

PART I

CHAPTER 1

INTRODUCTION

1. Statement of Problem

In that area of Southern Africa which forms part of the valley of the Shashi and Limpopo Rivers, one finds numerous remains of earlier habitations belonging to the Iron Age. Many of these sites can not be linked either ethnically or historically with the present Black inhabitants of the area, nor would it appear that the cultures under study extend very far into the Transvaal. Recent research work undertaken by the University of Pretoria at the site of K2 on the farm Greefswald, combined with that done between 1933 and 1940 at the same site suggested that a difference was to be found between the Leopard's Kopje A culture in the Limpopo/Shashi Valley when compared to that found in the Matop^o Hills area near Bulawayo in Rhodesia.

The southern branch of the Leopard's Kopje A culture has been excavated only on the farm Greefswald. It seemed a necessity therefore to investigate some other Leopard's Kopje A sites to control and correlate the information forthcoming from Greefswald. In particular, more information was needed on settlement patterns, as well as on the economy of smaller groups of people that had been living fairly close to what appeared to be the main settlement at K2. Furthermore, using a possibly larger and more varied sample of pottery, it would be possible at some future date to determine in greater detail what differences in ceramics were to be found between the northern and southern branches of the Leopard's Kopje Tradition.

Zhizo pottery had originally been classified as part of the Leopard's Kopje Complex, but later investigation by Huffman (1968 and 1974) prompted a change in the classification, and Zhizo was then removed from Leopard's Kopje to be placed with the Gokomere ceramics, as a second phase thereof. Huffman concluded that there was no foundation for any suggestions that Zhizo could be related to Leopard's Kopje A.

Certain observations made during the course of excavations suggested to the author that the possibility existed of the original classification of Zhizo with Leopard's Kopje not having been totally incorrect.

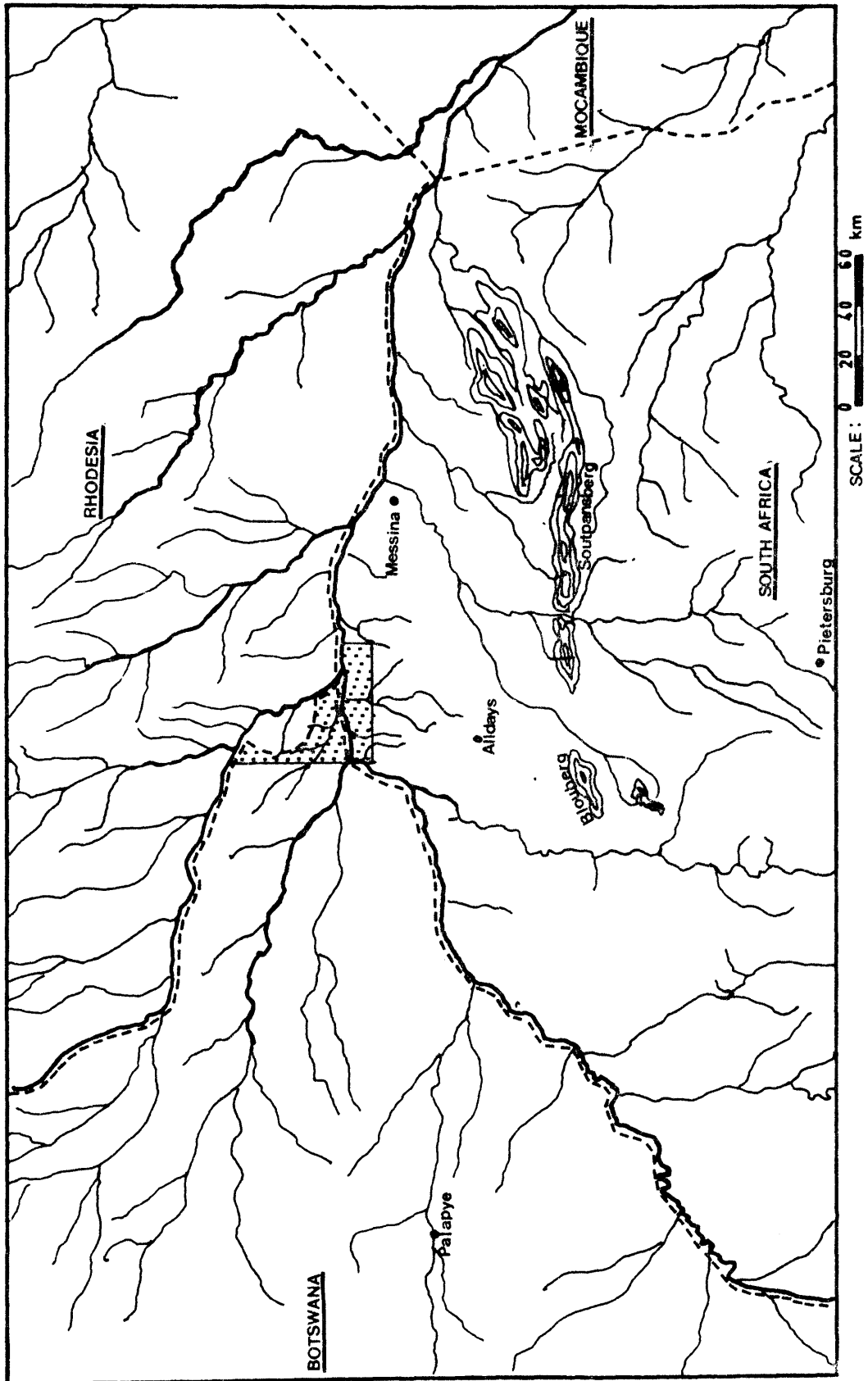


FIG. 1

The Research Area.

Therefore attention was paid to all aspects of the Zhizo culture which may or may not have developed into Leopard's Kopje A.

2. Deliniation of Research Area

Originally this research project covered a very large area of the northern Transvaal, and the area deliniated extended from the Soutpansberg Mountains in the south to the Limpopo River in the north. The eastern boundary was the Sand River, with the Mogalakwena River in the west. Site reconnaissance work was done in this area, and from the information retrieved the limits of the Zhizo and Leopard's Kopje A occupation south of the Limpopo were tentatively established. It was then decided to reassess the research project and to concentrate on these particular two cultures with their smaller spatial spread.

Intensive research work was conducted in an area along the southern bank of the Limpopo River in the northern Transvaal as well as in north-eastern Botswana between the Limpopo and Shashi Rivers (See figure 1). Many sites were discovered here, of which five were excavated.

The amount of information recovered is too vast to be covered in a Master's thesis, and after discussion with Prof. J.F. Eloff, two sites were singled out for interpretation, namely Schroda TSR 1/1 and Pont Drift TPD 1/2.

Surface finds indicated that Schroda was a Zhizo site, while Pont Drift contained Leopard's Kopje A pottery.

CHAPTER 2

DEFINITION OF CONCEPTS AND TERMINOLOGY

The archaeologist is often faced with the problem that authors fail to make themselves clear as to the meaning of various terms that they use. Consequently research articles, although containing new and important information, frequently assume a less important place in the elucidation of the past, because the reader is unable to understand or interpret what is intended by the use of particular terminology.

I hope the following will clarify some of the statements made and terminology used. They have been grouped as far as is possible under specific headings.

1) Pottery Traditions, Phases, and Branches

Bambata. Generally accepted as pottery associated with the Rhodesian Late Stone Age. Redefined by Huffman as an Early Iron Age Tradition, ancestral to Early Iron Age Pottery in the Eastern Transvaal (Huffman 1978).

Gokomere. Considered to be the first Early Iron Age Tradition in Rhodesia, with pottery dating from about 150 A.D. to nearly 600 A.D. Huffman suggests that the true Gokomere dates from about 400 to 600 A.D. The earlier dates belong to pottery which he now calls Bambata.

K2. The southern branch of the Leopard's Kopje A culture found in the northern Transvaal bordering on the Limpopo River, north-eastern Botswana and the southern part of Rhodesia bordering on the Shashi and Limpopo Rivers, spreading in a north-westerly direction to the Matopos. It is named after the site K2 on the farm Greefswald.

Leopard's Kopje I. See Zhizo

Leopard's Kopje II. See Leopard's Kopje A

Leopard's Kopje III. See Leopard's Kopje B

Leopard's Kopje A. This was originally Robinson's second phase (Leopard's Kopje II) of his Leopard's Kopje Culture. Separated from Zhizo by Huffman (Huffman 1968, 1974).

Leopard's Kopje B. The third phase defined by Robinson in the original Leopard's Kopje culture (Leopard's Kopje III) (Robinson 1965),

Mambo; This is the name given to the northern branch of the Leopard's Kopje A culture found in and around the Matopos region of Rhodesia, spreading in a south easterly direction. Differs only marginally from the southern K2 pottery, particularly in the greater abundance of wavy line decoration.

Mapungubwe. The southern branch of the Leopard's Kopje B culture. Found in the northern Transvaal, spreading south eastwards to Venda. Named after Mapungubwe Hill on the farm Greefswald.

Woolandale. The northern branch of the Leopard's Kopje B Culture, found in and around the Matopos region of Rhodesia, spreading in a south easterly direction. Differs slightly from the Mapungubwe pottery, in the greater proportion of wavy line decoration.

Zhizo. This is the culture originally described by Robinson as Leopard's Kopje I (Robinson 1965). On the basis of a qualitative seriation, Huffman separated Zhizo from Mambo pottery. Zhizo is now considered to be the second phase of the Gokomere Tradition (Huffman 1968, 1974).

2) Sites

Bambandyanalo. A hill overlooking the K2 site, and by which name the southern branch of the Leopard's Kopje A culture is often referred to.

Commando Kop. A Leopard's Kopje A site in the Tuli Block of north eastern Botswana. The site lies on top of a hill overlooking the Pitsani River. Excavated by the author in 1975 and 1976.

K2. The type site for the southern branch of the Leopard's Kopje A Tradition. Situated on the farm Greeswald.

Leopard's Kopje Main Kraal. The type site of the Leopard's Kopje A Tradition. Situated near the Khami Ruins at Bulawayo in Rhodesia.

Mapungubwe Hill. Type site for the southern branch of the Leopard's Kopje B Tradition. Situated on the farm Greefswald.

Mmamagwe. A Leopard's Kopje A site situated north of the junction of the Macloutsi and Limpopo Rivers in Botswana.

Pont Drift. A farm on the southern bank of the Limpopo River, 95 km west of Messina. Two adjacent sites (TPD 1/1 and TPD 1/2) were excavated by the author. The latter site is described in this dissertation.

Ratho. A farm on the Transvaal side of the junction of the Macloutsi and Limpopo Rivers. Contains several Leopard's Kopje A sites as well as a Zhizo site, which was excavated by the author in 1977.

Schroda. The name given to the Zhizo site discussed in this dissertation.

Tautswe. See Tautswemogala.

Tautswemogala. An Iron Age site north of Palapye in Botswana. Excavated by Lepionka in 1969 and 1970. Re-excavated in 1979 and 1980 by Denbow. Contains pottery similar to Zhizo and Leopard's Kopje A in addition to

others. In earlier publications the site is referred to as Toupye.

