The Classification of the Clay Drums of the Southern Trichterbecher Culture (TRB)

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Abstract

Musical Instruments are often over looked in our view of the past and although recently interest in this particular field of human endeavour has been increasing, the standard textbooks on prehistory still make little mention of this art.

The drums of the southern Trichterbecher culture have been recognised for more than a century and for half of that time we have relied on the classification scheme of Ulrich Fischer (1951). While every so often a new approach to these drums is proposed, it seems that none of them are able to reflect all the distinctive features so characteristic of the southern TRB.

The classification scheme presented here relies heavily on the work of Fischer, but in the 50 years since he wrote many more drums have been unearthed. With this wealth of new contextual data it is possible to elaborate Fischer's drum types, and this further division is supported by the parallel distribution of decorative motifs. Here we may propose that distinct drum types existed, associated with the living or the dead.

Zusammenfassung

Bei unserem Blick auf die Vergangenheit werden Musikinstrumente wenig beachtet und obwohl in letzter Zeit das Interesse an dieser Objektgruppe zunimmt, wird sie in archäologischen Handbüchern kaum erwähnt.

Die Trommeln der südlichen Trichterbecherkultur sind seit mehr als einem Jahrhundert bekannt und seit über 50 Jahren folgen wir dem Klassifikationsschema von Ulrich Fischer (1951). Zwar gibt es neue Überlegungen zu diesen Trommeln, doch berücksichtigt keiner dieser Vorschläge alle für die südliche Trichterbecherkultur so charakteristischen spezifischen Details.

Das hier vorgelegte Klassifikationsschema basiert im Wesentlichen auf der Arbeit von Fischer, aber in den vergangenen 50 Jahren ist die Anzahl der Trommeln durch Ausgrabungen erheblich angestiegen. Mit diesen umfangreichen Kontextdaten ist es möglich, Fischers Trommeltypen weiter auszuarbeiten, wobei sich diese feinere Untergliederung auf die Verbreitung vergleichbarer Verzierungsmuster stützt. Wir kommen hier zu dem Ergebnis, dass es offenbar für die Bereiche der Lebenden und der Toten verschiedene Trommeltypen gab.

Introduction

In 1951 Fischer developed a comprehensive classification scheme for the clay drums of the southern TRB. The call for reclassification is due not to any flaws in Fischer's approach, but rather to a need to understand the drums in relationship to the changes that have occurred in the interpretation of the southern TRB as a whole – its typologies, chronologies and settlement and burial evidence. Fischer raised the question whether particular drums could be assigned to cultural groups with any certainty, and he sought an objective set of criteria for analysing the drums.

The southern TRB clay drums are goblet – or hourglass – shaped clay vessels without a base, essentially hollow clay cylinders with neither top nor bottom, paralleled in the shape of contemporary drums such as the Djembe of Senegal, or the North African Darabukka. In 1892, Krause was the first to propose that these clay artefacts were drums (Seewald 1934, 60; Fischer 1951, 98; Mildenberger 1953, 30), an interpretation based on ethnographic comparisons, and no convincing alternative interpretation has since been proposed. Indeed, in support of the problem of interpretation, Behrens (1979, 144) noted that there is no musical instrument that has as wide a global distribution as that of the drum.

Even though Fischer (1951, 101; cf. Kartomi 1990, 4ff.) acknowledged the subjective nature of classification, it will be argued below that while the form of the drum and, subsequently, the method of skin attachment are important aspects of any classification scheme, the decorative elements are of at least equal importance, as is the context in which the instruments have been found.

Cultural Background

At the time Fischer was writing, the southern TRB was understood to have developed from the initial Baalberge "culture" through the Salzmünde, then Walternienburg "culture" to the final Bernburg "culture". As observed each of these stages of development was approached as though it was a distinct cultural entity, and it has been this perspective that has hindered our understanding of the dynamics of the southern TRB and indeed its drums. Put succinctly, it is the publications of D.W. Müller (1994) and J. Müller (2001) that have radically overhauled our understanding of the cultural model of the southern TRB and this has been discussed in full by Müller (2001) and Wyatt (2007).

The model of the southern TRB employed here, as the cultural background to the classification of the drums, is that of Müller (2001), who presented the archaeological material not as evidence of distinct cultural groups but local populations within a larger cultural group. These populations distinguished themselves through their burial and settlement traditions and also through the subtle variations they employed to distinguish their pottery, and hence themselves from their neighbours. These distinctions were due to local social traditions and to some degree were a reflection of soil types and other ecological factors. For example the Salzmünde style ceramics are found on terrace edges connecting with the black earth, in the middle Saale; while the Walternienburg and Düsedau ceramics are found on alluvial edge zones, outside the black earth areas (Müller 2001, 251). Distinctions of settlement and burial traditions aside, this geological distinction is reflected in pottery form, where vessels may be similar but one has a cylindrical neck, the Salzmünde cup, while the other is conical, the Walternienburg cup.

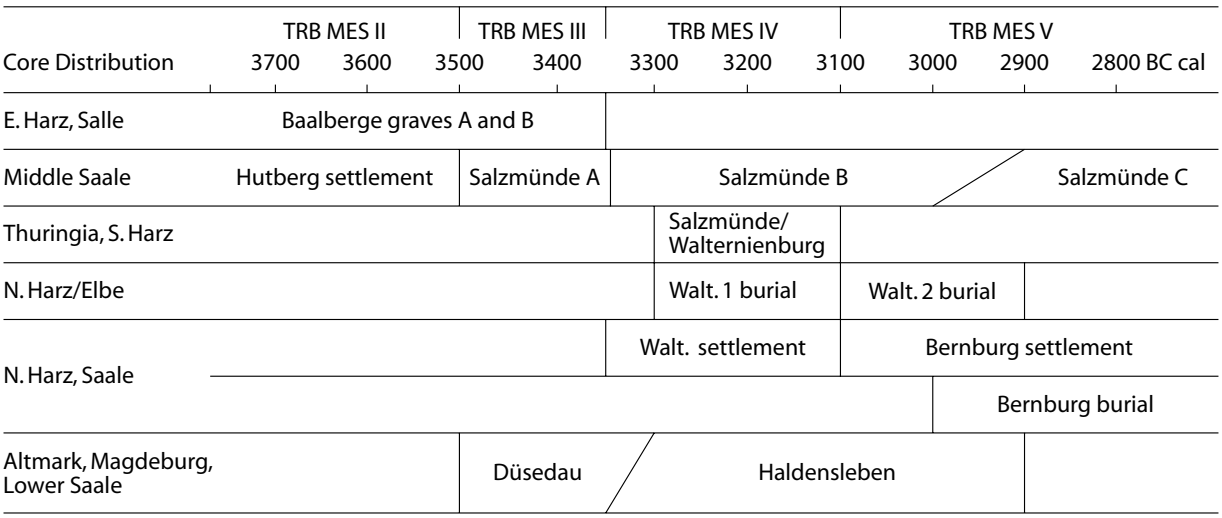


Table 1. Simplified chronological table based on radiocarbon dates and Müller's (2001) typology.

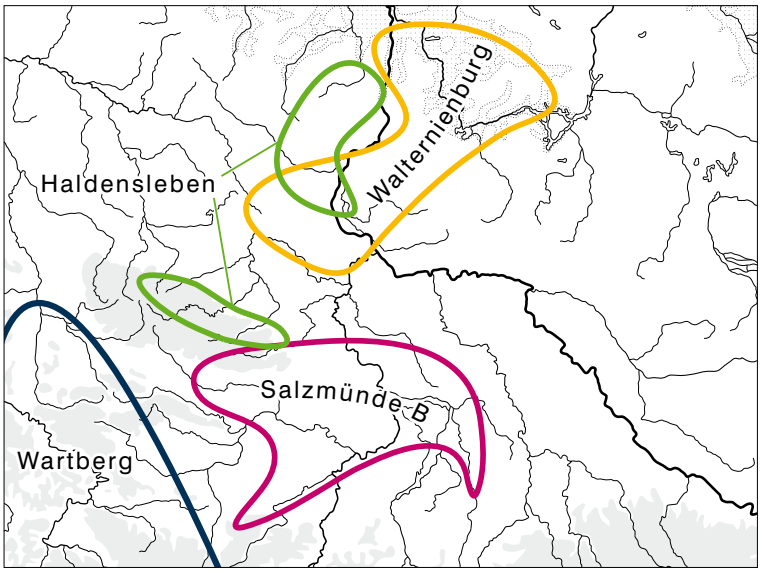
Tab. 1. Vereinfachte chronologische Übersicht auf der Grundlage von ^{14}C-Daten und der Typologie von Müller (2001).

Based on a different approach of Lüth (1988 cited in Müller 2001) and new statistical analyses (combined with radiocarbon dating), Müller divided the southern TRB into five stages, I–V, paralleling the models used for analysis of the other TRB groups, and here we are concerned with stages IV and V, see Table 1. Müller (2001) examined ceramics from contexts containing the Hutberg style ceramics, ca. 3800–3500 BC, through to contexts containing Bernburg ceramics, ca. 3100–2700 BC. The subsequent typology was combined with radiocarbon dates which supported a picture of a cultural continuum developing from the Hutberg and Baalberge ceramics through the contemporary, though somewhat staggered, regional variations of Salzmünde, Walternienburg and Salzmünde/Walternienburg returning in their final development to one all encompassing Bernburg ceramic style. Müller identified the Salzmünde/Walternienburg ceramic style as being those vessel forms which exhibited a blend of characteristics from the Salzmünde and Walternienburg types. These assemblages occurred only within burial contexts and only within the western distribution of the Salzmünde settlement assemblages. Thus we may interpret these pottery forms as the means by which a small part of the Thüringian population were buried with grave goods which emphasized their personal link with those populations north of the Harz mountains, Maps 1–4.

