

# THE PACE OF CHANGE

## Studies in Early-Medieval Chronology

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# 1. The Merovingian chronology of the Lower Rhine Area: results and problems

*Elke Nieveler and Frank Siegmund*

## THE STATE OF RESEARCH

To this day, the basic chronological system for the Rhineland Frankish find material is the *Stufe* (stage) system of Kurt Böhner. Its starting point was his dissertation written in Munich in 1940 on the subject of the weapon graves around Trier. He enlarged it but, owing to the War, it was not published before 1958 (Böhner 1958). His study was based on the find material around Trier, especially the four large cemeteries of Ehrang, Eisenach, Hohenfels and Rittersdorf, encompassing some 500 graves (Fig. 1.1 nos. 17–20), and other smaller find spots. In contrast to the southern German research tradition centring on costume trappings, which also constitute a large proportion of the finds in Frankish cemeteries, Böhner included the pottery and weaponry in his system and attempted to use them for chronological purposes.

Böhner typologized the entire mass of finds and investigated the combinations of his artefact-types in closed grave contexts. For regularly recurring find assemblages he developed a scheme dividing the material into five stages (*Stufe I – V*) within which the majority of the graves and artefact-types belong to his stages III (6th century) and IV (7th century). He brought these stages into context by considering some 60 graves which contained coins and thus worked towards an absolute chronology (Böhner 1958, 26ff.; Böhner 1978, 11 Abb. 3). The implicit pushing back to the end of the 6th century of a certain horizon that, by virtue of historical considerations, was originally placed in the early 7th century (Werner 1935), soon gained general acceptance. Böhner's system came into use far beyond Trier as a generally serviceable chronological model for Frankish finds.

The gradual study and publication of cemeteries in the western part of Germany resulted in a dramatic growth in the number of finds. Suitable larger cemeteries on the Middle and Lower Rhine provided an opportunity to build on the research in southern Germany (Werner 1953; Christlein 1966). Their combinational system could be studied in more detail, in order to develop more nuanced local chronologies. First, Herman Ament produced an

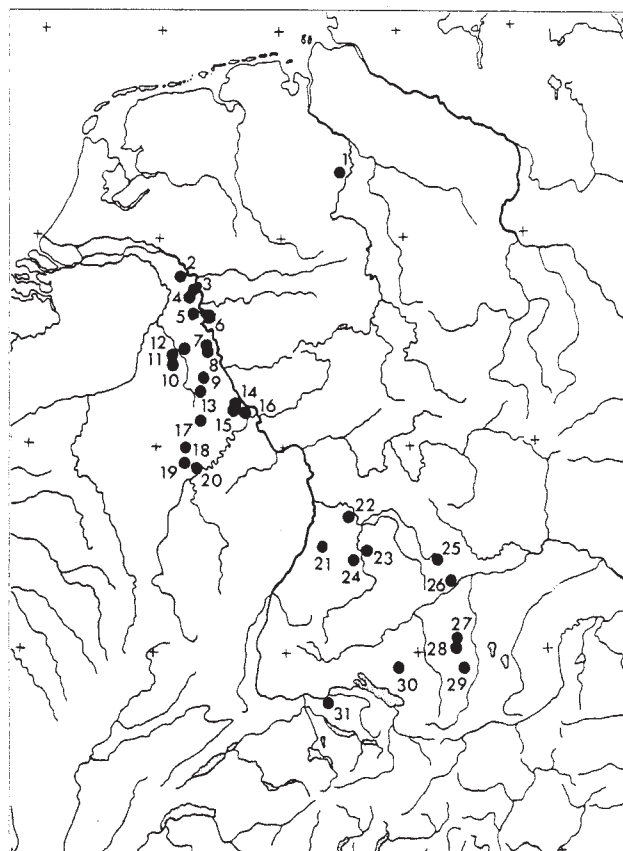


Fig. 1.1 Map of cemeteries mentioned in the text or with important chronological studies. 1 Liebenau, 2 Xanten, 3 Walsum, 4 Eick, 5 Gellep, 6 Stockum, 7 Müngersdorf, 8 Junkersdorf, 9 Lommersum, 10 Lamersdorf, 11 Jüllich, 12 Rödingen, 13 Iversheim, 14 Miesenheim, 15 Pommerhof, 16 Rübenach, 17 Hohenfels, 18 Rittersdorf, 19 Eisenach, 20 Ehrang, 21 Berghausen, 22 Bargaen, 23 Pleidelsheim, 24 Hemmingen, 25 Lauchheim, 26 Schretzheim, 27 Mindelheim, 28 Dirlewang, 29 Marktoberdorf, 30 Weingarten, 31 Bülach.

Karte der im Text erwähnten Gräberfelder bzw. solcher mit wichtigen chronologischen Studien.

impressive topo-chronological ('chorological') analysis of the cemetery at Rügenach with its 840 grave groups (Neuffer-Müller and Ament 1973; Fig. 1.1 no. 16). This resulted in a division of Böhner's stage III and in the recognition of an important horizon around 600 (Rügenach phase B2). In a study centred in the region around Mayen (Ament 1976a; Fig. 1.1 nos. 14–15) he applied the developed South German scheme of belt-styles of the 7th century to Frankish finds. Thereafter he checked and broadened his model by means of topo-chronological ('chorological') investigations on further Rhinish Merovingian cemeteries and thus, with the help of the belt fashions, established a division of Böhner's stage IV into earlier and later parts (Ament 1976b). He also considered the absolute chronology. He emphasized that the end of the Böhner's stage IV, at that time fixed by means of few graves containing coins 'around 700', could hardly be considered precise, and should lie around 670/680.

On basis of these preliminary works Ament suggested a new general scheme of six phases (AM I–III, JM I–III). In this Ament split each of the phases Böhner III and IV into two sub-phases (Ament 1977). Unfortunately, the 'stage around 600', retrieved from the Rügenach cemetery and an important link to the South German chronologies, was lost once more (Giesler 1983, 508ff. Abb. 19). The contents of Ament's phases AM I–III stayed open, whereas the contents of the phases JM I–III were based on the buckle and brooch sets with other artefact groups only more generally considered. Furthermore, only with difficulty is it possible, in any degree of detail, to connect a critical discussion of Ament's chronological scheme for Rügenach (Giesler 1983; Wiczorek 1987), and further local chronological schemes (Krefeld-Gellep: Siegmund 1982; Köln: Paffgen 1992), with this general scheme. Acceptance of Ament's new phases is thus rather limited.

The picture in the 1980's was thus very varied: the scheme of Kurt Böhner, still valid in his opinion, was frequently still used by scholars for large collections of material from distant geographical regions (Böhner 1978; Pirling 1966; 1974; 1979). Attempts at detailed chronological schemes were (entirely in Böhner's spirit) opposed to theoretical considerations according to which detailed chronology was almost impossible and thus not an attractive aim of research (Steuer 1977; 1990). On the other hand, Ament's handy suggestion, especially concerning the 7th century, was adopted by others (e.g. Janssen 1993). Meanwhile various very detailed chronological schemes for specific cemeteries were developed (Neuffer-Müller and Ament 1973; Ament 1976a; Siegmund 1982; Paffgen 1992). Correlation between these, however, and their extension to other assemblages, appeared very questionable (e.g. Giesler 1983). The reason is probably that local chronological schemes often tend to be based on typological elements very close to the actual material, i.e. too detailed a typological scheme, and this particularity is reflected in the chronological scheme based upon these types. As a result it is almost impossible to encounter the same range

of types outside the immediate neighbourhood. This especially affects the undoubtedly locally manufactured pottery and weaponry, which are very common phenomena and typical of the Frankish milieu.

The very early and the late Merovingian period were represented by only few finds in the Trier region and thus also only weakly covered in Böhner's chronological scheme (in stages I–II and V). For the early Merovingian period the dissertation of Horst Wolfgang Böhme, supervised by Joachim Werner, then appeared in Munich in 1969. It is an extraordinarily large-scale study of the 4th- to 5th-century finds from the area between Loire and Elbe (Böhme 1974). Based especially on belt sets, brooches and late-antique glassware, he succeeded in making a chronological scheme for the period *circa* A.D. 330–450 consisting of three phases, I–III, based primarily on find associations. In several smaller studies since then Böhme has extended and consolidated the contents of his chronological scheme, leaning now to a somewhat later absolute chronology (e.g. most recently Böhme 1985; 1986; 1989; 1994).

Using Böhme's chronological scheme on the various regional materials, however, it appears that many of his relevant types occur only rarely. This is especially clear in the Krefeld-Gellep cemetery, which has produced the most substantial collection of 5th-century material. Only a few assemblages here are understandable in Böhme's terms. Renate Pirling's work also constitutes a truly important contribution to a chronological scheme for the Rhine Frankish material, especially in integrating glass and ceramics (summary: Pirling 1979, 159ff. with Abb. 15–16).

The contents and dating of Böhner's phase V ('8th century') were made much clearer through the Munich dissertation of 1961 by Frauke Stein concerned with graves of the 'noblemen' of the 8th century ('Adelsgräber') (Stein 1967). To compensate for the very small quantity of finds from the final phase of the row-grave period, the basic material for the chronological scheme, as in Böhme's work, came from an extremely large area. Stein suggested a division into two regional areas – a northern one ('Nordkreis') and a southern one ('Südkreis') – and a chronological scheme covering each of these in three phases: A–C, dated by Stein to A.D. 680–800. Criticism of this study has predominantly concerned the social interpretation of the graves still containing grave goods as Adelsgräber, while later corrections of her typological and chronological schemes have also been suggested (summary: Ament 1976b, 320ff.). As the supra-regional material was dominated by weapon burials the division into regions and phases was based on these. Only a few Rhineland Frankish grave groups from Stein's southern region are represented in her tables (Stein 1967, Abb. 3). The Rhineland tradition of pottery deposited in the grave, which might have led to further chronological results, cannot be compared on a cross-regional basis, so that Stein could not use this evidence to support her conclusions.