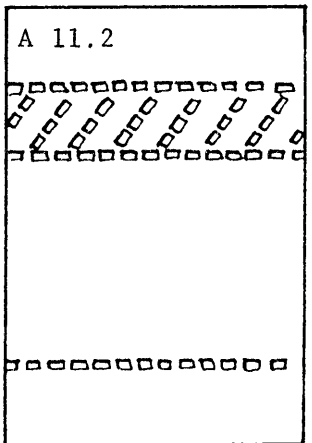
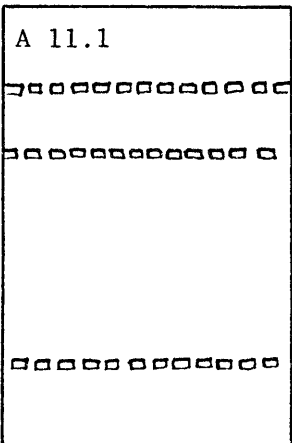
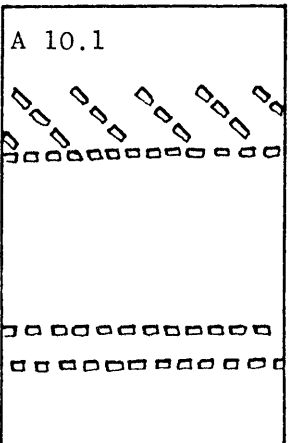
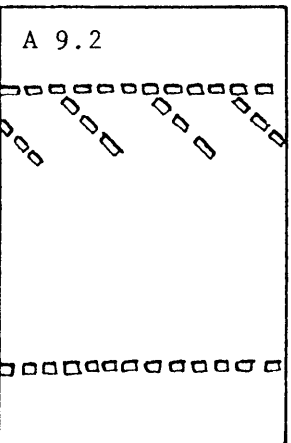
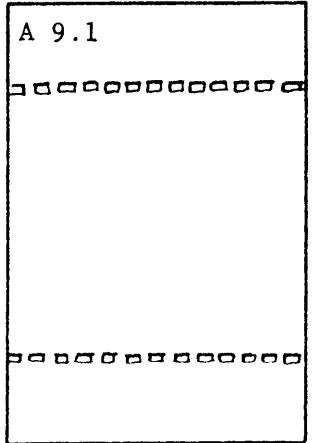
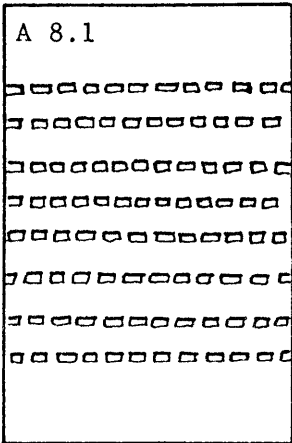
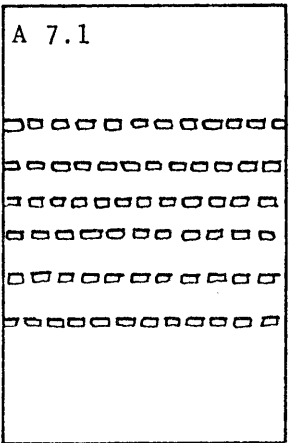
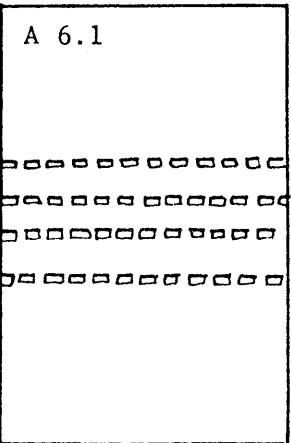
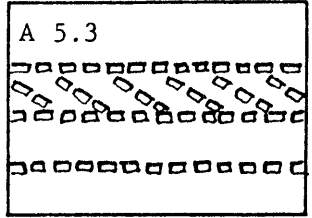
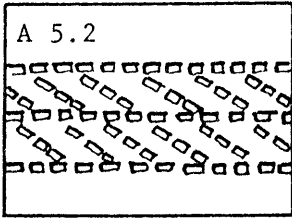
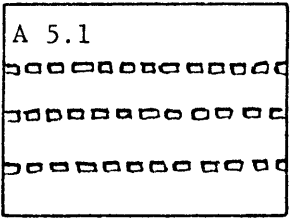
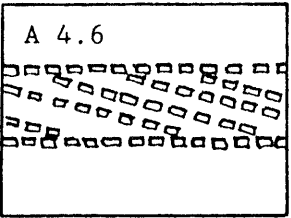
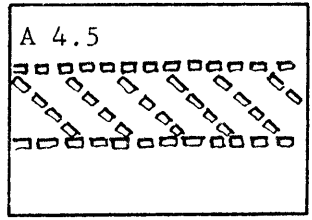
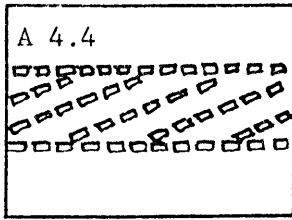
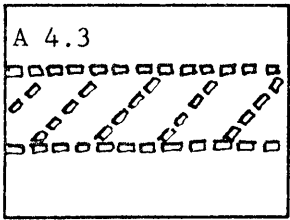
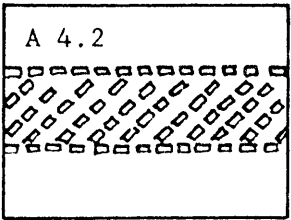
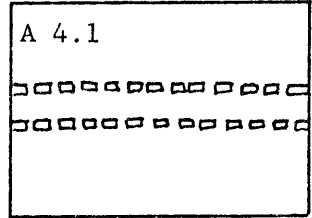
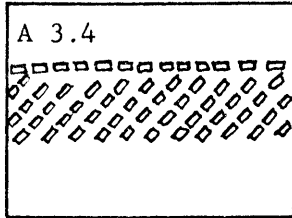
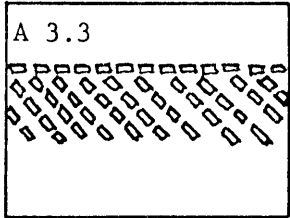
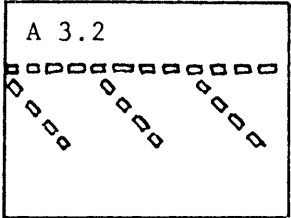
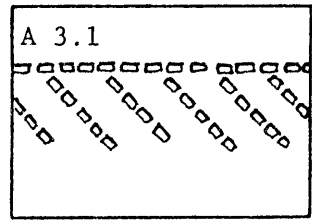
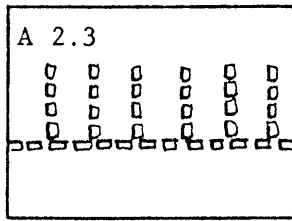
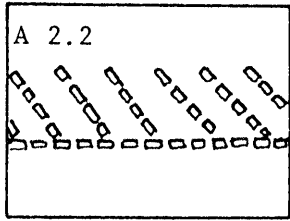
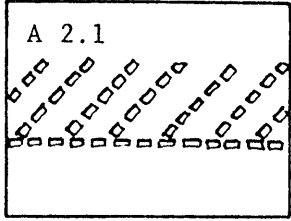
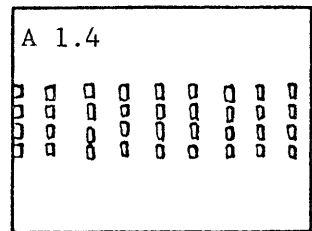
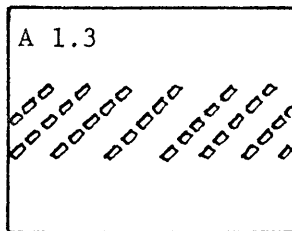
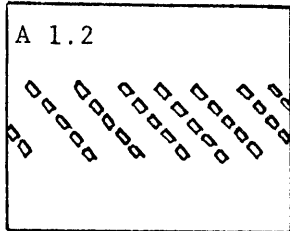
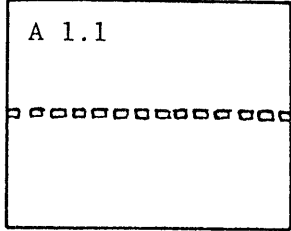
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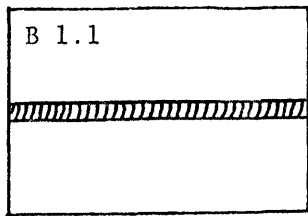
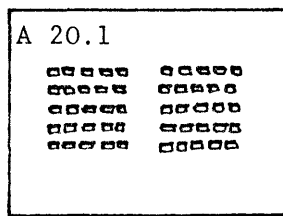
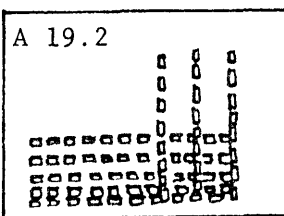
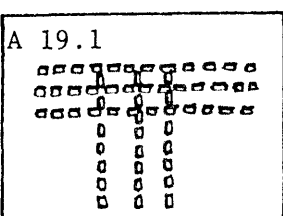
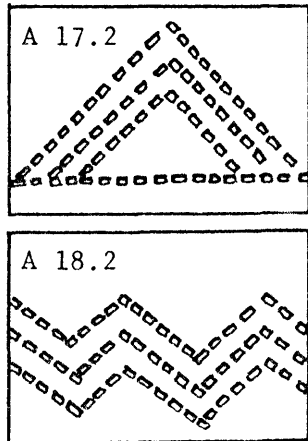
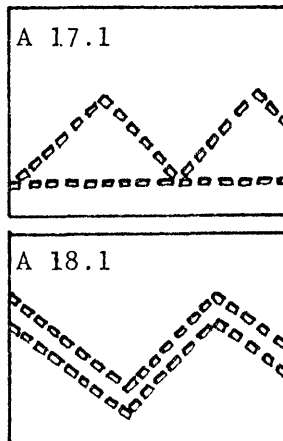
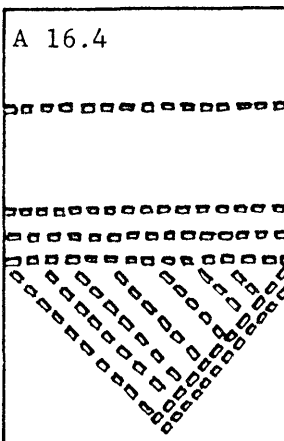
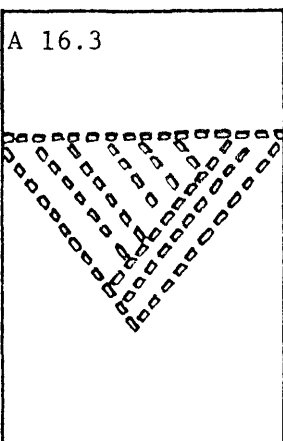
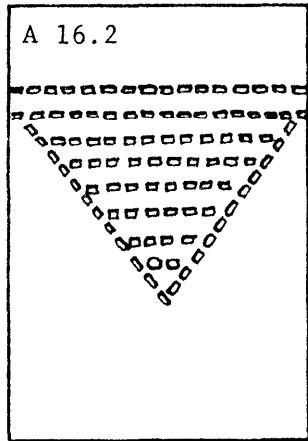
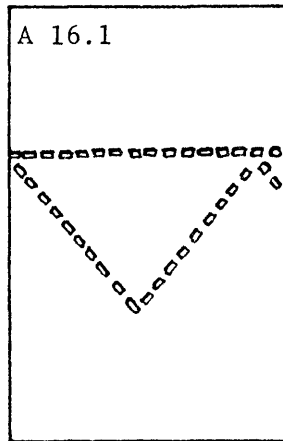
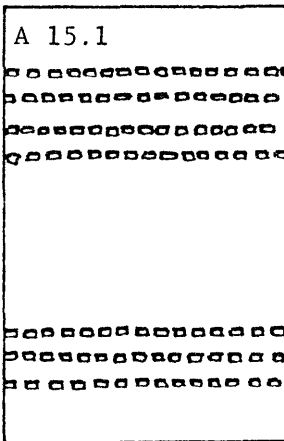
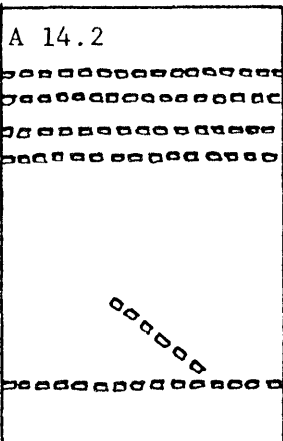
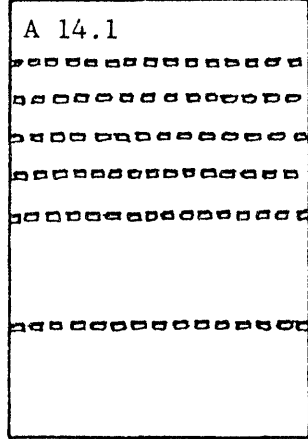
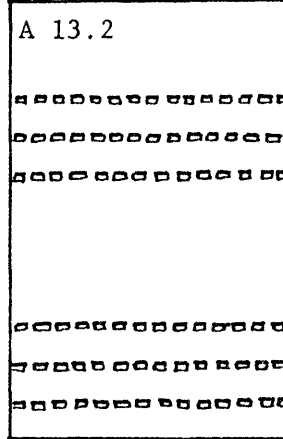
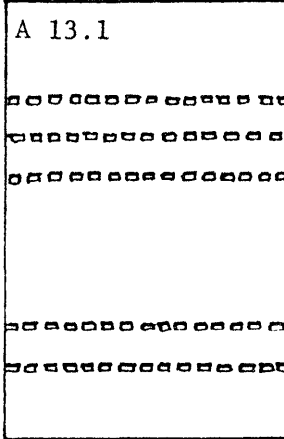
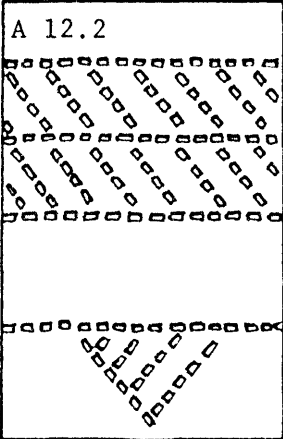
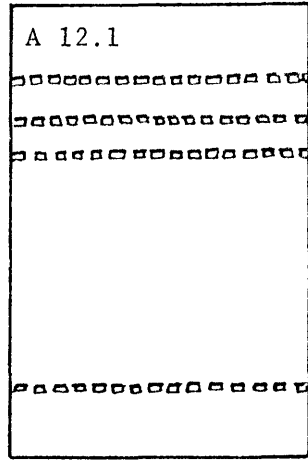
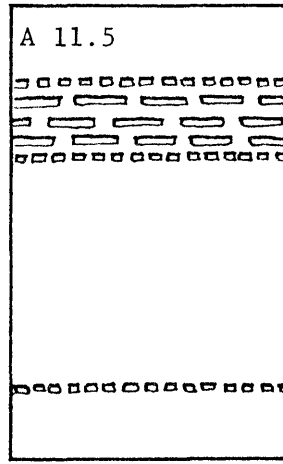
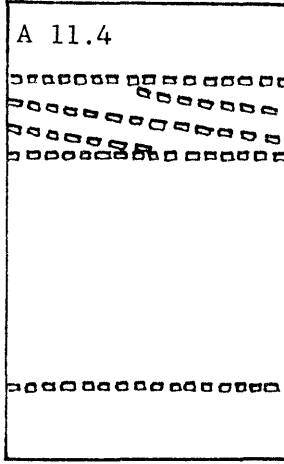
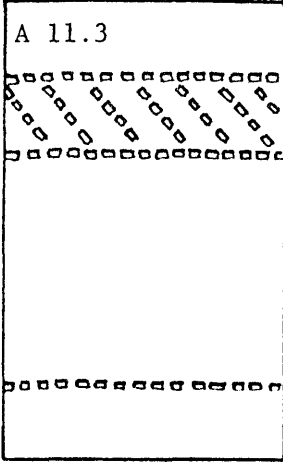
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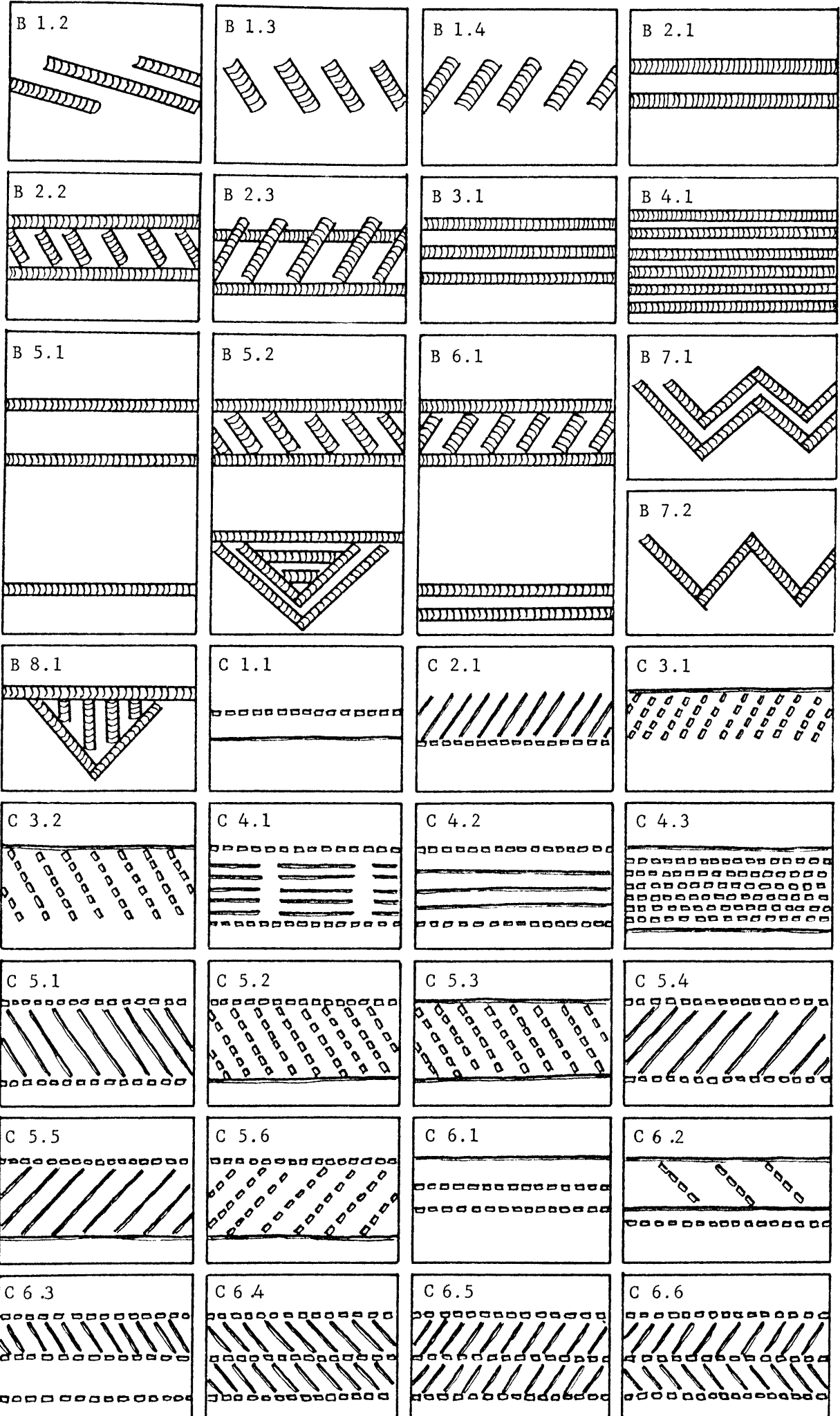
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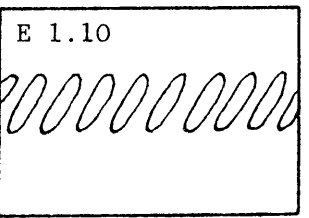
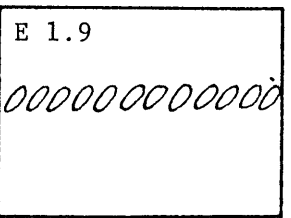
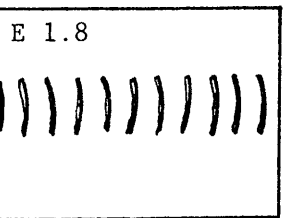
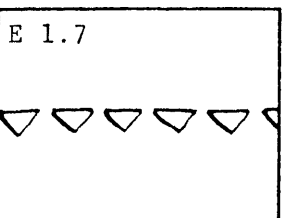
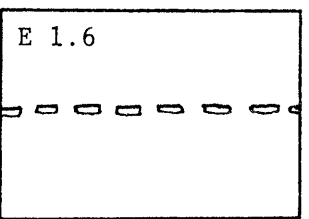
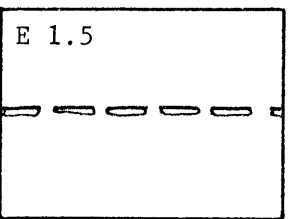
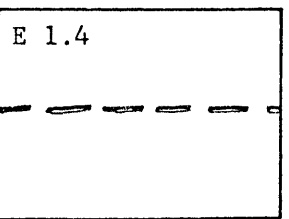
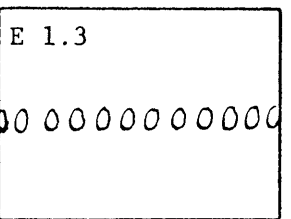
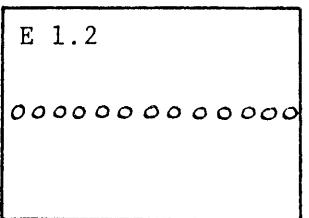
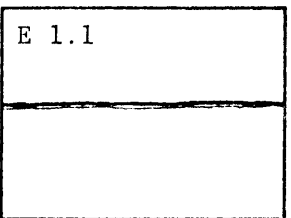
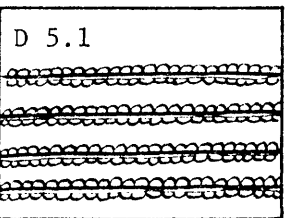
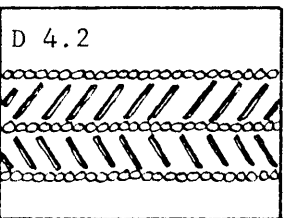
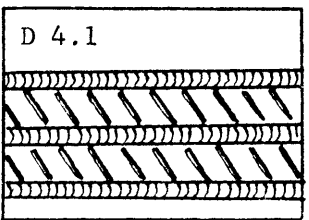
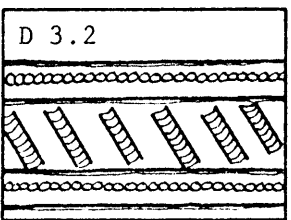
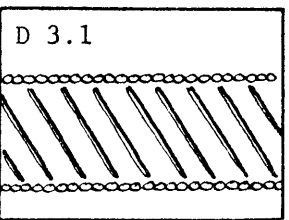
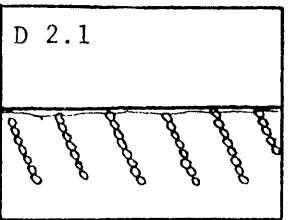
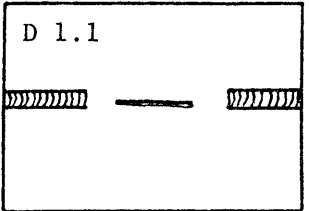
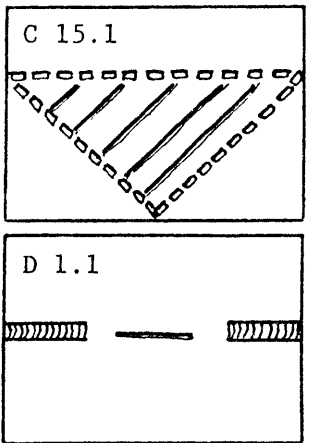
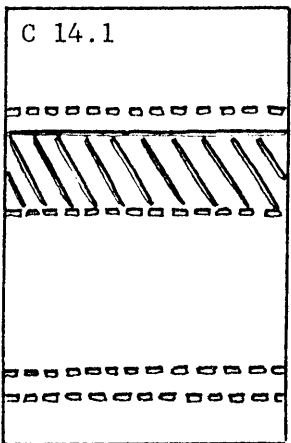
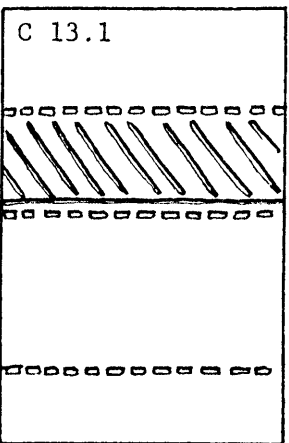
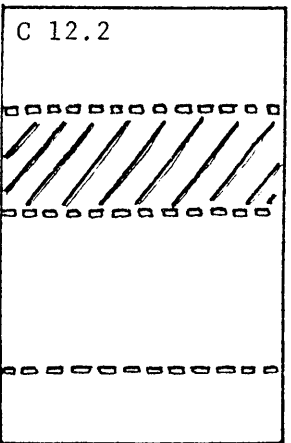
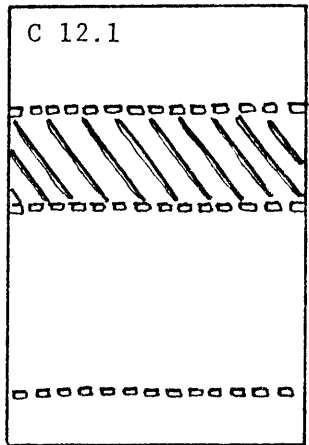
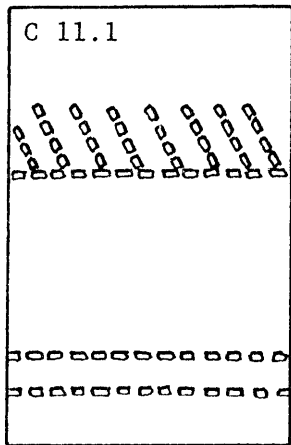
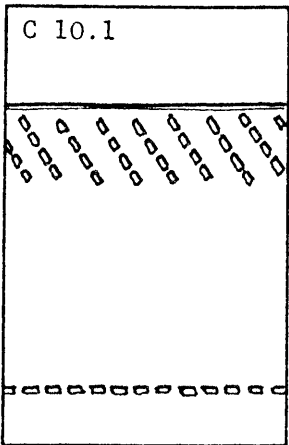
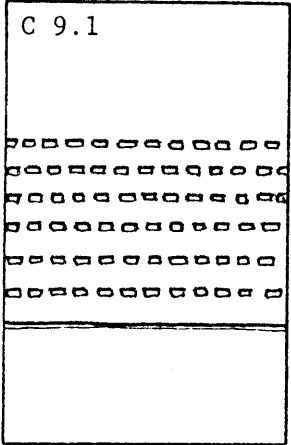
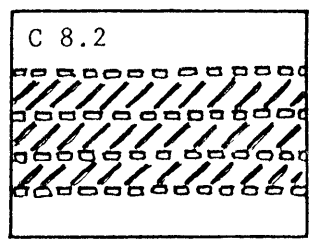
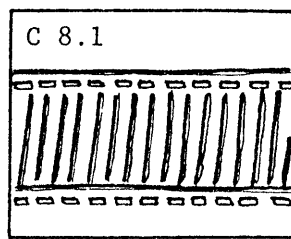
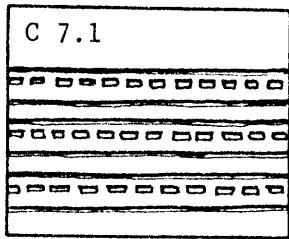
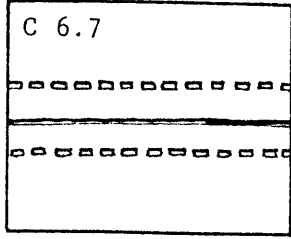
The motifs were divided according to decoration technique and labeled A, B, C, D and E. Grouping was done according to the numbers of parallel lines formed by the technique, basic geometric patterns, methods of infill, and combinations of these attributes.

