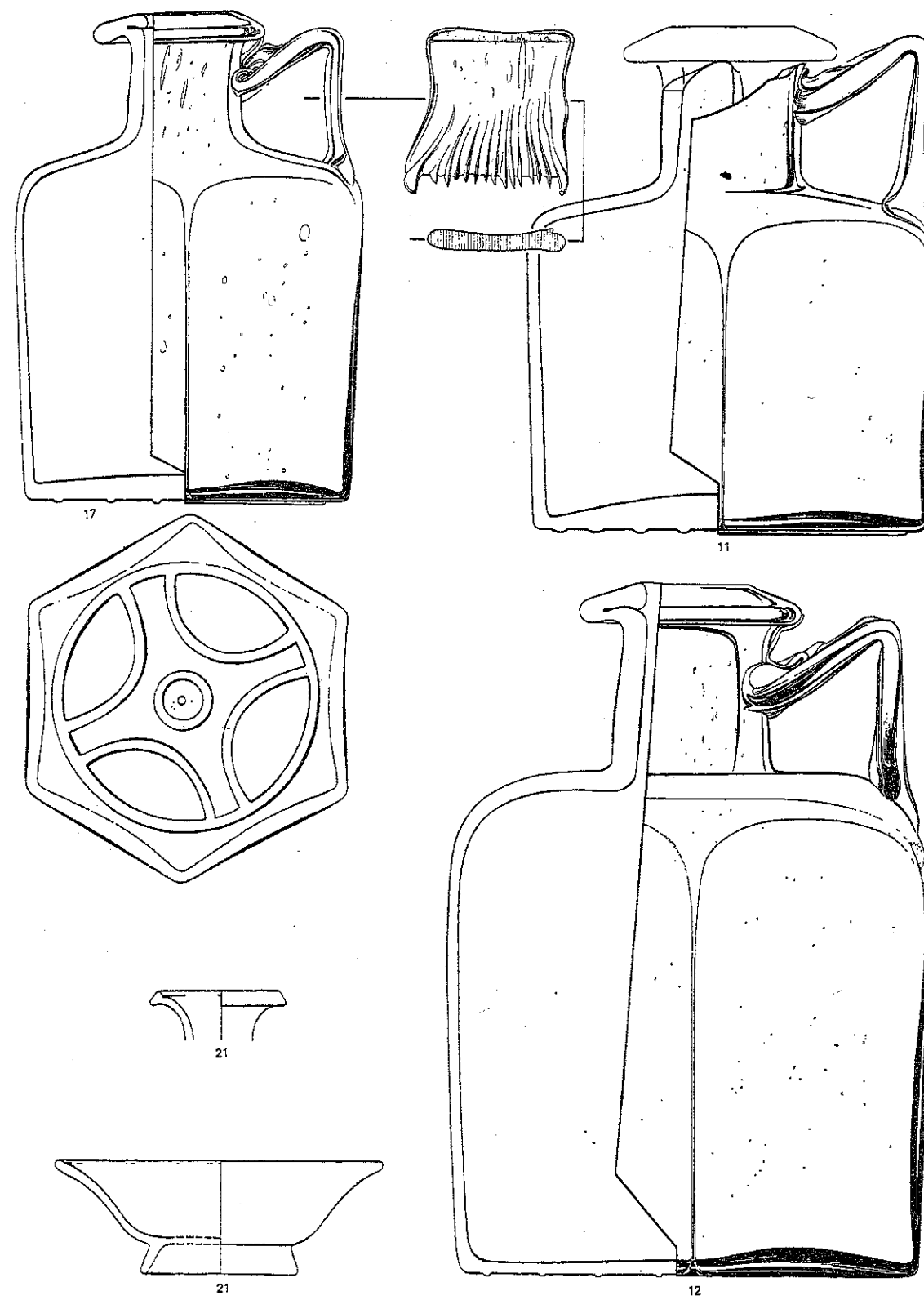
SCALE 55:100

Figure 11



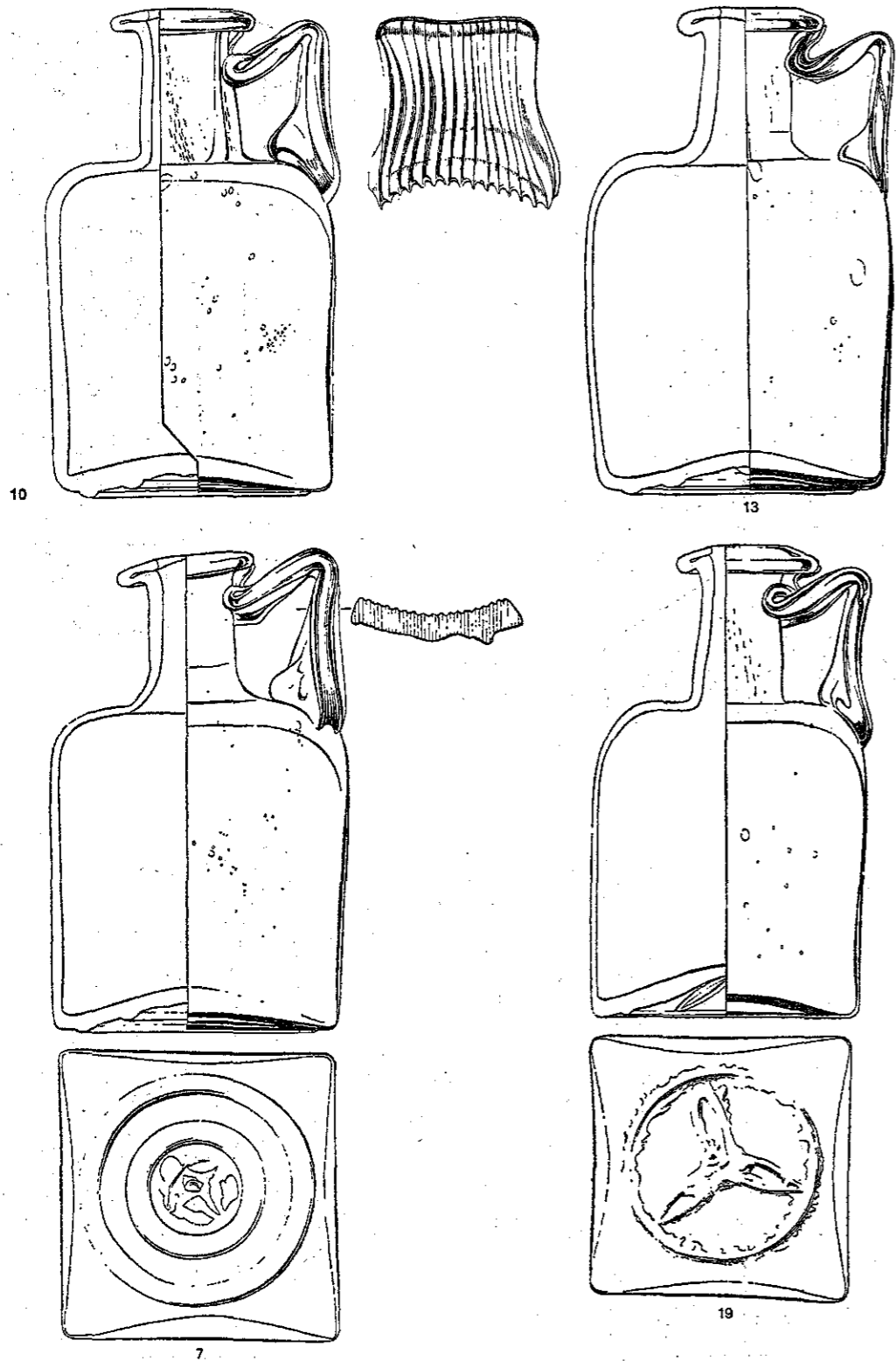
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Figure 12



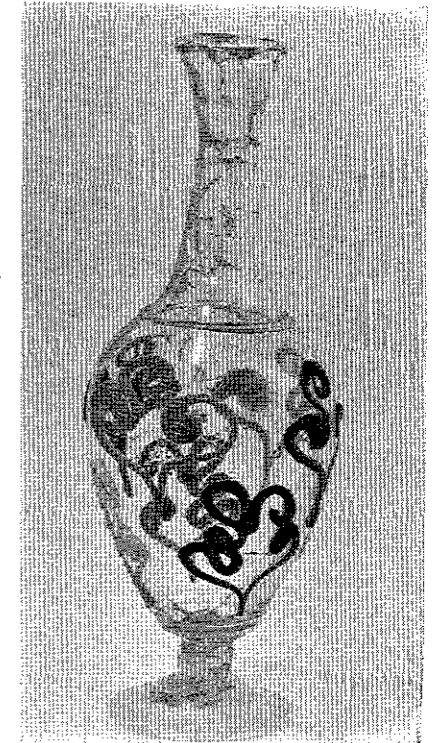
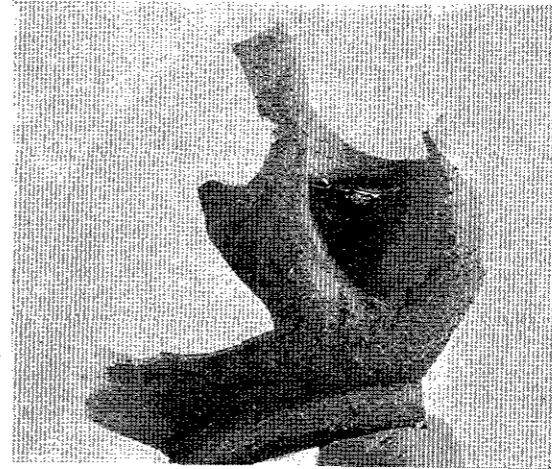
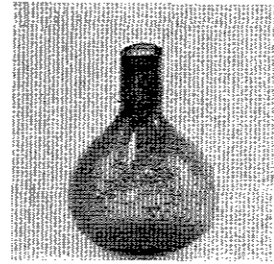
SCALE 50:100

Figure 13



SCALE 55:100

Figure 14



24

78 19

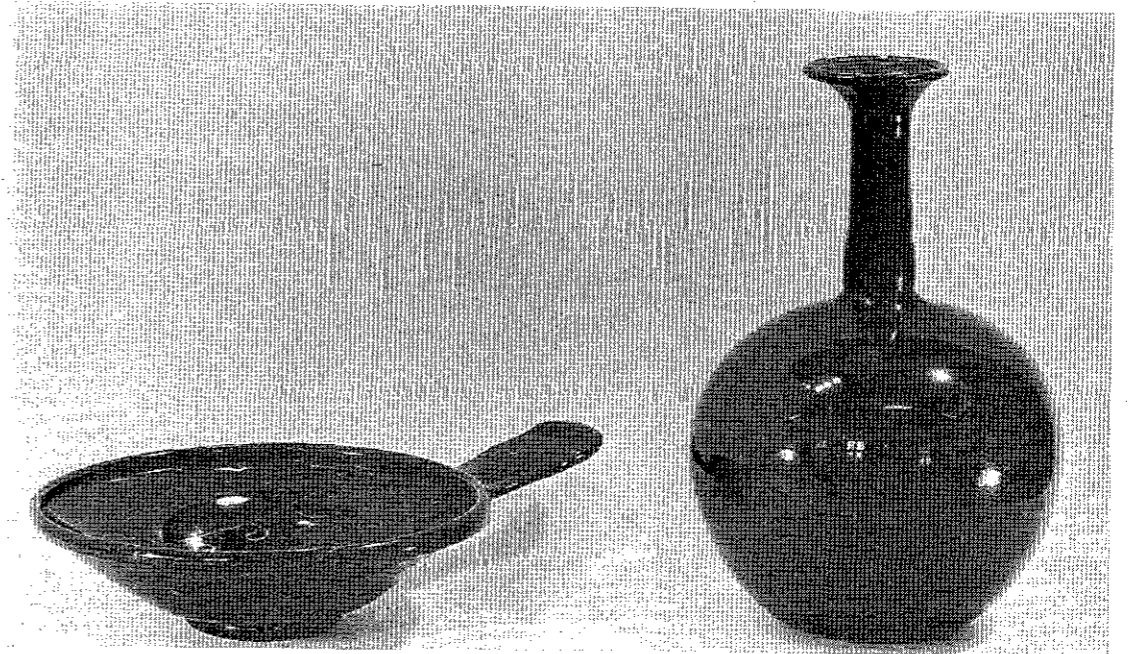
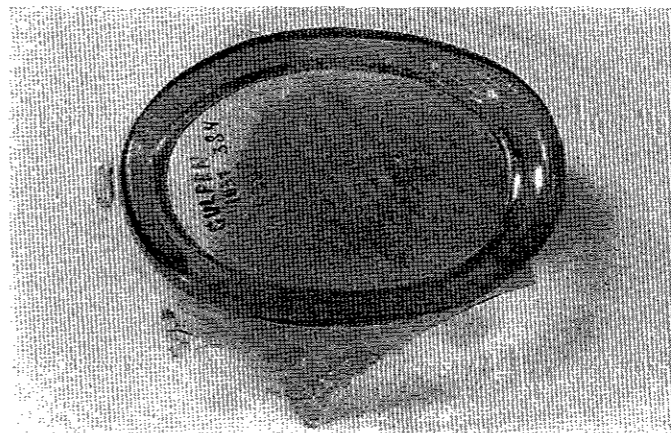
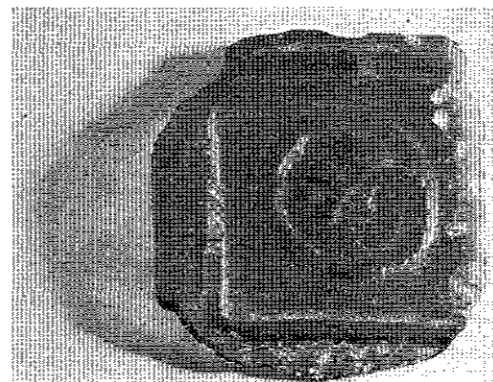


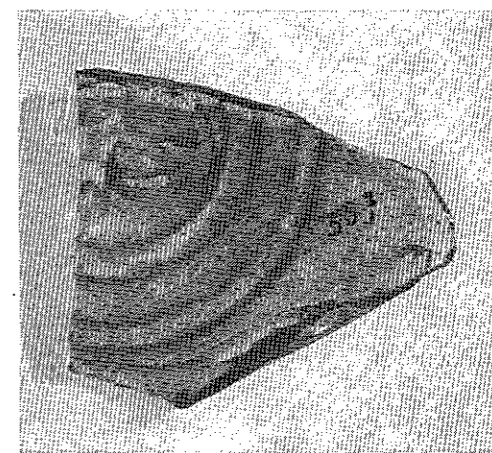
Plate 1



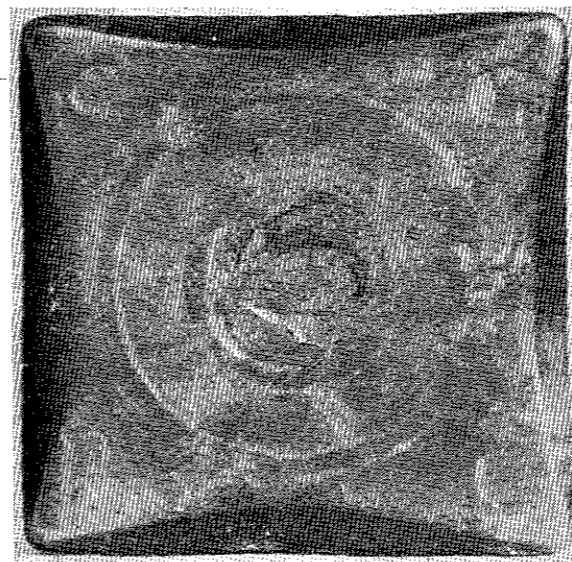
58



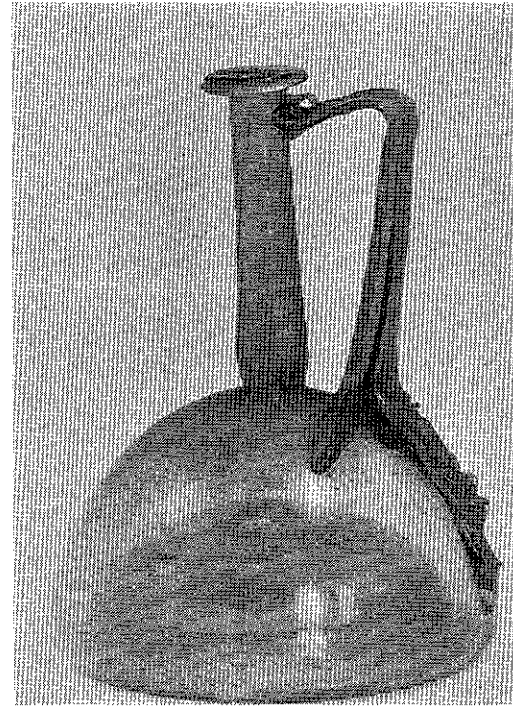
82



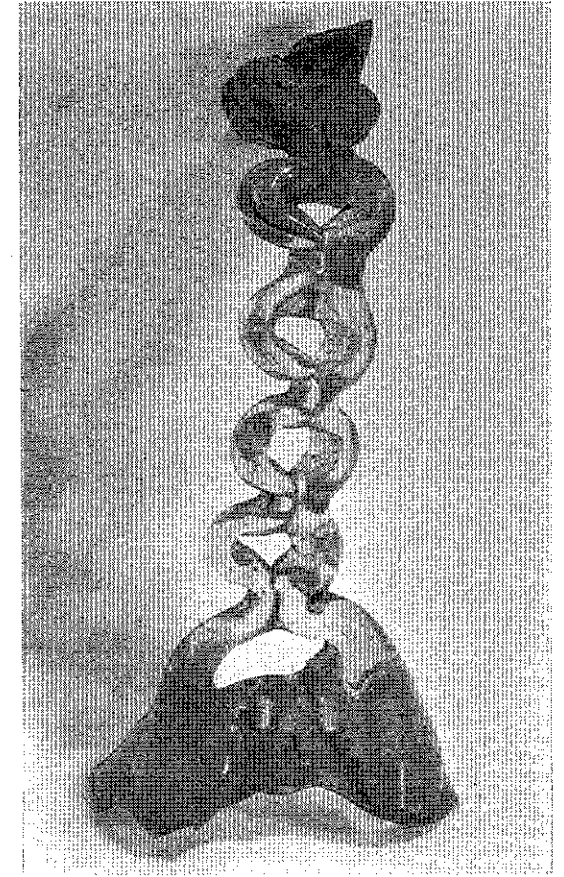
83



92



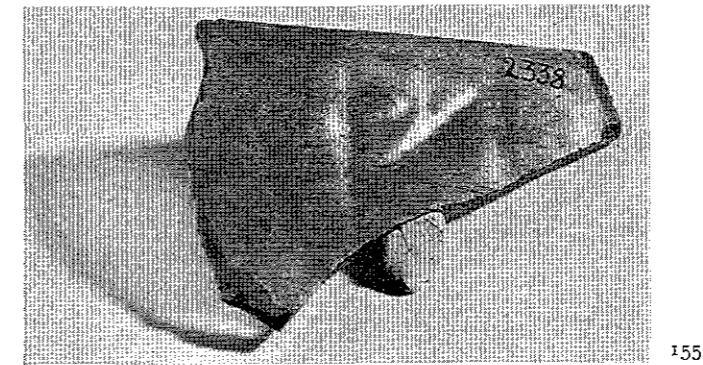
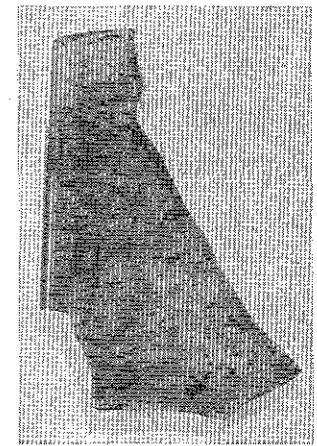
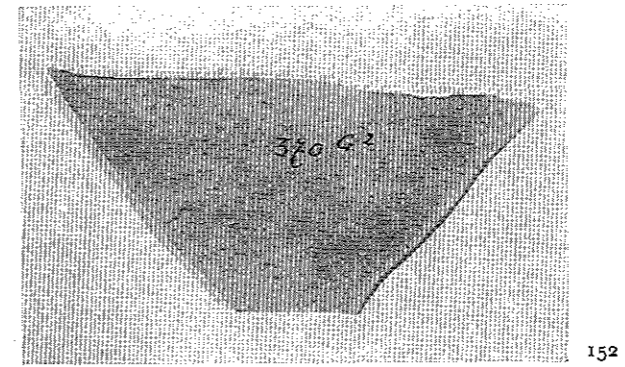
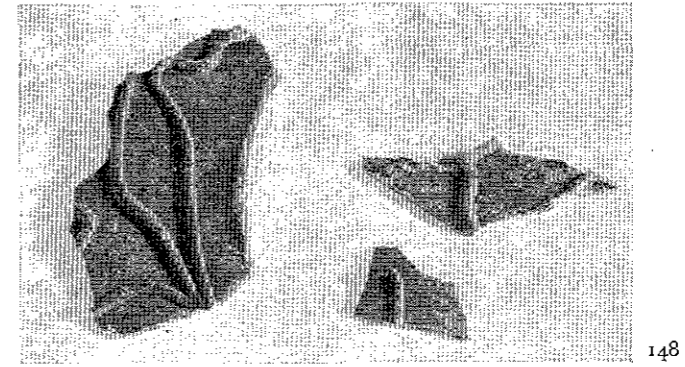
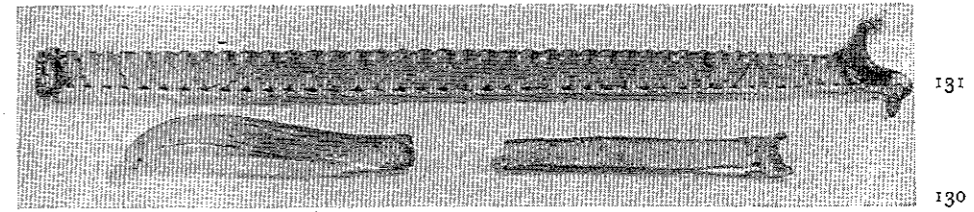
114



117



123



Glass from the Iron Age and Roman Period in the Municipal
Museum at Heerlen

Coriovallum, situated at the important cross-roads Cologne–Tongres–Bavay–Bologne sur Mer and Xanten–Aachen–Trier, has been an important *vicus* from the Augustan period onwards. Excavations revealed part of this town—including the Roman Bath and ditches of a late Roman fortification, numerous finds came and still come to light, important graves have been discovered as well. Much of this became property of the Heerlen Museum, its collection of antiquities is one of the largest and most varied ones of finds from the province of Limburg¹. Glass has been found in the town's cemeteries: the complete objects—as well as within the town: the less spectacular fragments. These fragments however complete our picture of glass vessels used in the *vicus*. Pillar-moulded bowls seem to have been popular for first-century table ware, and also jars and jugs with ribs trailed before final blowing. And of course numerous fragments from the ordinary square and cylindrical bottles came to light.

