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STUDY ON SOME ANCIENT WOOL FABRICS UNEARTHED IN RECENT YEARS FROM XINJIANG OF CHINA

WU Min*

Introduction

Xinjiang Uygur Autonomous Region of China is situated in the innermost Asia, which was necessarily passed by the ancient "Silk Road." Due to the influence of the continental climate, this region, especially in the south of Tianshan (the Tianshan Mountain), is arid and short of rain, and has been advantageous for the preservation of organic matters underground. And, the relics some thousand years old, including many silk, wool, cotton as well as flax weaves, could have been well preserved until now.

Since the end of the 19th century through the beginning of this century, the ancient fabrics unearthed from Xinjiang have been well known in the world, with excavating activities by some foreign explorers there. After the foundation of the People's Republic of China, with the development of archaeological undertakings in New China in the recent thirty years, many ancient weaves have been unearthed from the Xinjiang region, including mainly silk weaves from the Han (漢) to Tang (唐) Dynasties. Therefore, I have been long studying mainly on the silk fabrics. In the recent ten years, with the increase of ancient wool fabrics unearthed from Xinjiang, some shortcomings and mistakes have been revealed in the works which reported and discussed these wool fabrics, *i.e.* unsuitable names, error observation, unreal description as well as equation of the excavated place to the place of their production, etc. In my book *Weave and Embroidery*, I couldn't give a detailed introduction and discussion about these wool fabrics, although some mistakes were distinguished in it[1].

In the recent years, the ancient wool fabrics of Xinjiang have been unearthed from archaeological sites or graves such as Ruoqiang (若羌, ancient Loulan), Qiemo (且末), Minfeng (民豐), Luopu (洛浦), Bachu (巴楚), Yuli (尉犂), Hejing (和静), Shanshan (鄯善), Tuokexun (托克逊), etc. These sites and graves have been dated to between the 12th century B.C. and the 3rd through 4th centuries A.D., or to between the Chinese Shang (商) through Zhou (周) Dynasties and the beginning of the Northern and Southern Dynasties (南北朝). As the above-mentioned excavated wool fabrics haven't been published, many of them being not sorted out yet, we can not completely research on them now. In the present paper I have selected fourteen representative specimens, to introduce, from the wool fabrics dated to between the 2nd century B.C. and the 5th century A.D., which have been so far published and exhibited in China and abroad. I have raised some personal tentative views in this article in order to arouse the reader's interests in the study of the ancient weaving technology and cultural exchange between China and the west.

Description of wool fabrics

The fourteen wool fabrics can be classified into three categories, *i.e.* pile weaves (Category I), gilim or kilim weaves (tapestry weaves: 氈(綴)織物) (Category II), and weft-backed and warp-wadding weaves (weft-faced compound weaves) (Category III). The details of the categorization are presented below.

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I. Category I: Pile weaves

i. Pile carpet (Plate 1-a): unearthed from Yinpan (營盤) of Yuli, Xinjiang; dated to the 3rd through 4th centuries A.D.

ii. Horse saddle pile rug (Plate 1-b): unearthed from Sanpula (山普拉) of Luopu, Xinjiang; dated to the 1st through 2nd centuries A.D.

iii. Fragment of a rhombus pattern carpet (Plate 2-b).

iv. Fragment of a pile carpet (Plate 2-c): these two fragments were unearthed together from Niya (尼雅) of Minfeng, Xinjiang; dated to the 3rd century A.D.

v. Fragment of a pile carpet (Plate 3-a): unearthed from Gutai (孤台) Grave B2, Loulan site of Ruoqiang, Xinjiang; dated to the 3rd through 4th centuries A.D.[2].

vi. Fragment of a pile carpet (Plate 3-b): unearthed from Tuokuzisalai (脱庫孜沙来) of Bachu, Xinjiang; dated to the 5th century A.D.[3].

vii. Fragment of double-faced woolen pile fabric (Plate 4-a): from the place and period from which Specimen v derived.

These seven pile weaves can be divided into two types in the appearance of pile-knotted faces:

Type 1: Single-faced pile fabrics (Specimens i to vi).

Type 2: Double-faced pile fabric (Specimen vii).

There are three styles classified by their knotting ways:

Style A (Specimens i to v): Ghiordes knot, also called "Turkish knot" or "horse-hoof knot" in Chinese custom; the remaining length of the pile end is 1.5 to 2.0 cm.

Style B (Specimen vi): Senna knot, also called "Persian knot" or "8-shaped knot" in Chinese custom; this specimen has been mistaken for "Turkish knot"[4].

Style C (Specimen vii): Half of annular knot, which we can call "U-shaped knot", whose shape is like Letter "U", such as Specimen vii tied with "U-shaped knot" on the both faces; the remaining length of the pile end is 1.3 to 1.5 cm on the face and 0.5 cm on the back.

These seven pile weaves are all made of sheep wool or cashmere, and are plain weave on the ground. Among them, Style A of Type 1 is intermittent knotting row; three to four paired wefts or four to six wefts are used per one row of pile knot. These wefts make the plain intermittent weft to tighten pile knots (平織間歇固結緯). The ground warp is spun with white and brown fibres, or is the thread plied with two wool yarns, white and brown in natural colour. The ground weft is single or paired wefts of wool, white or brown in natural colour. All of the pile knots are a pair of coloured woolen pile yarns, tied in Ghiordes knot (Fig. 1).

Specimen vi belongs to Style B of Type 1. The ground warp and weft wool yarns are the same as Style A, and its tightening weft is the one line weft (three parallel wefts). A pair of coloured woolen yarns are tied in Senna knot. There are two lines of the tightening weft and two lines of pile knot per centimeter in vertical way. They correspond to the modern 200-line pile carpet (Fig. 2).

Specimen vii belongs to Style C of Type 2. Both of its ground warp and weft are made up of plied threads of pure white sheep wool. The ground warp is made up of a single two-plied thread, while the ground weft is made up of five or six parallel two-plied threads, identical to the ground two-plied warp, and is composed of one thick weft thread. It is plain weave, and exhibits warp rib weave appearance. Every row of weft threads occupies the position corresponding to three parallel two-plied weft threads. Its face and back are alternately tied in "U-shaped knot", which is in the ratio 1/1 with the tightening weft; the face side ties a row of knots and weaves a line of tightening weft (ground weft), while the back side ties a row of

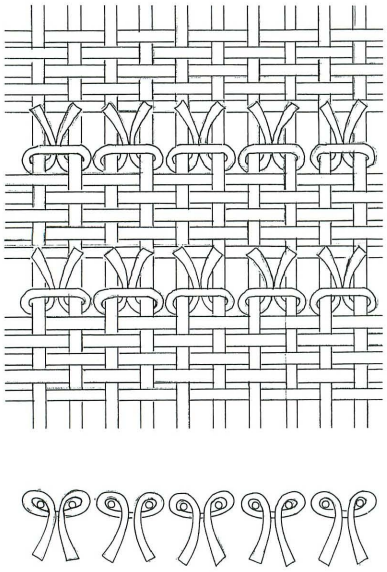

Fig. 1 Style A structure of pile weave: "Ghiordes knot" seen on Specimens i to v

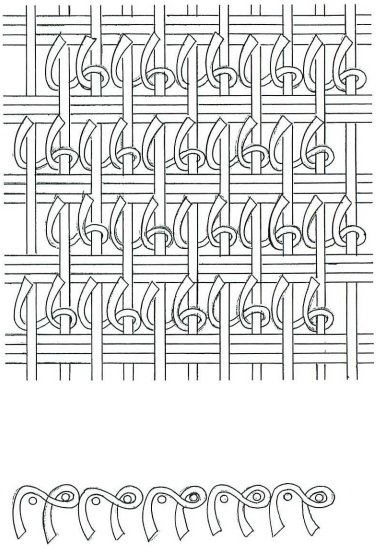

Fig. 2 Style B structure of pile weave: "Senna knot" seen on Specimen vi

knots and weaves one row of tightening weft, and cycle so on (Fig. 3). On one side of the weave, there is seen a loose selvage remained.

Many of the pile weaves mentioned above, especially Specimens ii, iv and vii, still preserve original and gorgeous colour. Five of the seven specimens, other than Specimens i and ii, are fragmentary, and we can tell neither the colours in their complete forms nor the disposition of their patterns. However, we can identify their colour geometry on the remaining parts.

Specimen i is an intact carpet, with its pattern designed with pile yarns, red, yellow, lake-blue, tea-green, brown, white and sea-blue in colour. The pattern is double-framed large-border with two-way successive rhombus pattern in it. The main pattern on the large ground is a patternized single animal (lion?), which is a suitable pattern for it (Plate 1-a).

Specimen ii is a pile saddle rug with leaf pattern. This saddle rug is approximately square in shape on the whole. The pattern is designed with pile, light red, tea-green, tangerine, orange, lake-blue, tobacco-like, deep blue, dark green, white and black in colour. The center pattern is a large square frame, made up of little rhombuses with leaf-shaped patterns (or called "tree with base" pattern: 有基樹紋) inserted respectively. The large border of four-sides (or circuitous) is composed of successive patterns of square-tortuous-lines and melon leaves. The outermost and narrow border, on the other hand, is composed of small coloured squares and oblique lines, both in geometric disposition (Plate 1-b).

All of these seven pile weaves are carpets. Specimens i and ii are intact. Specimen i is rectangular and large, and is thought to have been a carpet or tapestry. Judging from face pile's condition of wearing and tearing on the carpet, this specimen may have been used on a floor for a long time. Specimen ii, which is small and was on the horse saddle when unearthed, certainly was a saddle rug. Specimens iii, v and vi, of which pile ends have been worn and torn seriously, may have belonged to a fragment of a carpet. The

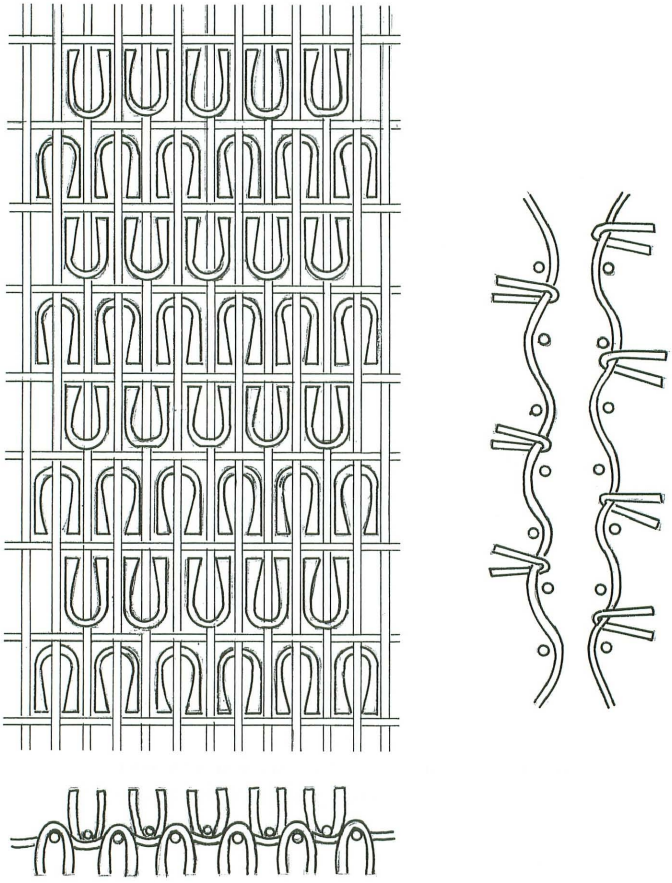

Fig. 3 Style C structure of pile weave: "U-shaped knot" seen on Specimen vii

pile knot of Specimen iv, also fragmentary, is 1.7 to 2.0 cm long, without obvious marks of wearing and tearing. The original way of use of this specimen is unknown. The pile knot on the back of Specimen vii is heavily torn and feltized. This tearing seems to have resulted from body's friction and sweat soaking. So, this specimen may have been originally used as a mattress or quilt.

II. Category II: Gilim or kilim weaves (tapestry weaves)

viii. Lace woven with dragon pattern on blue-green ground (Plate 4-b).

ix. Lace woven with animal pattern in successive squares (Plate 5-a).

These two specimens were unearthed from Sanpula Grave 02 of Luopu, Xinjiang, dated to between the 2nd century B.C. and the 1st century B.C., or to the Chinese Western Han Dynasty.

x. Fragment of a skirt with patch-woven pattern, produced by gilim weave technique, of twin flowers and trailing grass of lace-type on the dark-red ground (Fig. 6, Plate 5-b): unearthed from Sanpula

Grave 01, dated to the 1st through 2nd centuries A.D., or to the Eastern Han Dynasty of China.

xi. Fragment of a skirt with patch-woven pattern in gilim weave technique and lace-type shaded colour band on the dark-blue ground (Plate 5-c): the place and period from which it was derived are the same as those of Specimen v.

xii. Fragment of a tapestry, produced by gilim weave technique, with pattern of a horse-man and a warrior (Plate 6-a): from the place and period from which Specimen x derived.

The above gilim weaves can be clearly distinguished into two types as follows:

Type 1: Whole gilim weave (Specimens viii, ix and xii).

Type 2: Partial gilim weave (Specimens x and xi).

The Type 1 gilim weaves can be divided into two styles according to the ways of their use:

Style A: Woven lace such as Specimens viii and ix.

Style B: Woven tapestry such as Specimen xii.

The Style A specimens, *i.e.* two of the Type 1 specimens (whole gilim weaves), were originally inset on the hem-line of woman's skirt as decorated lace. The Type 2 specimens are parts of a cloth, which weave in one band of gilim-woven lace. Making skirt with this kind of woven cloth with its hem-line all around can produce the effect of band as lace pattern.

This kind of gilim weave belongs to the "woven" (織成). The name "woven" is frequently seen in Chinese ancient books, but there are different explanations. I think that this name generally refers to completed or semi-completed products of quilts, clothings and shoes, woven by machine or hand[5]. The difference between the "woven" and common weaves lies in the predetermined sizes and form designs. The completed products of the "woven" need not be cut out and processed again. The semi-completed ones need to be arranged according to designed forms and sizes. The "woven", completed or semi-completed, is counted by "segment" (段) or "piece" (件). The common weaves, on the other hand, are counted by "pi" (疋, bolt of cloth) or "duan" (端, standards based on fixed length and width), and can be cut out freely for use. In this sense, the pile weaves (Category I) and the gilim weaves (Category II) all belong to the "woven."

The fundamental weaves of the Type I specimens all belong to plain weaves of weft rib weaves, or they are called rib weaves of weft effects, showing the rib pattern vertically identical to the warp direction. The length of floating threads of weft is over two weave spots. The rib patterns on the face and back sides are produced with weft yarns; the reason for this is that the warp is sparse, the weft is fine and densely-woven, the warp is not winded, and the weft yarns are winded.

The gilim weave is coloured plain weave, and the design part accords with the pattern demanded, being made with coloured weft yarns using small shuttle inserted to weave one part after another. All of the pattern lines, whether same or not, are insert-weaves (挖織) one part after another, or leave a space for patch weaving (補織). In China, this kind of craft is called "successive warp and cutting weft" (通経断緯). Actually, the weft yarns make U-turns at the place of colour change. In the time of their manufacture, they could not be completed at one time in the same weft level because of the limited capacity of the tools of weft beating of this kind of weaves. And, the tool for the beat of weft did not have the function of beating weft on the whole[6]. Therefore, the weft yarn's weaving density is frequently uneven, or parts of the weft yarns of the pattern may not be parallel. The "cutting weft" of the gilim weaving method, namely the weft yarn, does not run through the whole width of fabric. And, there is a long and narrow slit between the adjacent vertical parts of two colour patterns. This is the main character of the gilim weaves. In the gilim weaves unearthed from Sanpula Grave 02 and earlier in period than Specimen xii, there are seen longer

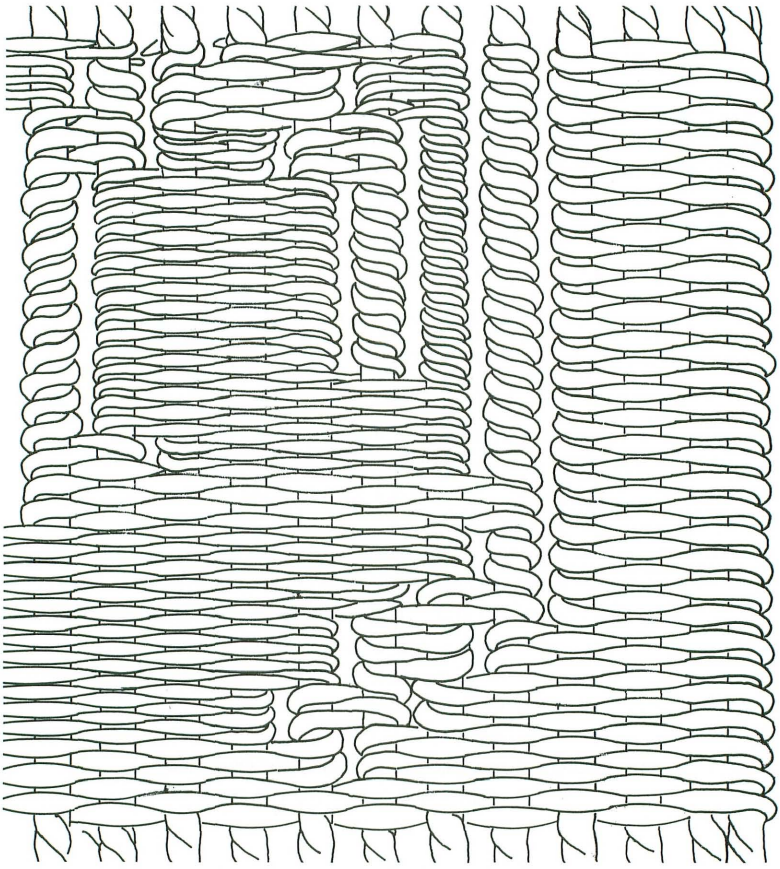

Fig. 4 Structure of Specimens viii and ix

vertical slits yet preserved (Fig. 4). With regards Specimen xii, the saw-toothed dove-tail join was used in order to avoid this kind of slit to extend infinitely (Plates 6-b and 6-c).

Specimen x of Type 2, of which fundamental structure on the ground is 1/2 weft-faced twill, is an elaborate wool cloth using fine yarns spun after dyeing. The skill level of the spinning was so high that this specimen was made very skillfully, beyond our imagination. Its wool yarn corresponds in thickness to 56-count yarn wool by the modern standard of machine spinning. The angle of the twill is under 18°. Some of the similar wool twill cloths unearthed together have weft's density reaching 130～140/cm, and are comparable in quality to Venetian (popularly named "lifuni" 礼服呢 in China) made with modern loom. The gilim lace-type band inlaid in the dark-red ground is about 9 cm wide, and runs all through the width of the cloth (Plate 3-a). The pattern's structure is also 1/2 weft face twill (Fig. 5). In the past, wool weaves with the same style were unearthed from the ancient site of Loulan[7].

Specimen xi is woven with middle-thick threads, and its inlaid lace-type band is 22 cm wide. The fundamental structures of the pattern and the ground are different; the pattern part is plain weave of weft rib weave, and the ground and the shaded colour band along the two sides of the patterned part, of which

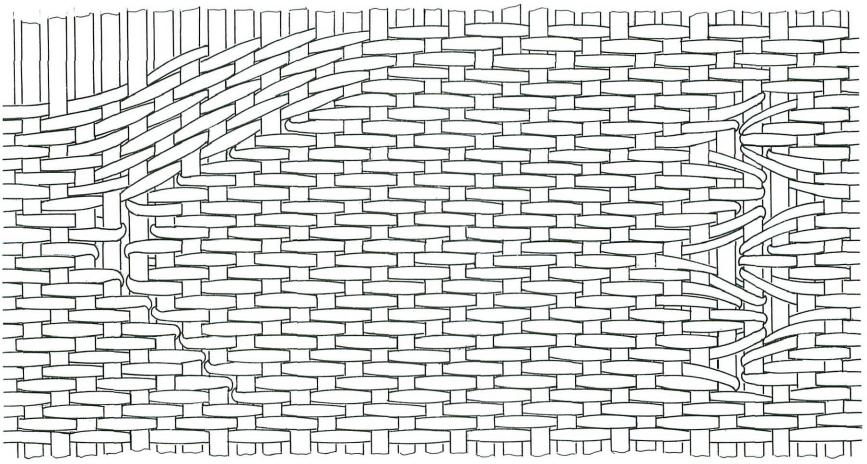

Fig. 5 Structure of Specimen x

the main part is 9 cm wide, are 1/2 weft face twill (Plate 5-c). There is thin nap on the face of weaves, and it seems, judging from the thickness of the nap, that the fulling treatment was exercised[8]. The similar wool weaves with nap were also discovered at the ancient graves at Sanpula.

The patterns of four specimens, except for Specimen xii, of Category II all belong to two-direction running patterns of animal and plant. Specimens viii and ix have animal patterns. Specimen viii has two groups of deer-like beasts in various postures with long tails, thin waists, claw-feet and double-fork antlers. I think this represents upright dragon figures (Plate 4-b). Specimen ix has two-direction running squares and antler-beast patterns: expressed along the two ends of every square are saw-toothed figures, and a head of the patternized antler-beast is in the middle, which is thought to be a dragon's head (Plate 5-a).

Type 2 weaves of Category II inlays lace, and the two sides of the main pattern band are all of shaded colour. Specimen x inlays a lace-type transverse band. It is woven with weft of more than ten kinds of colours, and the two sides of the transverse band have two-direction running grass scroll pattern, which is

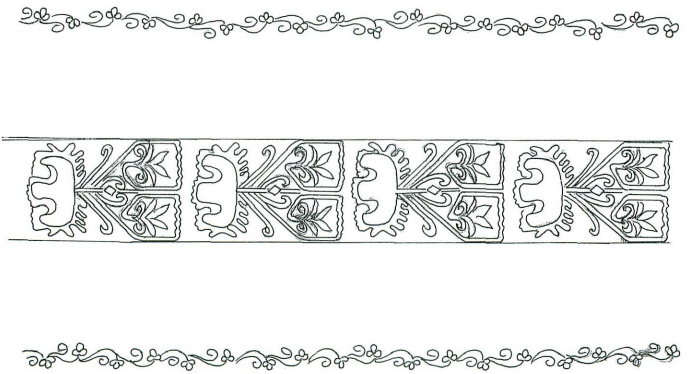

Fig. 6 Pattern of Specimen x

shaded in colour from the two sides to the middle axis. The main pattern band in the middle axis is 2.8 cm wide in dark-green colour of the ground at the pattern part showing with multi-colour two-direction running twin flowers on one stalk in the same direction (Fig. 6). Specimen xi is the same in pattern style as Specimen x, but the transverse band is wider. It also has the shaded colour expressed from the two sides to the middle. The main pattern band in the middle is 9 cm wide, and is decorated with hook-like figure (also called little torrent wave pattern) along the two sides. The main pattern also has two-direction running trailing grass patterns in the same direction, woven with more than ten kinds of colours.

These four specimens have the patterns and colours which are the same in character, namely the patterns circulating successively without variation. Every pattern's unit is mixed with many colours without duplication, which makes a rich colour effect for the pattern. This kind of skill for colour treatment is completely the same as that exercised in the silk embroidery from the period of War States (战国), which was unearthed from Grave No. 1 of Chu (楚) at Mashan (Horse Mountain) of Jianglin (江陵) in Hubei (湖北) Province, China[9].

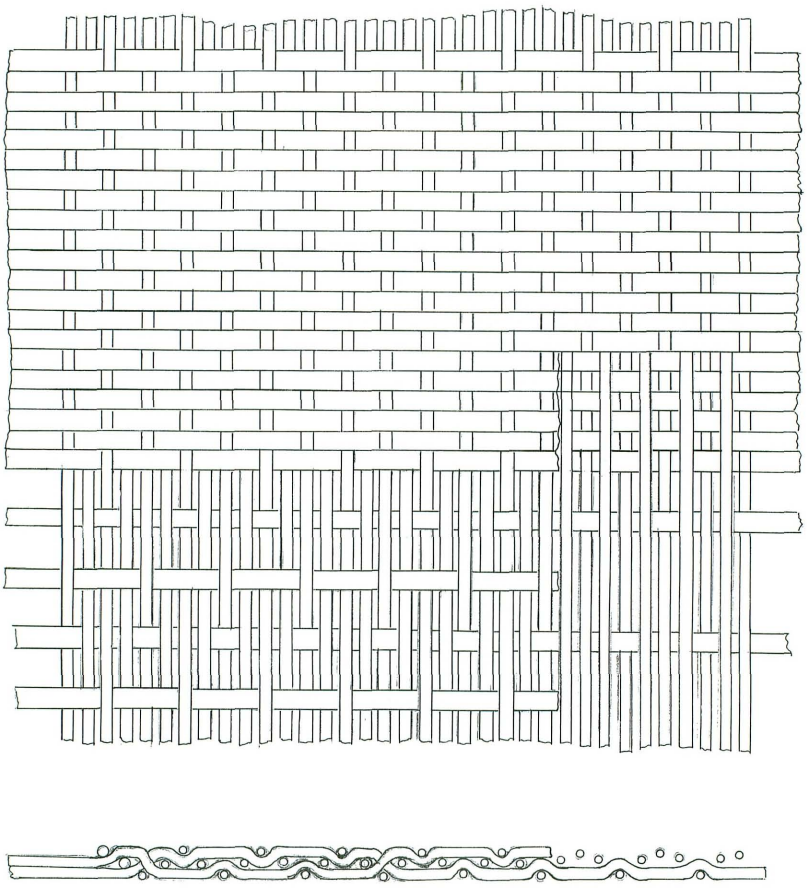

Fig. 7 Structure of Specimens xiii and xiv: its section shows alteration of face weft and back-weft

The category II weave of Style B, Type 1 has only one example: Specimen xii which is a tapestry fragment with pattern of a horse-man and a warrior. The personage figure is the main pattern of the tapestry: the horse-man in the upper part and the warrior with a spear in hand in the lower part. With regards the warrior, however, the left upper limb and left body as well as right wrist and body lower than abdomen are missing. On the whole, the main pattern of this tapestry is the warrior.

This tapestry had been cut into four segments when it was unearthed. They were sewed onto the fronts and backs of right and left trouser legs under knees as surface decoration. This tapestry has been published as two pieces of weave: horse-man weave (Plate 6-b) and warrior weave (Plate 6-c)[10]. After sorting out and restoring, we came to conclude that they originally belonged to one piece of weave (Plate 6-a). After reconstruction, this tapestry measured 230 cm long and 21～49.3 cm wide. It is worthy of note that the warrior's face as well as his naked neck and chest are expressed with colour-shading method, which bears a strong sense of stereoscopic effect, approaching the effect of oil painting.

In view of the pattern expressed, namely the figure of warrior or the subject of the horse-man, this tapestry obviously possesses the features of Greek culture.

Weaving way (insert weaving) of gilim is quite free, and therefore can be done either partially or in full width. This weaving way can produce narrow lace ribbon and wide tapestry. It also can produce multi-colour patterns which have the effect of embroidering and oil paintings, by which exceedingly rich decoration is realized. The gilim weave was the main pattern-weaving craft in ancient Western Region (西域) before the 7th century A.D. This weaving skill was adopted at that time by Chinese for silk weaving. The silk textile produced by this skill are called "Gisi" (緙絲) or "Kisi" (刻絲, 克絲).

III. Category III: Weft-backed and warp-wadded weaves

xiii. Gi (劂) with four-petaled flower pattern, unearthed from the same place and dated to the same period as Specimen i.

xiv. Fragments of Gi with human, beast and grape patterns, unearthed from the site of Niya of Minfeng, Xinjiang, dating to about the 3rd to the 4th centuries A.D.

This kind of weaves which are also called weft-faced compound weaves show the pattern with weft yarns, of which the fundamental structure is plain weft-backed weave with duplex wefts (Fig. 7). This kind of weave structure has the same effect as the structure of the Chinese traditional silk warp brocade, which are also called warp-faced compound silk weaves, showing pattern with warp, namely duplex warp with wadding weft (or main weft), also called warp-backed and weft-wadded weaves. But for the original selvage of weaves, it would be very difficult to distinguish this kind of weaves showing pattern with warp or weft in their outward appearance. If such weft-backed and warp-wadded weaves are rotated 90°, there is no difference between them and the Chinese traditional warp brocades.

The wadding warp (main warp) of the weft-backed and warp-wadded weaves functions the same as the Chinese traditional wadding weft, which is only between face (or over) weft and back (or under) weft. This wadding warp, like the wadding weft between face (or over) warp and back (or under) warp, does not appear on the face or back of weaves, and has nothing to do with weaving point of weave's surface. The wadding warp and weft are only between the face and back of weft and warp, and do not interweave with other warp (binding warp) as well as weft yarns (binding weft). Their main function is to avoid mixing face warp or weft with multi-colour of back warp or weft, in order to make outward appearance of face warp and weft clear. The specimen xiii was originally used as bedclothing's face, consisting of two fragments with different patterns and colours. The fragment a is bigger, with original selvage preserved. The selvage as is woven consists of winding weft with neither additional selvage-warp yarn nor width-selvage structure

generally seen. It is 34 to 37 cm wide with paired wefts. This Specimen xiii-a is woven into trellis design with red and white yarn on the blue ground, filled with white four-petaled flowerets and annular patterns in it. Specimen xiii-b is woven into red ground and the ground in indigo blue in different parts, with white and red successive rhombus ribbon-like lace, as well as successive four-petaled flowers spread in four directions all over the blue and red regions of the ground (Plate 7-a).

Specimen xiv is fragmentary, and is woven with backed-weft and wadding warp of two colours. Its pattern shows yellow design on the dark-green ground, the colours on the back being the opposite. The pattern consists of human figures, animal figures such as lion and deer, and bunches of grape with grape vine, branches and leaves. The head of the human figure bears short, curly hair, which is characteristic of European races (Plate 7-b).

The fine or patterned wool weave is called Gi (罽) in Chinese ancient documents. The aforementioned weaves, except for pile wool weaves of Category I, all belong to the Gi. The gilim weave of Category II is ZhuiGi (氈罽), and the patterned wool weave of Category III is HuaGi (華 (flower) 罽).

Deduction on the Production Places of the Weaves

The weaves mentioned above are of a high-grade wool production, manufactured at different times and differing in category. The pile weaves of Category I have three methods of knotting, showing that they were not made in one place. Where did these wool weaves come from? Although we can not be very affirmative now about their original place, we can discuss it on the basis of the relevant records in some documents, weaving skill, and the characters of the pattern styles.

1. Records in ancient Chinese books regarding wool weave production in Western Region (西域)

The following ancient Chinese books, relevant in time to the wool weaves reported in the present paper, recorded the places of wool weave production in the Western Region.

(1) Han Shu·Biography of Western Region (≪漢書・西域傳≫) clearly says that Gibin (罽賓, Kasmira) "weave Gi and embroidery." It is not clear about other countries, but we can recognize the expressions "same each other" as follows: In Wuyishanli (烏弋山離, Alexandria, Herat of Afghanistan now), its livestock productions, five cereals ---- money ---- are all the same as Gibin." In Anxi (安息, Parthia, ancient Persia), "productions as well as all folk-ways are the same as Wuyishanli and Gibin." In Darouzhi (大月氏, Indoscythe of upper reaches of Amu-Draya (阿姆河) having occupied ancient Bactria and having got into upper reaches of Indus River (印度河) when it was strong), "productions, all folk-ways and money are the same as Anxi."

(2) Hou Han Shu·Biography of Western Region (≪後漢書・西域傳≫) says that Daqin (大秦, Roman Empire) "prick embroidery with golden thread, weave Gi with golden thread and motley ling (綾)", "and have fine cloth, also called 'water-sheep-fine down' (水羊毳)" (similar record being in Jin Shu·Biography of Western Nation ≪晋書・西戎傳≫). Hou Han Shu also recorded that Tianzhu (天竺, India) "passes to Daqin in the west, and has Roman jewelry and fine cloth as well as good woolen weaves (Tadeng: 氎毲)."

(3) Wei Lue·Biography of Western Nation (≪魏略・西戎傳≫) records that Daqin has many items of weave, and the wool weaves "include woven Qushu (氍毹), Tadeng and Gi tent, which are all good." The wool weaves have different colours such as "ten kinds of Qushu, five colours of Tadeng", or the like.

(4) San Fu Huang Tu (≪三輔黄図≫) records that Weiyang Palace of Chang-an in Han Dynasty (漢代長安未央宮) "paved the floor with Gibin's Qushu."

(5) Ban Gu (班固), the writer of Han Shu, wrote to his young brother, Ban Chao (班超, 32～102 A.D., who garrisoned Western Region more than thirty years, and held the post of the Western Region Duhu (西

域都護) in 91 to 102 A.D.), and asked him to order acting Shizhong (侍中) Dou Xian (竇憲) to buy "Rouzhi horse (月氏馬), Suhe fragrant (蘇合香), Tadeng", saying that "In Rouzhi's Tadeng, big and small ones are mixed together, but all of them are fine and excellent"[11].

From these Chinese records, we know that the items of wool weaves transported into China at that time included Gi, Tadeng, Qushu, of which production places were Gibin, Rouzhi, Daqin, Anxi in the west of Conglin (葱嶺, Pamirs). In the 1st century B.C., Kushān (貴霜) Dynasty united Darouzhi. Ruled by Kanishka (迦膩色迦) and his successor from the 1st century A.D. onward, the power of Darouzhi gradually became greater and more prosperous, and expanded to Khorezm (花剌子模) in the north and Vindhya Range (温迪亜山) in the south, annexing Gibin and other neighbouring countries. Darouzhi thus became one of the four strong countries in the world at that time: with China, Roma and Anxi. The information about the Western Region in Han Shu, provided by Ban Chao, should be clear. Ban Gu's record in Han Shu (Biography of Western Region) concerned the former Han period (from the 2nd century to the 1st century B.C.). When he asked Ban Chao to buy "Rouzhi Tadeng" in the 1st century A.D., the situation of the Western Region was changed as described above; Kushān Darouzhi occupied Gibin and northern and western Tianzhu (天竺).

The period when the wool weaves reported in the present paper, except Specimens viii and ix, were made was the 1st century to the beginning of the 5th century A.D., corresponding to the period of Darouzhi Kushān Dynasty. Even if these wool weaves were not produced in Darouzhi, they should have been transported from there.

Judging from the items of weaves, we think that Gi is fine or jacquard wool weave in the above section. The imperial edict (高帝令: 八年三月詔 (公元前199年: March, 199 B.C.) in Han Shu·Gao Di Ji (≪漢書・高帝紀≫) said that "the traders can not wear brocade, embroidery, Hu (縠), Xi (絺), Zhu (紵) as well as Gi." In the ancient times, China attached importance to agriculture and despised trade, belittling the trader's social position and prohibiting them from wearing high quality clothings. Gi, juxtaposed with high quality weaves of brocade and embroidery, naturally belonged to high quality wool weaves.

The original meaning of Gi was fishnet according to Xü Shen's Shuo Wen (許慎≪説文≫), which has nothing to do with wool weaves in its word form or meaning. Hereafter, people made a word Gi (罽) to call wool weaves, meaning "fine down cloth of Western Hu-men (西胡)", namely Western nation (Humen) making wool weaves. But the ancient people had not strict standard in word usage, and wrote this word "罽" for convenient writing. The word "Gi", called as pile weaves of Western nation, obviously was the transliteration of the foreign language. There are many words with same pronunciation in Chinese. Why was Gi used in that time? It is natural for us to think of a foreign country's transliteration of Gibin (罽賓), the place that was famous for weaving Gi at that time. It is probable that this kind of wool weave production had come from Gibin in the earlier time and became to be called "Gi."

Gibin, Kashmir now, is famous for producing fine pile of goat and its weaves, which are called "cashmere."

Apart from Gibin, Anatolia is the original place of gilim, where this kind of weaves has been produced until now[12]. In the ancient times, Göreme, in the north of Taurus Mountains and southern bank of Kizilirmak River, was the distributing center, so it is thought that this place name was the origin of gilim in Persian language. The gilim could be omitted to be transliterated into Gi; we call it ZhuiGi (甤罽) for its special weaving skill. At that time, Anatolia was ruled by Roman Empire (Daqin). Daqin's weaves, recorded in Hou Han Shu·Biography of Western Region, included "the Gi woven with golden thread."

It is noteworthy that there are some weave names in Kharosthi documents (佉卢文書) used in Shanshan, Niya, Khotan in the 3rd and 4th centuries A.D. Document No. 318 recorded "two blue Kigi,

one Kremeru"[13]. I think that they probably were the transliteration of foreign language, the former corresponding to Chinese "Gi", and the latter probably being the transliteration of Persian gilim.

Tadeng (氈毡) and Qüshu (氍毹) or Qüsou (氍毵) were considered as wool mat or wool-padded mattress by ancient people. Some people think Tadeng to be pile carpet. Sir ZHANG Xinglang (張星烺), for example, thinks that Tadeng is the transliteration of Tafutan in Persian language, meaning spinning and weaving. He explains "Tan" (檀) of Persian products in Sui Shu·Biography of Western Region (≪隨書·西域傳≫) as "tanva" of ancient Persian language, and "tanand" of medieval Persian language means spinning and weaving. He also says that "tan-bisa (檀必撒) is small carpet"[14]. The reason why Tadeng and Tan co-existed in Sui Shu is that the author did not know that these two kinds of different translation had come from the word "tanand" of medieval Persian language. Therefore, Tadeng or Tan in fact means weaves in a general sense. From the documents unearthed from Turfan (吐鲁番), we have known that the word Tan (毯) appeared in ancient Gaochan (高昌) in the 4th century A.D., and that the blanket (毯) (thick wool weave) was used as a means of trade. Tadeng or Tan means wool weaves in a general sense as well as the weaves for bedclothing (including paving (鋪地)), all of which are called "Tan" (毯) in Chinese. As its usage can not mirror its craft and texture, it is not possible to affirm Tadeng and Tan to be pile weaves, even if they were used for bedclothing or paving. For example, carpet means rug in a general sense in English, but the carpet with cut pile yarns (栽絨毯) is called pile carpet, and the hanging carpet (掛毯) is called gilim tapestry. I think there was not any record of pile weaves of Category I in ancient Chinese books before the 6th century A.D. In Tan Dynasty, vivid names appeared of "大毛繡舞筵" and "長毛繡舞筵"[15].

In the Kharosthi documents unearthed from Xinjiang, there are also seen weaves named Kośava or Kojava, meaning thick wool rug (粗毛毯), also translated to "thick carpet" by someone. Sir MA Yong (馬雍) thought that it corresponded to Chinese "Qüsou" (氍毵), which may have something to do with ancient Qüsou country (粟搜, Farghana now)[16]. If his view is reliable, this kind of thick wool weaves (including carpet type) may have been named as they were transported into the Western Region from Qüsou country at the earliest.

There is also "Khotan Kojava" in the Kharosthi documents, but this kind of Khotan thick woolen blanket was not necessarily a pile rug. "Tavastaǵa" in Kharosthi was translated to "rug" by someone. I think it was probably the transliteration of Persian taftan, but it may not necessarily mean pile rug.

In view of these, all of the Chinese names of the above-mentioned woolen weaves are transliteration of foreign languages, reflecting their original places of production in Central Asia and Western Asia in the west of Pamirs.

2. Deduction on the weaves' production places on the basis of the weaving crafts and pattern features

The weaves of Category I have three different kinds of knot. Among them, U-shape knot of Style C is not clear about its origin until now. The Ghiordes knot originated from Gördes in the west of the Anatolian peninsula, and so was named after it. The Senna knot was named because it had originated from Sanandaj, the provincial capital of Kurdistan in the north-west of Iran. Concerning the pile carpets corresponding to the afore-mentioned specimens unearthed, their main products should have come from Anatolia and Persia. I think, therefore, that if these specimens did not come from Anatolia and Persia, then they should have come from one of other regions in Central Asia and West Asia influenced by the Anatolian or Persian crafts.

The subjects and styles of patterns and motifs of these pile weaves have such characteristic features as are commonly seen among the Western and the Central Asian decorated patterns. The patternized animal (lion) of Specimen i makes us remind of the decorated relief picture stuck on the glazed bricks of the New

Babylonian era (6th century B.C.). The dragon pattern in Specimen viii has the style similar to the "Babylonian dragon" in the relief on the bricks, which was stuck on the Ishtar Gate built for the Goddess Ishtar. If such similarity can only be thought as inheritance and development of art style, then the subjects and expression in Specimen xii are horse-man and warrior figures, obviously of the Greek style.

In 334 B.C., Alexander the Great went on an expedition to the east, and Grecized the world expanding to the Central Asia and India, spreading the Greek culture and art to the east gradually. Although this empire collapsed quickly, it had a profound influence on the economical and cultural exchange between the east and the west. Gandhāra art under the Kushān Dynasty dominantly assimilated a lot of patterns and artistry of the Greco-Roman style, such as grape curly grass pattern, Centaur (horse-man), and so on[17].

It is supposed, on the basis of the names of weaves or weaving skill as well as the styles of their patterns, that the above-mentioned wool weaves came differently from Darouzhi, Anxi and Daqin at that time.

It is not surprising that the above-mentioned places of the wool weaves unearthed in Xinjiang had the commodity from the Central and the Western Asia, for these places were passed by the ancient "Silk Road."

Interflow of weaving technologies between the east and the west viewed from wool weaves unearthed

The ancient "Silk Road", starting from China and reaching the Mediterranean Sea, promoted not only the trade of commodities and products between China and the west, but also the exchange of cultures and technologies between them. The afore-mentioned wool weaves also reflect the mutual complement of technologies in weaving crafts among China, the Central Asia, and the Western Asia.

Chinese silk weaves, made of raised silk, and the Western and the Central Asian wool weaves, made of wool, respectively have been using traditional weaving skills with different fibre raw materials and weaving tools. In the course of the progress of their skills, along with the exchange of commodities between China and the west, the wool weaves of the Western and the Central Asia were introduced into China as the Chinese silk weaves went into the west. It was natural for the common people using the weaves to have no feelings other than curiosity when they received these new foreign weaves. The weavers and weave managers of China and the west, however, were easily enlightened by the new craft and technology in the newly introduced weaves; they absorbed advantages from each other, improved and developed their own weaving craft, and enriched the variety of spinning- and weaving-crafts, pattern designing and colour. Thus, the new weaves were far more significant than the things merely considered as exchanging commodities.

The structure of the afore-mentioned weft-backed and warp-wadding plain weave, specimen of Category III, has completely the same face effect as that of the Chinese traditional warp-backed and weft-wadding plain weaves (warp-faced compound tabby). This was obviously influenced by the Chinese warp-backed and weft-wadding plain brocade. This structure resulted from the alteration of weft thread for warp silk yarn of Chinese warp brocade, of weft silk yarn for warp thread, and of wadding weft for wadding warp.

As the raw materials for spin-weaving of Central and Western Asia were drawn from wool fibre, and those of Southern Asia were from cotton fibre, both of which belong to short fibre, they should have been used for weaving after spin-twisting. This was the main factor for weft face effect of the weaves.

Spin-twisted warp yarn easily becomes twist-shrunk and tangled, and warp thread should have been arranged sparsely or used as ply yarn in the technological level at that time. Through this kind of

arrangement, the density of the weft became certainly greater than the warp density in different degrees, which formed weave's weft effect. The warp effect of the Chinese traditional weaves and the weft effect of the western traditional weaves have developed independently from each other, using materials of long and short fibres respectively. This never means which tradition was finer or more advanced. Up to now, some scholars have too much exaggerated the influence of the western weaving technology into China. The emphasis of the influence of the western weaving technology of weft face effect on to the Chinese weaving technology in the 7th century A.D. is unsuitable and out of reality. The archaeological materials unearthed in recent years show that this kind of western influence reached the inner parts of China around the 8th century A.D. A lot of 2/1 warp face twill brocade of warp-backed and weft-wadding weaves in the 7th to 8th centuries A.D. have been unearthed from Turfan, which confirmed that the weaves with weft face effect did not replace the Chinese traditional weaves with warp face effect[18]. Specimens xiii and xiv have proved that among the wool weaves of Central and Western Asia, dated to the 3rd to 4th centuries A.D., some already adopted and introduced the Chinese craft and technology of warp-backed and weft-wadding weave within their traditional weaving technology of weft face effect; while keeping their traditional weft face effect, they skilfully introduced the technology of warp-backed and weft-wadding weaves of China and wove the weft-backed and warp-wadding weaves. In view of this, it is evident that the interflow of spin-weaving technology and its commodities was mutual between China and the west.

The gilim technology of specimens of Category II is the traditional pattern craft of Western Asia, which has a unique style. As mentioned previously, it was not later than the end of the 7th century A.D. that this kind of pattern craft was first introduced into Chinese silk weave[19]. This technology was used to weave narrow lace strip in the beginning. Afterwards, it was developed to make dress materials and even to make miniature works of enjoyable art, using original versions by notables' paintings and calligraphies. This pattern craft is called "Gisi" (or Gesi, 緙絲) or "Kisi" (or Kesi, 刻絲) in China, and was written as "克絲" or "剋絲" in ancient Chinese books. These four Chinese words of "刻, 緙, 克, 剋" have the same pronunciation with different shapes, representing the same type of weaves, which means that these words were derived from the transliteration of a single foreign word. I think that the original forms of these four words were omitted transliteration of gilim. These words did not originate from the craft of this weave. In Japanese, this kind of craft is called "綴織" (tsuzureori), which is a suitable name expressing the characters of this craft. This is the reason why I rightly called this kind of wool weaves "氈罽" or "氈氍".

We have more specimens, other than those mentioned in the present paper, which prove technological exchanges between ancient China and the west. I have not discussed them this time, however, for they do not fall into the field of research presented here in this paper.

Conclusions

On the basis of the discussion above, we come down to several conclusions as follows:

1. The fourteen specimens of wool weaves of three categories discussed in the text had not been produced in the place excavated, although they were unearthed within the boundary of Xinjiang. The places of their production were in the Central Asia and the Western Asia in the west from Xinjiang.

2. These wool weaves were imported into Xinjiang as commodities along the ancient "Silk Road." From China to the west, on the other hand, silk weaves were exported.

3. The exchange of wool and silk weaves between China and the west not only enriched people's material and cultural life of the two worlds, but also offered to them opportunities to exchange and to replenish their weaving crafts between them. It not only promoted the development and progress of

science and technology between China and the west, but also made an important contribution to human civilization as well.

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List of the data of some ancient wool fabrics unearthed from Xinjiang

Specimen i: Pile carpet (unearthed from Yingpan)
Prime registered No.: 89BYYM1: 12
Size (cm): 260×95～100
Structure: Ground: Plain weave
Pile knot: Ghiordes
Design: With successive rhomb pattern all around and the figure of animal-like lion in central ground
Thickness (mm): Ground: 4.0 10.0～15.0 (with pile)
Raw material: Sheep's wool
Color: Warp: brown, white Weft: natural white
Pile: white, black, red, brown, blue, deep yellow
Diameter (mm): Warp: 2.0 Weft: 2.0 Pile: 1.5 (×2)
Twist, Twist No. (/cm): Warp Z > S (3.0) Weft—Z (2.0～3.0)
Z
Pile—Z (1.5～2.0)
Density (/cm): Ground part: Warp: 5 Weft: 5
Pile knot: 2.5×1 rows

Specimen ii: Horse saddle pile rug
Prime registered No.: 84HLSSK2: 1
Size (cm): 76×74
Structure: Ground: Plain weave
Pile knot: Ghiordes
Design: With successive leafage pattern periphery and interior rhomb-net pattern in central ground filled with leafage pattern
Thickness (mm): Ground: 4.5 15.0～20.0 (with pile)
Raw material: Sheep's wool
Color: Warp: brown Weft: brown, greyish
Pile: light red, tangerine, yellowish, deep blue, light blue, dark green, white, black, tabacco color
Diameter (mm): Warp: 1.5 Weft: 1.5 (×2) Pile: 1.5 (×2)
Twist, Twist No. (/cm): Warp Z > S (3～4) Weft—Z (3～4)
Z
Pile—Z (2～3)
Density (/cm): Ground part: 4.7×6 Pile knot: 2.3×1.5 rows

Specimen iii: Fragment of rhombus pattern carpet
Prime registered No.: 59MNM1: 52 (a)
Size (cm): 30×21
Structure: Ground: Plain weave

Pile knot: Ghiordes
Design: Rhombus pattern
Thickness (mm): Ground: 4.0 8.0～10.0 (with pile)
Raw material: Sheep's wool
Color: Warp: brown, greyish Weft: brown, greyish
Pile: light red, orange, light blue, red, white, yellow, brown, the color of camel's hair
Diameter (mm): Warp: 1.5～2.0 Weft: 2.0～2.5 Pile: 1.3～1.5 (×2)
Twist, Twis No. (/cm): Warp Z > S (3～4) Weft—Z (2～3)
Z
Pile—Z (1.5～2)
Density (/cm): Warp: 4 Weft: 4 Pile: 2×1 rows

Specimen iv: Fragment of pile carpet
Prime registered No.: 59MNM: 52 (b)
Size (cm): 37×12
Structure: Ground: Plain weave
Pile knot: Ghiordes
Design: Rhombus pattern
Thickness (mm): Ground: 4.0 10.0～15.0 (with pile)
Raw material: Sheep's wool
Color: Warp: brown Weft: natural color
Pile: white, brown, blue, yellow, red, etc.
Diameter (mm): Warp: 1.8～2.0 Weft: 1.2×2 Pile: 1.2×2
Twist, Twist No. (/cm): Warp Z > S (3) Weft—Z (2)
Z
Pile—Z (1.5～2)
Density (/cm): Warp: 5 Weft: 5 Pile knot: 2.5×1 rows

Specimen v: Fragment of pile carpet
Prime registered No.: 80LBMB2: 92
Size (cm): 35×17
Structure: Ground: Plain weave
Pile: knot Ghiordes
Design: Geometric pattern
Thickness (mm): Ground: 3.0 3.5～5.0 (with pile)
Raw material: Sheep's wool
Color: Warp > natural color
Weft
Pile: red, brown, light blue, white, etc.
Diameter (mm): Warp: 1.3～1.5 Weft: 1.3～1.5 Pile: 1.3 (×2)
Twist, Twist No. (/cm): Warp Z > S (4) Weft—Z (3～4)
Z
Pile—Z (1.5～2)
Density (/cm): Warp: 6～7 Weft: 9 Pile knot: 3～3.5×1 rows

Specimen vi: Fragment of pile carpet
Prime registered No.: 59BTB庙 (temple) 3: 41
Size (cm): 18×13
Structure: Ground: Plain weave
Pile knot: Senna
Design: Geometric pattern
Thickness (mm): Ground: 4 8 (with pile)
Raw material: Sheep's wool
Color: Warp > brown, natural white
Weft
Pile: red, brown, white, greenish, the color of camel's hair

Diameter (mm): Warp: 2～3 Weft: 1.2×3 Pile: 1.5×1.8×2

Twist, Twist No. (/cm): Warp Z/Z—S (3) Weft—Z (2)

Pile—Z (1.5～2)

Density (/cm): Warp: 4 Weft: 2 Pile knot: 2×2 rows

Specimen vii: Fragment of double-face pile knot woolen fabric

Prime registered No.: 80LBMB2: 93

Size (cm): 18×9

Structure: Ground: Plain weave

Pile knot: Reversible "U"-shape

Design: Flower filled-in-checked

Thickness (mm): Ground: 3 12～15 (with pile)

Raw material: Cashmere

Color: Warp, Weft: white

Pile knot: deep blue, light blue, deep red, light red, yellow, greenish, dark green, light brown, etc.

Diameter (mm): Warp: 1.1 Weft: 1.1×6 Pile knot: 1.5×2

Twist, Twist No. (/cm): Warp Z/Z—S (4～5)

Weft Z/Z—S, Z/Z—S, Z/Z—S, Z/Z—S, Z/Z—S, Z/Z—S (4～5)

Pile knot—Z (3～4)

Density (/cm): Ground: 7×3 Pile knot: 3.5×2+3.5×2 rows

Specimen viii: Lace woven with dragonish pattern on blue green ground

Prime registered No.: 84HLSSM02: 3017

Size (cm): 57×14

Structure: Rib weaves with weft effects

Design: Variopostures, beastish dragons pattern

Thickness (mm): 1.2

Raw material: Cashmere

Color: Warp: white

Weft: blue green, red, white, yellow, brown, the color of camel's hair, orange, tea-green (the section part of green, red, white, orange), etc.

Diameter (mm): Warp: 1.0 Weft: 0.3～0.5

Twist, Twist No. (/cm): Warp Z/Z—S (5～6) Weft—Z (4～5)

Density (/cm): 7×44

Specimen ix: Lace woven with animal pattern in successive square

Prime registered No.: 84HLSSM02: 3102

Size (cm): 207×8

Structure: Rib weaves of weft effects, with pattern shown by weaveing patch

Design: Weaved horned beast's head on successive square ground

Thickness (mm): 1.2

Raw material: Cashmere

Color: Red, white, yellow, brown, tea-green, light green, the color of camel's hair

Diameter (mm): Warp: 0.8～1.0 Weft: 0.25～0.5

Twist, Twist No. (/cm): Warp Z/Z—S (5～6) Weft—Z (3～4)

Density (/cm) 8×44

Specimen x: Fragment of weaved skirt with patch-woven pattern twin flowers and trailing grass of lace-type on dark red ground

Prime registered No.: 84HLSSM01: 3901

Size (cm): 37×45

Structure: Ground fundmental structure is 1/2 weft effects twill, using shown figures on inlaid weaved lace part.