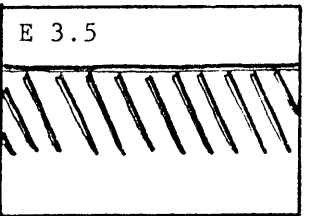
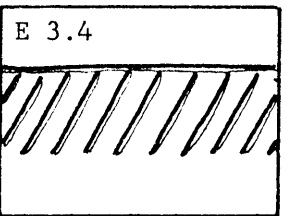
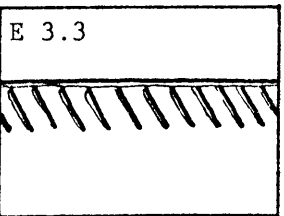
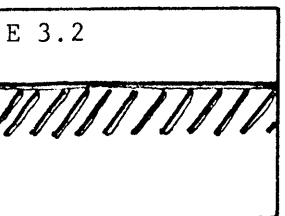
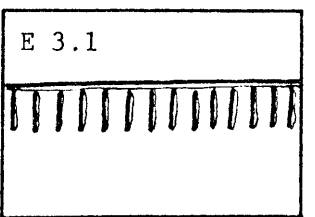
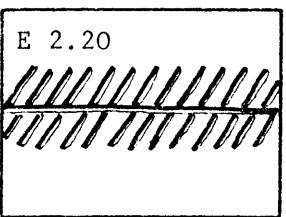
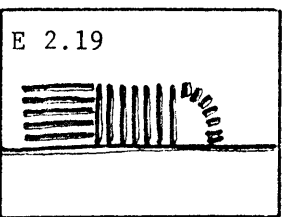
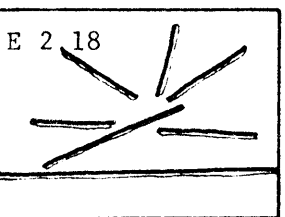
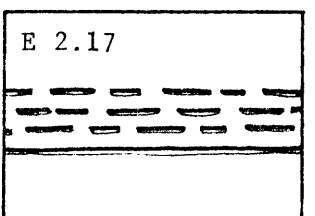
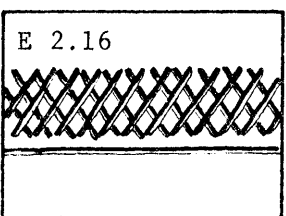
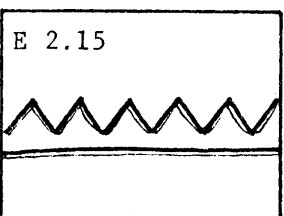
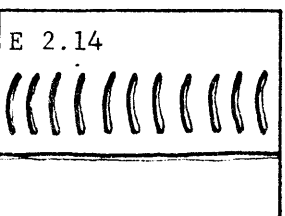
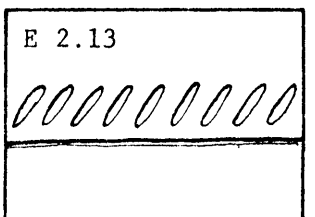
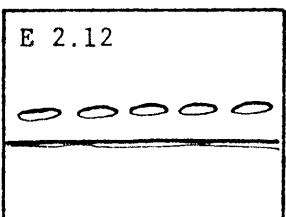
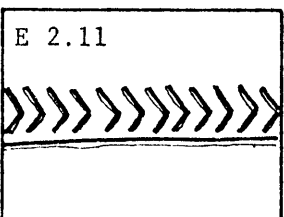
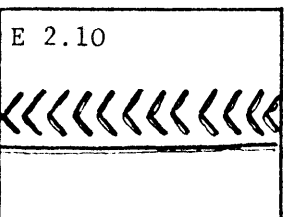
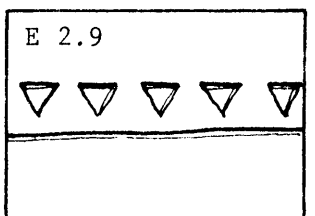
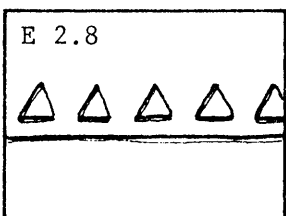
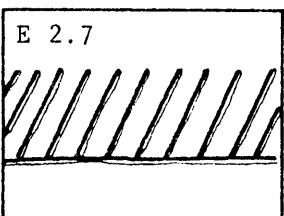
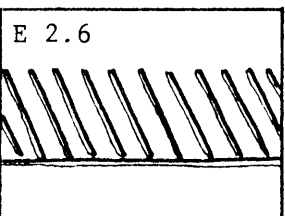
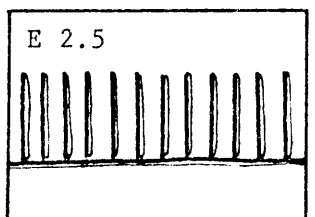
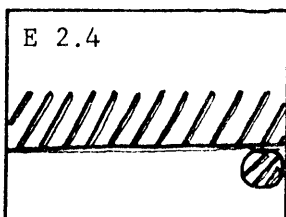
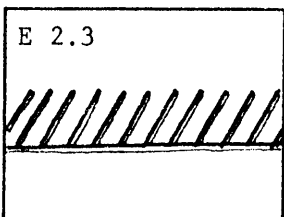
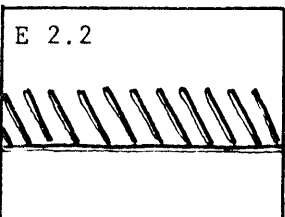
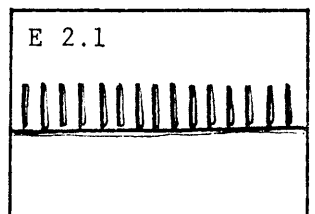
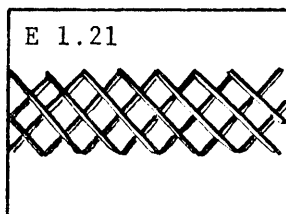
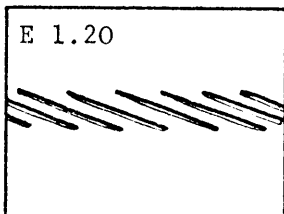
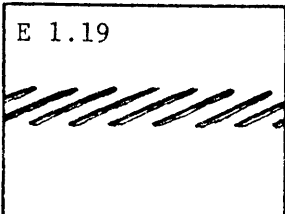
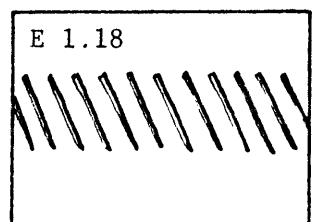
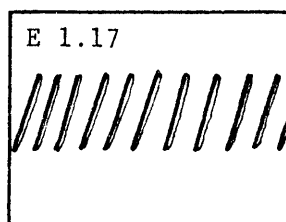
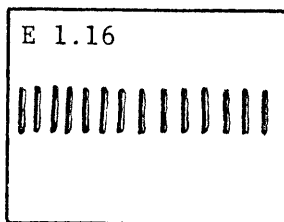
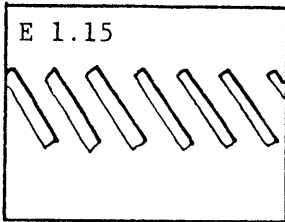
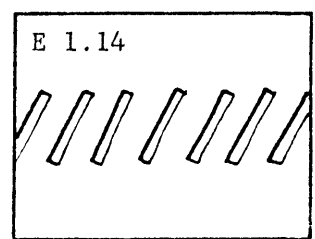
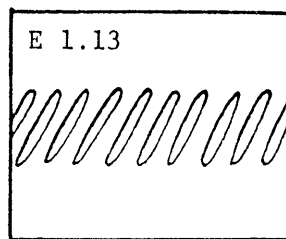
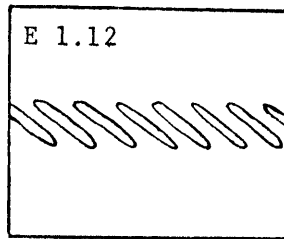
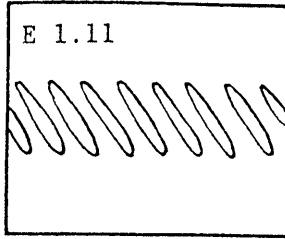
- A: Dentate or comb stamping in wet clay. Stamps leaving different impressions were used. Motifs A1.1 to A8.1 are single bands. A9.1 to A15.1 are combination decorations with the typical rim/shoulder or neck/shoulder layout. Motifs A16.1 to A18.2 are generally found on the shoulders of vessels. A19.1 to A20.1 are 'floating' or discontinuous motifs.
- B: Stamping as formed by the impression of bangles or beads in wet clay. No distinction was made between bangle and bead impressions as the principle of using an ornament for making the decoration is the same. Furthermore very few bead impressions were found. Motifs B1.1 to B4.1 are single bands. B5.1 to B6.1 are combination decorations with the typical rim/shoulder or neck/shoulder layout. Motifs B7.1 to B8.1 are generally found on the shoulders of vessels.
- C: Combination of dentate stamping with incision. Motifs C1.1 to C9.1 are single bands. C10.1 to C14.1 are combinations found on the rim/shoulder or neck/shoulder layout. C15.1 is found on the shoulder.
- D: This is the combination bangle or bead stamping with incision. Very few examples of these combinations were found, usually one of each. Accordingly the different technique combinations are clearly recorded. In one case a combination of bangle impression, bead impression and incision was found. All motifs formed single bands.
- E: This category contains incision in the wet clay as well as engraved decoration on fired vessels. For convenience, styles and punctate impressions, slashes, drag incisions and fingernail prints were all grouped under this heading. In certain drawings the motifs