## THE BASIS OF THE RHINELAND CHRONOLOGY

For the analysis of the Merovingian Period of the Lower Rhine Area (Reg.-Bez. Düsseldorf) Frank Siegmund's dissertation (1989; 1998) was an attempt to test and transfer to the Lower Rhine area the overlapping and competing chronological schemes produced by the still growing body of research. The attempt appeared problematic. From all the published Rhineland cemeteries, a new typology covering these finds was therefore established. In addition to smaller find spots the analysis includes the cemeteries of Düsseldorf-Stockum (Siegmund 1998: 99 grave groups), Eick (Hinz 1969: 157 grave groups), Krefeld-Gellep West and East (Pirling 1966; 1974; 1979: 192 and 546 grave groups respectively), Köln-Junkersdorf (LaBaume 1967: 544 grave groups), Köln-Müngersdorf (Fremersdorf 1955: 151 grave groups), Orsoy (Böhner 1949; Siegmund 1998: 9 grave groups), Rill (Steeger 1948; Siegmund 1998: 81 grave groups), Walsum (Stampfuss 1939: 44 grave groups), and Xanten-St. Viktor (Siegmund 1998: 150 grave groups): in total about 2,340 grave groups (Fig. 1.1 nos. 2–8). The total material was analysed on the basis of combinations in three separate analyses, each producing a seriation: one of the necklaces, one of the female grave groups, and one of the male grave groups. In addition, topo-chronological ('chorological') analyses were made of all the cemeteries with a chronologically determined topography (Gellep, Junkersdorf, Müngersdorf, Stockum and Walsum). On basis of these arguments the material from the early 5th to the middle of the 8th centuries was arranged in a Lower Rhine Chronological scheme ('NRh-' = Niederrhein) in eleven chronological phases.

Shortly afterwards the 'Franken AG' (*Arbeitsgruppe*) was formed by Heike Aouni, Ulrike Müssemeier, Elke Nieveler and Ruth Plum. As a part of their doctorate preparations supervised by Volker Bierbrauer, Bonn, they intended to analyse predominantly settlement-historical questions in further large areas between the Middle Rhine area, which had been analysed by Ament and his students, and the Lower Rhine area. As the sources in each of these areas consisted predominantly of small find spots and only a few cemeteries which could be analysed in topo-chronological terms it was not possible to establish a chronology for each area, and that in any case would not have been useful in respect of the main question. As a result, the chronology proposed by Siegmund was taken over and, after intensive tests and some modifications, fitted to the material of the areas analysed. Their study added some smaller cemeteries: e.g. Iversheim (Neuffer-Müller 1972: 243 grave groups), Jülich (unpublished: 223 grave groups), Lommersum (Neuffer-Müller 1960: 83 grave groups), Lamersdorf (Piepers 1963: 87 grave groups), and in particular the recently published material from Rödingen (Janssen 1993: 656 grave groups) and Köln-St. Severin (Päffgen 1992) were included (Fig. 1.1 nos. 9–13). With Iversheim, Jülich and Lamersdorf detailed topo-chronological analyses were possible. The seriation analysis also

included the total amount of material analysed by Siegmund, which increased the number of grave groups analysed to about 535 assemblages and 187 artefact-types for the male graves and about 400 assemblages and 150 artefact-types for the female graves. The nearly perfect parabola achieved by correspondence analysis emphasizes the high quality of the seriation (Figs. 1.2–1.3; Scollar *et al.* 1992). The repeated test on a larger material basis by the Franken AG generally confirmed the result and the scheme achieved by Siegmund. Discrepancies occur in the typology of the biconical pots and in the phase-division of the second half of the 6th century. This chronological scheme for the 'Kölner Bucht' ('KB') suggests ten phases for the period *circa* 400 to *circa* 740.

Parallel to this, another dissertation with Volker Bierbrauer as supervisor and concerning a new analysis of the late finds from Frauke Stein's 'Nordkreis' was written by Jörg Kleemann (Kleemann 1992). In this extensive study, Stein's three phases were tested on a broad material basis and superseded by a new and more detailed model. This overlaps with Siegmund's area and chronology, which it corroborates.

A synthesis (named 'Rh-': Rheinland) of Siegmund's Lower-Rhine chronology and the Franken AG Kölner-Bucht chronology will be presented in the following pages. It is based on the total material from the above mentioned regions and also includes all the published material from this area (in total about 4,000 grave groups). The bases of the chronological scheme are the above-mentioned seriations of necklaces, female and male grave groups and topo-chronological analyses of the cemeteries Düsseldorf-Stockum, Krefeld-Gellep, Köln-Junkersdorf, Köln-Müngersdorf and Duisburg-Walsum (Siegmund 1989; 1998), and Iversheim, Jülich and Lamersdorf (Franken AG, in press). The broad material basis and the consequently parallel use of topo-chronological ('chorological') and combinational argumentation strengthen the stability of the relative sequence of the chronological scheme presented. The inclusion of as many of grave groups containing coins as possible (about 100) and some dendrochronological dates in the chronological scheme leads to concrete visualisations of the absolute chronology (Siegmund 1998, 200ff.); nevertheless future moves earlier in coin-dating on the basis of new discoveries cannot be excluded.

This Rhineland chronology seems also to be valid beyond the area analysed, as it is possible without contradictions to parallel it with other recent schemes, especially from southern Germany (Fig. 1.4). Its validity ends when and where the constituent types of the chronological scheme (dress accessories, weaponry, pottery and some of the glassware) do not occur in sufficient quantity. Figure 1.4 shows a synoptical table relating our proposal with other chronological systems (Siegmund 1998, 208ff.). This synthesis is based on the archaeological contents of the various phases, stages etc., not on the absolute dates. The absolute dates in this table are the estimates given by the

Correspondence Analysis of Männergräber Rheinland  
 Unit scores  
 X-Axis: Correlation: 0.9879 ( 1.7%)  
 Y-Axis: Correlation: 0.9795 ( 1.7%)

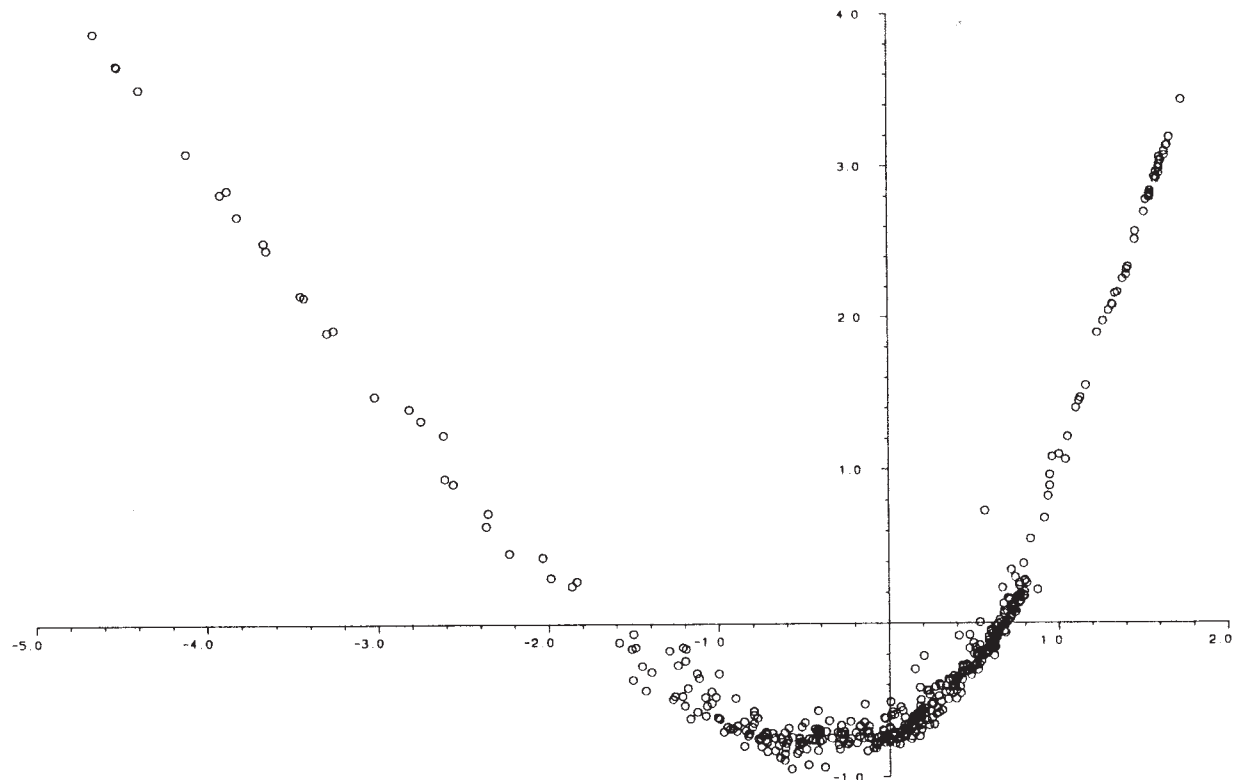


Fig. 1.2 Correspondence analysis of male graves in the Lower Rhine area. Scatterplot of the first two Eigenvalues. Korrespondenzanalyse der Männergräber vom Niederrhein. Streuungsdiagramm der beiden ersten Eigenvektoren.

different authors and are reproduced without comment here.

#### THE CONTENTS OF THE RHINELAND CHRONOLOGY

The Rhineland chronology is illustrated here in ten figures (Figs. 1.5–1.14). They portray typical examples of the important artefact-types. Every picture has two lines underneath it: the upper is its codename, the lower its dating. Types defined by Siegmund are given in roman script, those defined by the Franken AG in italics. The lower line shows the phase a type belongs to, or the span of its dating. Underlining indicates the phase in which the type occurs most frequently within this range.

As the male belt sets are best suited to supra-regional synchronization, the development of this large group has also been used for the definition and delimitation of the single phases. In the phases Rh 1–2 late-antique belt buckles are still in use. From the beginning of the phase Rh 2 the earliest local buckles are added. More tangible is

the development from the appearance of the buckles with a club-shaped tongue ('Kolbendornschnalle') in phase Rh 3, and replaced in phase Rh 4 by the shield-on-tongue buckles. The buckles with a mushroom tongue and without a plate are only weakly represented in the Rhine Frankish area, but are, however, found in phase Rh 5. This type is followed in Rh 6 by buckles with a hinged triangular plate. In this phase the earliest buckles with semicircular plate also appear. In the following phase, Rh 7, they are a typical element of two-part sets with semicircular counter-plates, predominantly made of iron and in rare cases decorated with mushroom cell inlay. The belt fashion of the 7th century follows a well-known course of development: plain iron sets (Rh 8A) appear well in advance of the belts with monochrome geometrical inlay (Rh 8B). They are followed by the bichrome zoomorphic Style-II inlaid belts of phase Rh 9, of which those with regular Style II are presumably earlier and those with dissolved Style II later. Multipartite belt sets are rare in the Rhineland. The earliest versions appear in the phase Rh 8, but the type is most common in phase Rh 9. No honeycomb-inlay belt sets or belt sets decorated with small single garnet roundels have yet been

## Correspondence Analysis of Frauengräber Rheinland

Unit scores

X-Axis: Correlation: 0.9829 ( 2.0%)

Y-Axis: Correlation: 0.9711 ( 1.9%)