Design: Two running directions of trailing grass and twin flowers with lace type

Thickness (mm): 0.5～0.7

Raw material: Cashmere

Color: Deep red, green, dark green, deep blue, light blue, deep brown, light brown, orange, light yellow, black, white

Diameter (mm): Warp: 0.3 Weft: 0.15～0.2 (=56 count yarn)

Twist, Twist No. (/cm): Warp—Z (5～6) Weft—Z (4～5)

Density (/cm): Ground warp: 17～18 weft: 99～105

Figure warp: 17～18 weft: 50～70

Specimen xi: Fragment of weaved skirt with patch-woven pattern lace-type shaded color on the dark blue ground

Prime registered No.: 80LBMB2: 89

Size (cm): 59×52

Structure: Ground fundmental structure is 1/2 weft face twill rib weaves of weft effects with gilim pattern

Design: The frame made by two running directions and symmetrical wave-curve lines, with trailing grass and three-petals flowers spread on its inside and outside

Thickness (mm): 1.0

Raw material: Sheep's wool

Color: Deep blue, white, red, yellow, green, light blue, red blue or grape, light red, tangerine, brown

Diameter (mm): Warp: 0.7 Weft: 0.4

Twist, Twist No. (/cm): Warp Z/Z—S (5～6) Weft—Z (4～5)

Desity (/cm): Warp: 11～12 Weft: 40～45

Specimen xii: Fragment of gilim tapestry with pattern of horse-man and warrior

Prime registered No.: 84HLSSM0/: 3101～3104

Size (cm): 231×21～49.3

Structure: Rib weaves of weft effects

Design: Main pattern made by a warrior with a spear in his hand and horse-man (or Centaur)

Thickness (mm): 1.5

Raw material: Sheep's wool

Color: Warp: white

Weft: blue, red, light red, fade-red (reddish), black, white, brown, yellow, etc.

Diameter (mm): Warp: 0.8～1.0 Weft: 0.5～0.7

Twist, Twist No. (/cm): Warp Z/Z—S (4～6) Weft—Z (3～4)

Density (/cm): Warp: 6～8 Weft: 32～40

Specimen xiii: Gi (劂) with four-petals flower pattern

Prime registered No.: 89yyM7: 9

Size (cm): 50×48

Structure: Weft backed and warp wadded plain weave

Design: Four-petals flowers in trellis design

Thickness (mm): 1.5

Raw material: Sheep's wool

Color: Blue, white, red, yellow, deep red

Diameter (mm): Warp: 0.5 Weft: 0.5×2

Twist, Twist No. (/cm):	Warp Z / Z > S (3～4) Weft—Z (3～4)
Density (/cm):	Warp: 5～6×2 (interweaved warp＋wadded warp) Weft: 11×2 (face weft＋base weft)

Specimen xiv:	Fragment of Gi (劂) with human beast and grape patterns
Prime registered No.:	59MN10—16
Size (cm):	6～21 (length) 1.6～4.6 (width) (by rent in several narrow pieces)
Structure:	Weft backed and warp wadded plain weave
Design:	Part of curly-pate man, branches, foliages, fruits of grape, and beast (lion?) pattern remained.
Thickness (mm):	1.0
Raw material:	Sheep's wool
Color:	Dark green, yellow
Diameter (mm):	Warp: 0.2 Weft: 0.15×2
Twist, Twist No. (/cm):	Warp—Z (4～5) Weft—Z (4～5)
Density (/cm):	Warp: 10×2 (interweaved warp＋wadded warp) Weft: 32×2 (face weft＋base weft)

Notes

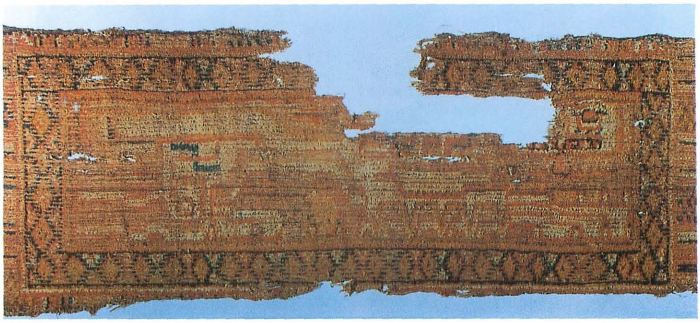
1) 武敏 1992 (August):『織繡』, 幼獅文化事業有限公司, 台北, pp. 36–41, pp. 78–92.
2) This grave, No. LCiii, was excavated by A. Stein. When it was excavated again in 1980, there were a lot of weaves discovered, including weaving brocade of the Eastern Han Dynasty (around the 2nd century A.D.) The situation of the grave shows that these weaves were not buried with the grave's master in one place at the same time. It is probable that Stein collected them from different places of ancient graves at Loulan site, and buried them in this place after recording. The era of these weaves is from the Eastern Han to Jin (晋) Dynasty (from the 2nd century to the 4th century A.D.) We temporarily dated these wool weaves from this grave in this text to the 3rd to 4th centuries A.D. See also: 楼蘭城郊古墓群發掘簡報,『文物』, 1988 (7期). The wool and silk weaves found by Stein can be seen in A. Stein: *Innermost Asia: Volume IV* (Plates xxxi and Colour Plates xxxiv and xxxv), Cosmo Publications, New Delhi, India, 1981.
3) Although the cultural layer of this site is disturbed, it is dated to the Southern and Northern Dynasty to the Song Dynasty (the 5th to 10th centuries A.D.) Following the excavator's view, we date it to the Southern and Northern Dynasty (the 5th century A.D.)
4) 李遇春・賈应逸 1980: 新疆脱庫孜沙来遺址出土毛織品初歩研究,『中国考古学会第一次年会論文集』, 文物出版社, 北京, p. 423 (Fig. 2); 賈应逸・張亨德 1984:『新疆地毯史略』, 軽工業出版社, 北京, pp. 27–28.
5) 武敏 1992 (August):『織繡』, 幼獅文化事業有限公司, 台北, pp. 98–99.
6) This kind of beating-up tool, made from wood, is called "wooden hand" in Chinese custom. Its form and ways of use can be seen in Ziemba, Akatay and Scbwartz: *Turkish Flat Weaves*, Scorpion Publications Ltd., London, 1979, p. 89 (Plate 42).
7) See the colour plate in A. Stein: *Innermost Asia: Volume IV*, Cosmo Publications, New Delhi, India, 1981.
8) Fulling is one technology to treat wool weaves. It takes advantage of characteristic physical property of the wool fibre, that is kneading in water, gradually increased and made warmer, making the face scale of fibre inlaid each other, and feltizing it with nap. If wool weaves are washed in lukewarm water to be cleaned and are kneaded by hand, they also can show the phenomenon of fulling in the course of their use.
9) See also 湖北省荊州地区博物館 1985:『江陵馬山一號楚墓』, 文物出版社, 北京, Color plates xxi' to xxviii'.
10) 新疆維吾尔自治区博物館 1989 (2期): 洛浦具山普拉古墓發掘報告,『新疆文物』, p. 32 (Plate. 3).
11)『全漢文』Vol. 25.
12) Ziemba, Akatay and Scbwartz 1979: *Turkish Flat Weaves*, Scorpion Publications Ltd., London.
13) 韓翔 他 1988:『尼雅孝古資料』, 烏魯木肖, p. 217.
14) 張星娘 1978:『中西交通史料匯編』Vol. 3, 中华書局, 北京, pp. 92 and 103, Notes 6 and 10.
15) According to『冊府元龜』Vol. 971, the words "Huomao" (火毛, fire wool) was mistakenly written for "Damao" (大毛, large wool) in『旧唐書・西域傳・波斯』and『唐書・西域傳・波斯』. The original meaning of Yan (筵) is the bamboo weave, called "Yanxi" (筵席), to pave floor with the mat on it. Wool embroidery has the pile effect. The dancing Yan (舞筵) is used for dancing on it. This name was created by people of the Tan Dynasty in order to functionally express pile carpet.
16) See 馬雍:『新疆佉卢文書中 kośava 即氈甔考』. See also 馬雍 1990:『西域史地文物丛考』, 文物出版社, 北京, pp. 112–115.
17)『簡明不列顛百科全書』Vol. 4, 中国大百科全書出版社, 北京・上海, 1986, p. 309.
18) In the weaving brocades of the 7th to 8th centuries A.D. unearthed from Turfan, the most principal aspects are the brocade of

warp effects. After the 8th century A.D., twill weft effect's brocade appeared little more eminent. I have researched so far to contrast the listed (or selvaged) twill warp effect's brocade with the listed twill weft effect's brocade, and have discovered that there appears a subtle difference on conscientious observation after removing the list. It is a pity that some scholars have so much prejudice that they call all the twill weaving brocades (斜紋織錦) weft brocades (緯錦). This kind of erroneous views remain the same still now.

19) It is said in China that this kind of craft is used for silk weaving. According to『後漢書・西南夷傳: Biography of South-West Nations』, Ailao (哀牢) people "realized dyeing, embroidery and GiZhui (罽毲)", which shows that Ailao people living in the present Yunnan (雲南) Province in the 1st to 2nd centuries A.D. possessed the skill of gilim weaving. It is a pity that this kind of craft has not been handed down in local region. The gilim craft of the Ailao people at that time may have been introduced from Western Asia by way of India.

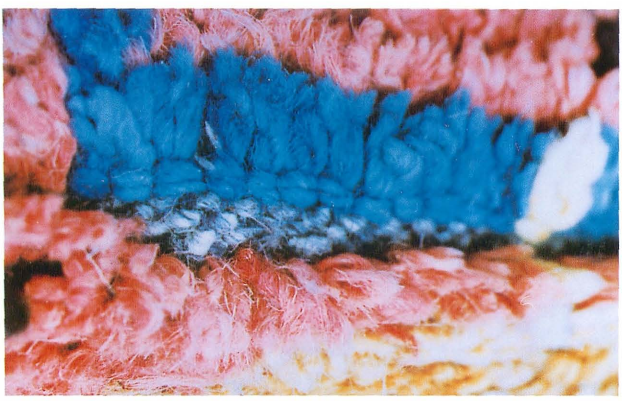
Additional remarks by Hideo FUJII and Kazuko SAKAMOTO

In order to commemorate the 20th anniversary of normalization of the diplomatic relation between China and Japan, an exhibition under the title *The Exhibition of the Beauty of Lou Lan* was held at the National Science Museum, Tokyo (September–November 1992), Fukuoka Prefectural Museum of Art (December 1992–February 1993), and Kyoto Municipal Museum of Art (March–April 1993). Displayed in these exhibitions was the mummy, famous as *the Beauty of Lou Lan* some 4,000 years old, which had been excavated at the ancient Lopnor in 1980, as well as a large number of other invaluable cultural heritages which had been uncovered at the old Loulan castle and its neighborhood. Among the textile exhibits coming from Xinjiang Uygur Autonomous Region Museum, Xinjiang Institute of Archaeology and Historical Relics, and Cultural Relics Protection and Management Office of Bayinguoleng Mongol Autonomous Prefecture (巴州文物保護管理所), we took notice of the specimens having the weave structure and design composition comparable to those of the textile specimens discovered at the At-Tar Caves, Iraq. That is why we felt the necessity to gain further information related to the specimens from Xinjiang. In this way, it was through the courtesy of the Asahi Shimbun and the National Science Museum, Tokyo that in reply to our request Professor WU Min of Xinjiang Uygur Autonomous Region Museum kindly presented to us the data and article on 14 specimens, including what we had wanted, which have been just published here in *Al-Rāfidān*. The introduction of the textiles from Xinjiang Region and their study will be very important for us textile researchers who are seeking the subject of cultural contact of the heritages in Western Asia and Eastern Asia. Taking the opportunity of these specimens to be published, we sincerely wish that this research field will make more progress through international joint works.

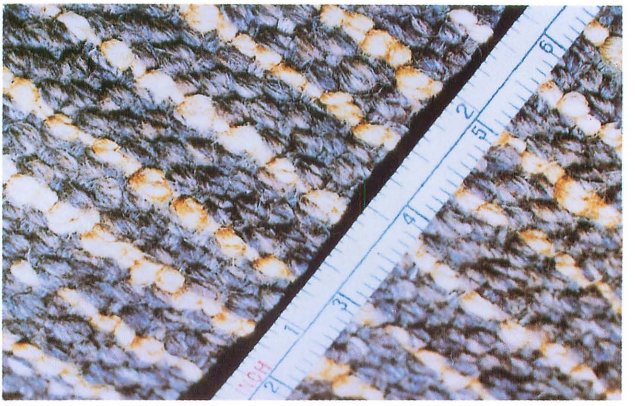


a. Pile carpet (Specimen i)

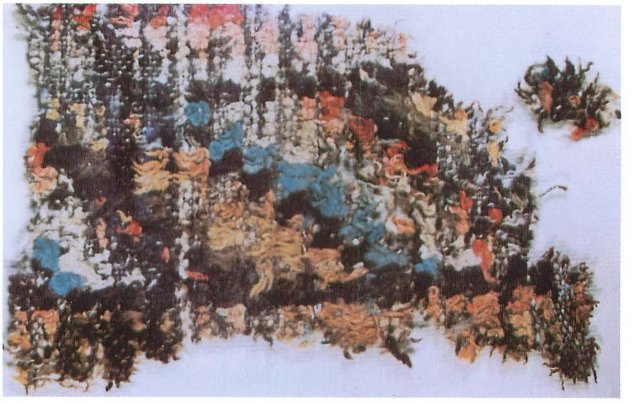
b. Horse saddle pile rug (Specimen ii)



c. A part of face (Specimen ii)

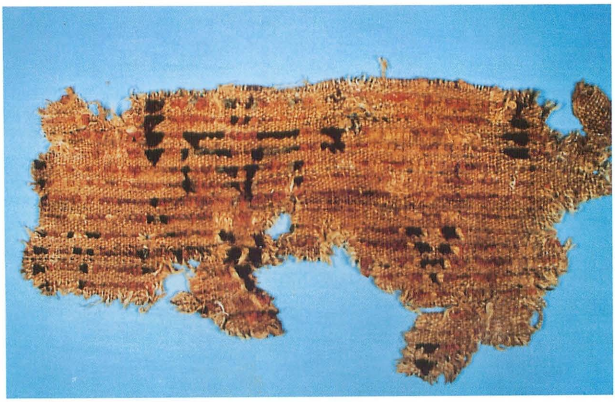


a. A part of back (Specimen ii)



b. Fragment of rhombus pattern carpet (Specimen iii)

c. Fragment of pile carpet (Specimen iv)



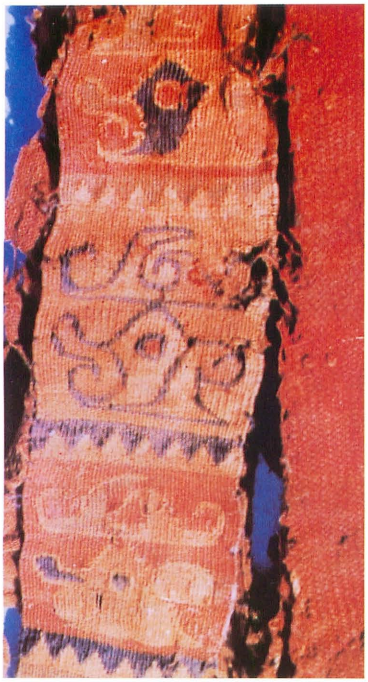
a. Fragment of pile carpet (Specimen v)

b. Fragment of pile carpet: face (Specimen vi)

c. Fragment of pile carpet: back (Specimen vi)

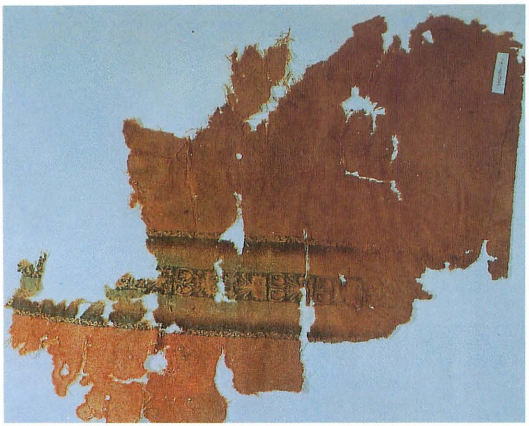
a. Fragment of double-face pile knot woolen fabric (Specimen vii)

b. Lace woven with dragonish pattern on blue-green ground (Specimen viii)



a. Lace woven with animal pattern in successive squares (Specimen ix)

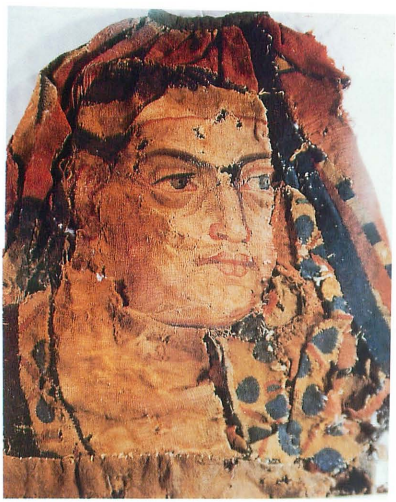
c. Fragment of a skirt with patch-woven pattern and lace-type shaded color on the dark-blue ground (Specimen xi)



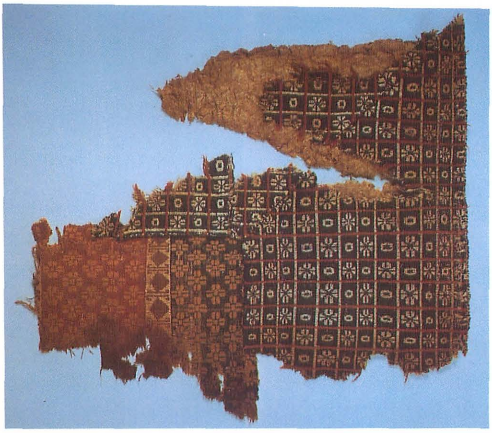
b. Fragment of a skirt with patch-woven pattern twin flowers and trailing grass of lace-type on the dark-red ground (Specimen x)

a. Fragment of gilim tapestry with patterns of a horse-man and a warrior (Specimen xii)

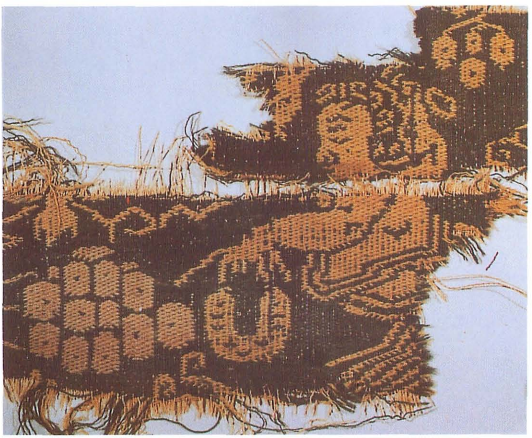
b. A horse-man of part pattern of Specimen xii



c. A warrior of part pattern of Specimen xii



a. Gi (綺) with four-petal flower pattern: left down part (a), the remnant (b) (Specimen xiii)



b. Fragment of Gi (綺) with human, beast and grape patterns (Specimen xiv)

CHRONOLOGY OF UBAID TOMBS FROM KASHKASHOK II

—Examination of tomb and pottery sequences—

Tatsundo KOIZUMI*

1. Introduction

This article deals with the Ubaid and post-Ubaid tombs from Tell Kashkashok, tell No. II in northeastern Syria (Fig. 1). The site was excavated in 1987, 1988 by the expedition team from Tokyo University [Matsutani 1991]. It was revealed that the mound of Kashkashok II had been used as a cemetery throughout the Ubaid and post-Ubaid periods (Fig. 2). Although about one hundred tombs (of which sixty-three were registered) were excavated, over two hundred tombs may have been dug. While those that were well-preserved and clearly recognizable as tombs were assigned registration numbers, others remained unnumbered. The former tombs had funerary objects and/or were in good condition. All of the tombs — registered and unregistered — were spread throughout the mound in a fairly uniform density [Koizumi 1991].

On the assumption that each tomb might have been dug to a certain depth in the moderate mound, I felt that the base level of a tomb could reflect the surface level from which it had been dug. Although the speed of soil accumulation on the tell would have varied, the rate might have been almost regular through a certain unit of time. Therefore the base level of a tomb can be used to order each tomb chronologically. My purpose here is to seriate the tombs, to correlate the seriation with that of pottery, and to establish a chronology for the Ubaid tombs in Kashkashok II. As the first one has been tentatively attempted in other papers[1] [Koizumi 1992; 1994], I shall here refine the analysis and complete the chronology.

2. Methods

Let us now look at the method of determining the 'relative level' and ordering the tomb sequence.

1) Layer

Kashkashok II has been eroded between the north and west side of the mound by flooding of the Wadi al Aweiji, a tributary of the Khabur. The rapidity of the flooding can be seen on the north of Kashkashok III, a nearby mound south of Kashkashok II (Fig. 1). On Kashkashok II the following cultural sequence has been distinguished: starting with the Hassuna period in the natural layer, it is followed by the Ubaid and post-Ubaid periods, a cemetery, and then subsequent periods, such as Islam, when several pits were dug through the previous layers.

From a section of Kashkashok II, we suggest that soil accumulation on the mound may have occurred in a regular pattern. During the first part in the Hassuna period it may have been even and moderate. Then, after much alternating episodes of accumulation and erosion, the mound grew evenly over most of its surface with greater than average increase on and/or around the center of the mound, and less than an average on the periphery. It is possible, then, that the soil and rubbish were deposited gradually in conformity with the moderate surface of the previous layer[2].

Accumulation continued in a similar manner after the Hassuna occupation. Around the time Level 2b

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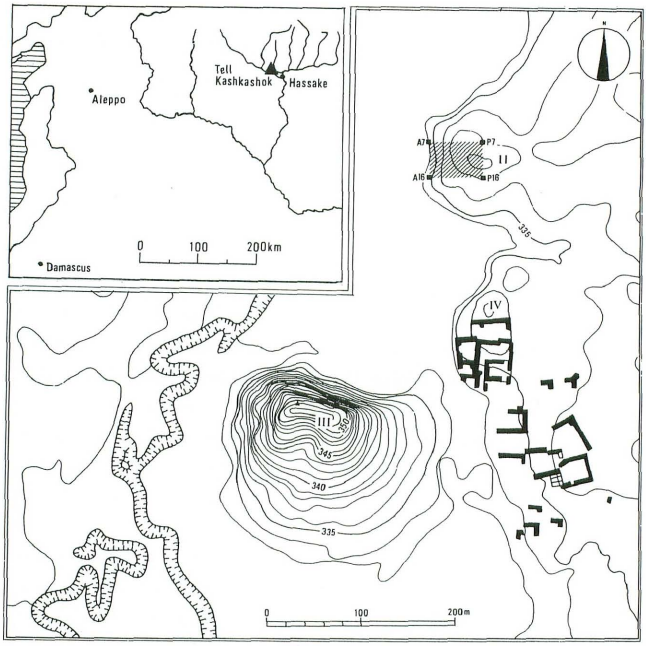


Fig. 1 Map of Tell Kashkashok

Revised and additional drawing of [Matsutani 1991: PLs. 53, 54]

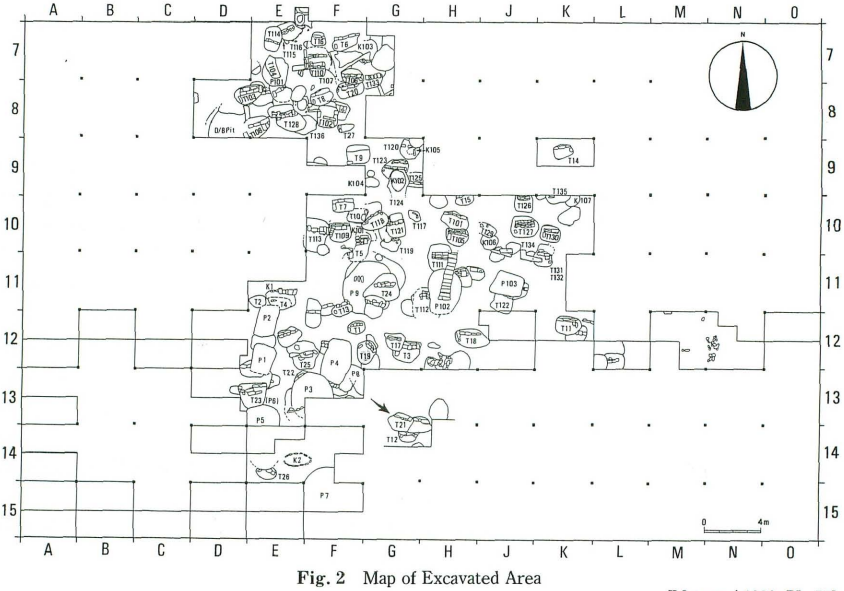


Fig. 2 Map of Excavated Area

[Matsutani 1991: PL. 55]

was formed on the mound, however, the degree of erosion had become intense. For example, it appears that T113, a tomb subsequent to the Ubaid, and P3, a Islamic pit, were both dug from Level 2a. This stratigraphic anomaly may have resulted as follows: originally the features belonged to different layers, post-Ubaid and Islam, which were subsequently heavily eroded. It is difficult to observe a correlation in time scale between T113 and P3. It is possible, therefore, that, while Level 2b may be an occupation surface from which several tombs may have been dug, or an eroded Ubaid one, Level 2a is an eroded surface pertaining to Islam and beyond. In fact, it has been observed in the northwestern part of the mound that Level 2a destroyed parts of Level 2b and other levels, and was deposited around the time that the latter were eliminated.

It can therefore be suggested that the accumulation of soil and rubbish, including artifacts, may have continued gradually and was consistent with each previous occupied surface in respective phases; strata which are found with tilted surfaces may have lain in conformity with the contours of a preexisting basin of deposition [Harris 1989: 31]. The process may have been virtually continuous from natural layer to Level 2b. Although the speed of accumulation may have been diverse on various parts of the mound (faster on the center and slower on the periphery) the increase in accumulation would have been consistent through time, so that the mound formed a tell-shape. Hence, it is proposed that the surface of Kashkashok II may have been moderate in each phase, although some parts of the mound were deposited or depressed more progressively than others.

2) Tomb structure

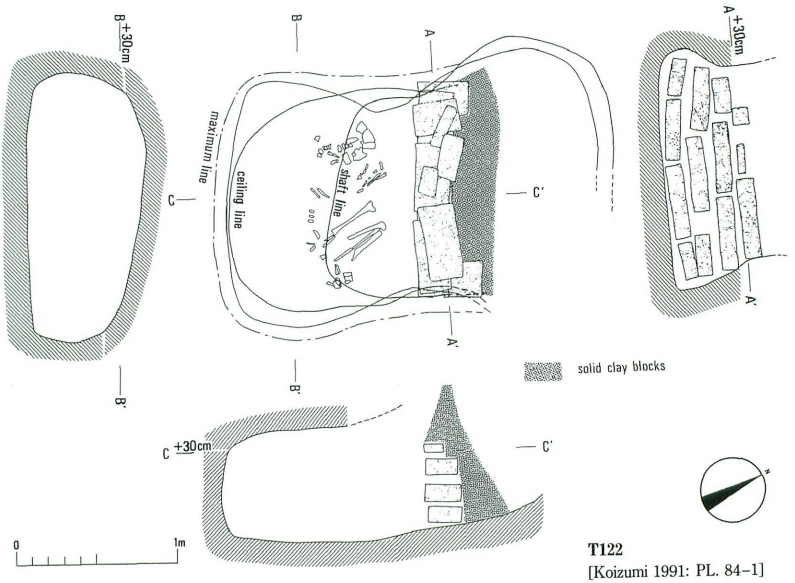
Most of tombs at Kashkashok II are uniform in structure. In the first stage of construction the tomb was dug vertically, like a shaft tomb. Then, it was extended horizontally southwards to make a burial chamber; the vertical shaft gave access to the lateral burial chamber. Following inhumation, its entrance, mostly at the north side of the chamber, was closed by a mud-brick wall. Finally the shaft was sealed with a layer of clay to the top of the shaft. The shaft, especially portions adjacent to the burial chamber entrance, is often packed with solid clay blocks, each about 5–10 cm in diameter (Fig. 3).

Now let us consider which point of the tomb is available for chronological analysis and comparison. Indeed, it is difficult to determine from which layer each tomb shaft was originally dug due to the poor state of tomb preservation. But evidence indicates that some Kashkashok II tombs were dug from Layer 2a, while others were dug from Layer 2b (Fig. 4). They were dug to an average depth of more than 1 m and reach near to or the natural soil. Most often the burial chamber is the best preserved portion of the tomb plan. In particular, the base of the burial chamber is recognized on almost all *in situ* tombs. Therefore, the base of the burial chamber provides reliable information for chronology, because of its position and the approximate uniformity in chamber depth.

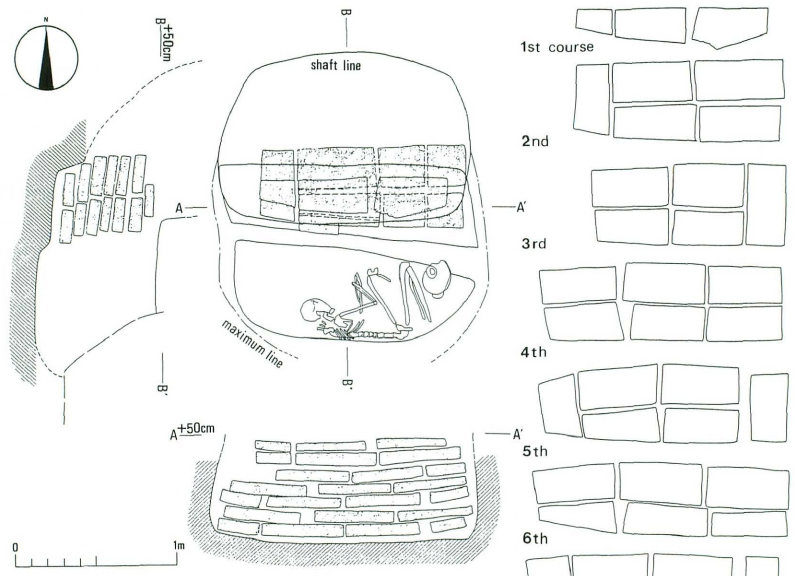
Combining this speculation with the previous assumption, I propose that the tomb may have been dug to a certain depth on the conformable surface which continued to be moderate in each phase despite some irregular places. Consequently the base level of the chamber could reflect the surface one from which it might have been dug. I suggest, thereby, that the level of the former can be used to order each tomb on a time scale. The level could be easily transformed into a 'relative level' of the tomb and compared with others that may represent its relative location in the accumulated layers.

3) 'Relative level'

The base level can be transformed into the 'relative level' as follows. First, a point 't' located at the cross of major and minor axes in the burial chamber is fixed; from the point a base level 'h(t)' is determined. This point 't' is chosen for the base level because there is no other accurate, intact position to provide a



T122
[Koizumi 1991: PL. 84–1]



T111
[Koizumi 1991: PL. 83–1]

Fig. 3 Structure of Tomb

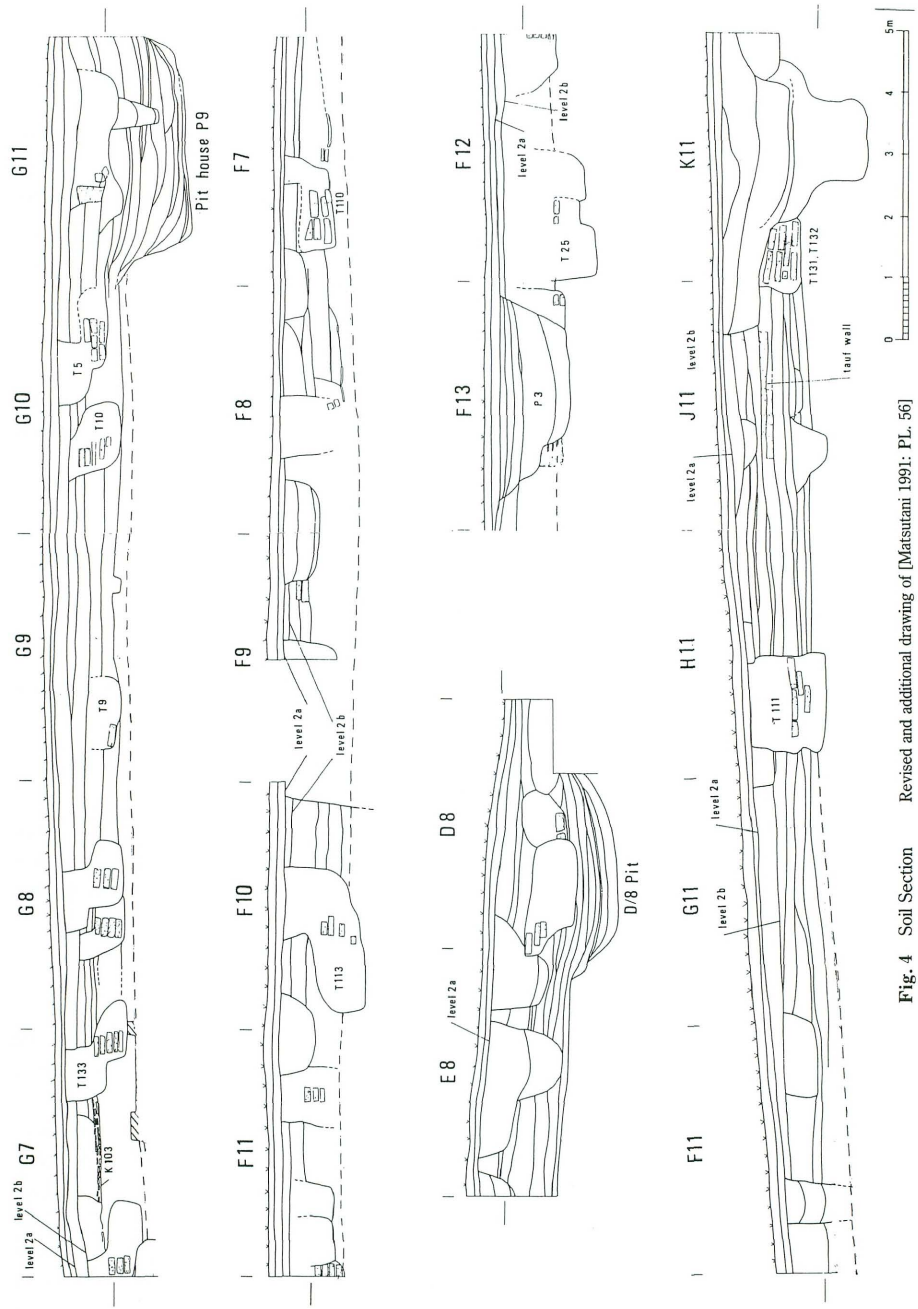


Fig. 4 Soil Section Revised and additional drawing of [Matsutani 1991: PL. 56]

'base level' of the burial chamber, owing to poor preservation conditions. It is also the most available and indigenous data in the excavated tombs.

The data of the levels of the natural layer and Level 2b at the point 't' are extracted according to a location model (Fig. 5). Top levels of the natural layer [hn(x1), hn(x2), hn(y1), hn(y2)] at points [x1, x2, y1, y2] where lines from the point 't' cross perpendicular to each side of 4×4 m square can be restored through drawings of vertical sections[3]. Provided that lengths from 't' to 'x1, x2, y1, y2' are lx1, lx2, ly1, ly2 respectively, a surface level for the natural layer at point 't' [hn(t)] is hypothetically deduced as hn(x) and/or hn(y):

$$hn(x)=\frac{lx1\times hn(x2)+lx2\times hn(x1)}{lx1+lx2}\cdots ①$$

$$hn(y)=\frac{ly1\times hn(y2)+ly2\times hn(y1)}{ly1+ly2}\cdots ②$$

If the degree of slope in a north-south direction does not differ from that in an east-west direction, and if the surface is linear both hn(x) and hn(y) would express the same value. But as the surface is actually slightly quadratic or cubic, we have to smooth the uneven surface by calculating a mean of ① and ②:

$$hn(t)=\frac{hn(x)+hn(y)}{2}\cdots ③$$

Similarly a height for Level 2b at point 't' can be acquired:

$$h2b(t)=\frac{h2b(x)+h2b(y)}{2}\cdots ④$$

Based on ③ and ④, a 'relative level' at point 't' is suggested as the transformed level, that is the level as it is relatively located in the accumulated soil above the natural layer:

$$H(t)=\frac{h(t)-hn(t)}{h2b(t)-hn(t)}$$

When a value of H(t) is high, the base level of the tomb is higher from the natural layer level, and when the value is low, the base is nearer to the natural layer. If H(t) is less than 0, the base level of the tomb is under the bedrock. On the other hand if H(t) is greater than 1.0, the base level of the tomb would have been above Level 2b.

3. Analysis I

1) Ordering I

According to the above method, the values of H(t) are ordered from smaller to larger (Fig. 6). Several observations derive from this ordering. We call the cluster pattern 'Graph I'. It pertains to a set of analysis which will be followed in this paper.

First, 'relative levels' for tombs dug from Level 2b (T117[4], T10, T125, T129) show even values (+0.3437～+0.4301), and these tombs aggregate in one cluster [T117–T5] or a second [T129–T107] located above the former on Graph I. Therefore, tombs belonging to the cluster [T117–T5] could have been dug simultaneously from Level 2b. This assumption is also based on the fact that among four tombs of the cluster T117, T10, and T125 were dug from Level 2b. The high correlation between the cluster [T117–T5] and tombs belonging to Level 2b represents a significant hypothetical 'relative level'; a particular cluster on Graph I can be equated to tombs assigned to a nearly simultaneous stage at Kashkashok II.

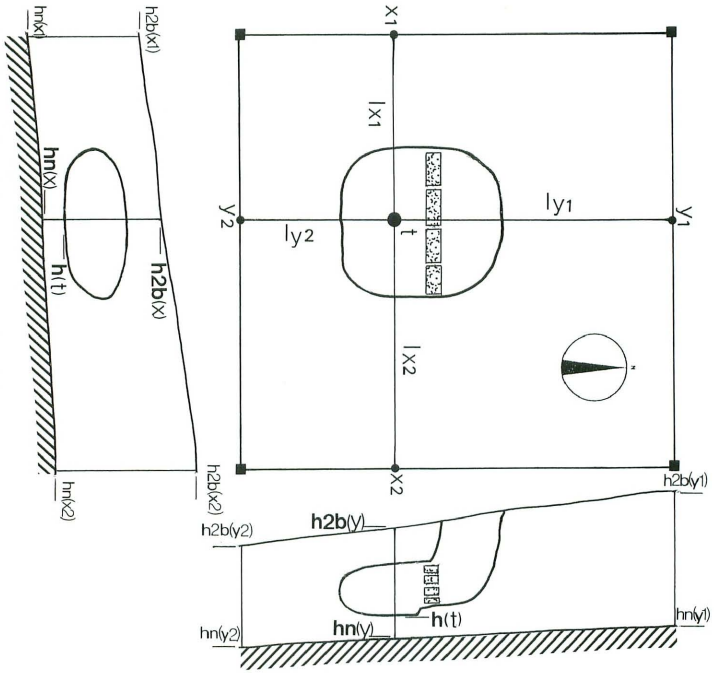


Fig. 5 Model of 'Relative Level'

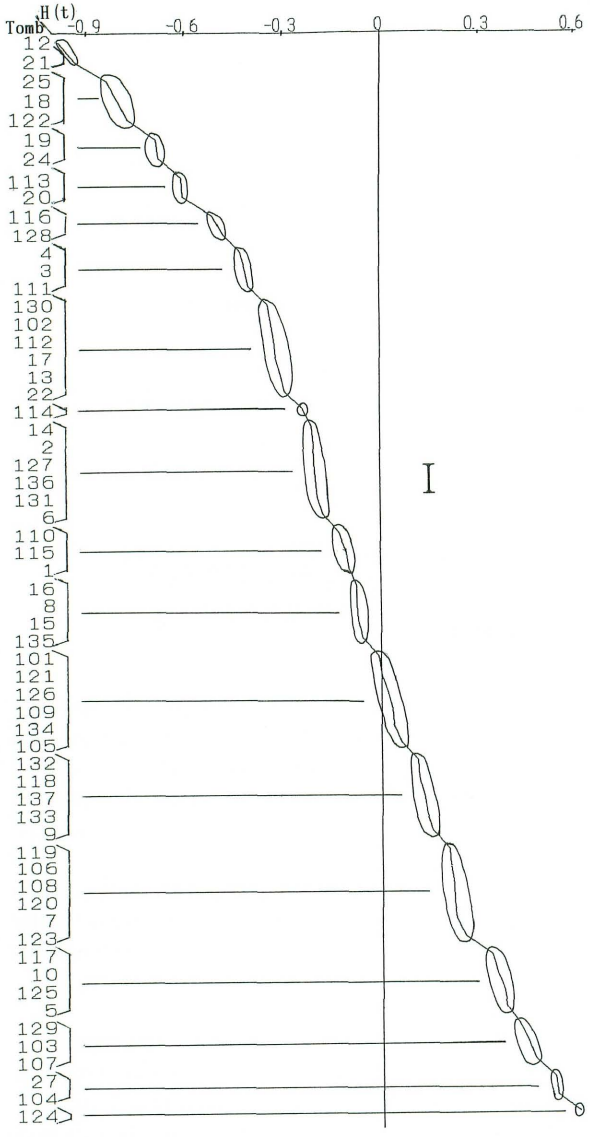
Second, each cluster of tombs, except for some examples, is connected with previous and later ones by a constant degree of increase, which means that the progressive rate of soil-accumulation and tomb-formation at the site would be almost regular through several stages or phases. This observation for Graph I provides further backing for the above assumption that the accumulation of soil and rubbish and tomb formation may have continued gradually in conformity with each previous occupied surface (first assumption).

Third, tombs in a cluster are sometimes located close to each other (Fig. 8); for example, clusters 〔T19, T24〕, 〔T101–T105〕, 〔T119–T123〕, and 〔T117–T5〕. This observation fits the hypothesis that contemporary tombs in one cluster might be located near each other. In addition, tomb distribution would have moved from the southwestern to western area on the tell, as time progressed.

2) Extraction

Further observations are proposed inconsistent with the above. Level 2a could be an eroded surface, not an occupied one as mentioned previously. There are six tombs in the level (T5, T113, T116, T133, T135, T137[5]). The 'relative levels' of these tombs show more uneven values ($-0.6091 \sim +0.3846$) and a much wider variation than in Level 2b. Of the six tombs only two (T133, T137) are in the same cluster group 〔T132–T9〕 on Graph I. It is easily seen that other tombs in the cluster (T132, T118, T9) show no evidence of being dug from Level 2a. Thus, there is little correlation between some tombs which seem to have been excavated from Level 2a and a particular cluster.

The difference in correlation between Level 2a and Level 2b is suggested by additional evidence:



Tomb No.	h(t)	hn(t)	h2b(t)	H(t)
12	-113	- 38	+ 38	-0.9868
21	-115	- 43	+ 34	-0.9350
25	-117	- 49	+ 32	-0.8395
18	- 39	+ 26	+106	-0.8125
122	- 27	+ 32	+108	-0.7763
19	- 80	- 31	+ 40	-0.6901
24	- 88	- 24	+ 69	-0.6811
113	-105	- 52	+ 35	-0.6091
20	-105	- 46	+ 51	-0.6082
116	-119	- 66	+ 37	-0.5145
128	-143	- 88	+ 25	-0.4867
4	- 76	- 48	+ 16	-0.4375
3	- 62	- 21	+ 78	-0.4141
111	- 29	+ 4	+ 86	-0.4024
130	- 1	+ 32	+126	-0.3510
102	-100	- 64	+ 43	-0.3364
112	- 46	- 14	+ 84	-0.3265
17	- 49	- 23	+ 58	-0.3209
13	- 61	- 34	+ 53	-0.3103
22	- 73	- 50	+ 29	-0.2911
114	- 98	- 73	+ 32	-0.2380
14	+ 15	+ 33	+119	-0.2093
2	- 67	- 56	- 2	-0.2037
127	+ 4	+ 23	+120	-0.1958
136	-102	- 80	+ 33	-0.1946
131	+ 13	+ 30	+121	-0.1868
6	- 70	- 53	+ 44	-0.1752
110	- 77	- 64	+ 39	-0.1262
115	- 78	- 67	+ 36	-0.1067
1	- 40	- 31	+ 55	-0.1046
16	- 68	- 60	+ 40	-0.0800
8	- 73	- 65	+ 40	-0.0761
15	- 8	+ 0	+105	-0.0761
135	+ 34	+ 39	+126	-0.0574
101	- 1	+ 0	+ 97	-0.0103
121	- 18	- 18	+ 79	+0.0000
126	+ 25	+ 23	+126	+0.0194
109	- 39	- 42	+ 50	+0.0326
134	+ 23	+ 20	+109	+0.0337
105	+ 11	+ 5	+ 95	+0.0666
132	+ 40	+ 30	+121	+0.1098
118	- 16	- 27	+ 70	+0.1134
137	- 50	- 63	+ 39	+0.1274
133	- 25	- 38	+ 56	+0.1382
9	- 21	- 36	+ 64	+0.1500
119	+ 0	- 18	+ 71	+0.2022
106	- 25	- 45	+ 52	+0.2061
108	- 75	-100	+ 14	+0.2192
120	+ 12	- 13	+ 99	+0.2212
7	- 23	- 45	+ 53	+0.2244
123	+ 6	- 21	+ 84	+0.2571
117	+ 23	- 10	+ 86	+0.3437
10	- 2	- 36	+ 60	+0.3541
125	+ 29	- 11	+ 95	+0.3773
5	+ 3	- 32	+ 59	+0.3846
129	+ 49	+ 9	+102	+0.4301
103	- 45	- 95	+ 16	+0.4504
107	- 13	- 60	+ 41	+0.4653
27	+ 3	- 50	+ 50	+0.5300
104	- 22	- 79	+ 28	+0.5327
124	+ 41	- 21	+ 81	+0.6078

Fig. 6 Graph of Ordering I

although an eroded surface, Level 2a, was certainly formed after the occupational surface of Level 2b, all values of 'relative levels' for tombs apparently dug from the former, except for T5, are located below those of the latter on Graph I. This inconsistent situation lead us to a propose that the uniform tomb depth during an earlier time (first assumption) could have changed into an uneven and varied one after Level 2b had been formed. It may be assumed, therefore, that most tombs belonging to Layer 2a would have been excavated much more deeply than before (second assumption).

The temporary assumption concerning tomb depth provides a further stage in analysis: because the tombs assigned to Level 2a or later would not have been dug as consistently as those of the previous phases before or around Level 2b, the former must be discriminated from the latter. To avoid mixing both groups, it is necessary that the samples which are inadequate for the 'first assumption' are extracted from those suitable for it in the search for a chronology of the tombs.

We also find some tombs with distinctive structures next to common ones having a brick wall in the burial chamber. The unusual tombs which have wing bricks on either or both sides of the brick wall belong to Level 2a not Level 2b (T137), and/or sometimes cut other tombs assigned to Level 2a (T109, T110). Moreover, no such tomb belonging to Level 2b might have cut one with wing bricks. Hence, we can surmise that no tomb having a mud-brick wall accompanied with wing bricks could be assigned to a phase earlier than the end of Level 2b. It is, therefore, reasonable to consider such tombs as counterparts of a group that should be distinguished from other normal tombs as well as those belonging to Level 2a, and to discuss them in the same category of extraction in the following analysis of tomb chronology.

(1) Tombs dug from Level 2a or cutting such ones:
T5, T109, T110, T113, T114, T116, T128, T133, T136, T137.
(2) Tombs with wing bricks:
T18, (T25)[6], T102, T108, T109, T110, T137.

4. Analysis II

Based on the above reasoning, I extracted both tomb types and made another graph (Fig. 7). This Graph II consists of one cluster pattern concerning those tombs which have not been abstracted by the extraction procedure, Graph II(a), and another one regarding the extracted tombs, Graph II(b).

1) Ordering II(a)

Several observations, most of which have already been recognized in the Ordering I, are clearly visible on Graph II(a). The significance of the 'relative level' is more clearly confirmed in the second ordering process. The cluster [T117–T5] on Ordering I is revised into one [T117–T125], which introduces a more definite correlation between the cluster [T117–T125] and tombs belonging to Level 2b. On the basis of this correlation, it may be assumed that the relationship between one cluster on Ordering II(a) and one group of tombs dug simultaneously can be synchronized.

The accumulation of soil and rubbish and tomb formation have been hypothetically considered to progress gradually (first assumption). An inclination of cluster pattern above a value of T4 [H(4)] on Ordering II(a) is almost regular, in spite of intentionally extracting data unsuitable for analysis. It may be guessed, then, that the accumulation of soil and rubbish and tomb formation on the tell continued at a regular and gentle rate per phase, after tombs forming the cluster [T4–T111] had been dug.

In contrast, below H(4) on Ordering II(a) there is a tendency towards an increase in 'relative level' at a regular rate different from that above H(4). The cluster pattern below H(4) shows a much steeper increase than in the previous Ordering I. This may be due to the fact that the excavations have

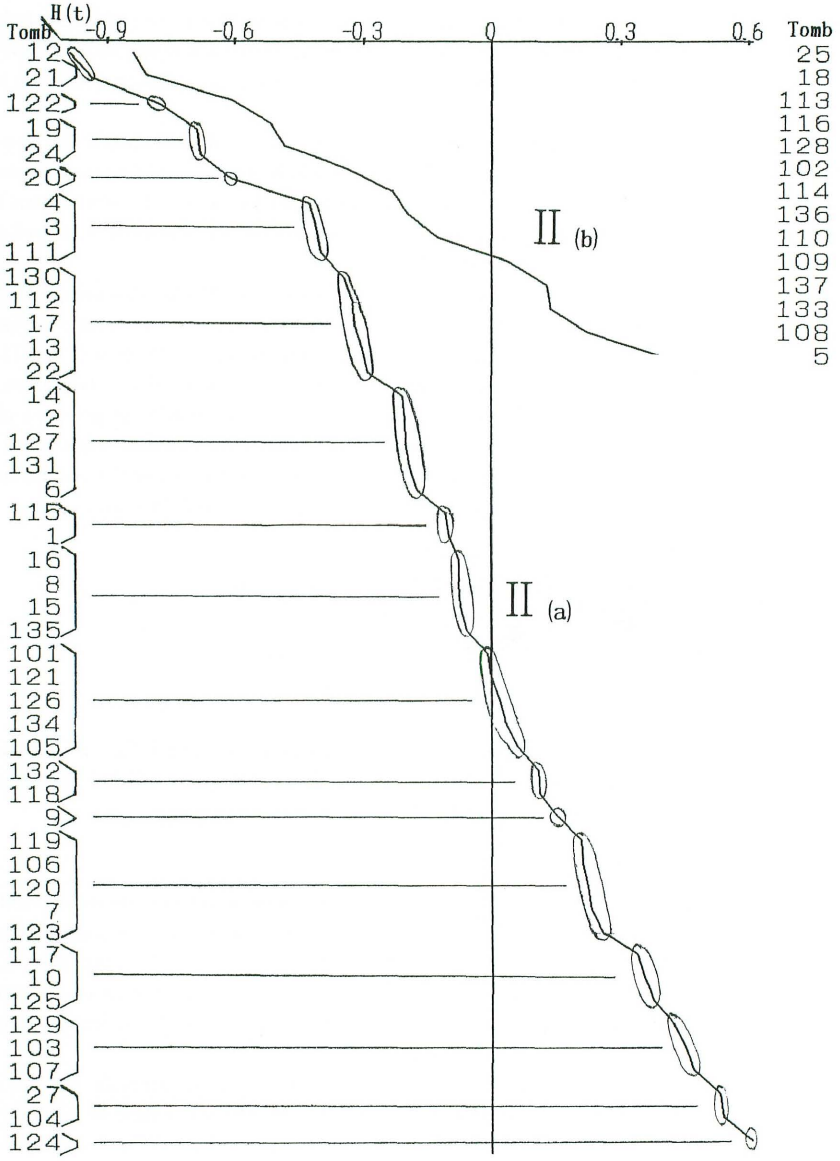


Fig. 7 Graph of Ordering II(a), II(b)

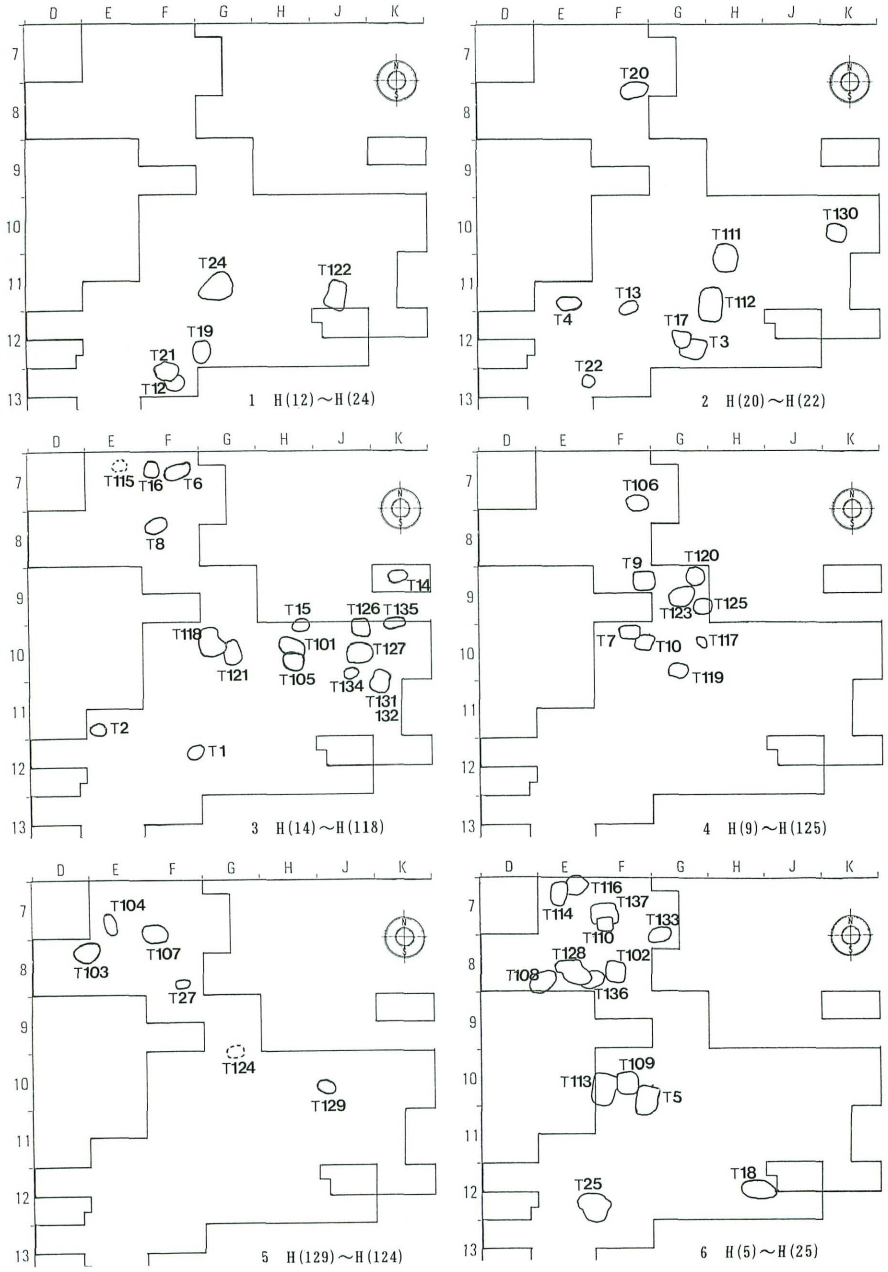


Fig. 8 Distribution of Tombs

concentrated on the western slope, while most of tombs below H(4) are located on the southwestern slope, and tomb distribution was moved through time from the southwestern to western slope on the tell. It is possible, then, that, if we get data as yet undiscovered in the southwestern, the steeper inclination below H(4) would almost equal the gentler one above it.