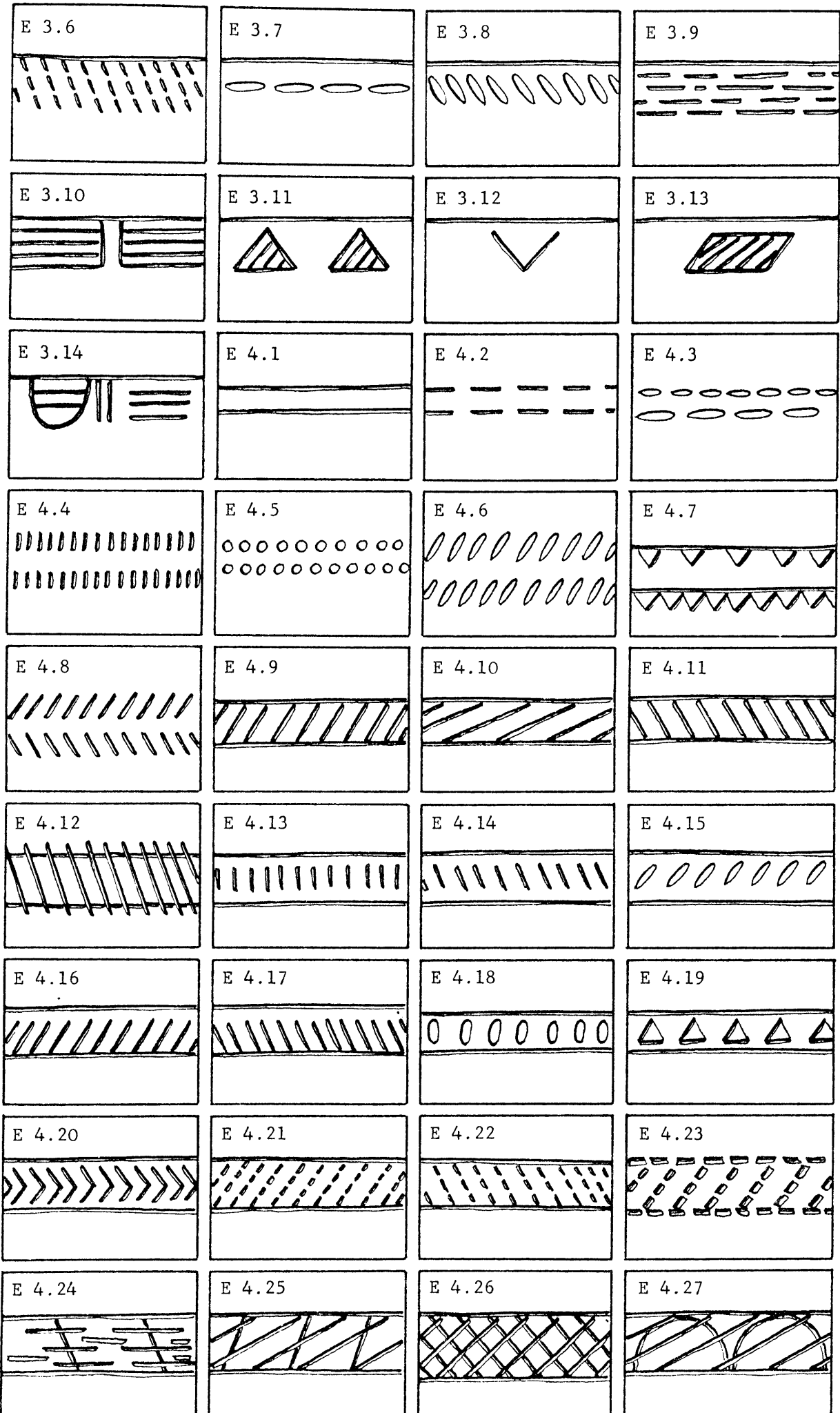


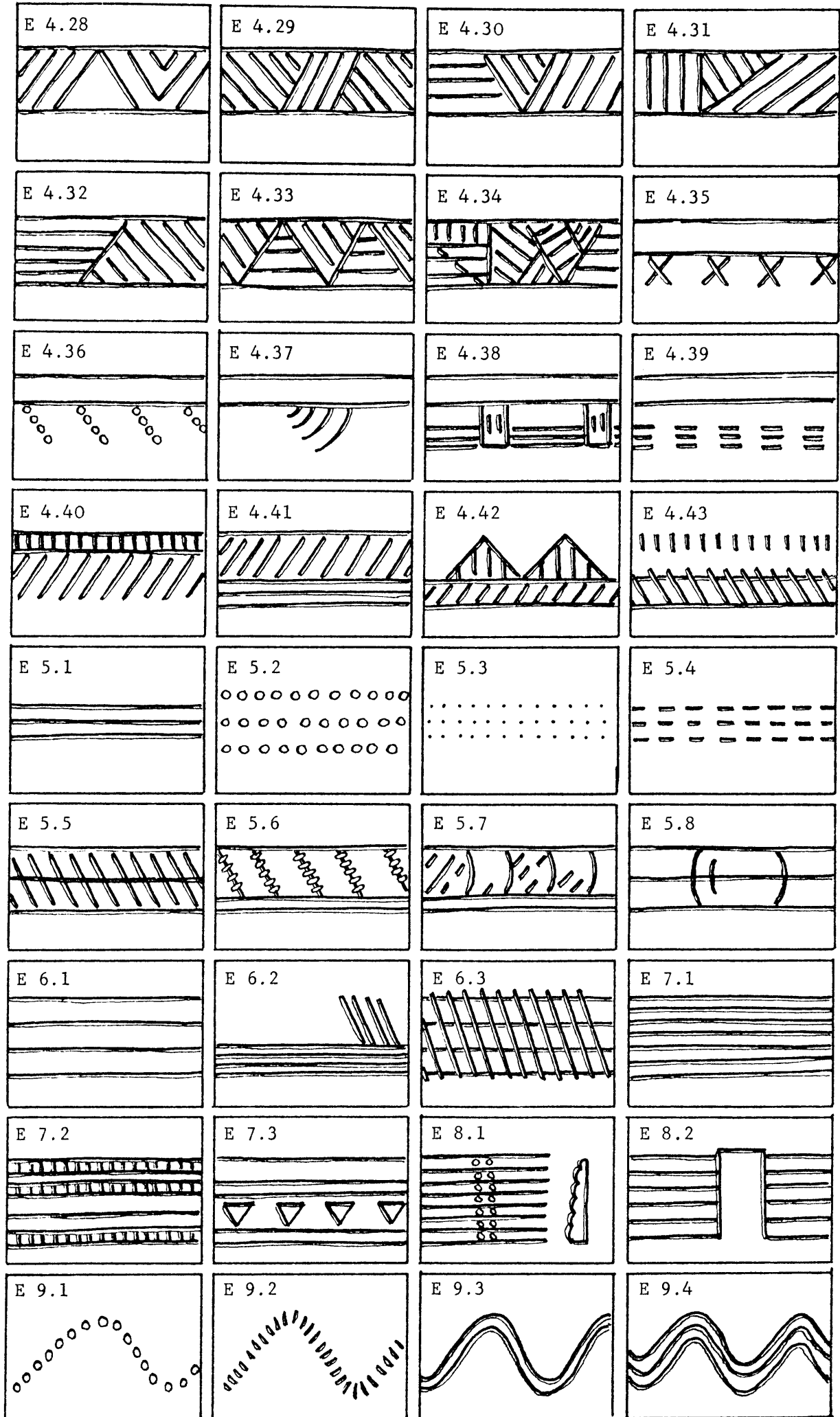


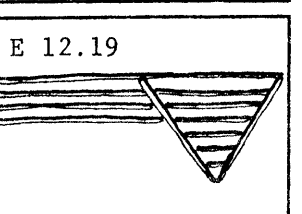
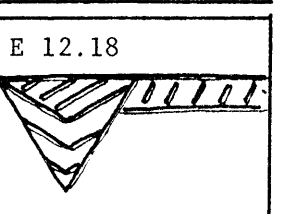
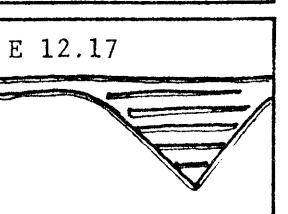
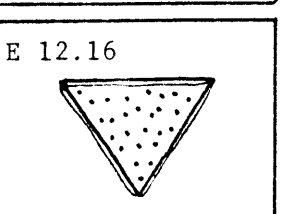
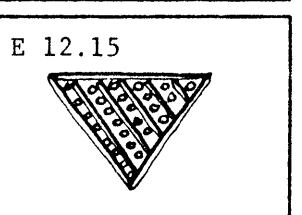
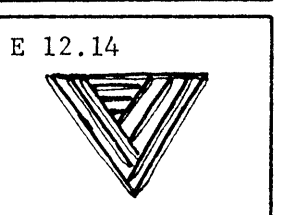
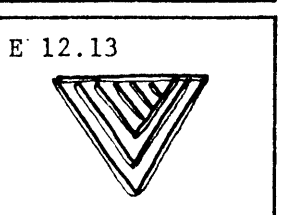
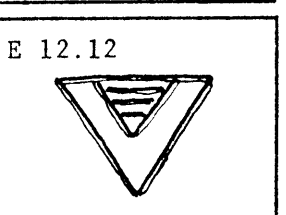
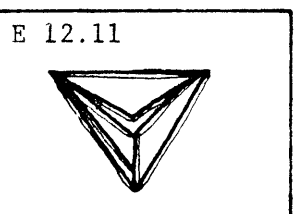
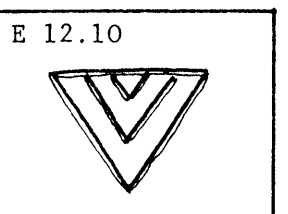
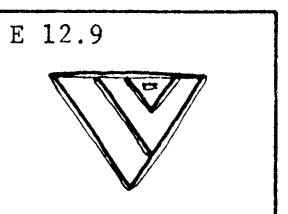
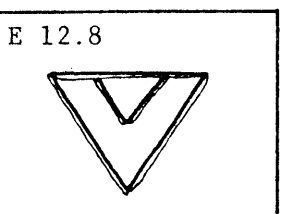
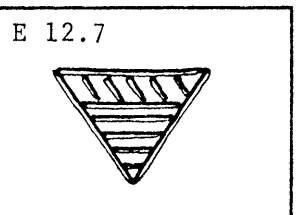
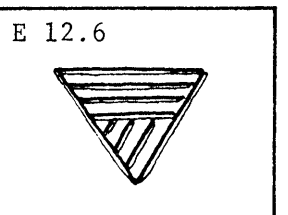
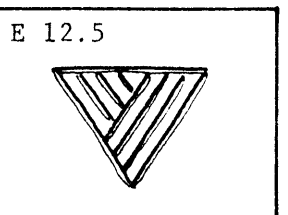
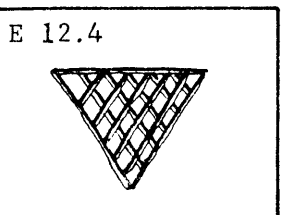
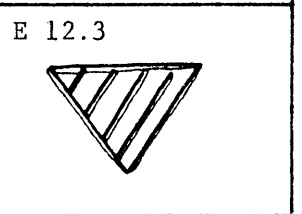
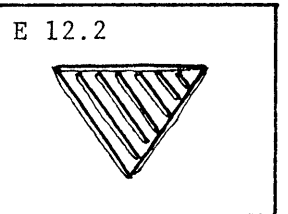
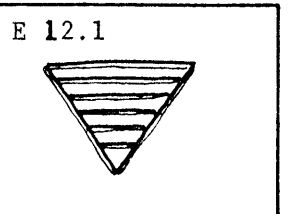
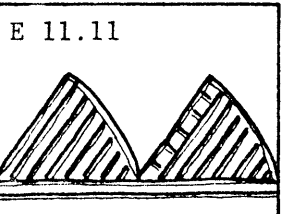
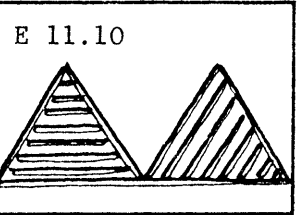
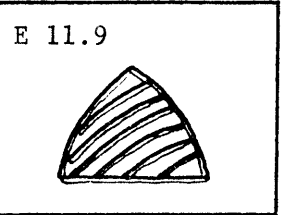
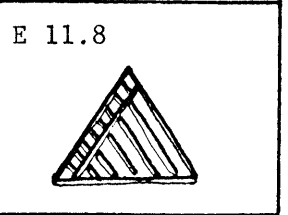
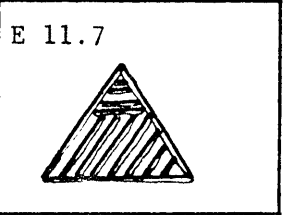
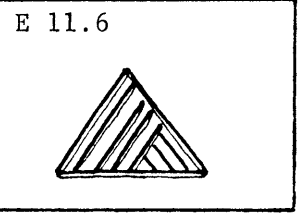
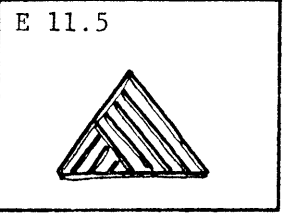
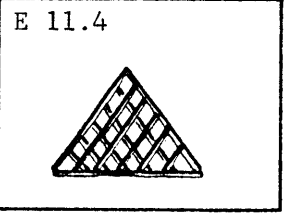
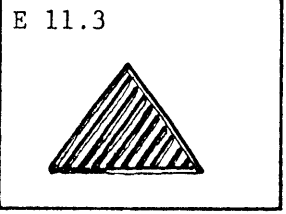
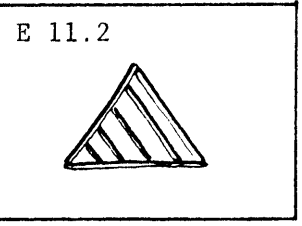
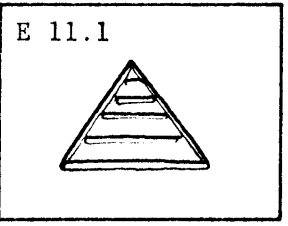
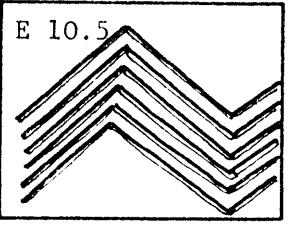
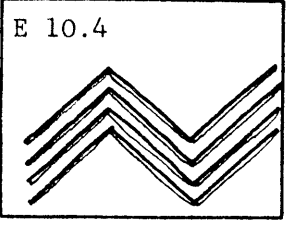
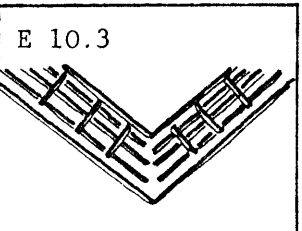
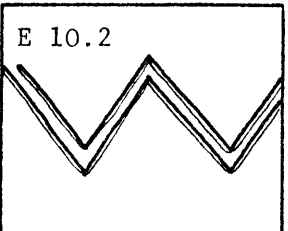
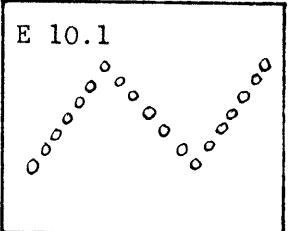
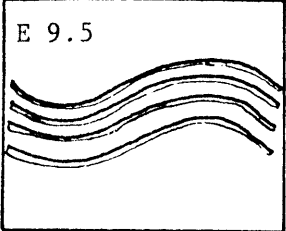


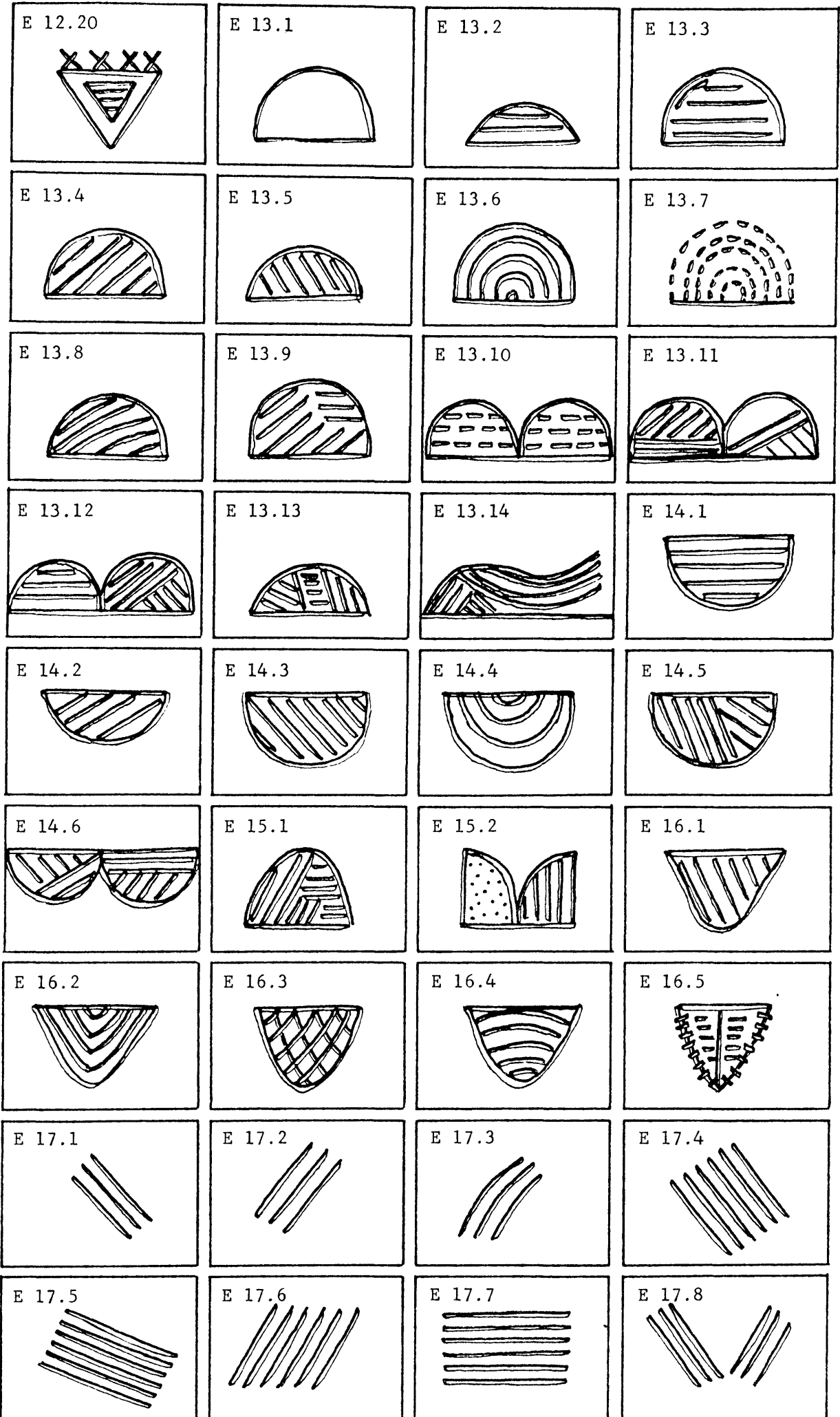


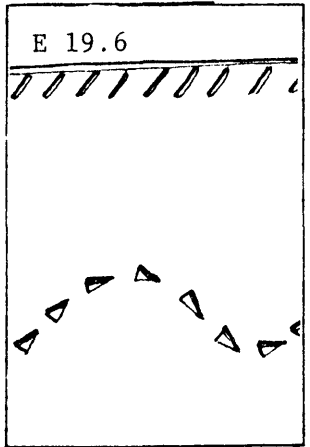
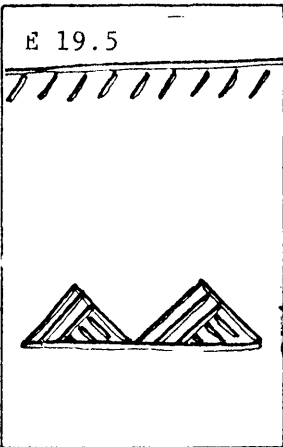
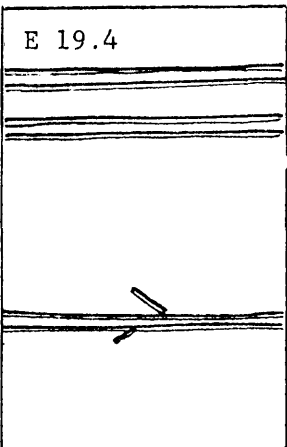
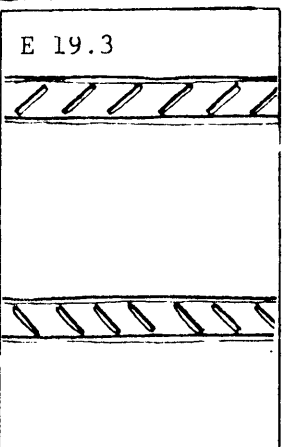
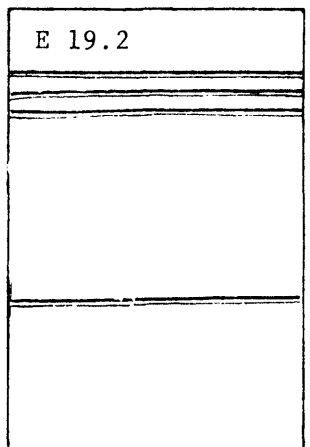
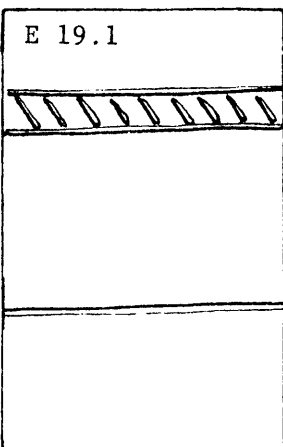
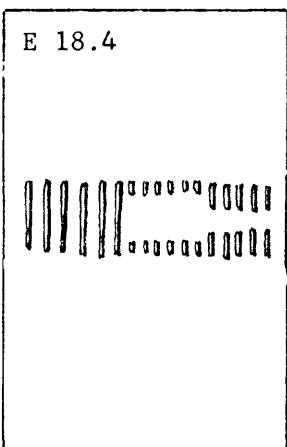
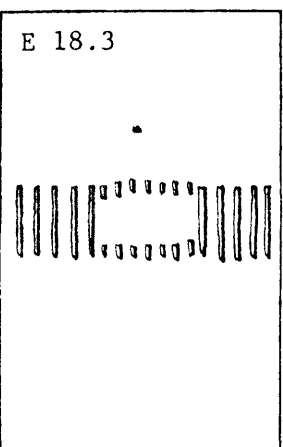
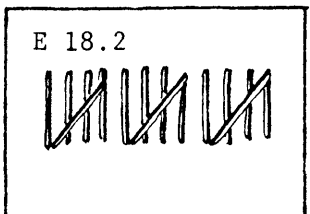
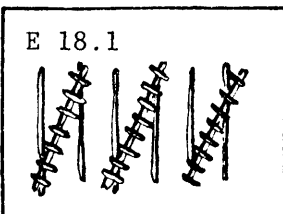
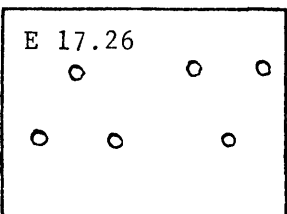
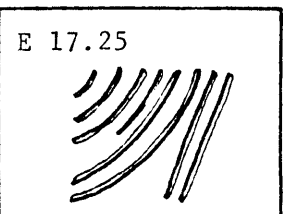
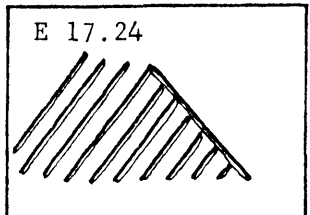
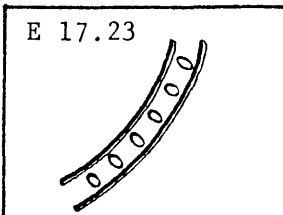
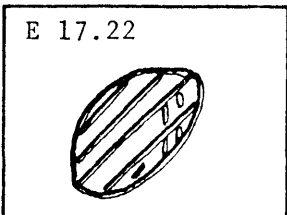
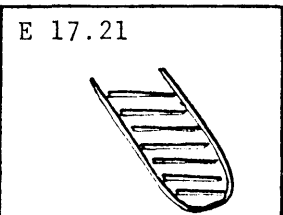
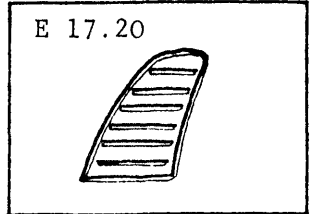
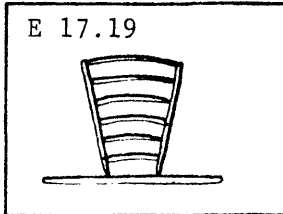
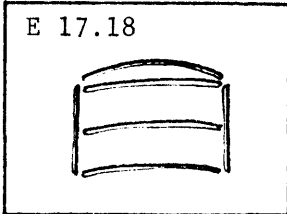
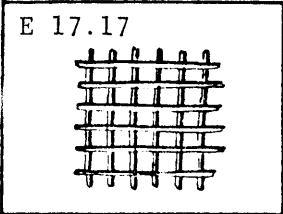
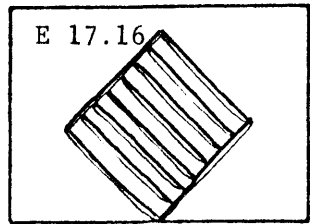
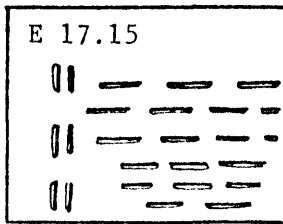
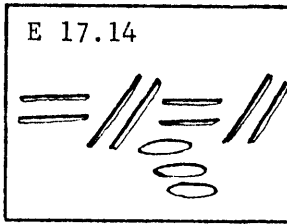
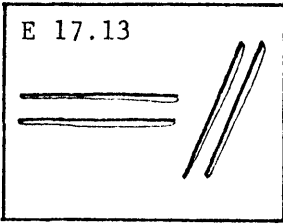
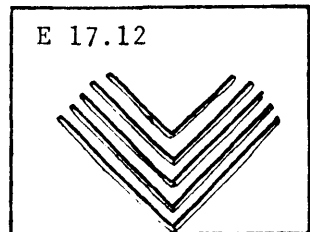
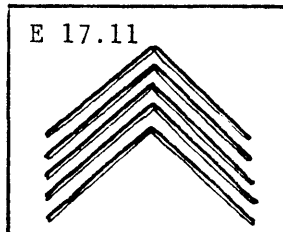
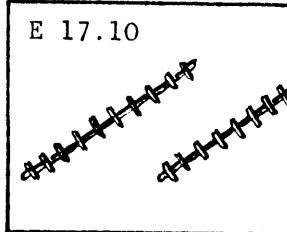
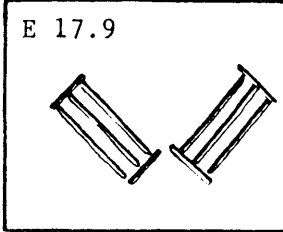