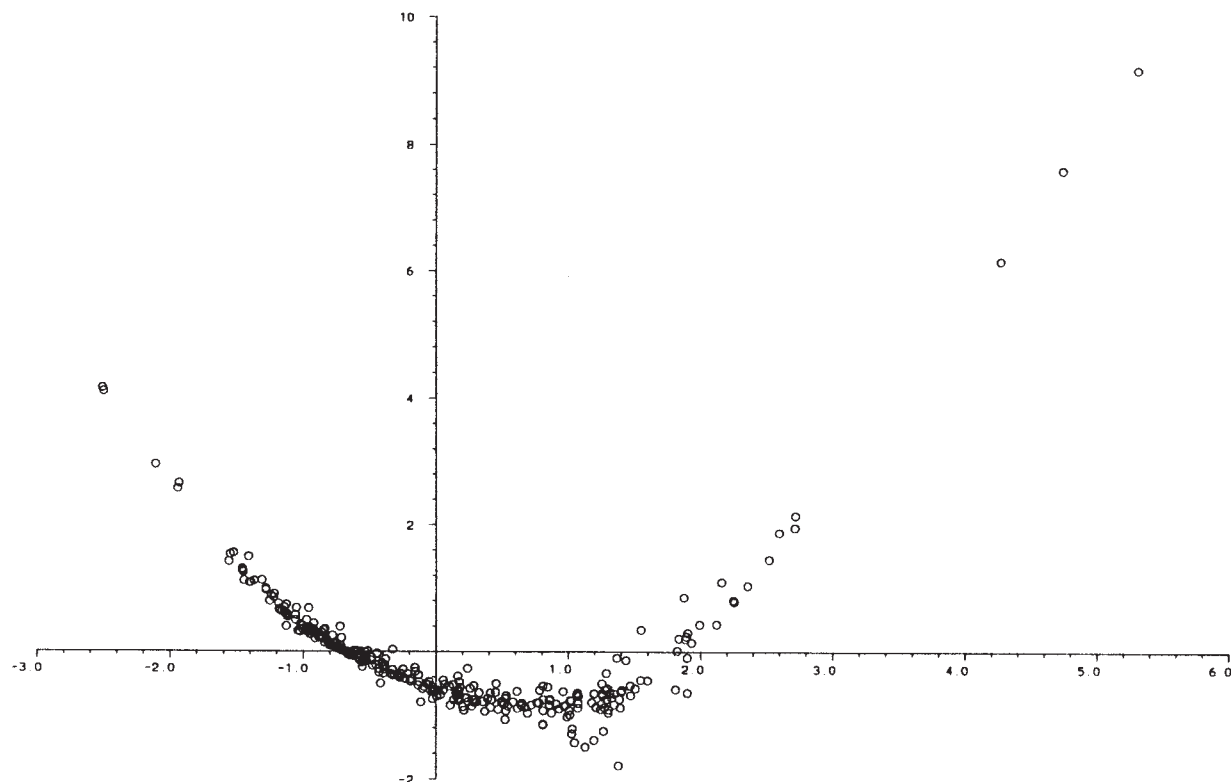


Fig. 1.3 Correspondence analysis of female graves in the Lower Rhine area. Scatterplot of the first two Eigenvalues. Korrespondenzanalyse der Frauengräber vom Niederrhein. Streuungsdiagramm der beiden ersten Eigenvektoren.

found in the Rhineland, which means that the belt sets mentioned above are followed in phase Rh 10 by more belts with only a few plates and mounts from the end of the row-grave period.

Whilst in the early phases small brooches (as well as small bow-brooches such as type Fib 12.1–5) were mainly worn in pairs in the area of the upper body, from phase Rh 3 onwards the classical '4-brooch' costume (2 small brooches in the upper body, 2 bow-brooches on the pelvis or upper thigh) was dominant. The total of 4 brooches was normally not extended, so that it must be assumed that for a full costume no more than 4 brooches were deemed necessary. It is noticeable that in many find-positions small brooches are regularly present, whereas the number, situation and combination of bow-brooches varies. The already well-known relocation of the bow brooches from the pelvis to the upper thigh in the course of the first half of the 6th century is also clearly visible in the table. Other features of this dress were small garnet brooches (Fib-1.1–3), bird brooches (Fib-7.1–4) and the occasional S-brooch, rare in the Rhineland. The outfit was occasionally enhanced by polyhedral earrings (mainly in the rich

graves, and then in exceptionally fine work, Ohr-2.3–4A) and glass beads as girdle-hangers (GGh-1.1–4). At the end of the 6th century (phases Rh 6 and 7) a decisive change in women's dress seems to have taken place. The now extremely large disc brooches (Fib-1.5–2.3) were worn individually in the neck or breast area. These were accompanied by polyhedral earrings and hangers (GGh-3–5). The latter are characteristic from phase Rh 8 onwards and often occur in elaborate chain-combinations (GGh-6). Occasionally from phase Rh 8, but mainly in phase Rh 9, they appear together with the large, highly jewelled disc brooches (Fib-2.4). This rich dress is accompanied by shoe buckles (often inlaid) (Sna-2.4–5). As early as phase Rh 9, with the appearance of the first simple bronze brooches (cross brooches), the end of this elaborate fashion is perceptible. Smaller brooch-types appear, such as pressed foil/applied disc brooches (Fib-3), equal-armed brooches (Fib-10) and rectangular brooches (Fib-11), and once again are worn in pairs and in combinations with large earrings with polyhedrons and coiled wire (Ohr-7). The fact that these small brooches with a small chain were also worn in the middle of the breast region seems to

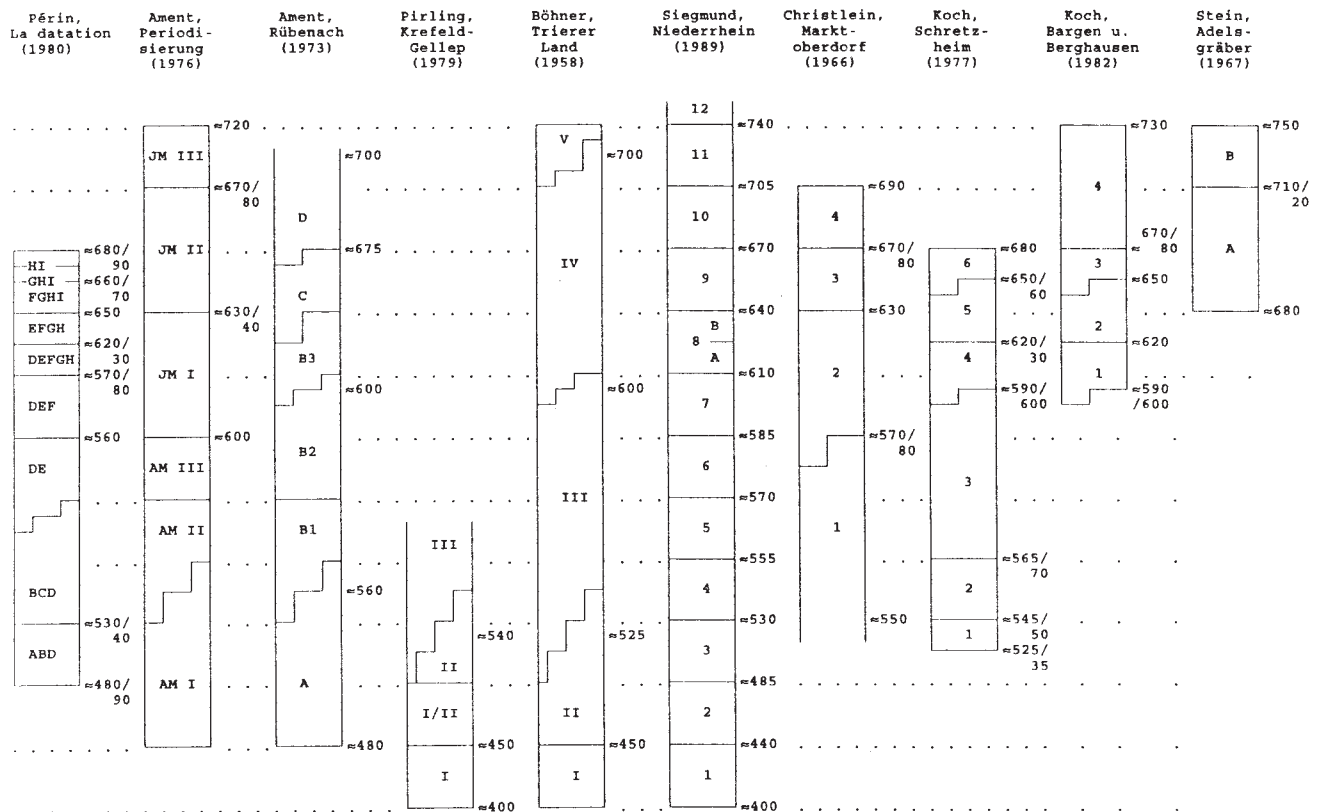


Fig. 1.4 Synoptical table of selected chronological schemes.  
Synopsis ausgewählter Chronologiesysteme.

indicate the same function as the earlier large disc brooches worn individually (coat- or cloak-fasteners?).

In the male graves, weaponry does not appear regularly as grave goods before phase Rh 4. Weapons in earlier graves are rare and indicate burials of special social status. In graves of phase Rh 1 only occasional axes of the type FBA-2.3 appear, alongside arrows. In phase Rh 2 swords (the *spatha*) with scabbard mouth-pieces of copper alloy and early weapon axes (the *francisca*) type FBA-1.1 appear in Gellep grave 43 and Oberlörick grave 13. Not until phase Rh 3 are the earliest spears found, here the type Lan-1.5 with a narrow blade and parallel edges. They are combined with angons, weapon axes with heavily flanged upper edge FBA 1.2, and shield bosses with flat silver gilt rivets type Sbu-2.

Narrow saxes of type Sax-1 appear occasionally in phase Rh 3 and are typical in phases Rh 4–7. In phase Rh 7 the earliest broad saxes (Sax-2.1) appear. From phase Rh 9 heavy broad saxes with a very broad edge (Sax-2.2) are added, which are then superseded in phase Rh 10 by long saxes. The early 'short saxes' found in the Alamannic area do not occur in the Rhineland.