The majority of the finds from Heerlen dates from the 1st and 2nd centuries, from the centre of the town came fragments datable to the 3rd–4th centuries. Some of these belong to the late Roman fortress, others came from its cemeteries. A late Roman cemetery may have been situated near the present Coriovallumstraat (Western side), of the two glass vessels found one (nr. 43) dates from the late Roman period, nr. 45 is datable to the early 5th century. That an early cemetery existed in the neighbourhood is made plausible by the find of an unguentarium of 1st to second-century date. At the northern half of this street finds from the 1st century and one late Roman fragment belong to the town itself. Finds from the sites Kolenburg, Aldenhof, corner Coriovallumstraat–Kruisstraat, Southern corner Kapt. Berixstraat–Nobelstraat, date from the 1st to 2nd centuries. At the Euterpelaan foundations of a large building were excavated², glass fragments date from the 1st and 2nd centuries, including Iron Age fragments, probably from the earliest period of the town. Finds from the Valkenburgerweg may be dated to the first two centuries as well, but later fragments were found also: e.g. no. 58. At the Uilestraat, North of the Roman baths and at the site of the bath itself many glass fragments of first- to second-century date came to light as well as one late Roman fragment. Window glass was used for buildings within the town and, of course, also for the bath's building.

Glass from all periods came to light in the cemeteries at the East-side. Well known are sarcophagi found in the gravel-pit of Simons Ltd, which were sold to the Museum of Antiquities at Leyden (good copies of some objects were made recently and are now exhibited at Heerlen, together with some fragments which remained at Heerlen)³. Glass from these sarcophagi apparently dates from different periods. The square bottle with base marking CCPC may date from the 2nd century (cf. below, nr. 154). Grape-shaped amphorisks are dated

¹ Van Hommerich, *Heerlens . . . verleden*, p. 15. This article also gives a survey of Heerlen's history and the history of the museum's collections.

² Van Hommerich, *Het Land van Herle* 1964, pp. 65 ff.

³ Holwerda, *O.M. Leiden* 1930, pp. 1 ff. Cat. Glas uit de Oudheid/Verres de l'Antiquité, Leyde 1962, nrs. 294–301.

usually to the 2nd and early 3rd centuries A.D.⁴. Their later development may be the stemmed amphorisks⁵, datable to the end of the 3rd and the 4th centuries by comparison of their shape of rim and neck with those of late Roman jug-types⁶. If indeed the one form developed into the other, the date for the Heerlen amphorisks might be slightly later, mid- to second half of the 3rd century. Another possibility is, that they were made independently by different glass-houses, as the earlier form may have come from Belgium or Northern France, whereas the other seems to be one from the Rhineland⁷. A dark green, apparently black jar with white marvered festoons is not very well datable. Fragments found in a mid-first-century context at Krommenie are among the earliest known, apparently black glass was made at a later period also, though⁸. In shape the jar is comparable to a jar with incised decoration from Cologne, dated to the 3rd century A.D. by Fremersdorf⁹. Latest in this find are a small amphorisk and a jar in pale opaque green and red marbled glass. The amphorisk looks like an example in miniature of the large cylindrical amphorisks from the 4th century A.D. Although an exact parallel cannot be mentioned, these marbled vases seem to belong to the group of late-Roman marbled and variegated ware from Cologne¹¹. Interment may have taken place in the early 4th century, heirlooms being placed among the contents¹². Finds from this site in Heerlen Museum include a colourless cylindrical bottle from the 3rd century as well as fourth-century glass. From an earlier part of the same cemetery at the Voskuilenweg came a fragment of a conical jug, datable to the end of the 1st or the first half of the 2nd century.

One glass vessel, a second- to third-century unguentarium, came to light in the Northern cemetery, at the Geerstraat. From the Western cemetery, between Pijnsweg and Geelenbeck, at the Valkenburgerweg, came glass datable to end 1st to 3rd centuries as well as one fourth-century bowl. In the Southern cemetery a first-century unguentarium was found as well as a base of a bowl, re-used as a lid on an urn in a late Roman burial. Finds from the cross-roads Bekkerweg-Kruisstraat-Nobelstraat date from end 1st to 2nd and 3rd centuries¹³.

Finds above mentioned show, that glass from all periods is represented in graves, whereas most of the fragments from the *vicus* date from the 1st and 2nd centuries. Late Roman burials are rich in glass, one just wonders what happened to broken vases in the town. Perhaps more broken glass was bought for remelting in this period?

⁴ Isings, *Roman Glass* 91a; *Florilège de la verrerie. Musées Royaux d'Art et d'Histoire, Bruxelles*. Brussels, without year, nr. 38. Fremersdorf, *Denkmäler* vi, p. 71, pl. 143: 'Wende des 1.-2. Jahrh.' which is far too early.

⁵ Fremersdorf, *Denkmäler* vi, pll. 149, 150-153.

⁶ e.g. Isings, *Roman Glass*, forms 120, 121, 126.

⁷ Holwerda, l.c. p. 5. Morin-Jean, p. 168 ff. (form. 131), fig. 219 especially, one of six found at Poitiers. One half of a mould found in Belgium: R. Chambon, *l'Histoire de la Verrerie en Belgique*, Brussels 1955, title plate. Isings, o.c. form 91b and Fremersdorf, *Denkmäler* vi, pll. 149-153 for late examples.

⁸ W. Glasbergen, 'Krommenie, de Romeinse import', *In het voetspoor van A. E. van Giffen*, Groningen 1961, pp. 116 f.; Isings, *B. A. Besch.* 1964, pp. 177 ff.

⁹ F. Fremersdorf, *Figürlich geschliffene Gläser. Eine kölnische Werkstatt des 3. Jahrhunderts* (Röm.-germ. Forschungen 19) Berlin 1951, p. 18, pl. 15. Fremersdorf, *Denkmäler* viii, p. 140.

¹⁰ Isings, *Roman Glass*, form. 127.

¹¹ Fremersdorf, *Denkmäler* iii, pll. 110-112.

¹² A gold scent bottle may be one of these heirlooms: Holwerda, l.c. p. 6, *Katalog Römer am Rhein*, Cologne 1967, no. 163. Dated to the 1st century A.D.

¹³ Van Hommerich, *Gids*, p. 52 cites a report of the Leyden museum from 1898, mentioning the discovery of an oven with vitreous scale thought to be a glass-oven. As similar scale also occurs metal working new investigations only may prove the existence of glass working at Heerlen.

Among glass from other proveniences vessels from a Nieuwenhagen grave may be mentioned¹⁴, datable to the 2nd century A.D. Unguentaria from Italy (Paestum and site unknown) and Marseille of types made all over the Roman Empire, were given to the Museum. Of one vase, said to have been found near Roermond, the provenience is rather doubtful, it may be a dealer's story to its previous owner. This, as well as a dylecythos, was made in the East.

¹⁴ Van Hommerich, *Het Land van Herle* 1964, ppl. 57 ff.

Catalogue

A. IRON AGE

1. Inv. no. 1854 (*fig. 15*)
Found at Heerlen, acquired from Leufkens collection, 1964.
D. \pm 8 cm., H. 1.3 cm.
Fragment of dark blue glass armring.
Dulling.
Type: Haevernick 7c, dated to La Tène C.
2. Inv. no. 1869 (*fig. 15*)
Found at Heerlen, Valkenburgerweg, site Stappers, excavations in 1964
Extant length: 2.7 cm., Thickness: 4.5 mm.
Ref.: Gielen, *Het Land van Herle* 1964, p. 70, fig. 2.8.
Dark blue armring with zigzag trailing in yellow glass.
Type Haevernick 3b, dated to late La Tène period.

B. ROMAN PERIOD

I. Unguentaria

3. Inv. no. 628 (*fig. 15*)
Found in Southern cemetery at Bekker-veldplein, Heerlen.
H. 6.7–6.8 cm., d. 3.05 cm.
Ref.: De Maasgouw 1933, p. 34.
Bluish green, several bubbles. Everted, rounded rim, slight constriction at base of neck, convex bottom. Height of neck about $\frac{1}{3}$ of total height. Iridescence, dulling and some brown patches.
Type Morin-Jean 21, Isings, Roman Glass 8, related to 6 also because of wider body. Comparable examples: Pompeii and Herculaneum (in Pompeii Antiquarium and in Herculaneum houses), previous to A.D. 70; Ampurias (Almagro, Ampurias II, p. 51, fig. 8, Ballesta gr. 8. 237, fig. 206, Patel, gr. 5, mid 1); Babindub (Diadora 1960/61, p. 208, fig. 7) possibly end 1; Este, Fondo Rebato (N.d.Sc. 1932, fig. 20g, p. 22, gr. 65) probably mid 1st century; Este, Necropoli Sud, gr. 7 (Este museum), Neronian-Vespasian and gr. 13, end 1.
4. Inv. no. 629 (*fig. 15*)
Found in Italy, gift of H. Eyck
H. 7.5 cm., d. 2.2 cm.
Pale bluish tinge, few pinprick bubbles. Everted and rounded rim. Constriction at base of neck, height of neck ca. $\frac{1}{4}$ of total height. Part of rim missing. Dulled, some white patches. Type Morin-Jean 21, Isings, o.c. 8, datable to the 1st century A.D. Cf. also examples with neck $\frac{1}{5}$ of total height mentioned above, p. 6, no. 2.
5. Inv. no. 621 (*fig. 15*)
Found at Paestum, gift of H. Eyck in 1937.
H. 7.2 cm., d. 3.7 cm.
Bluish green tinge. Everted and rounded rim, neck $\frac{1}{2}$ of total height with constriction at base. Metallic weathering, calcareous sediment on inside.
Type Morin-Jean 22, Isings, o.c. 28a, a small variety, but dating from the same period: 1B.
6. Inv. no. 1815 (*fig. 15*)
Found at Heerlen, acquired from J. Van Rijn collection in 1961.

H. 9.69–9.97 cm., d. 3.65 cm.
Yellowish green, with a few bubbles. Everted and rounded rim. Neck $\frac{1}{3}$ of total height, constriction at base. Slightly concave bottom. Iridescence, white weathering, dulling, and yellow patches. Variety of Isings, o.c. 28. Some examples of form 8 comparable also. To these may be added: Este, Necropoli Sud, gr. 7. Neronian-Vespasianic; Examples in excavations Herculaneum; Ampurias (Almagro, Ampurias II, p. 59, fig. 19, pl. ix, Ballesta gr. 19, Tiberian; p. 208, fig. 185, Nofre gr. 18, probably mid 1st century); Dura Europos no. 703 (Clairmont, *The Glass Vessels*, pl. xxxv, p. 137, gr. 24, dated 1 BC–1 AD, probably rather 1 A.D.); Locarno (Simonet, *Tess. Gräberf.*, fig. 79, 23, Liverpool unten gr. 33) Claudian-Neronian.

7. Inv. no. 1871 (*fig. 15*)
Found at Heerlen, acquired from collection J. van Rijn.
H.: 7 cm., d. 3.9 cm.
Yellowish to colourless, rim irregular, folded outward and inward. Slightly concave bottom. Small crack, dulled, with white and yellow patches of weathering.
Type: Morin-Jean 22, Isings, o.c. 26, dating from 1B to early 11.
8. Inv. no. Bl. 23 (*fig. 15*)
Found at Valkenburgerweg, South side, between Pijnsweg and Geleenbeek; on loan from 'Catacombenstichting,' since 1962.
H. 8.68–8.73 cm., d. 2.98 cm.
Ref.: Van Doorselaer, *Rep.* II, p. 320 (1).
Bluish green, with a few large bubbles. Rim partly rounded, partly folded outward. Constriction at base of neck. Slightly concave bottom. Part of rim missing. Iridescence and milky weathering on inside.
Type: Morin-Jean 23, Isings, o.c. 28b.

Cf. also parallels mentioned above, p. 8, nr. 5 dating from mid-first to mid-second-century.

9. Inv. no. 1818 (*fig. 15*)
Found in town-centre Heerlen. Acquired from coll. Dr. A. Widdershoven, Heerlen.
H. 10.7 cm., d. 3.4 cm.
Bluish green tinge, numerous large and spiky bubbles, at one side numerous round bubbles. Everted and rounded rim. Neck more than $\frac{2}{3}$ of total height, constriction at base. Slightly concave bottom. Fragment of rim missing. Some metallic weathering.
Morin-Jean 23, Isings, o.c. 28b, similar to no. 8 above.
10. Inv. no. 626 (*fig. 15*)
Found at Marseille, gift of H. Eyck.
H. 12.7–12.8 cm., d. 3.5 cm.
Bluish green, with some very large spiky bubbles and some round bubbles. Rounded rim, neck more than $\frac{2}{3}$ of total height with constriction at base. Slightly concave bottom. Part of rim missing. Some iridescence, dulling and white weathering.
Type comparable to above, nos. 8 and 9 and especially to: La Calade (Bérard, *Gallia* 1961, p. 115, pl. VIII, gr. 7, posterior to Antoninus Pius; gr. 12, p. 123, pl. XIII, Claudian-Neronian; gr. 13, p. 123, pl. XIV, posterior to Domitian; gr. 19, pp. 133 f, pl. XIX, 1B); Frizet (Faider-Feytmans, *Et. Nam.* 1952, p. 74, nr. 1) Flavian; Szombathely (Búocz, *Arch. Ert.* 1961, fig. 11, p. 235, gr. XXXIII, 3) 1B–II; Ampurias (Almagro, Ampurias II, p. 149, fig. 116, Torres gr. 7, possibly 1st century; Nofre gr. 2, p. 201, fig. 173, posterior to Hadrian; Bonjoan gr. XXII, p. 279, fig. 255, posterior to Domitian); Tongres (Vanderhoeven, *Rom. Glasverz.* nos. 21 and 24) not datable with certainty.

11. Inv. no. 630 (*fig. 15*)
Found in Coriovallumstraat at Heerlen, gift of L. Oostwegel.
H. 10.6–10.7 cm., d. 3.5 cm.
Bluish with few bubbles. Rounded rim, neck $\frac{2}{3}$ of total height, with constriction at base. Slightly dulled.
Type: Morin-Jean 23, Isings, o.c. 28b, similar to above nos. 7 and 8.
12. Inv. no. 623 (*fig. 15*)
Found in West-side of Coriovallumstraat, Heerlen, site Honigmann.
H. (extant): 3.6 cm., d. 3.7 cm.
Bluish green with some bubbles. Lower part of unguentarium. Concave bottom with pontil mark. Dulling.
Type: Morin-Jean 23, Isings, o.c. 28.
13. Inv. no. 622 (*fig. 15*)
Found in Geerstraat, Heerlen, gift of H. J. Arets, 1906.
H. 7.4 cm., d. 2.4 cm.
Greenish tinge, numerous bubbles of different sizes. Rim folded outward and inward. Pointed 'kick'. Slightly dulled.
Type: variation of Morin Jean 24, Isings, o.c. 82 B(2) also related to 82 B(1). Cf. also examples mentioned above, p. 9, no. 8., dating from end I–III.
14. Inv. no. Bl. 24 (*fig. 15*)
Found at Valkenburgerweg, South side, between Pijnsweg and Geleenbeek. On loan from 'Catacombenstichting' since 1962.
H. 9.1 cm., d. 2.7 cm.
Bluish green, with some spikes and numerous round bubbles. Everted rim, folded inward. Slightly concave bottom with pontil-mark.
Type Morin-Jean 24, Isings, o.c. 82 B(2) related to B(1), similar to no. above 13.
15. Inv. no. 627 (*fig. 15*)
Found in West-cemetery at Valkenburgerweg, Heerlen, site Koster gift of Mrs. J. Koster, 1948.
H. 13.6 cm., d. 5.2 cm.
Ref.: Van Hommerich, Gids, p. 53, Van Doorselaer, Rep. II, p. 320 (I).
Bluish, with some oval and round bubbles. Rim folded outward and inward. Slightly concave bottom with pontil mark. Cracked neck, half of rim missing. Iridescence, at inside white weathering.
Type Morin Jean 24, Isings, o.c. 82 B(2). Also comparable: Chavagnac (Gallia 1957, p. 227, fig. 36) II; Apt (Dumoulin, Gallia 1964, p. 89, fig. 4, with base marking. Posterior to Trajan; p. 100 fig. 21, gr. 21, probably end I–II; p. 102, fig. 22H, gr. 28, probably II).
16. Inv. no. 1872 (*fig. 15*)
Provenience unknown, acquired from collection J. van Rijn.
H. 10.4 cm.–10.75 cm., d. rim: 3.1 and 4.6 cm.
Yellowish green, with some large bubbles. Rim folded inward, so-called *Dylecythos*. Flattened bottom. Coil handles trailed undulating along side, there must have been a connecting handle originally. Part of one side and of one handle missing. Patches of white weathering.
According to Köster the type is typical for the region between Sidon and Antioch (Z.B.K. 1921, p. 134). With handle: Kisa 9 and also El-Jish (Neuburg, Antikes Glas, fig. 60 = Q.D.A.P. VIII, 1939, pl. xxxII, 4th–5th century A.D., this has trails at front and back also); Harden (Iraq 1949, p. 156): typical for 4th and 5th centuries ('type fossil').
17. Inv. no. 1863 (*fig. 15*)
Found in town-centre Heerlen.
D. at base: 2.5 cm.
Bluish green-greenish, with numerous bubbles. Part of lower side and bottom. Dulling.
- Type Morin-Jean 24, Isings, o.c. 82 B(2), mainly from II and III.
18. Inv. no. 1865.
Found in town-centre Heerlen
D. base: 3.5 cm.
Bluish green-greenish, with few bubbles. Slightly concave bottom. Fragment of lower side and bottom. Dulling.
Type Isings, o.c. 28b, dating from I–early II.
19. Inv. no. 1763 (*fig. 15*)
Found at Heerlen.
D. at rim: 2 cm.
Bluish green, with vertical moss green streaks. Rim folded outward and inward. Two fragments of rim and neck. Possibly type Isings 82 B(2), dating mainly from II–III.
20. Inv. no. 1785
Found in town-centre Heerlen
Bluish green. Part of lower side. Dulling, some iridescence.
Possibly type Isings, o.c. 8, from the 1st century.
21. Inv. no. 1810
Found at Valkenburgerweg, site Stappers, Heerlen, excavation in 1964.
Golden green, almost no impurities. Type possibly Isings, o.c. 6, from first half of 1st century.
22. Inv. no. 1886
Found at North side of West half Coriovallumstraat, Heerlen, excavation in 1964.
D. neck: 0.9–1. cm.
Bluish green with a few bubbles. Fragment of neck. Dulling. Unguentarium of uncertain type.
23. Inv. no. 5397
Found at swimming pool's site, Valkenburgerweg Heerlen, excavation in 1967.
D. rim: 3.5 cm.
Ref.: Eussen, Het Land van Herle 17, 1967, p. 82.
Bluish green tinge. Rounded rim. Some dulling. Unguentarium of uncertain type, from 1st and 2nd centuries.

II. Flasks

24. Inv. no. 631 (*fig. 15*)
Found in East cemetery Heerlen, gravel pit Simons, in 1919.
H. 10.5–10.6 cm., d. 5.9 cm.
Ref.: Van Hommerich, Gids, p. 53, Van Doorselaer, Rep. II, p. 321 (III).
Green, with streaks and numerous bubbles. Rim folded inward. Pontil mark on flat bottom. Dulled, white and yellow patches of weathering and metallic weathering at one side.
Type: Morin-Jean 39, Isings, o.c. 101, dating from III–IV, mainly fourth century. For this cemetery cf. above, p. 48.
25. Inv. no. 632 (*fig. 16*)
Found in East cemetery Heerlen, gravel pit Simons in 1919.
H. 13.3–13.4 cm., d. 8 cm.
Ref.: Van Hommerich, Gids, p. 53, Van Doorselaer, Rep. II, p. 321 (III).
Bright green with numerous small bubbles and some large ones. Everted rim, folded outward and inward. Pointed 'kick'. Dulled, yellow and white patches on inside.
Type Morin-Jean 39, Isings, o.c. 101, similar to above no. 24.
26. Inv. no. 1819 (*fig. 15 and pl. 5*)
Provenience unknown, acquired from collection J. van Rijn.
H. 26.9 cm., d. 2.7–5.6 cm.
Pale greenish, impurities no more visible. Rounded rim and funnel mouth. Beaded body, concave base. White and yellow weathering.
A very similar flask, with only one con-

striction of body, instead of two, is thought to be of near Eastern provenience (Liège museum, coll. Baar 1344. Cat. Trois Mill. no. 95); two similar flasks known among glass from Cyprus (Vessberg, S.C.E. iv, 3, p. 165, fig. 50, 26; Cesnola, Atlas III, pl. xv, 1); also related is a flask found near Nablus, Palestine, in the British Museum; unfortunately none of them is datable. There exists, however, a Western variety of the type, for which dating is possible. Instead of a concave bottom these have a cut-out base ring and a bulbous 'kick'. One comes from Pompeii, it has a decoration of horizontal wheel cut lines (Overbeck, Pompeii, fig. 250, p. 451. Naples Museum no. 11821); Richborough (Richborough IV, pl. LXVII, 366) Flavian; Caerleon (no. 60, before 140 and probably Flavian. I am thankful to Mr. G. C. Boon for his information and permission to use this); Colchester (nr. 549, 28) no exact dating possible; Haulchin (Faider-Feytmans, Rev. Belge 1940, p. 217, no. 6, pl. 1,4) not datable with certainty, probably from the earliest period of the villa, which dates from 2nd-3rd centuries; flask in museum Kam at Nijmegen (inv. nr. xxa, 160) not datable; fragment in Udine museum, not datable. As examples show, shapes of the 'beads' may vary. Western examples have a rim folded inward, instead of the funnel mouth of the Eastern ones. The Eastern examples seem to have a somewhat later appearance in shape and metal than the Western ones, and may belong to a slightly later period.