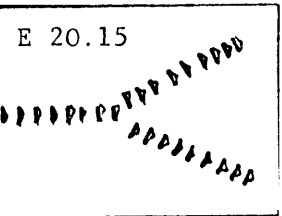
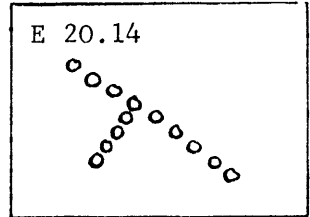
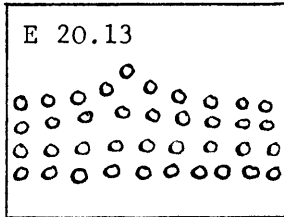
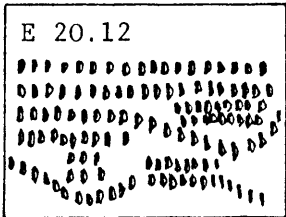
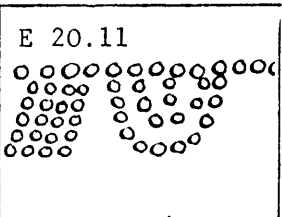
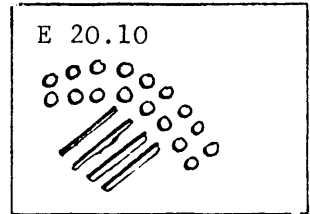
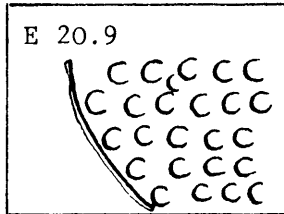
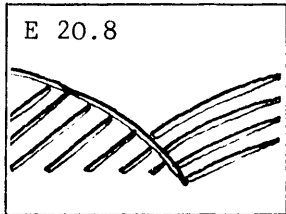
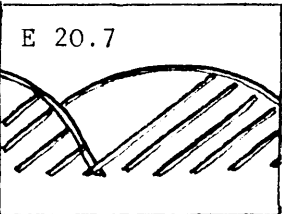
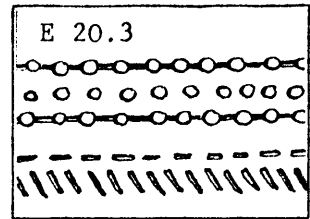
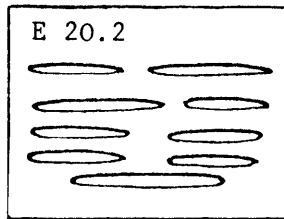
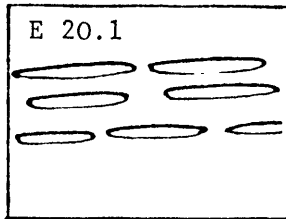
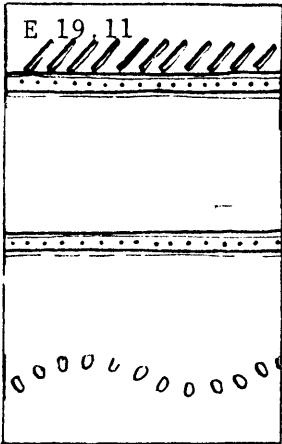
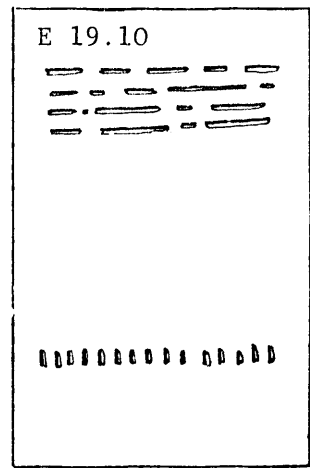
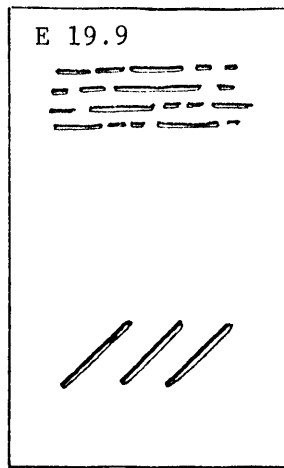
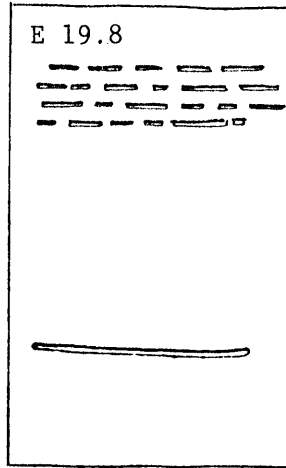
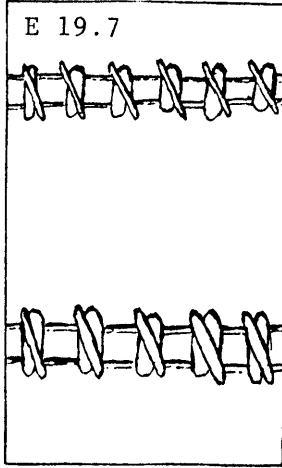












have been simplified, as it was impossible to draw the myriads of little lines with any degree of accuracy and neatness. All motifs in this group that appear from the drawings to be stamped, are in fact square or rectangular punctates. Most of the categories form bands around the vessels. In this regard, it must be made clear that types E13.1 through to E16.5 have been drawn individually, but in fact repeat themselves to form continuous bands. Motifs E17.1 to E18.4 are 'floating' motifs that may have been repeated only a couple of times with breaks in between to form a discontinuous band. Types E19.1 to E19.11 are combination decorations with a rim/shoulder or neck/shoulder layout. E19.11 is a slight exception, in that it is a rim/neck/shoulder layout. The remainder (E20.1 to E20.15) are fragmentary decorations that could not be fully identified.

Quality of Decoration

To see if any changes occurred in the quality of decoration, all decorations were judged according to a list of attributes and graded accordingly.

Degree 1 Neatly and accurately executed. Design neatly spaced on vessel. Lines and/or stamping equidistant and all to same depth and width.

Degree 2 Neat, but not as accurate in spacing as in (1). Thickness and depth may vary.

Degree 3 General impression one of untidiness. No attention paid to accuracy of lines and/or stamping. Depth, width etc. irregular. Little or no rounding off.

Degree 4 No attention paid to design. Lines criss-cross haphazardly, making motif sometimes difficult to identify. Clay often smeared over design.

Quality of Finish

To determine improvement or deterioration in the visible quality of the vessel exteriors. All decorated sherds were judged according to a list of attributes, and graded accordingly.

Degree 1 High quality burnish with even colour throughout. No striping visible.

Degree 2 Burnished but colour varies slightly. Stripes slightly visible.

Degree 3 Little burnishing or no burnishing. Surface smooth.
Stripes permitted.

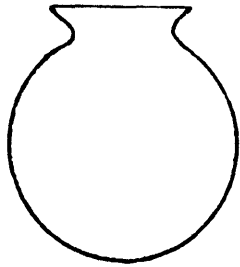
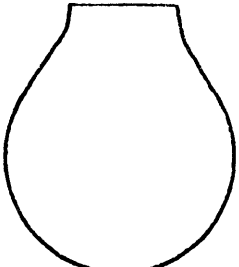
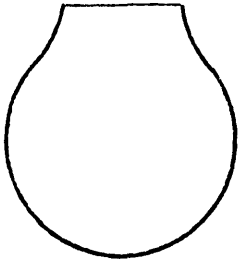
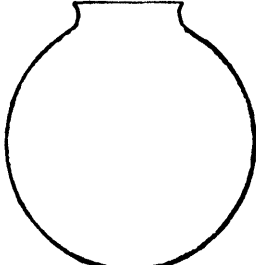
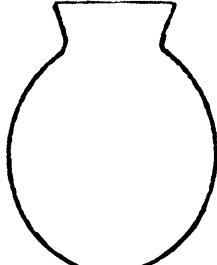
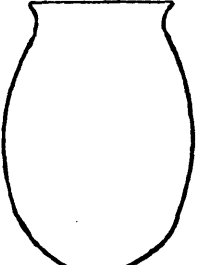
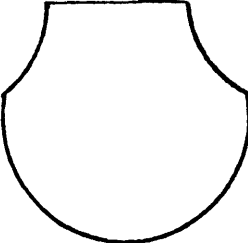
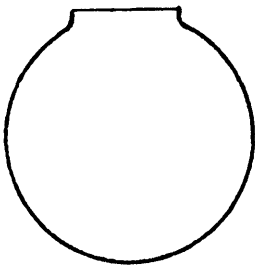
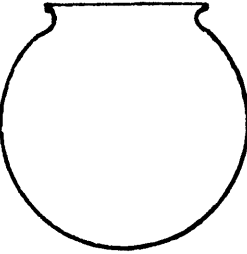
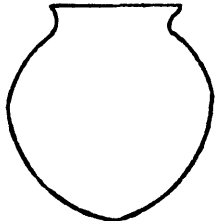


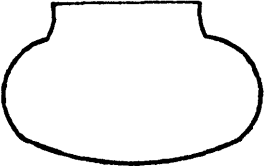

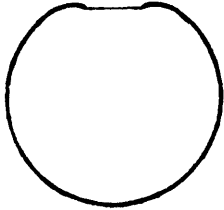
Degree 4 Rough cracked surface. Grit shows. No burnishing at all.

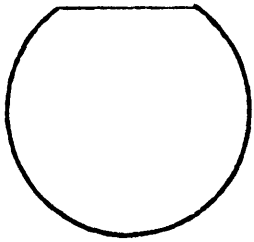
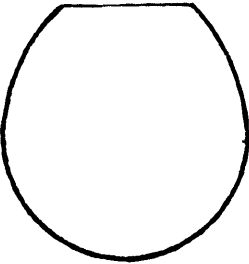
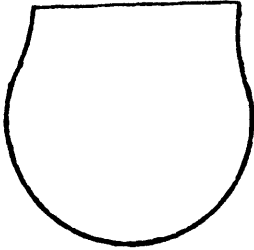
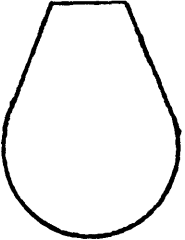
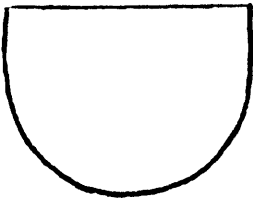
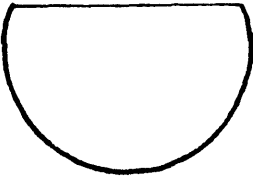
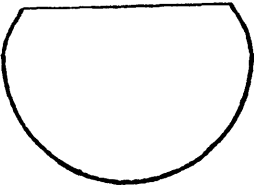
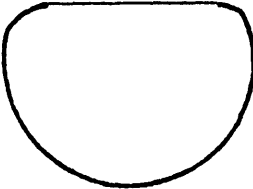

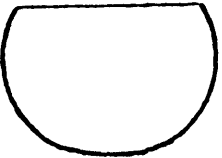
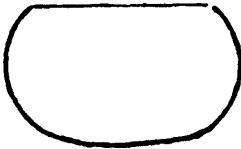
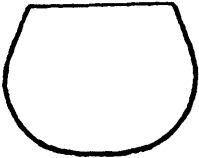



Vessel Shapes






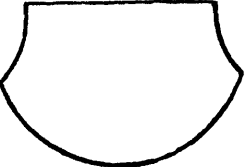


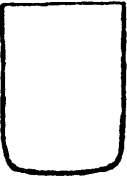

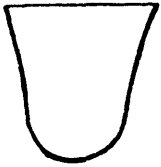
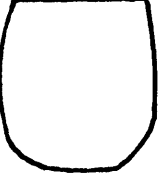
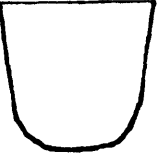
A master list has been compiled for vessel shapes from all the shapes recorded from all excavations in the Limpopo/Shashi Valley. It stands to reason therefore that not all vessel shapes will have been used in this dissertation.

Necked Pots (height greater than mouth diameter)

- 1: Globular pots with short neck and everted rim.
- 2: Globular pots with long neck and slightly everted rim.
- 3: Globular pots with short neck. Rim not everted.
- 4: Globular pots with short neck and everted rim. Pronounced shoulder.
- 5: Globular pots with short neck and everted rim which recurves slightly inwards. Similar to Shape 1.
- 6: Elongated pots with narrower body than shapes 1 - 5. Short neck and slightly everted rim.
- 7: Pots with wide mouth and pronounced shoulder, which forms widest part of vessel. Shallow neck runs parallel up to rim.
- 8: Body of pot appears globular in shape but is in fact slightly flattened. There is a very short neck, with the small straight rim almost directly joining on to the body.
9. Identical to Shape 8, but with a clearly everted rim.
10. An unusual shape, with an egg-shaped body, flat shoulder and everted rim. The widest part lies halfway down the height of the vessel.
11. Bellied pots with elliptical form, short neck and slightly everted rim having straight sides.
12. Bellied pots with elliptical form, shallow neck and no pronounced rim.
13. Bellied pots with elliptical form, short neck and vertical rim.
14. The body of the pots show a slightly elliptical profile. The neck joins the body with a sharp angle and runs inwards to the rim.

1. 	2. 	3. 
4. 	5. 	6. 
7. 	8. 	9. 
10. 	11. 	12. 
13. 	14. 	15. 

16. 	17. 	18. 
19. 	20. 	21. 
22. 	23. 	24. 
25. 	26. 	27. 
28. 	29. 	30. 

31. 	32. 	33. 
34. 	35. 	36. 
37. 	38. 	39. 
40. 	41. 	42. 
43. 		

Pots without necks (Height greater than mouth diameter)

- 15: Globular pots with constricted opening. No neck.
- 16: Globular pots with no neck.
- 17: Similar to shape 16, but slightly elongated.
- 18: Slightly elongated pots with straight sides running from widest point to rim. Wide mouth.
- 19: Small pots, conical in shape with narrow mouth.

Subspherical bowls (Height greater than $\frac{1}{2}$ mouth diameter)

- 20. Deep bowls with simple profile. Widest diameter at mouth.
- 21. Deep bowls with simple profile. Widest point approximately $\frac{1}{4}$ - $\frac{1}{3}$ of height below rim.
- 22. Deep bowls with constricted profile beginning $\frac{1}{4}$ of height below rim.
- 23: Deep bowls with sharp constriction at rim. Height approximately $1\frac{1}{2}$ times rim diameter.
- 24: Similar to shape 23, but height approximately $1\frac{1}{4}$ times rim diameter.
- 25: Bowls with slightly elliptical profile.
- 26: Bowls with pronounced elliptical profile.
- 27: Lower half of bowls elliptical in shape but extending slightly inwards with straight sides.