Angons are found in phases Rh 2–7, but predominantly in graves of phases Rh 4–5. As is usual across the entire Frankish realm, spears with a slit socket (Lan-1) are dominant; those with unslit sockets (Lan-2) do not appear until phase Rh 6 and are dominant from phase Rh 8

onwards. Spears of lengths between 30 and 47 cm with a small blade and long neck, Lan-1.1b, are typical of phase Rh 4. They are replaced in phase Rh 5 by a longer version of this type, Lan-1.2. Typical of phase Rh 6 are short but heavy spears with a long blade (Lan-1.3a) and slit socket. Their counterparts with an unslit socket, Lan-2.3, are typical of phase Rh 7. Parallel short spears with a long blade appear in the form of type Lan-1.4 with a slit socket and type Lan-2.1 with a continuous unslit socket (type 'Dorfmerkingen'). Spears with an unslit socket and a simple, relatively long blade are characteristic of phases Rh 8–9, although the short spears, Lan-2.4, are somewhat earlier (Rh 8) and the longer spears, Lan-2.5, are somewhat later (Rh 8B-9). After phase 9 weaponry is found in the Rhineland only rather sporadically as grave goods, in conservative cemeteries such as Stockum and Walsum. Thus, longer spears with a square socket, Lan-4.1, are used in phase 10. Likewise in phase Rh 10 spears with an octagonal faceted socket occur, first in the short version, Lan-8.1, < 33 cm long, and later, in phase Rh 11, the longer version, Lan-8.2.

In the weaponry of the 6th century various weapon axes occurred. The *francisca* with a normal upper edge, FBA-1.3, is common in phase Rh 4 but is not seen from phase Rh 6 onwards. Various types of 'bearded' axe (FBA-3.1, FBA-3.2, FBA-4.1, FBA-4.2) occur in phases Rh 5–7. In Phase Rh 6 the simple axes, FBA-2.1, appear, and they are especially common in phase Rh 7. Then – after



Rheinland Phase 1  
(ca. 400 - 440)

Rheinland Phase 2  
(ca. 440 - 480/90)

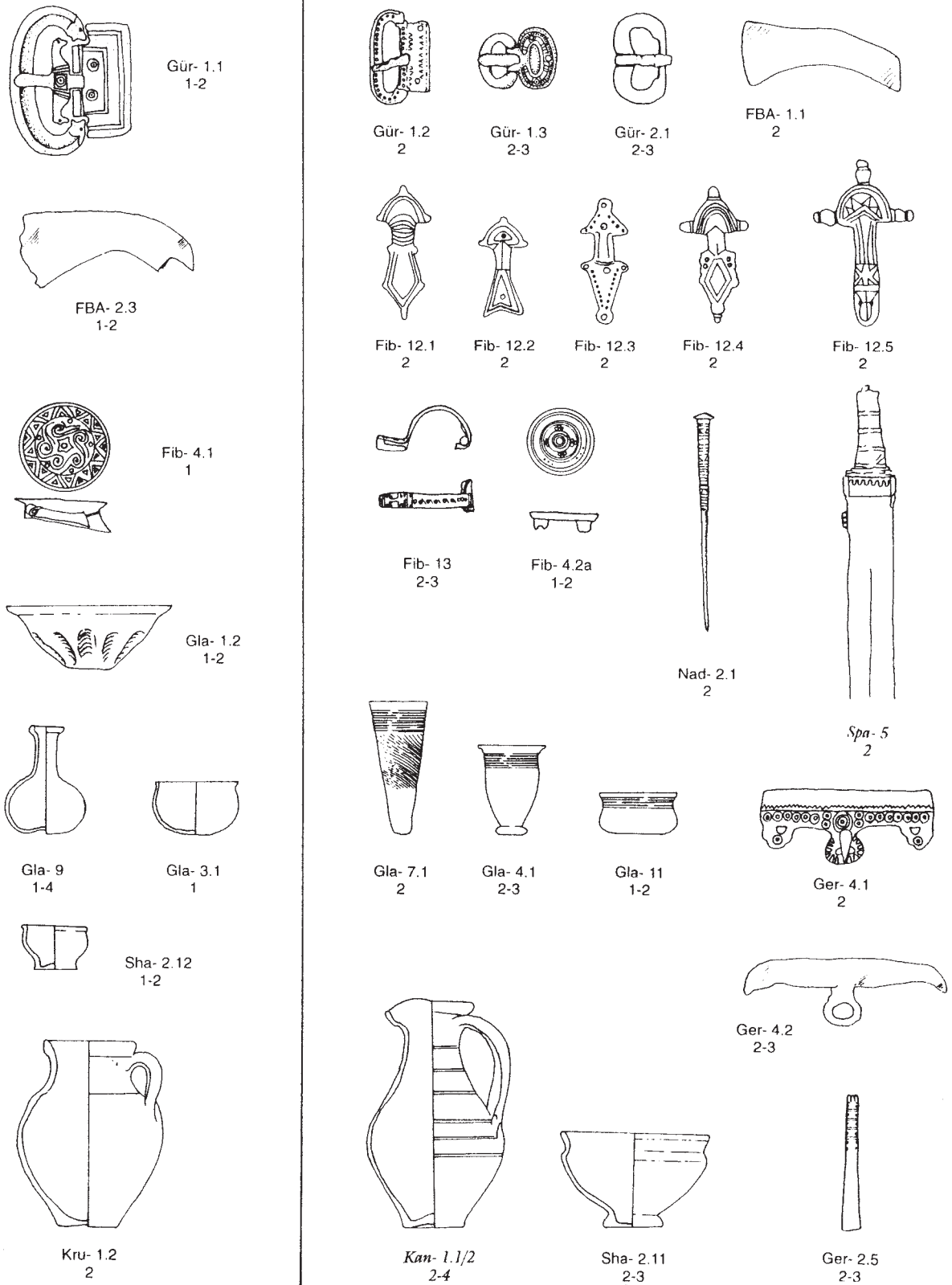


Fig. 1.5 Rhineland/Rheinland Phases 1-2.

Rheinland Phase 3 (480/90 - 530)

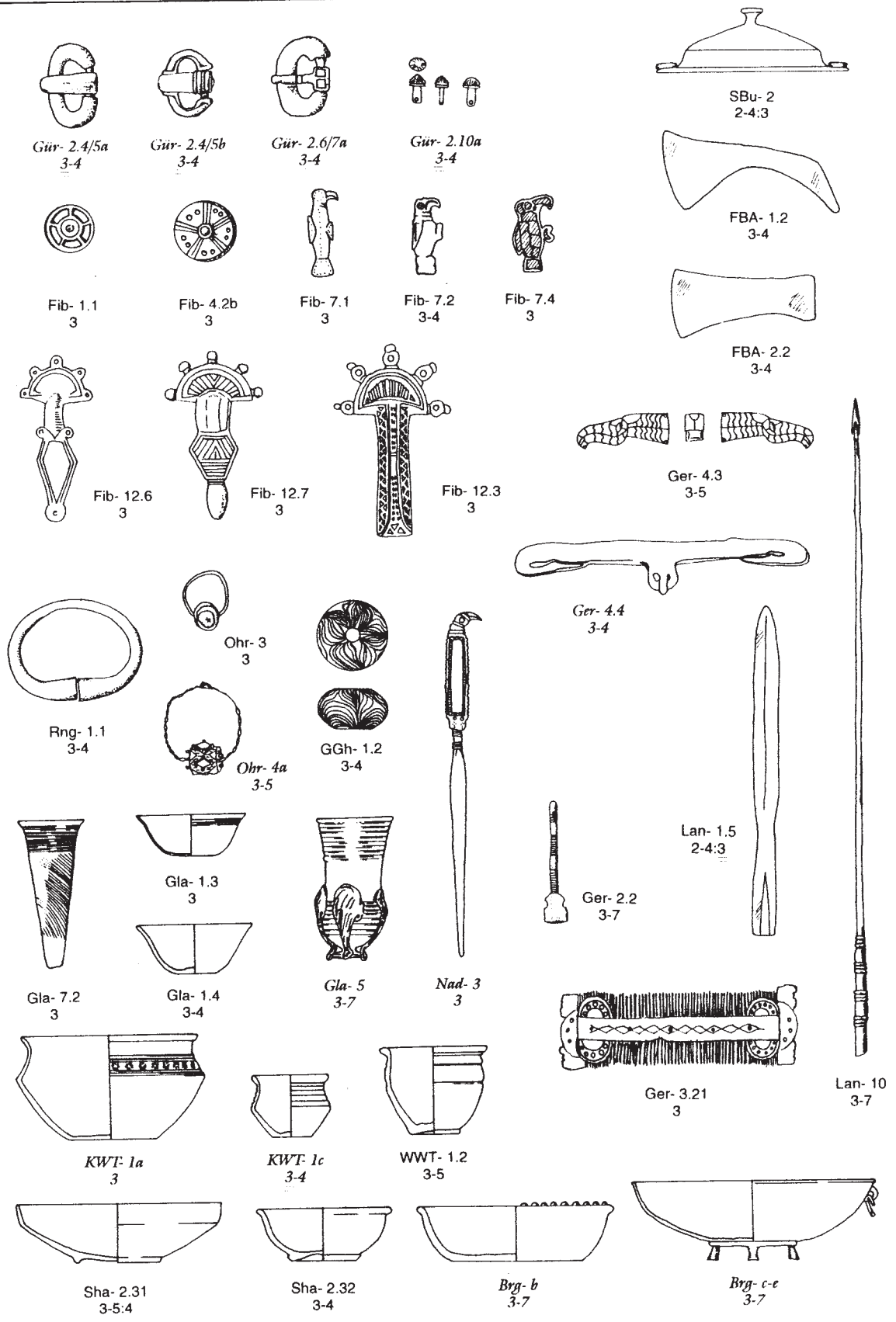


Fig. 1.6 Rhineland/Rheinland Phase 3.