The burials of these populations occurred in collective Mauerkammern, and individual flat- and elaborately constructed graves occurring in cemeteries. The key to Müller's understanding of the southern TRB is to recognize that none of the ceramic style represent distinct cultures; the continuum of Müller may be perceived as being geographical as well as chronological, and the local communities are distinguished through subtle variations of ceramic style and also distinct patterns discernable in burial rites and artefact distributions within settlements.

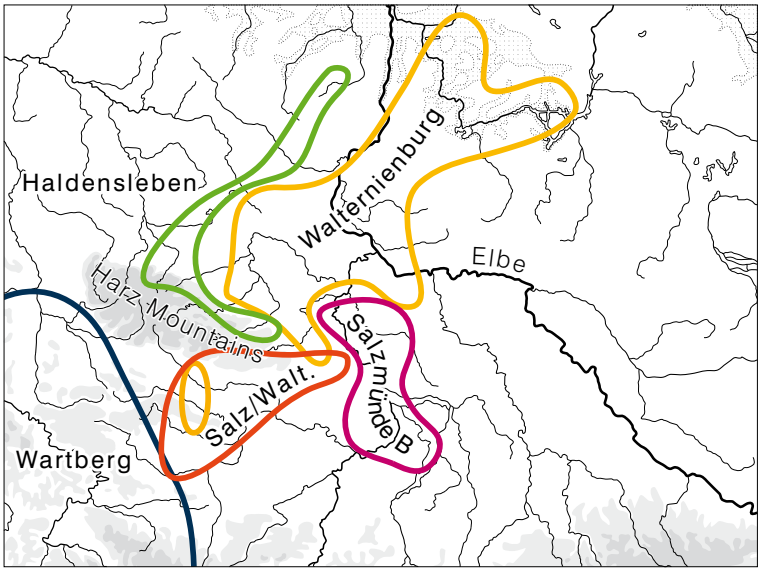
On the Classification of Neolithic Clay Drums

Having sung the praises of Müller (2001), certain aspects of his accompanying drum classification may be regarded as unsatisfactory (see Wyatt 2007), although the approach taken using ratios of instrument size will be explored below. Yet despite this, his model for the southern TRB as a whole presents us with the best understanding of the cultural background of the clay drums.



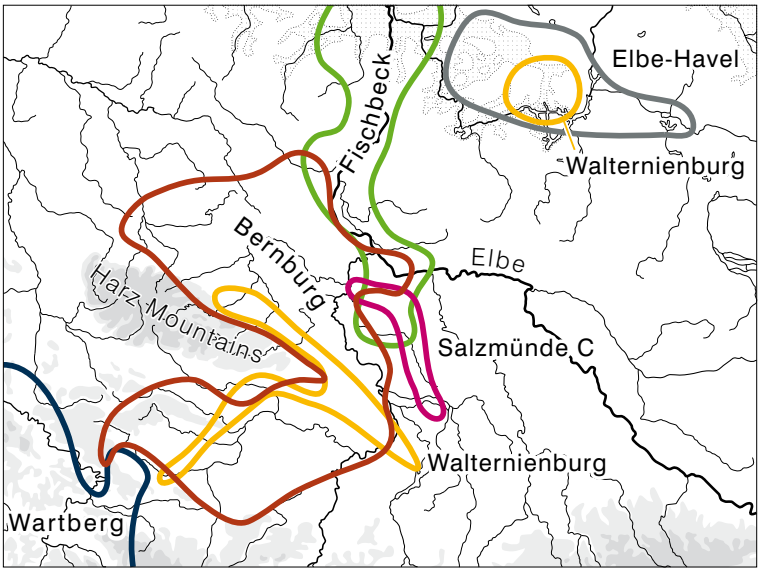
Map 1. TRB MES IV: Settlement: Maps show limits of distribution.

Karte 1. TRB MES IV. Verbreitung der Siedlungen.



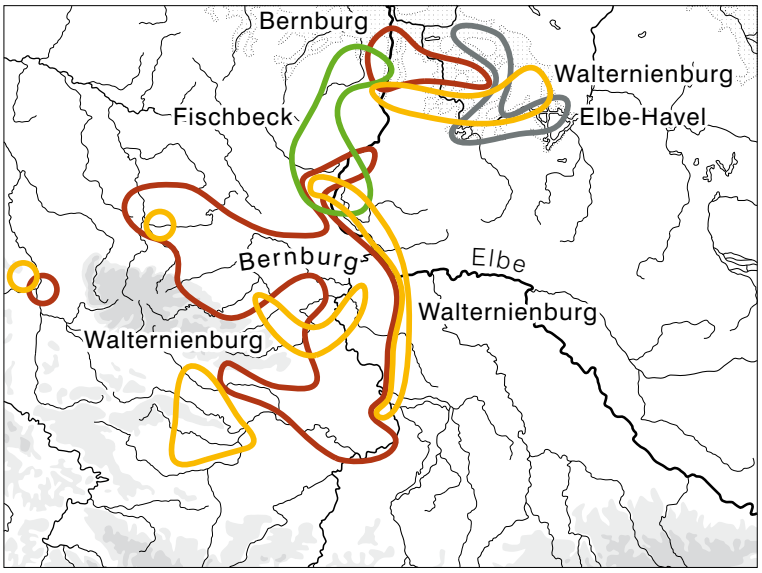
Map 2. TRB MES IV: Burials.

Karte 2. TRB MES IV. Gräber.



Map 3. TRB MES V: Settlements.

Karte 3. TRB MES V. Siedlungen.



Map 4. TRB MES V: Burials.
Karte 4. TRB MES V. Gräber.

Deciding upon which characteristics are to be used in the drum classification is of great importance, so Seewald (1934, 61) and Fischer (1951, 98ff.) in using the vessel form and method of skin attachment as the basis of their schemes, complied with Kartomi's (1990, 4) observation, that morphological criteria are used by westerners due to the western emphasis on acoustics and morphology. Kartomi (1990, 4) further observes that instruments may be placed in a group, in the indigenous classificatory scheme, when specifically used for ceremonial function; thus a wind instrument might be grouped with a percussion instrument. From an archaeological point of view we are obviously unable to enquire as to the original classificatory terms but while lacking the terminology, archaeologists have the information provided by the context in which the instrument was found. Thus it may be appropriate to emphasize the different contexts of the drums we are examining and thus in some way to identify criteria which may have marked drum types as distinct, according to their cultural use. For example, we may ask if there is a recognizable difference between the drums found in either single or collective burials, and those found in settlements, or whether there may be a relationship between context and decoration. And since in the context of this study, the time span of the drum use is several hundred years, we may ask whether it is possible to recognize changes in the role of the instrument as a reflection of changes in social organization. With these ideas in mind it is worth noting Kartomi's (1990, 10) suggestion that

"classifications serve the purpose of enabling members of a culture to recognize fundamental musical, social, and other relations between the instruments contained in the scheme or, if so inclined, to formulate new myths or theories about them."

Kartomi (1990, 12) further observes that there is generally more than one scheme in place within a culture and the most symbolic is often the most representative of the culture. The important nature of the dynamic symbolic properties of material culture has already been addressed in the archaeological literature (e.g. Hodder 1982; Shanks and Tilley 1987; Trigger 1989; Tilley 1999). Classification schemes are related to social, cosmological and historical spheres of thought and prestigious instruments are seen to fit together closely within any scheme.

Kartomi (1990, 5ff.) stresses that classifications are not rigid constructs, similar to Niklasson's view of his own scheme for the Walternienburg and Bernburg cups (Niklasson cited in Bakker 1979, 28), and that one or more parameters may affect any model in a non-linear fashion rather than any logical division. Here we may note the drums from the sites of Börnecke, Ditfurt 2 and Leuna-Rössen, all of which have stringing anomalies and do not exactly fit the standard drum types. The difficult task then may be the recognition of the non-linear or apparently illogical criteria.

As a result of the importance of symbolic decorative elements within local classification schemes of musical instruments, highlighted by Kartomi, this work will seek to combine the principles of the decorative schemes (Grimm 1938; Schrickel 1956) with the structural schemes of Seewald (1934) and Fischer (1951), and the relational schemes of Koch (1992) and Müller (2001). The additional criteria of the context in which the instruments were found will also be taken into account, in an attempt to understand the relationship between the criteria summarized above and the individual contexts. This approach therefore adopts the paradigmatic classification method proposed by Kartomi in contrast to the traditionally used logical division method.

Drum Classification and Ceramic Style

Primary Paradigms

Previous examinations of the clay drums have been discussed elsewhere, (Seewald 1934; Grimm 1938; Mildenberger 1953; Seewald 1962; Behrens 1981; Wyatt 2007) but in light of more recent research we shall refer largely to Fischer (1951), Koch (1992) and Müller (2001). Fischer again pre-empting present day research stressed a lack of clear temporal sequence and therefore the difficulty of rigid cultural assignment, noting rather there is only a predominance of one or other type (Fischer 1951, 99; see also Mildenberger 1953, 31).

Fischer based his scheme on the criteria of placement of the handles, lugs and eye-loops; the method of attaching the drum skin (Fischer 1951, 99–100). With these criteria he identified four drum types named Salzmünde, Walternienburg, Bernburg and Tiefstich. Fischer's scheme has been in use for half a century, largely because it recognized the distinct features of shape, skin-attachment and decoration, and related these criteria to the contemporary understanding of the southern TRB.