The spatial distribution of the tomb cluster on Ordering II(a) has been treated as a mildly separated group on the ground (Fig. 8). A set of clusters from [T12, T21] to [T19, T24] is concentrated in the southwestern area (southern on the excavated map); [T20] to [T130–T22] near the southwestern; [T14–T6] to [T132–T118] in the western; [T9] to [T117–T125] in the western and near the northwestern; [T129–T107] to [T124] in the northwestern. This tendency of changing cluster patterns can indicate tomb distribution moving gradually from the southwestern to northwestern parts on the tell (southern to northern parts on the excavated map).

Those revised observations are summarized as follows: the 'relative level' becomes significant in this study, one cluster on Ordering II(a) can be equated to a group of simultaneously dug tombs, the accumulation of soil and rubbish may progress gradually at a regular rate, the digging of tombs may continue at almost the same pace, and the spatial distribution of tombs can move from the southwestern to northwestern areas through time.

2) Ordering II(b)

There is another ordering graph which shows a cluster pattern of tombs extracted from mother groups due to reasons outlined above-Level 2a and wing bricks (Fig. 7). It concerns fourteen tombs. In contrast to Ordering II(a), Ordering II(b) provides very different characteristics for the cluster pattern of 'relative levels'. Therefore, I am going to analyse and consider aspects of Ordering II(b) that have not been applied to Ordering I or II(a): overlapping relationship and location of wing bricks.

(1) Overlapping

At the first of Ordering II(b) in detail, I analyse some tombs which have been known to cut others in the Kashkashok cemetery. Four overlapping relations can be recognized on Ordering II(b).

earlier→	later
T113 →	T109
T116 →	T114
T136 →	T128
T137 →	T110

When comparing the relationship between these tombs with an increase or decrease of each 'relative level' [H(t)], several observations can be made.

⇨Positive correlation: 'relative level' of an earlier tomb is less than later one.
T113⇨T109: $H(113) = -0.6091 < H(109) = +0.0326$
T116⇨T114: $H(116) = -0.5145 < H(114) = -0.2380$

➡Negative correlation: 'relative level' of an earlier tomb is greater than later one.
T136➡T128: $H(136) = -0.1946 > H(128) = -0.4867$
T137➡T110: $H(137) = +0.1274 > H(110) = -0.1262$

The observation on Ordering II(b) shows that, in the case of positive correlation, T109 and T114, overlapping T113 and T116 respectively, have a higher chamber base than T113 and T116. On the other hand, in the case of negative correlation, T128 and T110, overlapping T136 and T137 respectively, have a

lower chamber base than T136 and T137. The negative relationship gives us distinct evidence that the later tombs were dug to a deeper level than ever cutting the previous tombs. Moreover, it is also notable that the 'relative levels' of T136 and T137 which are earlier tombs in the negative correlation are greater than those of T113 and T116 which are earlier ones in the positive. This might be treated as a clear distinction between both correlations.

In addition, a regular and steeper inclination of Ordering II(b) is thought to reflect the situation that the tombs were distributed at a constant rate within the investigated area as and when the area would be extended, and that there is evidently less data for Ordering II(b) than for Ordering II(a). It is likely, then, that fewer tombs were dug on the southwestern slope after tombs of Ordering II(b) had been made.

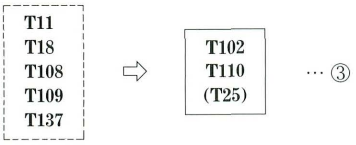
When we combine this evidence with the overlapping relationship mentioned above, it can be said that, as more and more earlier tombs were dug on the mound, later tombs might have to be planned in accordance with the narrow space or limited circumstances resulting from such a high density and to avoid many previous ones which occupied the area near by. Therefore, an actual overlapping of a tomb in positive correlation could have occurred earlier than another in a negative one; a phase when T109 and T114 were dug might have been older than that of T110 and T128. It may be inferred, then, that location on the time scale is different between the positive and negative correlation groups, although clarification is still needed to determine whether later tombs (T109, T114) overlapping earlier ones in the former group are older or younger than earlier tombs (T136, T137) overlapped by later ones in the latter group.

(2) Location of wing bricks

I shall now sort according to location the tombs which have a brick wall accompanied with wing bricks. At first, these tombs are roughly classified into those with wing bricks located in a chamber and those in a shaft (Fig. 9). As T109 and T137 have wing bricks in their chambers, they can be assigned to the same group. Their overlapping relationship might be as follows.

This resemblance in location of wing bricks enables other overlapping examples to be correlated.

Based on ①, it may be conjectured that the group of tombs with wing bricks in a chamber [T11[7], T18, T108, T109, T137] would have been formed earlier than those with wing bricks in a shaft [T102, T110, (T25)]:



In detail it is indicated that, although T18 has a wing brick in its chamber, the joint to the brick wall appears less tight than that of others; T18 seems to be comparable to a more primitive form — a tomb accompanied only by a brick wall in a chamber (Fig. 9–1). Thus, T18 is better assigned to the previous group in location of wing bricks than that consisting of T11, T108, T109, and T137.

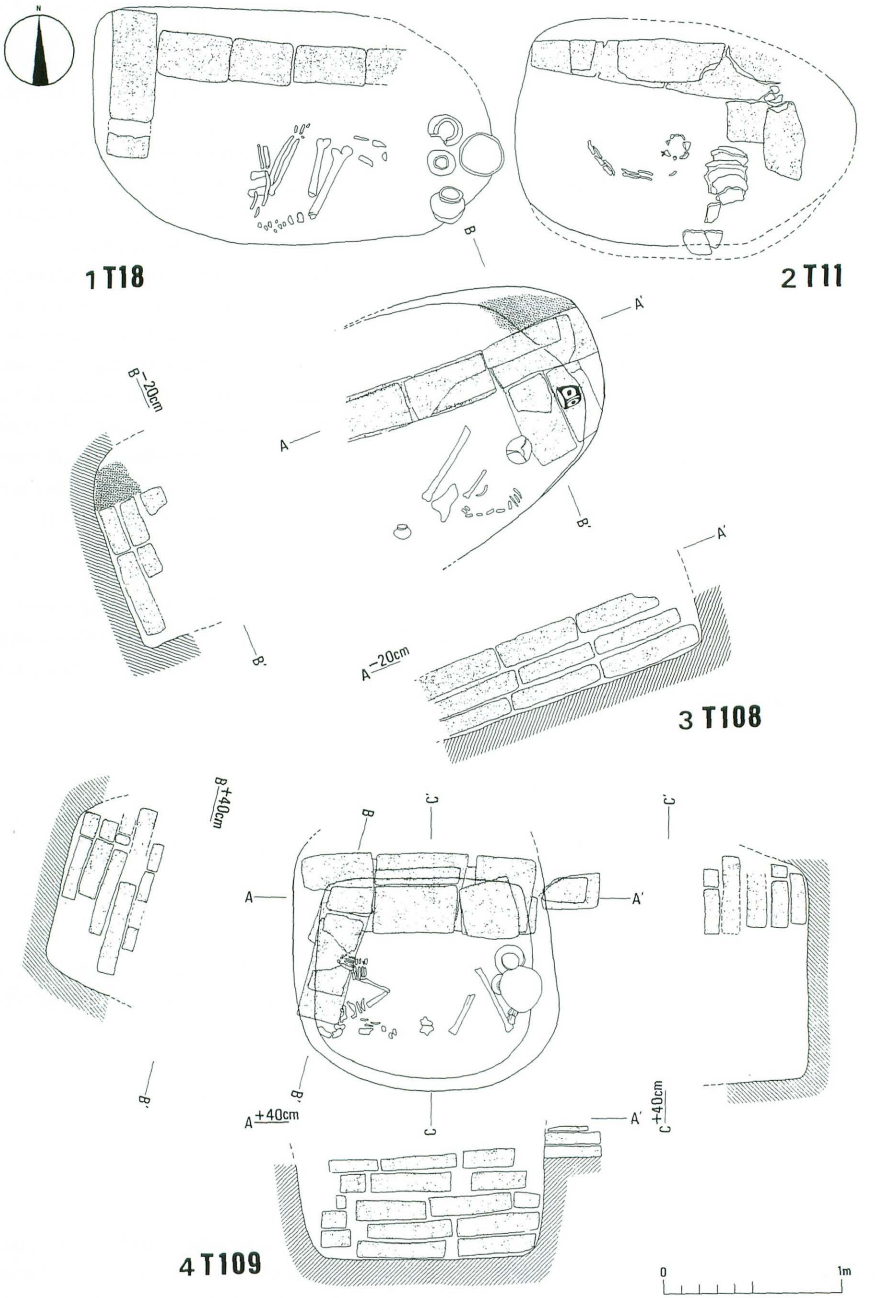


Fig. 9 (1) Wing Bricks

[Koizumi 1991: PLs. 80–3, 79–4, 81–2, 82–1]

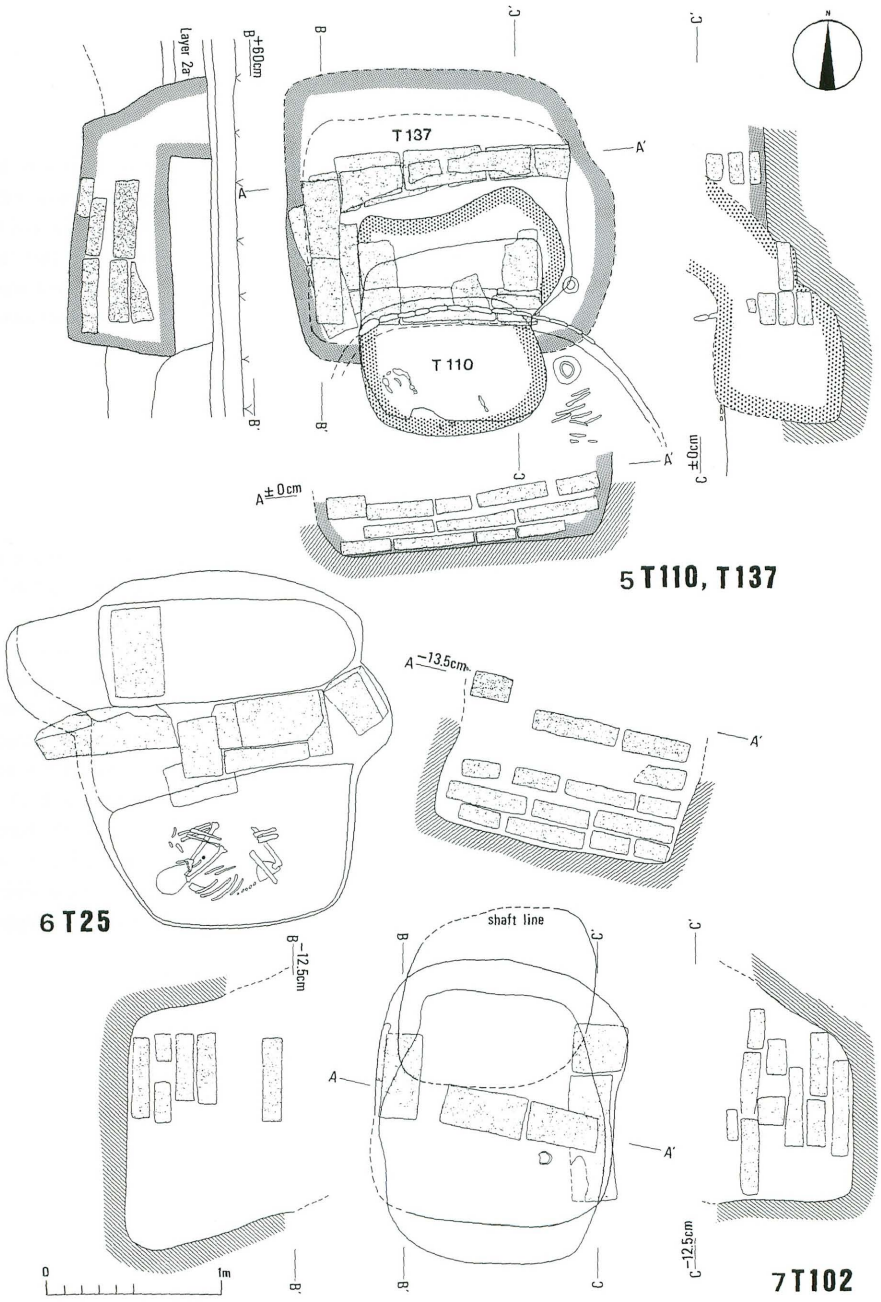
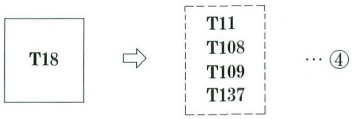
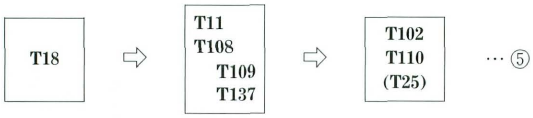


Fig. 9 (2) Wing Bricks

[Koizumi 1991: PLs. 82-2, 80-6, 81-1]



Furthermore, while in T11 and T108 wing bricks seem to be attached to the main brick walls at the eastern sides (Fig. 9–2, 3), in T109 and T137 wing bricks are joined at the western edge of the brick walls (Fig. 9–4, 5). Here, it is not clear whether the former wing bricks would have been attached or joined to the main brick, because both bricks remain in only a few courses. It is better, therefore, that the difference between the former (T11 and T108) and the latter (T109 and T137) in location of their wing bricks is delineated as a slight variation within an identified group in chart ③ or ④. The observation combined with both ③ and ④ provides us with the following sequence.



(3) Summary

By seriating the tombs in respect of their overlapping relationship and location of wing brick, the tombs in Ordering II(b) have been tentatively classified into three groups (see ⑤). At the last of Ordering II(b), I have organized the classification by combining the rest of the overlapping examples.

Seeing that in chart ① T137 and T110 are separated into two stages on location of wing bricks, the negative correlation (➡) may be extended over the two stages. If this is assumed, T128 which is a later tomb in another negative correlation could be assigned to the third group with T102 etc. On the other hand, since the positive correlation (⇨) for actual overlapping is treated as earlier than the negative one, T114 in the former might be placed in an earlier stage than T110 and T128 in the latter, although it is not certain how far the tomb can be traced back on the time scale. It is also suggested that, as T113 is overlapped by T109 which belongs to the second group consisting of tombs with wing bricks in the burial chamber, T113 may be attributed to an earlier stage than that group. Furthermore, from chart ② it can be conjectured that, unless T114 were associated with a certain stage or phase, T116 cannot be assigned one, and that, because there is no useful information about the assignment of T136 to a fixed chronological position, the tomb can be said only to have been made before T128.

All the analyses mentioned above have led us to a revised sequence of tombs[8] (Fig. 10).

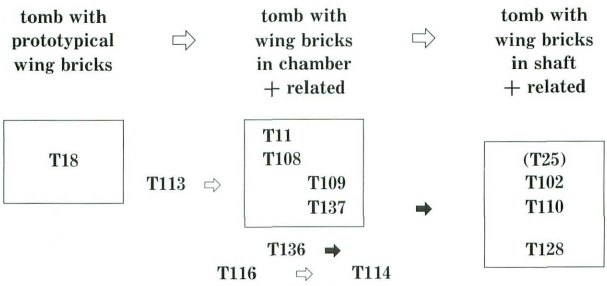


Fig. 10 Tentative Sequence of Tombs Concerning Ordering II(b)

5. Sequences

Having analysed Ordering II(a) and II(b), let us now turn to the correlation between the tomb sequence into which the two orderings will be integrated and the pottery sequence which is based on classification and seriation of the pottery vessels as funerary objects buried in the tombs in Kashkashok II[9]. In this section I am going to summarize both the sequences.

1) Tomb sequence

As mentioned above, the tomb sequence consists of Ordering II(a) and II(b) which have been analysed separately.

With regard to the tombs, some overlap others (Fig. 2). Those tombs are as follow each with its 'relative level' (positive correlation: from earlier ⇨ later; negative correlation: from earlier ➡ later):

T12 : −0.9868
⇨T21 : −0.9350

T20 : −0.6082
⇨T106 : +0.2061
➡T133 : +0.1382 ··· ①

T3 : −0.4141
⇨T17 : −0.3209

T115 : −0.1067
➡T116 : −0.5145 ··· ②
⇨T114 : −0.2380

T101 : −0.0103
⇨T105 : +0.0666

T121 : +0.0000
⇨T118 : +0.1134
⇨T10 : +0.3541
➡T7 : +0.2244 ··· ③

T132 : +0.1098
➡T131 : −0.1868 ··· ④

T107 : +0.4653
➡T137 : +0.1274 ··· ⑤
➡T110 : −0.1262

T113 : −0.6091
⇨T109 : +0.0326

T136 : −0.1946
➡T128 : −0.4867

Among the fifteen overlapping examples[10] some have a positive correlation (⇨) and others a negative correlation (➡). In the case of the former, including those analysed in Ordering II(b) [T116 ⇨ T114, T113 ⇨ T109], the 'first assumption' that the accumulation of soil and rubbish and tomb formation on the tell could have progressed at a regular and gentle rate per phase might apply; the correlation between tomb and its 'relative level' is positive. It should then be ascertained for the latter case-negative correlation. Since two tombs have been mentioned in Ordering II(b) [T137 ➡ T110, T136 ➡ T128], I consider other overlapping relationships. Besides those described in the previous section, other tombs need to be tested so that any overlapping can be defined and correctly placed in the sequence.

①T106 ➡ T133

As T133 was dug from Level 2a, the situation that the chamber base of T133 is deeper than that of T106 fits the 'second assumption' that the later tombs might have been dug to a deeper level cutting the previous tombs. This overlapping relationship, therefore, is adequately attested in spite of the negative correlation.

②T115 ➡ T116

T116, dug from Level 2a, was overlapped by T114, which has been described as a positive correlation. T115, cut by T116, is less well preserved in plan and physical remains than the others; funerary objects in T115 are dispersed rather more randomly than those in other tombs. It can, thus, be said that the tomb may have been disturbed in the process of making T116 and as a consequence provided less reliable information for comparative analysis than others[11].

③T10 ➡ T7

T7 has a brick wall with a brick pillow attached vertically in much the same as wing bricks [Matsutani 1991:

PL. 79–5]. Usually brick pillows and wing bricks could be distinguished, but T7 shows an intermediate or equivocal position between them: the pillow which would have been the same size as one brick of the main wall is attached to it at the western side. This suggests that the brick of T7 might have functioned both as pillow for the dead and reinforcement for the structure which may well be regarded as a prototype of wing bricks[12]. Because T7 can, then, be attributed to a group of tombs with mud-brick walls accompanied with wing bricks, its overlapping relationship may be suitable for the 'second assumption', despite the negative correlation.

④T132 ➡ T131

The overlapping relationship is a most distinctive case [Matsutani 1991: PL. 35–2]. T132 was dug under part of a *tauf* that was at a higher level and might be ascribed to the Hassuna period. Another tomb, T131, then cut into the floor of T132's burial chamber, making the stratigraphic analysis of the *tauf* and the tombs a real puzzle. T132's chamber base has not been well preserved and the inhumed body not remained in the burial chamber. It can be guessed, therefore, that T132 might have lost the original base of the burial chamber when it was overlapped by T131; T132 would have had too little space to keep the physical remains in the chamber.

⑤T107 ➡ T137

T137 with wing bricks in the chamber was cut by T110 with wing bricks in the shaft, mentioned in [4–2) Ordering II(a)] and fits the 'second assumption' that later tombs might have been dug to a deeper level cutting the previous tombs. Evidence that T137 was dug from Level 2a and has wing bricks also makes the negative correlation adequate for the 'second assumption'.

Considering the above results of overlapping relationships, the analysed Ordering II(a) and II(b) should both be integrated into one seriation. The combined tomb sequence is now tentatively given (Fig. 11). Tombs are arranged from earlier (left side) to later (right side).

12	122	19	20	4	130	14	115	16	101	132	9	119	117	129	27	124	18	11	(25)
21		24		3	112	2	1	8	121	118		106	10	103	104			108	102
				111	17	127		15	126			120	125	107				109	110
					13	6		135	134			123						137	128
					22				105								113,	116, 136,	114

Fig. 11 Table of tentative tomb sequence

2) Pottery sequence

In a previous paper [Koizumi 1993], I classified pottery vessels from the tombs in Kashkashok *II* (typology), extracted variables from the classified vessel forms, and ordered the attributes on a meaningful time scale (chronology). A brief summary follows.

First, based on the fact that the pottery vessels of concern were located as funerary objects, in a particular context —tombs—, and that most of the vessels were *in situ* and complete, I defined an original typology which would be logically consistent in terms of satisfying the aims of the exercise: replicability, verifiability, and availability [Koizumi 1993: 23]. Other researchers working with same body of pottery vessels should be able to reproduce the same classification using the same criteria, and through typology should be able to express the defining variables and to support and justify their use through analyses using statistical techniques[13] [Sinopoli 1991: 46]. It is proposed that, since a cluster of morphological elements integrated into one complete shape or form is very important in assuming typology and chronology, the classification of complete vessels should intrinsically include the possibility and flexibility that, even if artifacts are nothing but potsherds, the process of classification and further analysis would proceed with the

same logical consistency as with a complete vessel.

Therefore, the typology would be necessary in order to discriminate a particular 'form' from intermediate types on a quantitative scale so that the category can be easily reconstructed by other researchers, and allow them to go to the next step in comparative analysis. This requires a consistent framework of grouping and the determination of a distinctive boundary for each vessel, and the reconstruction of potsherds into one complete form in terms of morphological shape [Koizumi 1993: 23–24]. In the typology two variables, orientation of the end of the vessel wall and profile of the vessel body, were proposed to fulfill such requirements so that the selection of variables would be useful for the purpose of the typology [Adams and Adams 1991: 189], and that the variables should also reflect, to a greater or lesser degree, conscious decisions on the original potter's part [Sinopoli 1991: 43]. "A" to "F" groups were classified, according to the variables. Among these fourteen forms were established as recognized forms from Kashkashok II, accompanying "other complicated forms" with some appendages or attachment [Koizumi 1993: Fig. 6, 7].

Once the typological classification was established, the next step was to analyse vessel forms according to certain meaningful criteria, on occasion to search for patterns or determine chronological relationships [Adams and Adams 1991: 208; Sinopoli 1991: 65]. It is possible, indeed, that the variable or attribute, which has been useful in recognizing one pattern-classification-, may also adequately represent another pattern-chronology-, but we often find that the former may slightly coincide with the latter. Hence, the former should be considered as the first process towards reaching my goal and the latter the next one; it is necessary to prepare another step in the analysis to accomplish the chronological goals [Koizumi 1993: 31–32].

The procedure for the comparative analysis described in the previous paper consists of three main parts. The first process is *analysis*: selection of the context (cemetery), abstraction of variables and attributes from each vessel form, arrangement of changing attributes on a stratigraphic sequence extracted from other sites, and further standardization. The second is *comparison*: comparison between changing attributes from other sites and those from Kashkashok. The third is *synthesis*: seriation of the latter linked with the ordering of the former, combination of the separate attributes into one whole vessel form, and if needed, a supplementary description of detailed examples [Koizumi 1993: 53]. An outline of the chronological conclusions is shown in figure 12 [Koizumi 1993: Fig. 23].

In addition, the chronological sequence of pottery forms should be examined by the contexts in which they are located: set relationships and overlappings. As the Kashkashok site is a cemetery, some vessels are associated with each other within the same tomb, others are buried as the sole funerary object. The association led to two results: while some vessels found in the same tomb are ascribed to the same phase, others are ascribed to different phases. The tombs of the former case are the following [Koizumi 1993: 61–62 (partly revised)]:

Early Northern Ubaid	: T3, T24, T26, T121
Late Northern Ubaid	: T101, T108, T111, T115, T118, T123, T127
Terminal Northern Ubaid	: T18, T136
Early post-Ubaid	: T4, T11

Tombs with funerary objects ascribed to different phases are as follows: T6 (Late Northern Ubaid～Early post-Ubaid?), T9 (Late Northern Ubaid～Early post-Ubaid), T13 (Terminal Northern Ubaid～Early post-Ubaid), T107 (Late Northern Ubaid～Terminal Northern Ubaid), and T109 (Terminal Northern Ubaid～Early post-Ubaid). The latter examples should be further analysed to clarify the situation, although most of the evidence points to slight differences in phases between vessel forms in the tombs. These tombs

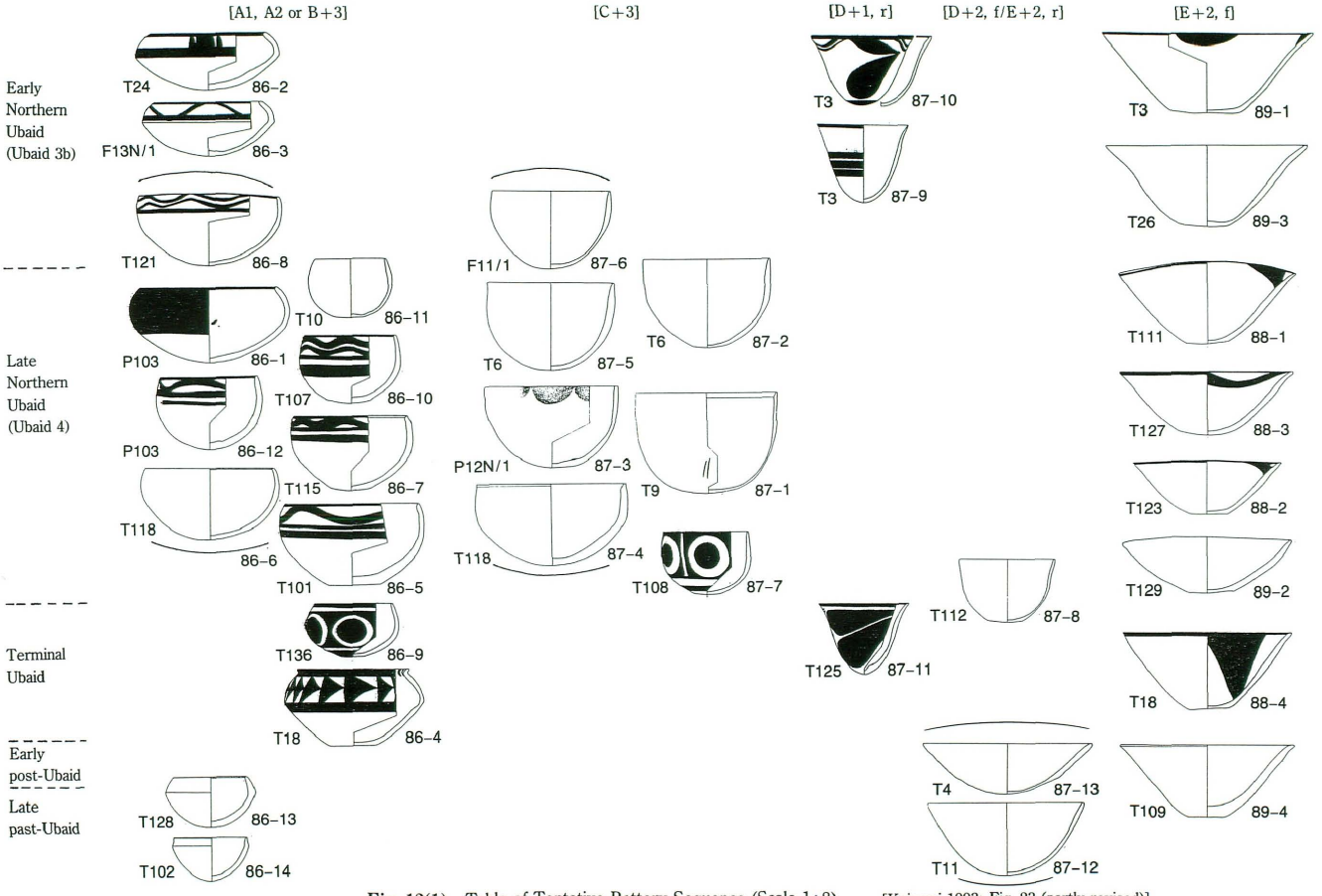


Fig. 12(1) Table of Tentative Pottery Sequence (Scale 1:8) [Koizumi 1993: Fig. 23 (partly revised)]

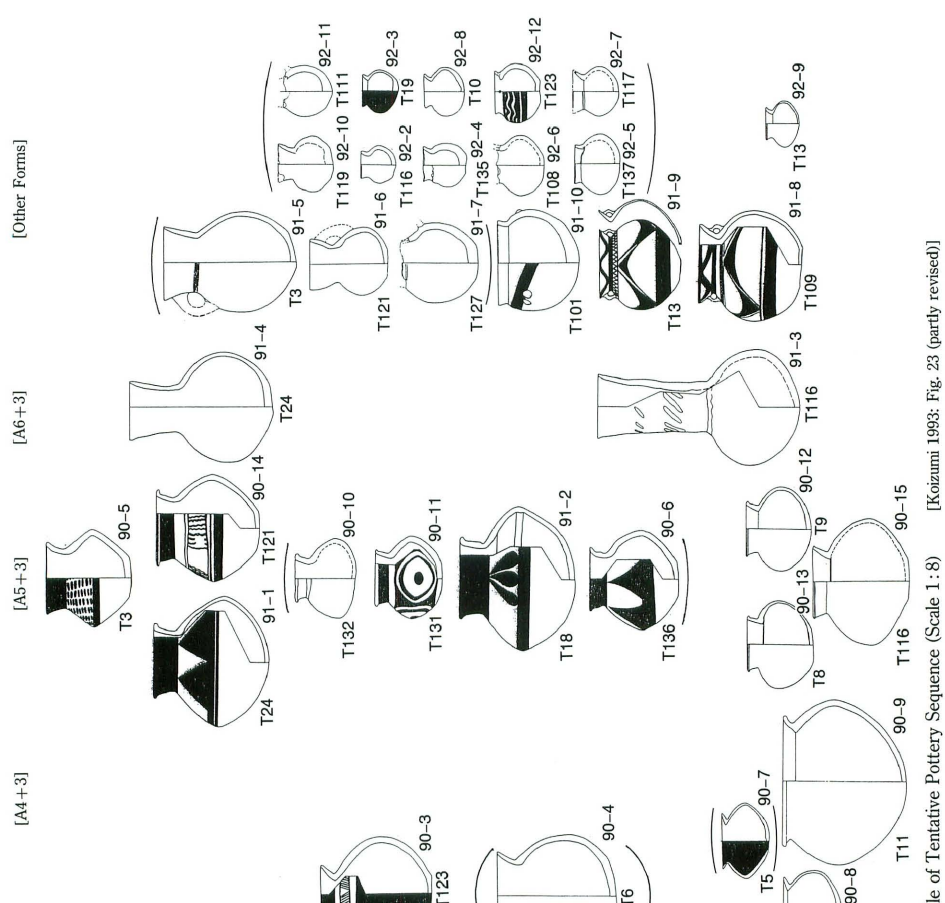


Fig. 12(2) Table of Tentative Pottery Sequence (Scale 1:8) [Koizumi 1993: Fig. 23 (partly revised)]

with vessels being ascribed to various phases should be examined in subsequent comparisons.

Furthermore, it was necessary to verify the above results because of the overlapping relationship between tombs. The information has been shown on [5–1) Tomb sequence]; all evidence of overlapping tombs, lacking contradictory associations, would be suitable for the comparative analysis mentioned above, which provides assurance and confidence [Koizumi 1993: 62–63].

6. Examination

Having briefly described the tomb sequence and the pottery sequence, I am going to compare and examine both sequences through the following procedure. In terms of each tomb or tomb cluster on the former sequence, the duration of the phase to which each pottery form on the latter sequence is assigned can be verified. Since some tombs have no funerary object, the comparative verification that the order of the tomb cluster is cross-checked by the time span of the pottery form would be reliable. Each tomb or tomb cluster is to be attested by the time range of pottery vessel forms as its funerary object (Fig. 13). The tomb clusters are ordered from earlier (up) to later (down) on a vertical axis. Each number in the figure, referring to the original plate number of the pottery vessel in the previous report or paper, is arranged from earlier (left) to later (right) on a horizontal axis; a number or item enclosed by round brackets means that the particular pottery or other artifact could be assigned to either earlier or later phase; an item enclosed by angle brackets refers to its phase being uncertain.

The examination leads to several results which will be verified in each tomb or cluster of tombs. Here, I examine the results with respect to whether the tomb or tomb cluster in the tomb sequence is suitable for the pottery sequence.

1) Tombs suitable for the pottery sequence

Many tombs adequate for the pottery sequence are summarized below. With regard to tombs in each phase, those on upper line refer to securely confirmed results through the set relationship of vessels within the same tomb [5–2) Pottery sequence] and those on lower line refer to probable confirmations through the sole funerary object available for chronological seriation:

Early Northern Ubaid	: T24, T3
	T20
Late Northern Ubaid	: T127, T115, T101, T118, T123
	T130, T112, T14, T2, T135, T105, T132, T119
Terminal Northern Ubaid	: T18, T136
	T117, T125
Early post-Ubaid	: T11,
	T114
Late post-Ubaid	: ——
	(T25), T102, T128

The results indicate that several tomb clusters, including a few tombs which have shown the reliability of the chronological sequence, proved suitable for the procedure using the tomb sequence in this paper and that such clusters would be probably confirmed as reliable items on the chronological seriation. In particular, the cluster [T117–T125] of which all the tombs were dug from Level 2b is definitely identified with the Terminal Northern Ubaid phase, because most vessels belonging to the cluster are securely assigned to that phase (89–5, 92–7, 92–8, 87–11). Moreover, T114 and (T25) are assigned to the Early to Late post-Ubaid phases, since funerary objects of the former are beads including one lapis lazuli bead,

	Early N.U.	Late N.U.	T.N.U.	Early p-U.	Late p-U.
[T12, T21]	<no finds> <no finds>				
[T122]	<no finds>				
[T19, T24]	86–2, 91–1, 4		(92–3)		
[T20]	(90–2)				
[T4, T3, T111]	87–9, 10, 89–1, 90–5 (91–5) (bead)	88–1	(92–11)	90–8	(87–13)
[T130, T112, T17, T13, T22]	(89–7) <no finds>		(87–8) <no finds>	91–9	92–9
[T14, T2, T127, T6]	(89–8) (90–1) (89–13, 91–7)	88–3 87–2	(90–4)		
[T115, T1]	(89–12) <no finds>	86–7			
[T16, T8, T15, T135]	<beads> <no finds>		(92–4)	90–13	
[T101, T121, T126, T134, T105]	90–14 (86–8, 91–6) <no finds> <no finds> (89–16)	86–5, 91–10			

(1)

	Early N.U.	Late N.U.	T.N.U.	Early p-U.	Late p-U.
[T132, T118]	(86–6, 87–4, 89–9)		(90–10)		
[T9]		87–1		90–12	
[T119, T106, T120, T123]	<no finds> <no finds>	88–2, 90–3	(92–10) (92–12)		
[T117, T10, T125]		86–11	(89–5, 92–7) (92–8) 87–11		
[T129, T103, T107]		89–2 (89–17)+(beads) 86–10	89–14		
[T27, T104]	<no finds> <jar>				
[T124]	<no finds>				
[T18]		89–11	(91–2) 86–4, 88–4		
[T11, T108/T109, T137]		87–7	(92–6) 89–6, 91–8/89–4 (92–5)	90–9	(87–12)+(bead)
[T113, T116, T136, T114]	<bone>		(92–2) 91–3 (90–6) 86–9	90–15	(beads)
[(T25), T102, T110, T128]	<no finds>		(mace head)		(beads) 86–14 86–13

(2)

Fig. 13 Cross-checking Table of Tomb and Pottery Sequences

and the latter one copper bead wrapped with gold and one copper seal [Koizumi 1991: 79]. Other clusters may be considered as well for confidence and suitability (see below for the details).

2) Tombs with possible inherited funerary objects

It is possible that the funerary objects in some tombs of the tomb sequence may represent residual or inherited artifacts.

T121: in the same cluster as T101 whose position in the chronological seriation has been reliably confirmed and as T105 whose position has been slightly confirmed. Therefore, with a fact that artifacts buried in T121 (PLs. 86–8, 91–6) are around Late Northern Ubaid, T121 might be situated in the Late Northern Ubaid phase. Although comparative analysis of the other artifact (PL. 90–14) presented in a previous paper indicated an Early Northern Ubaid phase, the pottery vessel may be residual.

T10: in the same cluster as T117 and T125 which have also been testified as reliable tombs on the pottery sequence. Moreover, this cluster is identified with the tomb group which might have been dug from Level 2b [4–1) Ordering II(a)]. Thus, T10 is ascribed to the Terminal Northern Ubaid phase. Its funerary object (PL. 86–11) would, then, have been assigned to a later phase than analysed. This vessel might correspond to the Terminal Northern Ubaid phase as an inherited piece in which another vessel of T10 (PL. 92–8) may be situated.

T129: in a cluster immediately above the previous one [T117–T125] on the tomb sequence. Therefore, T129 may be assigned to a later phase. Although one funerary object (PL. 89–2) in T129 has been equated with the Late Northern Ubaid phase, it would have belonged to the Terminal Northern Ubaid phase as T129 dug from Level 2b is Terminal Northern Ubaid and the vessel probably a residual artifact.

T107: in the same cluster as T129 described above, suggesting that T107 may be of a similar period to the tomb group attributed to the Terminal Northern Ubaid phase. T107 has two funerary objects; from the pottery comparison above, one (PL. 86–10) is thought to be Late Northern Ubaid and the other (PL. 89–14) Terminal Northern Ubaid phase. T107 is, therefore, assigned to the latter phase rather than the Late Northern Ubaid. Additionally it is possible that the buried piece (PL. 86–10) may have been inherited from the previous phase.

T108: in the same cluster as T11 confirmed as Early post-Ubaid. The funerary objects in T108 are, however, situated in the Late Northern Ubaid (PLs. 87–7, 92–6). T108 and T11 distinctly resemble each other in location of wing bricks, and both the tombs compose one tomb group despite certain phase differences of the funerary goods. The chronological dating of a tomb, of course, is better determined by structure and/or overlapping relationships rather than the contents such as pottery vessels. Then, these objects in T108 might be residual artifacts.

T109: in the same cluster as T11 as above. T109 is also similar to T11 in the location of wing bricks, although the latter is slightly different in the way the wing bricks are joined. Artifacts buried in T109 span the Terminal Northern Ubaid to Early post-Ubaid phases; the former ones (PLs. 89–6, 91–8) may have passed into the following phase where the latter (PL. 89–4) is situated as inherited pieces.

T116: in an uncertain cluster in the tomb sequence, but the tomb is probably Early post-Ubaid in that T116 was cut by T114 which is Early post-Ubaid. In addition T116 was dug from Level 2a, so that it can not be earlier than the Terminal Northern Ubaid. T116 also has funerary objects (PLs. 92–2, 91–3, 90–15) which span the Terminal Northern Ubaid to Early post-Ubaid phases. The vessels (PLs. 92–2, 91–3) belonging to the Late to Terminal Northern Ubaid might have passed as residuals into the following phase as another vessel (PL. 90–15) belongs to the Early post-Ubaid phase.

3) Tombs to be moved into a later phase

There are also some tombs which need to be extracted from the tentative tomb sequence because, when compared to other tombs within the same cluster, they are in the wrong position in the sequence.

T4: with two pottery vessels one of which (PL. 90–8) is Early post-Ubaid and the other (PL. 87–13) Early to Late post-Ubaid. These vessels are very similar to those of T11 (PLs. 90–9, 87–12) belonging to the Early post-Ubaid phase. T4 could, then, be adequately assigned to the same phase as T11 on the basis of the funerary objects. As other tombs of the cluster [T4–T111] are definitely from a different phase to that of T4, the latter should be extracted from the tomb cluster and revised into its correct position in the sequence.

T111: with two pottery vessels and one bead. One of the vessels (PL. 88–1) is Late Northern Ubaid and the other (PL. 92–11) Late to Terminal Northern Ubaid, while the bead is around Early Northern Ubaid [Koizumi 1991: 79]. It can be said, therefore, that the funerary goods of T111 are different to those of other tombs within the same tomb cluster [T4–T111], and that T111 may be equated to the later phase, the Late or Terminal Northern Ubaid.

T13: with two pottery vessels of which one (PL. 91–9) is Terminal Northern Ubaid and the other (PL. 92–9) Early post-Ubaid. The former vessel in particular closely resembles a vessel from T109 (PL. 91–8) which is assigned to the Terminal Northern Ubaid phase. The artifacts from other tombs of the cluster [T130–T22] to which T13 is belonging are so different in time scale from the above two vessels of T13 that the latter can not be incorporated into the cluster with the other tombs. Therefore, T13 fits more comfortably into the Early post-Ubaid phase, particularly if the vessel (PL. 91–9) is considered to have been residual from the Terminal Northern Ubaid phase.

T6: with two pottery vessels one of which (PL. 87–2) is Late Northern Ubaid and the other (PL. 90–4) Late Northern Ubaid to Early post-Ubaid. Both artifacts are different from others in the same cluster [T14–T6]. T6 could, then, be assigned to the later phase, but be said only to be likely from the Late Northern Ubaid to Early post-Ubaid phases.

T8: has one pottery vessel (PL. 90–13) which is Early post-Ubaid, although another tomb, T135, in the same cluster [T16–T135] has an artifact (PL. 92–4) belonging to around the Late Northern Ubaid phase. Comparable vessels to that from T8 are found in T9 (PL. 90–12) and T116 (PL. 90–15), which are Early post-Ubaid. T8 could, then, be equated to the Early post-Ubaid phase.

T9: with two pottery vessels one (PL. 87–1) Late Northern Ubaid and the other (PL. 90–12) Early post-Ubaid. The cluster consists of a single tomb. Other clusters situated below and above [T9], in which several tombs are ascribed to the Late Northern Ubaid phase, indicate that the cluster or tomb should be assigned to the later phase, the Early post-Ubaid. The revised assignment is also indicated by the vessel (PL. 90–12) which is similar to specimens from T116 as mentioned above.

4) Tombs suitable only for the tomb sequence

T7 : [5–1)-③]
T133: [5–1)-①]
T113: [4–2)-(3)]
T137: [4–2)-(2)]
T110: [4–2)-(2)]

5) Tombs suitable only for the pottery sequence

T26: has no distinctive characteristics for the tomb sequence, but has remarkable funerary objects (PLs. 89–3, 89–10). These artifacts are Early Northern Ubaid [Koizumi 1993: 41–44].

T19: in the same cluster as T24 which has been confirmed as Early Northern Ubaid by both the tomb and pottery sequences. But an artifact of T19 (PL. 92–3) spans the Late to Terminal Northern Ubaid phases. It is still to be clarified which sequence should have priority in determining the chronological position of T19: in the case of tomb one, the artifact would be rearranged into an earlier phase, or in the case of pottery one, T19 might be moved into a later phase. Here, with the fact that T19 is located on the southwestern part of the tell, the former seems to be slightly adequate.

T131: is not suitable for the tomb sequence described above [5–1)-④]. The tomb, however, has a single funerary object (PL. 90–11) which may be assigned to the Late to Terminal Northern Ubaid phases [Koizumi 1993: 47–48].

T103: situated in a cluster [T129–T107], although the tomb is inconsistent with above results on the grounds that it was not dug from Level 2b and had no artifact ascribed to the later phase [6–2) T129, T107]. T103 has a vessel (PL. 89–17) suggestive of the Early to Late Northern Ubaid phases [Koizumi 1993: 44–45]. T103 may be from an earlier phase than the former tombs where there is little chance that the artifact could be a residual or inherited piece[14].

T5: dug from Level 2a, but showing no particular structural element, level nor any overlapping relationship. The only clue to its chronological situation is the pottery (PL. 90–7) assigned to the Terminal Northern Ubaid to Early post-Ubaid phases [Koizumi 1993: 46–47]. This information from the pottery sequence may help to place T5 in a suitable position in the comparative sequence.

6) Uncertain tombs

Other tombs are not suitable for any above comparisons. These have no distinctive features such as tomb structures, nor level, and no finds such as funerary objects:

T12, T21, T122, T17, T22, T1, T16[15], T15, T126, T134, T106, T120, T27, T104, T124.

7. Conclusions

Having analysed, considered, and examined the tomb (cluster) sequence, I propose several conclusions (Fig. 14). In each phase the tomb cluster is ordered from earlier to later. Tombs enclosed by square brackets mean that they have been identified to a certain cluster, and a group of such clusters is confirmed to a certain phase; one cluster includes a few tombs and another a single tomb. Other tombs enclosed by round brackets indicate that the situation in each phase is so unequivocal that the tomb cannot be compared

Early N.U.	[T24] [T20] [T3] (T26)
Early to Late N.U.	(T103) (T19)
Late N.U.	[T130, T112] [T14, T2, T127] [T115] [T135] [T101, T121, T105] [T132, T118] [T119, T123]
Late to T.N.U.	[T111] (T131) (T6: to E.P.U.)
T.N.U.	[T117, T10, T125] [T129, T107] [T18] [T136]
T.N.U. to Early p-U.	(T5) (T7) (T113) (T133)
Early p-U.	[T116] [T11, T108/T109, T137] (T4) (T8) (T9) (T13) (T114)
Late p-U.	[(T25), T102, T110, T128]

Fig. 14 Chronological Sequence of Tombs from Kashkashok II

exactly with the confirmed one enclosed by square brackets, but that the former can be assigned to the same phase of the latter.

There are reliable correlations of tombs in the chronological sequence, although less so for tomb-clusters. It can be said that the chronological sequence of tombs from Kashkashok II has been confirmed by the above process of tomb analysis, and examination of the tentative tomb and pottery sequences.

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Notes

1) These are in Japanese, and this paper will summarize and expand them.
2) Because the excavated area of Kashkashok II is restricted to the western and southwestern sides of the mound (Fig. 1), a limited area on the tell could have been affected by restricting influences, accumulation and erosion, under specific circumstances, which would lead to the distinctive site formation — moderate slope.
3) When it is difficult to get one level of natural layer and/or Level 2b at point 't' from drawings of vertical sections, a reasonable level has been restored in conformity with a recognized and confirmed one. So, there are excluded tombs in which no level of natural layer nor Level 2b has been restored: T11, 23, 26.
4) In the previous report I took only examples in which the shaft and chamber are clearly connected, but here I use another one with a possible connection (T5, T117).
5) Although in the report the tomb was described as "Tomb just north of T110", I assign a serial number (T137) for it in this article.
6) In the excavation report, T25 was described as a tomb having a brick wall accompanied with wing bricks in its shaft, although the location of wing brick needs to be checked in more detail for the unequivocal position. Therefore, in this paper I drew the tomb with round brackets.
7) Although T11 has not been used for Ordering I owing to its unrestored levels of natural layer and Level 2b, the tomb can be analysed as an example of a tomb accompanied with wing bricks.
8) Since tombs T5 and T133 dug from Level 2a have shown no remarkable overlapping relationship nor wing-brick location, both the tombs are not described here in the analysis of Ordering II(b).
9) It has been tentatively established as an extrinsic sequence [Koizumi 1993].
10) In a previous report [Koizumi 1991], although I applied one correlation [T119<T121] besides the fifteen overlapping examples, it is not used in this paper because of insufficient reliability of the overlapping relationship which is still to be confirmed.
11) If T114, mentioned as an example of positive correlation, were a child's tomb due to the smaller burial chamber and funerary objects — beads, the tomb would have been one of a variety with deeper bases, not an example of 'first assumption'; it might well have belonged to the negative correlation.
12) The situation can be comparaed to T105 where some kind of clay soils are used as adhesive material to connect the brick wall and the wing brick [Koizumi 1994: PL. 10–5].
13) A frequency seriation for each form is best for an intrinsic sequence. However the numbers are insufficient for statistical analysis; we have only eighty-six samples and only about ten, at most, examples for each form.
14) As T103 has beads around the arm of its inhumed body, it might possibly be a female tomb. If it were, the tomb could be explained by the location in the cluster consisting of tombs dug from Level 2b (T129, T107); T103 might have been made in lower depth than the first assumption mentioned above with a residual artifact around the time when those tombs were dug. But there is little possibility to test this new hypothesis.
15) T16 has physical remains of a child and a necklace consiting of many beads. Moreover, the location on the northwestern area could mean its phase being Early post-Ubaid (Fig. 2). From the above consideration of T114 (note 11), it may be assumed that both the tombs would have been Early post-Ubaid. Such appearance of child tomb in the cemetery as them might have reflected the growth of social complexity after the Ubaid culture, although it has yet to be explained.

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FIFTH REPORT ON THE EXCAVATIONS AT SONGOR A —DETAILS OF SAMARRA FEATURES, STONE AND BONE OBJECTS—

KAMADA Hiroko* and OHTSU Tadahiko**

I Brick layout and composition of the Samarra buildings

As we reported before [Kamada and Ohtsu 1981,1995], Samarra buildings at Songor A have almost the same plan and dimensions. One building is made up with three rows of four rooms connected by passages on the central axis of each row. The greenish soil on the room floor also covers sun-dried bricks of the passage place (Pl. 3a). In BLDs. 1, 2, and 9, two courses of bricks make the thresholds. A wall is made of only one raw of bricks and coat. We tried to ascertain its brick layout by observing the walls from the side, but the result by that means was not successful. As the site was to be sunken in a new dam, I broke up a building, BLD1 [Kamada and Ohtsu 1981: Fig. 27], to see the brick layout. I removed bricks one by one and course by course. It helped to understand the brick layout very much, but is possible only in such a case.

Sun-dried bricks (Pl. 3b)

The sun-dried bricks contain much straw-like temper, the clay itself is fine and the color is brown. The most popular size of the bricks is $70 \times 16 \times 8.5$ cm with some varieties of the length. The shape is characteristic. The sides and the base are flat, but the ends are not very flat, but have slight curve. The bricks could be cut while they are not fully dry or broken after drying, and the broken face could be dressed. To the contrary to these five faces, the upper face is slightly round and three or four ditches run along the long axis. These are made by fingers and not regular. The width of a ditch is around 3 cm, the length varies from 10 cm to 30 cm, mostly around 15 cm. I suppose that a box-like mould was used to make the bricks. Bonding material is made of very fine clay without temper except for that used to close the entrance of the western corner-room of BLD1, and is quite hard. Its thickness is around 1 cm between upper and lower bricks. The hardness of the bonding material and the irregular shape of the upper face of bricks made the removal work difficult, and this fact evidences why the ditches were made. I found only one brick whose ditched face is set underside.