Rheinland Phase 4 (520/30 - 550/60)

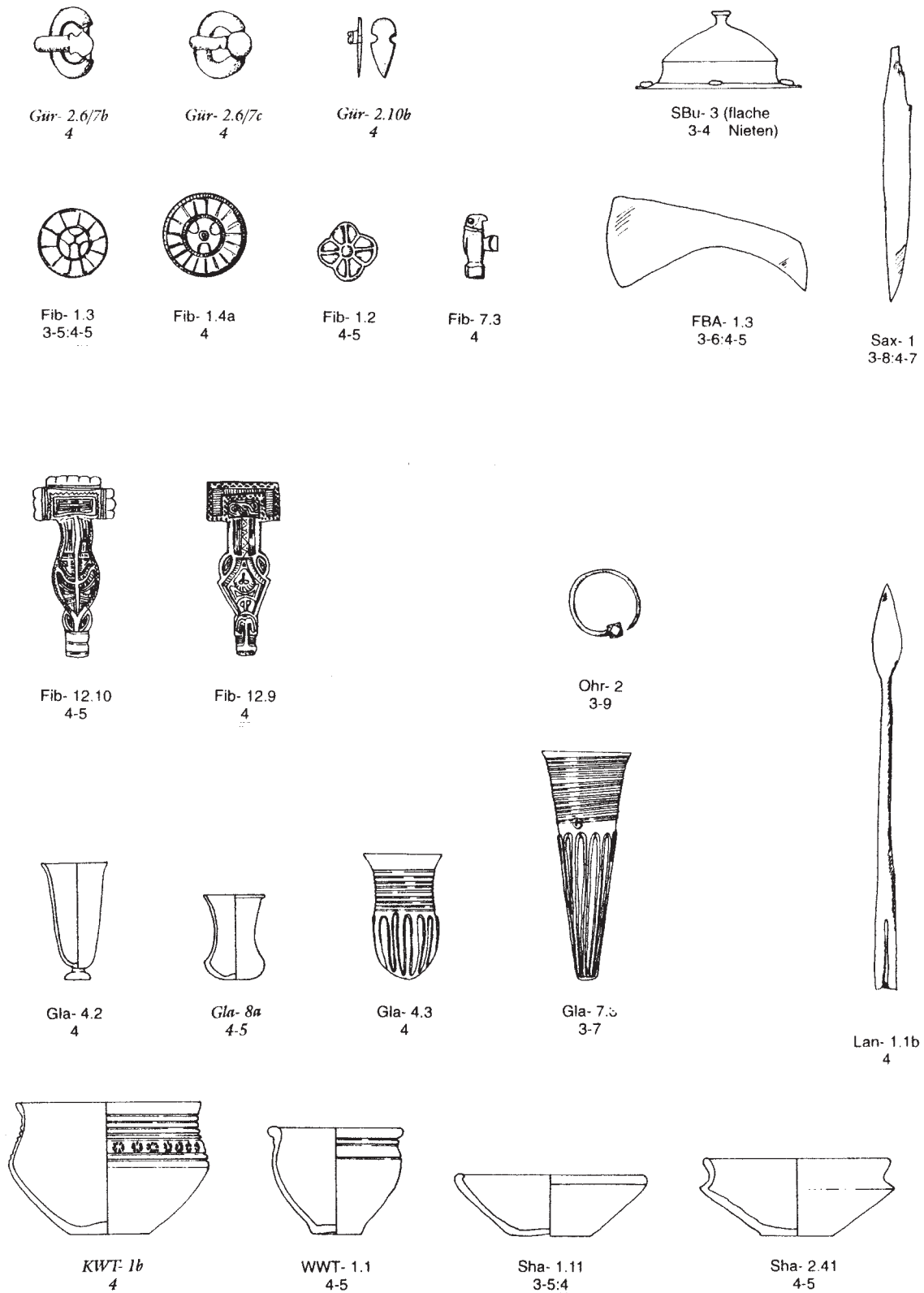


Fig. 1.7 Rhineland/Rheinland Phase 4.

the appearance of the broad seax – weapon axes are no longer found.

Shield bosses are rare in graves to begin with, their frequency not increasing until phase Rh 4. The version with a disc-headed apex, low wall and flat cone, Sbu-2, is found in phases Rh 2–4. A version with a taller wall and taller cone (Sbu-3) is found in phases Rh 4–7. The bosses Sbu-2 and -3 have flat silver gilt rivets (Rh 2–3), later flat copper-alloy covered rivets (Rh-4). Rivets with a hemispherical head appear occasionally from phase Rh 4 onwards but are not dominant until phases Rh 5–6. Bosses with steep walls, a conical cone and rod apex, Sbu-4, are found in phases Rh 6–7. Typical of phase Rh 8 are shield bosses without an apex feature, with a high wall and a flat cone, Sbu-5, probably a Frankish type. They are replaced in phase 9 by bosses with a high wall and hemispherical cone, Sbu-6. In the late weapon graves the shield bosses have very low wall and tall cone (Stein 1967: Type Walsum); those lower than 10.5 cm (Sbu-7) are typical of phase Rh 10, the taller ones (Sb-8) typical of phase Rh 11.

The most typical and common form of pottery as grave goods is the so-called '*Knickwandtopf*' (biconical pot). As Böhner (1958, 45) recognized, the hollow-necked pots are the earliest forms and should be basically distinguished from the biconical form. Following in the tradition of the late-Roman 'Terra Nigra' are the small pots with many small ribs, KWT-1c, which appear from phase Rh 2 onwards. From phase 3 the 'classical' large, biconical pot decorated with single stamps (KWT-1a and -1b) occurs.

Within the group of biconical pots with a straight upper wall occurring from phase 4 onwards, it is the decoration and the general development of shape from wide to tall and slim pots which must be the basis of the typological classification. Whilst some stamp patterns were mainly of local origin, there seems to have been a general development from single stamp decoration (KWT-2a, phase Rh 4) through line/wave patterns (KWT-3a and -3b, phase Rh 5) to the earliest rolled stamps (from phase Rh 6 onwards). The chronological development of the rolled stamps from the occasional appearance of single-column square stamps (KWT-5a, Phase Rh 6), following the single stamps and appearing before the pots with multiple columns of rolled stamps and rolled stamps with composite and/or broken patterns (KWT-5b, -5d, -5f; from Rh 7 onwards), is clearly shown on the distribution maps of the various patterns especially in the cemeteries of Junkersdorf and Gellep. Characteristic of the pottery of the 7th century are tall, slim forms with composite rolled stamps and/or double ribs on the upper wall (KWT-5c, 5e; from Rh 7 onwards, predominantly in Rh 8). Occasional undecorated pots of slim shape (KWT-2.43) mark the end of the biconical pots as grave goods in the Rhineland in phase Rh 10. On a large scale this habit had already come to an end in phase Rh 9.

Next to biconical pots only bowls become relatively common as grave goods in phases Rh 4–7; other pottery-types are rather rare. Bowls with a rough texture and

inturned rim, Sha-1.11, belong to phases Rh 4 and 5, when smooth textured, red-painted biconical bowls, Sha-2.31 (Pirling type 129–130) are also used. The bowls of the following phases Rh 6–9 are hard to classify and seem to have been in use for a long time, although the biconical bowls of smooth texture (predominantly type Sha-2.21) are in general earlier (mostly Rh 5–8) and those with a rough texture generally later (mostly Rh 8–9).

Bottles are very rarely used as grave goods in the 6th century, so that analyses of their typological and chronological development are rather limited. When they finally appear as grave goods in phase Rh 7, and increasingly in phase Rh 8, it is in the form of a bottle with a rough texture and a relatively broad body and cylindrical neck (Fla-1.1). Similar bottles, however, with a short neck and profiled inner rim (Fla-1.2) belong to phase Rh 10. Large bottles with a relatively open neck are typical of the late Merovingian Period; bottles with a long body (Fla-2.1), often with ornamental ribs, belong to phase Rh 10, and those with short body (Fla-2.2) mostly to phase Rh 11.

At this time an important change appears in the fabric of all pots with a rough texture: more often than before the clay appears in light colours – it is much more tempered, the tempering finer, and the fabric is soft. These characteristics, linked to the introduction of the 'Badorf ware', occur from phase Rh 10 onwards (cf. Bridger and Siegmund 1987, Abb. 5–6).

While in most cemeteries ceramic grave goods decline and disappear in the course of phase Rh 9, the tradition continues in some of the Lower Rhine cemeteries. This group of pottery especially involves types that were previously either missing or very rare. Large pots with two or three handles and without a spout, so-called '*Mehrlenkelkrüge*', appear in phase Rh 9. The early versions have a rounded body (Kru-2.1), the later ones are slimmer and often carry ribbed decoration (Kru-2.21: Rh 10). These are followed by pots with high shoulders (Kru-2.22: Rh 11). A further characteristic type is the jug/pitcher with a small spout and one handle: forms with a flat bottom, a faceted and profiled rim and ribbed decoration (Kan-2.1) appear in phase Rh 10, forms with '*Linsenboden*' (a lentoid bottom), round rim and often also rolled stamp decoration (Kan-2.2) in phase Rh 11.

Only in phases Rh 3–5 and 9–11 does round-bodied pottery occur in the graves. The early and late types can be divided on basis of their rims. Within the phases Rh 3–5 there is no point to further sub-classification (WWT-1.1/3) as the types are not chronologically sensitive. In the group of late (and often large) round-bodied pots the broad types (WWT-2.21) appear in phase Rh 10, the slim types (WWT-2.22) in phase Rh 11.

The glass beaker with a beaten rim (Gla-3.1), the ribbed glass bowl (Gla-1.2) and the cone beaker (Gla-7.1), appearing in the graves of the 5th century, are basically derived from glass beakers of the Roman tradition. Cone beakers of the 6th century are larger and higher than the

Rheinland Phase 5 (550/60 - 570)

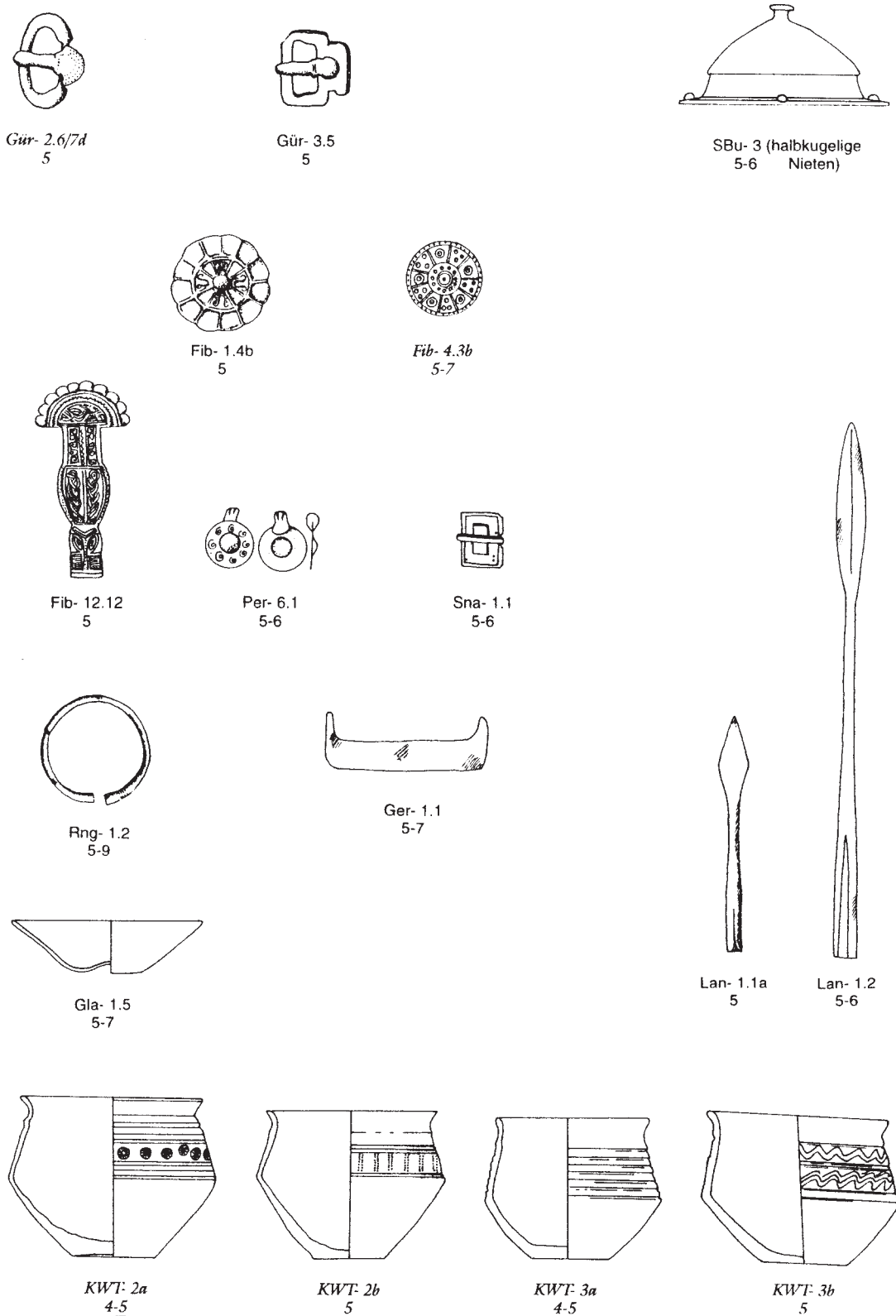


Fig. 1.8 Rhineland/Rheinland Phase 5.