The most recent analysis of the clay drums has been that of Koch (1992) and Müller (2001). Koch (1992) reiterated Fischer's scheme, basing the familiar types on ratios of drum form and Müller (2001, 103), presented a new scheme but for various reasons this has been found to be unsatisfactory despite the exceptional work on the TRB as a whole. For a full discussion see Wyatt (2007).

A Combination of the Two

With reference to both Koch's (1992, 116) and Müller's (2001, 103) approaches, the ratios of vessel measurements presented here include the base to upper part ratio offered by both Koch and Müller, where the division between the base and upper part is accepted as being that point in the vessel wall with the smallest diameter, and the height to diameter of mouth ratio presented by Müller. Additionally, the results provided in the tables immediately below are given

Drum site	Fischer's Type			Context			Ratios		
	S	W	B	Sett	Grave	?	Base:Top	Height:Mouth	Müller's Stage
Obermöllern	•	.	.	•	.	.	1: 2	1:0.97	Salz
Zauschwitz	•	.	.	•	.	.	1:1.54	1:1.21	Salz B
Vippachedelhausen	•	.	.	•	.	.	1:1.4	1:0.94	Walt I
Leuna-Rössen	•	.	.	•	.	•	1:1.25	1:0.83	Salz B
Stork-Pettstadt	•	•	.	•	.	.	1:1.25	1:0.94	Salz B
Weinburg	•	.	.	•	.	.	1:1.25	1:1.1	Salz B
Wallendorf	•	.	.	•	.	.	1:1.25	1:0.89	Salz C
Schkopau	•	.	.	.	•	.	1:1.1	1:1.1	Bernburg
Obereichstädt 2	.	.	•	.	•	.	1:1.1	1:1.07	Salz C
Obereichstädt 1	.	•	.	.	•	.	1:1.1	1:1.38	Salz C
Sargstedt	•	.	.	.	•	.	1:1.1	1:0.72	–
Niemburg	•	.	.	.	•	.	1:1	1:1	Salz B
Böhlen-Harth	•	.	.	.	•	.	1:1	1:0.97	Salz B
Zorb-Gerstewitz	•	.	.	.	•	.	1:1	1:0.81	Salz B
Must-Köttichau	•	.	.	.	•	.	1:0.89	1:1.08	Salz B

Table 2. Complete TRB MES IV (Salzmünde) drums, showing traditional classification, context and ratios of base:top and height:mouth diameter.

Tab. 2. Vollständig erhaltene TRB MES IV (Salzmünde) Trommeln. Typen nach Fischer (1951); Fundzusammenhang; Quotienten Basis zu oberer Teil, Höhe zu Mündungsdurchmesser; Stufen nach Müller (2001).

solely for individual, complete drums, and not an average for each type. Complete drums are defined here as those instruments which survive sufficiently to allow recognition of the vessel shape and dimensions. The data presented here are taken from reconstructed archaeological drawings. Finally, this analysis will be related to Fischer's scheme, which presented a common front for so long. Where possible J. Müller's (2001, 126–7 and 171–2) ceramic style names have been given; elsewhere stages have been extrapolated, from J. Müller's (2001) tables and observations from D.W. Müller (1994; 1999). For example the drum from Wallendorf, corresponds to J. Müller's (2001, 112) find spot Hut 44, and while his lists of ceramic styles cited above do not contain this site name, Müller (2001, 117 and 597) provides us with a radiocarbon date of 2880–2620 BC, placing the Salzmünde style drum in his Salz C stage, which is contemporary with Bernburg assemblages, see Table 1. Obereichstädt, previously named Langeneichstädt, is listed by Müller (2001) but is not included in the lists corresponding to ceramic style stages. However, D.W. Müller (1994, 150) observes that despite Bernburg overtones the assemblage has a distinctly Salzmünde style, and in a later publication provides (D.W. Müller 1999, 200) a radiocarbon date of 2910–2610 BC cal, again placing the assemblage into J. Müller's (2001) Salz C stage.

The data for complete TRB MES IV drums from Salzmünde assemblages, table 2, suggest that the drums with a base to upper part ratio of 1:1.1 and below are found in graves, while those examples where the height of the upper part is greater than the base are found in settlements. The progenitors, we may propose, possessed two culturally distinct drum types, one for the living and one for the dead. Although, we should be wary of the inclusion here of the Obereichstädt, Wallendorf and Schkopau drums, since they are not strictly situated in TRB IV although they fit with the Salzmünde drum proportions.

The drums of TRB MES IV, from Walternienburg assemblages, see Table 3, do not have the same contextual diversity as those from the Salzmünde inventories, the majority being found in association with graves; yet there may be some patterns visible in the data. There appears to be a group, which has a subtle curve to the upper part with a distinctly low ratio of base to upper part; Biendorf, Hassel and Menz

Drum site	Fischer's Type			Context			Ratios		Müller's Stage
	S	W	B	Sett	Grave	?	Base:Top	Height:Mouth	
Calbe 2	.	•	.	•?	•?	.	1:2	1:0.97	Walt I
Hornsömmern	.	•	.	.	•	.	1:2	1:0.86	Walt II
Nordhausen 1	.	•	.	.	•	.	1:1.77	1:0.78	Walt I and II
Odagsen-loop	.	•	.	.	•	.	1:1.77	1:0.89	Walt II
Börnecke	.	•	.	.	•	.	1:1.77	1:1.083	Walt
Grosseibstadt	.	•	.	.	•	.	1:1.77	1:0.86	Walt
Nordhausen 2	.	•	.	.	•	.	1:1.57	1:0.89	Walt I and II
Calden 2	.	.	.	.	•	.	1:1.57	1:0.67	–
Ebendorf	.	•	.	.	•	.	1:1.57	1:0.66	Walt II
Biendorf	.	•	.	.	•	.	1:1.25	1:0.97	Walt I
Hassel	.	•	.	.	.	•	1:1.25	1:0.94	–
Menz	.	•	.	•?	.	.	1:1.125	1:1.18	–
Odagsennon	.	.	.	.	•	.	1:0.89	1:1.25	Walt II

Table 3. Complete TRB MES IV (Walternienburg) drums, showing traditional classification, context and ratios of base:top and height:mouth diameter.

Tab. 3. Vollständig erhaltene TRB MES IV (Walternienburg) Trommeln. Typen nach Fischer (1951); Fundzusammenhang; Quotienten Basis zu oberer Teil, Höhe zu Mündungsdurchmesser; Stufen nach Müller (2001).

Drum site	Fischer's Type			Context			Ratios		Müller's Stage
	S	W	B	Sett	Grave	?	Base:Top	Height:Mouth	
Feldengel	.	•	.	.	•	.	1:2	1:0.69	Salz/Walt
Holzsussra	.	•	.	.	•	.	1:2	1:0.86	Walt I

Table 4. Incomplete TRB MES IV (Salz/Walt) drums, showing traditional classification, context and ratios of base:top and height:mouth diameter.

Tab. 4. Unvollständig erhaltene TRB MES IV (Salzmünde/Walternienburg) Trommeln. Typen nach Fischer (1951); Fundzusammenhang; Quotienten Basis zu oberer Teil, Höhe zu Mündungsdurchmesser; Stufen nach Müller (2001)

exemplify this group. All of these examples are distributed north of the modern middle Saale to lower Saale boundary, and thus outside the Salzmünde B distribution.

The second group consists of those drums where the ratio of the base to upper part ranges between 1:1.57 and 1:1.77. This group has the distinct curvature to the upper part commonly associated with the Walternienburg style drum, but does not possess the distinct symbolic decoration found on the Salzmünde drums. The final distinction consists of those drums where the height of the upper part is twice that of the height of the foot. These drums possess a curved upper part but most importantly also possess the distinct symbolic decoration common on the Salzmünde drums.

Unfortunately only one example of this drum type is complete, but if we here include two examples, which have sufficient fragments to allow reconstruction of form, those of Feldengel and Holzsussra, we find that they fit with the example proposed above and have a base to upper part ratio of 1:2, see Table 4. Müller (2001, 136) places the Feldengel assemblage within the Salz/Walt ceramic style.

The data presented in table 5, for the drums of the TRB MES V, suggest that a change has occurred, in contrast to the examples from the TRB MES IV. These drums, which have parallels with the Salzmünde assemblages, in that they are found in both settlements and graves, show no distinct pattern in the ratio of base to top. However, if we examine the ratio of the height to mouth diameter it is clear that those with a lower ratio, that is 1:0.75 or below, are found in graves while those with a higher ratio, from 1:0.85 and above, are found in settlements. Thus, based on the complete examples, during TRB MES V, drums associated with the dead are narrower, while those found in settlement contexts are more squat.

Based on the recurrent differences presented in the ratios of the measurements of the TRB IV and V drums, it is possible, by retaining

Drum site	Fischer's Type			Context			Ratios		Müller´s Stage
	S	W	B	Sett	Grave	?	Foot:Top	Height:Mouth	
L-pit 86	.	•	.	•	.	.	1:1.8	1:0.96	Bernburg
L-pit 95	.	.	•	•	.	.	1:1.8	1:0.93	Bernburg
Derenburg	.	.	•	•	.	.	1:2.6	1:0.83	Bernburg
QS-pit 155	.	.	•	•	.	.	1:1.4	1:0.86	Bernburg
Klein-Quen	.	.	•	•	.	.	1:1.8	1:0.85	Bernburg
Fredrichsaue	.	.	•	.	•	.	1:2.6	1:0.75	Bernburg
Nietleben	.	.	•	.	•	.	1:2	1:0.74	Bernburg
Latdorf-Sp	.	.	•	.	•	.	1:1	1:0.67	Bernburg
Edesheim	.	.	•	.	•	.	1:1.8	1:0.67	Bernburg
Pevestorf	.	.	•	.	•	.	1:2.6	1:0.6	Bernburg

Table 5. Complete TRB MES V (Bernburg) drums, showing traditional classification, context and ratios of base:top and height:mouth diameter.