27. Inv. no. 560 (fig. 15 and pl. 5)
Said to have been brought up by dredging from the river Meuse at Roermond, together with some urns and spear heads. Gift of A. H. Eyck. H. 7.7 cm.—8.4 cm. d. 4.65 cm.

Ref.: Peters, De Maasgouw 1922, p. 25, Van Hommerich, Gids, p. 52 f. Bluish green with few bubbles. Funnel neck and rounded rim. Concave bottom. Spiral coil around neck and body. Six coil handles, undulating along neck. Part of rim and of 3 handles missing. Milky weathering. Form and decoration recall Eastern Roman examples, although no exact parallel can be mentioned (cf. for similar handles: above, no. 16 and parallels, and Kat. Kunstgewerbemuseum Köln no. 33). The general outline is also similar to near Eastern flasks (e.g. Neuburg, Antikes Glas, figs. 60 and 61 from El Jish, with wider neck and mouth). This flask is probably from near Eastern provenience as well (this is also Dr. Harden's opinion, letter of 22-1-1968). It does not seem very probable that a flask would have got into the river and was dredged out of it without having been damaged more than it is. So probably the provenience mentioned is no more than a story told to the former owner of the flask.

28. Inv. no. 1816 (fig. 16)
Found in town-centre of Heerlen. H. ca. 18 cm., d. 4-6.8 cm. Almost colourless, with pale greenish tinge, with some bubbles. Thick rounded rim, everted mouth. Pushed in base ring, pontil mark. Dulled. Fragment of mouth, neck, and base. May be compared in general outline to a flask from Cologne (Doppelfeld, Röm. und fränk. Glas, fig. 70, 2nd-3rd century) with a different type of base and finer rim. Also: Tipasa (Lancel p. 54, no. 66, pl. ix, 6, the grave is not exactly datable (p. 10), finds date from 1st-3rd centuries). Some decorated flasks are comparable also (cf. Fremersdorf, Denkmäler v, pll. 26-29 and Morin-Jean 62) one of these dating

from 3rd century (= Hagen, B.J. 114/115, pp. 409 ff.) The metal is similar to that of the bowls from Nieuwenhagen (below nrs. 137-142). The shape of the base ring recalls high base rings from third- to fourth-century date. In view of this a date in the 3rd century seems probable.

29. Inv. no. 1837 (fig. 16)
Found at Heerlen, acquired from Leufkens collection, in 1964. D. at rim: 4-4.2 cm. Bluish green, with a few bubbles and one streak. Rim folded outward and inward. Constriction at base of neck. Mouth and neck preserved only. Dulling. Possibly type Isings, o.c. 16, from 1st century.
30. Inv. no. 1846
Found at Heerlen. Acquired from Leufkens collection, in 1964. D. at rim: 4.5 cm. Bluish green-greenish. Funnel mouth and rounded rim. Rim fragment of uncertain type.
31. Inv. no. 1857 (fig. 16)
Found at Heerlen, acquired from Leufkens collection, in 1964. D. neck: ca. 2 cm. Amber coloured with few bubbles. Wavy pattern of opaque white combed and marvered trails. Fragment of shoulder with beginning of neck. Dulling. Similar patterns occur on first-century glass (cf. Fremersdorf, Denkmäler III, pll. 7, 9 and 18, examples on p. 26. Doppelfeld, Röm. und fränk. Glas p. 32. Isings, o.c., p. 42). Perhaps from a North Italian workshop, possibly Aquileia (Calvi, Aquileia, p. 35 ff, group Ha 3, dated to end 1st century)

32. Inv. no. 6353
Found at Heerlen, Roman Bath, acquired from collection H. van Kalken, 1967. D. at rim: 3 cm. Bluish green-greenish, with numerous bubbles, some spiky. Everted rim, rounded. Rim fragment of uncertain type, probably of first to second-century date.

III. Aryballoi

33. Inv. no. 529 (fig. 16)
Found in West cemetery at Valkenburgerweg, Heerlen, site Koster. Gift of Mrs. J. Koster, 1948. H. 6.35-6.48 cm., d. 5.85 cm. Ref.: Van Doorselaer, Rep. II p. 320 (1). Bluish green, with numerous bubbles. Broad rim folded outward and inward. Handles starting on shoulder, against neck and rim and folded back around cylindrical object. Metallic, whiteweathering and dulling. Black streak within rim may be due to weathering or to impurity of the glass (cf. a black streak on a bowl from Vervoz barrow, Liège museum). Type Morin-Jean 33, Isings, o.c. 61. Cf. also examples mentioned with no. 26 (above, p. 13 and 14) this rim-type is common from the first century onwards.
34. Inv. no. 574 (fig. 16)
Found at Heerlen, cross-roads Bekkerweg-Kruisstraat-Nobelstraat in 1898 (so-called glass-oven). Gift of the Max Roosen-Lemmens family. H. 5.32-5.47 cm., d. 4.5 cm. Ref.: Van Doorselaer, Rep. II, p. 321 (IV). Bluish with numerous bubbles, some in horizontal direction. Rim folded outward and inward, handles starting on shoulder, along neck and folded back

around cylindrical object, a thin trail is laid back over the handle. Concave bottom. Milky weathering and dulling, some white patches.

Type Morin-Jean 33, Isings, o.c. 61. Also comparable: Tongres (Vanderhoeven, Rom. Glasverz. no. 84, not datable by context); Apt (Dumoulin, Gallia 1964, p. 100, fig. 22c, gr. 28) probably *IB*; Cologne, St. Severin cemetery gr. 36 (Fremersdorf, B.J. 1926, p. 301, fig. 13,5) *IB*; Laurenzberg gr. 5 (B.J. 1963, p. 543, fig. 28,5) mid *III*; Rükkingen (O.R.L. Lief. 38, pl. v, 11, nr. R. 31) end *II*-early *III*.

35. Inv. no. Bl. 21 (fig. 16)
Found at Valkenburgerweg, South side, between Pijnsweg and Geleenbeek, on loan from 'Catacombenstichting', since 1962.
H. 4.8 cm., d. 2.9 cm.
Ref.: Van Doorselaer, Rep. II, p. 320, (I).
Bluish to greyish green, with numerous small bubbles. Rim folded outward and inward, handles similar to those of no. 34. Pontil mark on flat bottom. Iridescence and milky weathering.
Type Morin-Jean 33, Isings, o.c. 61, similar to the former number but less carelessly executed.

36. Inv. no. Bl. 22 (fig. 16)
Found at Valkenburgerweg, South side, between Pijnsweg and Geleenbeek, on loan from 'Catacombenstichting', since 1962.
H. 5.8 cm., d. 5.7 cm.
Bluish green to greenish, handles bright green. Few bubbles. Broad rim folded outward and inward. Handles similar to those of both former numbers. Deep pointed 'kick' and pontil mark. Milky weathering and patches of iridescence on inside.
Type Morin-Jean 33, Isings, o.c. 61. Rim type in use from *IB* onwards

(similar to rims of square bottles, Charlesworth, J.Gl.St. 1966, type 1a).

37. Inv. no. 1817 (fig. 16 and pl. 5)
Found in town-centre Heerlen, acquired from collection Dr. A. Widdershoven, Heerlen.
H. 5.65-5.7 cm., d. 5.2-5.7 cm.
Bluish green with a few bubbles. Broad rim, folded outward and inward. Handles start as broad trail on shoulder, along neck and mouth and are folded back. Coil base ring with slanting tooling impressions. Pontil mark. Dulled, on inside white patches of weathering, brown patches on base ring.
Variety of Morin-Jean 33 and Isings, o.c. 61. From the 2nd century onwards oilflasks appear with base rings, at first only small ones: Fécamp (Rouen Museum, 2nd or 3rd century); Remagen (gr. 34, Funck, B.J. 1903, pl. IV, 34, p. 61, double oilflask, not datable with certainty); Neuss (Lehner, B.J. 1904, p. 314, 49, double) probably *III-IV*; Theux or Juslenville, (Vanderhoeven, Verres romains, no. 911, pl. XXI) probably *II-III*. Bases with tooling marks similar to this one are usually late (cf. J.Gl.St. VI, p. 61) and date mainly from the 4th century, which may also be the date of this flask.

38. Inv. no. 213
Found at Heerlen. Coriovallumstraat-Oost, acquired from Leufkens collection, 1964.
D. bottom: ca. 4 cm.
Green, with numerous bubbles. Fragment of lower side and base. Dulling. Probably oil flask, type Morin-Jean 33, Isings, o.c. 61.
39. Inv. no. 1772
Found in town-centre Heerlen.
Bluish green with numerous bubbles. Thick fragment of side (T. 0.6 cm.).

Dulling. Probably from oil flask of type similar to former numbers.

40. Inv. no. 1830.
Found at Heerlen, acquired from Leufkens collection, in 1964.
D. ca. 5.9 cm.
Bluish green, with numerous bubbles. Thick fragment of side. Probably of similar type to former numbers.
41. Inv. no. 5886
Found at site of swimming pool, Valkenburgerweg, Heerlen, excavation in 1967.
D. ca. 6 cm.
Ref.: Eussen, Het Land van Herle 1967, p. 82.
Bluish green with large bubbles and some small ones. Fragment of side, thick glass. (T. 0.6-0.7 cm). Dulled.
Probably from oilflask like the former numbers.
42. Inv. no. 5896 (fig. 16)
Found at site of swimming pool, Heerlen, Valkenburgerweg, excavation in 1967.
D. at rim: 2.5 cm.
Ref.: Eussen, Het Land van Herle 1967, p. 82.
Bluish green-greenish, with few bubbles. Rim folded outward and inward, handles starting on shoulder, along neck and rim, folded back somewhat angularly. Part of rim, with neck and part of shoulder, one handle and part of another. Dulling.
Type Morin-Jean 33, Isings, o.c. 61, careless shape like the one mentioned above, no. 34.
- IV. Beakers and Cups
43. Inv. no. 633 (fig. 16)
Found in Coriovallumstraat-West, to West of Kruisstraat, site Honigmann.

H. 6.3-6.6 cm., d. 8.2-8.25 cm.
Bright green with numerous streaks and bubbles. Knocked-off rim, somewhat smoothed at edge. Slightly concave bottom. Three fragments of rim missing. Some dulling.
Type: deep bowl Morin-Jean 70, Isings, o.c. 96, datable to 3rd and 4th centuries.

44. Inv. no. 634 (fig. 16)
Found in Coriovallumstraat-West, to West of Kruisstraat, site Honigmann.
H. 6.3-6.5 cm., d. 7.6 cm.
Bright green, with numerous bubbles. Rounded rim, concave bottom with pontil mark. Almost no weathering.
Type Morin-Jean 70, Isings, o.c. 96 in late variety because of rounded rim. This rim-type first occurs on the variety with nipt ribs (R. Pirling, Krefeld-Gellep, p. 100, nr. 189), later on plain bowls also (e.g. Sammlung Bremen nr. 47, from Krefeld-Gellep, dated to the 5th century) or on bowls with coloured blobs (e.g. Nenquin, Furfooz, B3, pp. 44 f, mid 4th century). The deep bowl continues as the Dark Ages 'Kugelbecher' (Böhner, Die fränk. Alttert. pp. 231 f., especially period III: A.D. 525-600). The Heerlen bowl probably dates from late IV or early V.

45. Inv. no. 635 (fig. 16)
Found in East cemetery Heerlen, gravel pit Simons, in 1919
H. 5.3 cm-5.4 cm., d. 8-8.3 cm.
Ref.: Van Doorselaer, Rep. II, p. 321 (III)
Greenish, impurities no more visible. Knocked-off rim, somewhat smoothed at edge. Broken and mended, rim damaged, cracked. Iridescence, dulling with white and yellow weathering.
Type: Morin-Jean 70, Isings, o.c. 96, dating from 3rd and 4th centuries. For this site cf. above, p. 48.

46. Inv. no. Bl. 19 (*fig. 16*)
 Found at Valkenburgerweg, South side, between Pijnsweg and Geleenbeek; on loan from 'Catacombenstichting,' since 1962.
 H. 5.8–6.2 cm., d. 7.9 cm.
Ref.: Van Doorselaer, Rep. II, p. 320 (1). Greenish, with numerous bubbles of different sizes, and streaks. Rounded rim, slightly concave bottom.
 Type: late variety of Morin-Jean 70, Isings, o.c. 96, similar to above, no. 44, from late IV to early V.
47. Inv. no. 1873 (*fig. 16*)
 Found in town-centre Heerlen, acquired from collection Dr. A. Widdershoven H. 9.8–10 cm., d. 8.8 cm.
 Bright green, with numerous streaks and small bubbles. Knocked-off rim, somewhat smoothed. Small 'kick'. Part of rim missing. Dulling with brown patches.
 Type Morin-Jean 105, Isings, o.c. 106c, dating from 4th century.
48. Inv. no. 1812 (*fig. 17*)
 Found in town-centre, Heerlen.
 D. at rim: ca. 9 cm.
 Purple, almost no impurities. Rim knocked-off and ground. Two horizontal wheel-cut lines below rim. Fragment of rim and side. Dulling.
 Type Morin-Jean 71, Isings, o.c. 12, occurring in coloured glass as well as in bluish green (e.g. Fremersdorf, Denkmäler III, pl. 46 and IV, pl. 45–47) 1st century.
49. Inv. no. 1787 (*fig. 17*)
 Found in town-centre Heerlen.
 D. 7 cm.
 Part of rim and side. Bluish green, with few bubbles. Thick, rounded rim. Dulling.
 Probably type Isings, o.c. 85a, from 1st–2nd centuries.
50. Inv. no. 1901
 Found in Coriovallumstraat-West, Northern half, Heerlen. Excavation in 1964.
 D. at rim: ca. 6 cm.
 Almost colourless, very few impurities. Rounded rim, turned inwards. Fragment of rim and side. Almost no weathering.
 Probably form Isings, o.c. 85b, from 3rd and 4th centuries.
51. Inv. no. 3246
 Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.
 D. at rim: ca. 8 cm.
Ref.: Gielen, Het Land van Herle 1966, p. 18, no. 7.
 Bluish green-greenish, with few bubbles. Fragment of rim, folded outward, somewhat dulled.
 May be variety of form Isings, o.c. 41, datable to 1st century.
52. Inv. no. 3248
 Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966.
 D. 8 cm.
Ref.: Gielen, Het Land van Herle 1966, p. 18, no. 7.
 Bluish green-greenish, with small streaks. Rounded rim. Dulled. Small fragment of rim.
 Cup or bowl of uncertain type, probably from 1st–2nd centuries.
53. Inv. no. 3249
 Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966.
 D. at rim: 7 cm.
Ref.: Gielen, Het Land van Herle 1966, p. 18, no. 7.
 Bluish green-greenish, with some large bubbles. Everted and rounded rim.
- Dulled. Fragment of rim.
 Bowl or cup of uncertain form, possibly Isings, o.c. 41, from 1st century.
54. Inv. no. 3236 (*fig. 17*)
 Found at cross-roads Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966.
 D. at rim: ca. 8 cm.
Ref.: Gielen, Het Land van Herle 1966, p. 18, no. 7.
 Apparently black (dark green?), impurities no more visible. Everted and rounded rim. Dulling and white weathering. Fragment of rim and side.
 Probably a *carchesium*, Isings, o.c. form 36b and B.A. Besch. 1964, p. 178, no. 7, dating from the Flavian period to the early 3rd century. It may have a stemmed foot or a base ring. To datable examples may be added: Caerleon no. 42, A.D. 140–230 (I am grateful to G. C. Boon for information and permission to use this).
55. Inv. no. 2277 (*fig. 17*)
 Found at Heerlen.
 D. of base: 4.4 cm.
 Bluish green tinge, with a few bubbles. Fragments of base of a circus cup, blown into a mould.
 Morin-Jean 83. Harden, *Connoisseur* 1940, pp. 102 ff, *Camulodunum* p. 299 and *Archaeology* XI, 1958, pp. 3ff. Western group of mould blown cups, from 1st century A.D.
56. Inv. no. 1813 (*fig. 17*)
 Found in town-centre Heerlen.
 D. ca. 6 cm.
 Bright green tinge, with numerous bubbles. Fragment of side with small nipt ribs. Dulled.
 Form Isings, o.c. 96b. Also: Pirling, Krefeld-Gellep, no. 189, from the 4th century.
57. Inv. no. 3742
 Found at Heerlen.
 D. of base: 5 cm.
 Almost colourless, with a few bubbles. Fragments of side and high cut-out base ring. Dulling.
 Possibly Morin-Jean form 110, Isings, o.c. 109b, from the 4th century.
58. Inv. no. 5883 (*fig. 17*)
 Found at site of swimming pool, Valkenburgerweg, Heerlen, excavation in 1967.
 D. at rim: \pm 8 cm.
Ref.: Eussen, Het Land van Herle 1967, p. 82.
 Bluish green tinge, with numerous bubbles. Fragment of rounded rim. Dulling. Uncertain form, probably similar to Morin-Jean 70, Isings, o.c. 96 in its late variety, dating from late IV–early V.
59. Inv. no. 5899 (*fig. 17*)
 Found at Heerlen, Valkenburgerweg, site of swimming pool, excavation in 1967.
 D. near base: 3 cm.
Ref.: Eussen, Het Land van Herle 1967, p. 82.
 Bluish, blown into a mould. Part of lower side. Dulling.
 Variety of form Isings, o.c. 31, with a decoration in metopes. May belong to the group of glass vessels influenced by the Syrian-Roman workshops (cf. Berger, *Gläser Vindonissa*, p. 49 ff.) from the 1st century A.D.
60. Inv. no. 6327 (*fig. 19*)
 Found in Uilestraat, Heerlen, excavation in 1967.
 D. at rim: \pm 16 cm.
Ref.: Gielen, Het Land van Herle 1967, p. 115.
 Bluish green tinge. Fragment of rim, folded outward, downward, upward and outward. Dulling.
 May have been a large one-handed

cup of form Morin-Jean 93, Isings o.c. 37, from the 1st century.

61. Inv. no. 6392 (*fig. 17*)
Found in Uilestraat, Heerlen, excavation in 1967.
D. at rim: ± 7 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
Bluish green, with numerous bubbles. Fragment of rounded rim. Dulling. Probably form Isings, o.c. 85a, dating from the 2nd century.
62. Inv. no. 6349 (*fig. 17*)
Found at Roman baths, Heerlen, in 1956/57, acquired from collection H. van Kalken, Heerlen, 1967.
D. of side: 5 cm.
Yellowish green, numerous small bubbles. Zigzag trail between two horizontal trails below rim and vertical trails on body.
May be beaker Isings, o.c. 109b with a decoration used on different types of glass, datable to the 4th century (cf. similar decorations: Fremersdorf, *Denkmäler IV*, pll. 76, 77, 74).
- V. *Deep and shallow bowls*
63. Inv. no. 616 (*fig. 18*)
Found at Kap. Berixstraat, Heerlen.
Fragment of lower side of variegated pillar-moulded bowl. Marbled: colourless, dark blue and opaque white. White weathering on the inside.
Type Morin-Jean 68, Isings, o.c. 3, probably a deep bowl, comparable to the 'St. Servaes' cup' in the treasury of St. Servatius' church, Maastricht, cf. De Nedermaas 1, 1922, p. 168. 1st century.
64. Inv. no. 1851 (*fig. 18*)
Found at Heerlen, acquired from Leufkens collection, 1964.

D. at rim: 12 cm.
Rim fragment of bowl, marbled, blue and white. Dulled.
May have been bowl of form Isings 1, or perhaps a pillar-moulded bowl 3a. 1st century.

65. Inv. no. 1814
Found at site of Roman Bath, Heerlen. Fragment of side of yellowish green pillar-moulded bowl. Almost no bubbles or weathering.
Morin-Jean 68, Isings, o.c. 3. 1st century.
66. Inv. no. 1853(c)
Found at Heerlen, acquired from Leufkens collection, 1964.
Fragment of lower side and bottom of pillar-moulded bowl. Greenish tinge. Almost no bubbles or weathering.
Morin-Jean 68, Isings o.c. 3. 1st century.
67. Inv. no. 1950
Found at corner Coriovallumstraat-Kruisstraat, site Aldenhof, in 1965.
Fragment of lower side of amber coloured pillar-moulded bowl. Almost no bubbles, some dulling.
Morin-Jean 68, Isings, o.c. 3. 1st century.
68. Inv. no. 347 (*fig. 18*)
Found at Coriovallumstraat, Heerlen.
D. at rim: ± 18.5 cm.
Fragment of rim and side of bluish green-greenish pillar-moulded bowl, with a few bubbles. Tooling mark near one of the ribs. Dulling mainly on inside.
Morin-Jean 68, Isings, o.c. 3. 1st century.
- 69-70. Inv. nos. 348 and 350 (*fig. 18*)
Found at South corner Kap. Berixstraat-Nobelstraat, Heerlen.