Brick layout (Fig. 1, Pls. 1 and 2)

The brick-layout shows why the walls are strong despite of their thin width, made of one row of bricks. Here I show the brick layout in the lowest course and that of the second, limited in the southwest part of the BLD1, that is Rooms 13b, 13a, 12b and 12a from northwest to southeast. In the figures, one can understand at once that the building was made with a clear plan before the actual constructing work. The bricks in the buttresses constitute part of the main body of the building. There is not a vertical break of bonding at any corner nor joint. Looking at the west corner of Room 13b, one long brick directed northwest to southeast is laid in a fashion that its center is at the inner corner so that its outer end protrudes northward and another half-size brick is laid along with it in the first course. In this course, all

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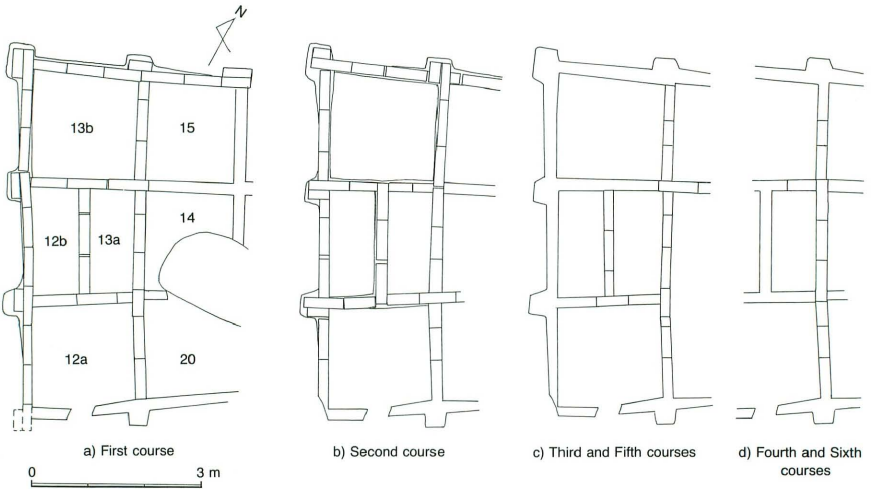

Fig. 1 Brick layout in BLD 1

the bricks in the southern side are laid out without break and their center is always at the joint part with the partition walls (Fig. 1a). In the second course, the bricks of the buttresses are laid out at right angle with those in the first course. Now, looking at the west corner of Room 13b, one long brick directed southwest to northeast is set and its center is at the inner corner of the room and a half-size brick is added outside. In the second course, the bricks in the west wall are all laid out with bricks of partition walls between them. A half-sized or shorter brick is set along with the long bricks, constituting the buttresses (Fig. 1b). These two kinds of layout are repeated in the upper courses than the second with some variations. The partition wall between Room 13a and Room 12b is also planned before construction.

This holds true to the passages, though there are not many places to research it. Looking at the east wall of Room 13a, there are vertical breaks of bond with the bricks of walls in southwest to northeast direction in the third course and in the fifth (Fig. 1c), but there is not a vertical break in the same joint parts in the fourth and sixth courses (Fig. 1d). Here also we can see the plan and regularity by course. Shorter sized bricks and thickness of coat help to adjust the place of passages.

Closed entrance (Pl. 4)

There had been an entrance from outside to BLD1 in the west side of Room 13b, but was later closed. Intact sun-dried bricks were not used to close the entrance. Broken, small pieces of bricks and rather coarse, bluish mud was used.

Dimension of the buildings

BLD1: The length of four outer walls are as follows.

East end 5.25 m.
West end 6.2 m.
North side 8.0 m.
South side 8.05 m.

It is strange that the east end is 0.95 m shorter than the west end. 0.95 m is equivalent to the length

of one long brick and more than one brick width. Because of the destruction which reached to the virgin soil, I could not research the brick-layout of the east wall. The layout consistent with that of the west walls is, however, possible only to reduce the size of the rooms. This difference of width of the rooms may not an intentional work and the Samarra people did not know how to make a right angle. The inner dimensions of rooms are as follows.

Table 1 Dimensions of rooms, BLD1

Room 19	1.50×1.95	Room 18	1.55×1.90	Room 22	1.50×2.00
Room 17	1.55×1.50	Room 16	1.50×1.55	Room 21	1.47×1.65
Room 15	1.62×1.50	Room 14	1.70×1.50	Room 20	1.70×1.65
Room 13b	1.90×1.82	Room 13a	1.75×0.75	Room 12a	1.65×1.65
		Room 12b	1.85×0.80		

(m)

The first numerical value is the width of the room, that is, the length of the walls in northwest to southeast direction. All rooms are too small to use as bedchambers, though not impossible for that purpose.

The passages are narrow. The width is from 0.4 m to 0.6 m. It is difficult to decide the entrance after closing the one to Room 13b. From the height of walls remained, it may be in the east end.

BLD2: The Dimension of BLD2 can be reconstructed from the remaing part, that is, 6.15×7.55 m. The width is close to the value of the west end of BLD1, the length is 0.5 m shorter than that of BLD1. The dimensions of rooms are not much different from BLD1.

Table 2 Dimensions of rooms, BLD2

		Room 3N	1.70×1.60	Room 1N	1.70×1.50
		Room 3	1.85×1.57	Room 1	1.67×1.60
		Room 4	1.70×1.40	Room 2	1.72×1.45
Room 32	1.87×	Room 31	×1.75		

(m)

BLD3: Only the length of the wall in the north side is clear. It is 7.9 m and similar to the size of BLD1 and BLD2. The dimensions of the rooms are as follows.

Table 3 Dimensions of rooms, BLD3

Room 10W	1.45×	Room 10	×1.60
Room 8	1.50×1.55	Room 5	1.70×1.65
Room 9	1.47×	Room 6	1.60×
Room 9S	×1.40		

(m)

Other buldings in the Northern Area: The other buildings in the Northern Area are not well reserved to research the outer dimension. But the size of the rooms are similar to the buildings mentioned above. BLD5 and BLD6 have smaller, oblong rooms like Room 13a and Room 12b in the west end. The rooms in BLD4 is slightly larger than those in the other rooms. Room 36 measures 2.45×2.10 m, and Room 35 measures 2.45×1.95 m.

BLD9 (Southern Area): It measures 7.7×11.5 m and is long in northwest to southeast direction. If there are five rooms in one row, the length may be around 14 m. The rooms are larger than the rooms in the Northern Area.

Table 4 Dimensions of Rooms, BLD9

Room 91	×2.26	Room 90	1.90×2.25	Room 92	2.56×2.05
Room 85	2.25×2.06	Room 86	1.85×2.04	Room 89	2.56×1.94
Room 84	2.25×2.00	Room 82	1.97×2.05	Room 88	2.35×2.05
Room 83	2.20×1.85	Room 81	2.00×1.75	Room 87	2.35×1.74
		Room 93	2.10×1.95	Room 93N	×1.84

(m)

Perimeter wall (Fig. 2)

The width of the perimeter wall is about 1.2 m. The bricks are set in one course transversely as shown in the figure, and in the other course longitudinaly [Kamada and Ohtsu, 1995: Pl. 9a and b]. These two patterns are repeated course by course in most part. When the bricks are set transeversely, full sized bircks and half-saized bricks are layed out in one line.

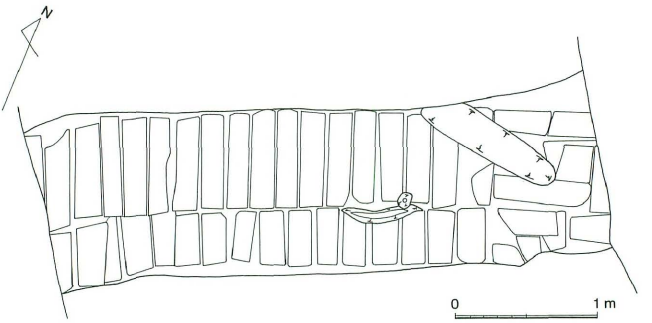

Fig. 2 Brick layout in perimeter wall

II Pottery Kiln (Figs. 1 and 3 to 5, Pls. 5 and 6)

There is a pottery kiln in the baulk between Grids VI-22 and VII-22. The upper part was partly destroyed by two later graves. This is an updraught kiln made up of three parts; a firebox dug underground to fire the fuel, flat and round firebars with holes to pass the fire and heat, and a long mouth to put fuel and remove ash. The pottery chamber was not found nor there were not fragments which can be considered part of it. Perhaps the pottery chamber was temporally made by clay and demolished after firing.

At first, the upper part of the kiln was found in the baulk (Fig. 3). There are two ash layers in the mouth side of the section; the first and the lower ash layer is on the virgin soil (between Layers 11 and 13), the second ash layer is about 0.2 m higher than the first and this layer is thick (Layer 7). The highest remains of the kiln is, however, found between Layers 4 and 6, that is 0.15 m higher than the second ash layer. Therefore, three floors were anticipated in the mouth part before the research.

After removing Layer 4, constituted of ash with bluish soil, I found the top face of the firebars. The

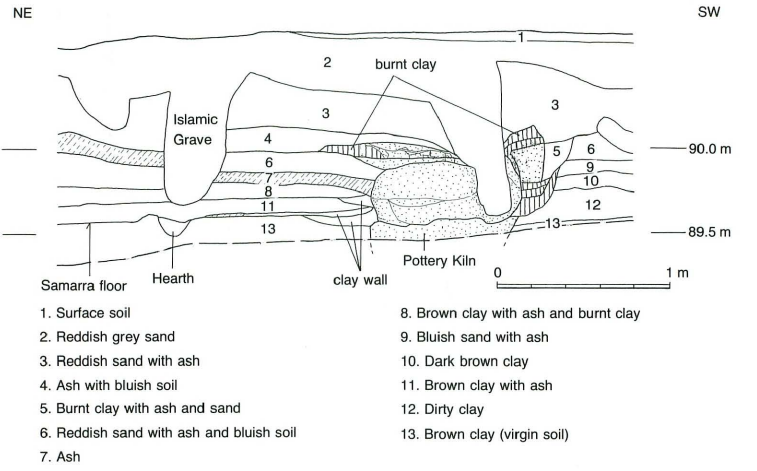

Fig. 3 Pottery kiln in the section (from the northwest)

firebars were not well preserved. Even the best preserved northern quarter sank more than 0.1 m to the center (Fig. 4b). The top level is 90.05 m in altitude. Its plan is round with diameter 0.95 m. There are three to five layers of clay discs with holes. Each disc measures around 3 cm in thickness and their color is almost white, very light grey. The diameters of holes are 4 to 6 cm (Pl. 6a). They are arranged to make concentric circles. They are on the side wall of the firebox, but the edge part is not remained well enough to reconstruct the structure precisely. There spread fragments of fired clay in the mouth part (Fig. 4a). The level of these fragments is low along the long axis of the mouth. They must be part of the kiln. Top of the mouth is found in their level.

The cutting of the mouth part shows burnt red soil under these fragments (Pl. 1a), but the fragments themselves are not *in situ*. To investigate the lower part of the kiln, I had to remove the firebars and a layer under it which contains fragments of side wall and firebars (Fig. 4b, Layer 1).

The firebox and the mouth were dug in the virgin soil and lined with clay, which is much burnt and white in most part. The soil immediately out of them is also burnt and changed red. The clay continues upwards to support the firebars. In the mouth part, the clay begins at a level 0.1 m high from the bottom. Clearly, the mouth part was demolished after firing and new one was made because there are two separate walls remained at both sides (Pl. 6b). That process could be repeated. The diameter of firebox is about 1.0 m and the lengh of the mouth is more than 0.8 m. The sides of the mouth were remained up to the height of 0.4 m. Its widest part measures 0.48 m.

The bottom of the firebox is flat and 0.30 m low from the mouth. The clay at the bottom is thin in the center. Its back end (left side in Figs. 4 and 5) extends to outside, but its mouth side (right side in Figs. 4 and 5) narrows to the bottom so as to rake out the ashes. Other part of the side also extends at the bottom (Fig. 5a).

There are much ash at the bottom of the firebox and the mouth. In the firebox, lower 0.2 m is constituted of compact ash layers, but there is a layer of burnt red soil, two layers of loose ash and sandy layers with ash over them. Fragments of kiln body were found upper than the burnt red soil, but they were not found in the bottom ash layers. Some of the ashes were not raked out and remaind at the bottom each time, and made the bottom higher than the first level. The layers inside the firebox are constituted of

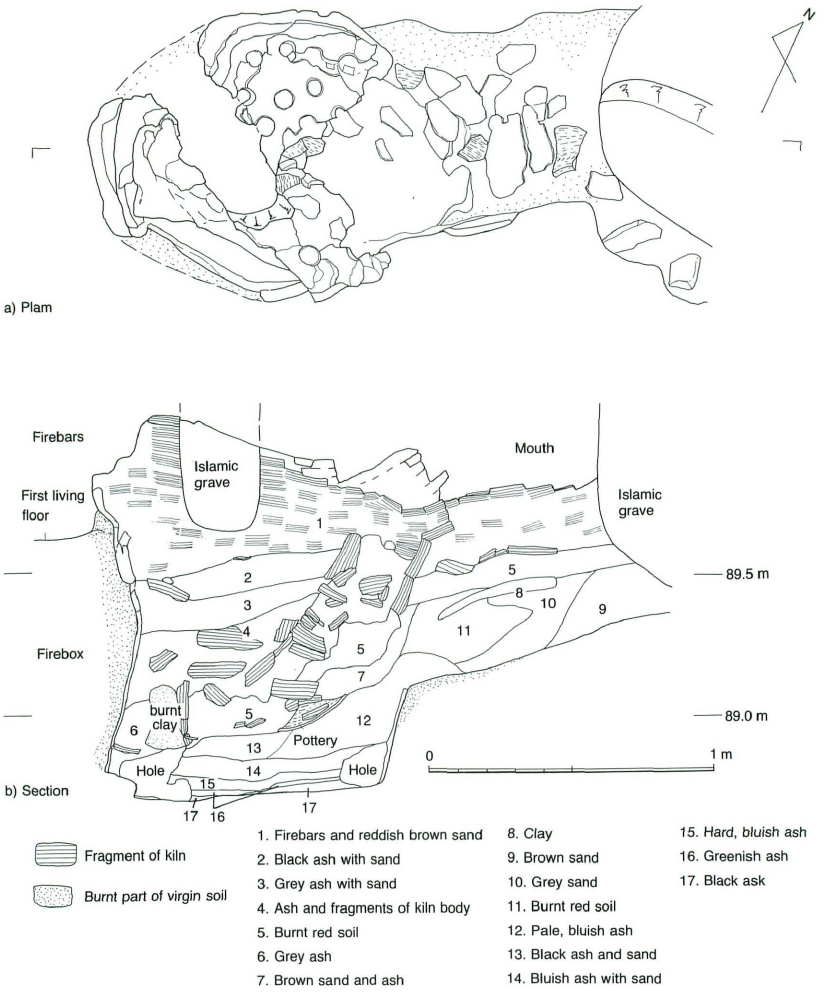

Fig. 4 Pottery kiln: a) Plan b) Section

three parts; bottom ash layers, remains of the kiln and the sandy layers which flowed into the kiln.

In conclusion, what remained is the last level of the firebars and the first level of the bottom. It is hard to deside the correspondence of deifferent parts, but the first mouth and the first bottom are clear. A rising and curbing wall was remained inside of the last wall with the top level, 89.65 m in altitude. This wall is older than the last one, but it is not clear whether it was the first. We need much care to interpret kilns because they are used repeatedly.

There is a hearth (*ibid.*, Pl. 5b) and a bench-like structure made by sun-dried bricks near the kiln. Some pottery fragments and a female figurine (*ibid.*, T.6) were found in and on the kiln, but there was not a heap or a hole to throw away the ash and failure pieces around the kiln, but there spreads ash layer widely

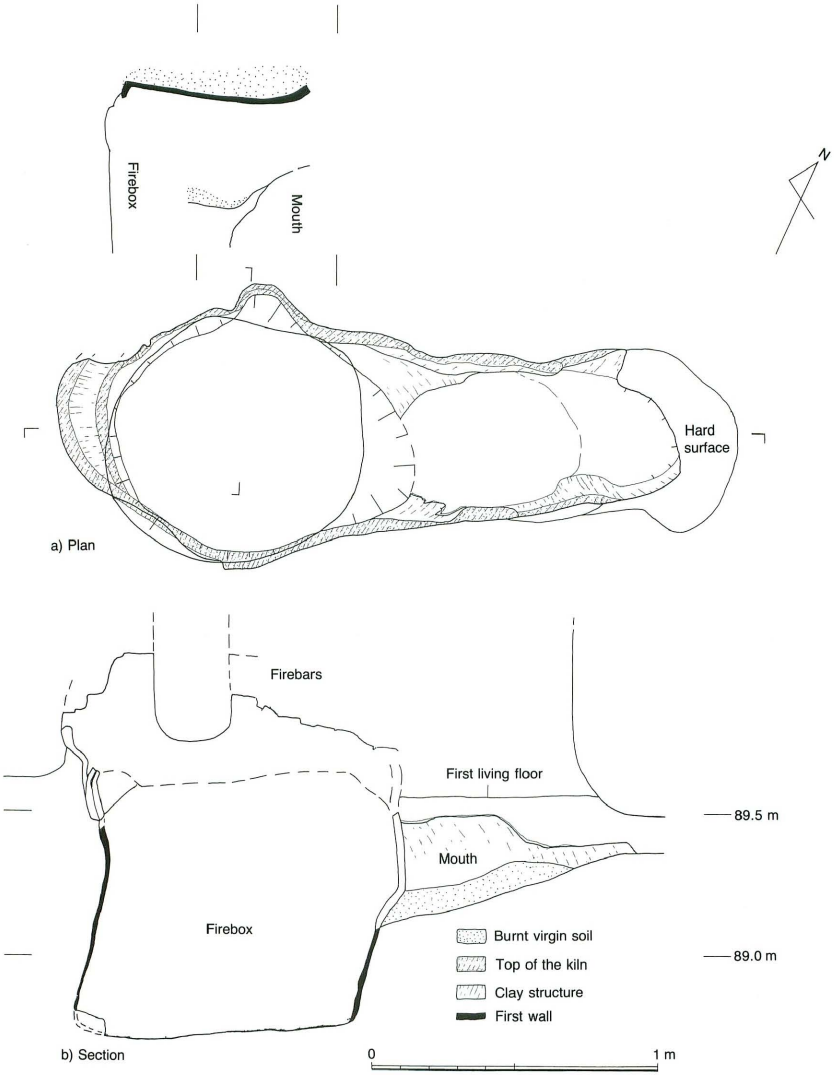

Fig. 5 Construction of pottery kiln: a) Plan b) Section

in Grids VIII-21, 22 and IX-21, 22. There were rather many fragments of pottery in greenish soil in Grid VII-23, where two walls not to constitute a building were also found.

III Graves (Figs. 6 and 7, Pl. 7)

Two Samarra graves were found at this site. Both were found in the course of deep digging by chance.

Grave 247 (Fig. 6)

It was found in Grid VI-16, 1.0 m below the surface. Because the grave cut a Samarra wall, it belongs to a rather late stage of living on Songor A. The wall itself was fragmental. The burial pit is oval in plan, which measures 1.9×1.31 m. The body is laid on its back with the legs bent to the left side. The arms were extended on the sides. The skull is broken to pieces in a condition somewhat unnatural. The burial goods were found in two places; one near the head, another near the foot. There are a female figurine (1=*ibid.*, T.1), a stone object (2=S.6 in Ohtsu's report), one painted pottery jar (3=P.178 in the fourth report) and one carinated jar of pottery (4=*ibid.*, P.26) near the head. There are pottery and stones near the foot; 5–10=*ibid.*, P.22, P.25, P.27, P.32, P.21, P.34, a saddle quern and a long stone. The stone objects from the grave were lost in 1980, but the saddle quern (11) is made of grey stone measuring about 30 cm in length and rather flat. The other stone (12) is black and all very smooth, measuring 6 cm in width and 13 cm in length.

Grave 279 (Fig. 7)

It was first found in a test pit out of buildings and part of bones had been destroyed. Most part of the grave was out of the test pit, but the foot part was in the baulk between Grids V-22 and 23. The paln is oval, measuring 1.22 m in width and the length 1.40 m was cleared. The body is layed on its left, facing southeast. The legs are bent to the left and the arms are bent and put before the face. Three pottery are near the head in a level slightely higher than the body. They are, 1=*ibid.* P.177, 2=P.44, 3=P.188. One carinated pot is near the legs, that is 4=P.24. There may be more objects in this part. This grave was dug before the kiln, BLDs 1, 2 and 3. As shown in Fig. 7, the burial pit is covered with Layer 13, clay with chaff and the living floors are above it. The soil in the burial pit is made of many laminae of fine clay

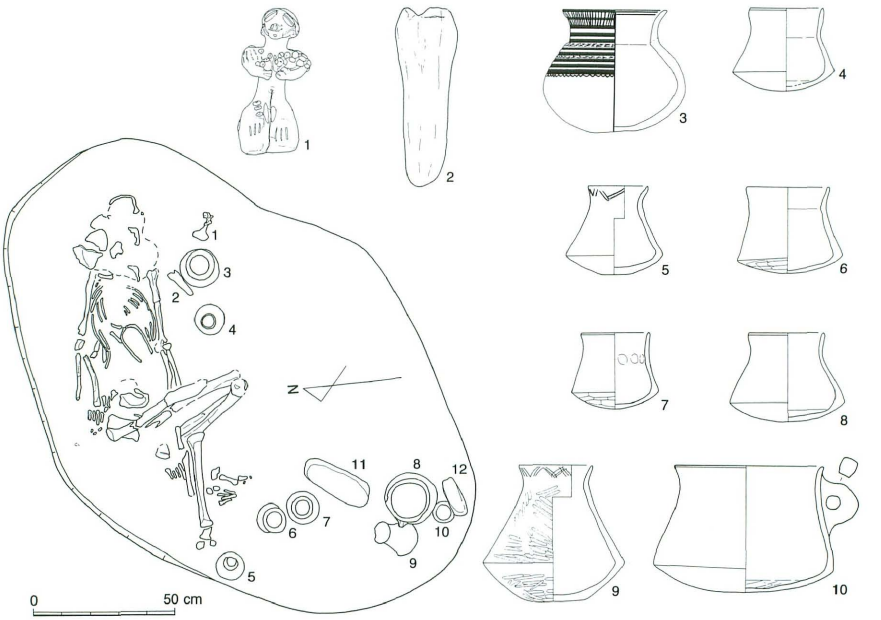

Fig. 6 Grave 247 1: Scale

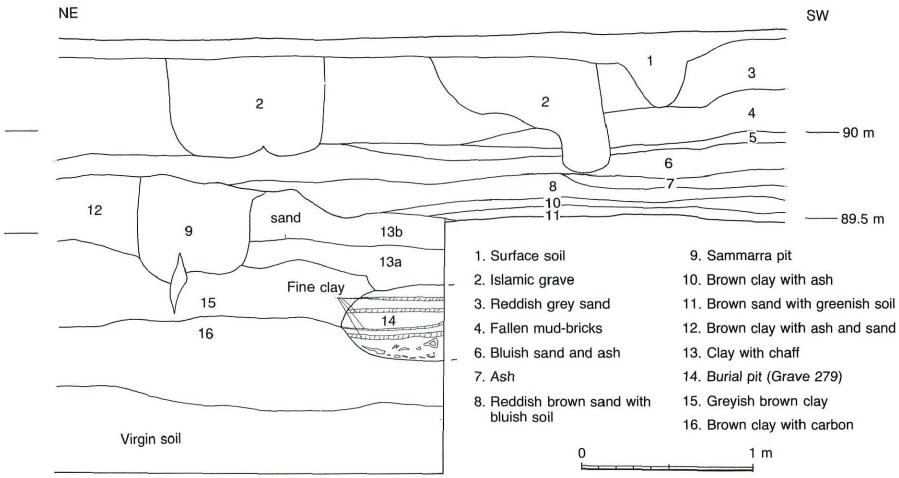

Fig. 7 Section of deep digging

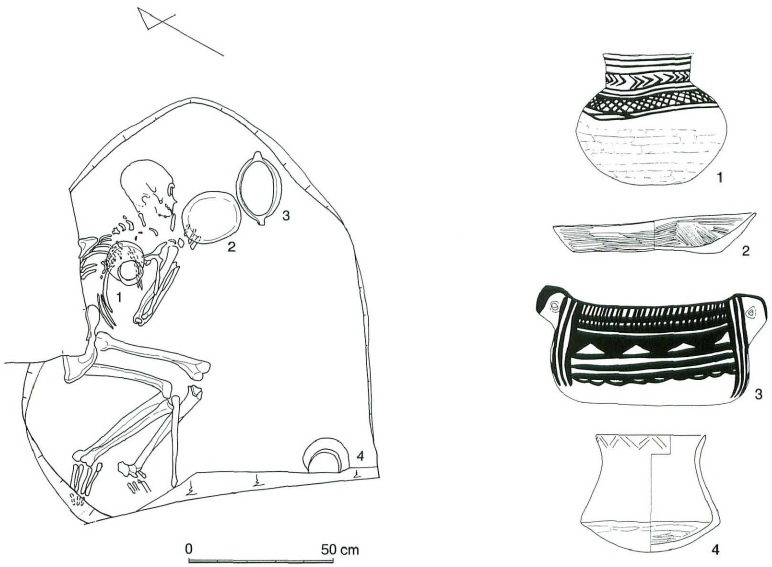

Fig. 8 Grave 279

and clay with sand. The bones and pottery are covered with saline of 2 to 3 mm thick. Water sinking into the grave yielded these phenomena, which is seen only in this grave at Songor A.

When we compare these two Samarra graves, we can find out some characteristics common to them.

1. Rather large burial pit. In Grave 279, it is possible to lay the body in a stretched position, though it was bent.
2. Laying the body on one side of the pit.
3. Grave goods are put in two places separately. Clearly, the objects near the head are more important than those near the legs. Painted jar near the head is common to the two. Rare objects are also there. To the contrary, carinated jars and pots, which are put near the legs, are the most popular vessels.
4. There is an empty space opposite to the body. This space may be for a person to move, who prepare the grave.

Compared with Ubaid graves at Songor A, in which the dimension of the burail pit is the least scale for one person in bending burial, these Samarra graves are dug with much reserve.

(KAMADA Hiroko)

IV Stone and bone objects (Fig. 9 and Pl. 8)

Objects here we report are selected ones from the excavations on the research mainly of Samarra structural remains at the site of Tell Songor A. As Kamada, H. wrote before [Kamada and Ohtsu 1995: p. 280], we could not have much time to study objects. Therefore I could only present a few descriptions from the primary remarks which were recorded at the excavation time.

S.1 Stone axe/adze found in Grid V-23, 24. It is made of grayish black stone,maybe mudstone. The one edge is chipped unifacially and the other edge is chipped bifacially bevelled and finished by polishing. There are some nicks due to usage of. It is 327 g in weight.

S.2 Door socket of a kind of limestone found in Grid V-20, 21. It is oval in native shape and has hollow center on both side.

S.3 and S.4 Indescribable. Both are found in Grid VIII-23 where many Islamic and Old Babylonian graves disturbed the Samarra occupation layers. So it is hard to confirm the date which they belong to. The former object is native sphere in shape while the latter becomes a little bit depressed sphere and is chipped around the edge. Both have shallow hollows at the center of the one side. They are both made of a kind of limestone.

S.5 Sword shaped object made of mudstone. It is found in the grave in Room 35 in Grid VIII-22. The one end shows the breakage while the other end tapers off to a point which was caused by grinding. On the surface, there are many traces of grinding. There is soot around the pointed edge. It is 83.3 g in weight.

S.6 Horn shaped object found in a Samarra grave (No. 247) in Grid VI-21. It is made of alabaster, which is irregularly mottled in structure with white, gray and clear. The surface is smooth and shows no traces of work of chipping. On its one side, it is relatively in an advanced stage of weathering. It is clogged with a black filling which adheres also to the broken part at the open edge. It is 166 g in weight.

S.7 Blade core of chert/flint. It is found in the lower ash layer of Grid IX-22.

S.8～S.11 Blades made of obsidian (S.8, S.9) and of chert/flint (S.11). S.8 is found near the bottom of the pit dug down beneath the floor in Grid II-21. S.9 is found in the ash layer of the northern outside of

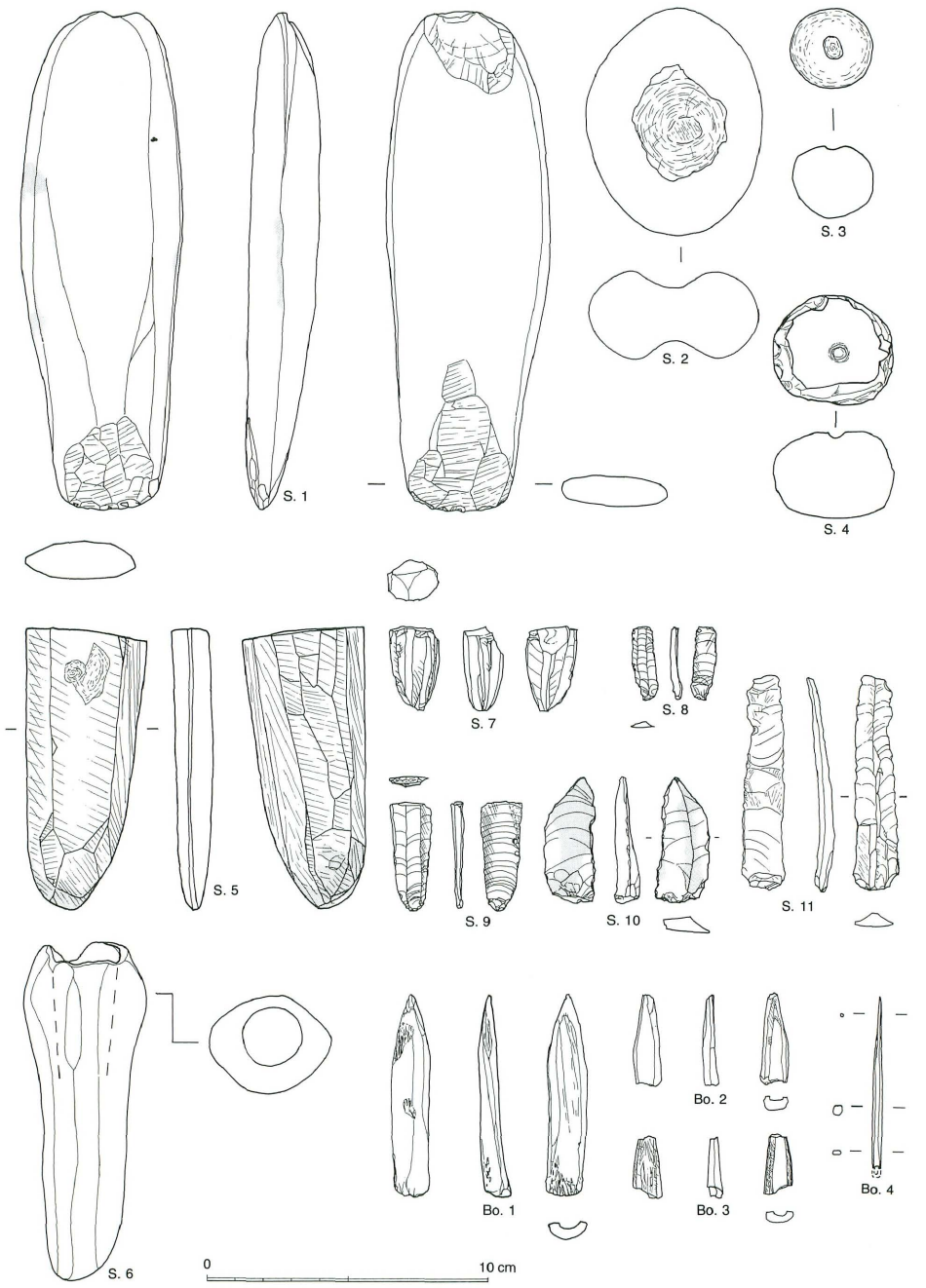

Fig. 9 Stone objects and bone objects, Samarra period

Room 35. S.10 is found in Room 17, and S.11 is found in Room 13b of the Samarra floors. S.10 is a knife shaped tool made of chert/flint stone flake. Traces perhaps of a handle to which the stone had been attached is observed and is also partly glossy on the surface.

Bo.1～Bo.3 Bone gimlets. Bo.1 is found in Grid VII-21. A partial animal bone near the joint is used. The color is light brown inside and outside. The polish on the side and the darker color on the outside seem to show the traces of clutching for its use. Bo.2 is a tip fragment of gimlet found from the bluish Halaf layer in Grid XIX-24. The surface color of the bone is a little bit darkbrown and the inside is light yellowish brown. It has no traces of polishing of making process. The streaks on the surface should have been the result of its usage. Bo.3 is also a partial fragment of gimlet like Bo.2. It is found in the black soil layer mingled with the ashes in Grid VII-25. It is dark brown and black inside. The flawed part of it gives out a polish by being used.

Bo.4 Bone needle found in the pit in Grid XIX-21. It is light brown in color and leaves traces of needle's eye at the end.

(OHTSU Tadahiko)

Notes

1) The numbers of buildings in Fig. 1 in Kamada and Ohtsu 1995 need correction. In this report, I follow the numbers in Kamada and Ohtsu 1981.
2) The level of Fig. 4 in Kamada and Ohtsu 1995 is wrong. It is 89.7 m.

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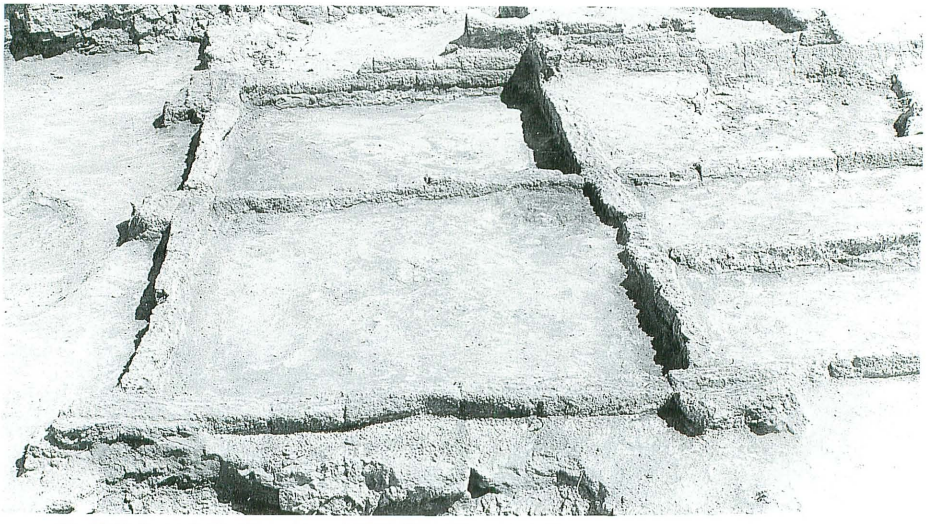
a) Pottery kiln under excavation (from the south)

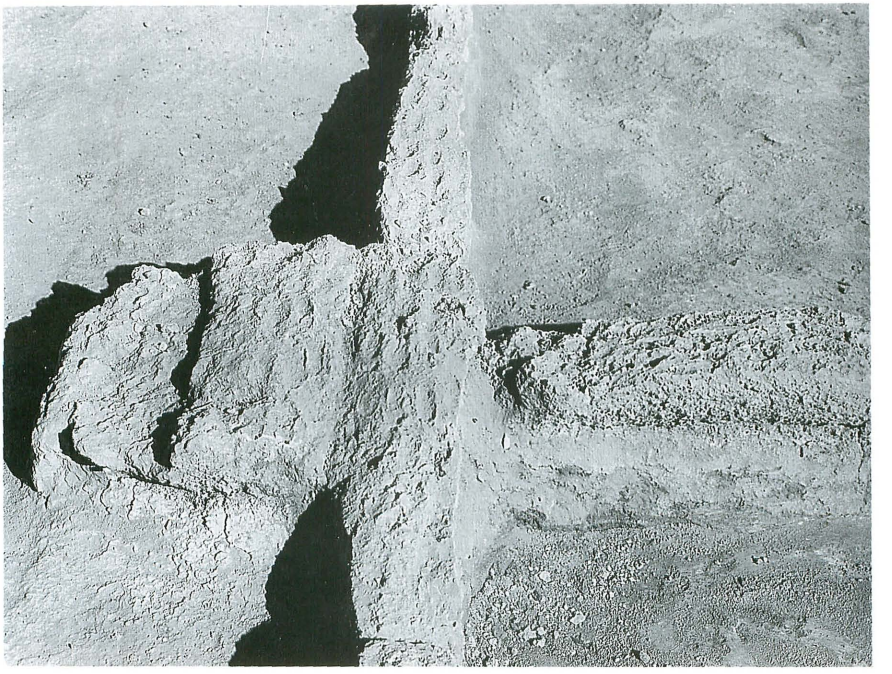
b) Accumulation in the firebox (from the south)

a) Brick layout in the second course, BLD 1 (from the northwest)



b) Brick layout in the first course, BLD 1 (from the southwest)

a) Passage bertween Rooms 15 and 17, BLD 1 (from the southwest)



b) Buttress out of Room 12b, first course (from the southeast)

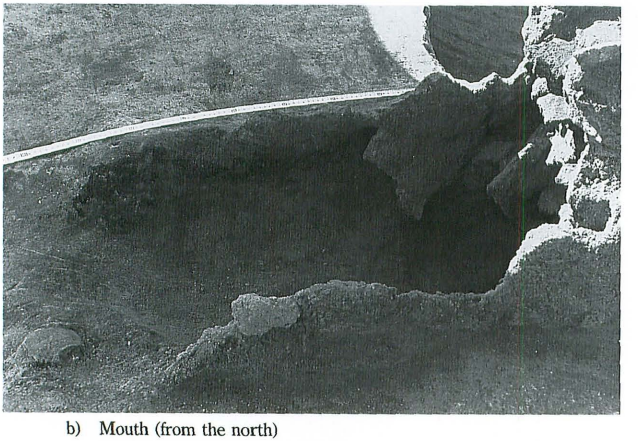
a) Closed entrance to Room 13b (from the southwest)

b) Entrance to Room 13b (from the southwest)

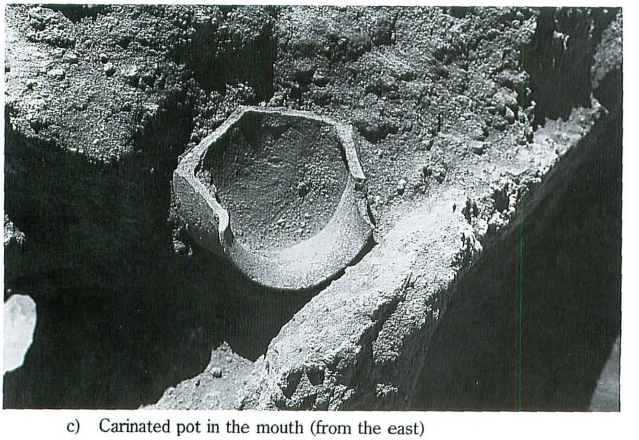
a) Pottery kiln in the section (from the nourthwest)

b) Pottery kiln (from the east)

a) Holes in the firebars (from the south)

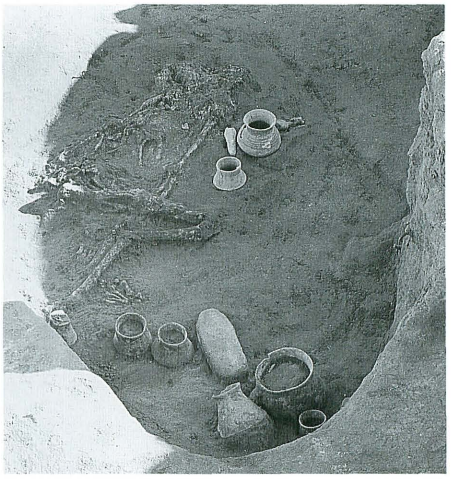


b) Mouth (from the north)



c) Carinated pot in the mouth (from the east)

a) Grave 247, upper body (from the west)



b) Grave 247 (from the southeast)

c) Grave 279, grave goods near head

d) Grave 279 (from the west)


S. 1


S. 6


S. 2


S. 7


S. 8


S. 10


S. 11


S. 5


Bo. 1


Bo. 2


Bo. 3


Bo. 4


S. 3


S. 4

Stone and bone objects, Samarra period

EXCAVATIONS AT TELL THUWAIJ TRENCH C

Hirotoshi NUMOTO*

Introduction

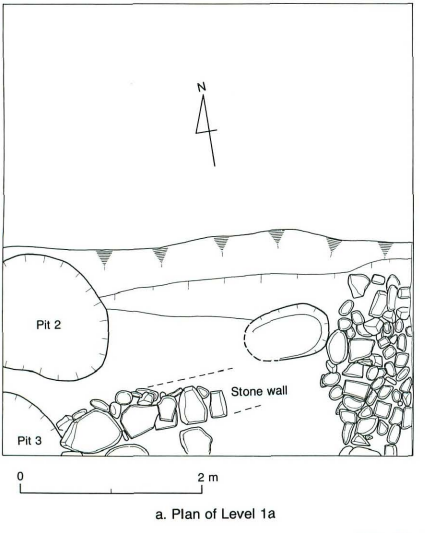
The Japanese Archaeological Expedition from Kokushikan University carried out the excavations of Tell Thuwaij in the Zummar area from October 1985 to February 1986. This research was concluded as a part of the Saddam Dam Basin Salvage Project in the upper stream of the Tigris in northern Iraq.

The outline of this research has already published in the latest volume of *Sumer* [Fujii *et al.* 1989–90: 33–58]. The Ninevite 5 levels and pottery found in this site have been introduced and discussed in the Ninevite 5 conference at Yale University [Numoto in press]. These previous works discussed, to large extent, levels and pottery in Trench A, while those in Trench C were little mentioned. In this paper, the author will describe the stratigraphy and findings from Trench C. Discoveries and levels belonging to the Ninevite 5 period are the focus of the present discussion.

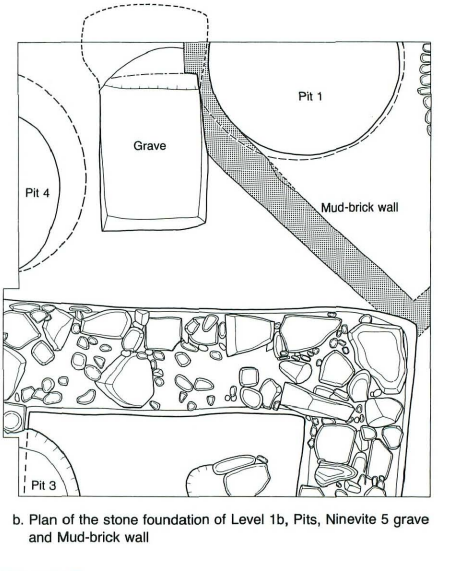
Levels, structures, and findings excavated from Trench C will be discussed according to level order from the top to the bottom[1].

Hellenistic pits (Figs. 1, 2)

Four Hellenistic pits have been discovered, all of which are bell-shaped and were dug into alluvium soil from just beneath the surface.



a. Plan of Level 1a



b. Plan of the stone foundation of Level 1b, Pits, Ninevite 5 grave and Mud-brick wall

Fig. 1 Plans of Trench C

* The Institute for Cultural Studies of Ancient Iraq, Kokushikan University, Tokyo

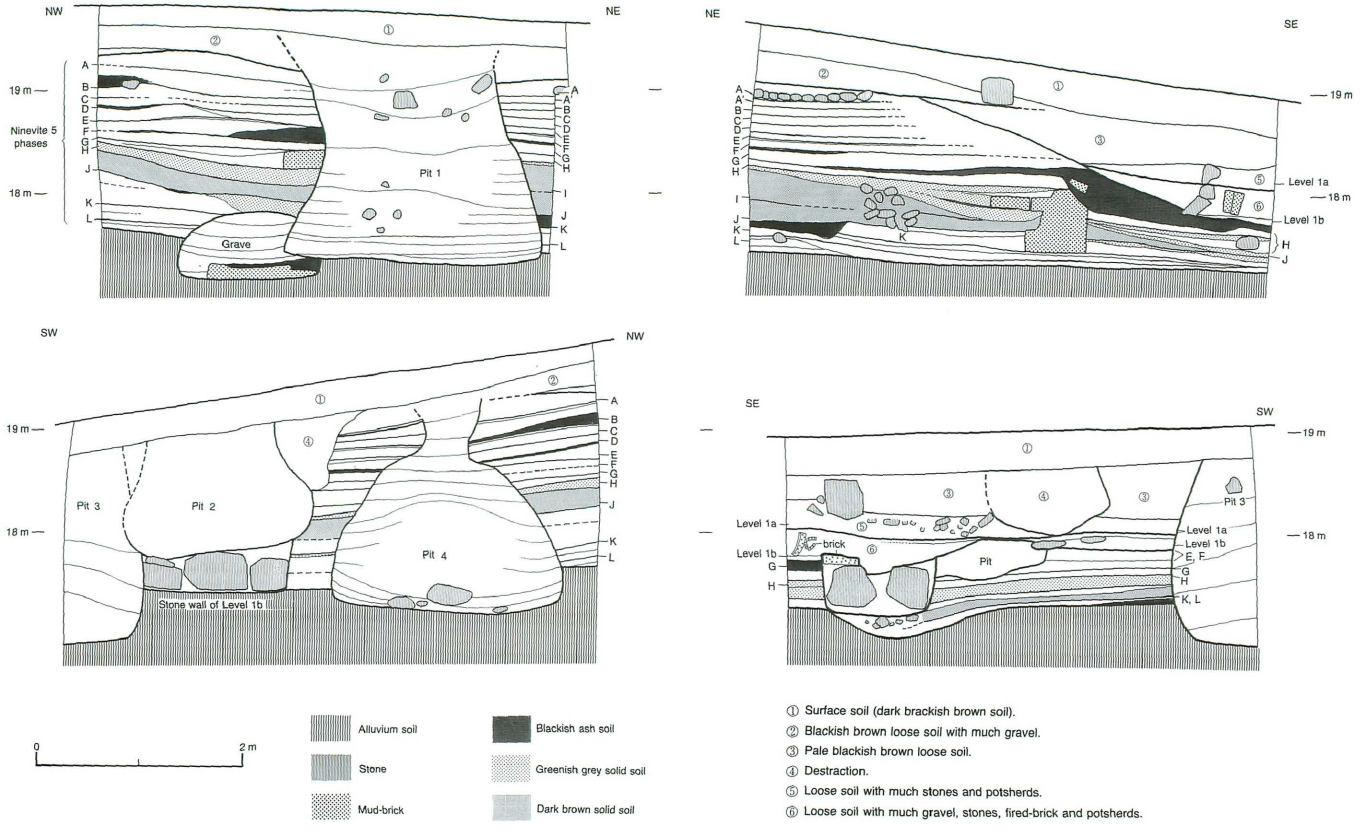


Fig. 2 Sections of Trench C

Maximumn diameters of Pit 1 and Pit 4 measure approximately 2 m. Natural and horizontal accumulations were confirmed in these pits. This kind of pit was often found in the Eski-Mosul Area [Numoto 1988: 12; Roaf 1984: 144, 145].

Pottrey from the pits (Fig. 3)

The pottery excavated from these pits is all fragments which are believed to have belonged to the Hellenistic Period. These potsherds are considered to be rims and bases of bowls or jars, most of which were painted. Their fabrics were tempered with large amount of fine sand. There are no examples with vegetable. The most remarkable thing lies in that some of the examples contain chalky particles. Most of these specimes were fired very hard (well-fired). The bowl rim fragments are roughly classified into three types: deep bowl (thin wall), open bowl (everted rim) and inclined rim bowl types. Nos. 1 to 3 have brownish or blackish paint on their whole surfaces. Three types of jars are found: two-handled jar (No. 8) (only one handle exists), out turned rim type jar (No. 7), and painted jars whose rims are flat on their tops (Nos. 5, 6). Three base fragments, which are considered to be bases of bowls or jars, are found. No. 9 is a base of bowl characterized by a hight ring-base, whose inner suface of its ring-base was sharply scraped by using the wheel-turn. No. 11 is characterized by a flat bottom finished with the pallet-cut using the wheel-turn. These bowls and jars are very similar to those of the Hellenistic pottery found in other Tells in the Mosul Area (Fisna, Jigan, Mohammed Arab, and Nimrud) [Ii and Kawamata 1984/85: Fig. 11; Numoto 1988: Figs. 31–35; Roaf 1984: Fig. 3].

<in Fig. 3>

1. Pit 1: Rim of painted deep bowl; brownish red paint on surfaces; light buff core; much very fine sand and a little fine sand temper; Rim diam. about 15–20 cm.
2. Pit 2: Rim of painted bowl; brown/blackish brown paint on surfaces; reddish buff core; middle amount fine sand temper; containing chalky particles; Rim diam. about 20 cm.
3. Pit 1: Painted rim sherd; black/brown paint on surfaces; reddish buff core; very fine sand, fine sand and sparse coarse sand temper; hard.
4. Pit 1: Rim of bowl; dark reddish brown outer surface; pale dark brown inner surface; much fine sand temper; wet-smoothed on inner surface; slightly hard; Rim diam. about 20 cm.
5. Pit 3: Rim of painted jar; black/brown paint on rim; greenish white surface; reddish buff core; much fine sand temper; hard; Rim diam. 12 cm; 1/3 extant.
6. Pit 3: Rim of painted jar; brown paint on inner suface of rim and outer surface; creamy buff inner surface; reddish buff core; much very fine sand and a little fine sand temper; containing chalky particles; Rim diam. 16 cm; 1/6 extant.
7. Pit 4: Rim of jar; creamy buff slip surfaces; orange-buff core; much fine sand temper; containing much chalky particles; hard; fragile; Rim diam. 32 cm; 1/8 extant.
8. Pit 3: Jar with handle; reddish brown surface; carbide sticking partly outer suface of body; reddish brown core; much coarse sand and grit temper; trace of the joint in rim and body clearly remains at the inner surface, and finger impressions numerously seen on the joint part; soft; hand wet-smoothing outer surface; Rim diam. 20 cm; Max. diam. 30 cm.
9. Pit 3: Ring-base sherd; light buff surface; reddish buff core; much very fine sand, a little fine sand and sparse coarse sand (5 mm grit) temper; containing chalky particles; extremly scraped on inside of rin-base using the wheel-turn; hard; Base diam. 9.5 cm; 1/3 extant.
10. Pit 2: Base of jar; drak brown outer surface; pale blackish brown inner surface; much vegetable (3 mm), fine sand and a little coarse sand temper; carbide sticking outer suface of bottom; hand wet-smoothing outer surface; coarse ware; hard; Base diam. 8 cm; 1/2 extant.
11. Pit 2: Base sherd; reddish pink outer surface; creamy inner surface; reddish pink core; much very fine sand and a little vegetable temper; relatively fine fabric; pallet-cut on bottom using the wheel-turn; wet-smoothed on outer surface using the tool; hard; Base diam. 11 cm; 1/3 extant.