Hemispherical bowls (Height approximates to $\frac{1}{2}$ opening diameter)

- 28: Bowls with simple profile.
- 29: Bowls with approximately straight sides extending clearly outwards.

Open bowls (Height approximates $\frac{1}{3}$ or less of opening diameter)

- 30: Bowls with simple profile.
- 31: Shallow bowls with vertical rim.
- 32: Open bowls with sharp constriction at rim.
- 33: Open bowls with less pronounced constriction.
- 34: Open bowls with triangular profile and clear constriction at rim.
- 35: Open bowls with rounded 'triangular' profile with sharp constriction at rim combined with slight flaring of rim. Not to be confused with necked bowls.

Carinated bowls

- 36: Deep bowls with carinated ridge and long neck leading to slightly flared rim.

37: Open bowls with carinated ridge and short neck leading to slightly flared rim.

38: Constricted bowl with clear carinated ridge.

Beakers (Generally small vessels with more or less vertical sides, where height is greater than rim diameter)

39: Flat bottomed beakers with straight vertical sides.

40: Bell-shaped beaker with flared sides. Mouth opening same diameter as base.







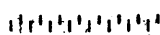
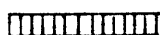

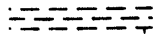



41: Bell-shaped beaker with flared sides. Mouth opening diameter greater than base.

Beaker bowls (Similar in shape to beakers, but clearly larger. Diameter of mouth opening approximates height)

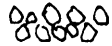
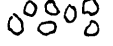










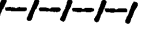
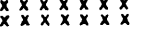
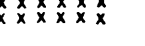




42: Flat bottomed beaker bowls with slightly rounded approximately vertical sides.

43: Flat bottomed beaker bowls with straight sides. Opening diameter greater than base.

4) Documentation list for Plan and Profile drawings

<u>Profile</u>	<u>Plan</u>	<u>Description</u>	<u>Symbol</u>	<u>Colour</u>
		Clear division	a	White
		Vague division	b	Grey
		Arbitrary division	c	Dark grey
		Division between squares	d	Black
		Consolidated gravel	e	Light Brown
		Unconsolidated gravel	f	Dark Brown
		Floor with smoothed surface	g	Dark yellow
		Dung	h	Yellow
		Charred post	i	Red
			j	Reddish brown
			k	Greyish brown
			l	Soil
			m	Sand
			n	Sandy soil
			o	Ash
			p	Ashy soil
			q	Coarse

Documentation list for Plan and Profile drawings (Continued)

<u>Profile</u>	<u>Plan</u>	<u>Description</u>	<u>Symbol</u>	<u>Colour</u>
	○	Post Hole	r	Fine
	⊙	Possible post hole	s	Disturbance
		Hut rubble	u	Greyish yellow
		Potsherds and Pots	V	Floor
		Stone	w	Pink brown
		Bones	x	Sterile
		Charred seeds	z	Hard
		Bedrock		
		Base of excavation		
		Burnt black		
		Hard sections		
		Base peg in cement		
		Soil sample		
		Sand floor		

CHAPTER 3

PREVIOUS RESEARCH

1. Earlier references to archaeological sites in the research area

Very little mention is made of the presence of Iron Age sites in the delineated research area, although a various times reference has been made in the Bulletins of the South African Archaeological Society to the presence of rock art sites in the Limpopo Valley. None of these rock art sites are of importance, as they do not contain any paintings referring to Iron Age life styles. These references will, therefore, be left out of this discussion.

Mapungubwe and K2 are the best known sites in this area, and many references have been made to them through out the years, since the publication of the first book on Mapungubwe in 1937 (Fouché 1937). It is also in this same volume, that mention is made of various sites in the area north of the Soutpansberg mountains. A great many sites lie far outside the research area. Eight farms that lie within the research area are mentioned other than Greefswald. These are Armenia (MS 20), Hilda (MS 23), La Réve (MS 39), Parma (MS5), Pont Drift (MS 12), Ratho (MS1), Schroda (MS 46), and Weipe (MS 47). Armenia and Weipe are mentioned in connection with rock paintings, while La Reve is connected with Stone Age artefacts. The remainder all have references to Iron Age sites and in some cases more than one site per farm is mentioned.

On looking at the pottery, it is found that only two sites contain ceramics of the type in which our interests lie, namely Parma and Pont Drift. The other sites furnish pottery of various types, all of which appear to belong to much later periods.

The ceramics recovered from Pont Drift appear to be all of the Leopard's Kopje A type. Schofield (in Fouché, 1937 p. 35) writes that "a grave was opened and a most characteristic beaker discovered." This was not all, and he continues " A small badly broken beaker was found with a number of rims and other sherds which showed that the pottery industry was identical with M2". This site lies to the north of the old homestead at Pont Drift, and is crossed by the road leading to Rhodes's Drift.

When investigated by myself, it was found that the site was in fact more extensive than can be assumed from the description in the book. All pottery picked up confirmed the assumptions made by Schofield, i.e. that the pottery is of the M2 type and consequently belongs to the Leopard's Kopje A culture.

The Parma ceramics were apparently recovered from a series of trenches dug on top of a high kopje with precipitous sides. This kopje is situated to the west of the southern most Parma farmhouse and overlooks the Madibohloko River, an annual tributary of the Limpopo. The pottery recovered from this site appears to be of several types and since it was recovered from an excavation it will be discussed in detail in Chapter 4 which follows below.

Even less is known about Iron Age sites in Botswana, and those which are mentioned fall far outside the research area. The best-known of these is Tautswemogala - called Tautswe for short - a hilltop site first mentioned by Schofield in 1943. At that time the site was called Toupye. Amongst others, Leopard's Kopje A pottery was found there, and in the course of later excavations, a considerable amount of Zhizo pottery came to light as well.

Oral references to sites along the Limpopo have been made by various people, who maintain that pottery similar to that of K2 has been collected from various ashy deposits on the farms Gesond 45 MR and River Hill 44 MR. Garden roller beads, which have always been associated with Leopard's Kopje A, have also been found at some of these sites.

In Rhodesia, several sites are mentioned which border onto the research area. These have been published in various Schoolboy's Expeditions, and show some Zhizo as well as Leopard's Kopje A sites.

2. Earlier Work in the Northern Transvaal

The first excavations in the Northern Transvaal were undertaken at Greefswald after the discovery of Mapungubwe Hill at the end of 1932. These were done during the period February 1933 to June 1935 and the results were published in Mapungubwe : Ancient Bantu

Civilization on the Limpopo. (Fouche 1937)

Most of their efforts were concentrated on Mapungubwe Hill and its Southern Terrace, but a 50 ft. long by 4 ft. wide trench was dug across the high central mound at K2, which at that time was referred to as Bambandyanalo. A test pit was also sunk at another point on the mound. It would appear that some trenches were also dug on the slopes of Bambandyanalo Hill to the east of the K2 site, as the Rev. Neville Jones mentions that "we then turned our attention to the slopes immediately below the walling, and here we found four children's graves," (Jones in Fouché, 1937).

From the end of June, 1935, Captain Guy Gardener arrived to take over supervision of the archaeological research work. His instructions were to concentrate on work at K2, although at various times during the course of his six seasons' work, these instructions were countermanded and work ceased at K2 to begin at Mapungubwe.

In the book Mapungubwe Volume II, (Gardner, 1963) Gardner explains in some detail how the excavations progressed. Trenches were dug at K1 and K2, numerous test pits and trenches were placed at various points on the site, in addition to the large extended excavation which was enlarged for several seasons running.

Work at Greefswald was terminated in September 1940 due to the intervention of World War II, when Gardner made himself available for military service.

Since then, no large scale research project was undertaken at the Greefswald sites until 1971, when the University of the Pretoria began with excavations on the Southern Terrace, followed by work at K2 and finally on the summit of Mapungubwe itself. It must be mentioned, however that during 1953-54 the University continued with some work on the Southern Terrace, while for several years prior to 1971, a test pit was excavated on the Terrace by students as part of their field training. The 1971-73 research project was intended to control the original work done between 1933 and 1940. It is to be expected in the light of modern methodology that the results of the work, and the interpretation thereof might differ radically from the conclusion drawn by the earlier excavators. It would appear that this is the case to some extent, but that Gardner did record and interpret many of the changes found in the deposit during the 1971-73 excavations, although his interpretations were often unsatisfactory.

(A. Meyer pers. comm.) For these reasons then, we will not concern ourselves with the interpretations, but with the facts. The results of the work done by the University of Pretoria have recently become available, but were not complete at the time when most of the analysis was done. Where possible references will be made to this work, but no summary has been attempted for this thesis. Reliance will, therefore, be made on the earlier research for comparative purposes.

The facts that are of use can be tabulated as follows.

Pottery

Based on the material found during the 1933 - 34 excavations, as well as on that recovered from various sites along the Limpopo River in the Transvaal, Schofield divided the pottery into three classes ; M1, M2, and M3 ware.

Under M1 ware, we find a neatly burnished, fine, black ware, with neat decorations on the wet clay, which is associated with Mapungubwe Hill and the Southern Terrace. There are various vessel shapes, but these need not be mentioned.

M2 ware is the ceramic type associated with K2 and is much coarser in texture and manufactured with a brown to yellow surface. Sometimes, due to uneven heat during firing, the surface would develop what has been termed a brindled burnish by Schofield (In Fouche 1937 p. 40). Decoration, which is less intricate than with the M1 pottery, was incised into the wet clay or engraved onto the fired vessel. Vessels with stamped decoration were also found. Schofield classified such stamp-decoration pottery as part of the M2 ware. Only in later years, was it realised that such vessels belonged to the Zhizo tradition.

A great variety of shapes was recovered, including some exotic and unusual forms, namely pots with flat bases, or pedestals, spouts, perforated rims, vertically perforated lugs, as well as one with a handle. Principle shapes were divided into the following categories (Schofield in Fouche 1937 pp. 38 - 39):-

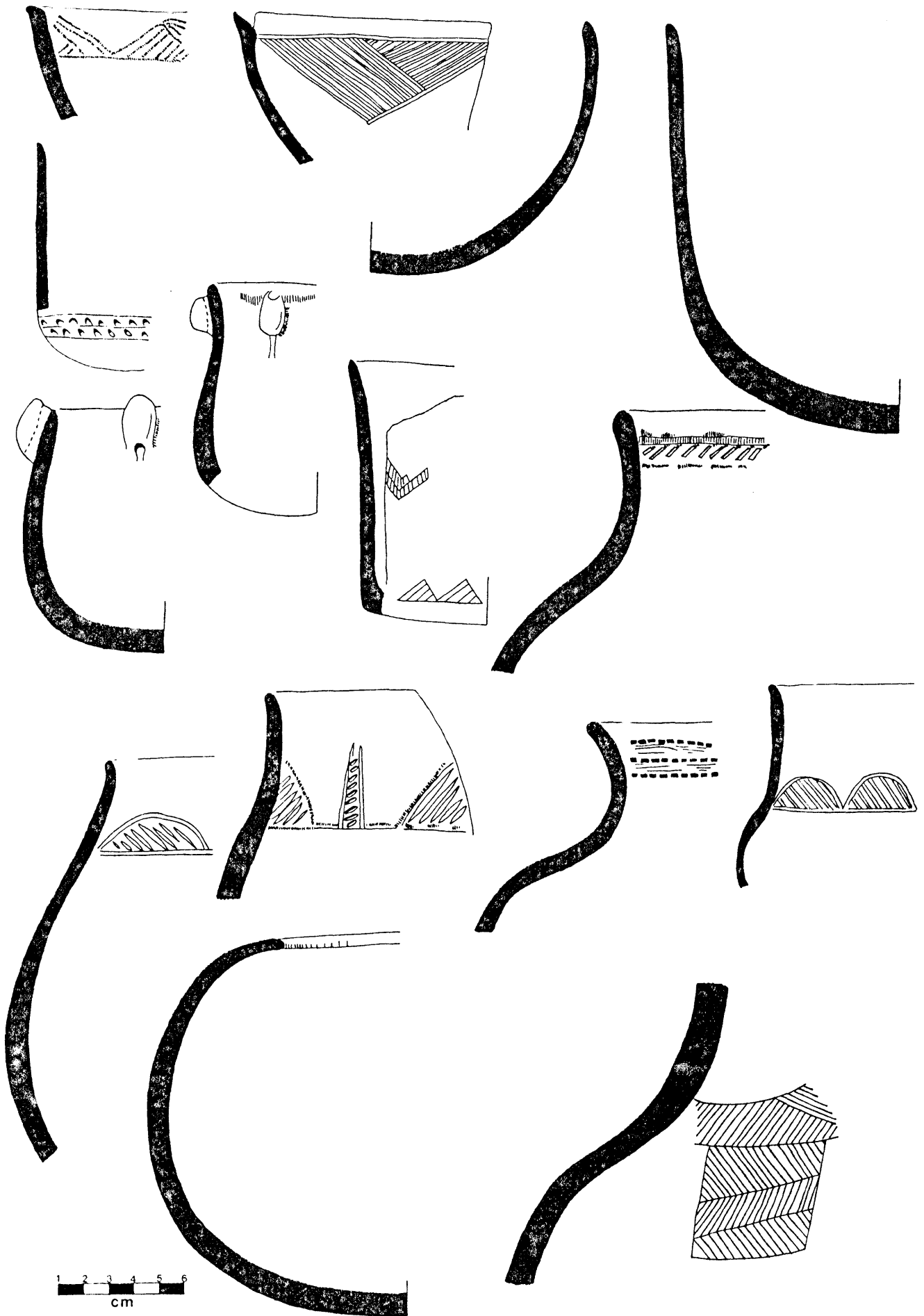


FIG 2
Examples of pottery from K2
(after Schofield)

- 1) Bowls:
 - a) with flattened rims;
 - b) with rims bevelled to the inside;
 - c) crude bowls with incurved lips.
- 2) Beakers:
 - a) small beakers with flat bottoms and vertical sides;
 - b) beakers with curved sides (commonest form);
 - c) tumbler-shaped beakers (i.e. finest beakers).
- 3) Beaker bowls:

These are similar to small beakers, but much larger.
- 4) Shouldered pots:
 - a) with incurved necks;
 - b) with vertical necks;
 - c) with flared necks;
 - d) carinated shouldered pots;
 - e) with tall necks.
- 5) Spherical pots.
- 6) Bellied pots.

Figure 2 shows examples of some of the above categories,

Decorative motives consist of hatched loops, the most common form, triangles with hatching sometimes going in different directions, bands of lattice and narrow hatched bands. Combinations of the motifs also occurred. Beakers and beaker bowls carried unusual patterns which extended from the base upwards, often in the form of a swan neck.

A variety of miscellaneous pottery was also found, and included spoons, clay 'baskets', garden roller bead moulds, 'toy' pots and clay figurines (animal and human).

Class M3 ware consists of pottery that differs markedly from either M1 or M2 in shape, colouring and decoration, and suggests, therefore, that it was not manufactured locally.

Beads

Samples of beads were sent by the Reverend Neville Jones to Mr. H.C. Beck for identification, and the latter's report forms part IV of the first volume on Mapungubwe.

Five strings from K2 were identified, and it is by no means certain that these are even partially representative of what there is to be found and the site. Little is said about the beads, and they formed part of a consignment of 38 strings, the majority being from Mapungubwe and other sites.

Reference is made to a large blue cylindrical bead, which can be identified from a photograph on plate XXXVI as a 'Garden Roller' bead, a name given to this type of bead, in later years. There do not seem to have been any other large glass beads sent in for analysis. From the chart of smaller beads (Fouché 1937 pp. 112 - 113) the following synthesized information comes to light:-

Pale blue	:	123 specimens
Dark blue	:	nil
Black-brown to green	:	21 specimens
Purple black	:	nil
Indian red	:	34 specimens
Yellow	:	33 specimens
Green	:	6 specimens
Coroded from blue or black to white	:	4 specimens
White	:	nil
Other colour	:	nil

Only one other type of bead is mentioned, namely a complete cowry shell.

Other information

The information contained in the chapters on metallurgical and skeletal remains pertains specifically to Mapungubwe, no specimens from K2 having been sent in for analysis.

Mapungubwe Volume II

Gardner recovered a large variety of material and information, most of which is factual, though requiring some sorting out. In the light of more recent knowledge and the advent of C14 dating techniques, most of his conclusions appear erroneous. Let us now examine his information.

Pottery

Gardner adhered basically to Schofield's first classification in Volume I. which was later elaborated upon and extended in the publication "Primitive Pottery". (Schofield 1948).

Gardner did, however, subdivide the main categories further in an attempt to simplify classification, but did not describe each vessel shape in detail. His shapes were:-

Beakers	:	Flared;
		Straight-sided;
Pots	:-	Cylindrical (beakers with long sides);
		Carinated;
		Lugged (Some lugged pots are in fact beakers with luggs);
		Shouldered;
		Small;
		Large;
		Exotic;
		Spouted;
		Handled;
Bowls	:	Shallow;
		Deep;
		Drinking cups (small beakers?); and
		Wide-mouthed urns. (Gardner 1963: p.63)

Beads

Reference is made to the work done by Van Riet Lowe on the Glass beads of Mapungubwe (Van Riet Lowe 1955). Gardner, however, divided his beads into three classes, namely Early Mapungubwe (M1), Middle Mapungubwe (M2) and Late Mapungubwe (M3).

The Early Mapungubwe beads are classed as the so-called typical K2 glass beads. The following types were found:-

<u>Type</u>	<u>Colour</u>
Garden roller	Sea-green to blue
Long and short canes	Sea-green and blue
Opaque Oblate	Medium blue
Long/short dull opaque bead	Green
Small Indian Reds	Pure red without green or white centre.
Lemon-yellow beads	Light yellow

In addition vast quantities of Ostrich egg and Achatina shell beads were found (Gardner 1963 pp. 33 - 34)

Two other types of bead classed as Middle Mapungubwe (M2) were also found, although apparently associated with later settlement at K2. The same beads were found in large quantities on Mapungubwe Hill, namely black beads, varying in shape from small oblates to standard cylinders.

Metal

Metal was generally scarce, with iron being more common than copper. Weapons were few, with only three small spearheads and one arrowhead being recovered. (Gardner 1963 pp. 30 - 31).