D. at rim: ± 26 cm.
Ref.: De Maasgouw 48, 1933, p. 17.
348: two fragments of rim and side. Bluish green with a few bubbles. Pillar-moulded bowl. Dulled-350: fragment of rim from similar bowl.
Morin-Jean 68, Isings, o.c. 3. 1st century.

- 71-78. Inv. nos. 1774, 1775, 1778, 1789, 1790, 1799, 1800, 1804 (*fig. 18*)
Found in town centre Heerlen.
D. at rim of 1800 and 1804: ca. 12 cm.
1774: bluish green, fragment of side, with a few bubbles. Dulling-1775: small rimfragment, bluish green, some bubbles. Dulling-1778: rimfragment of uncertain diameter. Bluish green, some bubbles. Dulling-1789: fragment of lower side. Bluish green-greenish, few bubbles, some white weathering and iridescence-1790: fragment of side, bluish green-greenish. Few bubbles, dulling-1799: fragment of rim and side, uncertain diameter. Bluish green-greenish. Dulling-1800: fragment of rim and side. Bluish green, some bubbles. Dulling. Probably deep bowl.-1804: rimfragment, bluish green. White weathering and traces of burning.
Pillar-moulded bowls, form Morin-Jean 68, Isings, o.c. 3, from 1st century.
79. Inv. no. 1823 (*fig. 18*)
Found at site of Roman Bath, Heerlen.
D. at rim: ca. 13 cm.
Fragment of rim and side. Bluish green-greenish. Dulling, mainly on rim and inside.
Morin-Jean 68, Isings, o.c. 3. 1st century.
- 80-83. Inv. nos. 1827, 1835, 1836, 1853 (*fig. 18*)
Found at Heerlen, acquired from Leufkens collection, in 1964.
D. at rim of 1835: ± 19 cm.
1827: fragment of lower side. Bluish

green-greenish, very few bubbles. Dulling-1835: fragment of rim and side. Bluish green. Few bubbles. Dulling-1836: fragment of rim and side. Diameter uncertain. Bluish green, few bubbles. Dulling-1853: fragment of base. Greenish tinge.
Pillar-moulded bowls: Morin-Jean 68, Isings, o.c. 3. 1st century.

84. Inv. no. 1845
Found at site of Roman Bath, Heerlen. Gift from Bergerode Ltd.
Fragment of lower side. Bluish green. Iridescence at outside, white weathering on inside.
Pillar-moulded bowl form Morin-Jean 68, Isings, o.c. 3. 1st century.
- 85-89. Inv. nos. 1860, 1861, 1862, 1864, 1885 (*fig. 18*)
Found in town-centre Heerlen.
D. at rim of 1864: 14 cm.
1860: fragment of side, bluish. Dulled.-1861: fragment of lower side and bottom. Bluish green-greenish. Dulling.-1862: fragment of side. Bluish green-greenish. Two horizontal grooves on inside. Dulling with brown patches.-1864: fragment of rim and lower side. Bluish green. Dulling. Probably a small bowl-1885. Fragment of side. Bluish green. Some bubbles, almost no weathering.
Pillar-moulded bowls Morin-Jean 68, Isings, o.c. 3. 1st century.
90. Inv. no. 1880 (*fig. 18*)
Found in Kruisstraat, West of Roman Bath, Heerlen. Levelling site Bergerode, 1935.
D. at rim: ± 17 cm.
Ref.: De Maasgouw 1936, pp. 17 f.
Fragment of side. Bluish green. Few bubbles. Almost no weathering. Pillar-moulded bowl Morin-Jean 68, Isings, o.c. 3. 1st century.

91. Inv. no. 1897 (*fig. 18*)
 Found at Valkenburgerweg, Heerlen, site Stappers. Excavation in 1964.
 D. at rim: ca. 14 cm.
 Fragment of rim and side. Bluish green, few bubbles. Almost no weathering.
 Pillar-moulded bowl Morin-Jean 68, Isings, o.c. 3. 1st century.
92. Inv. no. 1900
 Found in Coriovallumstraat-West, Northern half, excavation in 1964.
 Fragment of side. Bluish green-greenish. Dulling with some iridescence.
 Pillar-moulded bowl Morin-Jean 68, Isings, o.c. 3. 1st century.
93. Inv. no. 1969
 Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Aldenhof, 1965.
 Fragment of side. Bluish green-greenish, horizontal grooves on inside. Dulling and iridescence.
 Pillar-moulded bowl, Morin-Jean 68, Isings, o.c. 3. 1st century.
94. Inv. no. 2278
 Found at Heerlen.
 Fragment of side. Bluish green-greenish, some bubbles. Dulling. Pillar-moulded bowl Morin-Jean 68, Isings, o.c. 3. 1st century.
95. Inv. no. 2288
 Found near Kruisstraat and Oude Lindestraat, Heerlen.
 Fragment of lower side and bottom. Bluish green, with some bubbles. Dulling.
 Pillar-moulded bowl Morin-Jean 68, Isings, o.c. 3. 1st century.
96. Inv. no. 2290
 Found near S.-E. wall of Roman Bath, Heerlen. Gift from Bergerode Ltd.
- Fragment of lower side. Bluish green, some bubbles. Horizontal grooves on the inside. Dulling.
 Morin-Jean 68, Isings, o.c. 3. Pillar-moulded bowl. 1st century.
- 97-100. Inv. nos. 2793, 2847, 3226, 3239
 Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg. Excavation in 1966.
 D. at rim of 2793: ca. 22 cm.
Ref.: Gielen, *Het Land van Herle* 1966 pp. 18 and 64.
 2793: fragment of rim and side. Bluish green, few bubbles. Dulling.-2847: fragment of side. Bluish green-greenish, few bubbles. Dulling.-3226: fragment of side. Bluish green-greenish, few bubbles. Dulling.-3239: fragment of side, broken near rim. Bluish green-greenish. Few bubbles. Dulling. Three horizontal grooves on inside.
 Pillar-moulded bowls Morin-Jean 68, Isings, o.c. 3. 1st century.
- 101-132. Inv. nos. 5493 ff. (*fig. 18*)
 Found at swimming pool, Valkenburgerweg, Heerlen, excavation in 1967.
 Dimensions: cf. below.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
 5493: fragment of rim and side. Bluish green. Dulling, white sandy impurity. D. at rim: ca. 19 cm.-5494: fragment of lower side. Bluish green-greenish. Dulling. Two horizontal grooves on inside.-5500: fragment of lower side. Bluish green-greenish. Dulling.-5501 tot 5503: fragments of similar bowl, perhaps the same bowl.-5504: fragment of side, bluish green. Dulling.-5858: fragment of rim and side. Bluish green-greenish, tooling mark on one rib. Deep bowl. Dulling. D. \pm 13 cm.-5862: fragment of rim. Bluish green-greenish, with few bubbles. Dulling. D. at rim: ca. 14 cm.-5865: fragment of side, damaged by fire. Bluish green.-5868: fragment of side. Bluish green-greenish, two horizontal grooves on inside. Dulling.-5869: fragment of rim. Bluish green. Dulling. D. \pm 14 cm.-5872: fragment of rim. Bluish green, Dulling. D. \pm 16 cm.-5874: fragment of side. Bluish green. Dulling.-5877: fragment of base, bluish, with a few bubbles. Dulling.-5878: two fragments of rim and side. Bluish green. Dulling. D. \pm 20 cm.-5881: fragment of side. Blue. Dulling. D. \pm 15 cm.-5882: damaged fragment of rim. Bluish green. Dulling. D. \pm 16 cm.-5889: fragment of side. Bluish green, with a few bubbles. Dulling.-5890: fragment of rim. Bluish green, with a few bubbles. Dulling. D. \pm 20 cm.-5891: fragment of side. Bluish, with a few bubbles. Dulling.-5892: small fragment of side. Bluish green.-5893: fragment of bottom, bluish with numerous bubbles. Dulling.-5895: fragment of lower side. Greenish, Dulling.-5902: fragment of side. Bluish, with some bubbles. Dulling. Horizontal grooves on inside.-5905: fragment of side. Bluish green.-5906: fragment of side. Bluish green.-5907: fragment of bottom. Bluish green.-5909: four fragments of rim and side. Bluish green D. \pm 14 cm.-5912: fragment of rim. Bluish green-greenish. Dulling. D. \pm 12 cm.-5913: fragment of side. Bluish green-greenish. Dulling. Pillar-moulded bowls, type Morin-Jean 68, Isings 3. 1st century.
- 133-135. Inv. nos. 6243, 6246, 6328
 Found in Uilestraat, Heerlen, excavation in 1967.
 D. no. 6243: \pm 17 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
 6243: fragment of rim. Bluish green.
- Dulling-6246: fragment of side. Bluish green to greenish, with a few bubbles. 6328: fragment of side. Bluish green to greenish.
 Pillar-moulded bowls, Morin-Jean 68, Isings, o.c. 3. 1st century.
136. Inv. no. 1894 (*fig. 17 and pl. 5*)
 Found during digging operations at Nieuwenhagen, in 1964. Acquired from municipality of Nieuwenhagen.
 H. 3.6 cm., d. 9.8 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 63, no. 18.
 Colourless with greenish tinge. Mould pressed and polished all over. Moulded rim with overhang at the tip. Cylindrical base ring.
 Comparable to rim-types of shallow bowls in coloured as well as in colourless glass, the coloured bowls dating from the 1st century, the colourless from the 2nd century onwards (cf. Harden, *Karanis*, *Class IB 1*, pp. 49-50, dated on p. 96 as to fabric; Harden, *Camulodunum*, pp. 300 ff.; Isings, o.c. form 5 coloured bowls; Charlesworth, *A. Ael.* 1959, pp. 83 f. and *Transactions Cumberland and Westmoreland Ant. and Arch. Soc.* 1960, pp. 34 f.; Berger, *Gläser Vindonissa*, p. 25, nos. 30-32, coloured bowls; Clairmont, *Glass Vessels*, no. 90, pp. 18 f. and Barag's review of it in *I.E.J.* 17, 1967, p. 197; Alarcão, *Vidros romanos Conimbriga*, p. 76. It is commonly agreed that most of these bowls have come from an Near Eastern workshop (Alexandria?). The type also occurs with wheel-cut facets on the overhang and sometimes on the bowl itself (Cave of Letters, together with plain bowls: Yadin, *The finds*, pp. 106 ff, from A.D. 132-135; to parallels mentioned from Richborough, and, with different rim type, from Girton College, Cambridge, may

- be added: Conimbriga, J. and A. Alarcão, *Vidros romanos, Conimbriga*, pp. 59 f., nos. 71-74; *Tipasa, Lancel, Verrerie antique de Tipasa*, p. 94, pl. ix, 3, nr. 198 from gr. 93 porte de Césarée, 2nd century; possibly also: Frixheim-Anstel, B.J. 1959, p. 407, fig. 39,9, 2nd century).
- Parallels for the small bowl: Concelho de Constância (J. and A. Alarcão, *Sepultura luso-romana*, p. 8, fig. 6,3) end I-early II; Cologne (Lung, K.Jb. 1965/66, p. 61, pl. 27,4, fig. 12, 1-6) end II; Presles, gr. 30 (van Bastelaer, *Ann. Brux.* 1897, p. 303, pl. XI) end II-III. Not datable: Tongres (Vanderhoeven, *Rom. Glasverz.* no. 194), Condroz (Vanderhoeven, *Verres romains*, nr. 132, a miniature bowl); Aljustrel (Alarcão, *Conimbriga VII*, p. 27, no. 58) pl. I.
- The Nieuwenhagen grave dates from the 2nd century A.D.
137. Inv. no. 1891 (*fig. 17 and pl. 5,4*)
Found at Nieuwenhagen during digging operations, in 1964, acquired from municipality of Nieuwenhagen. H. 3.5 cm., d. 9.8 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 63., no. 19.
Colourless, with greenish tinge. A few pin prick bubbles.
Completely dulled. Mould pressed and polished all over. Moulded rim with overhang at the tip, cylindrical base ring.
Identical to the former number.
138. Inv. no. 1892 (*fig. 17*)
Found at Nieuwenhagen during digging operations in 1964, acquired from municipality of Nieuwenhagen. H. 3.6 cm., d. 19 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, no. 21, p. 63.
Colourless with greenish tinge. A few
- bubbles. Nine fragments of rim, side and base. Mould pressed and polished all over. Moulded rim, with overhang at the tip. Cylindrical base ring. Dulled.
- For the type cf. above, no. 136 general remarks. Datable shallow bowls cf. also: Cave of Horror, (Barag, I.E.J. 1962, p. 211, fig. 6) Flavian-Trajanic, probably not made in Palestine; Caerleon no. 8, one of them found with coin of Hadrian and much Hadrianic pottery (I am very thankful to Mr. G. C. Boon for his information and permission to use it).
139. Inv. no. 1893 (*fig. 17*)
Found at Nieuwenhagen, during digging operations, in 1964, acquired from municipality of Nieuwenhagen. H. 3.9 cm., d. 19.6 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 63, no. 20.
Colourless, with greenish tinge. Numerous pin prick bubbles. Mould pressed and polished all over. Moulded rim with overhang at the tip. Dulled. Cylindrical base ring.
Type identical to the former.
140. Inv. nos. 1881, 1882, 1883
Found at Nieuwenhagen, during digging operations, in 1964, acquired from municipality of Nieuwenhagen. D. base ring: ± 15 cm.
1882: fragment of base. Colourless with greenish tinge, Milky weathering. Probably from a shallow bowl similar to the former numbers. 1881, 1883: fragments of similar bowls.
141. Inv. no. 1884
Found at Nieuwenhagen, during digging operations, in 1964, acquired from municipality of Nieuwenhagen. D. of base: ± 16 cm.
Green tinge. Fragment of base of a

type similar to the mould pressed bowls nos. 136 ff. above mentioned.

142. Inv. no. — (*fig. 16*)
Found at Brunssum, in cremation burial, accidentally, in 1967. H. ± 4.5 cm., d. ± 10 cm.
Ref.: Bogaers, *NieuwsBulletin K.N.O.B.* 1966, p. *104.
Pale greenish tinge, a few bubbles. Rounded rim, cut-out flange, cut-out base ring, pontil mark. Fragments of two identical bowls one of them partly mended. Slight dulling.
Form Morin-Jean 85, similar to terra sigillata Drag. 38, dating from the 2nd century onwards. Cf. above, Maastricht, no. 61.
143. Inv. no. 1777 (*fig. 17*)
Found in town-centre Heerlen. D. at rim: ± 14 cm.
Almost colourless, with bluish green tinge. Few bubbles. Fragment of rim, folded outwards and downwards. Dulling and some iridescence.
Possibly form Isings, o.c. 42 (viz. Apt: Dumoulin, *Gallia* 1964, fig. 13E and F, gr. 16, from end I or early II) or form 44 (viz. Richborough IV, p. 158, nr. 472, from A.D. 60-80, also bowls from the abovementioned graves at Apt). It may have been also a fragment of a lid.
144. Inv. no. 1807
Found at Heerlen. D. ± 19 cm.
Bluish green, numerous bubbles. Rim folded outward horizontally and back at the underside, ending against the neck. Rim fragment. Dulling.
Possibly this was a large bowl, it may have been a variety of form Isings o.c. 44, similar to fragments abovementioned.
145. Inv. no. 1842 (*fig. 19*)
Found at Heerlen. D. at rim: 18 cm.
Bluish green-greenish. Numerous bubbles. Rim folded outward and downward. Fragment of rim. Dulling.
Probably imitation of terra sigillata Drag. 29, similar to above, Maastricht, nr. 54, p. 20. Flavian period. Cf. also Monte Molião (Alarcão, *Conimbriga VII*, p. 21, pl. II, nr. 32).
146. Inv. no. 1856 (*fig. 19*)
Found at Heerlen, acquired from Leufkens collection, 1964. H. 2.6 cm., d. 8 cm.
Dark green, apparently black. Mould pressed and polished. Dulling.
Form Isings, o.c. 22. Cf. also: Berger, Gläser *Vindonissa*, no. 37, p. 29. An emerald green fragment was found at Utrecht, Roman fortress, dating from A.D. 47-70 (Opgr. Domplein, p. 60).
147. Inv. no. 1898
Found at Northern part of Coriovallumstraat-West, Heerlen, excavation in 1964. D. ± 14 cm.
Bluish green, a few bubbles. Rim folded outward and downward. White weathering and iridescence. Rim fragment.
Probably Morin-Jean 84, Isings, o.c. 44, from IB.
148. Inv. no. 6203 (*fig. 19*)
Found at Uilestraat, Heerlen, excavation in 1967. D. 16 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
Bluish green tinge, a few bubbles. Rim folded outward and downward. Rim fragment.
Probably Morin Jean 84, Isings, o.c. 44, from IB.

149. Inv. no. 6553 (*fig. 19*)
Found at Uilestraat, Heerlen, excavation in 1967.
D. 10 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115
Amber coloured, no impurities. Rim folded outward and downward.
Probably Morin-Jean 84, Isings, o.c. 44, from IB.

150. Inv. no. 1920 (*fig. 19*)
Found in town-centre Heerlen.
D. 10 cm.
Almost colourless, with greenish tinge. Fragment of rim, folded outward and downward. Fire polished.
May be form Isings, o.c. 42, from IB-II.

151. Inv. no. 6228 (*fig. 19*)
Found at Uilestraat, Heerlen, excavation in 1967.
D. of side: ± 6 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115
Amber coloured, with marvered opaque white trails and small vertical ribs. Fragment of side.
Morin-Jean 69, Isings, o.c. 17. Von Pfeffer and Haevernick, *Saalb. Jb. xvii*, 1958, pp. 57 ff. ('zarte Rippen-schale'), dating from Tiberian to Neronian period, mainly from Claudian times.

152. Inv. no. 6249 (*fig. 19*)
Found in Uilestraat, Heerlen, excavation in 1967.
D. ± 6 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
Emerald green. Fragment of rim, folded outward and downward. Dulling. Morin-Jean 84, Isings, o.c. 44, from IB.

153. Inv. no. 6330 (*fig. 19*)
Found at Uilestraat, Heerlen, excavation in 1967.
D. ± 17 cm.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
Bluish green. Fragment of rim, folded outward and downward. Dulling. Uncertain type of bowl, may have been a lid as well.

VI. Jugs and bottles

A. SQUARE BOTTLES

154. Inv. no. 527 (*fig. 20*)
Found in West cemetery Heerlen, at Valkenburgerweg, site Koster. Gift of Mrs. J. Koster.
H. 10.-10.1 cm., base 4.6 \times 4.8 cm.
Ref.: Van Doorselaer, *Rep. II*, p. 320 (1)
Greenish, with a few bubbles, some of them in one long streak together. Broad rim folded out and inward, slightly mushroom-shaped. Concave bottom with pontil mark. Base marking: one circle and ccpc in four corners. Handle with three ribs. Dulling and white patches. Form Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth, *J.Gl.St.* 1966, 1a/b. Similar are two bottles from Frixheim Anstel (*B.J.* 1959, p. 404, fig. 37,8 and 9) from the 2nd century. The lettering occurs with different other markings, datable bottles range from end 1st-2nd centuries (cf. above, Maastricht, nr. 92, p. 28). Not identical is a stamp with this lettering found in sarcophagus in gravel pit Simons at Heerlen, now in Leyden Museum (Holwerda, *O.M. Leiden* 1930, pp. 5 f.)

155. Inv. no. 1820 (*fig. 20*)
Found at site of Roman Bath, Heerlen, in 1956. Bought in 1958 from Hogeland. Shoulder: 7.3 \times 7.3 cm.

Bluish green with numerous small bubbles. Rim folded outward and inward, slightly mushroom-shaped. Muti-ribbed handle. Fragment of bottle: mouth, neck and handle. Dulling.
Morin-Jean 14, Isings, o.c. 50a. Rim Charlesworth, *J.Gl.St.* 1966, type 1a/b occurring both early and later.

156. Inv. no. 1888 (*fig. 20*)
Found at Nieuwenhagen during digging operations in 1964. Acquired from municipality of Nieuwenhagen, 1964. H. 14.6 cm., base: 7.04 \times 6.95 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 61, no. 15.
Bluish green-greenish. Broad rim folded outward and inward. Constriction at base of neck. Handle with 4 ribs. Base marking: Two concentric circles joined by oblique lines. A few cracks. Dulling with white patches on inside.
Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth, *J.Gl.St.* type 1a. No parallels known to me for base marking. The grave dates from the 2nd century A.D.

157. Inv. no. 1822 (*fig. 20*)
Found at Nieuwenhagen, during digging operations in 1964, acquired from Leufkens collection, in 1964.
Base: 5.7 \times 5.7 cm. H. of body: 7.25 cm.
Bluish green-greenish. Part of body with traces of handle (probably with 4 ribs). Base marking similar to former number but on a smaller scale. Dulling. Morin-Jean 14, Isings, o.c. 50a. Probably from the same grave as the other Nieuwenhagen finds.

158. Inv. no. 1889 (*fig. 20*)
Found at Nieuwenhagen, during digging operations in 1964, acquired

from municipality of Nieuwenhagen in 1964.
H. 14.4 cm. base: 6.5 \times 6.5 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 61, no. 16.
Greenish, with numerous bubbles. Broad rim, mushroom-shaped. Constriction at base of neck. Base marking: 2 concentric circles around central dot. Handle with three ribs. Slightly damaged bottom. White weathering and yellow patches on inside.
Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth 1b. Base marking is an ordinary one (Fremersdorf, *K.Jb.* 1965/66, p. 31, B. IX). Cf. also: Riemprst (Vanderhoeven, *Rom. Glasverz.* nos. 68-70, high bottle) Hadrianic or later; Tongres (*ibid.*) no date; Amiens (in *musée de Picardie*); not datable. The grave dates from the 2nd century.