Rheinland Phase 6 (570 - 580/90)

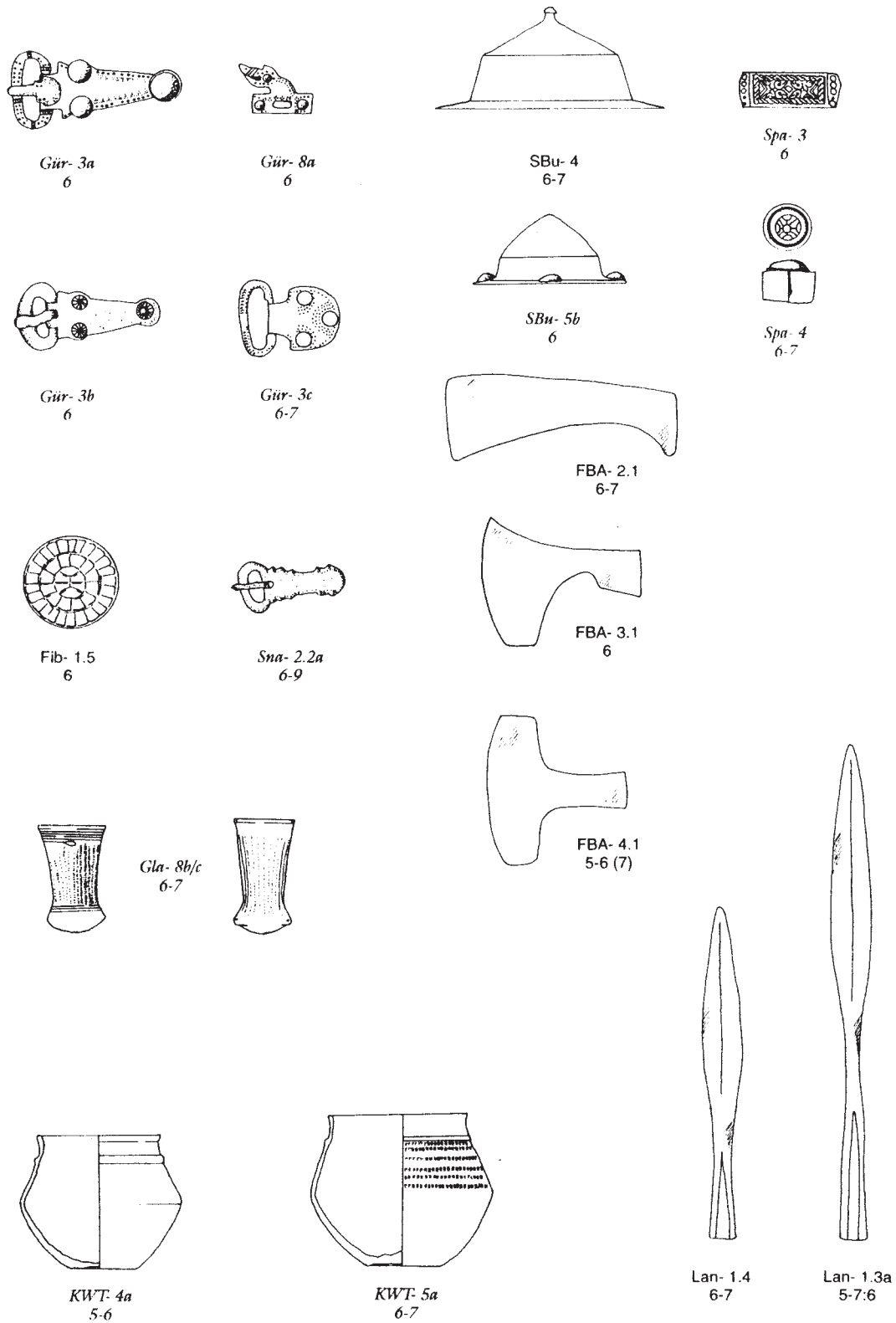


Fig. 1.9 Rhineland/Rheinland Phase 6.

Rheinland Phase 7 (580/90 - 610)

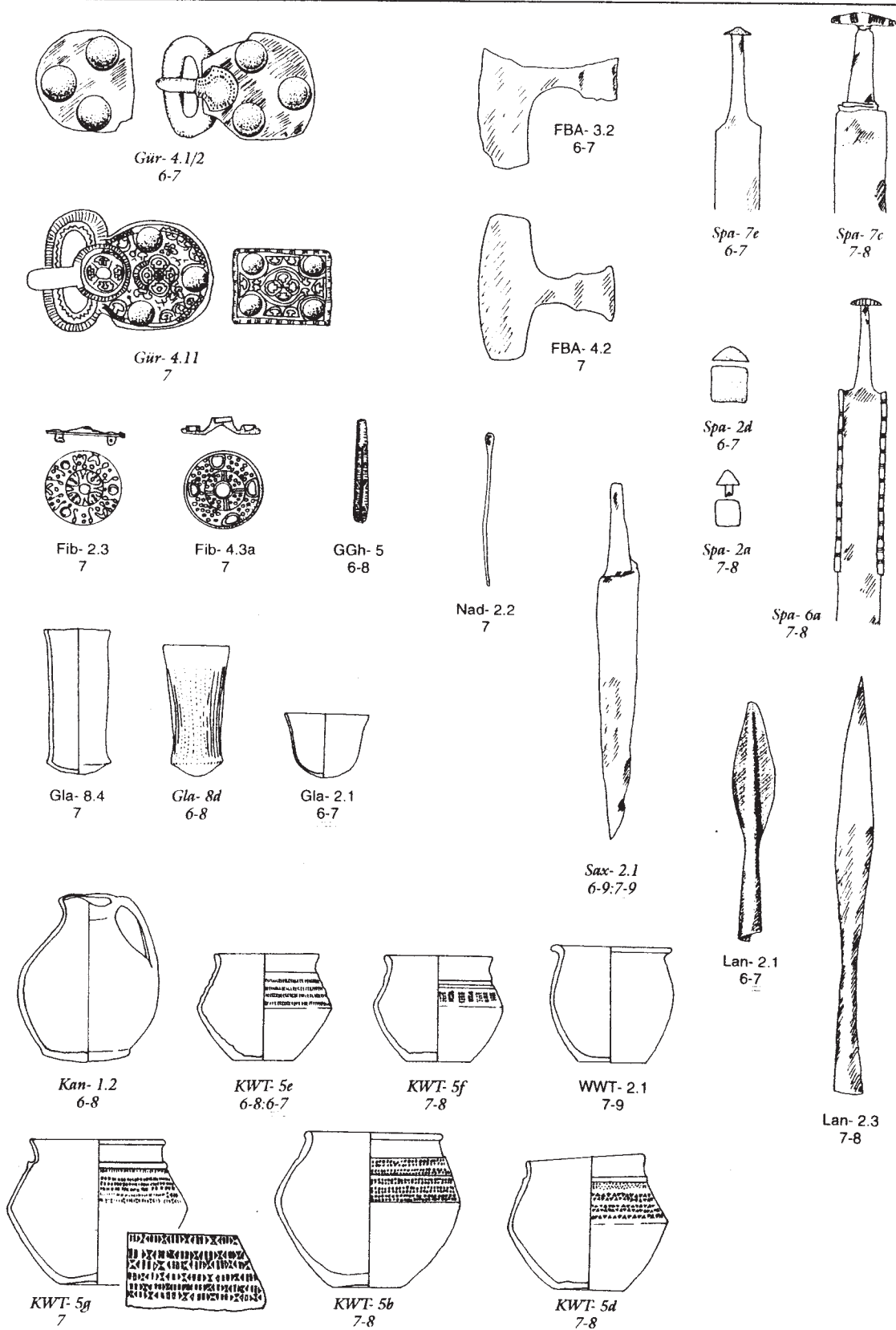


Fig. 1.10 Rheinland/Rheinland Phase 7.

Roman forms and are often decorated with glass trails (Gla-7.2 and -7.3). Roman glass bottles (Gla-9) were commonly used throughout the 6th century. Typical of the graves of phase Rh 3 are the slightly rounded glass bowls with opaque white stripes on the rim (Gla-1.3 and -1.4), and strictly conical pieces (Gla-1.5) are from the second half of the 6th century. The first small, undecorated bell beakers (so-called '*Sturzbecher*') appear as early as phase Rh 4, whilst the majority of developed examples appear from phases Rh 6 to 8. The range of development ends here with high, slim pieces (Gla-8.4). Palm cups, appearing in the late 6th century (phase Rh 6), and some with plain, thickened rims, others with wide, down-folded rims, represent a typical form of the 7th century (phase Rh 9). Glass as grave goods ends in the Rhineland with the pointed palm cup (Gla-2.3) of phases 10 and 11.