Tab. 5. Vollständig erhaltene TRB MES V (Bernburg) Trommeln. Typen nach Fischer (1951); Fundzusammenhang; Quotienten Basis zu oberer Teil, Höhe zu Mündungsdurchmesser; Stufen nach Müller (2001).

Neolithic Stage	TRB IV	TRB V	
Main Drum Category	3350-3100 BC cal	3100-2900 BC cal	2900-2700 BC cal
Salzmünde-Low Lugs	Salz I settlement context, profuse symbols		
	Salz II grave context, less symbols		
Walternienburg-Loop	Walt Ia curved		
	Walt Ib north subtle curve		
Salzmünde/ Walternienburg	Walt/Salz curved, many symbols		
Bernburg-Lugs		Bernburg 1 settlement	
		Bernburg II burial	

Table 6. Classification of the TRB IV-V drums. Wyatt (2007).

Tab. 6. Klassifikation der TRB IV–V Trommeln (nach Wyatt 2007).

the basic features of Fischer's scheme and linking this with the ratios as proposed by Koch (1992) and Müller (2001), to propose seven drum types, Table 6 and Figure 1. The top category of drum corresponds with Fischer's (1951) main groups except for the recognition of a distinct Salzmünde/Walternienburg type, and as demonstrated on Map 5 the different types are geographically discrete.

Classificatory Anomalies

The examples of drums from the Langer Burg and Schalkenburg show that despite fitting largely with the cultural styles defined by Fischer (1951, 100), there are anomalies in the form and decoration of the drums, but these do fit with the exceptions he had recognized. Furthermore, following Müller's (2001) interpretation of the southern TRB, which manages to account for many of the disparate features of the material culture, it appears that any classificatory scheme which attempts to fit rigidly with the general ceramic styles may have problems, and a clearer picture may be achieved by combining the scheme with the cultural context. Subsequently some of the more well-known drum examples highlight this difficulty, namely the Salzmünde drum from Schkopau, which was discovered in a grave with a Bernburg assemblage, while the Hauneindorf example, a Bernburg style drum, was discovered in a settlement pit associated with Walternienburg ceramics (Behrens 1979, 147).

The Calbe 2 drum remains anomalous when applying this new classificatory scheme, since while it fits the ratio of the Salzmünde/Wal-

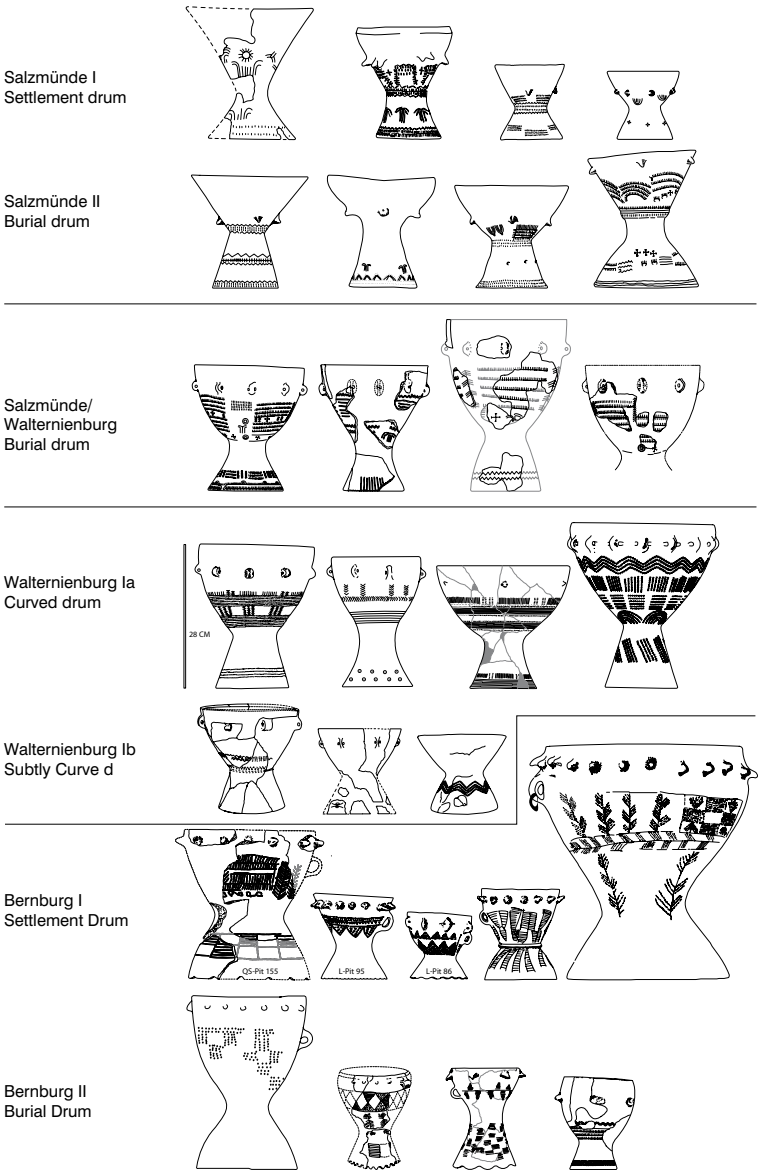


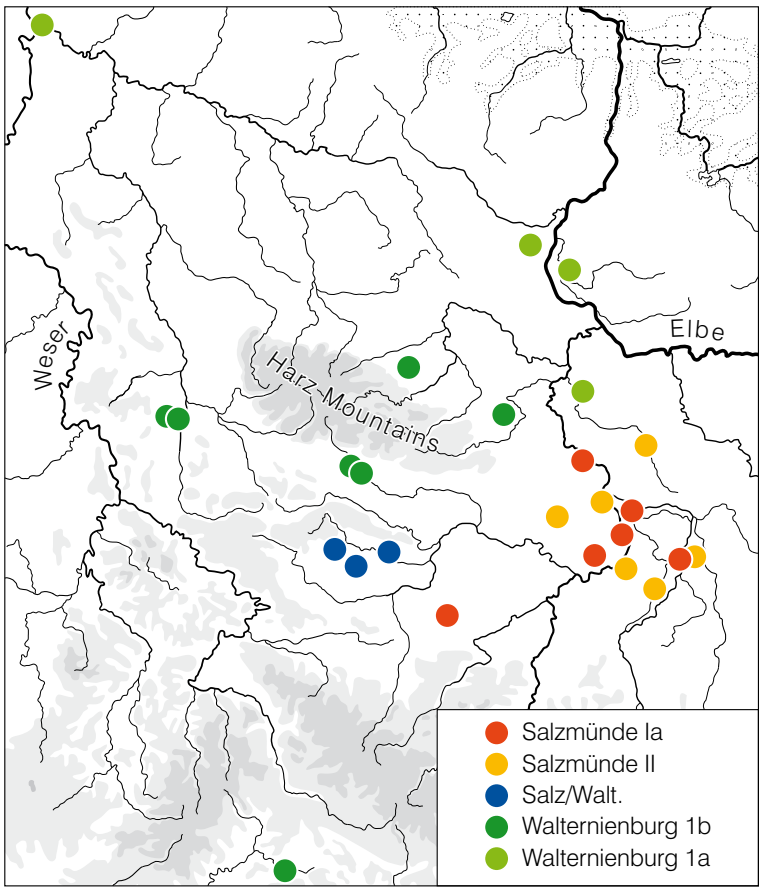
Fig. 1. Drum Types of TRB IV and V: Spickendorf, Böhlen, Schkopau, Zorbau, Obermöllern, Leuna, Vippachedelhausen, Weinberg, Hornsömmern, Holzsussra, Feldengel, Gräfentonna, Nordhausen, Ebendorf, Börnecke, Grosseibstadt, Hassel, Biendorf, Menz, Quenstedt-Schalkenburg pit 155, Klein Quenstedt, Langerburg pit 95 and pit 86, Derenburg, Edesheim, Nietleben, Spitzerhoch, Fredrichsaue. All images redrawn Wyatt (2007).

Abb. 1. Trommeltypen TRB IV und V: Spickendorf, Böhlen, Schkopau, Zorbau, Obermöllern, Leuna, Vippachedelhausen, Weinberg, Hornsömmern, Holzsussra, Feldengel, Gräfentonna, Nordhausen, Ebendorf, Börnecke, Grosseibstadt, Hassel, Biendorf, Menz, Quenstedt-Schalkenburg pit 155, Klein Quenstedt, Langerburg pit 95 and pit 86, Derenburg, Edesheim, Nietleben, Spitzerhoch, Fredrichsaue. Neu gezeichnet nach Wyatt (2007).

ternienburg drum type, it is clearly not of this form and the location of the site to the north of the Salzmünde B distribution places it outside the boundaries of Müller's (2001) Salz/Walt group and also our Salz/Walt drum type. Furthermore, it has a shape closer to the standard Salzmünde 1a drum type, yet has eyeloops and no decoration.

Behrens (1979) further cites drums in the Walternienburg style, found outside our immediate area of study, in the megaliths of Barskamp and Oldendorf, yet the presence of lugs, which are not positioned at the upper edge, suggests these examples are more akin to the Salzmünde style drums, at least if we follow Fischer's criteria, which has been largely supported by the evidence cited above. However, Mildenberger (1953, 31) has already dismissed the class of a distinct Altmark Tiefstich drum.