Bone and Ivory artefacts

Pointed needles with eyes drilled through the bone were common. Smoothened bone arrow points and linkshafts, both bearing identification marks, were rare. Rough bone arrowpoints were numerous. Scraping tools, and polishing and graving implements were frequently found. Numerous worked sections of elephant ivory were recovered, including armlets, bracelets and rings.

Beast Burials

Six deliberate burials of portions of bovine species in association with pottery were found, the later frequently being fragmented. No definite conclusions could be drawn, but it was suggested by Gardner (1963 pp 58 - 59) that the features represented a bovine cult of possible Hamitic origin. Other possibilities were mentioned, but were rejected, namely the possibility of religious offerings to some forgotten god, or to ensure good hunting. Another suggestion is that these might have been burials by proxy of some person who died far from his home settlement, or whose body could not be found.

Human Remains

The analysis of 37 of the 72 skeletons recovered at K2 gave some rather startling results, but fitted in with Gardner's interpretations. Galloway (1959 pp. 1 and 118) found that the population was homogeneous in most respects, and bore little or no resemblance to the Negro. The distinguishable features were considered to be characteristically Bush or Boskop in nature.

More recently, Huffman (1978) has suggested that the Leopard's Kopje Tradition can be related to an Early Iron Age tradition which can be traced back to the Eastern Transvaal. The Bambandyanalo pottery can be linked according to certain 'core concept' attributes with several related groups

at around 1100 AD. These groups can according to Huffman, in turn be related to the 800 AD 'Klingbeil' pottery present in the Eastern Transvaal. By using the same 'core concept' method of approach, Huffman has linked Klingbeil with the earlier Lydenburg and NC 3 pottery (500 A.D.) which in turn are thought to have originated out of what has been termed Bambata pottery (earlier than 300 A.D. in Rhodesia.)

This reverse flow of people out of the Eastern Transvaal northwards is contradictory to the generally accepted opinion of southwards migrating peoples.

3. Earlier work in Botswana

Little has been done on similar time period sites in Botswana. Tautswe was excavated by L. Lepionka in 1969/1970 and the results published in 1979. Stamp - decorated as well as incised ware was found and is considered by Lepionka to be similar to Zhizo and Leopards' Kopje A.

"Tautswe most closely resembles Zhizo in a comparison of technique.... but is nearer than Zhizo to the Leopard's Kopje phases. This would suggest that it is the more evolved of the two....."

"Tautswe must be constructed as an independant southern facies of the Leopard's Kopje complex, most closely related to it, but differing from it in detail" (Lepionka 1979 pp 71).

Tautswe was re-excavated in 1979 by J. Denbow, and new information is forthcoming. In conjunction with information from two other excavations at Taukome and Thatswane, Denbow (pers comm.) appears satisfied that Zhizo and Leopard's Kopje A pottery occur in a basic chronological sequence at these sites. He has also come to a preliminary conclusion that the break between Zhizo and Leopard's Kopje A is not as complete as has been inferred from Rhodesia.

4. Earlier work in Rhodesia

The Leopard's Kopje culture was first recorded by K.R. Robinson in 1947 during an investigation of the Khami Ruins (Robinson 1959).

The pottery recovered was considered to have combined characteristics of Hillside and Gokomere, and was accepted as part of the stamped ware tradition.

Further excavations were done on several sites and more detailed reports followed. (Robinson 1965, 1966). In these reports, the Leopard's Kopje Culture was divided into a three phase sequence; Zhizo, Mambo and Woolandale. These represented and continuous cultural evolution from the Early Iron Age to the Khami Ruins Period in Rhodesia, which had, from time to time, been affected by foreign influence.

No radio-carbon dates were available, so the ordering of the phases was determined entirely by the decrease in the percentage of comb-stamped decoration. "... the pottery tradition represented by the stamped and channelled wares ... which have been dated in Southern Rhodesia as early as A.D. 330 \pm 150 ... did not disappear from Rhodesian scene, except at Zimbabwe itself, but it underwent a gradual change, perhaps due partly to normal evolution within the culture, but almost certainly hastened and guided by contact with newly arriving tribal groups with different pottery traditions" (Robinson 1966 p. 27).

The characteristics and differences of the three phases are briefly enumerated in table 1.

It is noteworthy that Robinson distinguished flat bottomed vessels in the Leopard's Kopje I phase, which he considered to be beakers.

Huffman (1968) redefined Leopard's Kopje on the basis of a qualitative seriation of the Gokomere and Leopard's Kopje sequences, but as this seriation was based only on published drawings, it was not acceptable until excavated assemblages has been examined. This proof was forthcoming (Huffman 1974) and the Leopard's Kopje phases as described by Robinson were redescribed. Phase I was regrouped with Gokomere as a second phase of that tradition, while phases II and III were classed as a separate tradition and called Leopard's Kopje A and B respectively.

Huffman has further divided the Leopard's Kopje A and B into a Northern and Southern Branch of each phase. One finds thus in the Limpopo Valley that the southern branches of the two phases are Bambandyanalo and Mapungubwe respectively while the northern branches in the Matopos area

TABLE 1

ROBINSON'S THREE PHASE CLASSIFICATION

LK I	LK II	LK III
<p><u>CERAMICS</u></p> <p>Some Early Iron Age vessel shapes Possible Beakers</p>	<p>Development of Shoulder pot Beaker bowls</p>	<p>New vessel shapes much finer in form and shape</p>
<p>Stamped decoration combined with incision</p>	<p>Mainly incision with some stamping</p>	<p>Neatly executed incision</p>
<p>Figurine fragments</p>	<p>Clay figurines of domestic animals and women</p>	<p>Clay figurines of women</p>
<p><u>GLASS BEADS</u></p> <p>Coarse blue and yellow canes</p>	<p>Beads small many blue/green cylinders. Fabricated beads (Garden Rollers)</p>	<p>Small opaque oblates</p>

CHAPTER 4

RESEARCH AREA

1) Ethnological Information

The area contains a mixed population, and the present day political boundaries do not separate the different ethnic groups. The main group to be found is the Sotho, with many people tracing their origins back to Ngwato. Venda people are less common, and have, to a large extent, mixed with the Sotho. (Van Warmelo 1935, 1940). From Rhodesia, one finds the Karanga and isolated Matabele having wandered into the vicinity. The numbers of these latter two groups are small.

The languages spoken, as to be expected, are Sotho, Venda and to a lesser extent Shona. It would also appear from discussions with various Blacks, that an own lingua franca has developed in the area, and consists of a mixture of the Sotho, Venda, Shona languages as well as containing a few English and Afrikaans words. This 'language' may have developed at the Messina Copper Mines.

Obviously the ancestry of the present day black inhabitants of the area cannot be traced back to the period that we are dealing with. For this reason one cannot make direct comparisons between the archaeological cultures and those of the present inhabitants.

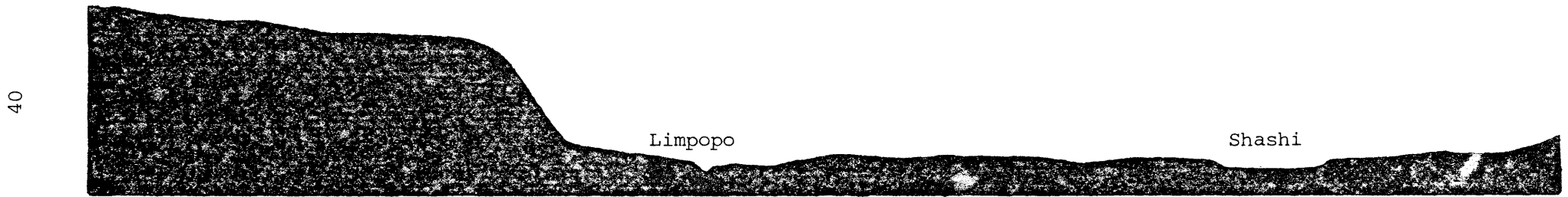
2) The ecology of the Limpopo/Shashi Valley

a) Geology and Topography

Geologically the research area forms part of the Karroo system, and can be divided into three series, namely the Stormberg lavas, the Stormberg sediments and the Beaufort series. The belt of sandstone hills and ridges found on both sides of the Limpopo River form part of the Stormberg sediments. These overlie mudstone which forms part of the Beaufort series. The Stormberg lavas are found amongst the sandstone ridges in the form of diorite dykes,

Figure 3

Cross-section of the Limpopo/Shashi Valley showing sudden drop of escarpment to the river



Horizontal scale: 1 cm = 1000 meter

Vertical scale: 1 cm = 80 meter

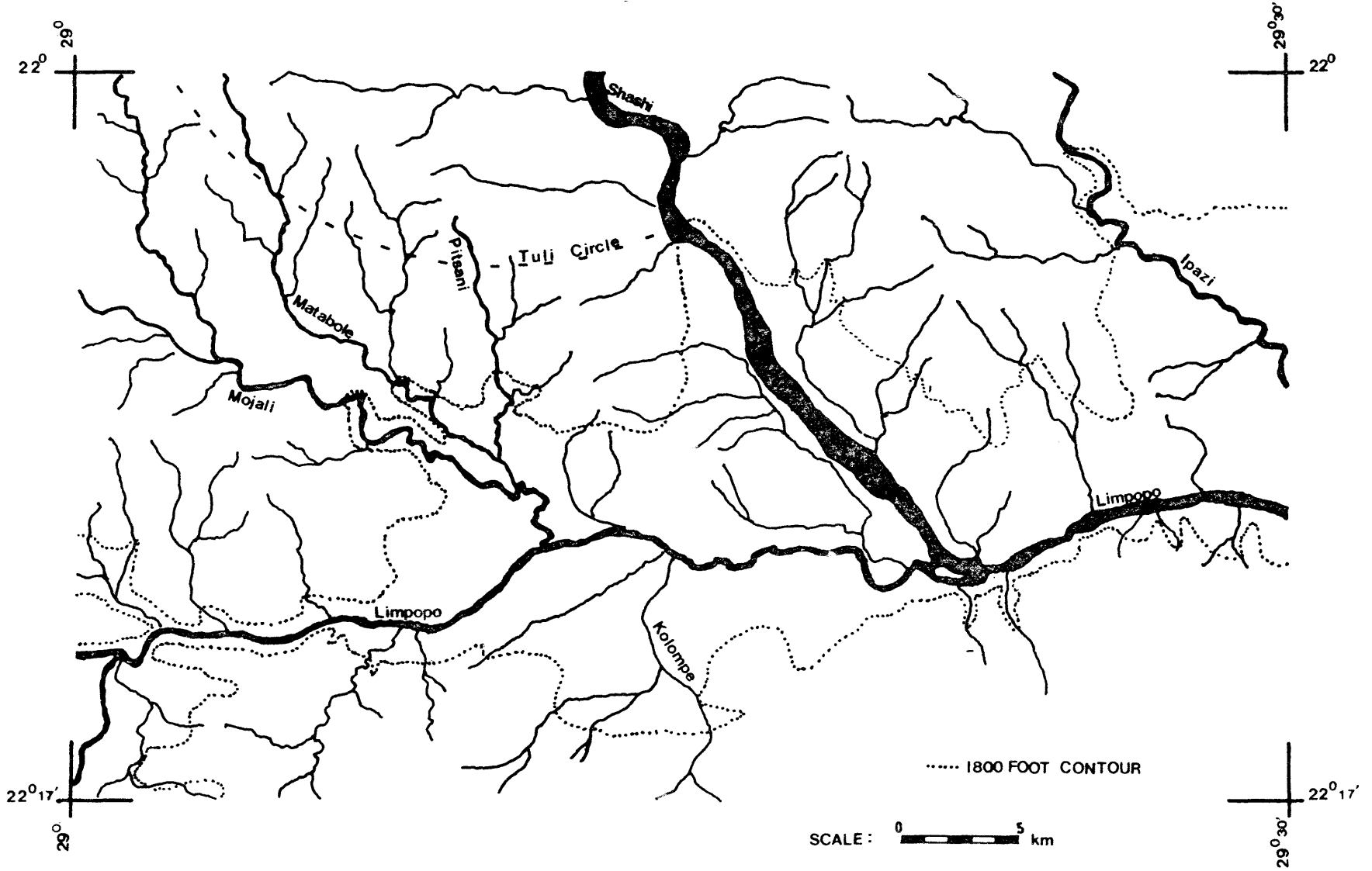
as well immediately to the north of the sandstone belt, extending northwards through the Tuli Circle into Rhodesia. (Haughton 1969) In certain areas, contact between the hot volcanic diorite and the sandstone has resulted in the formation of quartzite.

No ore deposits are found in the immediate vicinity. The nearest known copper deposits are on the farms Shelton Hall and Bruntsfield, some 25 km to the south east, and around Messina on Maryland, Uitenpos, Vogelenzang, Messina, Singalele, Antonville, Hereward and Papebril. The nearest iron ore deposits are at present being mined at Maryland near Messina (Geological Survey 1970), but it is unknown whether this was originally a surface deposit that could be worked by the ancients.

From the above, it can be inferred that the topography varies a great deal in the Limpopo/Shashi Valley. From the Soutpansberg mountains in the south, one finds a gently undulating plain, that forms an escarpment with a sudden drop close to the Limpopo. (See fig. 3). This drop varies about 30 metres in places to well over 60 metres. The edge of the escarpment follows the 1800 ft (550 metre) contour line on the southern bank of the Limpopo. In certain areas the escarpment directly overlooks the river, while elsewhere it recedes to nearly 8 km from the river bank. (See fig. 4). The sandstone ridges follow the general pattern of the 1800 ft contour line, although on the farms Schroda, Greefswald, Little Muck, Armenia, Pont Drift, and Parma numerous valleys have eroded into the plateau, giving these area a very rugged appearance and contrasting ecology.

On the northern bank of the Limpopo, the sandstone ridges extend only a short distance from the river, to be replaced by hilly terrain dominated by Basaltic lavas. These hills are not very high nor, generally speaking, very steep. This countryside is less rugged than the sandstone ridges. No clearly defined escarpment is to be found.

Figure 4



The Shashi river forms the main stream, with the Limpopo a tributary thereof. Presumably for political reasons, the whole of the river forming the boundary between the Transvaal and Rhodesia was named the Limpopo. There are a number of tributaries flowing into these two rivers, the majority of which come from the north and north west. Few noteworthy rivers flow into the Limpopo from the south, most of them being annual streams with small catchment areas.

For the major part of the year the Shashi and Limpopo rivers contain little or no water, although water is always to be found under the sand. During the summer months the flow increases, depending on which catchment area receives rain. Usually the flood is of short duration, rising and falling within a couple of hours to perhaps several days. In periods when good countrywide rains have been experienced, the river will remain high for several weeks. During such periods, floods have been experienced when the river bursts its banks, sending water several hundred metres into the interior in places.

For most of the year, both the Shashi and Limpopo are fordable, and therefore probably presented no boundary to the activities of prehistoric man in the environment.

b) Climate

i) Temperature

Temperature variation in this area can be large. According to Schulze (1965: 320-321) the maximum and minimum daily temperatures are 32°C and 18°C in January, and 22°C and 4°C in July. Exceptional temperatures have been 42°C in January and -7°C in July.

The temperatures vary considerably within the region itself. For example according to the local farmers the temperature on top of the plateau is some 5°C cooler than in the actual val-

ley. The months October to January are the hottest, with the peak usually around late November just before the onset of the summer rains. During the course of excavations at Schroda during October 1977, a daily temperature at 13h00 hours in the shade was noted. During this period it rarely was below 40°C, with a maximum of 47°C reached on one day towards the end of the third week of October.

Generally speaking the winters can be described as mild. Frost occurs from June to August, but has been known as late as October (Opperman pers comm.). It is rare in the high-lying areas, occurring usually although not frequently along the Limpopo itself and adjacent tributaries and valleys.

ii) Rainfall

The rainfall in this area is erratic and low. Official figures provided by the Weather Bureau for several stations near the Limpopo and in the interior give the average rainfall for the area as 329,5 mm. (13 inches), however most of these stations have been inoperative for the last 15 to 20 years, as most of these farms where the stations are situated are unoccupied. Official figures for the area north of the Soutpansberg are now kept at the Messina research farm near Messina, and consequently do not directly apply to the research area.

Rainfall figures supplied by Mr. H.R. Lemmer of La Reve, one of the farms in the immediate vicinity, reflect the rainfall perhaps a little more accurately. Records were kept from 1956 to 1977; a period of 21 years. Over this period the highest rainfall was in 1971/72 when 516 mm fell.