Levels of the Khabur ware Period (Figs. 1, 2)

Level 1a: A stone pavement and a stone wall have been discovered above the stone foundation of the level

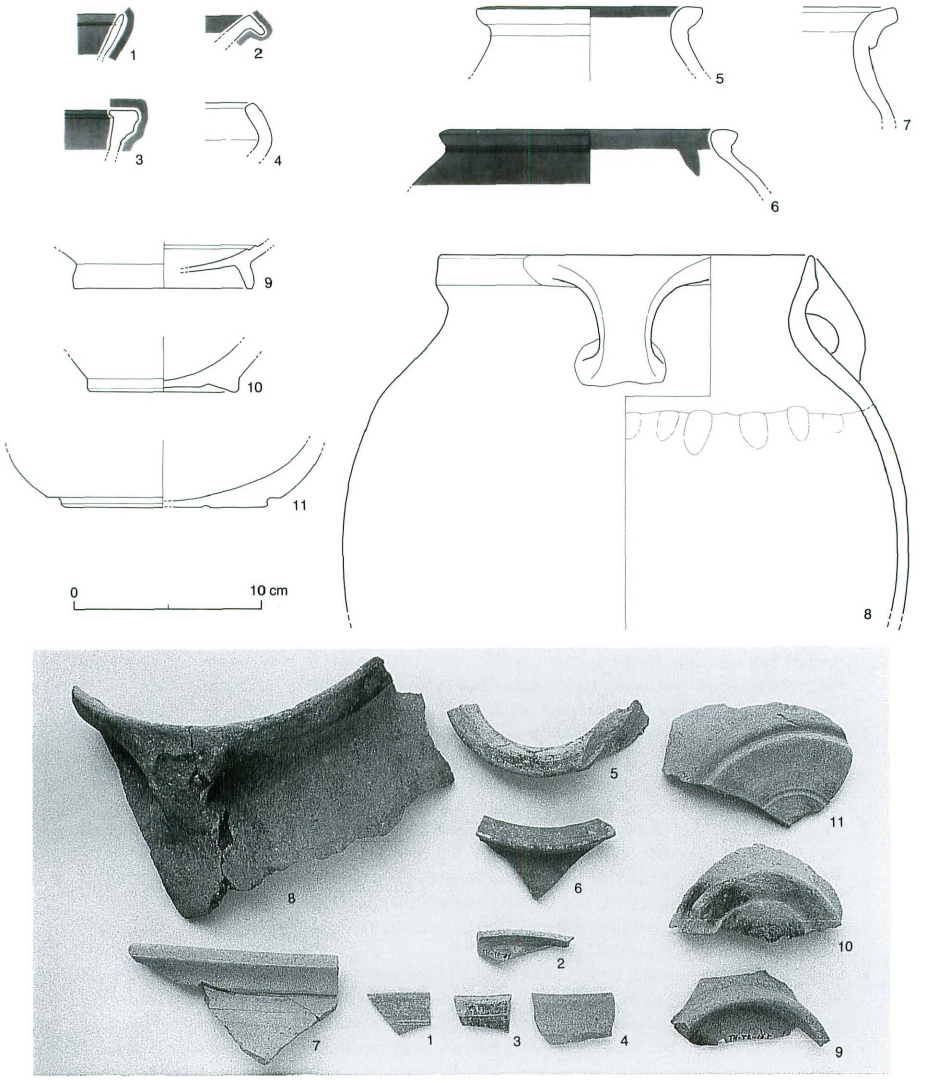


Fig. 3 Pottery from the Hellenistic Pits

1b. Both of them had been largely destroyed, and only small parts of them remained. The extant dimentions of the stone wall measured about 1.8 m in length and 40–50 cm in width. This stone pavement covered an area of approximately 2 m by 0.9 m and extended at the south-eastern corner of this grid. Most of the stones used here were river stones.

Level 1b: The stone foundation wall has been found at the southern part of Trench C. Parts of the Ninevite 5 occupation levels were removed for the sake of constructing this wall on the alluvium soil. The south-eastern part of this wall was partly destroyed by Pit 3. Moreover, some large stones of this wall

were removed. The width of a room, which was surrounded by this wall, was supposed to be nearly 3 m.

Pottery from levels 1a and 1b (Figs. 4, 5)

Pottery from these levels were all fragments. They are classified into painted, incised and plain wares, all of which have typical features of the Khabur ware.

Although it is difficult to guess complete shapes of these specimens, the shapes are classified into shallow bowls (Rim diam. 20–30 cm), deep bowls or jars, and jars. Common morphological features of these specimens are flat upper rims, whose cross sections look like a beak shape. The characteristics of each type of pottery will be discussed as follows:

1) **Painted ware** (Nos. 12–13, 16, 19, 22–24): Most of the paint found on the painted wares are brown, reddish brown and blackish brown. All the paintings are drawn on creamy white or greenish white slip. As for painted designs of jars, parallel bands are drawn from lip to neck on their surfaces. Most of the bowls have a single horizontal band on their upper part of rims. Only one exception is a rim of large bowl which has cross-hatched designs on its upper part (No. 19).

2) **Incised (grooved) ware** (Nos. 15–18, 20, 22): Most of the incisions consist of grooving lines. They are divided into two types: one with grooved lines on its shoulder or carination, and the other with grooved lines on its upper part of rim. The most remakable specimen is No. 20, which has nail-like impressions on ridges between grooved lines. Nos. 16 and 22 have both grooved lines and paint on their rims.

Fabrics of the aforementioned Khabur wares contain much fine sand and vegetable, while grooved wares (Nos. 15, 17, 18) are made of finer fabrics than the other wares. Their surfaces are carefully burnished.

Similar examples to these Khabur wares were found in the Trench B at the same site, and other Tells

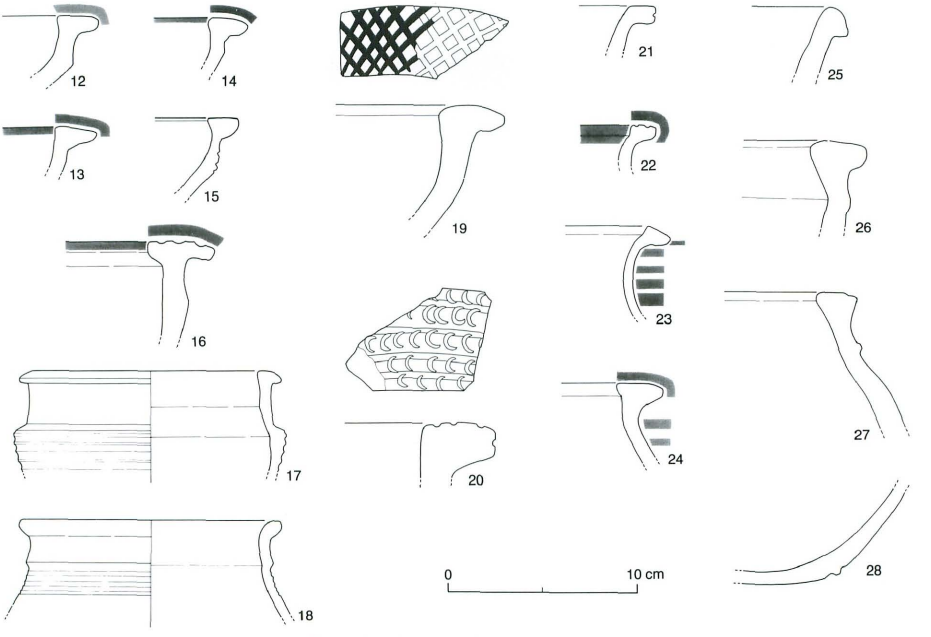


Fig. 4 Pottery from Levels 1a and 1b

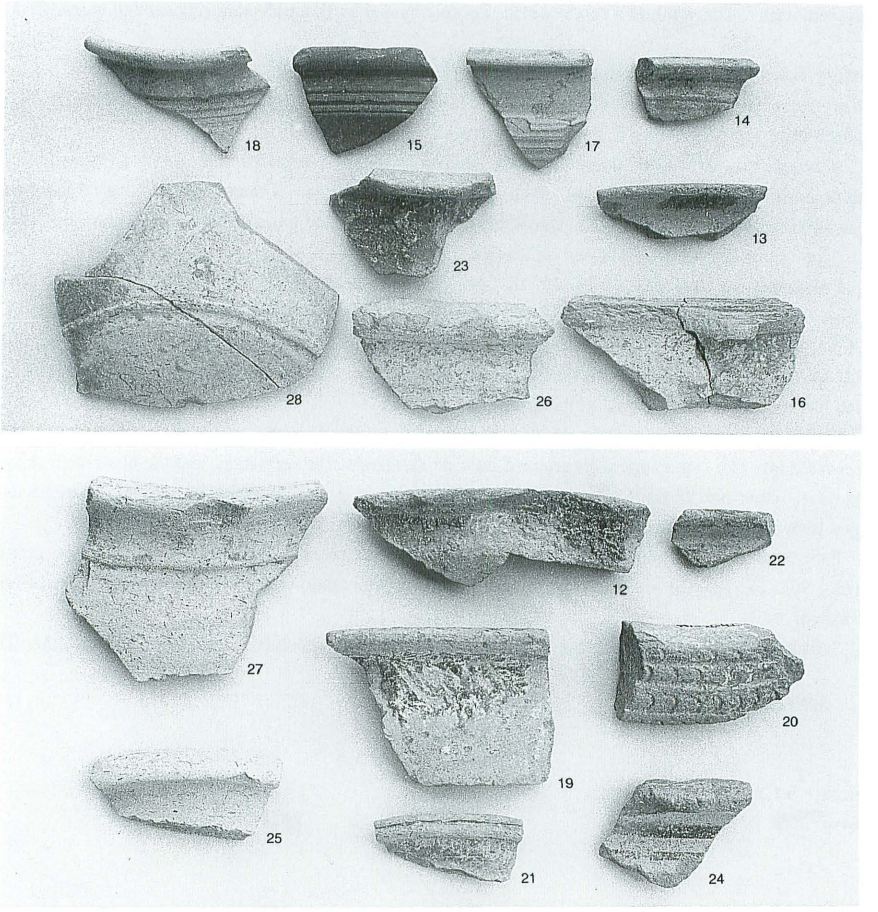


Fig. 5 Pottery from Levels 1a and 1b
*The numbers of the photographs are identical with those in Fig. 4.

such as Fisna, Jigan and Jessary [Fujii *et al.* 1989–90: Fig. 7; Numoto 1988: Figs. 26–28; 1990: Figs. 2, 6; Ii and Kawamata 1984/85: Figs. 8, 9].

<in Figs. 4, 5>

12. Level 1b: Rim of painted bowl; creamy (slip) surfaces; reddish buff core; brown paint; much fine sand, vegetable (2–3 mm) and a little corase sand temper; defaced surface of rim; Rim diam. 30 cm; 1/6 extant.
13. Level 1a: Rim of painted bowl; creamy white (slip) sufaces; reddish buff core; brown paint; much fine sand and vegetable (2 mm) temper; containing chalky particles and gold colored mica; defaced surface; Rim diam. 26 cm; 1/12 extant.
14. Level 1a: Rim of painted bowl; creamy white (slip) outer surface; reddish buff inner surface and core; reddish brown paint; much very fine sand and vegetable (1 mm) temper; containing gold colored mica; defaced surface; Rim diam. about 20–24 cm; 1/25 extant.
15. Level 1a: Rim of bowl with grooved lines; brownish grey surfaces; much fine sand and very sparse vegetable temper; containing much mica or quartz sand; relatively fine fabric; burnished on the top of rim to inner surface (horizontal way);

hard; Rim diam. about 18 cm; 1/20 extant

16. Level 1a: Rim of large painted bowl; greenish white (slip) surfaces; reddish buff core; reddish brown paint; middle amount fine sand, a little coarse sand and much vegetable (3–5 mm) temper; three grooved lines on top of rim; Rim diam. 30 cm; 1/10 extant.
17. Level 1a: Rim of deep bowl with grooved lines; cream (slip) surface; reddish buff core; a little very fine sand temper; fine fabric; burnished on the top of rim to outer surface of the neck (horizontal way); hard; Rim diam. 14 cm; 1/8 extant.
18. Level 1a: Rim of jar with grooved lines; greenish creamy white (slip) surfaces; pinkish core; sparse very fine sand and very sparse fine vegetable temper; relatively fine fabric; hard; Rim diam. 14 cm; 1/5 extant.
19. level 1b: Rim of painted large bowl; cream (slip) outer surface and top of rim; reddish buff inner surface and core; middle amount coarse sand, vegetable (3–5 mm) and much very fine sand temper; defaced painted design; hard; Rim diam. 28–30 cm; 1/10 extant.
20. Level 1b: Large incised rim sherd; greenish cream (slip) surfaces; reddish buff core; much fine sand, very fine sand and vegetable (3 mm) temper; defaced surface; Rim diam. measured about more than 40 cm.
21. Level 1b: Rim of jar; buff surfaces; reddish buff core; much very fine sand and vegetable (2–5 mm) temper; Rim diam. 16–18 cm; 1/8 extant.
22. Level 1b: Rim of painted jar; creamy buff (slip) surfaces; buff core; pale brown paint; much fine sand and vegetable (2 mm) temper; defaced surface; Rim diam. 18–20 cm; 1/12 extant.
23. Level 1a: Rim of painted jar; greenish white (slip) surfaces; reddish buff core; blackish brown paint; much fine sand, vegetable (2–3 mm) and a little coarse sand temper; jypsum sticking outer surface; Rim diam. 10 cm; 1/7 extant.
24. Level 1b: Rim of painted jar; greenish cream (slip) outer surface; reddish buff inner surface and core; brown paint; much fine sand and vegetable (2 mm) temper; containing chalky particles; defaced surface; 1/25 extant.
25. Level 1b: Rim of jar; greenish white surfaces and core; much very fine sand and vegetable (2–5 mm) temper; Rim diam. 18 cm; 1/6 extant.
26. Level 1a: Rim of large bowl; greenish white surfaces; buff/reddish core; large amount vegetable (3 mm), fine sand and a little coarse sand/small stone temper; very rough fabric; defaced surface; Rim diam. measured about more than 40 cm; 1/20 extant.
27. Level 1b: Rim of jar; greenish surfaces and core; much vegetable (2–5 mm) and a little fine sand temper; Rim diam. 20 cm; 1/6 extant.
28. Level 1a: Ring-base sherd; greenish (slip) surface; reddish buff core; much fine sand and vegetable (3 mm) temper; scraped on inner surface; ring-base was made by scraping; scraped on inner surface; Base diam. 16 cm.

Ninevite 5 Grave (Figs. 1, 6)

This pit grave is the so-called "vertical rectangular shaft with burial chamber dug-out on one side near its floor" [Green in press]. The clear plan of recutangular shaft has been recognized on Phase H of the Ninevite 5 level. It is assumed that the shaft cutting face existed upper level than Phase A. Consequently, the depth of the shaft is supposed to be more than 1.5 m. The grave measures about 2.3 m in length. Its main axis is oriented apporoximately north and south. The grave consists of a rectanguler shaft part, which measures about 1.4×1.1 m, and a oval burial chamber, which is about $1.35 \times 0.9 \times 0.7$ m. The bottom of the shaft part has been found on the surface of alluvium soil, while the bottom of the burial chamber had been dug into the alluvium soil toward the north. The ceiling of the chamber was a dome. The section of the main axis shows a boot-like shape. The eastern part of the chamber had been destroyed by Pit 1. It seems that the chamber had been used to be separated from the shaft by a mud-brick wall which was already fall down into the burial chamber, when it was discovered. In this chamber, an adult body lay with the head placed toward the east and was in a bending posture with its right side up. The length of the body measured about 1.1 m. The other remarkable fact is blackish ash with which the body was covered. An excised bowl and a complete small fine cup were found next to the skull. The cup was contained in the excised bowl. Other funerary objects were not found in this grave.

The whole features of this grave are very similar to those of graves found in Tell Mohammed Arab Period 3 [Green in press].

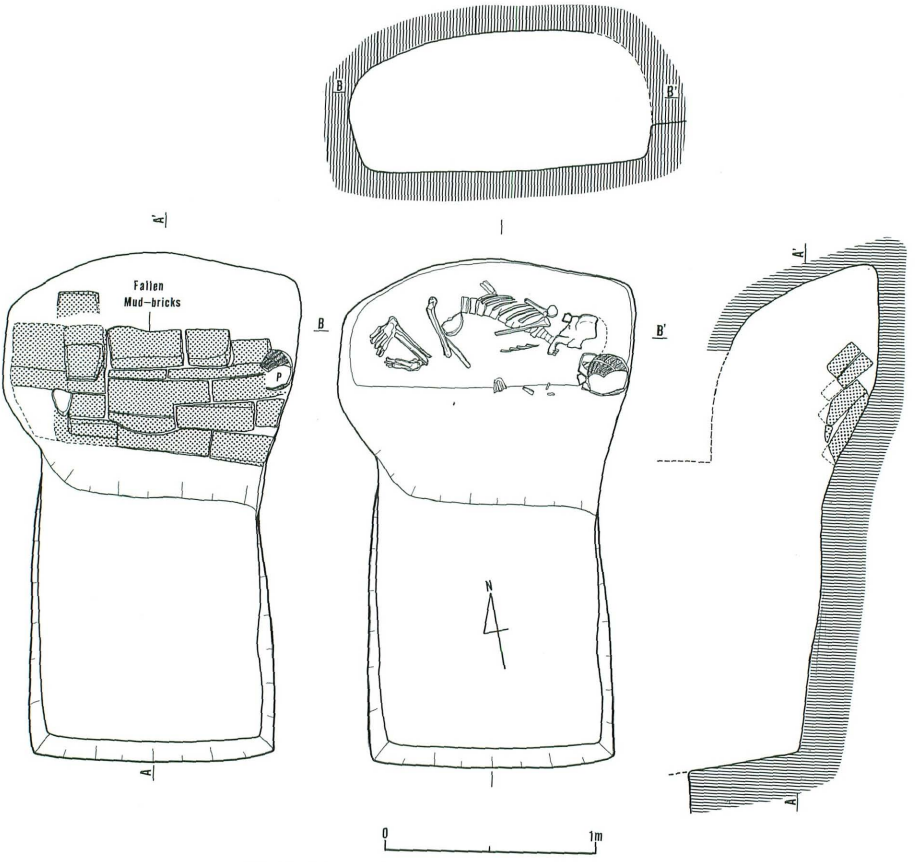


Fig. 6 Plans and Sections of the Ninevite 5 Grave

Pottery from the Ninevite 5 grave (Fig. 7)

Blackish burnished excised bowl: This blackish burnished large excised bowl is a complete specimen which is characterized by a inclined rim, a rounded body and a pointed base. The upper part of the body is divided into two horizontal zones. Vertical incised feather-like motifs and gouging grooves (excised bands) are arranged alternately on the body. Spaces between vertical gouging grooves lack uniformity. The outer surface is mainly blakish grey and partialy greyish brown, while the inner surface is darkish grey, or pale greyish brown. The core is light black/blackish grey. The fabric contains a large amount of fine sand (mainly chalky particles), fine vegetables (2–3 mm) and gold colored mica. As this ware is relatively soft, its firing is supposed to have been done at a low temperture. As for technique, this bowl was made on the wheel and the outer surface was burnished after incising and excising. The width of burnished traces measured between 1.5 and 2 mm, and the traces are basically vertical except for its lip on which the traces are horizontal. As for the inner surface, the bowl is scraped from the middle of the upper body towards the bottom. Especially, from the lower part to the bottom, the body is deeply scraped. The remarkable incising technique is vertical feather incisions which are made up by impressing the surface with an edge of a

supatula-like tool; notches on right lines are sharply incised and well shaped, while notches on left lines are always wider and shallow. These features indicate that the former was incised with sharper end of supatula-like tool than the latter.

A similar example to this excised bowl has not yet found in the Ninevite 5 excised wares. The form is, however, common in excised jars found in Tell Mohammed Arab Period 3 [Killick in press].

Plain fine bowl (cup): This plain fine cup is a complete specimen which is characterized by a beaded rim and a slightly inclined upper part of the body. The most remarkable morphologicial feature of this cup is absence of keen carination on its body. The fabric is tempered only with sparse very fine sand and is greyish green in color. The lower part of the outer surface is finished by the hand wet-smoothing after scraping.

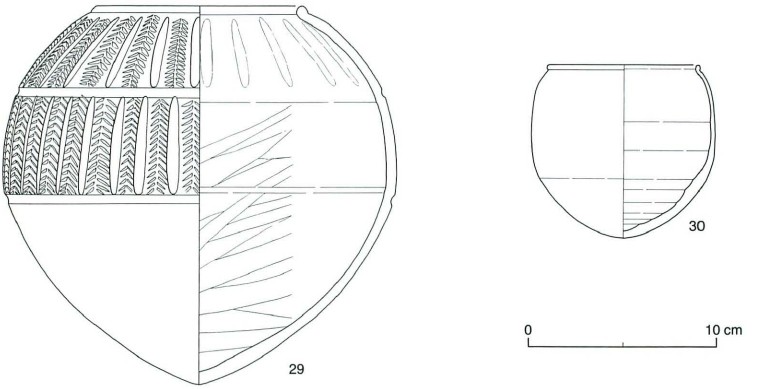


Fig. 7 下 Pottery from the Ninevite 5 Grave

Similar excised bowls and fine cups are found in graves at Tell Mohammed Arab Period 3, as well as those found in other Tells in the Mosul Area. It is, therefore, undoubted that they belonged to the same period as the Period 3 of Mohammed Arab. These specimens are regarded as a typical excised bowl and fine cup in this period.

<in Fig. 7>

29. Grave: Black burnished bowl; complete; greyish black outer surface; dark grey/pale greyish brown inner surface; blackish grey core; much fine sand (chalky particles) and vegetable (2–3 mm) temper; containing gold colored mica; Rim diam. 11.1 cm; Max. diam. 21.1 cm; Height 20 cm.
30. Grave: fine cup; complete; pale grey surfaces; a little very fine sand temper; fine fabric; Rim diam. 8.2 cm; Max. diam. 9.8 cm; Height 9.1 cm.

Ninevite 5 level (Figs. 1, 2)

Stratigraphy: Twelve floors (Phases A to L), which belonged to the Ninevite 5 period, had horizontally accumulated on the alluvium soil. The floors have not well-presurved and more than half of the accumulation had been disturbed by the Hellenistic pits, the stone walls of levels 1a-b and the Ninevite 5 grave. The best presurved part of the accumulation measures about 1.5–1.6 m in thickness at the north-eastern and the north-western conners.

Structures: In Phases A to A', a row of stones, like a small wall, which consists of eight pieces of river stone, has been discovered at the northern part of the east section and measures about 1 m in length.

A mud-brick wall, which was found in Phase H, measured about 35–40 cm in width, and was extended from the center of the north section to the east section. Most parts of this wall in the north section had been destroyed, because the aforementioned Ninevite 5 grave was constructed on the top of this wall later than this period. Foundation of this wall was found in the east section on the floor of Phase K, which was located underneath Phase H. It seems that this wall had been constructed during the time of Phase K and had been used until the period to which Phase H belonged. Six pieces of stone, which measured about 1.2 $\times$0.6 m, were found underneath the south-eastern part of this wall (Pl. 4–b). These stones were placed on Phase J.

A cluster of river stones were found on Phase J in the north of the east section.

Ninevite 5 Pottery

There is a great possibility that some of the Ninevite 5 specimens which were found on the phases from A to E were from deposits of pits belonging to the Hellenistic period. The layers of Phase A to Phase E were disturbed by these pits and the Ninevite 5 grave. Specimens found in these phases are, therefore, not useful very much in order to make statistical comparisons between their features and those of specimens derived from other (lower) occupation phases[2].

Detailed analysis on specimens from these phases is therefore not necessary. Moreover, numbers of specimens from these phases are small. The numbers are not enough to carry out statistical analysis. However, it may be possible to deal with these specimens statistically in order to investigate the chronological order of the "Painted and Early Incised Period" and the features of pottery in this period in their comparison to other specimens derived from other sites. Here, only remarkable features of these specimens are pointed out.

Most of the Ninevite 5 Pottery from Phase A to Phase L illustrated in Figs. 8 to 13, are fragments of rims or bases. They are classified into plain, painted, incised, and fine wares. Their features of shape, fabric and design will be discussed here.

a) Fine ware (green grey ware) (Fig. 8)

Plain and ribbed/layered wares (Nos. 31–45): Fine wares are classified into plain, ribbed/layered and incised wares. They are either carinated or footed bowls. The common features are recognized among these wares. Since they were made on wheel, horizontal lines are clearly seen on their inner surfaces. The fabric is generally fine, and most examples are tempered with sparse fine sand or very fine sand. Among these fine wares, seven specimens contain vegetable. Most examples are well-fired, and their surface colors are mainly greenish or greyish. Some specimen have reserved-slip like surface (Nos. 41, 44). With regard to surface treatments, all examples have traces of wet-smoothing made by using the wheel on the upper part of the carination. Clear horizontal lines remain on thier surfaces. Lower parts of most specimens were finished by the hand wet-smoothing on the outer surfaces after being scraped. Some of them were finished by burnishing or wheel-turn scraping (scraping with wheel-turn).

There is no great difference between shapes of plain and ribbed/layered bowls (both types contain carinated and footed bowls). Most of the rim diameter of carinated bowls are between 6 and 10 cm. However, one large-sized bowl (R.D. 15 cm) is found (No. 32). Footed bowls measure about between 15 and 18 cm in rim diameter. Both of these bowls are characterized by slightly inclined upper part of bodies and the beaded rims.

As for ribbing technical method being adapted to these ribbed wares, a supatura-like tool was used to press bowls when turning a wheel. Shallow grooves of layered wares were also incised by using wheel-turn.

The features of these carinated and footed bowls from Phases F to K are very similar to those of examples from Tells Thalathat and Kutan which belong to the "Painted and Early Incised Period" [Fukai *et al* 1974; Bacholet in press]. This fact indicates that these phases belong to almost the same period as the "Painted and Early Incised Period".

Incised ware (No. 46–51): All the specimens of incised wares illustrated in Fig. 8 are fragments of carinated bowls. Incised designs of Nos. 47 to 50 are characterized by triangles with column dot and waving dot motifs, all of which were excavated from the Phases B or D. Incised designs of Nos. 48 to 50 are composed of notched band motifs. The most remarkable specimen among these is No. 50, which has two band of notches running in the same dirction (right-up). Generally speaking, if two notched bands are found on a bowl, notches of each band run opposit directions; one incised by right-up notches and the other incised by left-up notches. Several examples similar to No. 50 are found in Tell Thalathat[3]. As for morphologicial features of these incised wares, Nos. 49 and 50 have no keen carinations on their bodies. They are closely similar to those of the incised wares from the Levels 7 and 8 of the Trench A at the same site and the Period III b-c of Tell Leilan [Numoto in press; Schwartzs 1987: Figs. 32, 43–4, 6, 8]. All these specimens are believed to have belonged to the "Early Excised Period" [Numoto 1993]. It seems, therefore, that the Phases from A to D belong to this period.

No. 51 is a base of a carinated bowl with incised herringbone motif on its outer surface. This is one of the few examples which have incised designs on the lower part of the body. As for method of incision, firstly, vertical herringbones were incised from bottom to top, and then, horizontal ones were incised. It is supposed that several horizontal heringbones were incised on the body. As this specimen was found in the lower layer of Phase H, it is unlikely that this incised bowl belonged to the same period as other incised wares (Nos. 47–50).

Some incised sherds with notched bands were found in Phases C and E. The majority of incised and excised wares, which have typical motifs of the "Early Excised Period", such as grooved excised motifs and chevron patterns, were collected from disturbed parts of the levels 1a-b and surface soil. This indicates that occupation level belonging to the "Early Excised Period" may exist in an area of this trench.

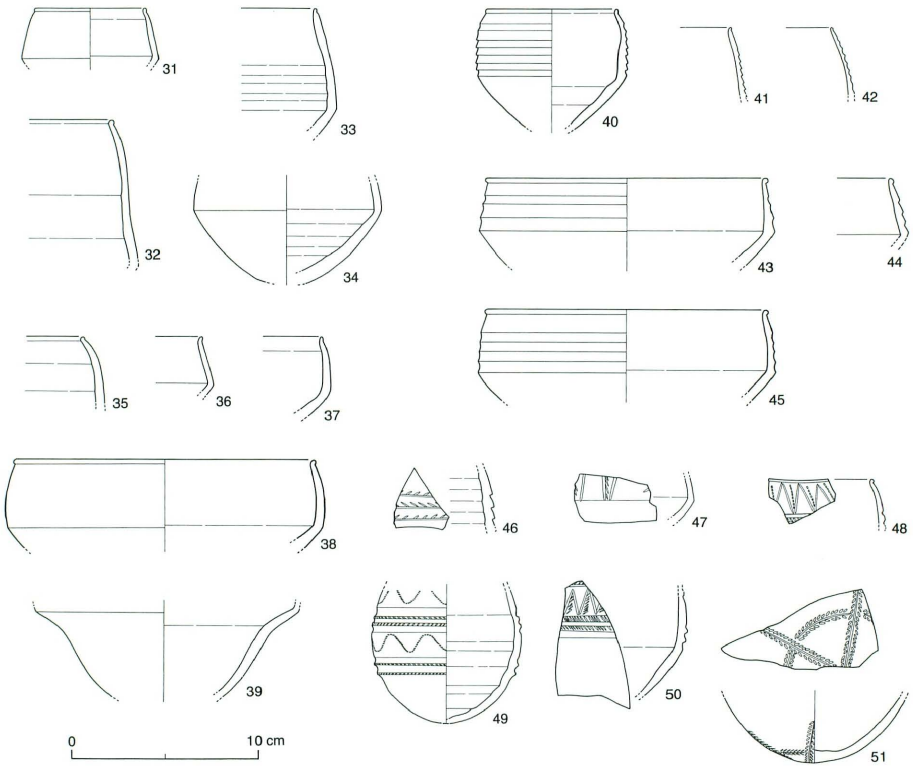


Fig. 8 Fine and Incised Wares from the Ninevite 5 Phases

<in Fig. 8>

31. Phase G: Rim of carinated bowl; greenish grey surfaces and core; sparse very fine sand; fine fabric; hard; Rim diam. 6 cm; 1/5 extant.
32. Phase H: Rim of carinated bowl; greenish surfaces and core; much very fine sand and sparse fine sand temper; fine fabric; Rim diam. 14–16 cm; 1/10 extant.
33. Phase G: Rim of carinated bowl; buff outer surface; pinkish buff inner surface and core; a little very fine sand temper; fine fabric; Rim diam. 12–14 cm; 1/8 extant.
34. Below Phase F: Body of carinated bowl; greenish white surfaces and core; much very fine sand and a little fine sand and vegetable (2–5 mm) temper; the lower part of body was finished by hand wet-smoothing after scraping; Max. diam. 10 cm; 1/3 extant.
35. Below Phase F: Rim of footed bowl; greenish outer surface; pale grey inner surface and core; a little fine sand and vegetable (1–5 mm) temper; containing chalky particles; fine fabric; Rim diam. about 16–18 cm; 1/15 extant.
36. Phase K: Rim of bowl; greenish white (slip) surfaces; buff core; much fine sand and a little vegetable (2–3 mm) temper; containing chalky particles; slightly soft; Rim diam. about 14–16 cm; 1/12 extant.
37. Phase H: Rim of bowl; blackish grey outer surface; grey inner surface and core; much very fine sand temper; carbide sticking outer surface; Rim diam. about 18–20 cm; 1/13 extant.
38. Phase H: Rim of footed bowl; brownish cream outer surface; cream inner surface and core; much very fine sand and middle amount vegetable (2–3 mm) temper; wet-smoothed after scraping lower part of outer surface; slightly soft; Rim diam. 18 cm; 1/6 extant.
39. Phase G: Lower body of footed bowl; greenish upper part of outer surface; gery lower part of outer surface; grey inner surface and core; middle amount vegetable (2 mm) and a little fine sand and coarse sand (small stone) temper; burnished on outer surface; very hard; Max. diam. 14 cm; 1/4 extant.

40. Phase H: Ribbed carinated bowl; greenish grey outer surface; grey inner surface and core; much very fine sand and a little fine sand temper; very hard; Rim diam. 7 cm; 1/4 extant.
41. Phase G: Rim of ribbed carinated bowl; greenish white surfaces and core; natural slip surfaces; a little very fine sand and very sparse vegetable temper; fine fabric; ribbs were made by tool using the wheel-turn; Rim diam. 10 cm; 1/6 extant.
42. Phase G: Rim of ribbed/layered carinated bowl; greenish surfaces; cream core; much very fine sand and a little fine sand temper; slightly fragile; Rim diam. 8cm; 1/7 extant.
43. Phase K: Rim of ribbed/layered footed bowl; a little very fine sand temper; fine fabric; lower part of outer surface: wet-smoothed after scraping; hard; Rim diam. 15 cm; 1/10 extant.
44. Phase H: Rim of ribbed footed bowl; greenish surfaces and core; natural slip inner surface; very fine sand and very sparse fine sand temper; fine fabric; hard; Rim diam. 14–16 cm; 1/12 extant.
45. Phase H: Rim of ribbed footed bowl; greenish cream surfaces and core; middle amount fine sand (chalky particles) and a little vegetable (2–3 mm) temper; burnished on lower part of outer surface; Rim diam. 17 cm; 1/3 extant.
46. Phase B: Upper body of incised/ribbed carinated bowl; greenish surfaces and core; much very fine sand temper.
47. Phase B: Body of incised carinated bowl; greenish white surfaces; greenish core; a little very fine sand temper; fine fabric; lower part of body: wet-smoothed after scraping.
48. Phase B: Rim of incised carinated bowl; grey surfaces and core; no visible temper; very fine fabric; well-fired, hard; Rim diam. 9 cm.
49. Phase D: Body of incised carinated bowl; pale grey surfaces and core; sparse very fine sand temper; fine fabric; lower part of body: wet-smoothed after scraping; Max. diam. 8 cm; 1/4 extant.
50. Phase B: Body of incised carinated bowl; brownish grey surfaces and core; sparse very fine sand temper; fine fabric; scraped on outer surface of lower body; well-fired, hard; Max. diam. about 8 cm.
51. Phase H: base of incised carinated bowl; greenish surfaces; creamy white core; much very fine sand temper; fine fabric; scraped on outer surface; slightly soft; 1/2 extant.

b) **Painted ware** (Figs. 9–12)

Specimens which were found in Phases A to L, were all fragments. Their shapes can roughly be classified into carinated bowl, footed bowl and jar. Common features of these specimens are as follows: the fabrics contain vegetable (2–5 mm in length), fine sand, or coarse sand; the paint is drawn on creamy or white sliped surface. Both inner and outer surfaces of carinated and footed bowls are finished by wet-smoothing, while inner surfaces of lower bodies of large jars are roughly scraped (Fig. 10, Nos. 83–85, 87–89).

Most specimens have typical painted designs of the "Painted and Early Incised Period". The characteristics of design elements found on these specimens are as follows: hatched (grid), crosshatched triangle/rectangle, lozenge, serrated triangles, column of solid triangles, sideways fallen triangles, horizontal ladder, concave lens-like motif, concentric circles.

Few specimens help to reconstruct the whole layout of painted design and therefore only remarkable design layouts, which are drawn on these specimens, are discussed here.

Designs of Nos. 52, 53, 55 and 56 are considered to be panel patterns which are drawn on the upper parts of the carinated or footed bowls. No. 52 has motifs of a cross-hatched triangle and rectangle filled with horizontal lines. These two kinds of motifs are supposed to have drawn alternately. A concave lense-like motif is a main design of No. 53. A motif of cloumn of solid triangles, which is found in No. 55, is supposed to have constituted a part of the "Sandwich motif" [Numoto 1992a: 112]. A hatched rectangle panel and a blank panel, which are drawn alternately on No. 56, show a design belonging to older period than that of the "Painted and Early Incised Period". This design is assumed to have belonged to the "Transitional", or "Intermediate Period". The horizontal belt patterns are found on specimens Nos. 61 to 65. Nos. 61 and 62 belong to the P2 pattern, while Nos. 63 to 65 belong to the P1 pattern [Numoto 1991: 89]. No. 65 is the only example which shows the whole layout of painted design. The motifs which are composed of rows of concentric arcs are painted both on the Zone B (upper part of the body) and upper part of the Zone C (lower part of the body). Side ways fallen triangles, which are the "Sub design element" [*ibid.* 1991], are arranged on the lower part of Zone C. This design composition is one of the most typical

styles in the "Painted and Early Incised Period". Since specimen No. 65 shows slightly different vessel shape and motif of rows of concentric arcs from those found in painted wares which belong to the "Painted and Early Incised Period", this specimen is regarded as the one belonging to the "Intermediate Period" earlier than the "Painted and Early Incised Period" [*ibid.* 1994].

Painted designs arranged on the lower part of bodies (Zone C) of footed bowls are classified as follows: 1) desigs which are assumed to constitute panel patterns (Nos. 67–71); 2) the "Sub design element" which is always found on lower part of Zone C (Nos. 72–74); 3) concentric arcs (Nos. 75–77). On specimen No. 68, oblong blank panels, are arranged. Panel pattern which is similar to this pattern has not yet found in the "Painted and Early Incised Period". However, design element which composes this panel is popular in this period. No. 75 is characterized by fine concentric arcs, which is almost identical with those painted in the "Transitional Period". Nos. 76 and 77 have ladder-like motifs which are drawn between two concentric arcs.

Stem (No. 78) and skirt (No. 79) sherds, which are foot parts of large bowls, were also found. The stem of No. 78 has the "Sandwich motif": "AS" [Numoto 1992: 112]. As relatively big part of the both sides had been cut, it is clear that vertical openings had been arranged. A motif of serrated triangls is found on No. 79. The shape and design shown on both specimens are the typical of large footed bowls in the "Painted and Early Incised Period".

Fragments of Jars can be classified into parts of necks (Zone A) (Fig. 12-o), shoulders (Zone B) (Nos. 80–82), and lower bodies (Zone C) (Nos. 83–89). Designs found in Nos. 80, 81 and 85 are supposed to have composed of naturalitic motifs. It seems that No. 80 has a plant motif, and No. 85 has a goat, or ibix motif. Nos. 82 and 86 show the whole layout of painted designs. As for No. 82, parallels which are composed of vertical thick belts must have been drawn from shoulder (Zone B) through to body (Zone C). Similar design to this is found on a complete jar from Tell Thalathat [Fukai et al. 1974: Pl. 50–1]. No. 86 is believed to have drawn a motif of rows of concentric circles on its shoulder (Zone B). This motif is also drawn repeatedly on the lower part of the body (Zone C). Specimens Nos. 87 to 89 have paints of thick lines. It seems that lines drawn on No. 89 compose parts of concentric arcs, and lines on No. 87 are parts of a panel design. Horizontal lines of No. 88 are believed to have drawn for filling a blank space.

These painted specimens except Nos. 56, 65, 68 and 75 show the typical characteristics of painted designs used in the "Painted and Early Incised Period".

<in Fig. 9>

52. Below Phase F: Rim of painted carinated bowl; greenish cream (slip) outer surfaces; creamy core; deep reddish brown paint; much very fine sand and a little vegetable (2 mm) temper; soft.
53. Phase A: Rim of painted bowl; greenish white (slip) surfaces; greenish white core; dark green paint; middle amount vegetable (2 mm) and a little fine sand temper; relatively fine fabric; soft; Rim diam. about 10 cm.
54. Below Phase F: Rim of painted carinated bowl; greenish white (slip) outer surface; greenish buff core; deep green paint; much very fine sand temper; relatively fine fabric; slightly soft.
55. Deposit of the grave: Rim of painted large footed bowl; greenish white (slip) surfaces; greenish core; deep green paint; a little very fine sand and very sparse vegetable (1 mm) temper; relatively fine fabric; soft.
56. Phase L: Rim of painted footed bowl; greenish surfaces and core; deep green paint; a little vegetable (2–3 mm) and very fine sand temper; relatively fine fabric; hard; Rim diam. 15–20 cm.
57. Phase K: Rim of footed bowl; greenish white (slip) outer surfaces; buff inner surface and core; reddish brown paint; much fine sand (chalky particles) and vegetable (2 mm) temper; slightly soft; defaced paint.
58. Phase B: Body of painted bowl; cream (slip) outer surface; creamy buff inner surface and core; reddish brown paint; much vegetable (2 mm) and a little very fine sand temper; exfoliated paint; slightly soft.
59. Phase H: Body of painted footed bowl; greenish surfaces and core; a little very fine sand and vegetable (2–3 mm) temper; fine fabric; slightly soft.
60. Phase A': Rim of painted footed bowl; greenish white (slip) outer surface; greenish inner surface and core; dark purple paint; middle amount vegetable (2 mm) and a little very fine sand temper; relatively fine fabric.

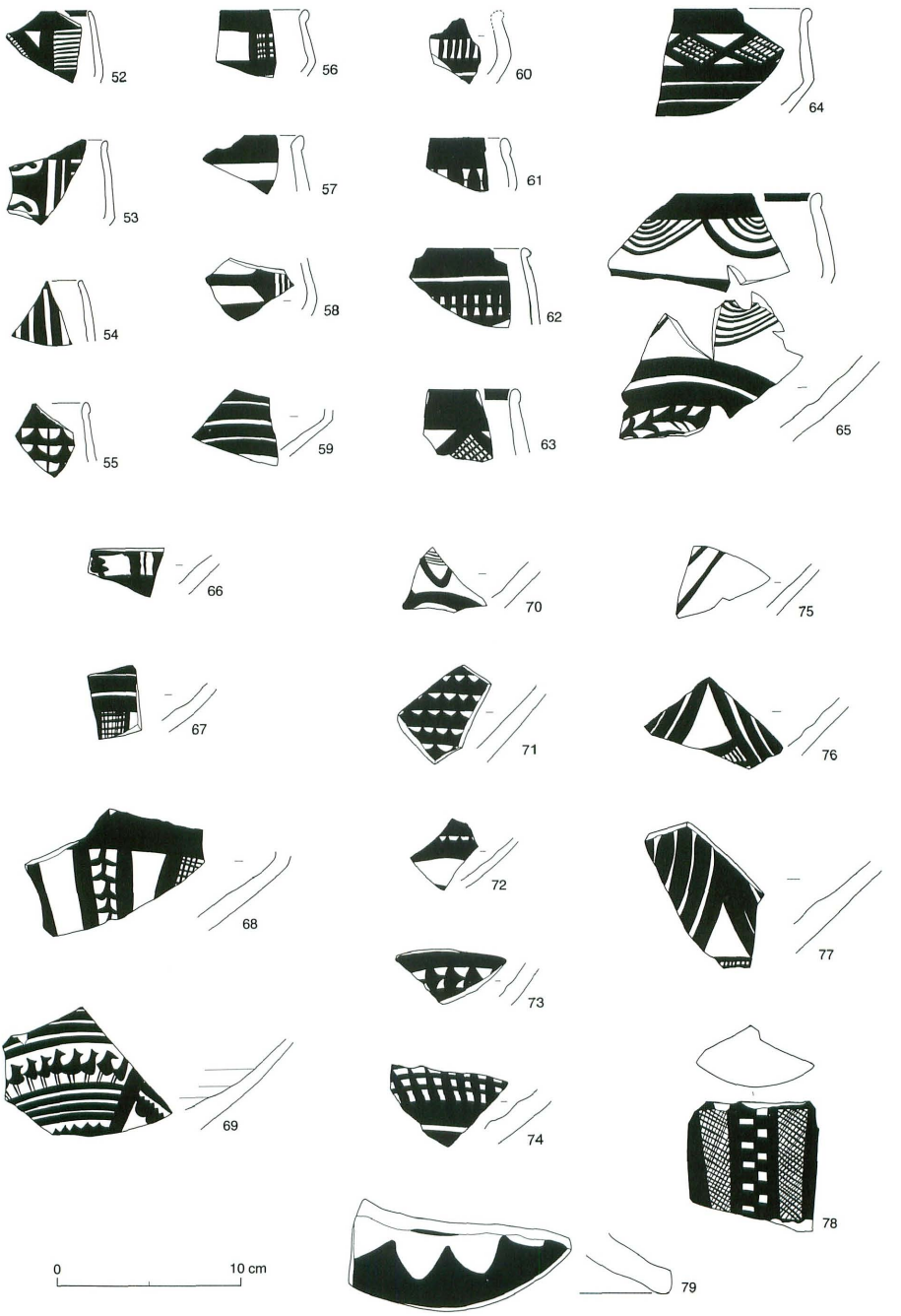


Fig. 9 Painted Pottery from the Ninevite 5 Phases

61. Phase A': Rim of painted footed bowl; greenish white (slip) outer surface; cream inner surface; buff core; reddish brown paint; very sparse fine sand and vegetable temper; fine fabric; slightly soft.
62. Below Phase C: Rim of painted footed bowl; greenish white (slip) surfaces; yellowish green core; brown paint; much very fine sand and vegetable (2 mm) temper; slightly soft; fragile; Rim diam. about 20 cm.
63. Phase C: Rim of painted large footed bowl; greenish white (slip) outer surface; creamy inner surface; greenish core; dark purple paint; much fine sand and middle amount vegetable (2 mm) temper.
64. Phase K: Rim of painted footed bowl; creamy white (slip) surfaces; reddish buff core; dark brown paint; much very fine sand and middle amount of vegetable (2–3 mm) temper; exfoliated outer surface of rim; slightly soft; Rim diam. about 20 cm.
65. Phase L: Painted footed bowl; creamy white (slip) surfaces; reddish buff core; much very fine sand and middle amount vegetable (2–4 mm) temper; Rim diam. about 25–30 cm.
66. Phase B: Body of footed bowl; cream (slip) surfaces; reddish brown paint; a little fine sand and vegetable (2 mm) temper; relatively fine fabric.
67. Phase A: Shoulder of painted jar; creamy white (slip) surfaces; buff core; dark purple paint; vegetable (2 mm) and much very fine sand temper.
68. Phase J: Body of painted footed bowl; greenish surfaces and core; purple paint; much fine sand and a little coarse sand and middle amount vegetable (3–5 mm) temper; hard.
69. Deposit of the grave: Lower body of painted footed bowl; pale creamy (slip) surfaces; creamy core; dark brown paint; a little very fine sand and vegetable (2 mm) temper; fine fabric; exfoliated paint; smoothed surfaces.
70. Phase G: Lower body of painted footed bowl; greenish white (slip) surfaces; buff core; much very fine sand and vegetable (2 mm) temper; slightly soft.
71. Below Phase F: Lower body of painted footed bowl; creamy (slip) surfaces; reddish buff core; pale brown paint; a little very fine sand and vegetable (1–2 mm) temper; relatively fine fabric; hard.
72. Phase J: Painted body sherd; creamy (slip) surfaces; reddish buff core; deep reddish brown paint; a little very fine sand and vegetable (2 mm) temper; fine fabric.
73. Phase J: Lower body of painted footed bowl; creamy white (slip) surfaces; creamy buff core; dark brown paint; a little very fine sand and very sparse vegetable (1 mm) temper.
74. Phase F: Lower body of painted footed bowl; greenish white (slip) surfaces; buff core; dark purplish brown paint; much very fine sand and vegetable (2–3 mm) temper.
75. Phase H: Body of painted footed bowl; greenish white surfaces and core; brownish green paint; much very fine sand temper; relatively fine fabric; defaced surface.
76. Phase H: Lower body of painted footed bowl; greenish white (slip) surfaces; greenish buff core; deep reddish brown paint; much very fine sand and middle amount vegetable (2–3 mm) temper; relatively fine fabric.
77. Phase G: Lower body of painted large footed bowl; creamy (slip) surfaces; buff core; reddish brown paint; much very fine sand and middle amount vegetable (2 mm) temper; hard.
78. Phase B: Stem of footed bowl; greenish white (slip) outer surface; greenish inner surface and core; dark purple paint; much very fine sand and vegetable (2 mm) temper; pallet-cut on inner surface; hard; diam. 10 cm.
79. Below Phase F: Pedestal of painted footed bowl; greenish white (slip) outer surface; reddish buff core; dark purple paint; much fine sand, vegetable (3–5 mm) and a little coarse sand temper; Base diam. 18 cm; 1/3 extant.

<in Figs. 10>

80. Phase H: Shoulder of painted jar; creamy buff surfaces; reddish buff core; brown paint; a little fine sand and vegetable (2 mm) temper; containing chalky particles.
81. Phase G: Shoulder of painted jar; greenish white (slip) outer surface; dark buff innner surface and core; reddish brown paint; much very fine sand and vegetable (3–5 mm) temper; relatively fine fabric.
82. Phase C: Shoulder of painted jar; greenish white (slip) surface; light buff inner surface and core; dark purple paint; much fine sand and very fine sand and vegetable (2 mm) temper; containing chalky particles; jypsum sticking outer surface; exfoliated partly outer surface; diam. about 22–24 cm.
83. Below Phase F: Body of painted jar; smoky surfaces; dark brown core; reddish brown paint; very much vegetable (3–5 mm), a little fine sand and coarse sand temper; scraped on inner surface; soft.
84. Phase K: Body of painted jar; creamy white (slip) outer surface; buff inner surface; reddish buff core; reddish brown paint; much fine sand and vegetable (3–5 mm) temper; scraped on inner surface.
85. Phase E: Body of painted jar or bowl; greenish (slip) outer surface; dark greenish grey inner surface and core; dark purple paint; smoky surfaces; much very fine sand and vegetable (3–5 mm) temper; slightly soft; fragile.
86. Phase B: Body of painted jar or bowl; greenish white (slip) outer surface; greenish inner surface and core; dark green paint; middle amount vegetable (2 mm), a little fine sand and very fine sand temper; hard.

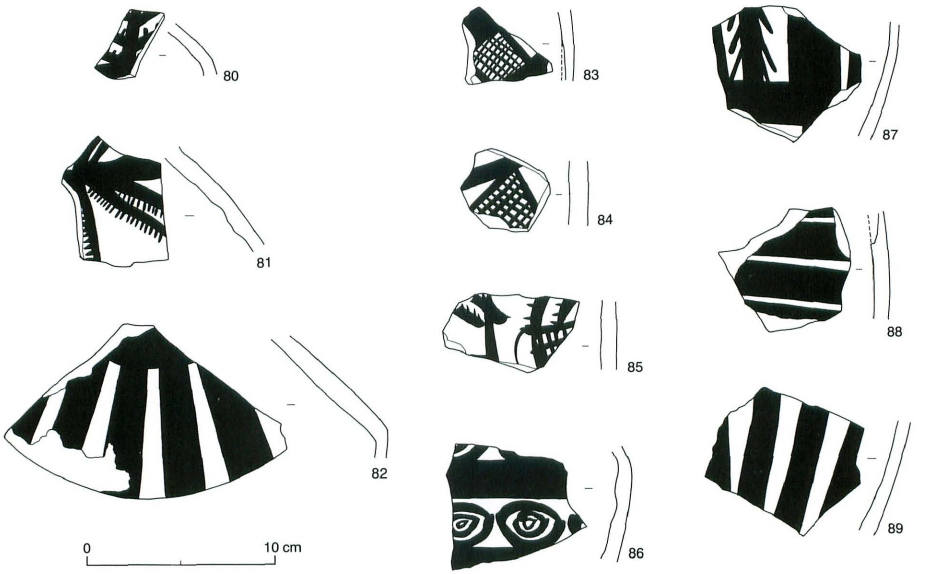


Fig. 10 Painted Pottery from the Ninevite 5 Phases

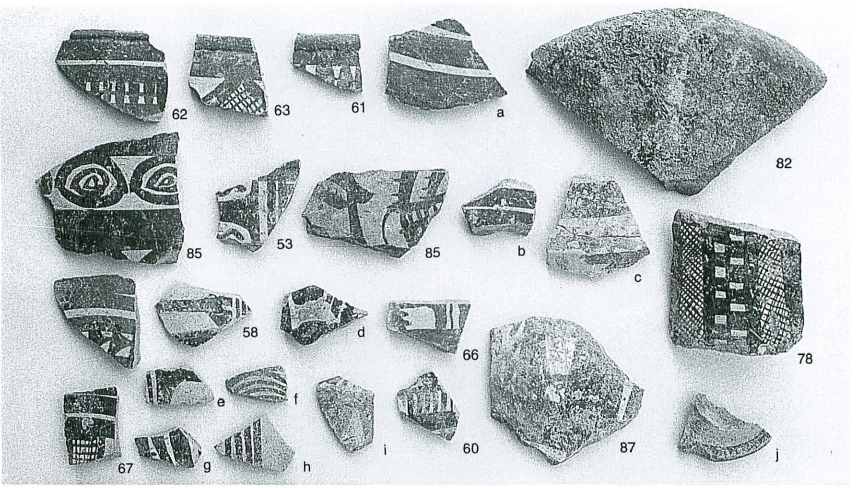


Fig. 11 Painted Pottery from the Ninvite 5 Phases
*The numbers of the photographs are identical with those in Figs. 9, 10.

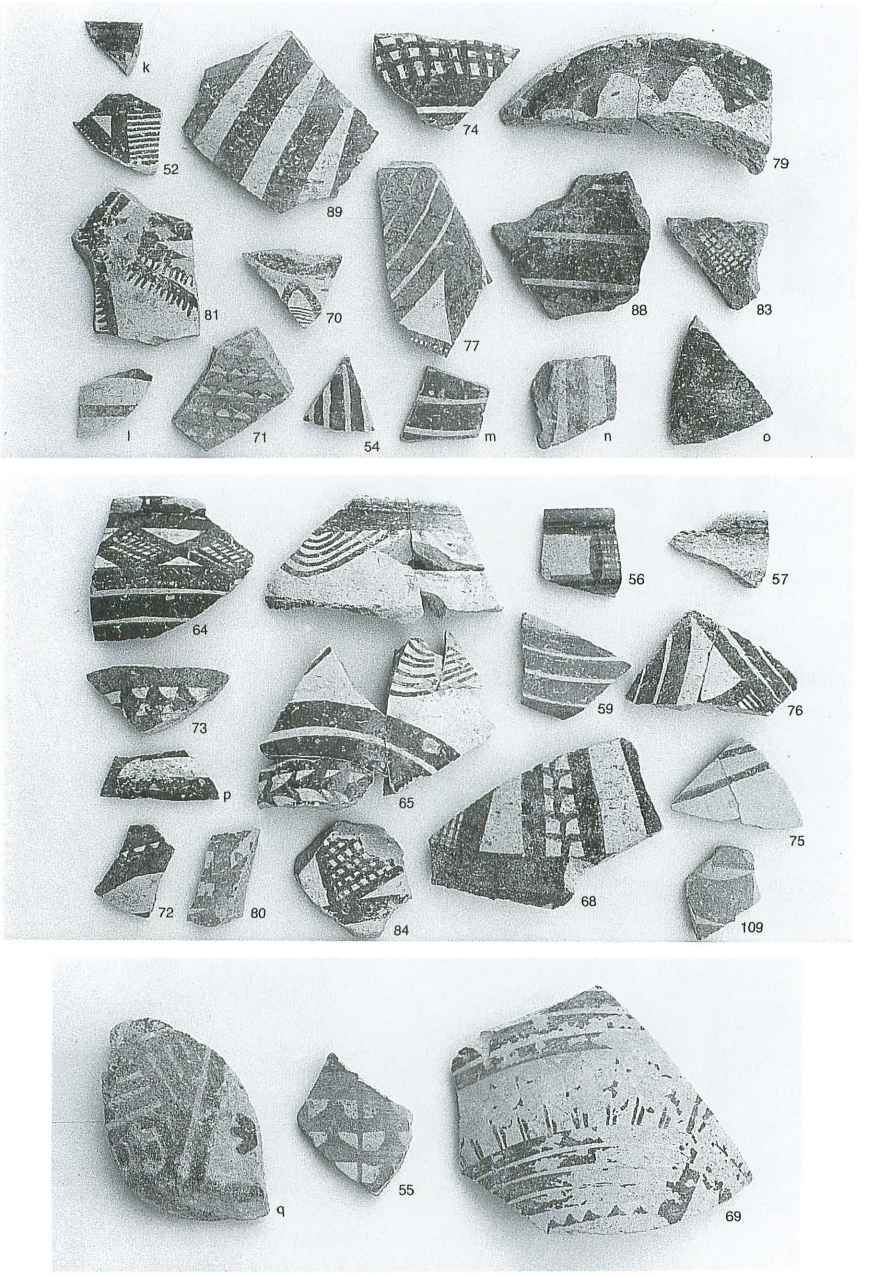


Fig. 12 Painted Pottery from the Ninvite 5 Phases
*The numbers of the phtographs are identical with those in Figs. 9, 10, 13.