159. Inv. no. 1890 (*fig. 20*)
Found at Nieuwenhagen, during digging operations in 1964, acquired from municipality of Nieuwenhagen in 1964. H. 14.2 cm., base: 7.2 \times 7.2 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 61, no. 17.
Bluish green with numerous bubbles. Rim folded outward and inward, mushroom-shaped. Tooling marks on neck. Faint marking on sides. Base marking: 4 concentric circles around central dot and dots in the corners. Milky weathering.
Morin-Jean 14, Isings, o.c. 50a. Rim: Charlesworth *J.Gl.St.* 1966, 1b. Cf. for base marking: Fremersdorf, *K.Jb.* 1965/66, p. 31, D. XXII

160. Inv. no. 1887 (*fig. 21*)
Found at Nieuwenhagen, during digging operations in 1964, acquired from municipality of Nieuwenhagen in 1964. H. 23.3 cm, base 6.75 \times 6.75 cm.

Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 61, no. 14.

Green, with numerous bubbles. Broad horizontal rim. Constriction at base of neck. Horizontal tooling marks on base of neck. Tooling indent on side. Base marking: Q with AF inscribed. Multi-ribbed handle. White weathering.

Morin-Jean 14, *Isings*, o.c. 50b. Rim: Charlesworth, *J.Gl.St.* 1966, type 1a. Base marking: Charlesworth in *J.Gl.St.* 1966, p. 34, figs., 16 and 17; and in: A. Ael. 1959, p. 54, examples from Corbridge, Cirencester, Dorn (Gloucestershire), Great Chesterford, London, Welshpool and Mainz; *J.R.S.* 1965, p. 224 f.; *Kisa III*, p. 947, nr. 69, from Le Puy and Paris and Eckenheim. Nijmegen, Houtstraat (Verslag Museum G. M. Kam 1958, p. 7) together with second-century pottery from several graves. With retrograde Q: Koenigshoffen (Sauer, *Cah. Alsace* 1940-'46, pp. 201 f.) mid 2nd century.-Esch (unpublished) end II-early III. The Nieuwenhagen find dates from the 2nd century.

161. Inv. no. 1833

Found at Nieuwenhagen, during digging operations in 1964, acquired from Leufkens collection in 1964.

Three fragments of handles from square bottles, bluish green. Multi-ribbed.

Morin-Jean 14, *Isings*, o.c. 50.

162-170. Inv. nos. 1766, 1767, 1768, 1776, 1779, 1791, 1793, 1794, 1798 (fig. 20) Found in town centre Heerlen. Base: 1767: 7.5 × 7.5 cm.; 1768: W. of handle: 6.7 cm. Base 1779: 7 × 7 cm.; Base 1793: 6 × 6 cm. Fragments of square bottles: 1766: fragment of side and corner. Bluish green, some bubbles. Dulling.-1767:

fragment of lower side and bottom. Part of base marking: outer circle. Bluish green. Dulling.-1768: bluish green, numerous bubbles. Fragment of handle and shoulder. Dulling. Multi-ribbed handle.-1776: fragment of side and corner. Bluish green, with numerous bubbles, some on the surface.-1779: fragment of bottom. Bluish green. Base marking: 3 concentric circles. Iridescence and dulling.-1791: fragment of bottom. Bluish green-greenish, some bubbles. Base marking: part of outer circle extant. Dulling.-1793: fragment of bottom and lower side. Bluish green, some bubbles. Dulling.-1794: fragment of side and corner. Bluish green, numerous bubbles. Dulling.-1798: fragment of side and corner. Bluish green, numerous bubbles. Dulling. Morin-Jean 14, *Isings*, o.c. 50. dating from IB into III.

171. Inv. no. 1803

Found at Valkenburgerweg, Heerlen, site Stappers, excavation in 1964. Fragment of bottom. Bluish green. Square bottle, with part of base marking: 2 concentric circles. Dulling. Morin-Jean 14, *Isings*, o.c. 50. Concentric circles often occur on base markings (cf. examples mentioned by Fremersdorf, *K.Jb.* 1965/66, p. 30 f.)

172-175. Inv. nos. 1825, 1829, 1839, 1841

Found at Heerlen, acquired from Leufkens collection in 1964.

1825: fragment of shoulder. Bluish green, some bubbles. Dulled.-1829: fragment of side. Green with numerous bubbles. Brown weathering and dulling.-1839: fragment of upper side and shoulder-corner. Bluish green-greenish. Some large bubbles. Dulled.-1841: fragment of side. Bluish green-greenish, some bubbles. Dulling.

Morin-Jean 14, *Isings* o.c. 50. Similar to former numbers.

176-177. Inv. no. 1896, 1899 (fig. 20)

Found at Valkenburgerweg Heerlen, site Stappers, excavation in 1964.

Base of 1896: 4.6 × 4.6 cm.

1896: fragment of bottom. Bluish glass with numerous bubbles.

Base marking: part of 3 concentric circles, squares in corners. Dulling.-1899: fragment of side. Bluish green, some bubbles.

Morin-Jean 14, *Isings*, o.c. 50. Cf. for base marking: above, Maastricht no. 91, p. 28, probably dating from IB.

178. Inv. nos. 1953

Found at Heerlen, corner Coriovalumstraat-Kruisstraat, site Aldenhof, excavation in 1965.

Ref.: Gielen, *Het Land van Herle* 1966 p. 18, no. 7.

Greenish. Fragment of side. Dulling.

Morin-Jean 14, *Isings*, o.c. 50. similar to former numbers.

179-181. Inv. nos. 2848, 3241, 3244

Found at Heerlen, corner Coriovalumstraat-Kruisstraat, site Kolenburg, excavations in 1966.

Ref.: Gielen, *Het Land van Herle* 1966, p. 18, no. 7 and p. 64, no. 3.

2848: fragment of side with corner. Bluish green-greenish. Rough surface at one side. Dulling and iridescence.-3241: fragment of side and shoulder. Bluish green-greenish. Numerous bubbles. Dulled.-3244: fragment of two sides. Bluish green.

Morin-Jean 14, *Isings*, o.c. 50. Rough side of 2848 is similar to matt sides of window glass, but corner makes this improbable.

182-190. Inv. nos. 5285, 5286, 5316, 5499, 5861, 5864, 5887, 5917, 5920

Found at Heerlen, Valkenburgerweg, site of swimming pool, excavation in 1967.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.

5285 and 5286: fragments of sides. Bluish green. Dulling.-5316: fragment of side and corner. Bluish green-greenish. Dulling.-5499: fragment of side. Bluish green, heavily weathered.-5861: fragment of side. Bluish, with faint marking. Numerous bubbles. Dulling.-5864: fragment of bottom and side. One circle visible of base marking. Dulling.-5887: side fragment. Bluish green. White weathering.-5917: fragment of corner near shoulder. Dulling.-5920: fragment of side. Bluish green, with numerous bubbles. Dulling. Morin-Jean 14, *Isings*, o.c. 50, similar to former numbers.

191. Inv. no. 6326

Found at Uilestraat, Heerlen, excavation in 1967.

Ref.: Gielen, *Het Land van Herle* 1967, p. 115.

Fragment of side. Bluish green with numerous bubbles. Dulling. Morin-Jean 14, *Isings*, o.c. 50, similar to former numbers.

192. Inv. no. 6350

Found at site of Roman Bath, Heerlen, 1956/57. Acquired from collection H. van Kalken, 1967.

Fragment of side and shoulder. Dark green, with numerous bubbles. Dulling. Morin-Jean 14, *Isings*, o.c. 50. Intentionally coloured glass, probably dating from second half of 1st century.

B. HEXAGONAL BOTTLES

193. Inv. no. 617 (fig. 21)

Found at South corner Kap. Berixstraat-Nobelstraat, Heerlen.

One side: 4 cm.

Ref.: De Maasgouw 1933, p. 17.

Fragment of side and bottom. Bluish green. Base marking: 2 concentric circles around central dot. Sides with faint marking: rectangles. Dulling. Morin-Jean 17, cf. Isings, o.c. p. 64 as variety of square bottles, and parallels above, Maastricht no. 100 p. 30 f.

194. Inv. no. 1828 (fig. 21)

Found at Nieuwenhagen, during digging operations in 1964, acquired from municipality of Nieuwenhagen in 1964.

One side: 8 cm.

Ref.: Van Hommerich, Het Land van Herle 1964, p. 63, no. 23.

Fragments of sides, neck, shoulder and bottom. Bluish green, with numerous bubbles of different sizes. Base marking: 6 concentric circles.

Morin-Jean 17, Isings, o.c. p. 64.

Morin-Jean (p. 65) mentions large hexagonal bottles from Brény (found with coin of Domitian, cf. also Lantier, Verrerie, pl. 2), Lillebonne and Cherbourg. To these may be added: Fayt-la-Manage (Faider-Feytmans, Rev. Belge 1940, p. 125, no. 1, pl. 1, 1) 2nd century; Tombe de Hémava (B.C.R. 4, 1865, pp. 369 f., pl. 1, 2. Van Doorselaer, Rep. 1, p. 138) probably II; Amay (Vanderhoeven, Verres romains p. 114, no. 129) possibly II, Machelen (Mertens, Arch. Belg. 23, figs. 4-5, p. 7) mid 2nd century; Castre-la-Chaussée (Cumont, Ann. Brux. xviii, p. 371 f. pl. xvii) end II-early III; Yerville-en-Caux (Chirol, Rev. d. Soc. Sav. de Haute Normandie xxx, pp. 25 ff.) end II-early III.

Whether the fragments belong to a squat bottle like the majority of large bottles or not cannot be determined. It seems likely that the large hexagonal bottle dates mainly from the 2nd century.

195-196. Inv. nos. 1843, 1848

Found at Heerlen, acquired from collection Leufkens, in 1964.

1843: fragment of side and corner. Bluish green with a few bubbles. Dulled.-1848: fragment of side and corner. Yellowish; numerous bubbles. Dulled. Morin-Jean 17 and examples mentioned above, nr. 194.

197. Inv. no. 2823 (2 and 3)

Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.

Ref.: Gielen, Het Land van Herle 1966, p. 18.

Two fragments of side and corner. Bluish green, with a few bubbles.

Morin-Jean 17 and examples mentioned above, no. 194.

C. CYLINDRICAL BOTTLES

198. Inv. no. 619 (fig. 21)

Found in East cemetery Heerlen, gravel pit Simons, sarcophagus III.

H. 14.3-14.5 cm., d. 9 cm.

Ref.: Van Doorselaer, Rep. II, p. 321 (III). Peters, De Maasgouw 1920, p. 55, Van Hommerich, Gids, p. 54.

Colourless with greenish tinge. Some medium sized bubbles. Rim folded outward horizontally, with tip folded inward and fire polished. Groups of horizontal wheel-cut lines on body. Broad flat handle. Flat bottom. Incomplete and mended. Milky weathering, with brown and white patches on one part.

Variety of Isings, o.c. 51a. Similar in several respects to a bottle from Maastricht-Limmel (cat. Maastricht, p. 33, no. 108) which may have come from the same workshop. Parallels mentioned with the Maastricht bottle date from the 2nd and 3rd centuries. Possibly this continued into the later

type of bottle Isings, o.c. form 126, which has a folded rim as well as one with a spiral coil (as illustrated).

199-200. Inv. nos. 1795, 2276

Found at Heerlen, 1795 in town centre. D. 1795: ± 20 cm.

1795: bluish green-greenish, with almost no bubbles. Fragment of side. Dulling. - 2276: bluish green fragment of side and shoulder. Some bubbles. Dulling.

Isings, o.c. 51. probably from IB-II.

201-203. Inv. nos. 5498, 5879, 5922

Found at Valkenburgerweg, site of swimming pool, Heerlen, excavation in 1967.

Ref.: Eussen, Het Land van Herle 1967, p. 82.

D. of 5898: ± 14 cm., d. of 5879: ± 9 cm., D. of 5922: ± 22 cm
5498: fragment of bottom. Bluish green, a few bubbles. Dulling.-5879: fragment of handle and shoulder. Yellowish green. Multi-ribbed handle. Dulling.-5922: fragment of shoulder and fragments of side. Greenish, with numerous bubbles. Dulling.

Isings, o.c. 51, from IB-II.

204-205. Inv. nos. 6332 and 6333.

Found in Uilestraat, Heerlen, excavation in 1967.

Ref.: Gielen, Het Land van Herle 1967, p. 115.

Fragments of bottom and lower side. Dark green. Probably both from same bottle.

Isings, o.c. 51, coloured intentionally, probably second half of 1st century.

D. CONICAL JUGS

206. Inv. no. 225 (fig. 21)

Found at Heerlen.

Bluish green-greenish. Fragment of

handle and shoulder. Numerous bubbles. Dulling.

Isings o.c. 55 or 56, dating from Flavian period to early 2nd century.

207. Inv. no. 530 (fig. 21)

Found in West cemetery Heerlen, at Valkenburgerweg, site Koster. Gift of Mrs. J. Koster, 1948.

H. of handle: 12.8 cm.

Ref.: Van Doorselaer, Rep. II, p. 320 (I)

Fragments of handle, mended, with streaks and many bubbles. Greenish. Handle ends in nicked spur on the body, sides of lower handle nipt near shoulder. Dulling.

Probably Isings, o.c. 55, dating from Flavian period-early 2nd century.

208. Inv. no. 4512 (fig. 22)

Found in cremation burial at Voskuilenweg, Heerlen, in 1967

H. (extant) 11.2 cm., d. of rim: 3.6 cm., of base: 1.5 cm.

Ref.: Gielen, Het Land van Herle 1967, p. 37, and fig.

Yellowish green. Constriction at base of neck, Rim folded outward and inward. From lower neck onwards on body thin ribs made by optical blowing. Upper part, without handle, and part of bottom.

Variety of Morin Jean 58, Isings, o.c. 55a. Cf. also jug from Mesch, cat. Maastricht, above, p. 35, no. 114. Dates from end I into the 2nd century.

209. Inv. no. 5897 (fig. 21)

Found at Valkenburgerweg, site of swimming pool, Heerlen, excavation in 1967.

Ref.: Eussen, Het Land van Herle 1967, p. 82.

Yellowish green. Fragment of handle ending in nicked spur.

Probably from a jug similar to former numbers.

E. HANDLED JARS OF MILK-JUG-SHAPE

210. Inv. no. 260 (*fig. 22*)
 Found at cross-roads Kruisstraat-West and Deken Nicolayestraat, Heerlen.
 D. at rim: 5 cm.
 Greyish green with numerous small bubbles. Everted rim, tip folded inward. Coil handle. Dulled with white patches.
 Rather careless variety of the handled jar Isings o.c. 57.
 Cf. also: J. and A. Alarcão, *Necrópole ... de Valdoca. Conimbriga V*, 1966, pp. 28 ff, gr. 111, 2, from I-IIA and pp. 58 ff, gr. 198, 6, from end I-IIA. A ribbed variety of this jar also exists (e.g. Fremersdorf, *Denkmäler IV*, pl. 14 and 17, and 59). The jar probably dates from Id-II.
211. Inv. no. 575 (*fig. 22*)
 Found at cross-roads Bekkerweg-Kruisstraat-Nobelstraat, Heerlen.
 Gift of Max Roosen-Lemmens family. H. 6.65-6.8 cm., d. 6.35 cm.
Ref.: Van Doorselaer, *Rep. II*, p. 321 (IV)
 Bluish with numerous streaks and small bubbles. Everted rim folded inward at the tip. Slightly concave bottom with pontil mark. Coil handle with two thumbrests. Dulled with some milky weathering.
 Similar to the former, viz. variety Isings, o.c. 57. Cf. for shape of handle: Fremersdorf, *Denkmäler IV*, pl. 14.
212. Inv. no. 3245 (*fig. 22*)
 Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.
 D. at rim: 7 cm.
Ref.: Gielen, *Het Land van Herle* 16, 1966, p. 64.
 Bluish green, with numerous bubbles. Everted rim, tip folded inward. Al-

most no weathering. Fragment of mouth.
 Probably a jar similar to the former numbers.

F. FRAGMENTS OF JUGS

213. Inv. no. 258 (*fig. 20*)
 Found at Valkenburgerweg, opposite to swimming pool, Heerlen.
 D. at rim: 5.3 cm.
 Bright green, few bubbles. Rim folded outward and inward, slightly mushroom-shaped. Rim, neck, beginning of shoulder and upper fragment of handle. Some dulling.
 May be either square bottle or cylindrical bottle. Morin Jean 14 or 8, Isings, o.c. 50 or 51. Intentionally coloured, possibly IB.
214. Inv. no. 1809
 Found at Heerlen.
 Fragment of upper part of handle. Bluish green-greenish. Dulling. Uncertain type of bottle, probably square or cylindrical.
215. Inv. no. 1832.
 Found at Heerlen, acquired from Leufkens collection, in 1964.
 Handle: W. 2.5 cm.
 Two-ribbed handle. Bluish green. Uncertain type of jug or bottle, might have been square, cylindrical or bulbous.
216. Inv. no. 1838 (*fig. 21*)
 Found in Roman Bath, Heerlen. Gift from Bergerode Ltd.
 D. 4.6-4.7 cm.
 Bluish green-greenish, a few bubbles. Rim folded outward and inward. Dulling. Fragment of rim.
 Probably square bottle or cylindrical bottle, similar to former.

217. Inv. no. 1847
 Found at Heerlen, acquired from Leufkens collection, in 1964.
 Fragment of handle. Bluish green-greenish. Dulled.
 Probably from multi-ribbed handle, from square bottle or cylindrical bottle.
218. Inv. no. 6247
 Found in Uilestraat, Heerlen, excavation in 1967.
 D. at rim: 5 cm.
 Fragment of rim. Bluish green. Broad rim, folded outward and inward. Numerous small cracks.
 Probably square or cylindrical bottle.
219. Inv. no. 6351
 Found at site of Roman Bath, Heerlen, in 1956/57, acquired from H. van Kalken, 1967.
 D. at rim: 6 cm.
 Bluish green with numerous bubbles. Fragment of rim and neck, rim folded outward and inward and pressed. Dulled.
 Probably from a large bottle, either square (or hexagonal), or cylindrical.
220. Inv. no. 618
 Found at Heerlen, South corner Kap. Berixstraat-Nobelstraat.
 Fragment of neck and handle. Bluish green. Dulling.
 Might have been conical jug.
221. Inv. no. 1764 (*fig. 22*)
 Found in town-centre Heerlen.
 D. at rim: 2.5 cm.
 Bluish green tinge, numerous bubbles. Fragment of rim and neck. Everted rim, tip folded inward. Slightly dulled. Uncertain type. Might have been Morin-Jean 45, Isings, o.c. 14 dating from the 1st century.

222. Inv. no. 1788 (*fig. 22*)
 Found at Valkenburgerweg, Heerlen, site Stappers. Excavation in 1964.
 D. at rim: \pm 2.5 cm.
Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 70.
 Bluish, few bubbles. Fragment of rim and upper part of handle. Everted rim, tip folded inward. Dulling.
 Morin-Jean 45, Isings, o.c. 14, dating from the 1st century.
223. Inv. no. 1784
 Found in town-centre Heerlen.
 W. 2.8 cm.
 Fragment of upper part of handle. Bluish green. Uncertain type.
224. Inv. no. 1802
 Found at Valkenburgerweg, Heerlen, site Stappers. Excavation in 1964.
 Fragment of upper part of handle. Bluish green. Uncertain type.
225. Inv. no. 1855 (*fig. 22*)
 Found at Heerlen, acquired from Leufkens collection, 1964.
 D. at rim: \pm 6 cm.
 Dark blue. Upper part of handle and of mouth, near rim. Rim was probably everted. Three-ribbed handle. White patches of weathering.
 Uncertain type, may have been Isings, o.c. 53, or perhaps an amphorisk.
226. Inv. no. 1867
 Found at Kap. Berixstraat, Heerlen.
 Bluish green-greenish. Fragment of neck and beginning of shoulder.
 Fire damaged. Uncertain type.
227. Inv. no. 3252
 Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.
Ref.: Gielen, *Het Land van Herle* 1966, p. 64.

Bluish green-greenish. Fragment of coil handle.

Uncertain type, probably 1st century.

228. Inv. no. 5496 (*fig. 22*)

Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.

D. at rim: 3.5-5.5 cm.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.

Bluish green-greenish, a few streaks and bubbles. Everted rim pinched to a trefoil shape, tip folded inward.

Form Isings, o.c. 56 or 88. Rather carelessly shaped, so possibly not earlier than 2nd century.

229-231. Inv. nos. 5867, 5875, 5876 (*fig. 20*)

Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.

D. at rim of 5875: 3.5-4.3 cm.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.

5867: fragment of handle. Bluish green. Dulling.-5875: fragment of rim, folded outward horizontally. Dulling.-5876: two fragments of shoulder and lower side. Bluish green with streak and some bubbles. Dulling.

Uncertain types of bottles or jugs. Finds from the site mainly from 1B-II.

232-233. Inv. nos. 5900, 5901

Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.

5900: fragment of finely ribbed handle. Greenish.-5901: fragment of side or bottom, bluish green-greenish, numerous bubbles. Dulling. Square or cylindrical bottles. Isings, o.c. 50 or 51.

VII. Jars

234. Inv. no. 1844 (*fig. 23*)

Found at Nieuwenhagen, during digging operations in 1964, acquired from municipality of Nieuwenhagen in 1964.

H. \pm 21-22 cm., d. (greatest) 27.2 cm.

Ref.: Van Hommerich, *Het Land van Herle* 1964, p. 63, no. 22.

Bright green, with numerous bubbles. Rim folded outward horizontally, tip folded downward twice. Concave bottom. Contained cremation burial. Slightly dulled. Brown weathering in rim.