A further problem exists in the inclusion of the Obereichstädt drums in the class of Salzmünde burial drums. This is due to the fact that although the assemblages show distinct Salzmünde style traits, the radiocarbon date range is 2890–2830 BC cal (Müller 1994, 159; Müller 2001, 138). Although this date is acceptable, since Müller's (2001) Salzmünde C style corresponds to this date range, it means that it should not be included in the TRB MES IV drum group. Two explanations are open to us: firstly a localized continuation of the tra-



Map 5. TRB IV Drum Types (Wyatt, 2007).

Karte 5. TRB IV Trommeltypen (nach Wyatt 2007).

dition as seen in the clear Salzmünde style drum from Wallendorf-Hutberg, also late 2880–2620 BC cal (Müller 2001, 122) or – secondly – a lack of a clear association. While the Obereichstädt drums are associated with Walternienburg and Bernburg style ceramics but also show distinct Salzmünde style influences, we should be aware that these ceramics were discovered on top of the capstone and not in the chamber.

Drum Classification and Decorative Motifs

Complete TRB IV Drums

So far we have been able to corroborate, to some degree Fischer's model, based on the relative proportions of the drum forms, but with the addition of a new type, which corresponds with Müller's (2001) recognition of a distinct pottery style found in burials in the western part of the Salzmünde B distribution. Now we shall examine the decoration of the drums to establish whether these distinctions are paralleled by the distribution of discrete decorative motifs.

Table 7a, (see p. 20) condensed here as tables 7 and 8, relates all complete TRB IV drums with their decoration. This not only allows the recognition of motif groups, but also supports this classification scheme.

The motif groups are defined by their occurrence on the already defined drum type, so they are not entirely independent of drum form, but they are also geographically distinct, and may thus be used to bolster the view that the drum types are contextually, socially and functionally distinct. This should allow the use of the motif groups as a tool for the recognition of the drum types of the fragmentary examples, where the application of the ratios fails.

Context	Drum Group	Motif Group A	B	C	D	E	F	G	H
Settlement	Salz Ia	●	●	●	.	.	.	.	.
Burial	Salz II	.	●	●	●	●	.	.	.
	Salz/Walt	.	.	●	.	●	●	.	●
	Walt 1a	.	.	●	.	●	.	.	●
	Walt 1b	.	.	●	.	●	.	●	●

Table 7. Context, drum type and associated motif groups. (Complete drums.) (further condensation of Table. 7 (p. 20).

Tab. 7. Fundzusammenhang, Trommeltyp und zugehörige Motivgruppen (vollständig erhaltenen Trommeln). Kurzfassung von Tab. 7 (S. 20).

Drum Type	Drum Site	Motif Group A	B	C	D	E	F	G	H
Salz	Niederschmon	.	●	.	.	.	.	.	●
	Brandberge 1	.	●	●	.	.	.	.	.
	Klein Brandeberge	.	●	●	.	.	.	.	.
	Ammendorf	.	.	●	.	.	.	.	.
	Leipzig Eutriztsch 1	.		●	.	.	.	.	.
	Hohenthurm 1	.	.	●	.	.	.	.	.
	Brandberge 2	.	●	●	●	.	.	.	.
	Schiepzig	.	.	●	●	.	.	.	.
	Hohenthurm 2	.	.	●	●	.	.	.	.
	Mucheln	.	.	.	.	●	.	.	.
	Pohlsberg	.	.	.	.	●	.	.	.
Salz/Walt	Grafentonna	.	.	●	.	●	●	.	.
Walt	Nägelstedt	.	.	●	.	.	.	●	.
	Erfurt	.	.	.	.	●	●	.	.
	Wandersleben	.	.	.	.	●	.	●	.

Table 8. Context, drum type and associated motif groups. (Complete drums.) Condensed version of Table 7a (p. 20).

Tab. 8. Fundzusammenhang, Trommeltyp und zugehörige Motivgruppen (vollständig erhaltene Trommeln). Komprimierte Version von Tab. 7a (S. 20).

Since this table of data is rather unwieldy, it has been condensed twice here in order to make it more manageable, firstly as Table 7, containing the drum's names, and secondly in Table 8 reduced solely to drum group. If we examine the table of the relationships of the drum motif groups, it appears that the association of the motifs is dependent on both drum type and also context.

Salzmünde 1a
: Salzmünde settlement drum 1a is found solely with decoration group A, B or C but also with combinations of A+B, A+C, B+C, or C on its own.

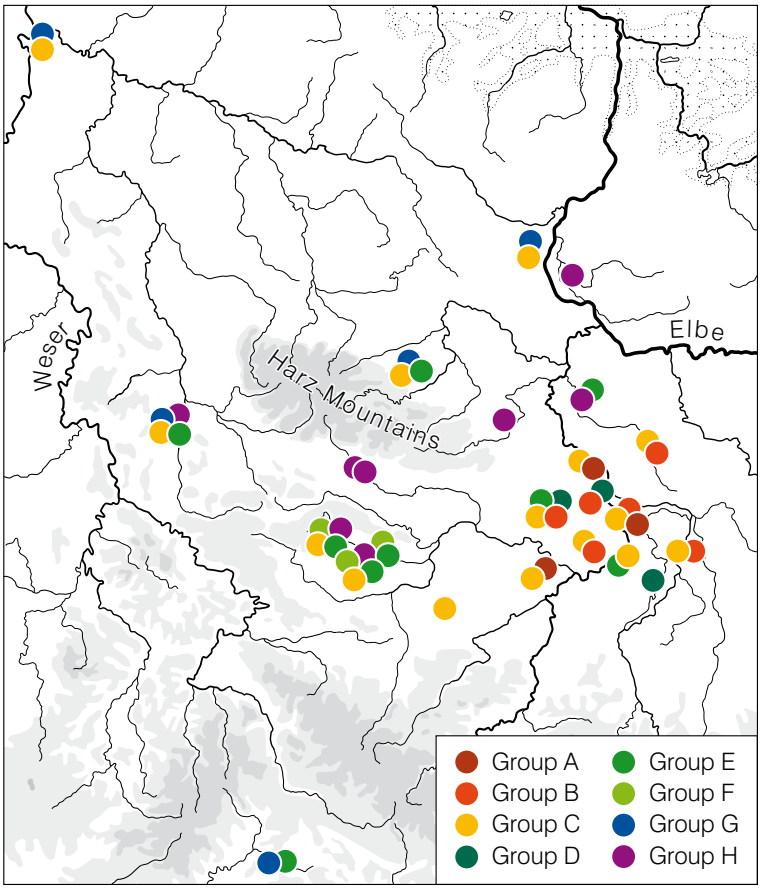
Salzmünde II
: Group A motifs are, based on the complete examples that have survived, never found on Salzmünde II burial drums; these examples possess the combinations of B+C, B+C+D, B+D, C+E or E on its own.

Salz/Walt
: The Salz/Walt drum type is found with the combination of motifs C+E+F, and in the cases of the Hornsömmern and Holzsussra drums also with group H.

Walt 1a
: is decorated with motifs from groups H, H+E and H+C.

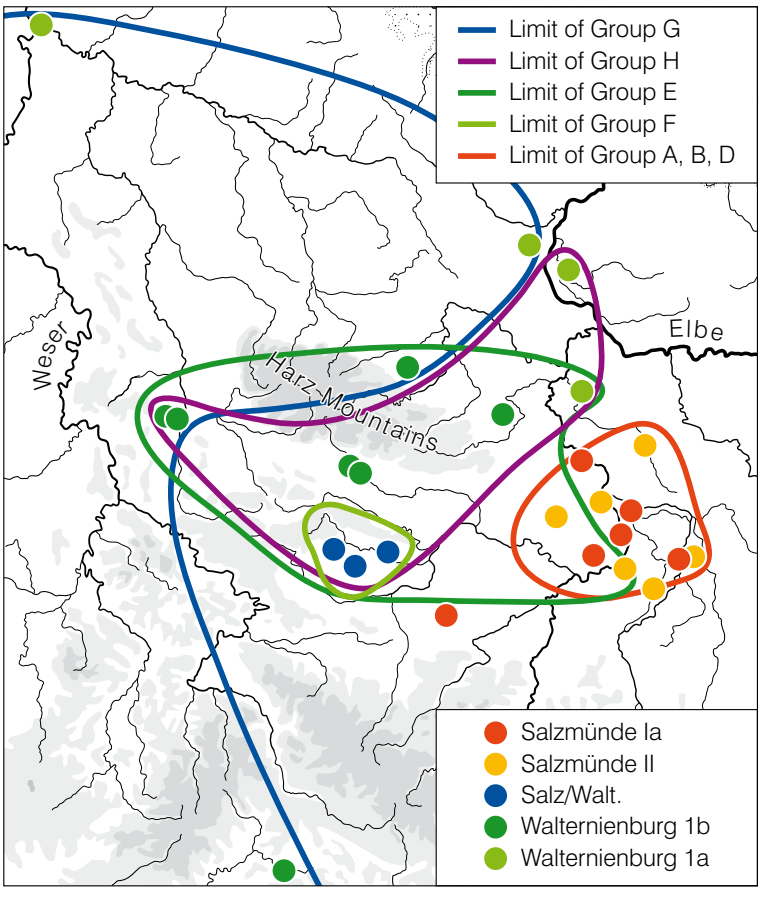
Walt 1b
: drum type has motifs from groups C+H, C+G, C+E+H, E+G, E+H, H.

The significant relationships between drum type, context and motif group is further clarified on Map 6 and Map 7.



Map 6. TRB IV Motif Groups.

Karte 6. TRB IV Motivgruppen.



Map 7. TRB IV Correlation of Drum Type and Motif group.