87. Phase B: Body of jar; creamy white (slip) outer surface; buff inner surface; pinkish buff core; reddish brown paint; a little fine sand, very fine sand and vegetable (2 mm) temper; relatively fine fabric; scraped on inner surface; hard.
88. Below Phase F: Body of painted jar; pale dark brown inner surface and core; smoky surfaces; deep purple paint; much fine sand and vegetable (2–5 mm) temper; scraped on inner surface; soft.
89. Phase G: Body of painted jar; creamy white (slip) outer surface; buff inner surface; reddish buff core; reddish brown core; much very fine sand, vegetable (3 mm) and a little coarse sand temper; scraped on inner surface.

<in Figs. 11, 12>

a. Phase D: Lower body of jar or footed bowl.
b. Phase D: Body sherd.
c. Phase A: Body of footed bowl.
d. Phase B: Body sherd.
e. Phase E: Concave lense like motif.
f. Phase D: Body sherd.
g. Phase E: Concentric arcs.
h. Phase B: Lower body sherd.
i. Below Phase C: Body of small jar.
j. Below Phase C: Pedestal.
k. Below Phase F: Rim of footed bowl.
l. Below Phase F: Upper body of footed bowl.
m. Below Phase F: Lower body of footed bowl.
n. Below Phase F: Lower body sherd.
o. Phase G: Neck of jar; greenish white (slip) surfaces; light buff core; reddish brown paint; much very fine sand, vegetable (2–3 mm) and a little fine sand temper; slightly soft.
p. Phase J: Upper body of footed bowl; concave lense-like motif.
q. Deposit of the grave: Body of jar or footed bowl.

c) **Middle-large sized vessels** (bowls and Jars) (Fig. 13)

The fabrics of this type of bowls and jars were always with much fine sand and vegetable and their colors are mainly creamy buff or greenish white. It is supposed that most of the rim diameters of these bowls were larger than 25 cm. Their shapes are roughly classified into two: one with carination on the bodies (Nos. 90–93) and the other with open rims (rounded type) (Nos. 94–97). Among the former type of bowls, Nos. 91 and 93 are characterized by inclined rims. Bowls similar to those are found at Tell Fisna [Numoto 1988: Figs. 19, 20]. It is, therefore, that this type of bowls are regarded to have belonged to the period earlier than the "Painted and Early Incised Period". The most remarkable specimen among the open rim bowls is No. 94. Its fabric is relatively fine and the shape is distinctive. A open rim bowl which has shape similar to this has not yet been found at other sites which have the Ninevite 5 levels. Other specimens which have distinctive shape of rims are Nos. 98 and 99.

Three rim sherds of jars which had distinctive shapes were found (Nos. 101, 102, 104). No typical shape of rims which characterize the Ninevite 5 jars were found here.

<in Fig. 13>

90. Phase K: Rim of bowl; greenish white (slip) surfaces; pinkish core; much fine sand and vegetable (2–3 mm) temper; Rim diam. about 16–20 cm; measurment: 3.5×2.5 cm.
91. Phase H: Rim of bowl; creamy white/pinkish buff outer surface; creamy white inner surface; pinkish core; a little fine sand (chalky particles) and very sparse vegetable (3–5 mm) temper; Rim diam. 16–18 cm; 1/8 extant.
92. Phase J: Rim of large bowl; greenish white surfaces and core; much fine sand and vegetable (2 mm) temper; containing chalky particles; grity; lower part of outer surface: wet-smoothed after scraping; Rim diam. about 30 cm.
93. Below Phase F: Rim of large bowl; creamy (slip) surfaces; reddish buff core; much fine sand and vegetable (2 mm) temper; Rim diam. about 30 cm.
94. Phase J: Rim of bowl; creamy buff surfaces; pale dark brown core; very fine sand and chalky particles temper; relatively fine fabric; Rim diam. 26–30 cm.

95. Phase K: Rim of bowl; creamy buff (slip) surfaces; pale black core; much very fine sand and vegetable (3 mm) temper; Rim diam. about 20 cm; measurment: 3.5×3 cm.
96. Below Phase F: Rim of large bowl; creamy buff surfaces; buff core; very much fine sand and much vegetable (2 mm) and sparse coarse sand temper; smoothed outer surface using the tool; Rim diam. about 30 cm; 1/8 extant.
97. Below Phase F: Rim of large bowl; dark blackish brown surfaces and core; middle amount coarse sand and much vegetable (2–3 mm) temper; fragile; Rim diam. about 30 cm.
98. Phase G: Rim of coarse bowl; dark blackish brown outer surface; dark brown inner surface; much vegetable (3–5 mm), a little fine sand and coarse sand temper; hand wet-smoothed on surfaces; soft; Rim diam. about 30 cm.
99. Below Phase F: Rim of bowl; cream (slip) surfaces; reddish pink core; much fine sand and vegetable (3 mm) temper; Rim diam. measured about 32–36 cm; 1/30 extant.
100. Phase L: Rim of large bowl; greenish white (slip) surfaces; buff core; much fine sand (chalky particles) and vegetable (2–3 mm) temper; soft; defaced surface; Rim diam. about 30 cm.
101. Phase L: Rim sherd; buff surfaces; reddish buff core; fine sand and much vegetable (2 mm) temper; Rim diam. about 16 cm; measurment: 4×3 cm.
102. Phase J: Rim of jar; greenish white (slip) surfaces; reddish buff core; much vegetable (3 mm) and fine sand (chalky particles) temper; Rim diam. about 14 cm; 1/12 extant.
103. Phase J: Shoulder of jar; greenish white surfaces and core; much fine sand, a little fine sand, coarse sand and middle amount vegetable (3 mm) temper; carbide stiking on surfaces; measurment: 4×4 cm.
104. Phase H: Rim of coarse jar; light buff outer surface; black inner surface and core; much coarse sand and a little vegetable temper; exfoliated inner surface; Rim diam. about 20 cm.
105. Phase J: Base of jar; greenish white surfaces and core; much fine sand and vegetable (2 mm) temper; outer surface: smoothed after scraping; pallet-cut on bottom; Base diam. 8 cm; 1/3 extant.
106. Phase H: Rim of bowl; creamy white (slip) surfaces; pinkish core; much very fine sand temper; containing gold colored mica; measurment: 3×2.5 cm; Rim diam. 10–12 cm.
107. Phase H: Rim of bowl; creamy (slip) surfaces; pinkish core; much very fine sand temper; containing gold colored mica; measurment: 4.8×2 cm; Rim diam. 12–15 cm; 1/12 extant.
108. Phase H: Rim of carinated bowl; orange/buff outer surface; pale dark brown inner surface and core; much very fine sand and middle amount vegetable (2 mm) temper; Rim diam. about 12–13 cm; 1/8 extant.
109. Phase K: Rim of painted bowl; greenish surfaces and core; deep green paint; much very fine sand and very sparse vegetable (1 mm) temper.
110. Phase H: Rim of small coarse jar with lug; dark buff surfaces; pale black; much vegetable (3 mm) and fine sand temper; not made on wheel; soft; Rim diam. 6 cm; 1/5 extant.
111. Phase L: Small coarse jar with lug; blackish brown outer surface; pale dark brown inner surface; black core; much vegetable (2–3 mm), fine sand and sparse coarse sand temper; outer surface: hand wet-smoothed after rough scraping; not made on wheel; very soft; Rim diam. 10 cm; 1/3 extant.
112. Below Phase F: Rim of coarse bowl with crescent lug; pale reddish dark brown outer surface; dark blackish brown inner surface; blackish dark brown core; much grit (2–3 mm) and very sparse vegetable temper; fragile; Rim. diam. 24 cm; 1/8 extant.
113. Phase G: Lid sherd; light buff surfaces; pale black core; much vegetable (3 mm), middle amount fine sand and coarse sand temper; hand-made; slightly soft; diam. 17 cm; 1/7 extant.
114. Phase H: Handle of lid; greenish white (slip) surface; reddish buff core; much vegetable (3–5 mm), a little fine sand and coarse sand temper.

d) Coarse ware (with lug) (Nos. 110–112)

Three rim sherds of lugged-coarse bowls which had not been made on wheel were found. Their fabrics are tempered with a large amount of white coarse sand. No vegetable are contained in their fabrics. They are believed to have been used for cooking ware. No. 110 is relatively small and has a vertically pierced circurler lug on its rim. Nos. 111 and 112 are typical coarse bowls spread during the Ninevite 5 period: straight, or crescent lugs are fixed on outer surface. These specimens are considered to have had four lugs.

e) The Transitional/Late Uruk Periods, earlier date of the Ninevite 5 period (Nos. 100, 106–19)

Regarding fabrics and rim shapes, three specimens of carinated bowls are characterized as those belonging

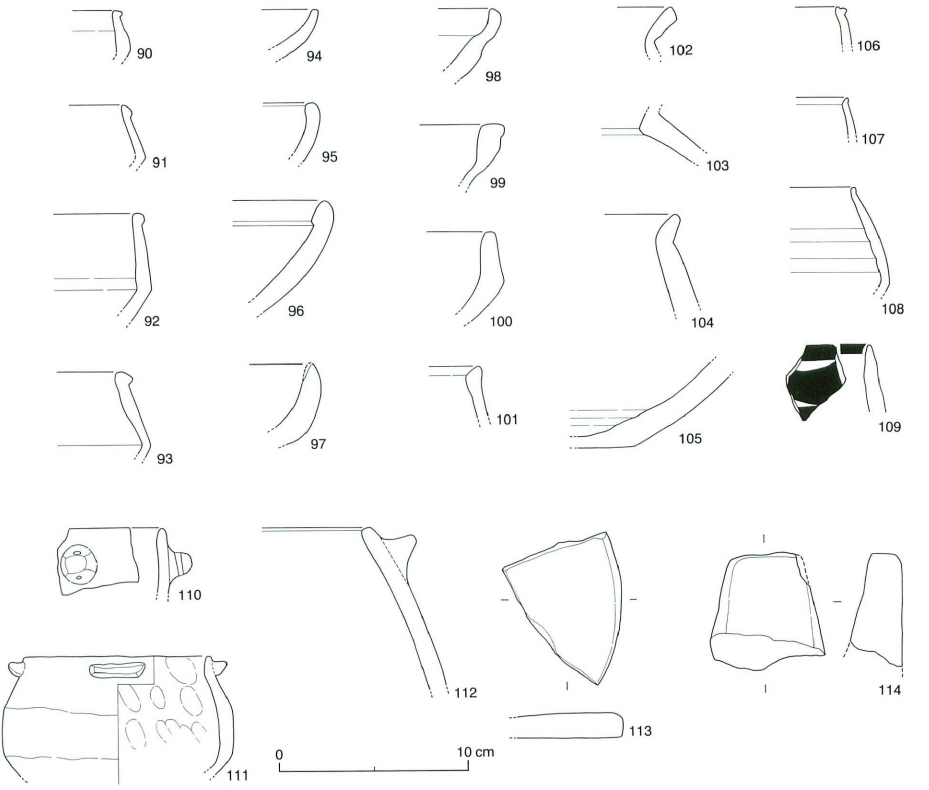


Fig. 13 Plain, Coarse and Other Wares from the Ninevite 5 Phases

to the Late Uruk period (Nos. 106, 107), or the Transitional Period (No. 108). Considering its shape and design features, there is a great possibility that a painted rim sherd of No. 109 is not of the Ninevite 5 pottery. It is clear that these specimens did not belong to occupation floors of Phases from A to L. All of them are believed to have derived from occupation levels other than the Trench C. There is no sufficient evidence that large bowls (Nos. 98, 100) and jars (Nos. 102, 103) belonged to the "Painted and Early Incised Period" in the Ninevite 5 period. There is a possibility that they belong to a period earlier than the "Painted and Early Incised Period". Some sherds of Halaf wares and Late Uruk pottery were also found on the surface of the Trench C and in its disturbed layers.

f) Disk and Handle (Nos. 113, 114)

A disk sherd of No. 113 is a lid, which is very common in the Ninevite 5 period. A fragment of No. 114 is supposed to be a handle of disk-like lid, which has a shape similar to No. 113.

Stone implements (Fig. 14)

Four sickle blades made of flint, which show trace of use on their edges, were found. Remains of bitumen are recognized on one side of the edges of each blade.

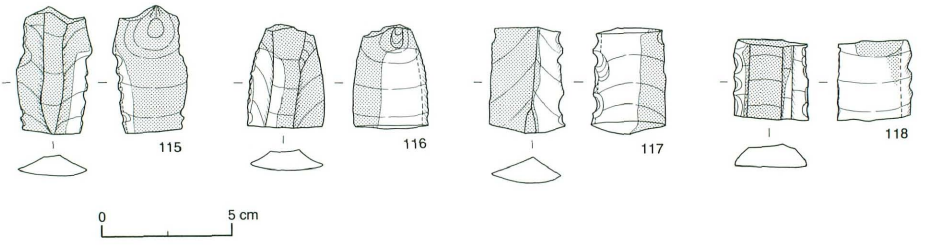


Fig. 14 Stone Blades from the Ninevite 5 Phases

<in Fig. 14>

115. Level 1a: Blade; flint; single-edged with sickle sheen; length 4.8 cm; width 2.6 cm.
116. Below Phase F: Blade; flint; single-edged with sickle sheen; length 4.2 cm; width 2.9 cm.
117. Phase H: Blade; flint; single-edged with sickle sheen; length 4 cm; width 2.8 cm.
118. Phase J: Blade; flint; single-edged with sickle sheen; length 3 cm; width 2.7 cm.

Conclusion

Twelve Ninevite 5 occupation floors were found in Trench C. As has been mentioned, numbers of Ninevite 5 pottery collected here were relatively small, because a large part of these occupation floors were disturbed by the later remains. Since most of the fine and painted wares found in these phases are similar to those of the "Painted and Early Incised Period" in other sites, it is undoubted that they belonged to the same period as the "Painted and Early Incised period"[4].

Pottery derived from each phase may become important materials to establish well defined chronology in the "Painted and Early Incised Period" by comparison with pottery from other sites.

Table 1 shows numbers of three types of decorated ware (ribbed/layered/grooved (horizontal lines), painted, and incised/notched band) found in each phase. Since the numbers of pottery collected from each phase are small, statistical analysis is of no avail to define chronological order by depicting features of these pottery derived from each phase.

It is, however, statistically possible to define their chronological features, when twelve phases are classified into four groups (periods) on the basis of characteristics of accumulations and structures which

Table 1. Sherd count of the decorated Ninerite 5 pottery from the Phases in Trench C

Phase	Ri./La./Gr.	Incised	Not.	Painted	Total
A	2			4	6
A'	3			3	6
B	6	3	1	8	18
C			1	3	4
Below C	2			4	6
D		1		3	4
E			1	3	4
F	1			1	2
Below F	2			13	15
G	2			8	10
H to I	4	1		5	10
J	1			4	5
K	1			4	5
L				2	2
Total	24	5	3	65	97
%	25	5	3	67	100

* Ri.: Ribbed; La.: Layered; Gr.:Grooved; Not.: Notched band

belong to these phases. Numbers and percentage of each ware derived from these four phase groups are as follows:

Phase	Ri./La./Gr.	Incised	Not.	Painted	Total
A to D	13 (29.5%)	4 (9.1%)	2 (4.5%)	25 (56.8%)	44
E to G	5 (16.1%)		1 (3.2%)	25 (80.6%)	31
H to K	6 (30%)	1 (5%)		13 (65%)	20
L				2	2

One of the most remarkable features is that only one incised ware is found on phases lower than the Phase E. Numbers of incised ware decrease on lower phases, while numbers of painted ware increase. This feature is similar to pottery chracteristics derived from the phases G to K of Tell Mohammed Arab Period 2 [Roaf and Killick 1987: 212]. Judging from features of incised designs, Phases A to D (especially Phases A and B) seem to belong to slightly later period than the "Painted and Early Incised Period". They belong to the "Early Excised Period". It is clear that Phases E to K belong to the "Painted and Early Incised Period", since fine and painted wares derived from these phases are very similar to those from Tells Thalathat, Kutan, Rijim, and Mohammed Arab Period 2. As has been discussed in the last paper [Numoto 1994], Phase L is regarded to have belonged to earlier period than the "Painted and Early Incised Period". Considering features of shapes and designs of painted wares, Phase L belongs to the "Intermediate Period".

The author will examine stratigraphical relationships between Ninevite 5 levels of Trench A [Fujii *et al.* 1989–1990] and Trench C in Tell Thuwaij by comparing features of their pottery and ratio of each type ware.

Table 2 shows numbers of each type ware found in the level 7 to the Phase G in the Trench A. As excavated floor space of each level and phase is different, it is difficult to make compare features and ratio of various pottery derived from the Trench A with those of Trench C. Since excavated floor space of Phases A to G is relatively small in comparison to the levels 7 to 10, numbers of specimens from these phases as too small to carry out statistical analysis.

Levels 7 and 8 show the most remarkable characteristics. Most decorated pottery derived from these levels are incised and "grooved excised wares". Two painted sherds which are found in these levels are believed to have derived from lower levels. It is considered that painted pottery had not been produced in the period of the levels 7 and 8, *i.e.* the "Early Excised Period".

The stratigraphy of the level 7 to the Phase G in Trench A is classified into following periods [Numoto

Table 2. Sherd count of the decorated Ninerite 5 pottery from Level 7 to Phase G in Trench A

Level/Phase	Ri./La./Gr.	Incised	Ex.(gr.)	Painted	Total
Level 7	2	5	5	1	13
Level 8	6	24	6	1	37
Level 9	2	8			10
Level 10		5			5
Phase A	3	1		5	9
Phase B		2		1	3
Phase C				5	5
Phase D(fill)	2	1		6	9
Phase D(floor)				2	2
Phase E					
Phase F					
Phase G				3	3
Total	15	46	11	24	96

*Ri.: Ribbed; La.: Layered; Gr.: Grooved; Ex.(gr.): Excised"grooved"

in press]:

Level 7 and 8: the "Early Incised and Early Excised Period"
Level 9: the "Early Excised Period?"
Level 10 and Phases A to D: the "Painted and Early Incised Period"
Phases E to F: the "Transitional Period"

It is assumed that the Level 10 and Phases A to D in Trench A correspond to Phases C to L in Trench C. These occupation levels of Trench A are about 1.5 m thick; the thickness is almost the same as that of Phases C to L in Trench C. Both accumulations are located on the same relative height. It is supposed that the occupation level of this period had horizontally spread over this Tell [Fujii *et al.* 1989–1990].

Because of small numbers of the Ninevite 5 pottery found in both Trenchs A and C, it is difficult to seek relations of strata between Trenchs A and C. Despite this difficulty, it is, to some extent, possible to make a comparison between pottery derived from Trench A and those of Trench C.

Some incised wares found in Phases A and B in Trench C are very similar to those of the levels 7 and 8 in Trench A. Both of occupation levels seems to have been belonged to the same period.

It is regarded that the Phase L, which is the lowermost occupation level of Trench C, corresponds to the Phase D in Trench A and both of them belonged to the "Intermediate Period" [Numoto 1994: 58].

Characteristics of pottery indicate that the occupation levels of the "Early Excised Period", the "Painted and Early Incised Period", and the "Intermediate Period" existed in Trench C. The occupation levels, such as the "Late Incised and Excised", the "Transitional", and the "Late Uruk" periods, all of which existed in Trench A, were not found in Trench C. This fact indicates that the oppupation levels of the "Painted and Early Incised Period" and the "Intermediate Period" in the Ninevite 5 period had widely spread over Tell Thuwaij.

Notes

1) As for contour map of Tell Thuwaij and location of the Trench C, see figure on p. 39 in *Sumer* Vol. 46 [Fujii *et al.* 1989–90].
2) Particularly, diameters of a Hellenistic Pit (Pit 4), which takes a bell shape, become larger, when it becomes deeper. It was difficult to expect the shape, because its diameter was too small on the upper layers, when it was excavated. The excavator thought that deposits of this pit belonged to the Ninevie 5 occupation phases. Consequently, pottery unearthed from these upper phases (A to E) have little importance for chronological study in their comparison to those from lower phases (F to L).
3) Similar features to these specimens are found among materials from Tell Thalathat, which have not yet been discussed. The present author engages research about these materials at present.
4) The Ninevite 5 pottery from Trench C is comparable with that from Tells Thalathat, Kutan, Mohammed Arab, and Rijim.

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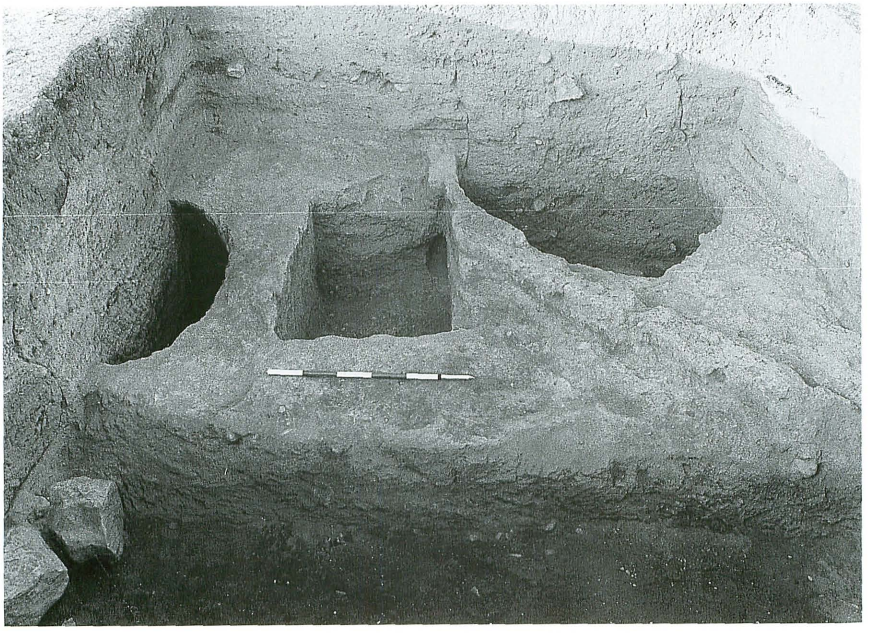
a. General view of Trench C

b. Stone structure of Level 1a

a. Stone foundation wall of Level 1b, from the north-east

b. Stone foundation wall of Level 1b, from the north-west



a. Hellenistic pits, the shaft of the Ninevite 5 grave and the mud-brick wall of Phase H, from the south

b. Hellenistic pits, the shaft of the Ninevite 5 grave and the mud-brick wall of Phase H, from the north

a. Hellenistic pits and the shaft of the Ninevite 5 grave and the mud-brick wall of Phase H, from the east

b. Hellenistic pits, the Ninevite 5 grave and a cluster of stones on Phase J, from south

a. Ninevite 5 grave, from the south

b. Fallen mud-bricks in the Ninevite 5 grave, from the south

a. Fallen mud-bricks and excised pottery in the Ninevite 5 grave, from the east

b. Excised pottery (No. 29) in the Ninevite 5 grave, from the east

a. Ninevite 5 grave, from the east

b. Burial in the Ninevite 5 grave, from the east

a. Burial in the Ninevite 5 grave, from the east

b. Burial in the Ninevite 5 grave, from the south

レバノン，アンテリアス洞窟遺跡採集の上部旧石器資料

吉田　政行*・西秋　良宏**

I.　はじめに

レヴァント地方の上部旧石器時代の編年上，かつて，D. ギャロッドによって「アンテリアン」という段階名が提唱されたことがある〔Garrod 1957〕。それは，近東の上部旧石器資料の中でヨーロッパのオーリナシアン・インダストリーの石器群に類似したものをさしたわけであるが，彼女にその段階名を提唱させた資料はP. ズモッフェンによって報告されたアンテリアス洞窟出土の資料である〔Zumoffen 1908〕。すなわち，アンテリアス洞窟はレヴァント地方上部旧石器時代の編年における示準遺跡として考えられた遺跡である。ギャロッドの提唱した細分案をふまえて，その後，L. コープランドがクサール＝アキル遺跡の層位的な出土例に基づき，レヴァント地方の中部旧石器から上部旧石器，そして続旧石器にかけての新たな編年案を打ち立てることになるのである〔Copeland 1975〕。しかし，このように研究史上意義深い遺跡でありながら，今日までのアンテリアス洞窟遺跡の資料に関する報告は少ないようである。今回，筆者らは東京大学所蔵のアンテリアス洞窟遺跡採集の上部旧石器資料を利用する機会を得た。すでにカタログ化したものであるが〔西秋 1994〕，従来未記載であるので本稿において詳細に記載・分析してみる。また，既刊の諸報告における資料の分析は，主に，タイプリストに基づく型式学的見地から捉えようとするものであった。そこで本稿では，型式学的見地に技術学的視点を加味し，アンテリアス洞窟遺跡の石器に関する技術の一面を推定し，その特徴を把握するとともに，資料の年代的位置付けをおこなうものである。

II.　遺跡の立地と研究史

アンテリアス洞窟遺跡は，レバノン国の首都ベイルートの北約10 km，ワジ＝アンテリアスの右岸，海岸から2 km程のところにかつて存在した（図1）。海抜は約60 mである。比較的大きな洞窟で，幅8～20 m，高さ8 m，奥行きは60 mを計測した。しかしながら，この重要な遺跡は，1964年，採石を目的とするダイナマイトで爆破されたという〔Copeland and Wescombe 1965〕。本遺跡の周辺には，レヴァント地方ひいては近東の旧石器時代研究において多くの資料を提供したクサール＝アキル遺跡などの洞窟遺跡が複数存在する。

遺跡に関する研究史はコープランドが詳しく紹介している〔Copeland 1970〕。同遺跡で最初に遺物が発見されたのは，19世紀の前半，1833年のことである。その後も本遺跡はO. フラースやJ. W. ドーソンらによって調査され，1890年には，ズモッフェンによる発掘調査がおこなわれ，その報告書が出版されている〔Zummofen 1908〕。その中で彼は，アンテリアス遺跡のインダストリーをオーリナシアン・インダストリーと認識し，それが近東で初めて発見された石器時代インダストリーであるとした。前述したようにギャロッドが「アンテリアン」という段階名を設定し，さらに「下部アンテリアン」と「上部アンテリアン」という細分段階名を設定した

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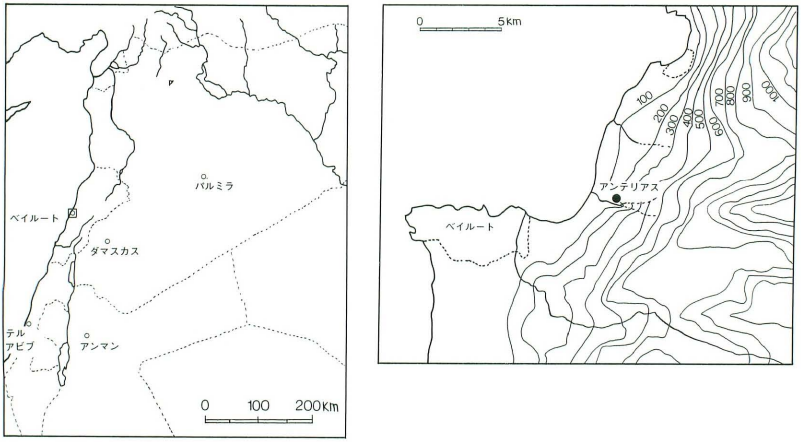

図1　遺跡位置図

のは，その資料に基づいてのことである〔Garrod 1957〕。この段階名は，R. ヌヴィーユ〔Neuville 1951〕の設定したレヴァント地方上部旧石器時代の第3期と第4期に対応するものとされる。ズモッフェンよる調査の後，1947～1948年にかけてはJ. ユーイングが発掘調査をおこなっている。彼は1963年に概報〔Ewing 1963〕を出しただけで，詳細な報告はおこなわなかったが，この概報の中では7つの文化層を識別している。ところが，上述したように1964年にアンテリアス洞窟は石灰岩の採掘のためのダイナマイトによって破壊されてしまい，その姿を見ることは不可能となったのである。

その後，1970年と1971年に相次いでコープランドとF. ウールによって，ユーイングの発掘資料についての報告がおこなわれた〔Copeland 1970; Copeland and Hours 1971〕。この中でコープランドらは，「資料の出土状況に関する情報がきわめて少ないため，もっぱら出土石器だけから得られる情報に基づいて資料の時代的位置付けをおこなわざるを得なかった」としているが，そのような状況の中で，クサール＝アキル遺跡との対比をおこない，アンテリアス遺跡下位層（VII層～V層）については撹乱を受けていない中部旧石器時代から上部旧石器時代への「移行期」に当たる資料と位置付け，クサール＝アキルAインダストリーに相当するとした。上位層（IV層～I層）については，撹乱を受けた可能性が高いとしながらも，IV層をレヴァント地方オーリナシアンB期に，III層はレヴァント地方オーリナシアンB期と初期レヴァント地方オーリナシアンC期の様相が混在するものと位置づけている。II層については後期レヴァント地方オーリナシアンあるいは先ケバラン以外のレヴァント地方オーリナシアン直後のインダストリーを想定し，I層については幾何学的ケバランまたはナトゥーフィアンに相当するとした。クサール＝アキル遺跡との対比から導いたIV層とIII層に関する彼女らの見解に対して，C. バーグマンはやや異なる意見を述べている〔Bergman 1987〕。すなわち，アンテリアス遺跡のIV層は，クサール＝アキル遺跡の10層と9層に対比できるが，III層は，クサール＝アキルの8層と7層に対比できるとはいえないとするものである。彼はアンテリアスのIII層について具体的な見解は述べていないが，被二次加工石器の型式組成がクサール＝アキルの8層と7層に類似する点は認めている一方で，剝離技術に違いがあるとしている。それは，クサール＝アキルの8層と7層は剝片主体の石器群であるのに対して，アンテリアスのIII層は

石刃・細石刃主体の石器群と捉えているからだと思われる。

このように，アンテリアス遺跡の資料については，コープランド，ウール両氏の報告によって，時代的位置付けの一案が出されたといえるが，その後の報告例は少なく，実際のところアンテリアス遺跡の編年観について研究者間の一致はみられないようである。そして，これまでの研究史をみる限り，アンテリアス遺跡の研究に関しては石器の型式組成からみた編年的位置付けの検討はなされているものの，石器の技術的な復原，例えば，どのような石核からどのような方法で剝片や石刃が剝離されていたのかという分析はあまりおこなわれていないといえる。

III.　東京大学調査団による採集資料

1．採集の経緯について

ここで扱う資料を採集したのは，1956年から57年にかけて西アジア各地でジェネラルサーヴェイをおこなった東京大学のイラク・イラン遺跡調査団である〔江上 1958，1959〕。その細かな入手経緯について調査担当者が活字にしたものはない。故佐藤達夫教授夫人静江氏が保管されている未公開書簡，日記等が，それを知る貴重な手がかりである。それらによれば，本資料は故佐藤教授が一人で収集されたものらしいことがわかる。1957年２月13，14両日に集められたという。その詳細は既に述べている〔西秋 1994〕。

分析資料の由来について要点を整理しておくと，次のとおりである。

１）アンテリアス近郊では旧石器資料と新石器資料とが採集されている。旧石器資料はアンテリアス洞窟で得られたものであるが，新石器の石器群は洞窟に向かう途中に発見した開地遺跡で表採されたものである。

２）資料の一部には「I」「II」「III」という注記がなされていた。故佐藤教授の日記には，「第一層，第二層，第三層の上部迄の分を採集。それ以下は危険で採集できない」とある〔西秋 1994：6〕。数字の注記がある資料は断面採集品なのであろう。しかし，どのような層位区分がなされたのかはわからない。

３）それらは「アンテリアス１」「同２」「同３」として登録した。また，新石器時代資料は「同４」とした。さらに，「アンテリアス」とのみ注記された一群もあった。内容を観察した結果，そのほとんどは石核で構成されており，一方で「I」「II」「III」の各資料には石核が全くといってよいほど見られないことがわかった。すなわち，採集者が石核のみを抜き出してまとめておいたものであろう。それらは，「アンテリアス５」として登録している。

2．資料の概要と型式学的分類

以下，「アンテリアス１」から「アンテリアス５」まで，標本群別にその内訳を報告する。なお打割物(debitage) とは二次加工が加えられていない剝片，石刃，削片，砕片を総称したものである。これを含め，以下本稿で採用する石器記載用語は M.-L. イニザンらの著書〔Inizan *et al.* 1992〕に基づいている。

「アンテリアス１」の資料は274点あり，その内訳は表のとおりである（表１）。被二次加工石器は21点あり，型式分類をおこなった結果は表２で示している。

「アンテリアス２」の資料は89点ある。被二次加工石器は12点あり，型式分類の結果は表２のとおりである。

「アンテリアス３」の資料は21点あり，その内訳は表１に示してある。被二次加工石器は含まれていない。

「アンテリアス４」の資料は338点存在するが，上述のように新石器時代のものであるため，本稿では扱わないものとする。

「アンテリアス５」の資料は47点ある。ほとんどが石核で占められる標本群である。被二次加工石器が３点含まれている（表１）。

石刃剝離技術については後述するので，ここでは石器の各型式について記載しておく。分類法はウール〔Hours 1974〕がレバノンの上部旧石器と続旧石器を対象に考案したものを採用する。

掻器（*Grattoirs*）（図２：１～８）：本資料では３つの型式が認められた。最も多い型式は単刃掻器（*Grattoirs en bout*）である（図２：１～５）。本資料の単刃掻器はいずれも素材末端の全辺ではなく，一角にカギ状に刃部が作りつけられているものが多く特徴的である。他の特徴的な型式として，竜骨形掻器（*Grattoirs caréné*）が２点ある（図２：６と７）。これらは石核と技術形態上の区別が難しいが，本資料の年代学的な位置付けに関して重要なものといえる。ほかに石核掻器（*Grattoir massif ou rabot*）が１点あり（図２：８），作業面幅の狭い狭長な石核の左側面に刃部が作られている。石核としての打面角と比べて角度が小さいため，刃部とみなした。

彫器（*Burins*）（図２：９と10，図３，図４：１～３）：彫器は被二次加工石器の中で最も標本数が多く15点ある。４つの型式が認められた。まず竜骨形彫器（*Burins caréné*）が２点ある（図２：９と10）。非常に特徴的であり，いわゆる「オーリナシアン型彫器」に相当するものと思われる。「オーリナシアン型彫器」とは，素材の

表１　採集資料の内訳

	アンテリアス１ 数	(%)	アンテリアス２ 数	(%)	アンテリアス３ 数	(%)	アンテリアス５ 数	(%)	合計 数	(%)
石核	0	(0.0)	3	(3.4)	0	(0.0)	43	(91.5)	46	(10.7)
割裂物	253	(92.3)	74	(83.1)	21	(100)	1	(2.1)	349	(81.0)
被二次加工石器	21	(7.7)	12	(13.5)	0	(0.0)	3	(6.4)	36	(8.4)
合計	274	(100)	89	(100)	21	(100)	47	(100)	431	(100)

表２　被二次加工石器の型式分類

	アンテリアス１ 数	(%)	アンテリアス２ 数	(%)	アンテリアス５ 数	(%)	合計 数	(%)
単刃掻器	4	(19.5)	1	(8.3)	0	(0.0)	5	(13.9)
竜骨形掻器	2	(9.5)	0	(0.0)	0	(0.0)	2	(5.6)
石核掻器	1	(4.8)	0	(0.0)	0	(0.0)	1	(2.8)
竜骨形彫器	1	(4.8)	1	(8.3)	0	(0.0)	2	(5.6)
截断彫器	2	(9.5)	2	(16.7)	2	(66.7)	6	(16.7)
抉入彫器	1	(4.8)	0	(0.0)	0	(0.0)	1	(2.8)
その他の彫器	5	(23.8)	1	(8.3)	0	(0.0)	6	(16.7)
穿孔器	0	(0.0)	1	(8.3)	0	(0.0)	1	(2.8)
截断石器	1	(4.8)	0	(0.0)	0	(0.0)	1	(2.8)
抉入石器	2	(9.5)	1	(8.3)	0	(0.0)	3	(8.3)
連続被二次加工石器	0	(0.0)	2	(16.7)	0	(0.0)	2	(5.6)
複合石器	0	(0.0)	1	(8.3)	1	(33.3)	2	(5.6)
半急角度背面加工細石器	1	(4.8)	1	(8.3)	0	(0.0)	2	(5.6)
腹面加工細石器	1	(4.8)	1	(8.3)	0	(0.0)	2	(5.6)
合計	21	(100)	12	(100)	3	(100)	36	(100)

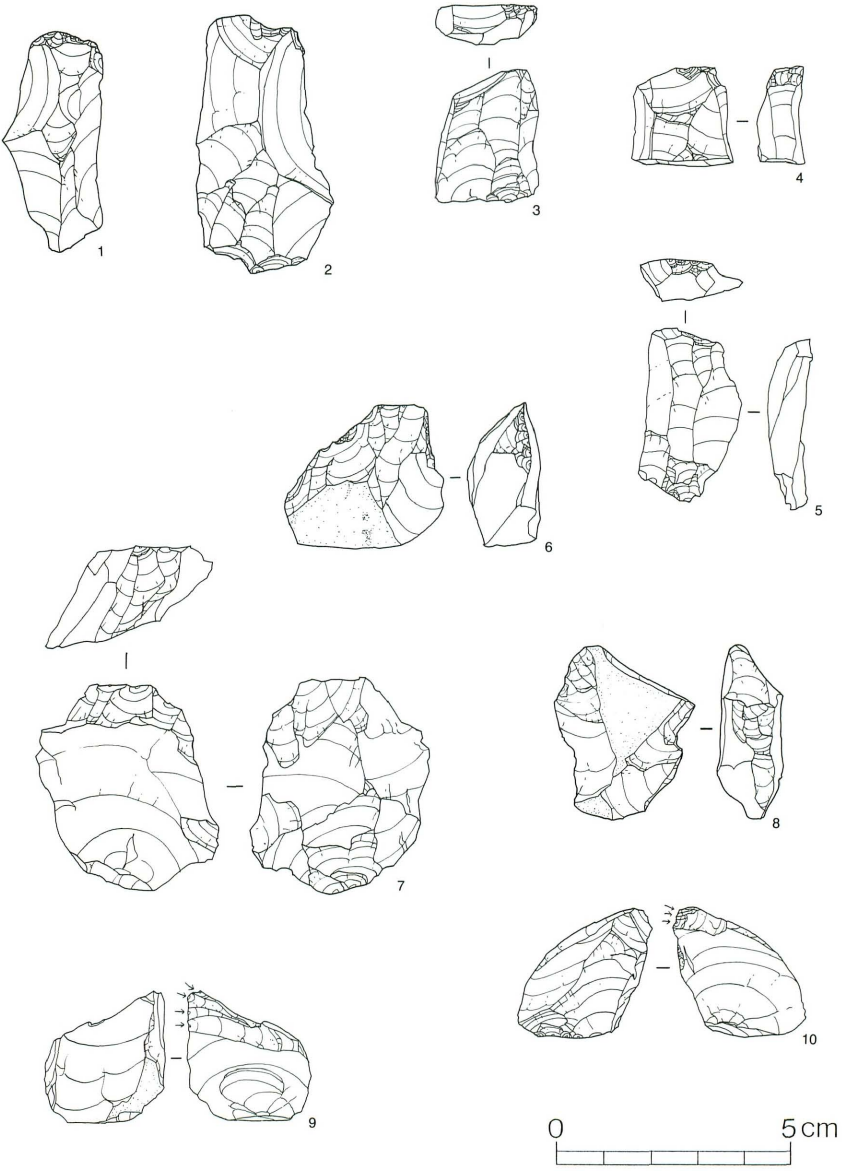

図2　被二次加工石器 (1)
1～5：単刃掻器　6と7：竜骨形掻器　8：石核掻器　9と10：竜骨形彫器

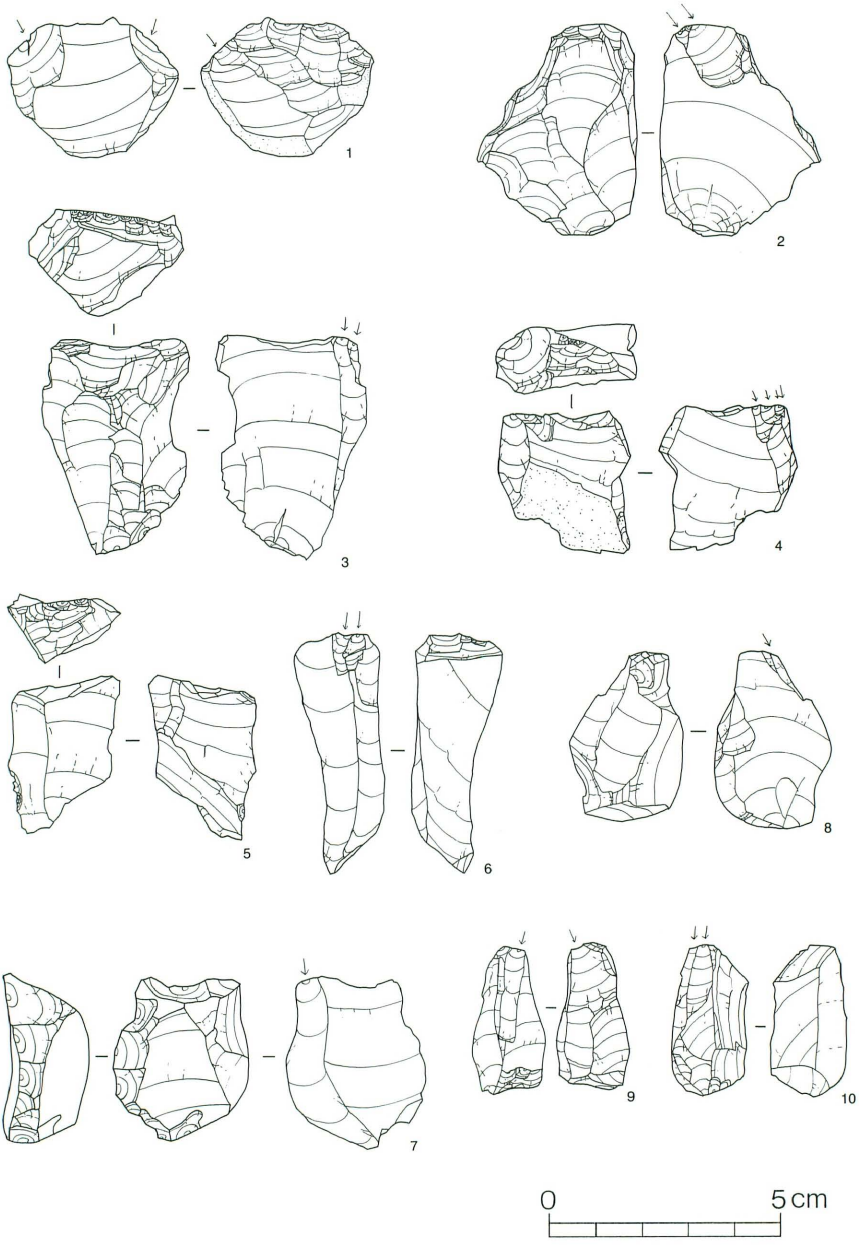

図3　被二次加工石器 (2)
1～6：截断彫器　7：抉入彫器　8～10：その他の彫器

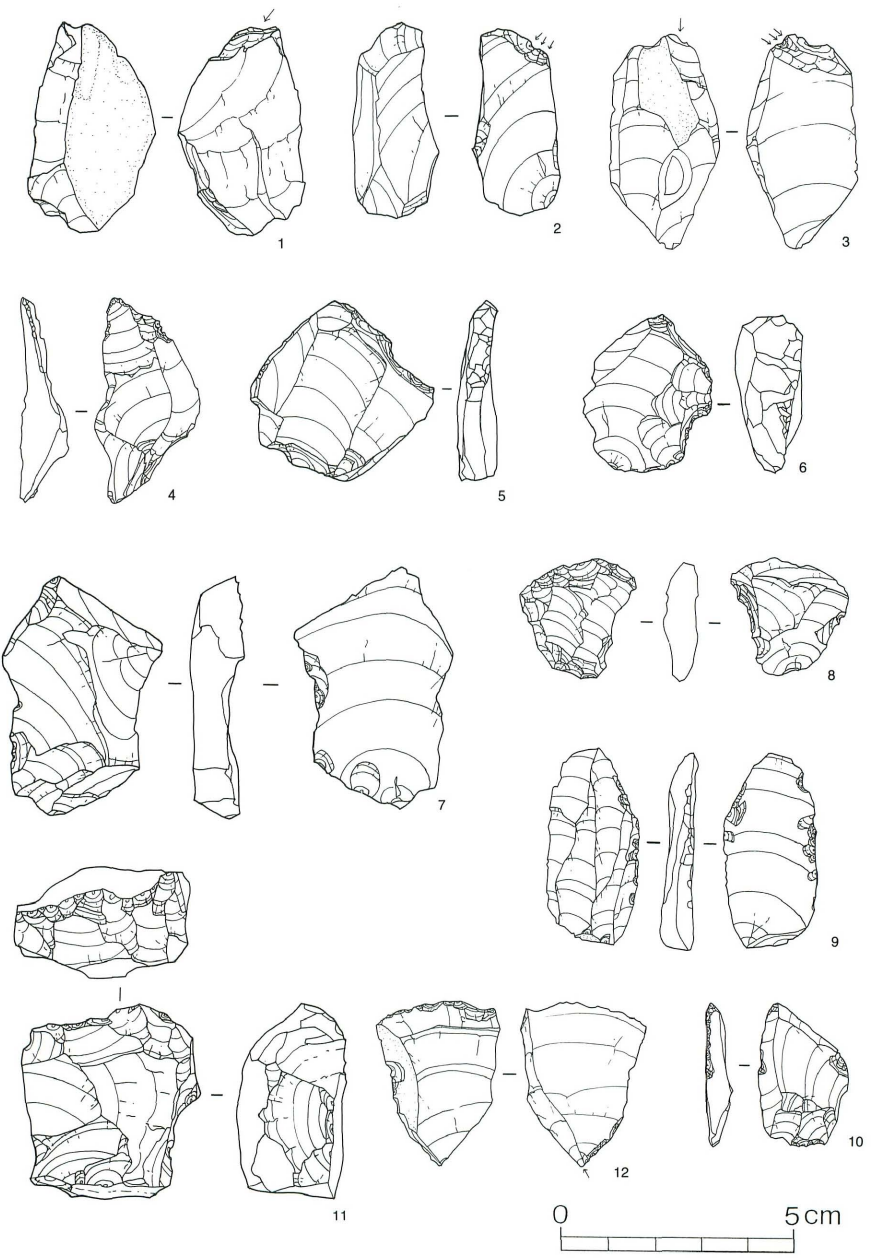

図4　被二次加工石器 (3)
1～3：その他の彫器　4：穿孔器　5：截断石器　6～8：抉入石器　9と10：連続被二次加工石器　11と12：複合石器

片側縁からもう一方の側縁に向けて中軸を斜めに横断するように彫刀面が形成される彫器をいい，普通，彫刀面は２枚以上作られることが多く，レヴァント地方オーリナシアンＢ期によくみられるものである。竜骨形掻器と同様年代学的な位置付けの上で重要な型式である。さらに特徴的な型式として截断彫器（*Burins d'angle sur troncature*）が６点（図３：１～６）と抉入彫器（*Burin d'angle sur encoche*）が１点（図３：７）存在している。これらはレヴァント地方オーリナシアンＣ期で中心的に組成するものである。図３：５は彫刀面が認められないが，截断彫器の未製品と考え，この型式に含めた。そして混合彫器やその他の彫器（*Burins multiple mixte et divers*）が６点存在する（図３：８～10，図４：１～３）。いずれも平面型（flat burins）にちかい。また図３：８～10は竜骨形彫器の粗野なものとも捉えられる。

穿孔器（*Perçoir*）（図４：４）：１点存在し，剝片素材で上下両端に機能部が作られている。

截断石器（*Troncature*）（図４：５）：１点存在し，剝片素材と考えられる。やや凹状に截断されている。

抉入石器（*Encoches*）（図４：６～８）：３点存在しており，二次加工の侵度が深いもの（invasive）とそうでないものの二者がみられる。

連続被二次加工石器（*Outils a posteriori retouches continues*）（図４：９と10）：２点存在し，石刃素材で不規則に二次加工が加えられているもの（図４：９）と剝片素材で細かい加工のあるものである（図４：10）。

複合石器（*Outils multiples*）（図４：11と12）：掻削器（図４：11）と掻彫器（図４：12）の２点である。掻彫器はレヴァント地方オーリナシアンＢ期によくみられるものである。

非幾何学形細石器（*Microlithes non géométriques*）（図５：１～４）：２つの型式が認められた。まず半急角度背面加工細石器（*retouches fines et semi-abruptes directes*）が２点存在している（図５：１と２）。うち１つ（図５：１）はレヴァント地方オーリナシアンＢ期に組成するエルワド型尖頭器に含め得るかもしれないが，先端を欠いているためこの型式に含めた。もう一方の型式として腹面加工細石器（*retouches inverses*）が認められ，２点存在している（図５：３と４）。これらは「ドゥフォー型背つぶし石刃（*lamelles Dufour*）」と思われる。「ドゥフォー型背つぶし石刃」とは，ねじれた細石刃に，相補（alternate）の位置に錯向する二次加工が加えられたもので，レヴァント地方オーリナシアンＣ期によくみられる型式である。

以上の内容となっており，これらはいずれもレヴァント地方オーリナシアンＢ期あるいはＣ期のものと考えられる。コープランドらの報告にも彫器や掻器など本資料に類似した資料が認められることからも，本資料は標本数は少ないものの型式学的な見地からレヴァント地方オーリナシアン・インダストリー末期のものと思われる。

次項では技術学的な分析を行う。先に述べたように層位が不明であり，しかも，各群に一見して差がみられな

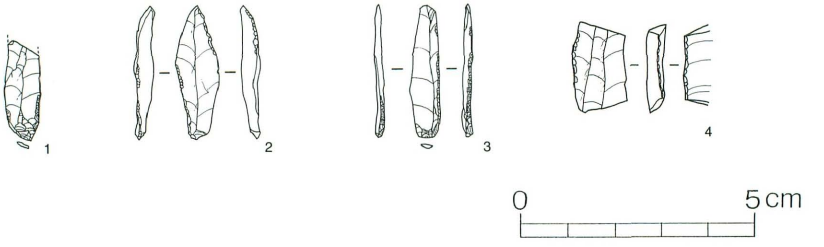

図５　被二次加工石器（4）
１と２：半急角度背面加工細石器　３と４：腹面加工細石器

いため，これら「アンテリアス１・２・３・５」をまとめて一つの石器群として分析することにする。

IV.　分析の目的と方法

分析の目的は，アンテリアス洞窟遺跡採集石器に関する石器技術の復原である。F. ボルドらが開発した，「タイプリスト」と「指数（*indice*）」に基づくインダストリー分析法は先にコープランドらによって採用されているが，ここではその方法は採用していない。本分析は原石獲得から製作，使用，維持，遺棄・廃棄に至る行動連鎖（*chaîne opératoire*）を再構築することを目的とし，そのための属性分析を行う。アンテリアス洞窟ではいくつかの連鎖が実行されていたと考えられる。この連鎖複合体をときほぐしながら「人間行動」を探求するのが本来のすじであろうが，本資料は標本数が少ない点，また資料の採集に偏りがみられることから，当面の課題として行動連鎖における剝離技術工程を復原することとしたい。とりわけ石刃の剝離技術に注目することとする。

分析の基準となる属性には，技術学的観点から有効と思われるものを採用し，特に打割物の打面の大きさ・打面角・背面構成・側面観，そして石核の作業面の位置や大きさ・打面角を柱として用いている。