The lowest rainfall recorded was in 1965/66 when only 133 mm fell. The average over the 21 years recorded was 285 mm (11,2 inches). Table 3 shows the monthly records over 21

TABLE 3

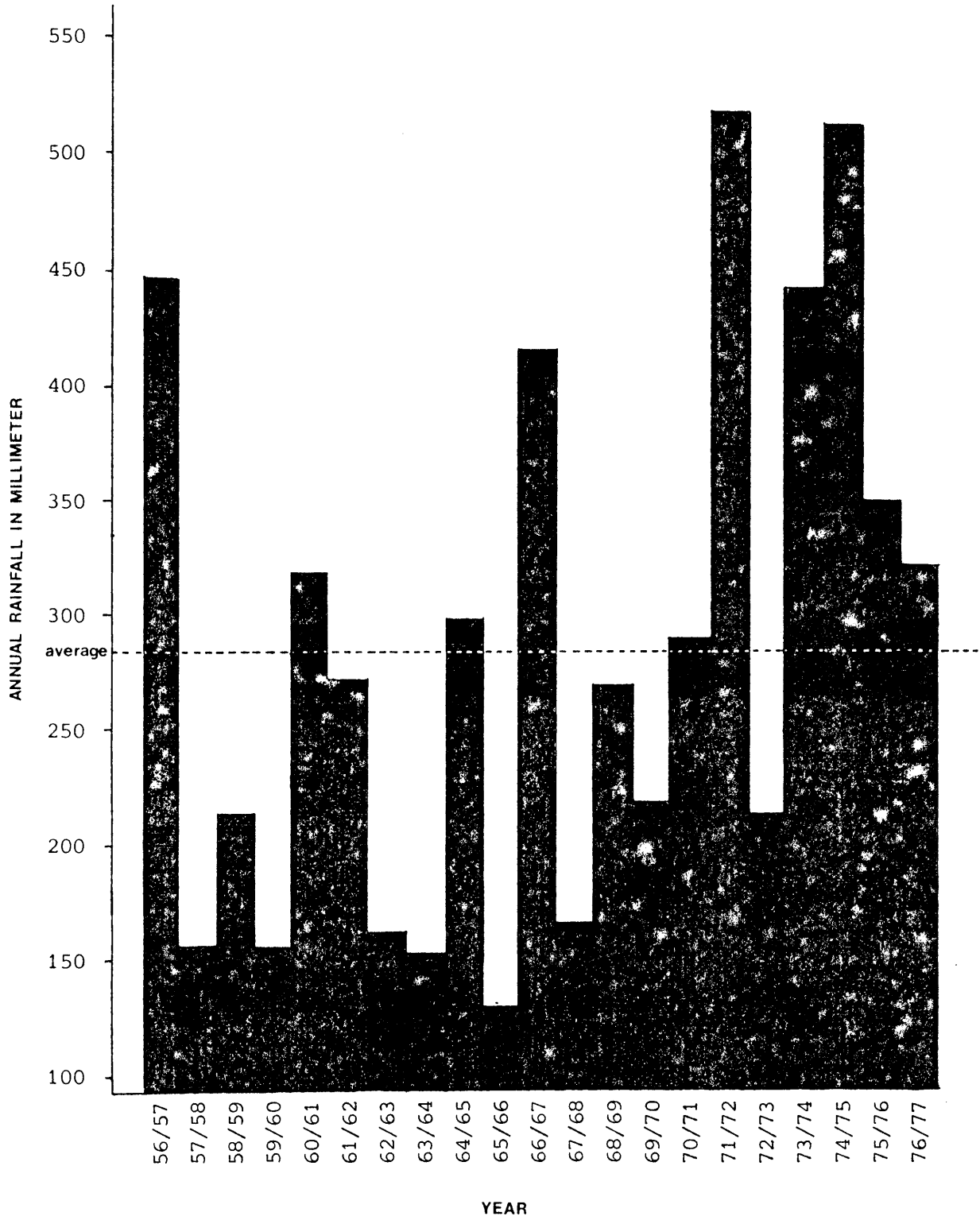
Summary of Rainfall at La Reve 1956-1977

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
1956/57			12	37	75	118	43	100	62				447
1957/58				12	9	18	75	43					157
1958/59			29		6	68	18	91					212
1959/60					14	58		43	25	18			158
1960/61					34	16	12	197		34		18	311
1961/62					81	22		15		135	12		265
1962/63					75	34	3	3		29		18	162
1963/64				31		55	51	12	4				153
1964/65				48	85	55	30	70					288
1965/66			22		52	15	17	27					133
1966/67			50	8	20		135	75	45	81			414
1967/68				12	22	22		20		62	26		164
1968/69					46	120	16		92				274
1969/70			20	20		93		55	6			22	216
1970/71				14	64	56	59		70	12	9		284
1971/72			7	64	135	8	116	98	75		13		516
1972/73				22	60		49		52	23	5		211
1973/74			34	23	33	86	67	50	99	16	30		438
1974/75	4		47		74	103	150	45	50	34		4	511
1975/76					10	54	64½	73½	72	29	47	2	352
1976/77			16	12	31	40	23	110	63	22			317
Total for 21 years	4	0	237	303	926	1041	928.5	1127.5	715	495	142	64	5983
Average/ month	0,19	0	11,29	14,43	44,10	49,57	44,21	53,69	34,05	23,57	6,76	3,05	284,90

Fig. 5

Yearly rainfall at La Reve

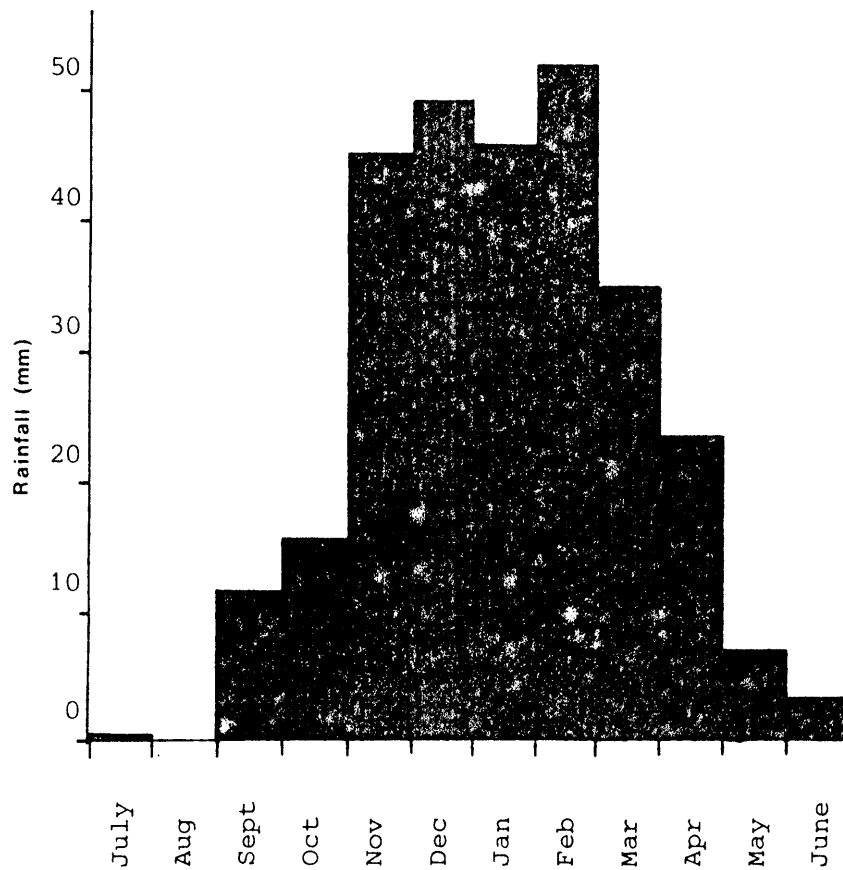
July to June



years. Figure 5 gives the same information in graphic form, while Figure 6 shows the monthly average.

Fig. 6

Average monthly Rainfall at La Réve



From the graphs it can be seen that there is a large annual variation in the rainfall, and no standard pattern can be predicted. There are months in the summer when no rain falls, and the area suffers from severe drought.

The graph of the average monthly rainfall shows the rainy

season to be from November to March, with a slight peak in February. Rain frequently comes in the form of localized thundershowers, with a short heavy shower of rain with a rapid run-off of water. Such showers can be followed by several weeks of hot sunny weather. Two or three days of overcast weather accompanied by light drizzle occur periodically, but the effect on the environment is negligible.

With the high summer temperatures, evaporation is generally very high, thereby minimizing the effect of single showers of rain. As mentioned before, water run-off is rapid, particularly amongst the sandstone hills and outcrops. In many places the soil depth is shallow, which also contributes to the low effectiveness of rain in the area.

iii) Direction of the wind

The prevailing winds come virtually all year round from an easterly direction, and vary in strength from gentle breezes to strong winds.

Rainclouds are frequently brought in by these winds, but rain usually only falls if the wind changes direction and comes from the west. Dust storms occur from the west, although infrequently.

c) Vegetation

Acocks (1975 p 37-38) describes the area north of the Soutpansberg to the Limpopo Valley as Mopani Veld, and mentions the "the vegetation is typically a short, fairly dense growth of *Colophospermum mopane*, generally associated with a number of other trees and shrubs in a somewhat sparse and tufted grassveld." Table 4 gives a list of associated trees and shrubs. Table 5 gives a list of grass types. (Acocks 1975 p 38).

TABLE 4

Trees and Shrubs (from Acocks 1975 p.38)

Colophospermum mopane
Acacia tortilis subsp. *heteracantha*
Acacia nigrescens and others
Combretum apiculatum
Sclerocarya caffra
Dichrostachys cinerea subsp. *Africana*
Cadaba termitoria
Schotia capitata
Boscia foetida subsp. *rehmanniana*
Boscia albitrunca
Cassia abbreviata subsp. *beareana*
Commiphora spp.
Grewia spp.
Ximenia sp.
Lycium sp.
Terminalia pruinoides
Adansonia digitata

TABLE 5

Grasses (from Acocks 1975 p.38)

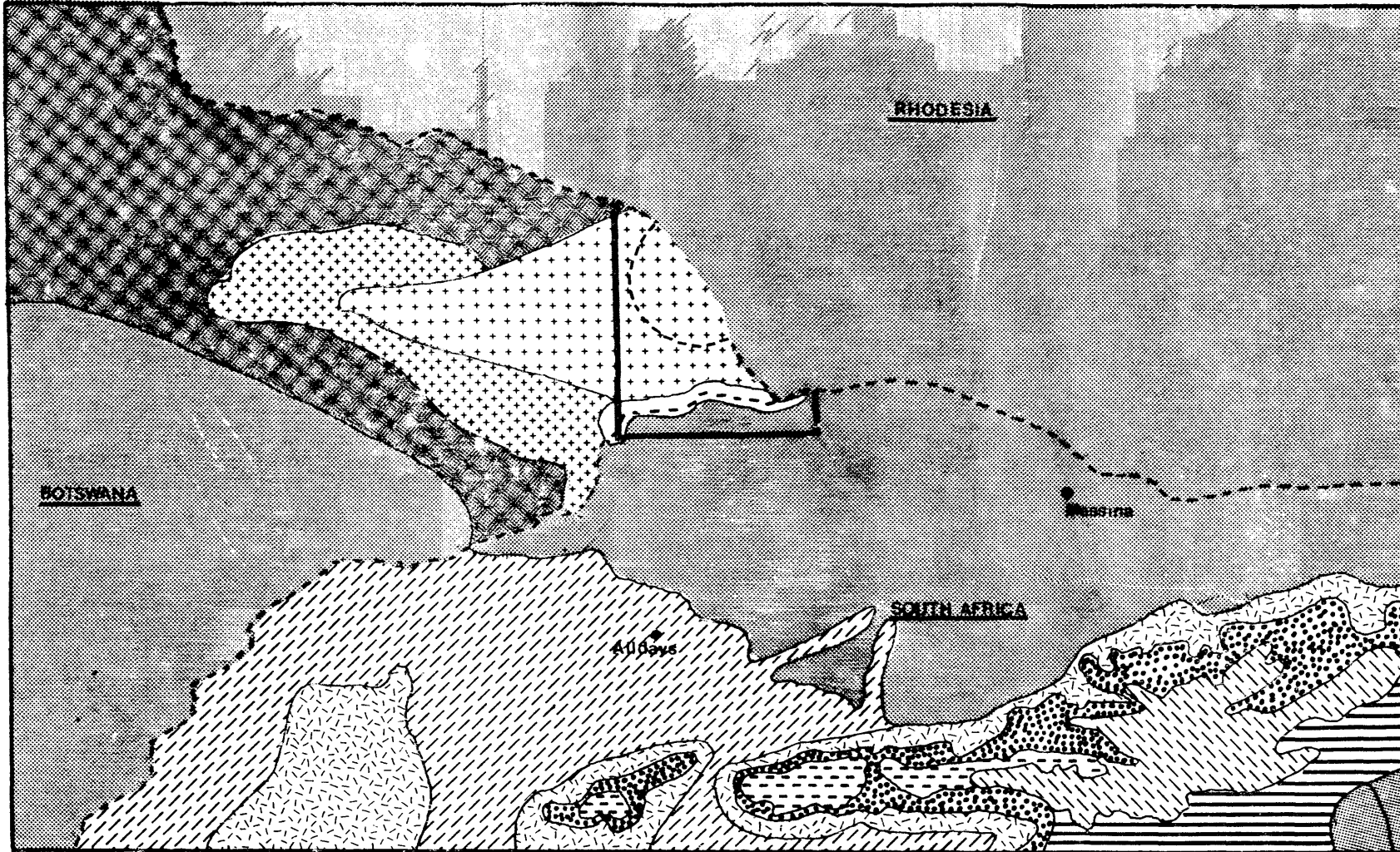
Anthephora pubescens
Brachiaria nigropedata
Bothriochlora insculpta
Eragrostis superba
Schmidtia pappophoroides
Heteropogon contortus
Stipagrostis uniplunus
Chloris roxburghiana
Tricholaena monachne
Eragrostis nindensis
Cenchrus ciliaris
Panicum maximum (patches)
Digitaria eriantha (patches)
Neorautanenia sp.

In large parts of the region the mopane is stunted and completely dominant. In the main valleys and river beds the bush is mixed, and the mopane no longer dominant. Along the Limpopo riverine bush predominates. North of the Limpopo in the Tuli Block area of Botswana, Weare and Yalala (1971) have subdivided the mopane veld into mixed mopane/Acacia trees, mixed mopane/Acacia low tree savanna and thicket woodland with mopane dominant.

The spread of vegetation in the Limpopo/Shashi valley is reflected in figure 7.

Mopane is the predominant veld type, but micro-environments exist where the bush changes. Along the Limpopo and Shashi rivers, it

FIG. 7



Compiled from Acocks(1975) and Weare & Yaiala(1971)

SCALE: 0 10 20 30 40 km

would appear that there was no preference as to where a village was located, as long as it was close to water.

The vegetation immediately around the Pont Drift and Schroda sites is not mopane veld, and suggests two different micro-environments. Fuller details of the vegetation at each site is contained in the respective site descriptions.

d) Fauna

Little of the original fauna remains in the northern Transvaal having been largely shot out during the last fifty or so years. Across the border in Rhodesia and Botswana, where hunting is more difficult or has been controlled, large herds of game are still to be found, along with their predators such as lion and leopard.

A list of the mammal species at Greefswald in the research area has been compiled by I.L. Rautenbach, Chief Mammologist of the Transvaal Museum (Table 6). The list contains 54 species ranging from bats and small rodents to large bovids and even elephant. Voigt (1978 p.11) considers this list to be indicative of the minimum range of wild species which could have been available as a food source to Iron Age hunters and gatherers.

Species not recorded by Rautenbach but which have been personally observed are the spotted hyaena (*Crocuta crocuta*), small spotted Genet (*Genetta genetta*), crocodile (*Crocodilus niloticus*) and leguan (*Veranus sp.*).

Amongst the numerous birds found in the region, the ones personally observed that could have supplemented the Iron Age diet are the ostrich (*Struthio camelus*), crowned guinea-fowl (*Numida meleagris*), various types of francolin and the Kori Bustard (*Ardeotis kori*).

e) Change in natural environment

The area between the Soutpansberg and the Limpopo is used mainly for cattle ranching today. Along the Limpopo one finds areas of land cleared of natural bush and used for agricultural activities. Such fields are spray irrigated from the Limpopo, causing the water level of the river to drop considerably.

Numerous boreholes have been drilled in the area, with a resultant

TABLE 6

Greefswald: Mammal Species listed by Rautenbach

Phylum: CHORDATA

Class: Mammalia

Order: Macroscelidae

Elephantulus myurus (Naked-tail elephant shrew)

Order: Chiroptera

Epomophorus wahlbergi (Wahlberg's epauletted fruit bat)

Epomophorus crypturus (Peter's epauletted fruit bat)

Nycteris thebaica (Egyptian slit-faced bat)

Rhinolophus hildebrandti (Hildebrandt's horseshoe bat)

Rhinolophus darlingi (Darling's horseshoe bat)

Order: Primates

Galago crassicaudatus (Grand galago)

Galago senegalensis (Lesser galago)

Papio ursinus (Baboon)

Cercopithecus aethiops (Vervet monkey)

Order: Carnivora

Otocyon megalotis (Bat eared fox)

Canis mesomelas (Black-backed jackal)

Ictonyx striatus (Polecat)

Viverra civetta (Civet)

Genetta rubiginosa (Rusty spotted genet)

Herpestes sanguineus (Slender mongoose)

Mungos mungo (Banded mongoose)

Helogale parvula (Dwarf mongoose)

Felis lybica (Cape wild cat)

Felis serval (Serval cat)

Felis caracal (Lynx)

Panthera pardus (Leopard)

Panthera leo (Lion)

Acinonyx jubatus (Cheetah)

Order: Tubulidentata

Orycteropus afer (Aardvark)

Order: Proboscidae

Loxodonta africana (Elephant)

Order: Hyracoidea

Procavia capensis (Rock hyrax)

Heterohyrax brucei (Yellow spotted dassie)

Order: Perissodactyla

Equus burchelli (Zebra)

Order: Artiodactyla

Potamochoerus porcus (Bushpig)

Phacochoerus aethiopicus (Warthog)

Hippopotamus amphibius (Hippopotamus)

Sylvicapra grimmia (Grey duiker)

Raphicerus campestris (Steenbok)

Raphicerus melanotis (Grysbok)

Oreotragus oreotragus (Klipspringer)

Redunca fulvorufula (Mountain reedbuck)

Kobus elipsiprymnus (Waterbuck)

Aepyceros melampus (Impala)

Connochaetes taurinus (Blue wildebeest)

Tragelaphus scriptus (Bushbuck)

Tragelaphus strepsiceros (Kudu)

Taurotragus oryx (Eland)

Order: Lagomorpha

Lepus capensis (Cape hare)

Lepus saxtilis (Scrub hare)

Pronolagus randensis (Natal red hare)

Order: Rodentia

Hystrix africaeaustralis (Porcupine)

Thryonomus swinderianus (Cane rat)

Paraxerus cepapi (Tree squirrel)

Pedetes capensis (Springhare)

Acomys spinosissimus (Spiny mouse)

Aethomys namaquensis (Rock rat)

Aethomys chrysophilus (African (bush) rat)

Tatera leucogaster (Bushveld gerbil)

drop in the watertable, which in turn is reflected in fountains drying up and large trees dying.

The advent of cattle, sheep and goats, in historic as well as prehistoric times influenced the veld adversely, resulting in overgrazing and rapid deterioration. This is particularly noticeable in the area between the Limpopo and Shashi rivers where large Ngwato settlements existed until about 1940 (Nel Pers. Comm.). The veld around these settlements remains denuded for many kilometers and erosion is high.

It would appear that the area is gradually becoming drier. Evidence from several archaeological sites in the vicinity suggests that there may have been a higher rainfall several hundred years ago.