To give a closer date to the final phase of the Merovingian Period, phase Rh 11, a phase Rh 12 was described, providing a *terminus post quem* for everything later. On the basis of the pottery fabric an end-dating for the light-fired pottery of 'Badorf' type is defined, as pottery from phase Rh 12 is all hard-fired. At Rill the burials in dug-out wooden coffins with hand-made 'Frisian' spherical pots belong to this post-Merovingian phase Rh 12. In other places too it is possible to see a clear change in burial-form. The still broad, late-Merovingian graves of phase Rh 11 at Rommerskirchen-St. Peter are followed in phase Rh 12 by narrow, slightly trapezoid graves and graves with a 'head-niche'. The same development is seen at Xanten-St. Viktor: instead of the previously usual coffin-less or wooden coffin graves, stone cists appear more frequently from phase Rh 8, and especially those composed strictly of six side-stones; from phase 10 onwards four side-stones are usual, i.e. only one long stone slab at each side. Both grave-types have the usual Merovingian measurements. They are followed in phase Rh 12 by typically narrow, trapezoid sarcophagi and 'head-niche' graves. At both Rommerskirchen and Xanten the arms and hands of the dead from phase Rh 12 lie alongside the body; 'praying' hands lying in the pelvis area is a later phenomenon.

#### PROBLEMS AND PERSPECTIVES

The material basis of the model presented ought to have been of sufficient size. From the tables of this particular study it appears that the limits of clarity have been reached. In a way the relative chronology is steady, and only in the case of very rare types are modifications as to the perceived period of use possible.

Material remains of the 5th century (Rh 1–3) and of the final phases of the Merovingian Period (Rh 10–11) are, however, rare. In particular, complete cemeteries or larger parts of cemeteries suitable for topo-chronological analysis are missing. In this respect an expansion of the material basis through purposeful excavations might lead to a

modification of our model. It is, for example, impossible in the Rhineland to establish the division into a Childeric-period phase and a Chlodewig-period phase (*circa* Rh 3) as can be done in South Germany primarily on basis of well-equipped burials (Müller 1976; most recently Quast 1993) because we have too few grave groups.

Another problem is the absolute fixing of the relative chronology. Here, indeed, all graves containing coins even outside the Rhineland were included as far as possible. The basis, however, remained slender in the well-known problematic periods of the 5th and 7th–8th centuries. This is especially clear in relation to the still open discussion about the absolute dating of the border between the stages II and III, Rh 3 and Rh 4 respectively (Martin 1989). Only a few coin-dated graves from the questionable periods, or dendrochronologically dated complexes, could affect our ideas of the absolute chronology considerably. New good data are expected from the already excavated cemetery of Lauchheim (Stork 1997; fig. 1 no. 25) where some more dendro-dated graves will be obtained.

Because of bad state of preservation there are few skeletal remains in the graves of the Lower Rhine area. Extensive skeletal analyses could enhance understanding of the composition of the grave goods. On the basis of analyses from other areas there seem to have been distinct rules for the acquisition and acquisition-time of the inventories of the graves. Knowledge about such rules and traditions combined with skeletal age determinations would improve the scope for interpreting the grave assemblages.

A statistical attempt, allowing a combined analysis of chorological and combinational information, only reveals known information, and nothing new (Herzog and Siegmund 1991). Still, using statistical methods, it may be possible to improve the results produced. The correlation and phase-division of the tables of the female and the male graves were here done in conventional way and in close contact with the topo-chronological phases of the cemeteries, which is probably a legitimate and practicable method. The Prokrustes-Rotation suggested by Andreas Zimmerman seems, however, much more elegant and should be tested for its practicability (Zimmermann 1994; 1995). The correspondence analysis used gave centres of gravity and Eigenvalues for graves and types respectively; wanting, however, is information about the quality of this assessment and a measure for the dispersion around the average value, i.e. a parameter like the standard deviation. Here the actual development within statistics should be followed with a watchful eye, as useful improvements of this kind are to be expected (Vach 1994).

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Rheinland Phase 8 (610 - 640)

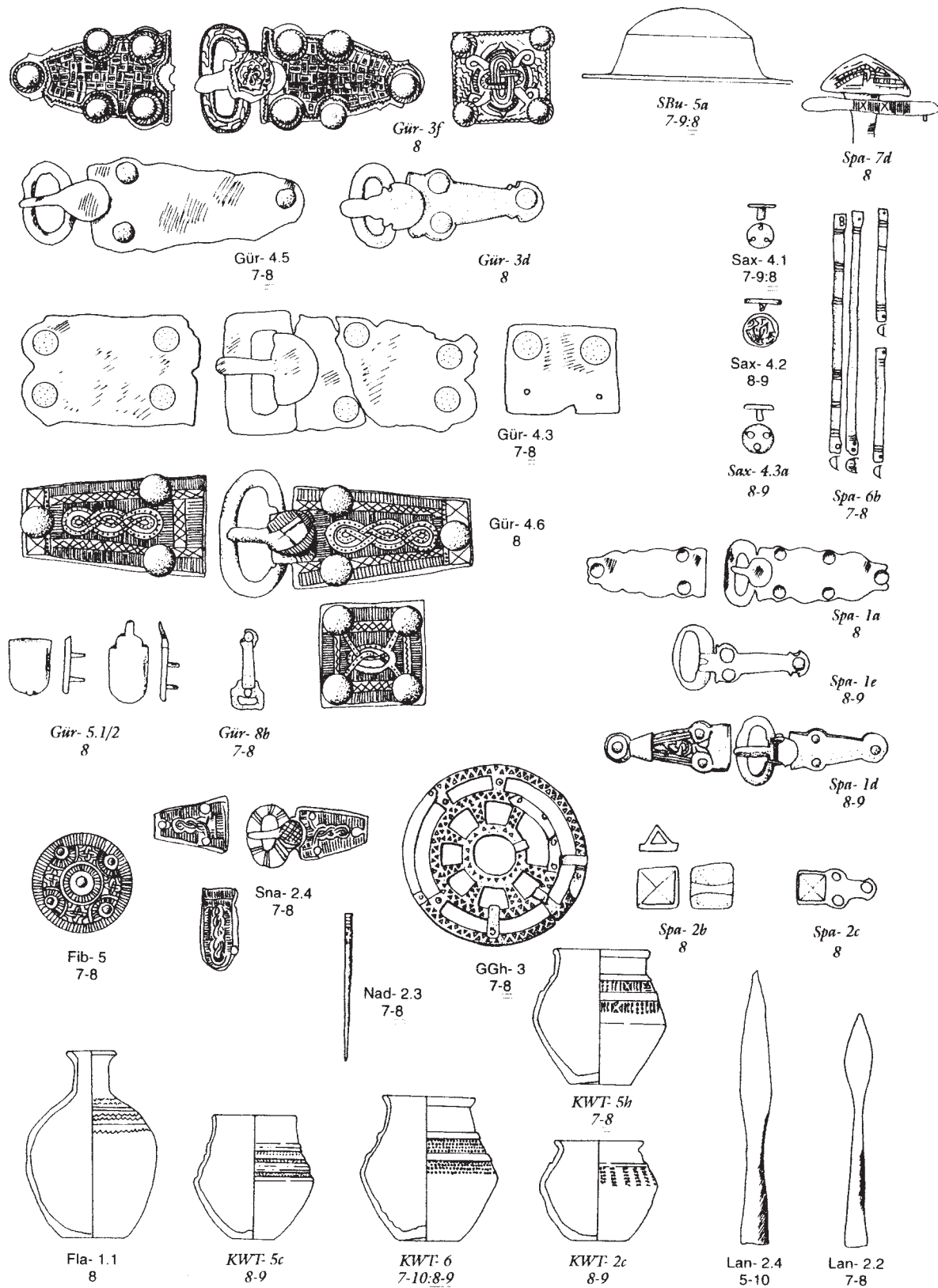


Fig. 1.11 Rheinland/Rheinland Phase 8.

Rheinland Phase 9 (640 - 670)

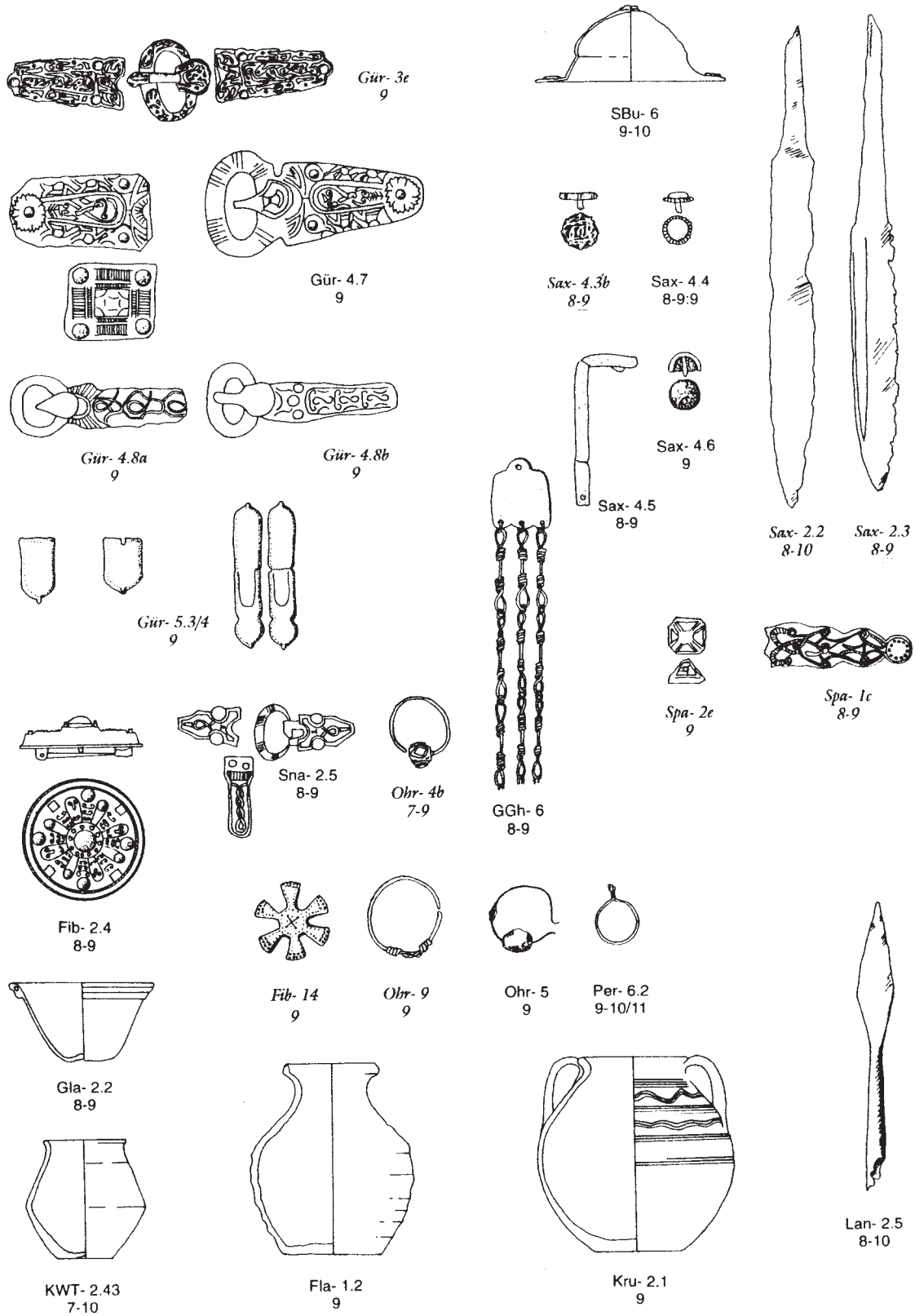


Fig. 1.12 Rheinland/Rheinland Phase 9.