Karte 7. TRB IV, Korrelation von Trommeltyp und Motivgruppe.

In summary:

- All drum types may be decorated with group C motifs;
- Only drums from burial contexts are decorated with group E motifs;
- Group A Motifs are restricted to Salzmünde Ia settlement drums;
- Group D motifs are limited to Salz II burial drums;
- Group F motifs are found only on drums of Salz/Walt type;
- Group G occur only on Walt Ib drums;
- Group A, B and C motifs may be found in combination on Salzmünde Ia type;
- In burial contexts of Salzmünde II type drums we find B, C, D and E;
- The motif groups, as with the drum types, display distinct distributions, as in Map 7.

Incomplete TRB IV Drums

When we apply a similar analysis to the incomplete TRB IV drums, some queries arise concerning the motif groups: however, in this instance the table 9 presented here is the condensed version of the full table 9a (p. 21). For example, no group A motifs are found on the incomplete drum fragments, despite the fact that many are known to come from settlement contexts.

Considering the fact that the group A motifs only occur on three drums (Obermöllern, Leuna-Rössen and Weinburg), an explanation may be posited that group A motifs should not be categorized separately from group B motifs and are not diagnostic of the Salz 1a settlement drum.

Whether or not we choose to recognize the group D motifs as specific to the Salz II type burial drum is also queried here, but since the three instruments in question are from unclear contexts this matter cannot be settled based on currently available information. Motifs E, F and H occur on complete Salz/Walt drums, and if we apply this as a criterion then Gräfentonna would qualify as a Salz/Walt drum. The vessel shape and the method of skin attachment both fit with our Salz/Walt model. The presence of F group motifs on the Erfurt drum also suggests that it might be of the Salz/Walt type, a proposal supported by its shape and proximity to the other Salz/Walt drums. However, a caveat should be entered, since although the table recognizes the presence of concentric circle motifs, the Erfurt motif is a large emblem, part of which is broken, and consists of lines made up of small impressions. On the other hand the concentric circles on the Salz/Walt drums are small concise motifs not consisting of joined dots. Finally group G motifs would support a classification of Nagelstedt and Wandersleben as Walt 1b, Group G still only being found on Walt 1b drums.

Summarizing the evidence for TRB IV drums both complete and fragmentary:

- No Group A Motifs are found on fragmentary drums;
- Group D motifs are still limited to Salz II burial drums;
- In burial contexts of Salzmünde II type drums we find B, C, D and E;
- Group E motifs are not found in settlement except for the Mucheln example.

Context	Drum Type	Drum Site	Motif Group							
			A	B	C	D	E	F	G	H
Settlement	Salz 1a	Zauschwitz	.	.	.	.	.	.	.	.
		Wallendorf	.	.	.	.	.	.	.	.
		Sargstedt	.	.	.	.	.	.	.	.
		Obermöllern	●	●	●	.	.	.	.	.
		Leuna-Rössen	●	●	●	.	.	.	.	.
		Weinburg	●	.	●	.	.	.	.	.
		Stork-Pettstadt	.	●	●	.	.	.	.	.
		Vippachedelhausen	.	.	●	.	.	.	.	.
Burial	Salz II	Böhlen-Harth	.	●	●	.	.	.	.	.
		Spickendorf	.	●	●	.	.	.	.	.
		Obereichstädt 1	.	●	●	●	.	.	.	.
		Mustchau-Kottichau	.	.	.	●	.	.	.	.
		Schkopau	.	●	.	●	.	.	.	.
		Zorbau-Gerstewitz	.	.	●	.	●	.	.	.
		Obereichstädt 2	.	.	.	.	●	.	.	.
	Salz/Walt	Feldengel	.	.	●	.	●	●	.	.
		Hornsömmern	.	.	●	.	●	●	.	●
		Holzsussra	.	.	●	.	●	●	.	●
		Calbe 2	.	.	.	.	.	.	.	.
		Hassel	.	.	●	.	.	.	●	.
	Walt 1b	Odagsen-no lug or loop	.	.	●	.	●	.	.	●
		Ebendorf	.	.	●	.	.	.	●	.
		Börnecke	.	.	●	.	●	.	.	●
		Odagsen- loop	.	.	.	.	●	.	●	.
		Grosseibstadt	.	.	.	.	●	.	●	.
		Nordhausen 1	.	.	.	.	.	.	.	●
		Nordhausen 2	.	.	.	.	.	.	.	●
		Quenstedt	.	.	.	.	.	.	.	●
	Walt 1a	Biendorf	.	.	.	.	●	.	.	●
		Menz	.	.	.	.	.	.	.	●

Table 9. Incomplete drums TRB IV: Context, drum type and associated motif groups. (Condensed version of Table 9a (p. 21).

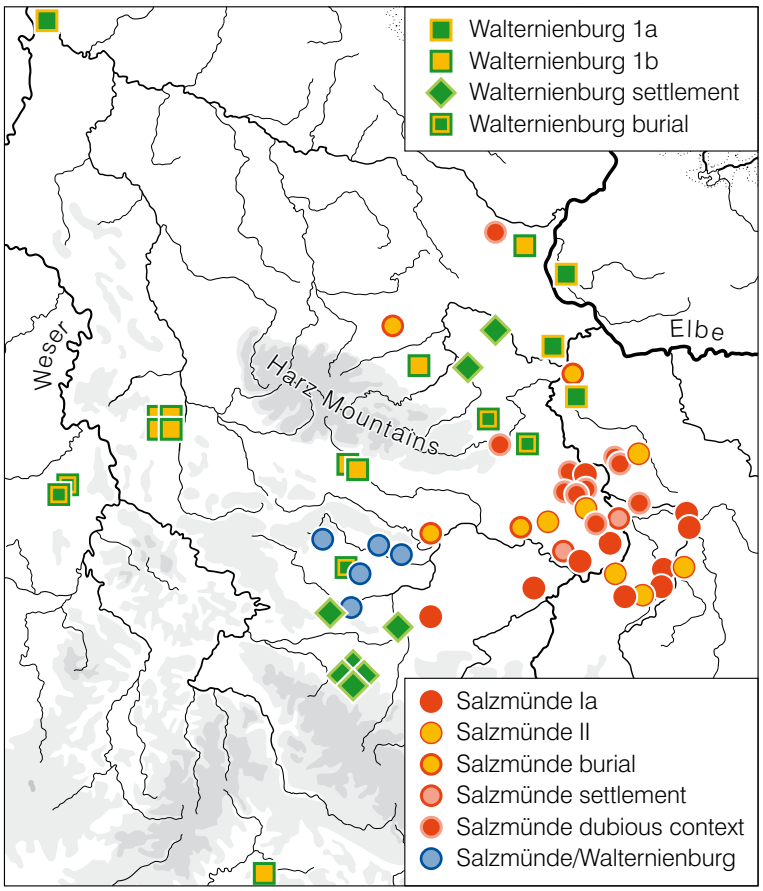
Tab. 9. Unvollständig erhaltene TRB IV Trommeln. Fundzusammenhang, Trommeltyp und zugehörige Motivgruppen. Komprimierte Version von Tab. 9 a (S. 21).

The interpretation proposed here suggests that we are faced with three distinct distribution groups. Drum types Salz Ia and II are associated with motif groups A, B and D. Drum types Walt Ia and Ib are associated with motif group E and H. Drum type Salz/Walt, which only occurs in the western limits of the Salzmünde B settlement distribution, is associated with motif group F and motif group G. Map 8 shows all drums of TRB IV.

Complete TRB V Drums

If we carry out the same process of analysis with the TRB V drums we find a different pattern. Again, this first examination of the Bernburg drum motifs only involves those from complete instruments, since this will presumably provide a clearer picture than including fragmentary examples, which may have motifs missing.

In the case of the complete Bernburg drums, only ten examples survive, but when these data are tablified (Table 10) they reveal a clear



Map 8. All TRB IV from Walternienburg, Salzmünde and Salzmünde/Walternienburg contexts.

Karte 8. Alle TRB-IV-Funde aus Walternienburg-, Salzmünde- und Salzmünde/Walternienburg-Kontext.

distinction, between the distribution of settlement and funerary motifs. There seems to be no possibility of defining more detailed groups of motifs, but this may well be a reflection of the relative dearth of different drum types in TRB V in comparison with TRB IV.

The only motif present on both settlement and burial drums is the one defined here as the divided pine-branch, which occurs on the first Derenburg settlement drum and on the Nietleben burial drum. Finally we should note that, based on the available evidence, it is not possible to relate the TRB V motifs to the groups defined for TRB IV.

Incomplete TRB V Drums

When applying this analysis to the incomplete drums the clarity of the distinction between burial and settlement motifs is marred, see Table 11. However, the inability to clearly define burial or settlement decoration may be due, in part, to changes in the overall function of the drums in TRB V, where its significance within the burial context is largely diminished.