以下，本分析で用いている術語について若干の説明をしておく。

石核

凹面剝離面と原礫面，節理面のみで構成されているもの。ただし剝片を素材としている場合には剝片の腹面である凸面を凹面が切っているものに限る。しかし本資料の石核と被二次加工石器との識別は難しいものであった。特に竜骨形石器との識別が難しい。バーグマンは素材という観点から石核と区別しているので〔Bergman 1987：12〕，クサール＝アキル遺跡では竜骨形石器とされるものが数多く出土している。本資料で石核としたものの素材を確認すると，剝片素材の可能性があるものがいくつか存在している（図８：１・９・11，図９：２と８など）。しかし，石核の素材を識別することは困難であり，本稿ではバーグマンの基準を厳密なかたちでは採用しえていない。そのため本稿では石核と竜骨形石器の弁別基準を呈示できていないが，石核としたものから竜骨形石器を分離するために，現状で予察としての基準をあげるとすれば，(1)打面が単打面でかつ平坦でうねりのない打面であること。(2)打面角が50～65°の鋭角であること。(3)後述する石核の形態分類で６類に相当するような奥行きのあるものであること，の三点があげられようか。本資料の図８の７，図９の２，図10の３といった石核が竜骨形石器として捉えられる可能性がある。

単打面石核とは石核で打面が１面だけに限られるものをいう。打面転位石核とは石核で打面が２面以上のものをいい，作業面が表裏両面にある場合も含む。消耗石核とは剝離作業がかなり進行して賽子状に小形化したものをさす。これらの分類とは別に石核を形態から６つに分けた（図６）。１類，２類，３類は正面長が正面幅の２

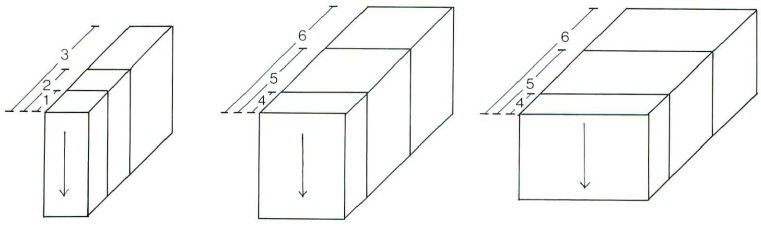

図６　石核形態分類模式図

倍以上あるものをさし，4類，5類，6類は正面長が正面幅の2倍にみたないものをさす。また打面もいくつかの種類に分類した。単剥離打面とは1枚の剥離面からなるものをいう。複剥離打面とは2枚以上の剥離面からなるものを指し，ここには打面調整痕のある調整打面も含まれる。原面打面とは原礫面からなるものをいう。

打割物

石刃とは長さが幅の2倍以上のものをいう。剥片とは長さが幅の2倍に満たないものを指す。砕片とは上記二者と異なり，打点，リング，打瘤，腹面が不明瞭であり，長さが10 mm に満たないものを指す。打面の種類について，単剥離打面と複剥離打面は石核のものと変わらない。小打面とは点状や線状のものをいう。つぶれ打面とは打点が背面に近すぎて打面が残らないものを指す。背面構成は「単方向」「対向」「交差」の三者に，側縁は「平行」「収束」「拡大」の三者に，末端形状は「羽状」「外反」「内反」の三者に，側面観は「直線」「内湾」「ねじれ」の三者に分類している。これらはクサール＝アキル遺跡の石器群と比較する上で役立つようバーグマンがおこなった分類をなるべく踏襲したものである〔Bergman 1987：281-282〕。

V.　アンテリアス洞窟遺跡の剥離技術

1．石核

分析した石核は46点あり，その内訳は表の通りである（表3）。石刃石核は33点で71.7%を占め，剥片石核が13点で28.3%である。剥片石核としたものの中には石刃を生産していた可能性が考えられるものが数点存在し，両者の識別は非常に難しい。消耗石核が4点存在するが，一連の剥離作業がかなり進行したためにその技術的特徴が乱されているので今回の分析対象からは外してある。分析の対象とした石核は最終的に42点である。

(1)　剥片石核

分析した剥片石核は9点である（図7）。単打面石核は2点のみで，残りは打面転位石核である。最大のものは46×39×57 mm の単打面剥片石核（図7：1）であり，最小のものは21×23×23 mm の打面転位1回剥片石核（図7：5）である。形態分類の結果を表4に示してある。4類が多いようである。作業面の大きさに比べて，奥行きの短さが目立っている。原礫面の有無についてはあるものとないものがほぼ同率である（表5）。打面奥／幅に関してはすべて1.5未満であり，奥行きは幅とほぼ同じ寸法である（表5）。剥片石核は数が少ないが，その中では打面転位をおこなうものが多いことが指摘できるようである。

(2)　石刃石核

剥片石核に対し石刃石核は資料数がいくらか多いが，そのほとんどが単打面石刃石核（図8～10）である。単打面石刃石核の平均的な大きさは35×27×30 mm（標準偏差7・9・10）である。打面角の平均値は63°（標準偏差7.7）であり，鋭角的である。打面種は単剥離面のもの（図8：1～5，11，図9：6，8，9など）が14点で61%を占め，複剥離面のもの（図8：7と10，図9：3と5など）が9点，39%である。複剥離打面のもののうち打面調整痕をもつもの（図8：7，8，10，図9：5など）が6点存在している。また，作業面と打面との交線直下に小剥離痕がはっきりみられるものが20点（87%）ある。この小剥離痕については使用痕ないし二次加工として「石核削器」の根拠にする研究者もいる〔藤本 1982〕。さらに興味深いのは剥離作業軸が，石核の正面長軸に対して斜めにずれているものが多くみられ（図8：1～4，6～11，図9：3，5～9，図10：1など），19点（82.6%）存在している。それらを正面からみると打面が石核正面長軸に対して直交ではなく斜交し

表3　石核分類

	剝片石核 数	(%)	石刃石核 数	(%)	合計 数	(%)
単打面石核	2	(15.4)	23	(69.7)	25	(54.3)
打面転移1回石核	4	(30.8)	8	(24.2)	12	(26.1)
打面転移2回石核	3	(23.1)	2	(6.1)	5	(10.9)
消耗石核	4	(30.8)	0	(0.0)	4	(8.7)
合計	13	(100)	33	(100)	46	(100)

表4　石核形態分類（%）

	1類	2類	3類	4類	5類	6類	合計
剝片石核（N=9）	0.0	0.0	0.0	77.8	0.0	22.2	100
単打面石刃石核（N=23）	13.0	34.8	8.7	21.7	0.0	21.7	100
打面転位石刃石核（N=10）	10.0	20.0	10.0	20.0	10.0	30.0	100
合計	9.5	23.8	7.1	33.3	2.4	23.8	100

表5　石核の形質比較（%）

原面有無	あり	なし	合計
剝片石核（N=9）	55.6	44.4	100
単打面石刃石核（N=23）	30.4	69.6	100
打面転位石刃石核（N=10）	20.0	80.0	100
合計（N=42）	33.3	66.7	100

石核打面奥／幅	0.5～	1.0～	1.5～	2.0～	合計
剝片石核（N=9）	55.6	44.4	0.0	0.0	100
単打面石刃石核（N=23）	34.8	39.1	21.7	4.3	100
打面転位石刃石核（N=10）	30.0	60.0	10.0	0.0	100
合計（N=42）	38.1	45.2	14.3	2.4	100

ているものが多く，そういった資料が17点（74%）をしめる。また打面を真上からみた場合の剝離作業位置を観察すると，中央から左右どちらかにかけて石刃が剝離されているものが10点（43%）存在している。形態分類の結果は表4に示した。2類が最も多いといえる。原面については原礫面を残さないものが多いが（表5），残す場合は裏面の半分以上の範囲に残す場合が多い。打面奥／幅は1.5未満が多いが，1.5以上も16%存在している（表5）。つまり，扁平なものだけでなく，奥行きのあるものが組成しているのである。

打面転位石刃石核は単打面石刃石核に比べて数が少ない（図11）。大きさでは最大のものが36×35×23 mmの打面転位1回石核であり（図11：6），最小のものは22×28×30 mmの打面転位2回石核である（図11：10）。しかしこの最小の例は飛び抜けて小さいものと考えられ，他は総じて30 mm立方に近く，また平均値においては単打面石核よりも数値が小さいものとなるが，ばらつきを考慮すると両者の大きさにさほど差はないようである。打面転位のあり方としては180°転位を伴うものが10点中9点存在している（図11：1～8，10）。これについては石核の奥行きは別にして，石刃剝離の際，作業面の長さにする部分が常に一定していたことが推測でき

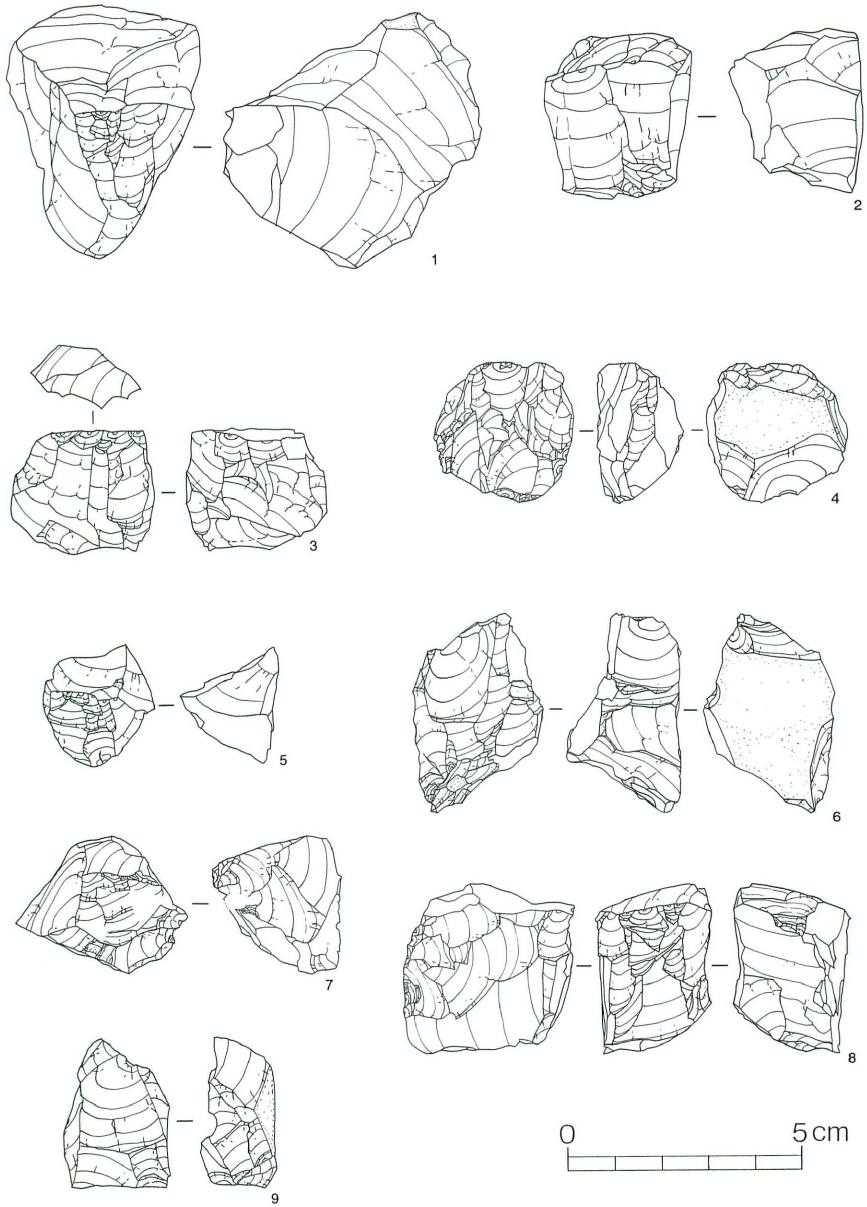

図7　剥片石核
1と2：単打面剥片石核　3～6：打面転位1回剥片石核　7～9：打面転位2回剥片石核

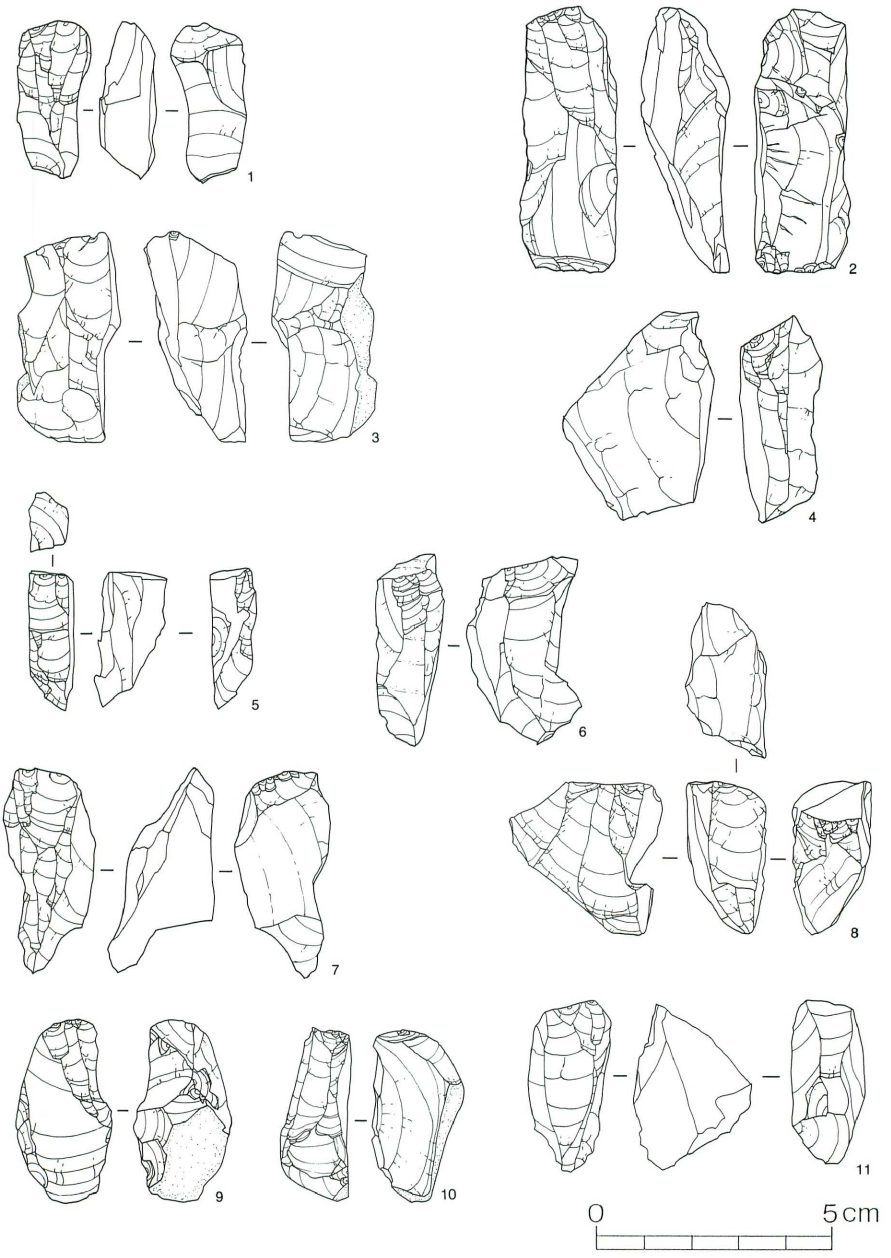

図8　単打面石刃石核 (1)
1～3：1類　4～11：2類

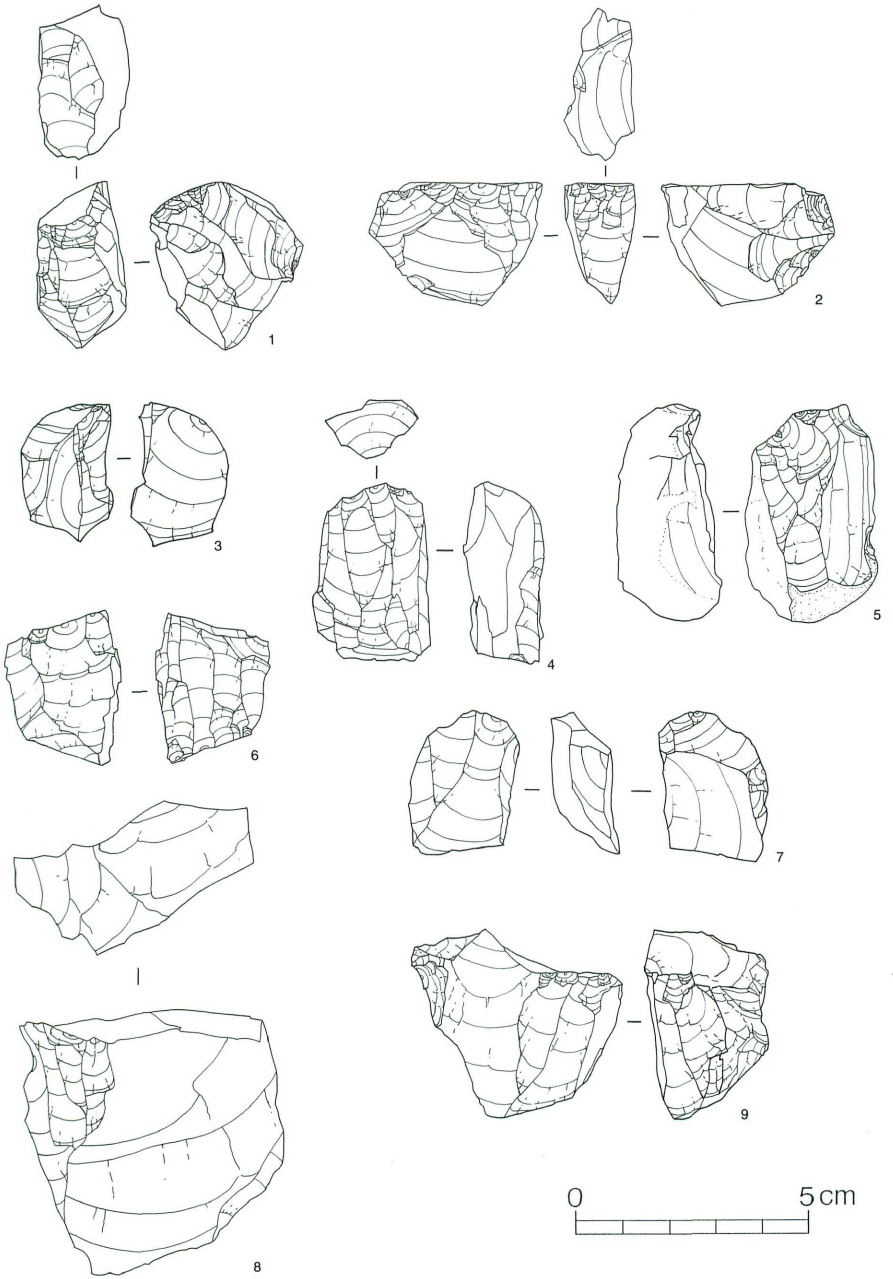

図9　単打面石刃石核 (2)
1と2：3類　3～7：4類　8と9：6類

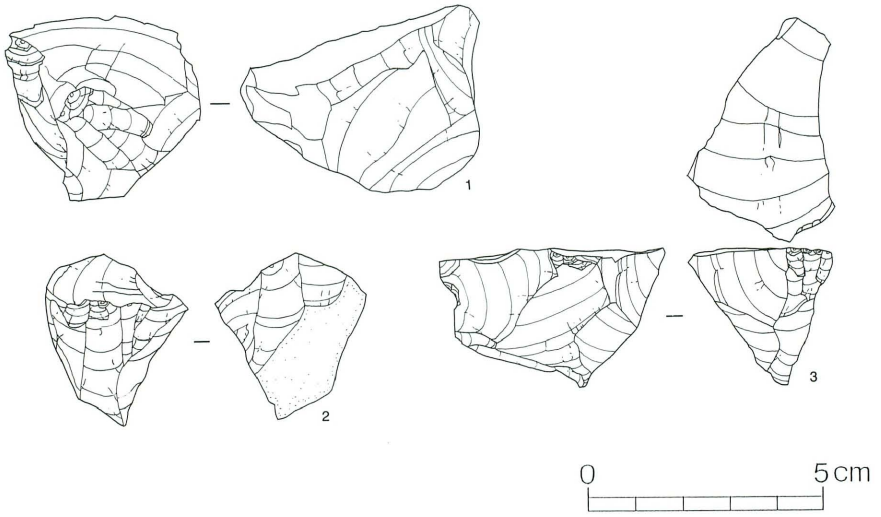

図10　単打面石刃石核 (3)
1～3：6類

る。また形態分類には偏りはみられない（表4）。原面の有無では原礫面を残さないものが80%あり，打面奥／幅では1.5未満がほとんどである（表5）。

(3)　石刃石核の技術形態

本資料では石核の数としては石刃石核が多いわけであるが，実際には剝片石核と石刃石核との区分は微妙である。剝片石核としたものも作業面に残る剝離面はきわめて石刃に近く，石刃石核として作業されていたものからたまたま剝片形状のものが剝離された可能性が高いのではなかろうか。あるいは先の表3から剝片石核には打面転位石核が多いことがわかる。このことは石刃石核に単打面石核が多い点と対照的であり，最初から異なる剝離方式が用いられたと考えるよりも，むしろ，単打面石刃石核として用いられていたものが石刃生産に耐えうる限度を超えたのちも石材を使いきる上で，打割物の形に関係なく剝離できるものを剝離したリダクションの結果と考えられる。また石刃石核には単打面石刃石核と打面転位石刃石核の両者が存在しているが，こちらもその二者の違いが石刃生産作業の進行度の違いに起因するとも考えられるであろう。しかし両者の大きさにさほど差がなく，同じ大きさの素材を用いたか否かは現時点では判別できないが，石刃生産の初期から打面転位石核として用いられた石核が存在した可能性はある。この点は打面奥／幅とも関連すると思われるが，いずれも1.0以上のものが65～70%を占めており，奥行きに対する幅の狭さが認められる。この幅の狭さは後述する石刃の側面観に影響を与えるものと考えている。また形態分類の結果，石刃石核では数字的には，2類が最も多いが，飛び抜けて多いわけではない。6類や4類もある程度組成している。それらの中で注目したいのは4類が7点存在している点である。この4類は幅広扁平な形をしており，藤本〔1982〕が，アンテリアスのII層で初出するとした半円錐形石核に相当するものと考える。半円錐形石核はレヴァント地方オーリナシアンとケバランとの過渡期にあたるスキフティアン〔Rust 1951〕の一要素と考えられている，また本資料では原礫面を残さないものが多い点でもそ

図11　打面転位石刃石核
1～8：打面転位1回石刃石核　9と10：打面転位2回石刃石核
1：1類　2：2類　3と4：3類　5と6：4類　7：5類　8～10：6類

れと共通する。本資料の石刃石核にレヴァント地方オーリナシアン末期の様相がうかがえよう。

技術面に関しては本資料の石刃石核では，まずその多くが単打面石核である点，そして打面直下の作業面上に小剝離痕が連なる石核が多い点，さらに石核正面長軸と剝離作業軸がずれている点が特徴として指摘できようか。このずれも後述する石刃の形態と強い関係を持っていると思われるのである。

2．打割物

打割物の，採集資料中の点数は349点である。内訳は表のとおりであり（表6），石刃が208点（59.6%）あり，剝片が76点（21.8%）存在している。また完形資料は打割物の全標本中138点あり，39.5%に相当する。うち，石刃が69点（50%），剝片が36点（26.1%）である。

(1)　剝片と石刃（図12・13）

剝片について原礫面の残存率によって三区分したが，標本数が少なく，技術的な属性に有意な差がみられないので三者をまとめて扱うことにする。完形の剝片について，平均的な大きさは27×20×5 mm（標準偏差7・7・3）である。打面の平均的な大きさは12×3.2 mm（標準偏差8・3）である。打面種については単剝離打面と複剝離打面はほぼ同じ比率で存在している。頭部調整を施されたものが11点（30%）あり，背面構成については単方向のものが半数を占め，交差が12点（33%），対向が6点（17%）という組成を見せる。側縁は平行するものが半数以上を占める。末端形状については羽状と外反で80%弱を占める。側面観では偏りはない。打面角は最小で50°最大で90°であり，70～90°の間にほとんどのものがはいる。

石刃についても原礫面の有無で二区分したが，こちらも有意な差は認められないので石刃全体についての事実記載を行う。完形の石刃について，平均的な大きさは30×12×3 mm（標準偏差10・5・2）である。打面の平均的な大きさは5.3×1.3 mm（標準偏差3.3・1.3）である。打面種は単剝離打面が43点（62%），小打面が13点（19%）となっている。頭部調整を施されたものは49点（71%）にのぼる。背面構成は単方向が52点（75%）を占める。側縁は平行のものが55点（80%）ある。末端形状は羽状が42点（61%）あり，残りは内反と外反が半分ずつである。側面観についてはねじれが40点（58%），内湾が19点（27.5%）存在する。打面角は最小が65°最大が90°であり，80°以上のものが54点（78%）を占めている。

ここで先の剝片と比較してみよう。まず頭部調整の有無に差がみられる。両者ではその比率が全く逆になっ

表6　打割物分類（1）

	アンテリアス1 数 (%)	アンテリアス2 数 (%)	アンテリアス3 数 (%)	アンテリアス5 数 (%)	合計 数 (%)	完形資料 数 (%)
石核端部付剝片	34 (13.4)	15 (20.3)	3 (14.3)	0 (0.0)	52 (14.9)	30 (21.7)
原面剝片	2 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.6)	2 (1.4)
部分原面剝片	7 (2.8)	3 (4.1)	7 (33.3)	1 (100)	18 (5.2)	11 (8.0)
無原面剝片	30 (11.9)	17 (23.0)	9 (42.9)	0 (0.0)	56 (16.0)	23 (16.7)
部分原面石刃	22 (8.7)	6 (8.1)	0 (0.0)	0 (0.0)	28 (8.0)	14 (10.1)
無原面石刃	151 (59.7)	29 (39.2)	0 (0.0)	0 (0.0)	180 (51.6)	55 (39.9)
削片	7 (2.8)	0 (0.0)	2 (9.5)	0 (0.0)	9 (2.6)	3 (2.2)
砕片	0 (0.0)	4 (5.4)	0 (0.0)	0 (0.0)	4 (1.1)	0 (0.0)
合計	253 (100)	74 (100)	21 (100)	1 (100)	349 (100)	138 (100)

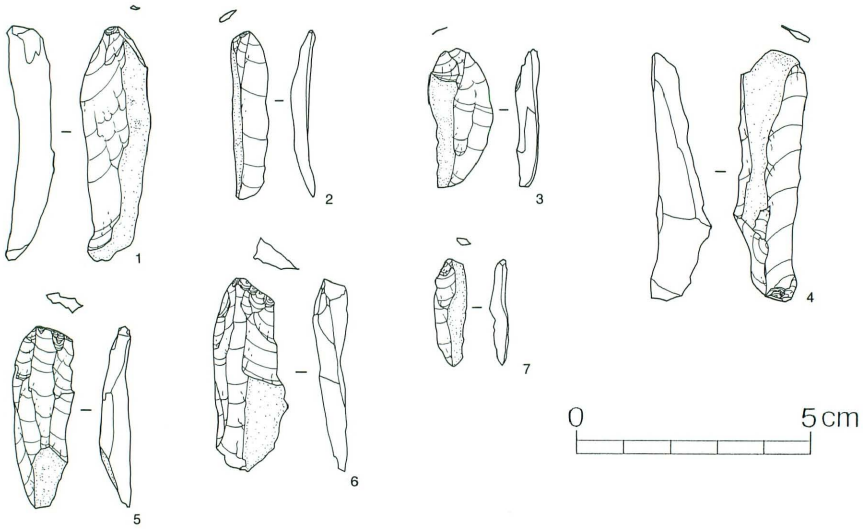

図12　部分原面石刃

ており，剝片に比べて石刃では頭部調整を施されることが多いようである（χ^2=15.8，α<0.01）。また剝片と石刃の打面角の分布では剝片では55～79°の間のものが22点（61%）あるのに対し，石刃では15点（22%）しかない。石刃ではほとんどのものが80°以上である（χ^2=23.1，α<0.01）。次に打面の大きさを比較する。剝片では打面幅7mm未満のものが10点（29%）のみであるが，石刃では47点（72%）存在している（χ^2=39.5，α<0.01）。打点深では剝片には2mm未満のものは14点（42%）に対し石刃では54点（83%）のものが相当する（χ^2=26.0，α<0.01）。打面の大きさに相関して厚さにも差がみられる（χ^2=18.1，α<0.01）。さらに背面構成や側面観にもやや有意な差がみられる。石刃では単方向の背面構成をとるものがかなり多いのに対して剝片では石刃に比べ単方向のものの比率がやや低く，交差と対向のものがやや高い結果となっている。側面観では石刃にねじれのものが多いのに対して剝片ではねじれのものの比率が石刃ほど高くない。

これらの点から剝片と石刃では技術的背景が異なると思われる。おそらく剝片は石刃石核の準備作業や維持作業での産物と思われる。そのため頭部調整を施すことは少なく，背面構成でも交差のものがある程度出現するのではないか。また作り出されるまでの技術面だけでなく，その後の用いられ方にも違いがみられる。本資料の被二次加工石器の素材としては多くの場合，剝片が使われているようであり，被二次加工石器中24点（66.7%）が剝片素材である。被二次加工石器の背面構成においても交差のものがよくみられるのである（図2：1・2・4・6など）。また本資料中にみられる被二次加工石器には掻器や彫器が多く，そのため素材となる剝片に対しては長さよりも厚みや幅が優先されたであろう。そこで打面角は小さく設定され，同時に打面を大きいものにしていたと考えられる。逆に被二次加工石刃には厚みや幅よりも長さ（両側縁の長さ）が優先されたため，石刃生産では打面角を大きく設定し，そこへ頭部調整を施し，打面を小さくすることが多かったのだと思われる。

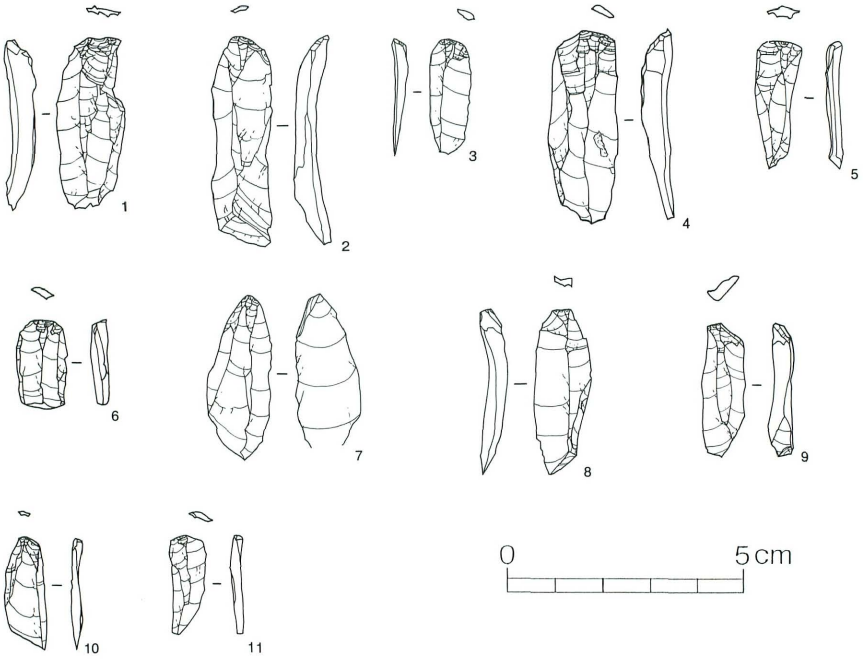

図13　石刃

(2) 石刃の大きさ

次に石刃に注目したいが，その前に本遺跡の近くにある著名なクサール＝アキル遺跡の例を紹介する。クサール＝アキル遺跡の上部旧石器時代相当の石器群についてはバーグマンが分析をおこなっている〔Bergman 1987：10〕。その中で彼は13～9層の石刃について，「幅の分布が双峰形をとらず，単峰形を示している。それは剝片剝離の流れに直接関係しているからで，最初は長くて幅のある石刃を生産し，剝片剝離の進行に伴い次第に小さく細くなるのである。クサール＝アキル遺跡のほとんどの層で石刃と細石刃に対してはっきりと区別された方式はないようだ」としており，また石刃と細石刃の区別には幅において恣意的な 12 mm という値を用いている。しかしこれらを検証した部分は見あたらず，彼の採用した技術的な属性についても石刃と細石刃はまとめて記載されており，区別された方式がないという見解は幅分布のみからの推定と考えられる。一方，6層については提示された石刃の大きさの散布図〔Bergman 1987：240〕を見る限り，双峰形をなすとは思えないが，石刃と細石刃はそれぞれ異なる方式が採用されていたと推測している〔Bergman 1987：10，147〕。細石刃は竜骨形石器を製作するときの副産物として生産されるというものである。

ではここで本稿の資料をみてみよう。完形資料のみの場合，石刃幅の分布は双峰形，単峰形どちらともいいがたい分布であるが，標本数が少ないためと思われる。そこで非完形資料も含めた分布をみると（図14），6～8 mm にかけて峰をなす分布がみられ，仮に 12 mm 未満を細石刃とし，12 mm 以上を石刃とすると，細石刃は147点あり，幅の平均値は 7.8 mm（標準偏差 2.2）である。また石刃は61点あり，幅の平均値は 14.4 mm（標準偏

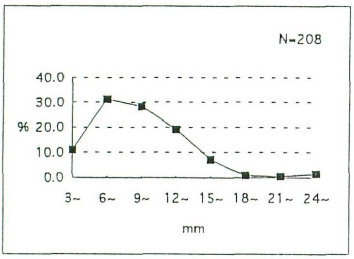

図14　石刃幅の分布

表7　打割物分類（2）

	合計 数	(%)	完形資料 数	(%)
石核端部付剥片	52	(14.9)	30	(21.7)
剥片	76	(21.8)	36	(26.1)
石刃	61	(17.5)	29	(21.0)
細石刃	147	(42.1)	40	(29.0)
削片	9	(2.6)	3	(2.2)
砕片	4	(1.1)	0	(0.0)
合計	349	(100)	138	(100)

表8　石刃残存部位別組成（%）

	打面部	中間部	末端部	完形	合計
細石刃（N=147）	23.1	25.2	24.5	27.2	100
石刃（N=61）	31.1	16.4	4.9	47.5	100
合計（N=208）	25.5	22.6	18.8	33.2	100

差2.9）である。本資料中の石刃の中で細石刃の占める割合がかなり高いことがわかる（70.7%）。そして打割物全体における，剥片，石刃，細石刃の各比率は表7の通りである。

次に細石刃を含む石刃の残存度をみてみたい。石刃のうち完形でない標本は139点（66.8%）にのぼり，高い率といえる。これらの非完形資料は部位によって打面部・中間部・末端部に三区分した。内訳は表8にあり，石刃では完形の率が高い。また完形資料を含めた四者の大きさを比較すると細石刃でも石刃でも四者間で長さ，幅ともに大きな差はみられない，そのため，使用を前提にしていたかは証明できないが，大きさに一定の基準が設けられ，特に細石刃の長さについてはそれに応じて，意図的に折断された可能性が考えられる。本資料の細石器には打面部と末端部の欠如したものが見られるのである（図5：4）。折断部位の違いについては後述する。

このように，アンテリアス遺跡の打割物では幅6~8 mmの細石刃が主体的に生産され，長さに関してある程度のばらつきはあるが，一定の基準に基づいて意図的な折断行為が存在したかもしれない。

(3)　石刃の側面観

前項で石刃の折断行為の可能性にふれたが，ここで注目したいことは石刃の側面観がねじれているものが多い点である。クサール＝アキル遺跡の10層から6層の分析では石刃の側面観について，10層と9層出土のものでは内湾が多く60%を占め，直線は10%以内である。ねじれは直線より多いものの30%付近となっている。8層と7層については提示されておらず，6層出土のものではねじれが最も多く63%を占めており，内湾が34%，直線は1%に満たないものとなっている。本資料の石刃全体ではねじれのものが58%あり，細石刃に限ると70.3%にのぼる。これらはクサール＝アキル遺跡の6層の組成に近いといえよう。

また，石刃のねじれについてはこれまでにも多くの研究者が着目している。その中で，時代と地域は異なるが，筆者らの一人はシリアのドゥアラ洞窟について分析したことがある〔西秋 1992；Nishiaki 1994〕。そこでは石核長軸と作業面長軸のずれに着目し，そのずれが意図的な作業の結果によると考えられた。そして石刃を打面の傾きによって三区分し，それらが各々石核の異なる部分から剥がされた可能性が高いと考えたのである。両側

面が直角に近い角度で立ち上がり，厚手のしっかりしたL石刃をとるためにM石刃とR石刃が剝がされ作業面軸がずれた結果ねじれを起こしたためと思われる。本資料の石刃について打面の傾きによる区分をするとM石刃が半分以上，L石刃とR石刃が1/4ずつとなり，意図的な石核上の場所の使い分けは認めがたい。ただし，本資料の石刃の打点の位置を観察すると打面の中央に位置するものが半数以上である。打面の傾きと打点の位置を考慮すれば，石刃が石核打面に対して垂直に加撃して生産されたことは推定しうる。ねじれが起こるのは作業面軸のずれによるものと思われるが，上述したように本資料の石刃石核に関しても剝離作業軸のずれが認められる。これについては石核打面の設定の仕方が大きいと考える。つまり，打面が石核正面長軸に対して水平にではなく斜めに傾いて設定されるため，打面に対して垂直に加撃して石刃生産をおこなえば結果的に石核正面長軸と作業軸がずれることになるからである。さらに上述のごとく石核の打面奥／幅の影響もあろう。幅が狭いために加撃方向が打面に対する垂線から少し傾いただけで石核側面側へ力が抜けるためねじれが起こるのである。石刃石核の打面奥／幅が1.0以上のものが70%近くあることは石刃の中でねじれた側面観を呈するものの占める割合に対応するかのようである。また生産された石刃に対して今回は使用痕分析をおこなっていないためそのまま無加工で用いられたかどうかはわからないが，本資料中に少ないながらも「ドゥフォー型背つぶし石刃」が含まれており，二次加工を施すことである程度ねじれを矯正して使用した可能性が考えられる。一方，二次加工に準ずる行為として先に意図的な折断を想定したがそこには長さの規定と同時にねじれを矯正する場合もあったのではなかろうか。そのため個々の石刃のねじれの状態に応じて折断部位も異なったと考える。

ここで改めて石刃の技術的な特徴として側面観がねじれるものが多い点を指摘しておきたい。また，側面観の組成がクサール＝アキル遺跡6層の様相と近いことはすでに述べたが，クサール＝アキル遺跡6層の石器群とはバーグマンが石刃と細石刃では異なる剝離方式が用いられたと推定した石器群である。では本資料ではどうであろうか，次項でその点にふれる。

⑷　石刃の母体

本資料のなかで石刃・細石刃としたものに彫器の削片や掻器の刃部形成剝片が含まれている可能性は否定し得ない。本資料の彫器から推定するとそうした削片もねじれの側面観は呈すであろう。また掻器刃部の剝離痕の長さは細石刃の長さに近く，細石刃としたものに二次加工によって剝離された剝片が含まれている可能性は高いかもしれない。

このような現状ではあるが，本資料の石刃と細石刃についていくつかの技術面の属性に関して比較してみると，両者の間では有意な差は認められないようである（表9）。差の捉えられる属性に着目できていないからかもしれぬが，両者に有意な差が認められたのは分類の基準とした幅と物理的に相関すると考えられる打面幅・打点深・長さ・厚さなどであった。そこで両者はほぼ同じ方法で生産されたと考えている。

では両者の石刃・細石刃が「何を母体として」生産されていたのかという出所の問題があろう。まず石刃の背面構成は単方向のものが非常に多く，これは本資料で石刃石核としたものに単打面のものが多いことと整合する。さらに石刃の打面種では単剝離打面のものが多く，この点は石刃石核に調整打面をもつものが少ないことと整合しよう。そして上述したように石刃のねじれの側面観と石核の作業軸のずれは対応するものである。また大きさでは，特に背面構成が単方向のものに限って石刃全体（石刃・細石刃）の長さと単打面石刃石核の作業面に残る剝離痕の長さの二者を比較すると，両者は非常に近い分布を示すのである（図15）。ただし，長さ40 mm前後の石刃と石核上剝離痕の分布の間には明らかな不一致が認められる。このことからも，打面再生により，石核

表9　石刃・細石刃の形質比較（%）

側面観	内湾	直線	ねじれ	合計
細石刃 (N=37)	18.9	10.8	70.3	100
石刃 (N=32)	37.5	18.8	43.8	100
合計 (N=69)	27.5	14.5	58.0	100

背面	交差	対向	単方向	合計
細石刃 (N=37)	13.5	2.7	83.8	100
石刃 (N=32)	15.6	18.8	65.6	100
合計 (N=69)	14.5	10.1	75.4	100

打面角	65～	70～	75～	80～	85～	90～	合計
細石刃 (N=37)	2.7	2.7	8.1	48.6	29.7	8.1	100
石刃 (N=32)	0.0	6.3	25.0	34.4	31.3	3.1	100
合計 (N=69)	1.4	4.3	15.9	42.0	30.4	5.8	100

打面種	単剥離	複剥離	小形	つぶれ	合計
細石刃 (N=37)	59.5	13.5	21.6	5.4	100
石刃 (N=32)	65.6	12.5	15.6	6.3	100
合計 (N=69)	62.3	13.0	18.8	5.8	100

打面傾	左下がり	水平	右下がり	合計
細石刃 (N=37)	24.3	59.5	16.2	100
石刃 (N=32)	25.0	46.9	28.1	100
合計 (N=69)	24.6	53.6	21.7	100

頭部調整	あり	なし	合計
細石刃 (N=37)	73.0	27.0	100
石刃 (N=32)	68.8	31.3	100
合計 (N=69)	71.0	29.0	100

打点偏	左寄り	中央	右寄り	不明	合計
細石刃 (N=37)	27.0	56.8	16.2	0.0	100
石刃 (N=32)	40.6	46.9	9.4	3.1	100
合計 (N=69)	33.3	52.2	13.0	1.4	100

末端形状	羽状	外反	内反	合計
細石刃 (N=37)	54.1	27.0	18.9	100
石刃 (N=32)	68.8	12.5	18.8	100
合計 (N=69)	60.9	20.3	18.8	100

打面形	不明	角形	平滑形	合計
細石刃 (N=37)	5.4	13.5	81.1	100
石刃 (N=32)	6.3	21.9	71.9	100
合計 (N=69)	5.8	17.4	76.8	100

に残る剥離痕の長さは短くなっているものの，石刃と細石刃の両者は同一の母体（石刃石核）から剥離されていた可能性が高いと考えられる。

このようにアンテリアス遺跡においては石刃と細石刃の両者にはほぼ同一の方式が採用されたと思われる。そして，その母体には本稿の分類における単打面石刃石核が多く用いられていたと考えられる。

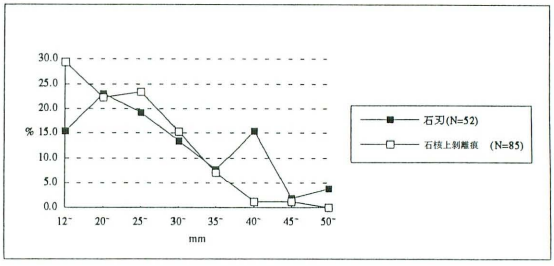

図15　石刃長・石核上剥離痕長の分布

(5)　石核端部付剥片（図16）

本資料中の石核端部付剥片を観察すると石刃生産作業において，打面再生や作業面再生をおこなっていたことが推測できる。打面再生は作業面または裏面を加撃することによっておこなわれており（図16：1・2），作業面再生では，石核の底面あるいは側面を加撃しておこなっているようである（図16：3・4）。これらの作業は主に打面角の修正を目的としたものと思われる。おそらく石刃末端の内反・外反をさけるため，剥離の進行に伴い大きくなった角度を小さくしたもの，または逆に小さくなりすぎた角度をいくらか大きくするためにおこなったと思われる。

(6)　加撃具と加撃方法

ここでは，剥離作業に用いられたと思われる加撃具（mode）と技法（technique）について推定する。本資料に

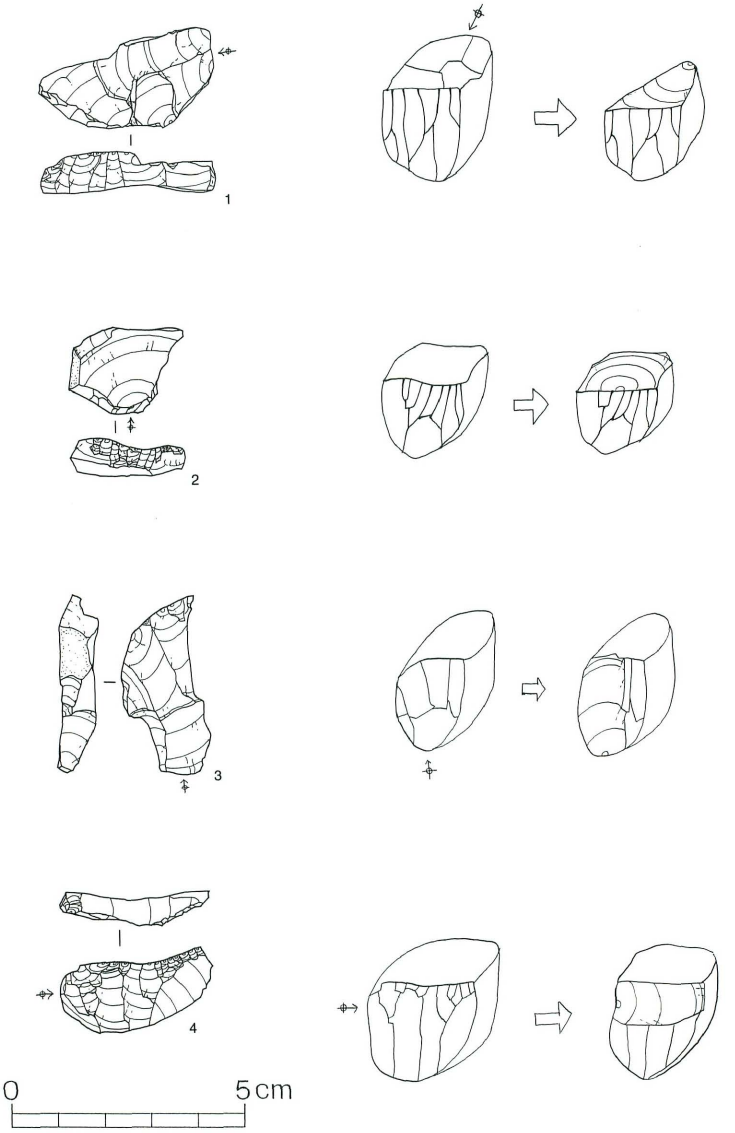

図16　石核端部付剝片（左）と剝離想定図（右）
1と2：打面再生剝片　3と4：作業面再生剝片

は敲石は含まれていない。しかしコープランドらの報告にはユーイングやズモッフェンの発掘資料に玄武岩や石灰岩の敲石が含まれていることが記載されており〔Copeland and Hours 1971：86，129-130〕，対象物となる石材（フリント）より軟質な加撃具による直接打撃がおこなわれたことは確実と思われる。また，打割物の打面と腹面の特徴を観察することで加撃具の推定をおこなう研究が大沼やB. ハイデンらによってすでにおこなわれており〔Ohnuma and Bergman 1982; Hayden and Hutchings 1989〕，そこであげられている属性に基づいて本資料の石刃の加撃具を分類したところ石刃・細石刃両者とも，より軟質な加撃具による剝離が多かったようである（図17）。また，技法であるが，本資料の石刃石核の剝離痕のならびを観察するとさほど規格的に平行して直線的な稜が並んでいるとはいえない。そこから，直接打撃の可能性が考えられるが，技法に関する推定では大沼らが「ブラインド・テスト」を通して細石刃剝離における三種の技法（直接打撃，間接打撃，押圧剝離）についての分析をおこなっている〔大沼・久保田 1992〕。そこであげられている基準に従えば，本資料の石刃は直接打撃の可能性が高いといえる。すなわち，本資料の石刃剝離には，より軟質な加撃具による直接打撃が主に採用されたと考える。

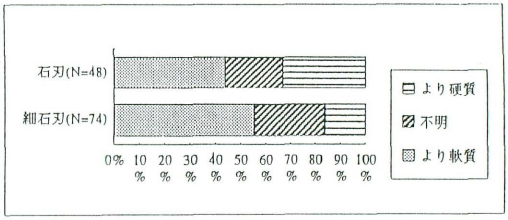

図17　石刃加撃具組成

3．要約　アンテリアスの石刃剝離技術

上述のように大きさによる区分をおこなった石刃と細石刃の生産技術に差は認められず，また標本中，数量的には細石刃と捉えうるものが非常に多いため，アンテリアス洞窟遺跡の本石器群は細石刃石器群といってよい。そこでは1 mm未満の打点深をもつ25×7.8×3.5 mm程の細石刃を単打面石核から主体的に生産していたと思われる。技術面では石刃剝離作業軸と石核正面長軸がずれ，側面観のねじれる石刃が多い点が大きな特徴である。以下に，技術形態面の特徴を列記する。

- 単打面石核と打面転位石核の二者が存在し，単打面石核の方がかなり多い。打面転位石核の場合は180°転位をおこなう。
- 打面を石核正面長軸に対して斜めに傾けて設定し，打面に対し垂直に直接打撃をおこない，その際，フリントよりも軟質な加撃具を用いる。
- 作業面を正面のみならず左右どちらかの側面に及んで設定する場合がある。剝片素材の場合はその腹面を作業面とすることが多い。
- 小剝離（faceting）による打面調整はさほどおこなわず，頭部調整を頻繁におこなう。
- 作業軸と石核正面長軸がずれる。
- 一つの石核を使って，打点深を変えることで石刃と細石刃の両方を生産する。
- 打面再生や作業面の再生を伴う。
- 石刃がねじれた側面観を呈す。

これらの点が特徴としてあげられると思うが，補足的には，石核準備・維持作業で剝離された剝片を被二次加工石器の素材として用いることが多い点やねじれた石刃に相補（alternate）の位置に錯向する二次加工を施して

ドゥフォー型背つぶし石刃を作る点をあげてもよいであろう。

このような要素を兼ね備えた石刃剝離技術は，他の時期や他の遺跡でもみられるのであろうか。その点をふまえて，本資料の位置付けをおこないたい。

VI. 考　　察

前章までに東京大学収蔵のアンテリアス遺跡採集資料の分析結果を示した。この遺跡は1940年代に発掘され，十分な報告がなされないまま1960年代には開発によって消滅している。石器群の記載がなされたのは，1970年代にはいってからのことである。1957年に東京大学が本資料を採集した当時は，十分な参考データもなく，その位置付けは難しかったと思われる。本章では，その後，急速に発展したレヴァント地方上部旧石器研究をふまえて，東京大学所蔵資料の位置付けについて簡単に考えてみる。また，石刃生産技術について若干のコメントを添えたい。

1．レヴァント地方の上部旧石器時代

当地の上部旧石器時代研究は19世紀に遡る歴史をもつが，当初は遺跡や石器をヨーロッパ上部旧石器と直接対比するものが主であった。現地調査に基づいて本格的な編年研究が提出されたのは，1930年代以降である。まず，ユダヤ砂漠でエルク＝エル＝アハマル，エッ＝タバンなどの発掘を進めていたヌヴィーユが上部旧石器時代６期区分案を示した〔Neuville 1934〕。これは，後に1951年の大著で示された記載資料によって補足された〔Neuville 1951〕。その詳細は藤本〔1977〕が紹介しているので，ここでは要点のみを述べておく。第１期（Phase 1）はルヴァロワ方式による石刃生産など中部旧石器の様相を残した上部旧石器時代初頭の石器群とされ，エミレー型尖頭器が特徴的である。第２期には，石刃製尖頭器や同じく石刃に作られた掻器・彫器が現われる。第３期にはエル＝ワド型尖頭器が用いられるようになり，またオーリナシアン型掻器も組成に加わる。続く第４期は第３期とほぼ同様の特徴を示すが，エル＝ワド型尖頭器が減る。第５期は細石刃が増加する点に特徴がある。ただ二次加工のある細石器は少ない。彫器には多面体型や截断型が目立つ。最後の第６期は本格的な細石刃石器群である。截断石器や背つぶし細石器が用いられた。第６期は現在では，続旧石器時代とされている時期にあたる。ヌヴィーユの時期区分は，エミレー型尖頭器やエル＝ワド型尖頭器といった示準石器型式に頼ったものではあったが，その後の研究を方向づける極めて重要なものであった。