Morin-Jean 1, Isings, o.c. 67a. Jar of ordinary shape, neck usually shorter. Different rim-types exist, the one shaped like the Nieuwenhagen one, the other being a broad collar along the neck. Both date from the same period. In addition to types mentioned: Pompeii (coll. Alnwick castle, Charlesworth, A. Ael. XLIII, p. 230 f., fig. 4, with parallels); Este, Fondo Rebato, gr. 53 (N.Sc. 1922, fig. 20c, p. 20, with coin of Claudius); Regensburg (Lamprecht, Regensburg, p. 31, p. 85, about 30-40 examples, possibly from 2nd century, e.g. from gr. 11 and gr. 759, pll. v, 10 and vi, 8); Szombathely gr. vi (Búocz, Arch. Ert. 1961, p. 221, fig. 4, nr. 1) 2nd century; Ampurias (Almagro, Ampurias II, p. 156, fig. 124, pl. VIII, Torres gr. 13 dated to Claudian period; Pi gr. 12, p. 230, fig. 100 Claudian-Neronian); Saint Maurice sur Eygues (Gallia XX, 1962, pp. 646 f., fig. 15) probably end I-IIA; Tavel (Gagnière and others, Gallia XIX, 1961, pp. 239 f., figs. 6, 9, 10, Claudian-Neronian); Visan (Gallia 1956, pp. 255 f., figs. 9-10, probably 2nd century); York (Harden, Eburacum, p. 136 f. fig. 89, probably end I-II); Apt, also with everted rims with

tip folded inward (Dumoulin, Gallia 1958, p. 208 ff., end I-II, Gallia 1964, p. 91 ff., end I-II).

The Nieuwenhagen burial is dated to the 2nd century.

235. Inv. no. 1781 (*fig. 19*)

Found at Valkenburgerweg Heerlen, site Stappers, excavation in 1964.

D. at rim: \pm 10 cm.

Bluish green. Two fragments of rims of two different jars. Rim folded outward vertically twice, forming broad collar. Dulled, one with white weathering also.

May have been Morin-Jean 5, Isings, o.c. 57b/c or a square jar Morin-Jean 13, Isings o.c. 62. Dating mainly from 1st century into 2nd century, but some may be later.

236. Inv. no. 1782 (*fig. 19*)

Found in town-centre Heerlen.

D. at rim: \pm 12 cm.

Bluish green, with very few bubbles. Fragment of rim, folded outward and downward. Dulling.

Similar type to the former number.

237. Inv. no. 1866 (*fig. 19*)

Found in town-centre Heerlen.

D. of base: \pm 5 cm.

Bluish green tinge. Fragment of lower side and base. Pushed in base. Dulling and iridescence.

Similar base types known from bulbous jars (Isings 67c) and some jugs (e.g. Isings 55), dating from end I-II.

238. Inv. no. 2898 (*fig. 19*)

Found at Heerlen.

D. at rim \pm 10 cm.

Bluish green-greenish with some bubbles. Fragment of rim, folded outward and downward twice. Dulling. Type similar to above, no. 235 f.

239. Inv. no. 3735

Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation 1966.

Ref.: Gielen, *Het Land van Herle* 1966, p. 18.

Bluish green. Very small fragment of rim, folded outward and downward. Dulling.

Similar to above, no. 235 f.

240. Inv. no. 5911

Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.

D. of side: \pm 13 cm.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.

Bluish green. Fragment of lower side. Possibly from bulbous jar, similar to former numbers.

VIII. Small ointment jars

241. Inv. no. 620 (*fig. 22*)

Found at Heerlen, gift from M. Souren.

H. 4.85-5.05 cm., d. (greatest) 4.4 cm.

Bluish green-greenish with a few bubbles, one of them very large. Rim folded outward and inward horizontally. Flat bottom, traces of pontil mark. Part of rim missing. Iridescence and white weathering.

Form Isings, o.c. 68, dating mainly from 1B-II, with some later examples. Rim types similar to those of large jars, to examples may be added: Xanten (Petrikovits, B.J. 1959, p. 126, note 85, fig. 16,5 dating shortly after A.D. 120); Ligney (Vanderhoeven, Verres romains, no. 103).

242. Inv. no. 1826 (*fig. 22*)

Found at site of Roman Bath, Heerlen.

D. at rim: 4.4-4.5 cm.

Bluish green, with a few bubbles.

Three fragments of rim and side. Rim folded inward. Dulling. Isings, o.c. 68, dating mainly from IB-II, with some later examples.

243. Inv. no. Bl. 20 (fig. 22)
Found at Valkenburgerweg, South side between Pijnsweg and Geleenbeek. On loan from 'Catacombenstichting'. H. 5.2-5.3 cm., d. (greatest) 6.65 cm. Bluish green, with numerous bubbles. Rim folded outward horizontally and inward on outside, with fold against neck. Concave bottom. Dulling. Form Isings, o.c. 68, dating from same period as former.

244. Inv. no. 625 (fig. 22)
Found in East cemetery Heerlen, gravel pit Simons, in 1919. H. 8.25-8.35 cm., d. (greatest) 4 cm. Ref.: Van Doorselaer, Rep. II, p. 321 (III)
Bright green, with streaks and numerous bubbles. Thick rounded rim and short neck. Concave bottom with pontil mark. Small crack. Dulling and white weathering. Form Morin-Jean 11, Isings, o.c. variety of 130, from 4th century.

IX. Miscellaneous

245. Inv. no. 615 (fig. 22)
Found at Heerlen. D. 3.8 cm., d. (greatest) 3.6 cm. Purple. Mould blown. Fragment of lower side with base. Coil base partly fused with bottom. Pontil mark. Streaky colouring. The fabric is late, the form may have been similar to e.g. Fremersdorf, Denkmäler VI, pl. 147, or to Cat. Glass from the Ancient World 258 (the former an ointment bottle, the latter a flask of Eastern provenience).

246. Inv. no. 624 (fig. 19)
Found at Kruisstraat-West, Heerlen, H. 2.7 cm.-2.8 cm., d. (greatest): 6.5 cm. Bluish with few bubbles. Cut-out, high base ring. Pontil mark. Dulling and metallic weathering. Similar base rings occur on third- to fourth century types.

247. Inv. no. 224
Found at Heerlen, Deken Nikolayestraat, South side. D. \pm 5 cm. Bluish green with a few bubbles. Pontil mark. Fragment of bottom. Uncertain shape. IB-II.

248-249. Inv. nos. 1762, 1770 (fig. 19)
Found at town-centre Heerlen and at Heerlen without find spot. D. base 1762: \pm 4.5 cm.; d. base 1770: 6 cm. 1762: bluish green. Fragment of cut-out base ring. Dulling-1770: bluish green. Fragment of cut-out base ring. Numerous bubbles. Dulling. Uncertain shapes. Jug, or bowl.

250. Inv. no. 1771
Found at Valkenburgerweg, site of swimming pool, excavation in 1967. Ref.: Eussen, Het Land van Herle 1967, p. 82. Bluish green, numerous bubbles. Pontil mark. Dulled. Fragment of bottom. Uncertain shape.

251. Inv. no. 1780
Found at Heerlen, construction of Euterpelaan, in 1964. Fragment of bottom. Bright green. Dulling. Uncertain shape.

252. Inv. no. 1821 (fig. 21)
Found at Heerlen, site of Roman Bath.

D. at rim: \pm 7 cm. Almost colourless, with yellowish tinge. White layer of weathering. Fragment of moulded rim. Uncertain type, fabric similar to that of Nieuwenhagen bowls (above no. 136 f). Rim type comparable to fragment in Tullie House museum (Charlesworth, Transactions Cumberland and Westmoreland Ant. and Arch. Soc. fig. 4, p. 37). It may have been a flask or a jug, datable to 2nd or 3rd centuries.

253. Inv. no. 1840
Found at Heerlen, acquired from Leufkens collection, 1964. D. of neck: 6 cm. Bluish green. Fragment of neck. Dulling. Uncertain shape, flask, bottle of jug. 1st-2nd centuries.

254. Inv. no. 1858 (fig. 22)
Found in town-centre Heerlen. D. of base: 2-2.3 cm. Greenish tinge, with numerous bubbles. Lower side with horizontal wheel-cut line. Thick glass, base ring made by means of bulbous tool. Dulling. Uncertain type, probably bowl or beaker. Shape of base seems similar to a fragment from Ostia (Moriconi, Studi Misc. 13, fig. 203, p. 74, Fr. f. 1) from the late Roman period, the base of which may however be less sharply indented than the Heerlen piece.

255. Inv. no. 1868 (fig. 22)
Found at Bekkerveld, Heerlen, about 1933, in late Roman tile sarcophagus. Used secondarily as a lid. D. base ring: 8.85-8.9 cm. Ref.: Van Doorselaer, Rep. II, p. 321 (IV). Bluish green with numerous bubbles. Cut out base ring. Base only preserv-

ed, this has its edge smoothed somewhat to be used as a lid. Dulling. Probably originally a bowl, of uncertain shape. IB-III A.

256. Inv. no. Bl. 71
Found at Valkenburgerweg, West side, between Pijnsweg and Geleensbeek at Heerlen, in a cup. On loan from 'Catacombenstichting'. Ref.: Van Doorselaer, Rep. II, p. 320 (I) Fragment of side. Greenish tinge. Horizontal wheel-cut line. White weathering and dulling. May have been a bottle or possibly a cup similar to above, no. 48 (= Isings, o.c. 12)

257. Inv. no. 2286 (fig. 22)
Found at Heerlen. D. base: 4.7-4.8 cm. Bluish green-greenish, few bubbles. Fragment of base. Cut-out base ring. Dulled and iridescence. Uncertain shape, may have been a bowl.

258. Inv. no. 2823
Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966. D. \pm 4 cm. Ref.: Gielen, Het Land van Herle 1967, p. 18. Fragment of bottom. Bluish green with numerous bubbles. Concave bottom. Pontil mark. Uncertain shape. Bottle, flask or beaker.

259. Inv. no. 3220 (fig. 16)
Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966. D. at rim: 2.5 cm. Ref.: Gielen, Het Land van Herle 1966, p. 64.

Bluish green with a few bubbles. Fragment of rim and neck. Rim folded outward and inward. Dulling. Uncertain shape, may have been flask or jug. 1st-2nd century.

260. Inv. no. 3251
Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966.
Ref.: Gielen, *Het Land van Herle* 1966 p. 64.
Bluish green tinge, numerous bubbles. Dulling. Horizontal spiral thread. Uncertain type and date, decoration occurs on different types in all periods.
- 261-262. Inv. nos. 5264, 5340 (*fig. 22, fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
D. of base: 5264: 3.8-3.9 cm.; 5340: \pm 5 cm.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
5264: bluish green. Cut-out base ring. Pontil mark. Dulling.-5340: fragment of cut-out base ring. Bluish green. Dulling.
Uncertain types, possibly bowls.
263. Inv. no. 5863 (*fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of side. Bluish green. Three horizontal wheel-cut lines.
Uncertain type, may have been flask, bottle or beaker. 1st century (e.g. forms Isings 12, 16, 29, 30, 51)
264. Inv. no. 5871 (*fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.

Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of side. Bluish green, with a few bubbles. Horizontal spiral thread. Uncertain type, cf. above, no. 260.

265. Inv. no. 5880
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of side. Bright green tinge. Mould-blown horizontal ridge. Might have been a cup or beaker (cirkus-cup, or Syro-Italian group) or perhaps a ribbed amforisk (e.g. Fremersdorf, *Denkmäler VI*, pl. 65), from the 1st century.
266. Inv. no. 5884
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Two fragments of side. Blue; numerous bubbles. White spiral thread. Uncertain type, may have been jug, bottle, flask or sphere. Fabric and decoration point to the 1st century.
267. Inv. no. 5885
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of side. Green tinge, a few bubbles and sandy impurities. Thin horizontal wheel cut line. Some dulling.
Uncertain type, first-century fabric.
268. Inv. no. 5888 (*fig. 19*)
Found at Valkenburgerweg, Heerlen,

site of swimming pool, excavation in 1967.
D. at rim: \pm 16 cm.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Bluish green. Fragment of rim, folded outward and downward. Dulling. Uncertain type, may have been a bowl or a lid.

269. Inv. no. 5898 (*fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
D. of base: \pm 5 cm.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of base, cut-out base ring. Green.
Uncertain type, flask, bowl or jug, fabric similar to that of jugs and jars with optic-blown ribs, from end 1st into 2nd century.
270. Inv. no. 5903
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
D. 3.8 cm.,
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Bluish. Fragment of concave bottom. Uncertain type, fabric: 1st century.
271. Inv. no. 5914 (*fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
D. at rim: \pm 14 cm.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Bluish green. Fragment of rim, folded outward and downward. Dulling. Might have been bowl imitating terra sigillata Drag. 29 (cf. above, no. 145) or a jar form Isings 67b or c, dating from IC-IIA.

272. Inv. no. 5918
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Fragment of concave bottom. Bluish green. Dulling.
Uncertain type and date.

273. Inv. no. 5919 (*fig. 19*)
Found at Valkenburgerweg, Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Apparently black, actual colour not visible. Curved rod, with oval disk at one end the other end broken. Uncertain type, perhaps arming? No parallel known. The disk does not show any traces of having been soldered to another object, so it seems improbable that it has been a handle.
274. Inv. no. 5921
Found at Heerlen, Valkenburgerweg, site of swimming pool, excavation in 1967.
D. at rim: \pm 9 cm.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Bluish green-greenish, few bubbles. Fragments of rounded rim. Dulling. Uncertain type, may have been bowl, jar, or possibly a lid.

Intentionally coloured glass generally belongs to the 1st century A.D., although coloured glass is again used in the late Roman period. Fragments from the Valkenburgerweg and Coriovallumstraat, listed below, will probably date from the 1st century. The fragment from the Uilestraat might be later, as a fourth-century fragment came from this site, together with early Roman material.

275. Inv. no. 2284
Found at Coriovallumstraat-West, North side, in 1964.
Blue. Some dulling. 1st century.
276. Inv. no. 2887
Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.
Ref.: Gielen, *Het Land van Herle* 1966, p. 18.
Six fragments. Dark blue, few bubbles, iridescence. 1st century.
277. Inv. no. 3225
Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1966.
Ref.: Gielen, *Het Land van Herle* 1966, p. 64.
Fragment of side. Emerald green. Iridescence. 1st century.
278. Inv. no. 5873
Found at Valkenburgerweg, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
Cobalt blue. Some bubbles. 1st century.
279. Inv. no. 6334
Found at Uilestraat, Heerlen, excavation in 1967.
Ref.: Gielen, *Het Land van Herle* 1967, p. 115.
Dark olive green, may have been apparently black, late 1st-3rd centuries (cf. Isings, *B. A. Besch.* 1964, pp. 177 f.)

X. Fragments with optic-blown ribs
(cf. also above, p. 85, no. 208)

280. Inv. no. 1765 (*fig. 24*)
Found at Valkenburgerweg, construction of Euterpeleen, Heerlen, excavation in 1964.

vation in 1964.
Ref.: Gielen, *Het Land van Herle* 1964, p. 70.
Bluish green with numerous pin prick bubbles. Fragment of side. This decoration occurs on bulbous jars, conical jugs, bulbous jugs and juglets of milk-jug shape (technique: Doppelfeld, *Röm. und fränk. Glas*, p. 31. Forms: Isings, o.c. 52, 55b, 57, 67c), dating from end 1 into the 2nd century.

281-283. Inv. nos. 1769, 1773, 1797 (*fig. 24*)
Found in town-centre Heerlen.
1769: yellowish green with numerous bubbles. Shoulder fragment. Dulling.-
1773: moss green with a few bubbles. Fragment of side. Almost no weathering.-
1797: bright green, with numerous bubbles. Fragment of side. Dulling.
1769 probably belonged to a conical jug, the other fragments may have been jugs or jars.

284-285. Inv. nos. 1786, 1801
Found at Valkenburgerweg Heerlen, site Stappers, excavation in 1964.
1786: yellowish green. Fragment of side.-
1801: bluish green-greenish. Fragment of side.
Uncertain types.

286. Inv. no. 1859
Found in town-centre Heerlen.
D. (greatest): probably 14 cm.
Bluish green. Fragment of lower side. White weathering and dulling, undulating over and between ribs.
Uncertain type of jar or jug.

287. Inv. no. 1910
Found at North side of Coriovallumstraat, Heerlen, excavation in 1964.
Bluish green fragment of side. Uncertain type of jug or jar.

288. Inv. no. 1951
Found at corner Coriovallumstraat-Kruisstraat, site Aldenhof, excavation in 1965.
Ref.: Gielen, *Het Land van Herle* 1966, p. 18.
Bluish green fragment of side. Uncertain type of jug or jar.

289-291. Inv. nos. 3218, 3247, 3250.
Found at corner Coriovallumstraat-Kruisstraat, site Kolenburg, excavation in 1964.
Ref.: Gielen, *Het Land van Herle* 1966, p. 64.
3218: moss green fragment of side.-
3247: two moss green fragments of side.-
3250: moss green fragment of side.
Uncertain type of jug or jar, the fragments might come from the same object.

292-297. Inv. nos. 5495, 5866, 5870, 5904, 5915, 5916.
Found at Valkenburgerweg Heerlen, site of swimming pool, excavation in 1967.
Ref.: Eussen, *Het Land van Herle* 1967, p. 82.
5495: greenish yellow. Fragment of side. Some dulling.-
4866: bluish green tinge. Fragment of side. Dulled.-
5870: two fragments of side. Bluish green-greenish. Yellowish green spot on one rib. Dulled.-
5904: yellowish green, fragment of side, possibly from a jug.-
5915: bluish green tinge, some bubbles. Fragment of side. Dulling.-
5916: bluish green. Some bubbles. Fragment of shoulder. Dulled.
5904 and 5916 probably jugs, the others uncertain types.

298. Inv. no. 6352 (*fig. 24*)
Found at Heerlen, site of Roman Bath, 1956/57. Acquired from H. van Kalcken, 1948.

D. of base; 6 cm.
Greenish with some bubbles. Fragment of lower side and pushed-in base. Dulling.
Isings, o.c. 52b a jug or jar 67c.

XI. Rod

299. Inv. no. 2888 (*fig. 24*)
Found at corner Coriovallumstraat-Kruisstraat, Heerlen, site Kolenburg, excavation in 1966.
D. 0.7 cm.
Ref.: Gielen, *Het Land van Herle* 1966, p. 18.
Fragment of rod, oblique ribs. Bluish green. Dulled. Isings, o.c. 79. Cf. also above, p. 40 f., no. 131.

XII. Window glass

Window glass, usually matt at one side, glossy at the other, was cast into a mould (Haevernick-Weinsheim, *Saalb. Jb.* xiv, 1955, pp. 65 ff., Boon, *J.Gl.St.* 1966, pp. 42 ff.). Traces of manual spreading exist, e.g. tooling marks visible near the edges (cf. Boon, l.c., p. 44). The opinion that window glass was made by the muffle process (Harden, *Glastechnische Berichte* 32K no. viii, pp. viii/8 ff.) is not generally accepted, except for the late Roman period (Boon, l.c. note 7). Some of the fragments are visibly reamy. Others are so much weathered, that no such detail can be seen. Fragment 1913 has bubbles on the surface.
Glass has been used for decoration of walls also, e.g. in Bath buildings (Haevernick-Weinsheim pp. 66 ff.). Some of the Heerlen fragments show traces or mortar and may have been thus used. As find-places show, window glass has been used for the Roman Bath as well as for other buildings.

300. Inv. no. 297 (*fig. 24*)
Found at Kruisstraat-East, Heerlen,
site of Roman Bath.
T. 0.35-0.6 cm.
Fragment of edge and corner. Bluish
green, glossy-matt. Tooling marks.
Reamy. Dulled.

301-303. Inv. nos. 1796, 1805, 1806 (*fig. 24*)
Found in town-centre Heerlen
T. of 1769: 0.5-0.6 cm.; of 1805:
0.35-0.55 cm.; of 1806: 0.35-0.55 cm.
1769: bluish green. Possibly fragment
of window glass, may have been square
bottle also, as slightly matt surface
might be due to weathering. Dulled.-
-1805: bluish green. Fragment of rim.
Tooling marks. White weathering.-
-1806: bluish green. Tooling marks.
White weathering. Mortar on one side,
so probably from wall decoration.

304-305. Inv. nos. 1849, 1853 (*fig. 24*)
Found at Heerlen, acquired from
Leufkens collection in 1964.
T. 1849: 0.5-0.55 cm.; of 1853: 0.6 cm.
1849: bluish green with some bubbles.
Fragment of rim. Dulled.-1853: four
fragments green and yellowish green.
One of them fragment of rim, green.
Dulled. The others probably not win-
dow glass but fragments of square
bottles.

306-312. Inv. nos. 1902, 1903, 1904, 1905,
1906, 1907, 1908 (*fig. 24*)
Found at digging site on West side
of Roman Bath, Heerlen, in 1935.
T. 0.15-0.5 cm.
1902: bluish green. Numerous bubbles.
Three fragments, two fitting, the
other might have come from square
bottle as well. Dulled.-1903: bluish
green-greenish. Two fragments. Dul-
led and white weathering.-1904:
bluish green-greenish, some bubbles.
One fragment very much thicker at

rim than in the middle. Two fragments
of rim. Dulled.-1905: bluish green,
with numerous bubbles. Dulled.-1906:
bluish green. Cracked fragment.-1907:
bluish green with numerous bubbles.
-1908: Two fragments. Dulled. Might
also have been square bottle.

313. Inv. no. 1913 (*fig. 24*)
Found at Kruisstraat-East, Heerlen,
site of Roman Bath.
T. 0.35-0.6 cm.
Bluish green-greenish. Few bubbles.
Two fragments of rim. One fragment
with bubbles on the surface. Dulled.

314-318. Inv. nos. 1914, 1915, 1916, 1917,
1918 (*fig. 24*)
Found at site of Roman Bath, Heer-
len.
T. 0.2-0.5 cm.
1914: bluish green-greenish with a
few bubbles. Tooling marks near rim
of one fragment. Fragment of rim and
of pane. Some iridescence.-1915:
greenish tinge. Some bubbles. Dulled.
-1916: bluish green. Dulled. Might also
have been square bottle-1917: bluish
green, few bubbles. Fragment of rim.
Dulled-1918: bluish green, with green
streak. Numerous bubbles on surface.