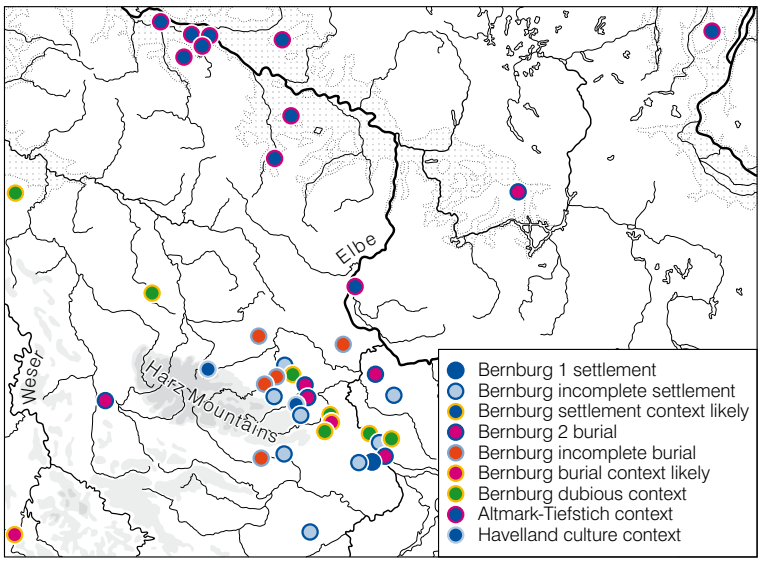
TRB V Drums

One final point is to observe the general distribution of the drums based on their context. Map 9 illustrates the dichotomy of settlement and burial drums in TRB V. The drums found in settlements are distributed in the south-east of the area while those found within burial contexts, with two exceptions, are found in the north-west of the distribution area. The TRB V settlement drums dominate in the area corresponding to the eastern half of the Salzmünde B settlement

		Complete Settlement Drum					Complete Funerary Drum				
		Klein-Quen	L-pit 95	QS-pit 155	Derenburg	L-pit 86	Fredrichsaue	Nietleben	Latdorf5	Edesheim	Pevestorf
Funerary Decorative Motifs	Rectangle of dots	.	.	.	.	.	.	.	.	●	.
	Upright and inverted triangles of multiple lines on central line	.	.	.	.	.	.	.	●	.	.
	Rectangular groups of lines with alternating bordered space	.	.	.	.	.	.	●	.	.	.
	Multiple comb border at waist	.	.	.	.	.	●	.	.	.	.
	Parallel lines of dots at foot	.	.	.	.	.	●	.	.	.	.
	Parallel lines of dots in foot	.	.	.	.	.	●	.	.	.	.
	Parallel lines of dots at foot (round top below lugs)	.	.	.	.	.	.	.	.	●	.
	Zigzag double broken band on upper part	.	.	.	.	.	●	.	.	.	.
	Triangles standing and hanging, dot and line fill, line fill of diamond	.	.	.	.	.	.	●	.	.	.
	Rectangular groups of lines	.	.	.	.	.	.	.	●	.	.
	Pine divided branch	.	.	.	●	.	.	●	.	.	.
Settlement Decorative Motifs	Triangle hanging group with solid border and dotted fill	.	.	.	.	●	.	.	.	.	.
	Triangle Standing group with solid border and dotted fill	.	.	.	.	●	.	.	.	.	.
	Triangles circulating dotted fill, merges to single motif at base	.	.	.	.	●	.	.	.	.	.
	Triangles circulating hanging dotted fill	.	●	.	.	.	.	.	.	.	
	Chess board with alternating fill of horizontal lines	.	.	●	.	.	.	.	.	.	
	Chess board with alternating pine tips	.	.	.	●	.	.	.	.	.	.
	Ladder double horizontal panel	.	.	●	.	.	.	.	.	.	.
	Ladder multiple vertical motifs	●	.	.	.	.	.	.	.	.	.
	Pine branch	.	.	●	.	.	.	.	.	.	.
	Comb double hanging circulating band	.	.	.	.	●	.	.	.	.	.
	Linked squares	.	.	●	.	.	.	.	.	.	.
	Dividing multiple staggered chevron border	.	.	.	●	.	.	.	.	.	.

Table 10. Complete drum type and motif groups TRB V ("L-pit" and "number" refers to Langenberg context number).

Tab. 10. Vollständige Trommeltypen und Motivgruppen TRB V (L-pit und Zahl bezieht sich auf Langenberg Fundnummer).



Map 9. All TRB V drums with the inclusion of TRB IV Altmark-Tiefstich and Havelländ Culture contexts.

Karte 9. Alle TRB-V-Trommeln inklusive TRB IV Altmark-Tiefstich- und Havelland-Kultur-Kontext.

	L-Pit- 107	Sangerhausen	L-pit-78	QS-pit-241b	L-pit 1	L-pit 228	L-pit 125	L-pit 220	Krollwitz 1	L-pit 122	L-pit 180	L-pit 2	QS-pit-119	QS-pit-100	L-pit 14	QS-pit-241a	L-pit 156	QS-pit-282	Lang-single 1	L-pit 214-229165	QS-pit-114	L-pit 165	Grossobringen1	Grossobringen2	Grossobringen3
Rectangle of dots	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Upright and inverted triangles of multiple lines on central line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rectangular groups of lines with alternating bordered space	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Multiple comb border at waist	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zigzag horizontal multiple	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rectangular groups of lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	
Triangle hanging group with solid border and dotted fill	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	.	●	.	.	.
Parallel lines of dots in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chess board with alternating shading of horizontal dot lines	.	.	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Parallel lines of dots at foot (round top below lugs)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Parallel lines of dots in foot (upper part)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Parallel lines at foot (near waist)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zigzag double broken band on upper part	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zigzags upper part 1 band of multiple	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lower part multiple zigzag (upper part)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chevrons vertical group																							●		
Chevrons horizontal in linear group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Circulating parallel horizontal lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Triangles standing and hanging, dot and line fill, line fill of diamond	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pine divided branch	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
Chess board with alternating shading of small hor lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	.
Triangle Standing group with solid border and linear fill	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.
Parallel triple dot line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.
Pine horizontal circulating multiple dot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.
Rectangular/ square embossed area?	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
Pine single wide	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.
Triangles multiple hanging circulating line fill (empty triangles)	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.
Pine horizontal circulating	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	●	.	.	.	.	.
Ladder multiple horizontal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.
Zigzag vertical multiple	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.
Triangle standing group with solid border and dotted fill	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●	●	.	.	.	.	.	.	.
Triangles circulating dotted fill, merging into single motif at base	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.
Triangles circulating hanging dotted fill	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.
Triangles standing and hanging, line fills (empty diamonds)	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.
Chess diagonal unfilled board	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
Comb vertical motif	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
Chess board with alternating fill of horizontal lines no empty sq border	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	.	.
Chess board with alternating fill of horizontal lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●
Chess board with alternating pine tips	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zigzag double external dot fill (empty zigzag Band)	.	.	.	.	.	.	●	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Double zigzag external line fill (empty zigzag Band)	.	.	.	.	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ladder double horizontal panel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ladder multiple vertical motifs	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pine branch	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pine rectangular group of divided	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dot multiple lines anglular arrangement, below horizontal dot line	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Comb double hanging circulating band	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Circulating parallel vertical lines	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Concentric semi circles	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Circulating multiple wavy parallel lines	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Linked squares	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dividing multiple staggered chevron border	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 11. Incomplete drums and decoration of TRB V.

Tab. 11. Unvollständige Trommeln und Verzierung von TRB.

area, exactly the area where drums are dominant within settlement areas during TRB IV, thus despite changing drum forms and decorative motifs there appears to be a continuation in the cultural use of the drums which is visible in the distribution patterns.

Classificatory Conclusions

At the beginning of this chapter it was suggested that the most symbolic aspect of a classification scheme is often the most representative of the culture (Kartomi 1990, 12). This is recounted here in view of the classification scheme that has been proposed. When we proposed a model based on method of skin attachment and ratios of vessel dimensions, the data supported a case for a distinct Salz/Walt drum type, which while having a different form had only three examples, making it a rather sparse illustration of its kind. However, the analysis of decoration suggested that this drum type had its own decorative motif combinations, including some discrete motifs, which only occur in the distribution of the area of this proposed drum type. So although the vessel form might, on its own, be considered an anomaly, the individual decoration supports the notion of a distinct drum type. This definition of a distinct drum class, separate from the other TRB IV forms, is all the more satisfying in light of Mildenberger's (1952, 32) comment that it "appears doubtful that the north Thüringian drum examples are to be associated exclusively with the Walternienburg group". The remaining drum types defined here correspond largely with Fischer's (1951) model, although we are now able to recognize the characteristics, which distinguish the Salzmünde style burial and settlement drums and two types of Walternienburg drums, Ia and Ib. In the case of the Bernburg drums of TRB V, the dichotomy of drum context is again visible recognized here as a slender burial drum and a thickset settlement drum, which as we have seen is reflected in relatively distinct distribution areas, which continue the tradition of TRB IV.

Kartomi (1990, 12) was cited above, stressing the social, cosmological and historical importance of musical instruments. We have proposed here a model for classification of the drums, and later publication will examine the different drum types, their decoration and context to search for the possible meanings of these patterns.