Rheinland Phase 10 (670 - 710)

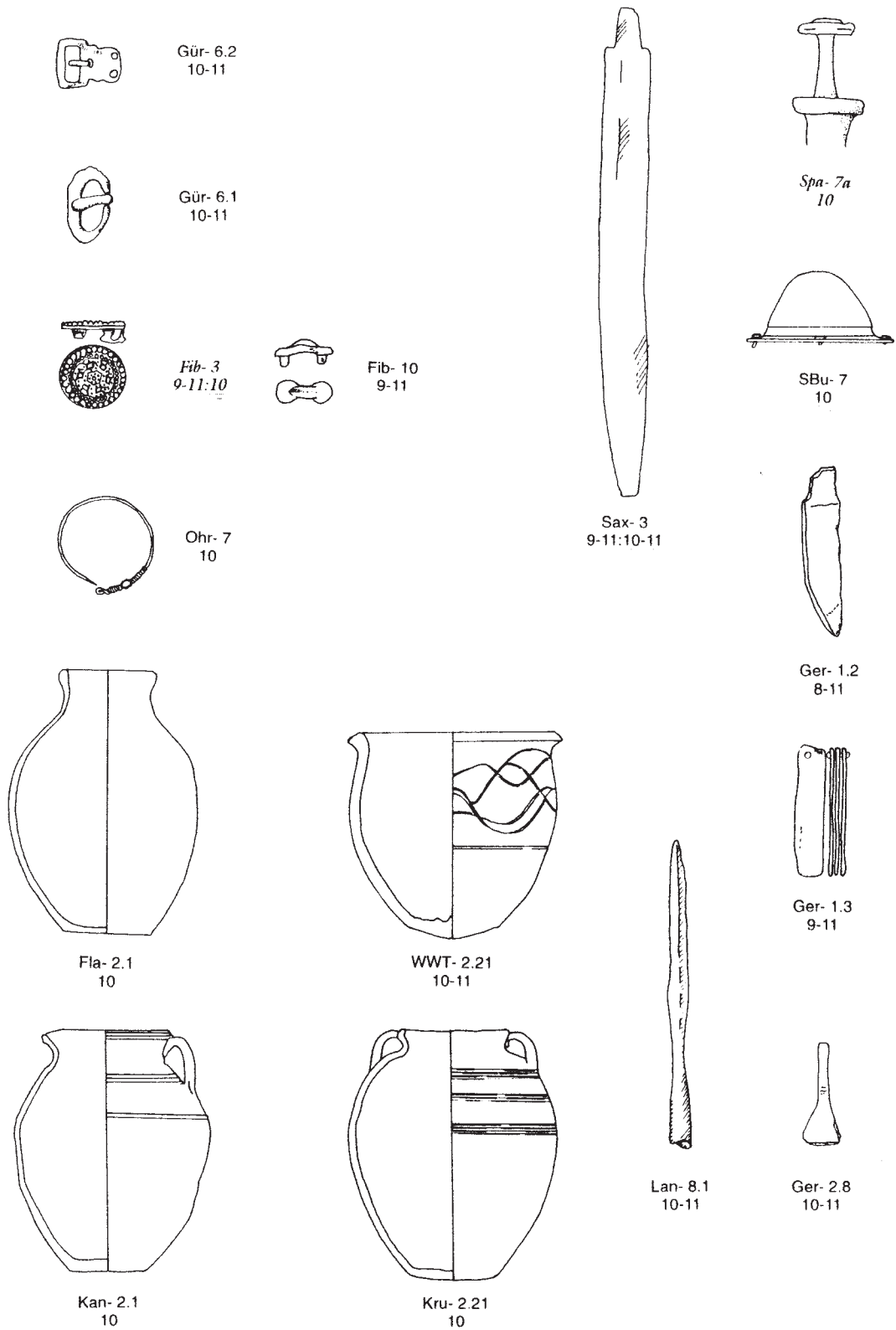


Fig. 1.13 Rhineland/Rheinland Phase 10.

Rheinland Phase 11 (710 - 740)

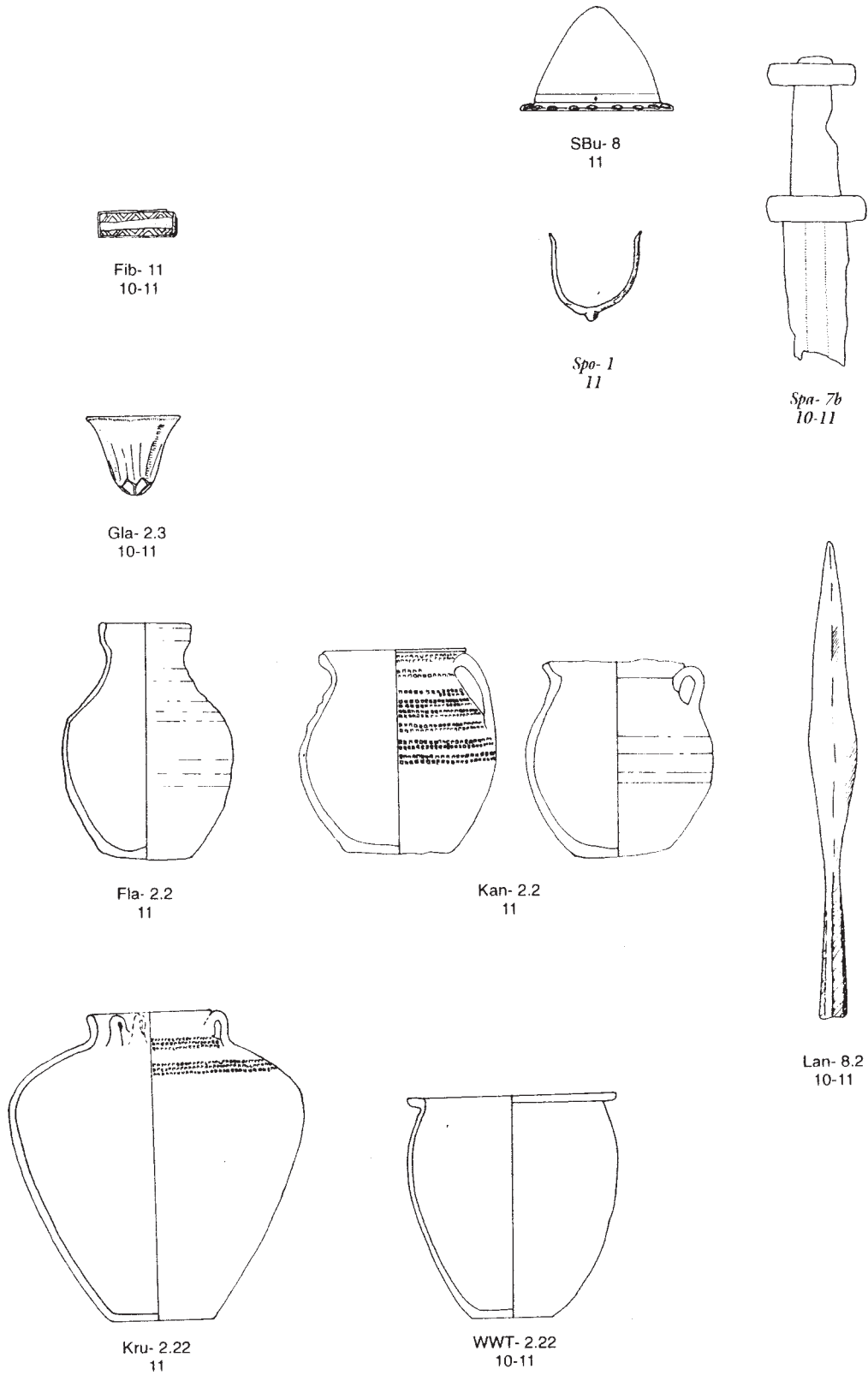


Fig. 1.14 Rheinland/Rheinland Phase 11.

## DEUTSCHE ZUSAMMENFASSUNG

Der Beitrag stellt das Chronologiesystem für die nördlichen Rheinlande vor (Abb. 1.5–1.14); es umfaßt 11 Phasen für die Zeit vom Beginn des 5. Jahrhunderts bis in die Mitte des 8. Jahrhunderts. Das System gründet auf der Dissertation von F. Siegmund über den Niederrhein (Siegmund 1989, 1998; Abb. 1 Nr. 2–8) und der Chronologiestudie der 'Franken AG' (H. Aouni, U. Müssemeier, E. Nieveler, R. Plum) zur südlichen Kölner Bucht (Franken AG, im Druck; Abb. 1 Nr. 9–13). Vorgestellt wird eine Synthese beider Studien. Grundlage des Systems sind chorologische Untersuchungen aller geeigneten Gräberfelder (Düsseldorf-Stockum, Krefeld-Gellep, Köln-Junkersdorf, Köln-Müngersdorf, Walsum und Iversheim, Jülich, Lamersdorf, Rödingen) sowie zwei Korrespondenzanalysen für alle geeigneten Frauen- und Männergräber (ca. 390 Inventare mit 145 Typen bzw. ca. 530 Inventare mit 185 Typen). Die vorgeschlagene relative Ordnung ist stabil, was auch durch die nahezu ideale Form der Parabeln beider Korrespondenzanalysen unterstrichen wird (Abb. 1.2–1.3). Die Verknüpfung der Männer- und Frauenchronologie erfolgt über die chorologischen Analysen und die beiden Geschlechtern gemeinsamen Typen. Die Phasengliederung orientiert sich vor allem an den wechselnden Gürtelmoden sowie neu auftretenden Keramikformen oder -verzierungen.

Diese Rheinland-Chronologie (kurz 'Rh 1–11') läßt sich weitgehend konfliktfrei mit anderen modernen Systemen verknüpfen (Abb. 1.4). Ihre regionale Gültigkeit endet dort, wo die phasendefinierenden Typen (Trachtbestandteile, Waffen, Keramik) in nicht mehr ausreichender Zahl vertreten sind. Für die vorgeschlagene absolute Chronologie wurden auch über das konkrete Arbeitsgebiet hinaus alle verfügbaren und in diese Systematik einordnenbaren münzführenden Gräber herangezogen.

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