319-324. Inv. nos. 2275, 2280, 2281, 2282,
2283, 2285 (*fig. 24*)
Found at Heerlen.
T. 0.3-0.8 cm.
2275: greenish. Fragment of rim and
corner. Tooling marks in corner.
Dulled.-2280: bluish green with a
few bubbles. Dulled. Fragment of
rim. Tooling marks.-2281: green.
Fragment of rim. Tooling marks.
Dulled.-2282: bluish green-greenish.
Fragment of rim. Dulling and irides-
cence.-2283: bluish green-greenish.
Few bubbles. Dulled and iridescence.
Might also have been square bottle.

-2285: bluish green-greenish. White
weathering and iridescence.

325. Inv. no. 2287
Found at Heerlen, site of Roman Bath.
T. 0.3-0.4 cm.
Bluish green. Dulled, iridescence.

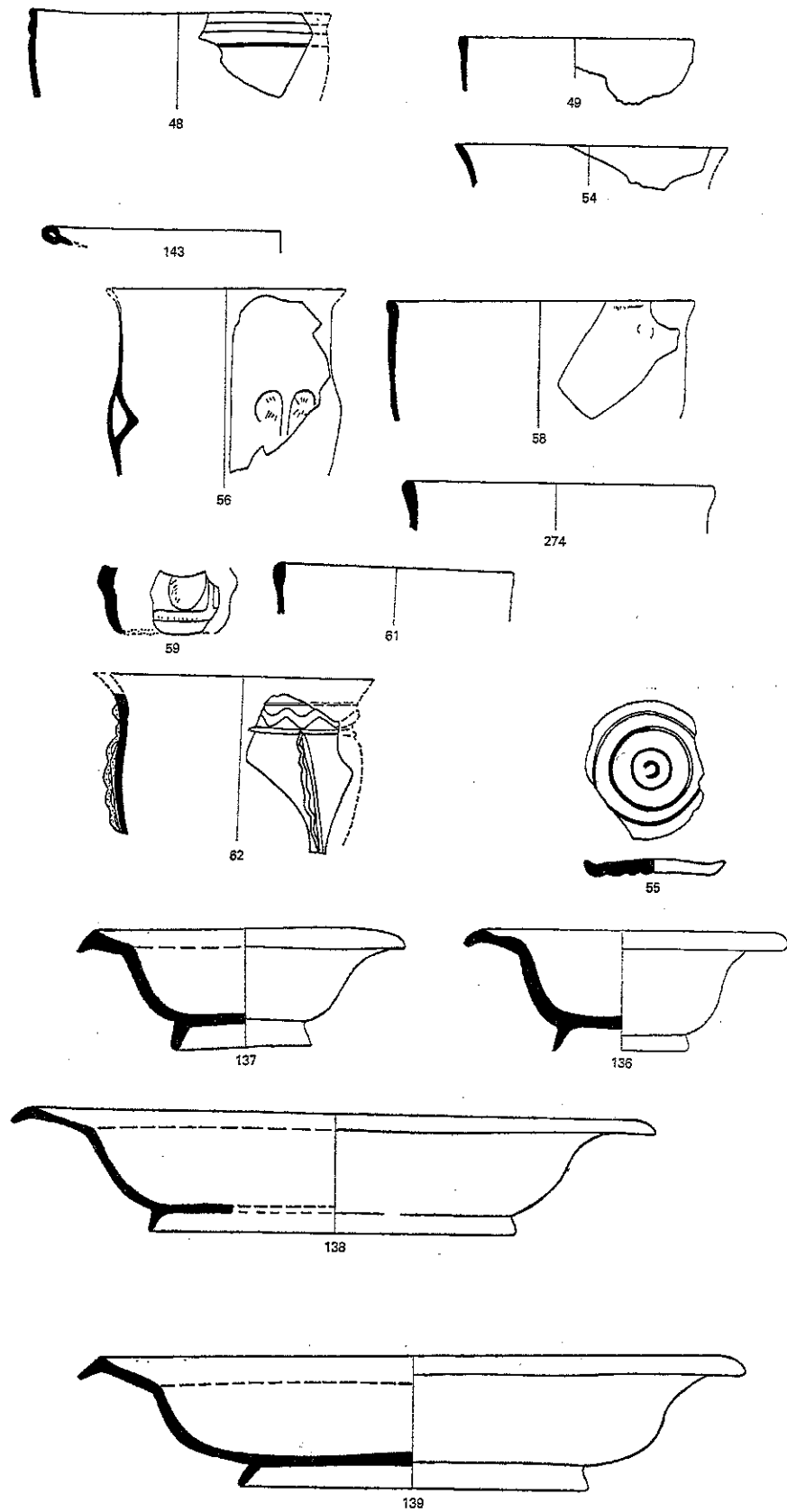
326. Inv. no. 2289 (*fig. 24*)
Found in room of L-shaped *natatio*,
Roman Bath, Heerlen, gift from Berge-
rode Ltd.
T. 0.3-0.5 cm.
Bluish green. Fragment of rim. Dulled
and iridescence.

327-329. Inv. nos. 2891, 2892, 2893
Found at corner Coriovallumstraat-
Kruisstraat, site Kolenburg, exca-
vation in 1966.
T. 0.3-0.5 cm.
Ref.: Gielen, *Het Land van Herle*
1966, p. 18.
2891: bluish green. Dulled.-2892:
bluish green. Dulled and iridescence.-
2893: bluish green with a few bubbles.
Fragment of rim. Dulled.

330. Inv. no. 5910
Found at Valkenburgerweg, site of
swimming pool, Heerlen, excavation
in 1967.
T.: 0.3 cm.
Ref.: Eussen, *Het Land van Herle*
1967, p. 82
Bluish green. Dulled and white weath-
ering. Might also have been square
bottle.

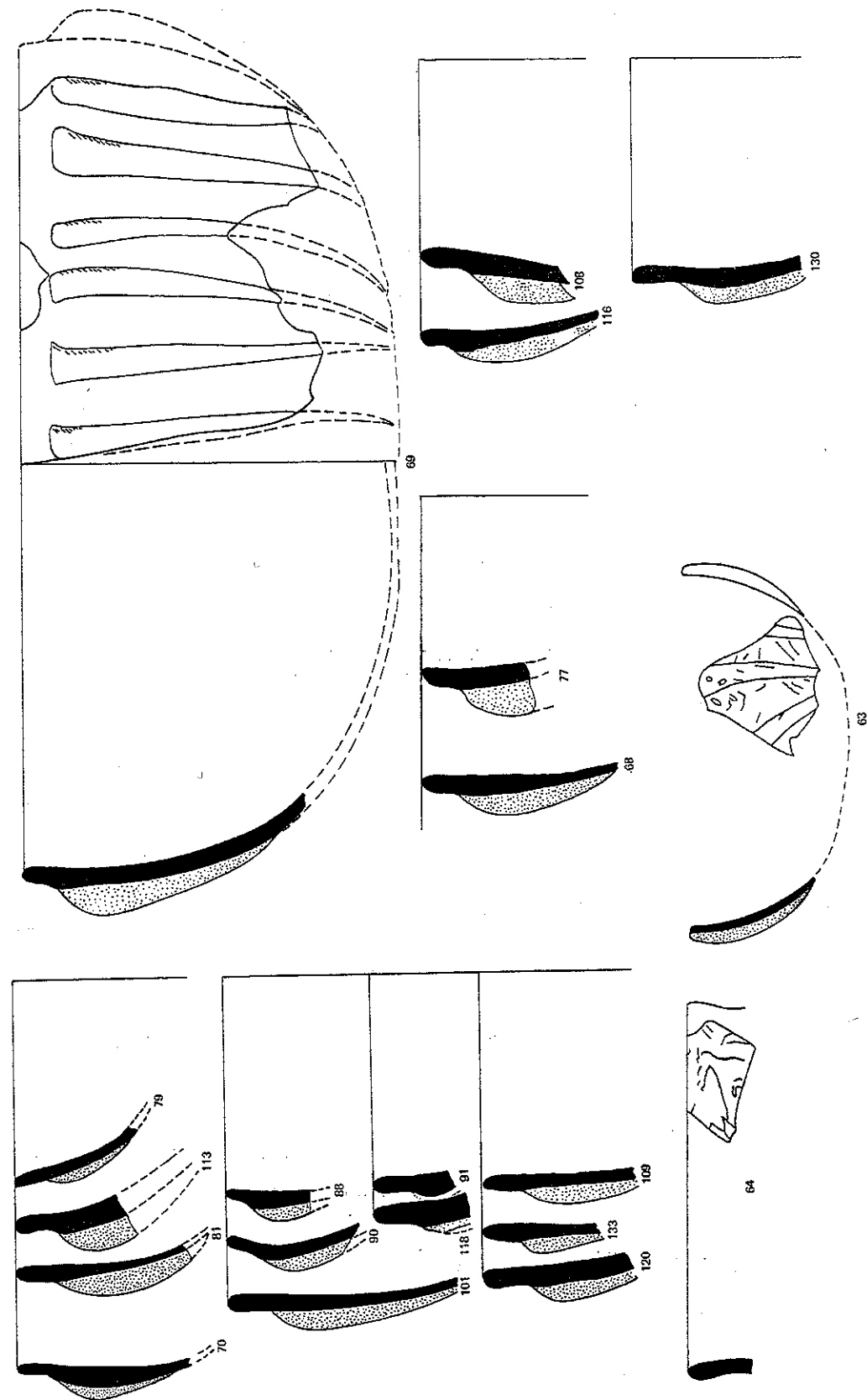
XIII. Molten fragments

331. Fragments of molten glass do not
necessarily point to the existence of a
glass house, unless other finds prove
this. They may be found in cremation
burials or on *ustrina*, as well as in
layers of burning.
From the town centre of Heerlen
came fragments 1783, 1808, 1811,
1911 and 1912. Fragment 1895 was
found at a building site on the Valken-
burgerweg and was acquired by gift
from Ir. A. J. Hermans. Nos. 1824 and
1834 have been found on the site of
the Roman Bath.



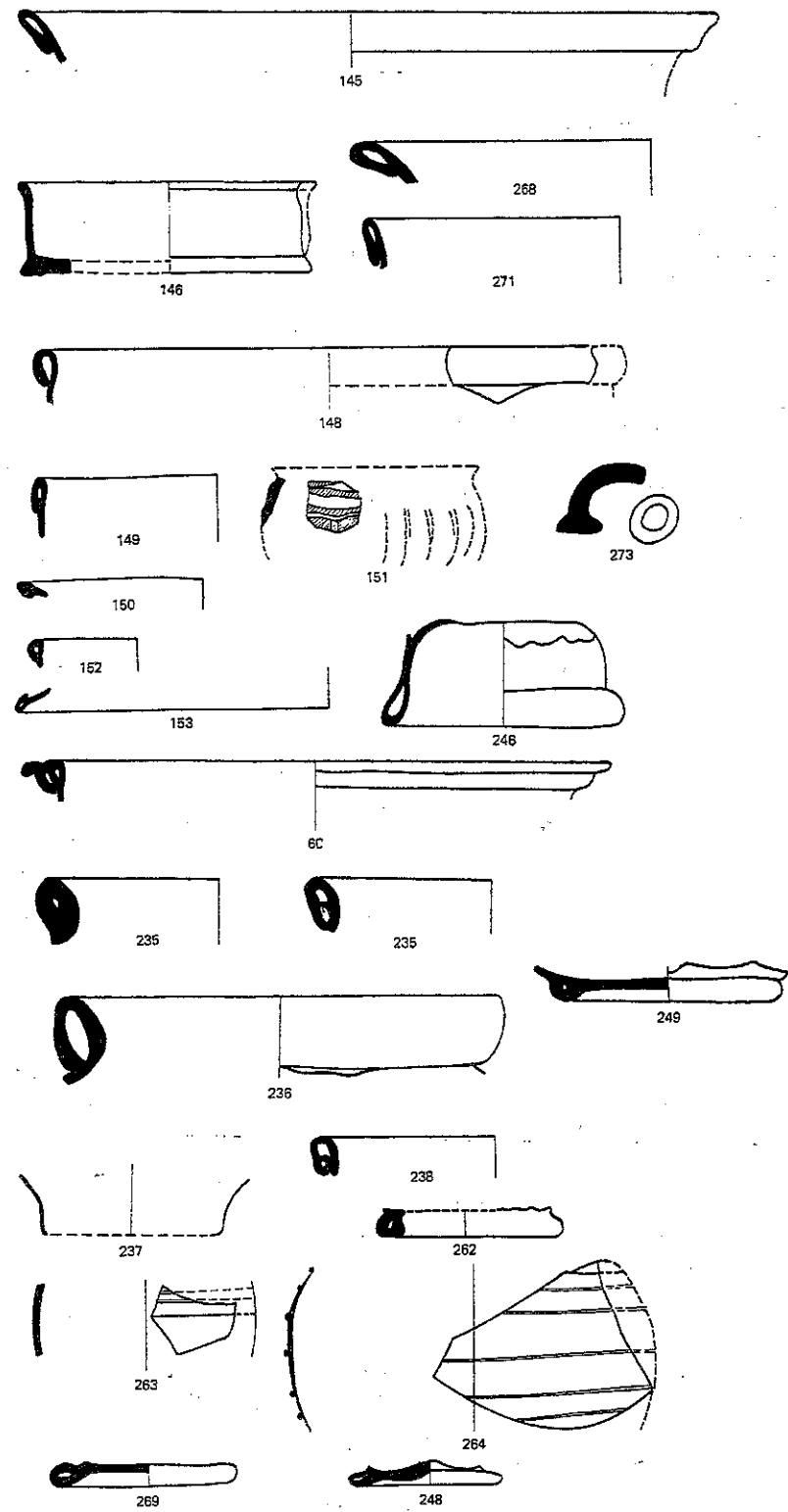
SCALE 50:100

Figure 17



SCALE 50:100

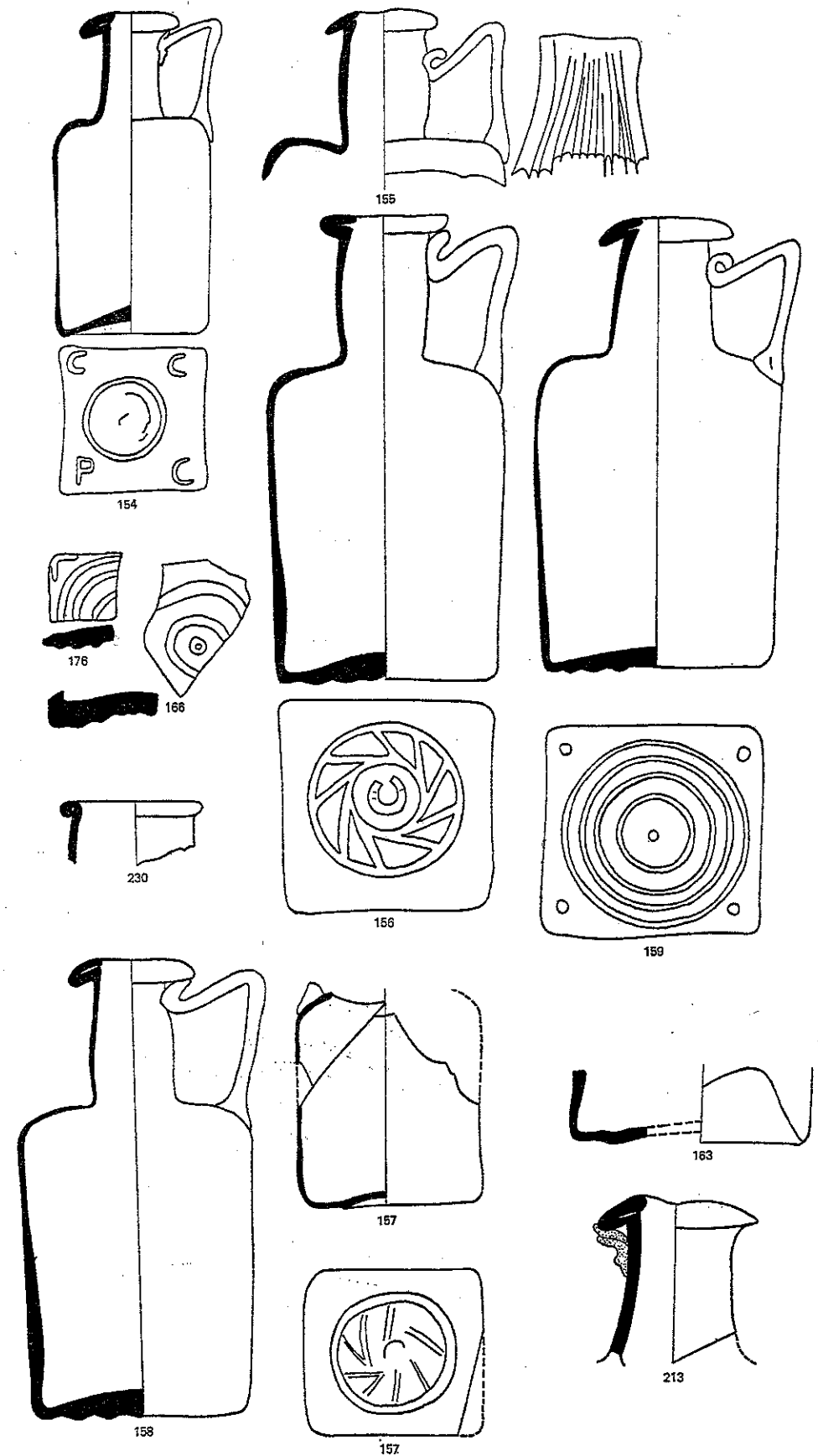
Figure 18



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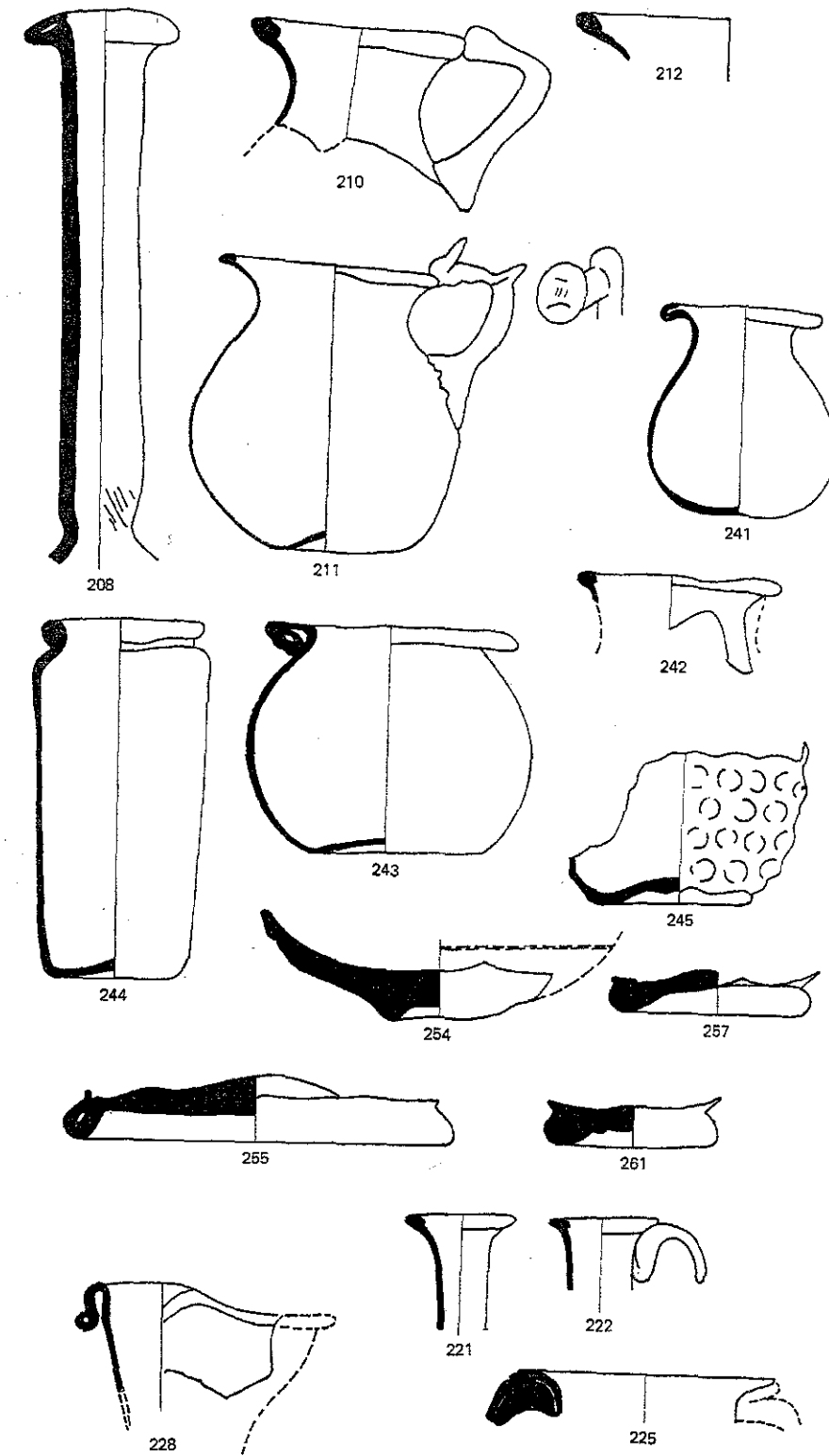
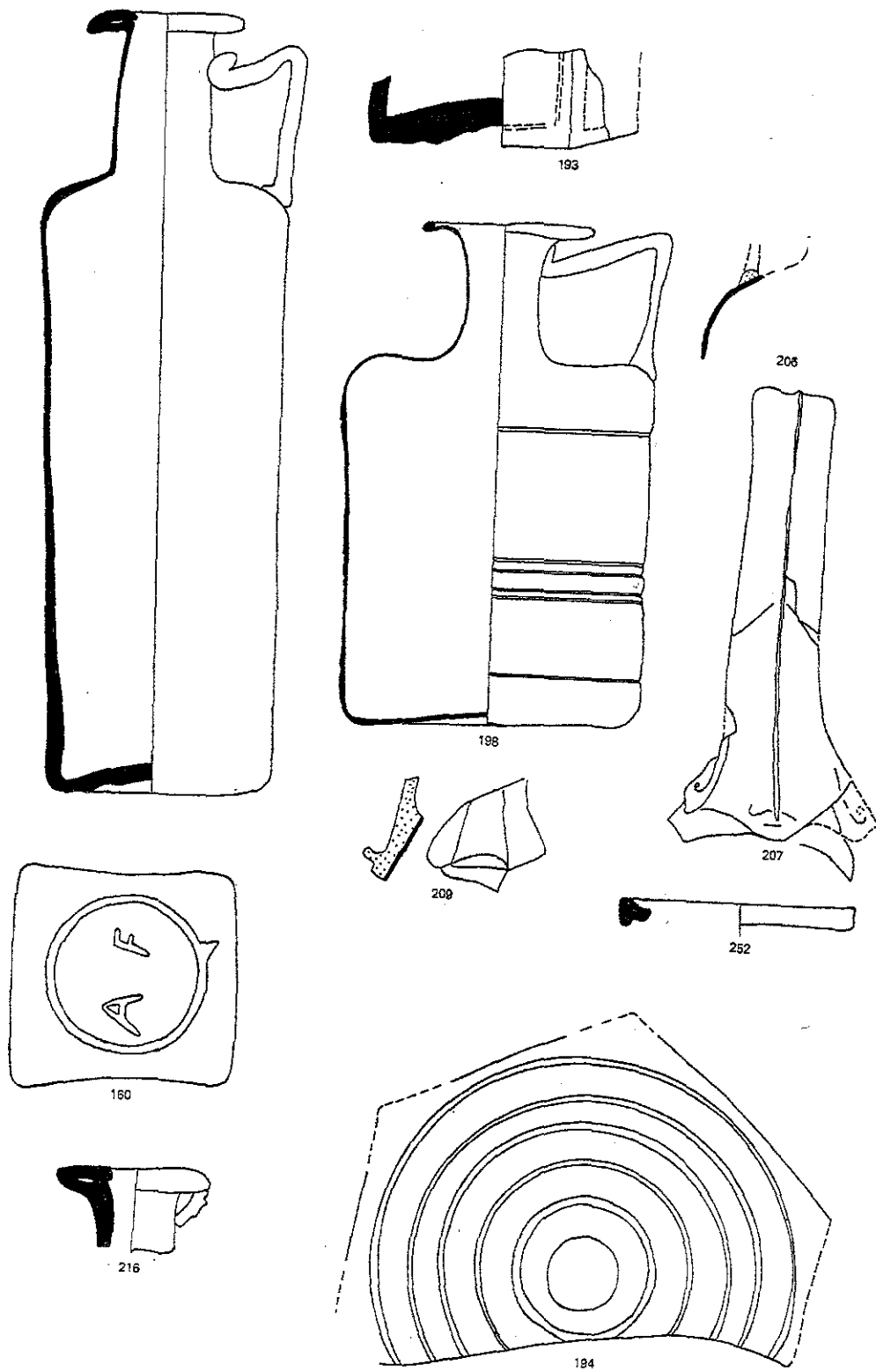
102