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	Context	Settlement								Burial																						
	Drum Classification presented above	Salzmünde Drum 1a								Salzmünde Drum II							Salz/Walt						Walt 1b Burial Context									W Ia	
		Zausch	Wallen	Sargstedt	Obermö	Leuna-Rössen	Weinbu	Stork-Pettstadt	Vippa	Böhlen-Harth	Spicken	Obereic 1	Mustkot	Schkopa	Zorb-Gerstewitz	Oberedt 2	Feldengel	Hornsöm	Holzsuss	Calbe 2	Hassel	Odag-non	Ebendorf	Börnecke	Odagloop	Grosseib	Nord 1	Nord 2	Quenste	Biendorf	Menz
A	conc. curve	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	tri-curve	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	expanded anchor	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Dot pine grid with zigzag	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Comb border at foot within zigzag	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	invert anchor vaiant	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
B	Zigzag in foot	.	.	.	.	●	.	●	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Zigzag at foot	.	.	.	.	●	.	●	.	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Zigzag on middle of foot	.	.	.	.	.	.	●	.	.	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Parallel lines of dots at foot	.	.	.	●	.	.	●	.	●	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
C	sun	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	anchor	.	.	.	●	●	.	.	.	●	.	.	.	.	.	.	●	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.
	Zagzag waist	.	.	.	.	●	.	.	●	.	●	●	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
	cross	.	.	.	.	●	●	.	.	.	.	●	.	.	●	.	●	●	.	.	.	●	.	.	.	.	.	.	.	.	.	.
	Multiple parallel lines at waist	.	.	.	.	.	.	●	.	.	.	.	.	.	●	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.
	rectangle of dots	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	.	.	.	.	.	●	.	.	.	.	.	.	.	.
D	tooth comb motif	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Non-symmetrical vertical comb at foot	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	wavy line border	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	"bib" a curved "U-shape" with dots	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	tri-semicircle with nobble	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Combination dot line grid	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E	rect. comb motifs	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●	●	.	.	.	.	.	.	●	.	.	.	.	.	.	.
	tooth comb curved arms	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	curved comb group	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.
	rect. of Lines	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	●	.	.	●	.	●	.	●	.	.	.	.	.	.
	rect of zigzag	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.
	Large layered chevron motif	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Comb border in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●	.	.	.	.	.	.	.	●	.	.	.	.	.	.
	Comb border at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	circles	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
F	concentric semi circle	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	divided pine branch	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Double zigzag on foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Rectangular group of pine	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	concentric circle	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	pine branch	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Rectangular groups of lines at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.
G	chevrons horizontal in linear group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.
	Upper part 1 band of multiple zigzags	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	●	●	.	.	.	.	.	.
	circles with central dot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.
	chevrons vertical in linear group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.
H	3 -4 arm cross	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	●	.	.	.	.
	Rectangular groups of lines in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	●	●	.	.	.	.
	Upper part 2 bands multiple lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	●	●	.	.	.	.
	Parallel lines at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	●	●	●	.	.	.
	tree	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
	Parallel lines in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	●	.	.	.
	Parallel lines of dots in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
	Lower part multiple zigzag	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.

Table 7a. Complete Drums from TRB IV. The Relationships between drum type and motif group.

Tab. 7a. Vollständig erhaltene Trommeln TRB IV. Beziehung zwischen Trommeltyp und Motivgruppe.

		Brandberge 1	Klein Brandeberge	Brandberge 2	Ammendorf	Leipzig eutriztsch 1	Hohenthurm 1	Schiepzig	Hohenthurm 2	Mucheln	Niederschmon	Pohlsberg	Grafentonna	Nägelstedt	Erfürt	Wandersleben
A	conc. curve	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	tri-curve	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	expanded anchor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Dot pine grid with zigzag	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Zigzag/Comb at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	invert anchor variant	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
B	Zigzag in foot	●	●	●	.	.	.	.	.	.	.	.	.	.	.	.
	Zigzag at foot	●	●	●	.	.	.	.	.	.	.	.	.	.	.	.
	Zigzag on middle of foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Parallel dot lines at foot	●	.	.	.	.	.	.	.	.	●	.	.	.	.	.
C	Sun	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.
	Anchor	●	●	.	●	●	●	.	.	.	.	.	.	.	.	.
	Zagzag waist	●	●	●	.	●	●	●	.	.	.	.	.	.	.	.
	cross	●	●	.	.	●	.	.	●	.	.	.	●	.	.	.
	Multiple parallel lines at waist	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	rectangle of dots	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
D	tooth comb motif	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.
	Non-symmetrical vertical comb at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	wavy line border	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.
	"bib" a curved "U-shape" with dots	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	tri-semicircle with nobble	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Combination dot line grid	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E	rect. comb motifs	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
	tooth comb curved arms	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	curved comb group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	rect. of Lines	.	.	.	.	.	.	.	.	●	.	●	.	.	●	●
	rect of zigzag	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Large layered chevron motif	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Comb border in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Comb border at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Circles	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
F	Concentric semi circle	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	divided pine branch	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Double zigzag on foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Rectangular group of pine	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
	concentric circle	.	.	.	.	.	.	.	.	.	.	.	●	.	●	.
	pine branch	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
	Rectangular groups of lines at foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
G	chevrons horizontal in linear group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Upper part 1 band of multiple zigzags (x 2)	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●
	circles with central dot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	chevrons vertical in linear group	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
H	3–4 arm cross	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Rectangular groups of lines in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Upper part 2 bands multiple lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Parallel lines at foot	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.
	tree	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Parallel lines in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Parallel lines of dots in foot	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Lower part multiple zigzag	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 9a. Incomplete Drums of TRB IV. Context, drum type and motif groups.

Tab. 9 a. Unvollständige Trommeln TRB IV. Fundzusammenhang, Trommeltyp und Motivgruppen.

References

Bakker 1979: J.A. Bakker, The TRB West Group: Studies in the Chronology and Geography of the Makers of Hunebeds and Tiefstich Pottery. Amsterdam: University of Amsterdam.

Behrens 1979: H. Behrens, Neues und Altes zu den neolithischen Tontrommeln. Fundberichte aus Hessen 19/20 Festschrift U. Fischer 1979, 145-161.

Beran 1993: J. Beran, Untersuchungen zur Stellung der Salzmünder Kultur im Jungneolithikum des Saalegebiet: Beiträge zur Ur- und Frühgeschichte Mitteleuropas 2. Wilkes-Hasslau, 1993.

Childe 1973: V.G. Childe, The Dawn of European Civilization. (sixth edition: St Alban 1973).

Fischer 1951: U. Fischer, Zu den mitteldeutschen Trommeln. Archaeologia Geographica 2, 1951, 98-105.

Fischer 1956: U. Fischer, Die Gräber der Steinzeit im Saalegebiet: Vorgeschichtliche Forschungen 15. (Berlin/Walter de Gruyter and Co 1956).

Grimm 1938: P. Grimm, Die Salzmünder Kultur in Mitteldeutschland. Jahresschrift für die Vorgeschichte der Sächsisch-Thüringischen Länder 29, 1938, 7-99.

Hodder 1982: I. Hodder (ed), Symbols in Action: Ethnoarchaeological Studies of Material Culture. (Cambridge/Cambridge University Press 1982).

Kartomi 1990: M.J. Kartomi, On the Concepts and Classification of Musical Instruments. (Chicago/University of Chicago Press 1990).

Koch 1992: K. Koch, Musikarchäologische Quellen aus dem östlichen Deutschland. Zwischenbericht. Jahresschrift Halle 75, 1992, 101-136.

Lüth 1988: F. Lüth, Salzmünde, Walternienburg, Bernburg. Typologische und chronologische Untersuchungen zum Äneolithikum Mitteldeutschlands. (Dissertation Hamburg 1988: Microfiche 1997).

Mildenberger 1952: G. Mildenberger, Ein steinzeitlicher Grabhügel in der Harth (Kreis Leipzig). Arbeits- und Forschungsberichte zur Sächsischen Bodendenkmalpflege 2, 1950/51, 7-24.

Mildenberger 1953: G. Mildenberger, Die neolithischen Tontrommeln. Jahresschrift Halle 36, 1953, 30-41.

Müller 1994: D.W. Müller, Die Bernburger Kultur Mitteldeutschlands im Spiegel ihrer nichtmegalithischen Kollektivgräber. Jahresschrift für mitteldeutsche Vorgeschichte 76, 1994, 75-200.

Müller 1999: D.W. Müller, Petroglyphen aus mittelneolithischen Gräbern von Sachsen-Anhalt Herkunft, Datierung und Bedeutung in Beinhauer, K.W., Cooney, G., Guksch, C. E. And Kus, S. (Eds), Studien zur Megalithik, The Megalithic Phenomenon. Beiträge Zur Ur- Unf Frühgeschichte Mitteleuropas 21. Verlag Beier And Beran, Archäologische Fachliteratur. Weissbach, 1999, 199-214.

Müller 2001: J. Müller, Soziochronologische Studien zum Jung- und Spätneolithikum im Mittelelbe-Saale-Gebiet (4100-2700 v Chr.). Vorgeschichtliche Forschungen Band 21: Verlag Marie Leidorf GmbH Rahden/Westfalen, 2000.

Niklasson 1925: N. Niklasson, Studien über die Walternienburg-Bernburger Kultur I. In Jahresschrift für die Vorgeschichte der Sächsisch-Thüringischen Länder 13, 1925, 1-183.

Schrickel 1956: W. Schrickel, Zur Ornamentik der neolithischen Tontrommeln Mitteldeutschlands. Wiss. Zeitschr. Univ. Jena 5:4/5, 1955/56, 547-576.

Seewald 1934:O. Seewald, Beiträge zur Kenntnis der steinzeitlichen Musikinstrumente Europas. Bücher zur Ur- und Fruhgeschichte Bd. 2. Wien, 1934.

Seewald 1962: O. Seewald, Zur östlichen Verbeitung der neolithischen Tontrommel. Mitteilungen der Anthropologischen Gesellschaft (Wien) 92, 1962, 259-265.

Shanks and Tilley 1987: M. Shanks and C. Tilley, Social Theory and Archaeology. (London/Polity Press 1987).

Tilley 1999: C. Tilley, Metaphor and Material Culture. (Oxford/ Blackwell.)

Trigger 1989: B, Trigger, A History of Archaeological Thought. (Cambridge/ Cambridge University Press, 1989).

Wyatt 2000: S. Wyatt, The Drums of the Southern TRB: A Neurocognitive basis for their Decoration. Unpub Post-graduate Seminar. Edinburgh University.

Wyatt 2007: S. Wyatt, The Drums of the Southern TRB. Unpub. Ph.D. Dissertation. Edinburgh University.

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