Figure 19



SCALE 50:100

Figure 20

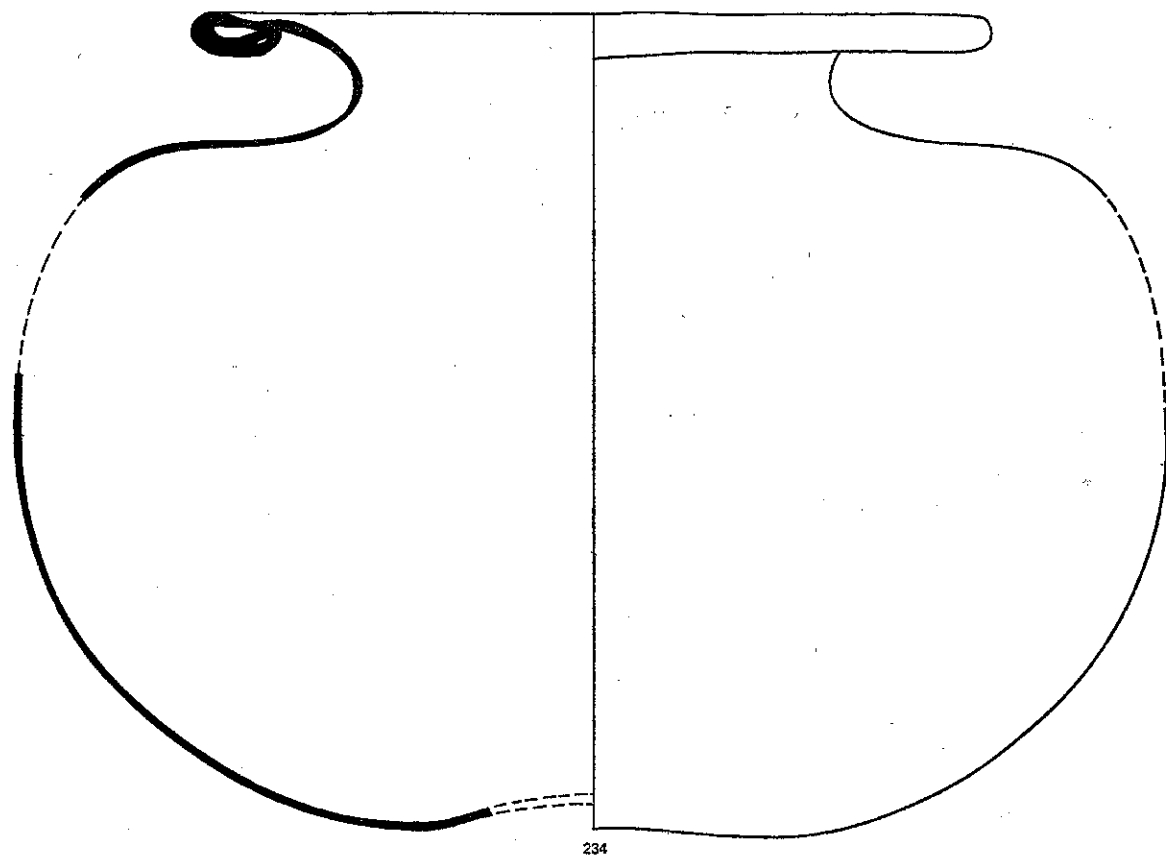


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Figure 21

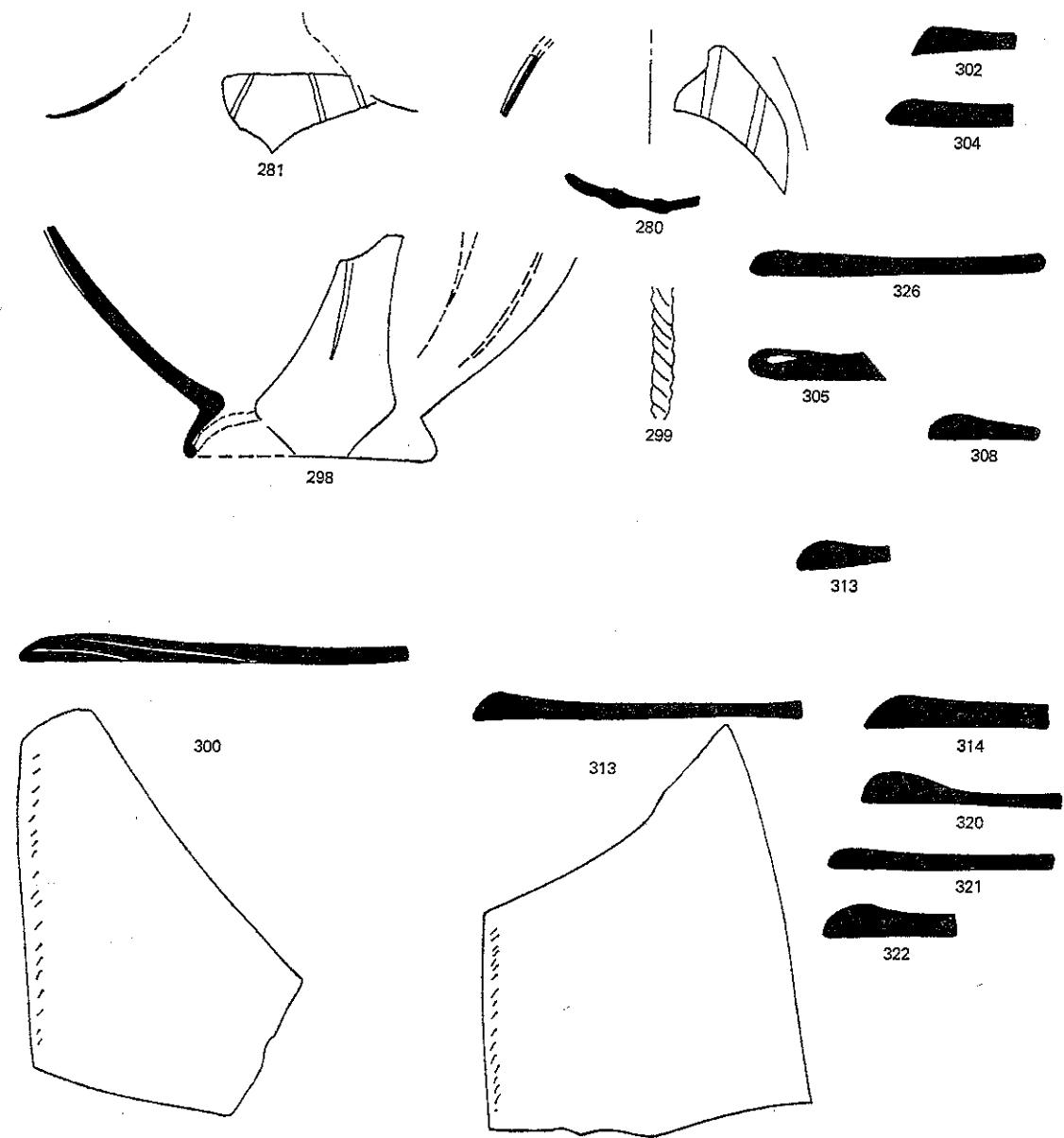
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Figure 22



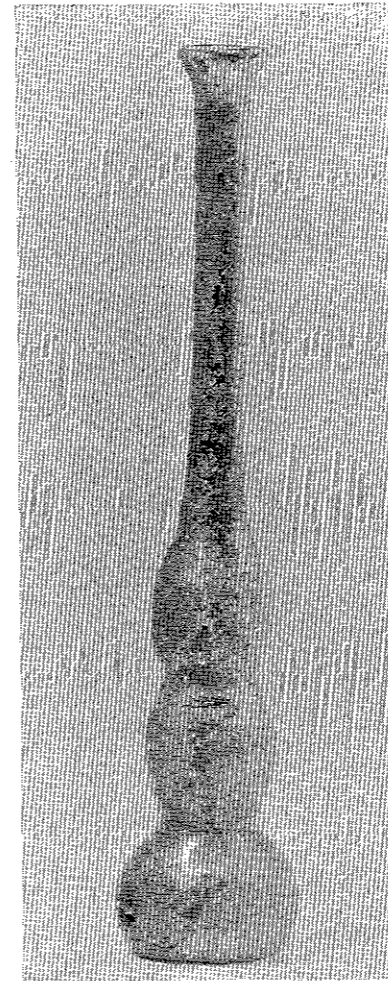
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Figure 23

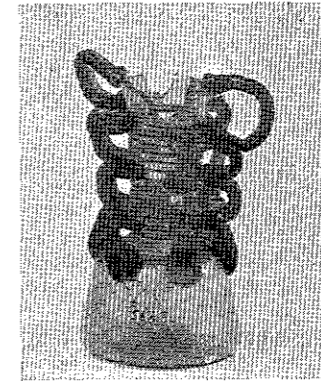


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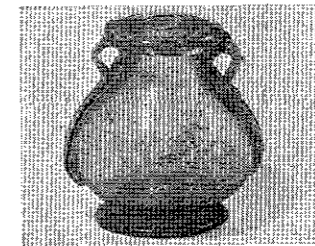
Figure 24



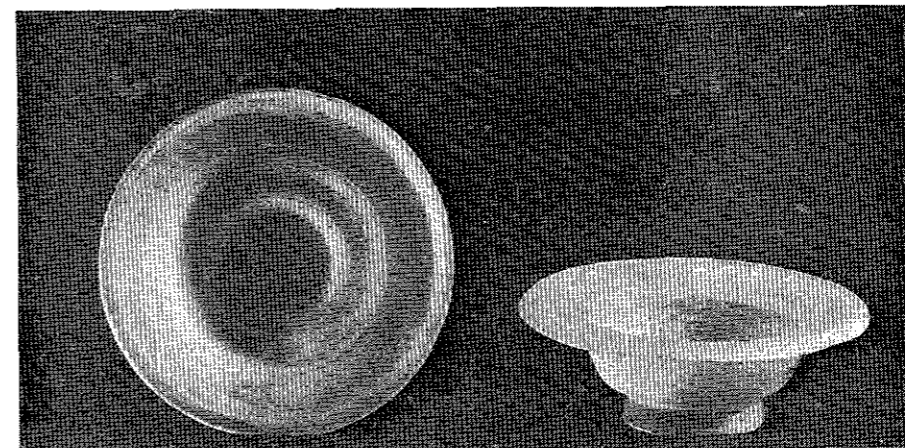
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Plate 5

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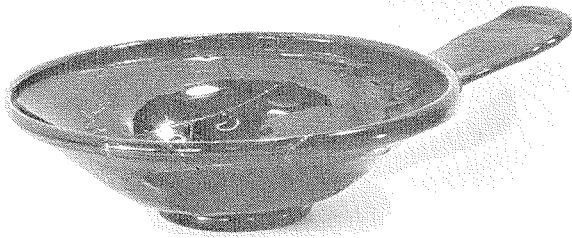
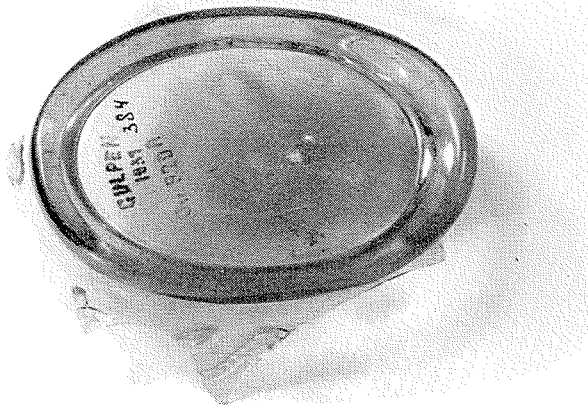
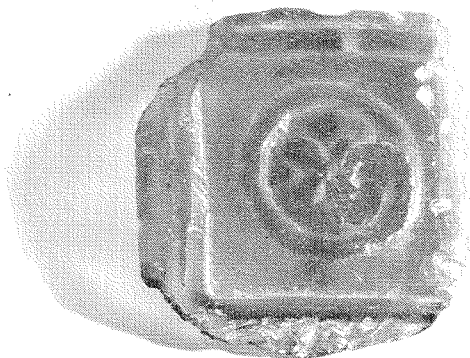


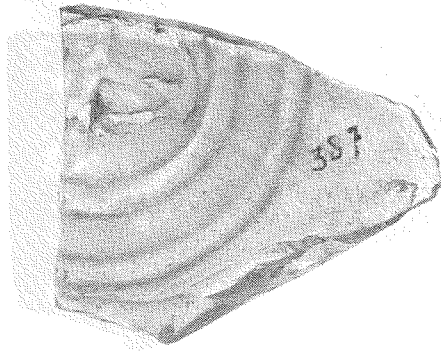
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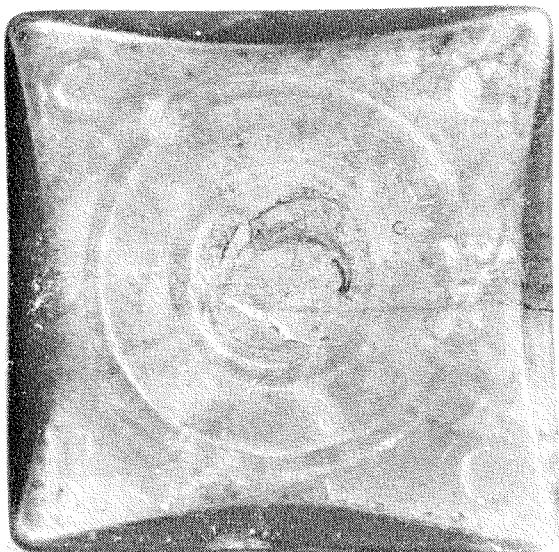
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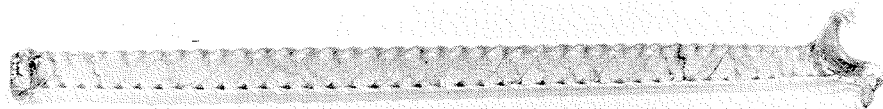


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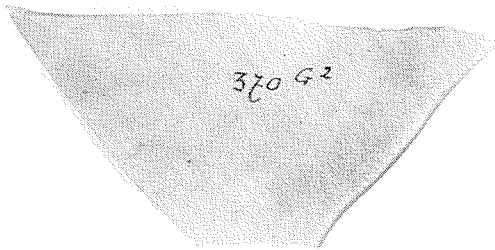
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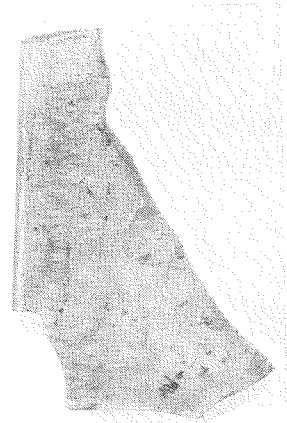
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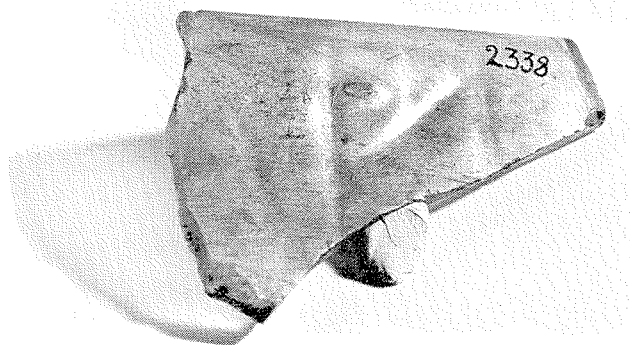
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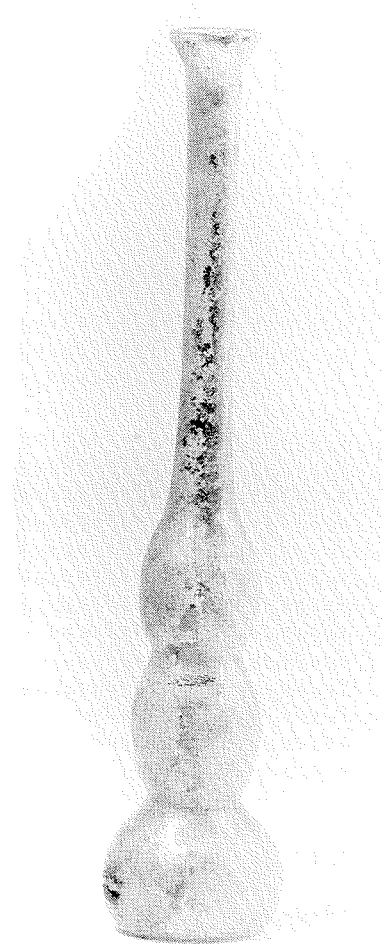
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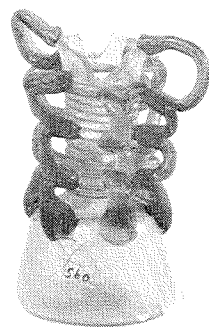
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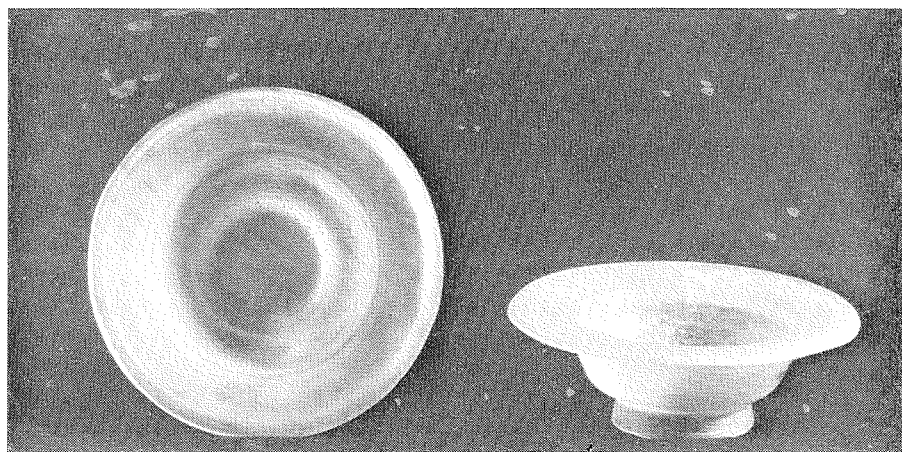
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