同じ頃，パレスチナの海岸部では，ギャロッドがカルメル山遺跡群の発掘を通して，新たな知見を得つつあった。その成果をふまえ，彼女もレヴァント地方上部旧石器の編年について論じている〔Garrod and Bate 1937；Garrod 1957〕。それは基本的にヌヴィーユが示した各期の定義を補足するものであったが，注目すべきことは各期を代表するインダストリーに固有の名前を与えたことである。彼女はヨーロッパ旧石器時代に対する中東の独自性を主張し，現地の遺跡に由来する命名をおこなった。１期をエミラン，３期を下部アンテリアン，４期を上部アンテリアン，５期をアトリティアン，６期をケバランとしたのである。２期については，資料数が少なすぎたため，固有の標識遺跡を認めるにはいたっていない。

また，シリアでも1930年代に A. ルストがヤブルドで一連の岩陰遺跡発掘をおこなっており，その成果が1950年代になって出版された〔Rust 1951〕。上部旧石器の連続した堆積が得られたのは岩陰 II である。ここでは，下部・中部・上部オーリナシアンおよび「マイクロオーリナシアン」が重層して見つかったとされている。石器群

の記載法や呼称が独特であるため他の成果との比較がしにくいが，上部オーリナシアンはアトリティアンと対比されているし，後半で石器群が小形化する点などは，ヌヴィーユらの編年を追認しているといえるだろう。

ついで1960年代になると，それまでレバノンで蓄積されていた資料が次々に分析されはじめた。その中心となったのは，英国の研究者である。クサール＝アキル，アブ＝ハルカといった重要遺跡に加え，アンテリアスの資料が初めて記載されたのもこの時である〔Azoury 1970; Bar-Yosef 1970; Newcomer 1971; Copeland 1970 など〕。特に重要な成果を生んだのは，レヴァント地方随一の長い堆積をもつクサール＝アキル遺跡の分析である。J. ベシュター，ボルドらを含む多くの研究者が，ロンドン大学の収蔵資料を検討した。その成果は1969年のロンドンシンポジウムを経て，コープランドによって的確にまとめられている〔Copeland 1975〕。そこではクサール＝アキルの長い層位的連続を基準として新たな段階名が提唱されている。注意されるのは，下部・上部アンテリアン，アトリティアンというギャロッドの提案を排して，「レヴァント地方」オーリナシアンというヨーロッパの用語を復活させてそれぞれを記載した点である。古い発掘で実態が不明の遺跡名を使うよりはよいというのが理由の一つであったらしい。この点については，ヨーロッパのオーリナシアンと違い「レヴァント地方」という限定語を付しているから独自性も示しえているのではないかという後の評価もある〔Gilead 1989：234–235〕。また，ヌヴィーユの第１，２期にあたる時期には「クサール＝アキル期」という新しい段階名が与えられたが，それは，南レヴァントとの地域差の指摘でもあった。たとえば南部の第１期に特徴的なエミレー型尖頭器がレバノンではほとんど見つからず，そこではシャンフランという独特な石刃石器が大量に見つかったのである。

こうした1970年代前半までの編年案は図18にまとめてある。それぞれ命名法や地域に応じた定義内容に違いがあるとはいえ，基本的な共通点もある。それは，いずれの案もレヴァント地方上部旧石器時代が一線的な連続的進化を遂げたと見なしている点である。A，B，Cのように各期に連続した番号をふっていることにそれは顕著にうかがえる。

ところが，1970年代後半になると，複線的な見方が現われてきた。すなわち，系統（tradition）の異なる石器群が時期的地域的に共存しえたこと，同一伝統であっても機能的に異なる遺跡では石器群の内容が著しく異なることがあること，などが指摘されはじめた。それは，従来未調査であったネゲヴ砂漠やシナイ半島で新発見が相次いだことに端を発した動向である〔Marks 1976；藤本 1977：84–85〕。そうした複線モデルは1980年代に I. ギレッドによって発展させられた〔Gilead 1981, 1989, 1991〕。彼は，ヌヴィーユの時期区分を基本的に踏襲しているが，第１期をギャロッドにしたがってエミランとよび，２～４期を上部旧石器前期，５，６期を上部旧石器後期としている。上部旧石器前期には，まずアハマリアンという石刃主体の石器群があらわれ，その後半には剝片主体のオーリナシアン石器群が出現して共存したのだという。上部旧石器後期にも両者は併存するが，やがてアハマリアンから発展した細石器的な石器群，すなわちケバランがレヴァント地方を席巻したと主張する。ギレッドの見方は二つの点でユニークである。一つは，中部旧石器→エミラン→アハマリアン→ケバランという一貫した発展を認める一方で，レヴァント地方オーリナシアンは外来インダストリーとして一時期共存したにすぎないとみている点である。それは，前32000年ごろ，南東ヨーロッパから伝来したのではないかという。もう一つは，細石器の盛行で特徴付けられている第６期のケバランを続旧石器時代ではなく上部旧石器時代としていることである。その理由は二点，述べられている。第一は，細石刃そのものは上部旧石器時代の初頭から認められ，時代の画期をなすとはみられないこと。第二は，ケバランの生活様式は続くナトゥーフィアンよりもはるかに旧

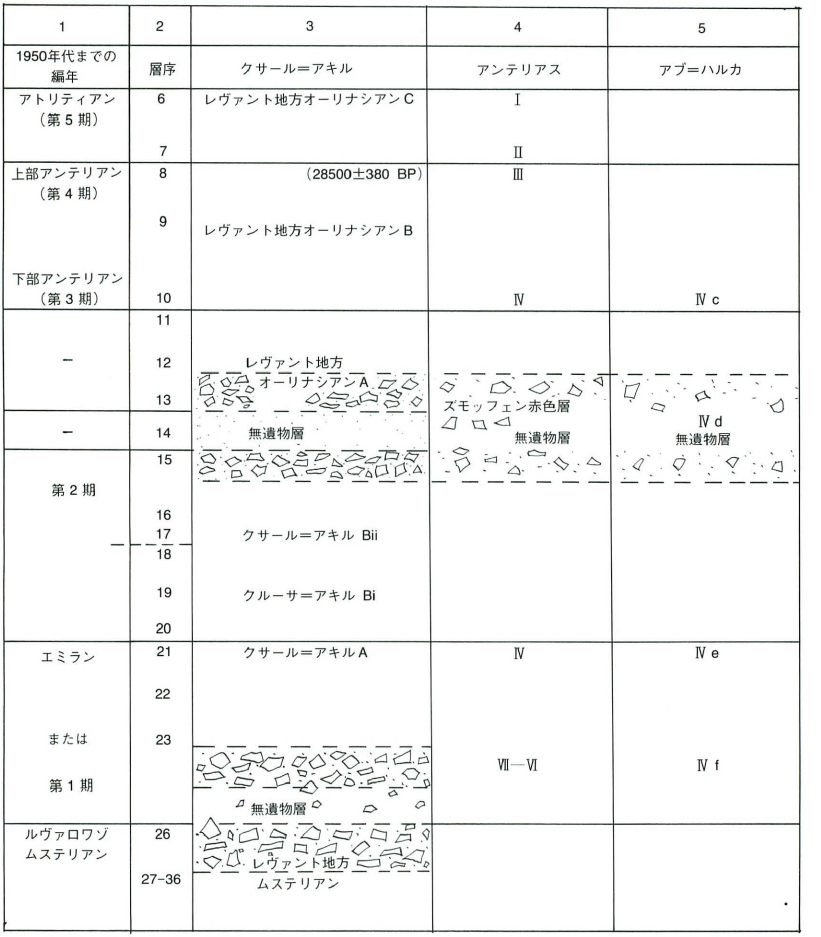

図18　レバノンの上部旧石器時代遺跡層位対応図
1：ヌヴィーユ〔Neuville 1951〕とギャロッド〔Garrod 1957〕による1950年代までの編年案
2：クサール＝アキル遺跡の層序
3～5：コープランド〔Copeland 1975〕による編年案

石器的であること。ナトゥーフィアンに出現した定住的かつ複雑な社会形態こそ，旧石器からの脱却を示すのであって，それ以前は上部旧石器として一括すべきというのである。

このギレッドのモデルは南部レヴァントの成果を中心に提出されたものだが，北部に位置するクサール＝アキル資料を再検討したバーグマンも最近になって一線的進化モデルに疑義を表明している〔Bergman 1987〕。彼は，型式学的分析に無加工剝片や石刃の統計的技術分析も加え，コープランドらとは三つの点で違う結論を得ている。一つは，石器群の層位的分類についてである。クサール＝アキルの第25～21層，20～15層，13～11層の石器群がおのおのまとまるとみる点では同じである。しかし，コープランドらが，10層，9～8層，7～6層をそれ

ぞれ別個のインダストリーとしたのに対し，バーグマンは10～９層，８～７層，６層の三群にわけるべきという。第二は，レヴァント地方オーリナシアンは，８層以降にしか認められないとした点である。コープランドらがレヴァント地方オーリナシアンＡとした13～11層はクサール＝アキルにしか知られていない独特のインダストリーであり，Ｂとした10～９層はアハマリアンに近いという。第三は，したがって，こうした三群はレヴァント地方オーリナシアンＡ→Ｂ→Ｃといった連続的発展ではなく，たがいの間には断絶ないし交代があるというのである。

コープランドらと同じ資料を扱っていながら，非常に異なる結論に到達していることには当惑せざるをえない。ただ，バーグマンの分析は詳細な属性分析，統計的分析をふまえている点では，より説得力がある。また，コープランドも1971年の論文で一旦は第８～７層を同時期のものとして前後の時代とは区別している〔Copeland and Hours 1971：84–85〕。なぜ，その見解が1975年には変更されたのかは不明である。

さて，こうしたレヴァント地方上部旧石器研究の現状を概観すると，二つの問題点ないし課題のあることが指摘できよう。第一はアハマリアン／オーリナシアンという二伝統共存説の当否である。ギレッドによれば，南部レヴァントで進んでいる調査・報告は二伝統共存説を裏付けつつある。また南東ヨーロッパでは４万年前にさかのぼるオーリナシアン石器群が見つかり，それがレヴァント地方に伝来したという間接的支持も得られてきたという〔Gilead 1991：129〕。しかし一方で，A. N. ゴリング＝モリスらは，アハマリアンが編年的に古いのであって，オーリナシアンとは共存しないと主張している〔Goring-Morris 1987〕。彼は，アハマリアン期には石刃で尖頭器を製作していたのに対し，オーリナシアン期には骨器や木器でそれらを作るようになったため剝片石器と彫器主体の石器群が残されたのだとみている。この考えの検討をふくめ，二伝統共存説を証明するためには，なおいくつもの問題を解決せねばならないように思う。たとえば，異なる系統の石器群がせまい地域で共存しえた意味が説明されていない。加えて，なぜオーリナシアンが南下・侵入したのかに対する解釈が示されていない。また，調査が海岸部，しかも南部に集中していることから，両石器群の分布の違いが十分に検討できていない。レヴァント地方オーリナシアンの放射性炭素年代測定例は少なく，ゴリング＝モリスらがいうように両伝統の時間的関係が十分に証拠だてられていない点はきわめて問題である。

第二の課題は細石刃石器群の起源に関するものである。アトリティアン以降に細石刃は増加する。一般にレヴァント地方の細石刃は竜骨形石器の削片，すなわち彫器や掻器二次加工の副産物として生まれたが，やがて，主目的物として作られるようになったと説明されている〔藤本1982〕。竜骨形石器はオーリナシアン期にも見られるから，細石刃石器群はオーリナシアン起源ということになる。しかし，一方で，ギレッドは細石刃石器群はアハマリアンからの発展であろうと述べている。アハマリアンは石刃および背つぶし石刃を主体とする石器群であるから，その場合は，通常の石刃石器群が小形化していって細石刃が生まれたというモデルになる。これら二つは対立した見方だといえるだろう。

さて，アンテリアス遺跡は厚い堆積をもっている。石器群の詳細な層位的分析ができれば，上に述べた第一の課題を検討することができよう。つまり，クサール＝アキルの層位的変遷，あるいは各インダストリーの関係が連続的なのか断絶しているのかを点検しうる遺跡となるだろう。しかし，筆者らに与えられた資料は層序からはずれており，その検討は不可能である。一方，当該資料は後述のように細石刃の初源期の様相を示しているから，上記した第二の課題については何らかの寄与ができるかもしれない。

2．アンテリアス遺跡の石器群と東京大学の収蔵資料

資料の位置付けを検討するにあたり，ユーイングの発掘資料を分析したコープランドら〔Copeland 1970; Copeland and Hours 1971〕の報告内容をまず整理しておく。

発掘者は第I～第VIIの7層を識別している。発掘で到達した最深部は地表から3.6m下であった。このうち，IV／V層間には層位的な断絶があったという。それは前世紀末にズモッフェンが調査した際に見つけた赤色層という無遺物層に相当するものらしい。また，コープランドは，この断絶がクサール＝アキル遺跡の無遺物層である第14層に対比できると考えている。

各層出土石器群の概要は次のとおりである。

第VII，VI層の石器群は区別されていないうえ，あわせて76点しかない。一方，第V層からは491点の分析資料が得られているが，基本的な様相は第VII，VI層と大差なく，同一のインダストリーを示すと考えられている。シャンフランという独特の彫器様石器が特徴的であり，クサール＝アキルA期と共通する特徴を備えている。技術的にはルヴァロワ型の石核や打割物が相当量みられる。しかし，被二次加工石器の型式は掻器や彫器など上部旧石器的なものが大半である。中部旧石器的技術と上部旧石器的型式とが混在しているのであり，移行期の状況を示すと解釈されている。

続く第IV層では342点の石器が分析されている。ここではルヴァロワ式技術がほとんど見られなくなる。石核は35点ある。大半はプリズム形の単打面石核である。約半数が細石刃石核であり，剝片石核も1/3程度みられる。打割物には石刃が多く，中にはオーリナシアン型石刃も含まれる。それらには側面観が歪んだものが目立つ。これはV層以下にはみられなかった特徴であり，技術的な変化をしめす。被二次加工石器にはエル＝ワド型尖頭器や，竜骨形の掻器・彫器がみられる。掻器が彫器よりも多い。この石器群はレヴァント地方オーリナシアンB期に対比されている。クサール＝アキルでいえば，10～9層という。したがって，アンテリアス遺跡にはクサール＝アキルB期とレヴァント地方オーリナシアンA期が欠けていることになる。

第III層の分析石器総数は318点である。石核は第IV層と同じくプリズム形の単打面石核が主である。打割物の打面は小形化しており，平坦のものが多くなるという。被二次加工石器にはやはり掻器と彫器が多く，前者は後者の2倍ある。これは第IV層と共通する点である。彫器には双面型が目立つが，クラクトニアン式ノッチにつくられたものもみられる。この石器はレヴァント地方オーリナシアンC期に特徴的なものである。第III層は全体としてレヴァント地方オーリナシアンB期に相当するが，C期の一部も混入しているのだろうかと見ている。

第II層については344点の石器が分析されている。石核は28点ある。うち15点が細石刃石核である。石核の少なくとも17点は掻器として用いられたという。コープランドらは，そう考える理由として，打撃面縁部が極めて整った形状を示すことをあげている。打割物には石刃と細石刃が多い。いずれも側面観が歪んでいる点，点状の小形打撃面をもつ点で共通している。被二次加工石器では，細石器が増加する。全体の17.5%を占めている。また，竜骨形の掻器がなくなるという。クサール＝アキルでいえば，第6～4層，特に5層と類似しているとしている。レヴァント地方オーリナシアンC期の末でケバラン以前にあたるとコープランドらは見ている。藤本〔1982〕はヤブルド岩陰で定義された用語を採用してこの石器群をスキフティアンとよんでいる。

最上層の第1層の資料は93点しかない。技術的には細石刃石器群であり，台形＝長方形型細石刃などケバラン的な細石器がみられる。しかし，一方でルヴァロワやナトゥーフィアン的な石器も存在しており，各種インダス

トリーが混在したものらしい。

さて，東京大学隊の資料は既述のように細石刃主体の石器群である。それらは単打面の石核から剝されたものがほとんどである。その多くは歪んだ側面観を示す。しかし，細石刃で二次加工されたものは少ない。若干のデュフォー型背つぶし石刃がみられるのみである。被二次加工石器の中心は彫器と掻器であり，少ない資料数ではあるが，両者の割合はほぼ等しい。彫器には多面体型や截断型が含まれている。それらの素材には圧倒的に剝片が用いられている。

このような内容をもつ石器群はアトリティアンないしレバント地方オーリナシアンC期のものとよく類似している。ただし，オーリナシアン型彫器（図2：9と10）のようにレヴァント地方オーリナシアンB期の特徴とされる石器も若干含まれている。やや古い石器群が混在しているのだろう。一方，当遺跡の最上層にはケバランやナトゥーフィアンもあったらしい。本資料が採集品であることを考慮すると，そのような石器群が混在している可能性はある。特に石刃を上回る量の細石刃が得られている点は，ケバラン期の石器群がまじっていることを予感させる。ただ，その時期を確実に特徴づける細石器は本資料にはみられない。いずれにしても，本資料は上部旧石器時代の末期，細石刃の出現期の様相を示すものとみてよいであろう。アンテリアス遺跡の第Ⅰ，第Ⅱ層を中心としてやや古い資料が若干混在しているものと解釈しておく。

3．細石刃出現期の技術

アトリティアンないしレバント地方オーリナシアンC期の石器群は細石刃を多く含むが，本格的な細石刃インダストリーは続くケバラン期に成立するというのが一般的な見方である。アトリティアンでみられる細石刃は竜骨形石器の二次加工時に生じた削片だったのではないかと指摘する研究者は多い。そこでしばしば問題にされるのは，石核と竜骨形石器との区別である。それについて，今日までに明瞭な定義がだされているわけではない。型式学の泰斗ボルドでさえ，「石核削器と石核とを区別することは不可能に違いない。石核削器は石器型式リストからはずしたらどうかと思う」と述べたという（Bergman 1987：12）。本稿での分類基準はすでに述べたとおりである。しかし，ここで石核と記載したものの中には一般の彫器や掻器と外見上類似するものも認められ（図8：1，7，9，図9：2，図10：3など），分析者によっては「多面体彫器」や「竜骨形石器」あるいは「石核削器」とみなされる可能性も高い。したがって，本石器群中で彫器や掻器の占める率については異論もあろう。

竜骨形の掻器・彫器および細石刃のいずれが目的物であったのか。使用痕を調べる以外にも技術形態的分析によって，その解答のヒントが得られることがある。藤本〔1982, 1995; Fujimoto 1983〕が，そのような分析をパルミラ盆地での調査成果に基づいておこなっている。パルミラ盆地では，上部旧石器時代末期から続旧石器時代にかけてのいくつかの遺跡の表面採集ないし発掘調査が実施された。第50遺跡D，E地点と命名された遺跡の石器群がこの時期のものに相当する。後続するスキフティアンやケバラン石器群とそれを比較すると以下の点が指摘できるという。

1）「石核」一個あたりの細石刃剝離本数が10本程度である。後の時代には40本以上となるのに比べると少ない。

2）「石核」のほとんどが削器として使用されている。105例中102例に使用痕がみられる。

3）石核は単打面のものが主で削器刃部と似る。原礫面を残すものが多い。後には複数打面を各所に設けて多

方向から徹底的に剥離するものに変わる。

4）細石刃の二次加工率が低い。900本以上あるうちのわずか48本にしか二次加工が見られない。

5）細石刃と細石器との形態差が大きい。細石刃は捻れて分厚い。そこから，選別によって石器素材を選択している。後の時代には，両者の差がほとんどなくなり，細石器素材製作を意図した細石刃製作がなされる。

6）細石器自体に定形的な斉一性がみられない。

これらの分析をふまえ藤本は，アトリティアン期には細石刃は竜骨形石器（high scraper）の副産物であり，スキフティアンでは双方が目的物となり，ケバランにいたってようやく細石刃が主目的になったという変遷を考えている。この変遷はパルミラ盆地だけでなく，シリア砂漠のヤブルド岩陰でも同様だったという〔藤本1995〕。

アンテリアス洞窟遺跡の今回の資料を検討すると，上記諸点できわめてよく合致していることがわかる。たとえば，単純に細石刃・石刃総数を石核数で割るとアンテリアスでの石核一個あたり生産量は6本前後にすぎない，石核にも単打面のものが多い。唯一，2）の指摘の追認は難しい。石核打撃面縁部に残る小剥離痕は使用や二次加工の結果だけでなく，石刃剥離前の縁部処理によっても残されうる。その識別は不可能である。しかし，微細剥離の有無だけをとってみれば大半の石核がそれを有する点では共通している。

こうしたことから，アンテリアスのアトリティアン期においても細石刃の多くは副産物として生産されていたように思われる。ただ，述べておかねばならないことは，アンテリアスには通常サイズの石刃も存在していること，それらの技術的特徴が細石刃とほとんど相違しないということである。今回，背面剥離痕の方向性，頭部調整の有無，打面角，先端部形状など種々の属性を比較してみたが，既述のように石刃と細石刃とはほとんど同じ様相を示した。有意な差があったのは，長さや厚さなどサイズだけであった。歪みがある点でも共通している。石刃の中には，竜骨形石器の削片とするには明らかに大きすぎるものも含まれており，目的的に石核から剥がされたものがあることは確実である。石核剥離にせよ，竜骨形石器二次加工にせよ，どちらもほぼ同一の技術でおこなわれていたのである。

ほぼ同時期とみられるクサール＝アキル第6層の石器群を分析したバーグマンは石刃と細石刃の出所が異なるのではないかと述べている。前者は石核から，後者は竜骨形石器から得られたものらしいというのである。たとえ，石核と竜骨形石器が当時の人々によって識別されていたとしても，アンテリアス遺跡の分析をふまえて推測すれば，両者の剥離技術は極めて近いものだったのであろう。混然とした状況は，まさに本格的な細石刃石器群出現前夜の様相を示していると考えられる。

VII.　ま と め

1957年2月に東京大学のイラク・イラン遺跡調査団は，レバノンのアンテリアス洞窟で旧石器資料の収集をおこなった。本稿ではその資料記載・分析をおこなった。その結果，当石器群は上部旧石器時代の末期，いわゆるアトリティアンないしレヴァント地方オーリナシアンC期を中心とする資料に相当することがわかった。技術的には細石刃の生産，型式的には剥片素材の掻器，彫器に特徴づけられる。細石刃は被二次加工石器にはほとんど用いられていない。細石刃は石核から目的物として，また竜骨形石器から副産物として生産されたようであるが，両者はほぼ同一の剥離技術による。目的物として本格的に細石刃を生産するようになる続旧石器時代直前の様相を示していると考えられる。

ここでは，資料の記載と年代的位置付けを主眼にした分析をおこなった。そのため，アンテリアスを中心とした周辺遺跡との比較や，そこからわかるレバノン上部旧石器時代の地域性などには言及しなかった。それらは今後の課題としたい。細石刃石器群の起源・系統についてはアンテリアス資料の分析による限り，剥離技術が竜骨形石器の製作と密に関連している点で，オーリナシアン起源であることを思わせる。この点を明らかにするためには，将来アハマリアン石器群との詳細な比較が必要となろう。

本稿で示した資料分析および石器実測は一貫して吉田が担当した。執筆は，I，II，III. 2，IV，V を吉田が分担し，III. 1，VI，VII を西秋が受け持った。内容は相互に検討したからその責任は両名が負う。資料の利用を許可された東京大学東洋文化研究所松谷敏雄教授には深く感謝したい。また，資料は故佐藤達夫教授が採集されたものであり，静江夫人は教授が遺された未公表のノート類を閲覧させて下さった。大正大学上野佳也教授からは草稿に対して数々のご教示を賜った。さらに，国士舘大学イラク古代文化研究所大沼克彦教授をはじめとする石器技術研究会会員諸氏には資料に対して多くのコメントをいただいた。十分いかしきれていない点もあろうが，あわせて記してお礼としたい。

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TEXTILES FROM AT-TAR CAVES —PART II-(4): CAVE 16, HILL C—

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1. Foreword

In relation to the textile specimens uncovered at Cave 16, Hill C, at-Tar Site Group Caves, it was extremely difficult for us to grasp their burial situation closer to their origin, since they had been discovered torn to tiny pieces, lying over a wide range of area in terrible confusion, just as with the other uncovered remains. To our good luck, however, a large number of textiles have come unearthed under rather a satisfactory condition at the south corner of Room 2, the deepest of all in Cave 16. In the corner, about 7 m higher than the desert surface, there is an opening which seems to have been made into a window-like way by scraping the marlstone, this cave's constituent, with its cracks skillfully utilized. When setting out with investigation, we were unable to get in and out through the opening without a ladder. Thus, there are no grounds for believing that this was an ordinary gateway.

Near the very opening, we successfully discovered burial goods including a great many textiles, with the progress of our gradual removal of the aeolian sand on top level. In giving rough explanation to our discovery of the burial goods in Cave 16, to begin with, we caught sight of a marlstone platform which had been secondarily leveled by filling the rugged spots with small gravel, after scraping the mother rock, marlstone, into nearly flat. On the leveled platform, there was a rush mat with checker design placed first, pile textiles were lain over the rush mat; various sorts of non-pile textiles lay scattered like covering over the pile textiles. Most of those various sorts of tattered non-pile textiles have been discovered, fallen over sandy gravel away from the marlstone platform, which is observed to have been used for laying a dead body. The non-pile textiles, torn to pieces, have been buried among the sand together with some human bones around the platform [*cf.* Ii 1986: pp. 1–21, Pls. 1–8]. We can thus derive suggestions as to the importance of these uncovered textiles in character from Textile 14 bearing a human image with a yellow crown on the head [*ibid.*: Pl. 6d], which was hidden among the littered pile textile tufts. As a matter of fact, heavy work was required in our analysis and identification of these textiles, since most of them had been found torn to pieces.

As a result of carefully examining these fragmentary textiles for identification, they have been classified as the ones made of the following materials:

Sheep fiber and other beast fiber textiles: Pile textiles 8
Non-pile textiles 36

Cotton: Non-pile textiles 5

Linen: Non-pile textiles 2 (One of them uses sheep thread in the weft thread of the pattern)

Rush mat: 1 (Grandrelle thread[1)] of sheep fiber and camel fiber is used in the warp; sheep fiber and common goat fiber are used in the pattern weft) [Fujii and Sakamoto 1990: p. 59, Note 1)]

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The specimens duly classified as above have been successively reported in *Al-RĀFIDĀN* as given below:

(1) Pile textiles (Textile 1–Textile 8), Vol. XI, 1990, pp. 45–65, Pls. 1–3

(2) Rush mat (Textile 51), Vol. XII, 1991, pp. 157–165, Pls. 1–4

Among 43 non-pile textiles, those evidently discernible from each other have been classed into the following two for publication:

(3) H-shape pattern group (Textile 9–Textile 13), Vol. XIV, 1993, pp. 109–133, Pls. 1–7

(4) Human image group (Textile 14–Textile 16), Vol. XV, 1994, pp. 77–89, Pls. 1–10

Now the current volume is to deal with the other 35 non-pile textiles (28 sheep fiber and other beast fiber textiles; 5 cotton textiles; 2 linen textiles).

2. Identification

Textile 17 Checker fragment: Registered No. V-39-3 (Pl. 1a)

Textile 18 Fragment with slant pattern: Registered No. V-125-1 (Pl. 1c)

Textile 19 Fragments with tapestry-weave technique: Registered No. V-90-2 (Pl. 1b)

Textile 20 Fragment with additional thread selvage: Registered No. V-2-3 (Pl. 1d)

Textile 21 Fragment with decorative selvage: Registered No. V-86-1 (Pl. 2a)

Textile 22 Dull green fragment: Registered No. V-47-21 (Pl. 2c)

Textile 23 Deep yellow green fragment: Registered No. V-107-8 (Pl. 2d)

Textile 24 Belt-like fragment: Registered No. V-101-6 (Pl. 2b)

Textile 25 Belt-like fragment: Registered No. IV-W-8-⑥ (Pl. 3a)

Textile 26 Medium-thick fragment: Registered No. V-21-19

Textile 27 Small, deep red fragment: Registered No. V-75-2

Textile 28 Gauze-like fragment: Registered No. V-116-4

Textile 29 Textile with 'Tyrian purple' band pattern: Registered No. V-85-2 (Pl. 3b)

Textile 30 Fragment with horizontal stripe pattern: Registered No. V-39-10 (Pl. 3c)

Textile 31 Fragment with color gradated horizontal stripe pattern: Registered No. V-44-11 (Pl. 3d)

Textile 32 Fragment with color gradated horizontal stripe pattern: Registered No. V-41-10 (Pl. 4a)

Textile 33 Fragment with horizontal stripe pattern: Registered No. V-44-7 (Pl. 4b)

Textile 34 Fragment with two pieces sewn together: Registered No. V-39-11 (Pl. 4d)

Textile 35–1 Fragments with design of waveform, horizontal stripe pattern: Registered No. V-65-6 (Pl. 4c)

Textile 35–2 Fragments with various sorts of stripe patterns: Registered No. V-126-2a (Pl. 5a-d)

Textile 36 Fragments with horizontal plant pattern band: Registered No. V-88-1 (Pl. 6a-c)

Textile 37 Mottled fragment: Registered No. V-4-1

Textile 38 Fragment with warp alignment of 2·1/repeat: Registered No. V-21-13 (Pl. 7a)

Textile 39 Textile with horizontal band pattern: Registered No. V-95-1 (Pl. 7c, d)

Textile 40 Textile with geometric and floral pattern band: Registered No. V-65-10 (Pl. 8a-d)

Textile 41 Fragment with paired warps of different colors: Registered No. V-103-19 (Pl. 9a)

Textile 42 Gauze-like fragment with 'kermes' band pattern: Registered No. IV-W-53 (Pl. 9b, c)

Textile 43 Textile with horizontal band pattern: Registered No. V-2-1 (Pl. 10a, b)

Textile 44 Linen fragment with evidence of warp connecting method: Registered No. V-105-1 (Pl. 10c)

Textile 45 Linen cloth with sheep thread used for pattern weft: Registered No. V-71-1 (Pls. 11a, b

and 12a, b)

Textile 46 Cotton fragment: Registered No. V-47-2

Textile 47 Cotton fragment: Registered No. V-79-1 (Pl. 12c)

Textile 48 Cotton fragment: Registered No. V-47-9

Textile 49 Cotton fragment: Registered No. V-116-1

Textile 50 Cotton fragment: Registered No. V-65-8

(Note) The specimen for dyestuff analysis, No. V-73-4 (Textile 43), which was reported in 'Studies on Identification of the Natural Dyes on the Textiles from at-Tar Caves' (*Al-Rāfidān* Vol. XIV, 1993, pp. 141–148), belongs to the same fragments as the specimen, Registered No. V-2-1 (Textile 43) reported here in the current volume. And Specimen No. V-71-1, which was equal to Textile No. 15 in the 1993 report, has been arranged as Textile No. 45 in the current report.

3. Description: Weave and design

Textile 17 Checker fragment: Representative Specimen No. V-39-3

This is a checker fabric by using 2 different color threads, brownish gold and dark grayish brown, for both the warp and weft (Pl. 1a). Those two colors are rather uniform in thread density: that is, 13.0–14.0 in warp density and 10.0–11.0 in weft density. But the warps and the wefts vary in diameter from color to color. For example, the warp-directed brownish gold thread, composed of 6 threads each, has been finished into 4.0 mm in width, while the dark grayish brown thread, composed of 7 threads each, finished into 5.0 mm in width. And the weft-directed brownish gold thread, composed of 6 threads each, has been finished into 6.0 mm in length, while the dark grayish brown thread, composed of 6 threads each into 5.5 mm in length. In this way, therefore, there lies a little difference in finished dimension between the ones in warp direction and the ones in weft direction as to the colors. This is 1.0 mm in cloth thickness, which may be slightly thicker than the other fabrics with checker patterns included.

Textile 18 Fragment with slant pattern: Representative Specimen No. V-125-1

This specimen uses dull reddish yellow thread for the warp, and on the ground, it uses the same dull reddish yellow paired weft. At a part of the cloth, we see deep red pattern weft filled in weft-faced way by tapestry-weave technique at an angle of 70° to the warp direction (Pl. 1c). As for this sort of slant pattern representation, there is another example Textile 4–1 from Cave C12 [Fujii, Sakamoto and Ichihashi 1989: p. 126, Pl. 36b] which has a triangle pattern by tapestry-weave technique, just like that of Textile 18. In Textile 4–1, we see a slit of 4.5 cm in length, which was made along a side of the dark purple triangle, again stitched into closure by another thread. Besides, the pile specimen IV-MK-1382 from Cave 17, Hill C contains design-making and weave technique to which Textile 18 can be referred for information. The pile specimen has triangle patterns positioned at its four corners. These triangle patterns placed at four corners are represented with deep red pile tufts, and their triangle grounds, which the tufts are based on, are also woven with the deep red threads. And their slant sides are woven in staircase way by dovetailed tapestry-weave technique [Sakamoto 1993: p. 43, Fig. 4: The characteristics of the knotted pile fragments in Fujii and Sakamoto 1993].

Textile 19 Fragments with tapestry-weave technique: Representative Specimen No. V-90-2

This is composed of three pieces of pattern-including small fragments. The warp is colored dark grayish brown, while the individual paired wefts are dull yellow and dark wine each (Pl. 1b). We see the weft's returning points confirmed, which is estimated to be the trace of a pattern part done with the use of

tapestry-weave technique. It can be observed here that dark wine paired wefts were woven onto the dull yellow paired weft's ground by tapestry-weave technique.

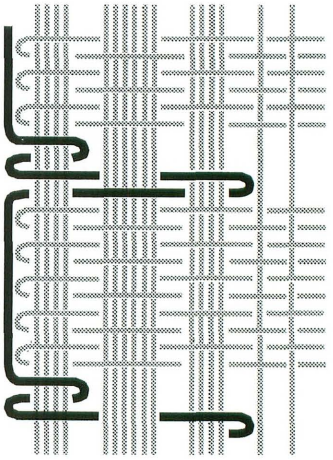

Fig. 1 Additional thread of 3-parallel wefts (Textile 20, Specimen V-2-3).

Textile 20 Fragment with additional thread selvage: Representative Specimen No. V-2-3

This is a specimen by using paired wefts densely interworked with warps. It has Type 3 selvage and 4·6·4 cord alignment (Pl. 1d). Reinforcement around the selvage has been attained with the use of a set of 3-threads each, the same as the weft in quality, as additional thread (Fig. 1). Such sort of technique as seen in this textile whose selvage has been carefully protected can be often traced among the large textiles with H-shape patterns along the selvages of which we see oblong patterns (Textile 9 from Cave C16), [Fujii, Sakamoto and Ichihashi 1993: p. 111 Figs. 2 and 3, Pl. 2a, b].

Textile 21 Fragments with decorative selvage: Representative Specimen No. V-86-1

This is of 2 pieces of fragments which constitute stripe pattern of two colors, deep yellowish red and deep yellowish green (Pl. 2a). It is composed of weft-faced, variation of plain weave. The dull reddish yellow color used for the wefts is also used for the warps, and the warps and the wefts are nearly the same in diameter. Thus, it is estimated from the above that the part woven with the dull reddish yellow wefts is the ground of this textile. All the colored wefts in pairs are interlaced with warps. And, at some places of the wefts' working with selvage warps, the wefts' turning-back is taken with the use of tapestry-weave technique, instead of their interlacing with selvage warps, thereby resulting in small slits. Furthermore, at other places, we see indented geometric motifs by color weft with the use of tapestry-weave technique, and other indented geometric motifs are placed alternate with the former by other color thread woven toward inside from the cloth end. In these cases, a decorative selvage has been effected by interworking different color threads with the selvage warps (Fig. 2). Such selvage-making technique as the above has seldom been seen in the at-Tar Caves. Different from the above example, another decorative selvage technique, which is dovetailed tapestry-weave technique, has been discovered in Textile 2 from Cave 12, Hill-C [Fujii, Sakamoto and Ichihashi 1989: p. 116, Fig. 6 (Type 4), p. 119, Fig. 9, p. 121, p. 125].

Textile 22 Dull green fragment: Representative Specimen No. V-47-21

This is composed of 2 pieces with dull green warps and wefts of 0.30–0.45 mm in diameter (Pl. 2c). However, the warp and the weft differ in twist direction and twist number: the warp is S-twist and 6.0–8.0/cm in twist number while the weft is Z-twist and 4.0–5.0/cm in twist number. And there is a big difference of density between them, *i.e.*, 11.0/cm in warp density; 40.0/cm in weft density.

Textile 23 Deep yellow green fragment: Representative Specimen No. V-107-8

This is very similar to Textile 22 in the use of its color threads (Pl. 2d). And both of them approximate to each other in cloth thickness, too, showing 0.73/mm in Textile 22 and 0.84/mm in Textile 23. Nevertheless, we cannot classify them into a single specimen, since they are different in twist direction, twist number, warp density and weft density, as shown below:

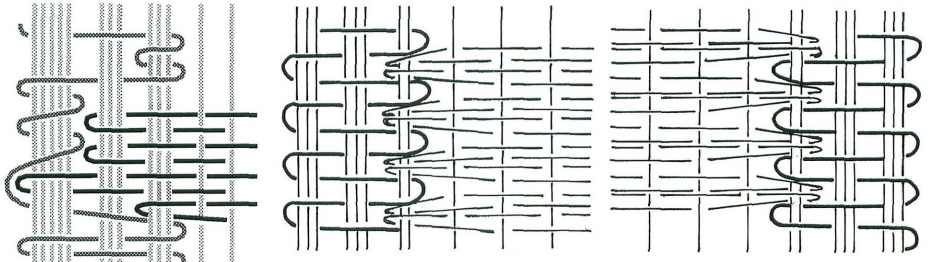

Fig. 3 Selvages of the textile with a flower and tree design band (Textile 2, Cave 12, Hill C).

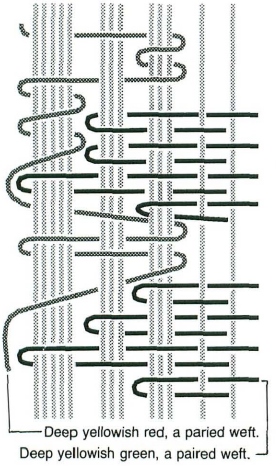

Fig. 2 Decorative selvage (Textile 21, Specimen V-86-1).

	V-47-21 (Plain weave, weft faced)		V-107-8 (Plain weave, balanced)	
	Warp	Weft	Warp	Weft
Diameter (mm)	0.30–0.40	0.30–0.45	0.35–0.50	0.40–0.80
Twist, twist No.(/cm)	—S 6.0–8.0	—Z 4.0–5.0	—Z 5.0–7.0	—Z 2.0–4.0
Density (/cm)	11.0	40.0	13.0	9.0

Textile 24 Belt-like fragment: Representative Specimen No. V-101-6

This is a belt-like fragment of 5.0 cm in weft direction with selvages on both sides (Pl. 2b). Plied yarns ($\frac{Z}{Z}$>—s), a thick two-ply warp and a thick two-ply weft each, are used for weaving the warp-faced cloth. The yarns are 1.50–2.30 mm in warp diameter; 1.30–2.00 mm in weft diameter; 7.0–8.0/cm in warp density; 4.0/cm in weft density. Type 1 selvage. There is a slit, which has been caused by wefts' returning each other, traceable at one-third of the whole belt width. The slit's existent length in warp direction is about 12 cm. There remains a stitching-thread ($\frac{Z}{Z}$>—s) at one corner of the slit. Moreover, the cloth has several parts of two stitches each finished up with plied yarns which seem to have come from goat hair or the like. Deduced from the above, the slit is presumed to have been made for the purpose of buckling the belt with or hanging something from it. Type 1 selvage; Cord 2 only.

Textile 25 Belt-like fragment: Representative Specimen No. IV-W-8-⑥

This is a belt-like textile fitted with selvages on both sides, with maximum size of 5.5 cm between the two (Pl. 3a). Compared with Textile 24, this is a weft-faced fabric woven with a single warp and a single weft each. They are fine threads of 1.00–1.50 mm warp and 0.55–1.20 mm weft in diameter; 5.0/cm warp and 15.0/cm weft in density. We notice a vacancy of about 6 cm in warp direction severed from the main at the part of one-fourth of the whole belt width. Judging from the situation in Textile 24, the vacancy has resulted from the cut-off of wefts' turning points, where the past existence of slit is presumable. Still remaining at an interval of 3.3 cm apart are the two openings (1.5 mm in warp direction; 4.0 mm in weft direction), with which the belt seems to have been buckled. But we cannot observe the parts of wefts' turning along the openings. Type 1 selvage; cord: 2 only.

Textile 26 Medium-thick fragment: Representative Specimen No. V-21-19
Five pieces of plain weave medium-thick, patternless tiny fragments have been identified into this specimen, V-21-19. Its ground contains some parts of paired wefts. The weft twisting is rather loose. Type 2 selvage; cord: 2 only. Generally, Type 2 selvage has been frequently used for making rather thick fabrics [Fujii, Sakamoto and Ichihashi 1989: p. 116, Fig. 6]. It was probably intended for the use of bag, rather than for that of clothing, which is estimated from the medium-thick cloth of rather high weft density.

Textile 27 Small, deep red fragment: Representative Specimen No. V-75-2
This is a specimen from 2 small fragmentary pieces of weft-faced plain weave woven with deep red threads. It is medium-thick, 1.31 mm in cloth thickness. This seems to be from part of some sort of pattern, about which it is unknown to us.

Textile 28 Gauze-like fragment: Representative Specimen No. V-116-4
This is a gauze-like thin cloth by using the threads of uniform thickness and warp and weft of loose weave density. Type 1 selvage. With care taken to the thin cloth left behind, there is the possibility of the fabric having been woven for the use of summer clothing.

Textile 29 Textile with Tyrian purple band pattern: Representative Specimen No. V-85-2
This specimen contains 2 small pieces of plain weave, weft-faced fragments (Pl. 3b). One of them has a selvage, the wefts used for weaving the dark red part have the same color with the warps, and the warps and the wefts are nearly identical in diameter. Seen from the evidence that the wefts' dark blue part is spacious enough and that the dark red dye has been analyzed as precious Tyrian purple [Kimura, Sakamoto and Fujii, 1993: pp. 142–144], we regard the part woven with the dark blue wefts as ground, while the part dyed with Tyrian purple as pattern. It is probable that the part woven with dark red thread is a part of band pattern. Since we can notice the returning points of dark red weft and dark blue weft at a single piece apart from the specimen with selvage, pattern of Textile 29, which is 0.97–1.03/mm in thickness, proves to have been woven by tapestry-weave technique. Type 2 selvage; cord alignment of 3·2.

Textile 30 Fragment with horizontal stripe pattern: Representative Specimen No. V-30-10
This specimen has 2 pieces of plain weave fabrics with horizontal stripe pattern (Pl. 3c). The wefts, 46–56.0/cm in weft density, are densely filled in. The individual wefts used here are about the size as the ones used for the textiles of good quality (0.30–0.40/mm in diameter). The wefts used for weaving dark reddish brown part are colored the same with the warps, and these warps and wefts are nearly the same in diameter. We see ample space taken for the dark reddish brown part, from which this is estimated to be the ground of the textile. The brownish gold part, the deep reddish orange part and the dull green part, where only one weft thread survives, are the ones distinctly recognizable as patterns each. For all the one of weft-faced type, this is rather a thin cloth of 0.95–1.08/mm in cloth thickness.

Textile 31 Fragment with color gradated horizontal stripe pattern: Representative Specimen No. V-44-11
This is a fragmentary textile of gradated color pattern (Pl. 3d). And the specimen with selvage, V-39-8, can also be identified into Textile 31. Judging from the use of dark grayish brown warps for both the fragments, the diameters of warp and weft, the density of warp and weft, and the weft color, it is concluded that V-44-11 and V-39-8 come from the same cloth. V-44-11 has color gradation of turning from brownish gold ground to dark grayish pattern part. This portion seems to be stripe pattern. V-39-8 has Type 2

selvage with the cord alignment of 4·4·4.

Textile 32 Fragment with color gradated horizontal stripe pattern: Representative Specimen No. V-41-10

This is a weft-faced fabric with wefts interworked more densely with warps. Color gradation technique is displayed at the ground turning from dull reddish yellow up to dark grayish brown (Pl. 4a). As far as this fragment is concerned, color change of 1.2 cm in total length is seen here, with 3 times' repetition of the technique. It is thus observed that this fabric contains a part of horizontal stripe pattern with color gradation.

Textile 33 Fragment with horizontal stripe pattern: Representative Specimen No. V-44-7

This consists of 5 fragments with horizontal stripe pattern by using 3 different colors of wefts (Pl. 4b). It is a weft-faced plain weave. And the horizontal stripe pattern with the use of black, dark yellowish green and deep reddish orange threads has been woven on the dull reddish yellow ground. The color wefts are irregular in diameter, varying from 0.20 to 0.55 mm. Both the ground and the pattern show the warp density of 7.0/cm and the weft density of 24.0–28.0/cm. It has the cloth thickness of 1.20/mm.

Textile 34 Fragment with two pieces sewn together: Representative Specimen No. V-39-11; Returned to its origin, Iraq

This is a specimen that two pieces of the identical quality were joined together by sewing (Pl. 4d). The ground is composed of interlacing dull reddish yellow warp with dull reddish yellow paired weft, while the pattern of about 2.5 cm long has been woven with dark grayish brown paired weft each. Two pieces of these patterns have been sewn up into one here. The thread used for their sewing is the same as the ground warp in color, and a 4-ply yarn of 0.90–1.20 mm in diameter has been used. One of the fragments has Type 3 selvage; cord alignment of 3·3·3·3. A paired weft is used for additional thread around the selvage (Fig. 4). Judging from the above, it is highly possible that this was of horizontal stripe pattern.

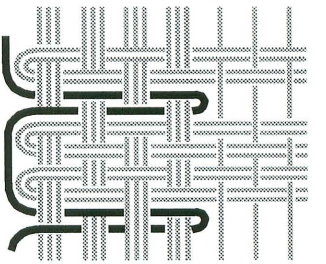

Fig. 4 Type 3 selvage, a paired weft is used for additional thread (Textile 34, Specimen V-39-11).

Textile 35–1 Fragment with a set of waveform, horizontal stripe patterns: Representative Specimen No. V-65-6

This is a fragment which contains wave tips of black waveform patterns on the dull reddish yellow pattern woven by tapestry-weave technique, which are facing each other with a four-column setting of vivid yellowish red horizontal stripe pattern divided by black threads, placed in the middle (length: 4.5 cm) between them (Pl. 4c). Paired wefts are filled in the ground and the pattern in high density. The waveform pattern bands are irregular in length: some are 1.2 cm long while others, 1.8 cm long. And the four-column setting of horizontal stripe pattern is not uniform in column length. The waveform pattern bands are symmetrically arranged with the vivid yellowish red horizontal stripe pattern inserted in-between.

Textile 35–2 Fragments with various sorts of stripe patterns: Representative Specimen No. V-126-2a

This is composed of considerable number of fragments. On both the ground and the pattern, paired wefts are interlaced with a single warp each, and the pattern wefts are high in density. Identifying work of these

fragments is as follows: A green pattern of at least 3 cm long positioned about 1 cm inside of the rope-like finish (V-44-2: Pl. 5b); furthermore, there is a green pattern at an edge of the brownish gold, selvaged fragments (V-126-2b, -2c). We understand that the green pattern was probably woven in a band-like way since the fragment -2b and the fragment -2c are placed contrary to each other, seen from the evidence that the turning direction of -2b selvage weft is different from that of -2c selvage weft. Its cord finish has been done with 2 or 3 warps plied into a cord. Judging from the specimen (V-44-1: Pl. 5a) whose selvage has reddish brown pattern wefts (10R 3/5) of about 2 cm long still remaining, it seems likely that some band pattern used to exist there. About 3 mm away from the band pattern, 2 black paired wefts still remain, and about 3 mm farther, we also see 2 black paired wefts (V-44-1). As for V-126-2a (Pl. 5c), along the black paired wefts, which seem to be a residual from tapestry-weave, there are 3 mm long of dull reddish yellow paired wefts and 6 deep red paired wefts. Moreover, there continues a weave-part of about 5.5 cm in length by using brownish gold ground paired wefts. It is thus presumed from the above that there once existed a set of a stripe band pattern woven with black, dull reddish yellow and deep red wefts on the ground.

Similarity among the four fragmentary specimens (V-44-2b, V-126-2d, V-47-3, V-41-19, V-95-4), all of which seem to constitute pattern, is that green, pale purple, dull reddish yellow and brownish gold wefts are weaving pattern by tapestry-weave technique. All of them are too small, so that their types or shapes are beyond our comprehension. The selvage made by hand has caused irregularity in the formation of its cord number and composition method. In principle, 3·4 alignment is its cord number, but sometimes 4·3 (Fig. 5).

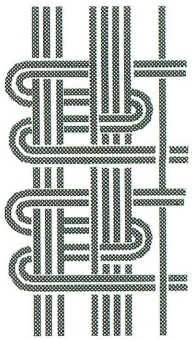

Fig. 5 Type 2 selvage (Textile 35-2, Specimen V-126-2c: cord 3 and 4, and sometimes 4 and 3).

Textile 35–1 and Textile 35–2 are similar in ground color (brownish gold: 9YR 5.5/8), but these fragmentary specimens (Textile 35–2) have not been defined as identical with V-65-6. This is partly because they are somewhat different in weave structure, thread thickness and density, and partly because such waveform patterns and 4-column vivid yellowish red horizontal stripe patterns divided by black threads as are traceable in V-65-6 are absent from the fragments belonging to Textile 35–2.

Textile 36 Fragments with horizontal plant pattern band: Representative Specimen No. V-88-1; Returned to its origin, Iraq

This is observed to contain a plant pattern, which is very unique in pattern representation method (Pl. 6a). For the reason, we have returned it to the Iraqi Museum. Plain weave is taken on both the ground and the pattern. There are some parts with paired wefts taken on the dark reddish brown ground along the dull reddish yellow pattern. The dull reddish yellow thread, the same color as the warp thread, is used for the pattern weft. It has plant patterns by tapestry-weave technique in high density.

In the meantime, specimens IV-W-32-3 (Pl. 6c) and V-47-8 (Pl. 6b) use paired wefts on both the grounds and the patterns.

Textile 37 Fragment with mottled pattern: Representative Specimen No. V-4-1

This is a weft-faced plain weave cloth with the use of deep reddish orange warp and weft threads. There are several stripe lines of brown paired wefts worked in. We see no other specimens which can be identified into this cloth, which makes it impossible to solve the whole aspect of this textile.

Textile 38 Fragment with warp alignment of 2·1/repeat: Representative Specimen No. V-21-13

This is a single fragment by using S-twist warps, 0.40–0.70/mm in diameter, and 6.0/cm in warp density, which is rather loose in texture (Pl. 7a). On the other hand, here are a little thicker Z-twist wefts, 0.60–0.80/mm in diameter and 20.0–22.0/cm in weft density, which have been interlaced in weft-faced way. The warp alignment of 2·1/repeat is peculiar among the at-Tar textiles. This sort of warp alignment can be referred to the other resembling example that variation of plain weave (warp 2·1/repeat, weft 2) is taken on the pattern in using tapestry-weave technique on the twill ground (IV-OH-2, Cave 7, Hill-C: Fig. 6, Pl. 7b). The example is that gradated pattern has been woven on the 1/2 twill ground, next to which wave-pattern band (warp 2·1/repeat, weft 2) is evidenced continuously [Fujii ed. 1980: p. 278, Specimen 196].

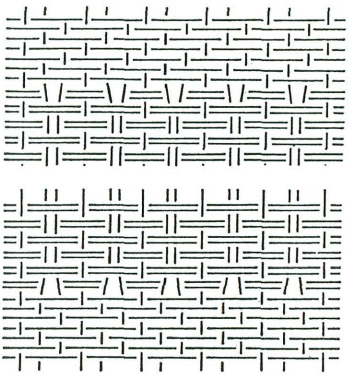

Fig. 6 Pattern part (warp 2·1/repeat, weft 2), 1/2 twill ground (Specimen IV-OH-2, Cave 7, Hill C).

It is probable that V-21-13 is from a pattern woven with tapestry-weave technique (warp 2·1/repeat, weft 1) on the 2/1 twill ground, accordingly. For such technique will not be required if it is a fragment with monochrome band. Dyestuff analysis proves that the deep purplish red used for the wefts is kermes [Kimura, Sakamoto and Fujii 1993: pp. 142–143].

Textile 39 Textile with horizontal band pattern: Representative Specimen No. V-95-1

This is a textile with a reddish brown band pattern of about 3 cm in length woven. It is such a fragmentary pattern that we cannot define whether it is part of an H-shape pattern or not. We cannot recognize it to be H-shape pattern unless a bit of 'notched part' or the like is found out among its fragments. In fact, there are many small pieces which can be identified as belonging to this specimen. But no notched part has been discovered yet. Reddish brown (10R 2/3) is the main color of the patterns uncovered so far, some parts of which have been discolored (V-95-1: Pl. 7d). It is probable that their original color used to be reddish purple or so (V-87-2). An H-shape pattern is usually colored reddish purple. And the pattern length of 5 cm or so is a typical example of all the H-shape patterns that have ever been uncovered. Such sort of 3 cm in pattern length as seen in Textile 39 is a stranger to us [Fujii, Sakamoto and Ichihashi 1993: pp. 126–127, Table 2]. Quite naturally, therefore, we presume Textile 39 to be cloth with band pattern, rather than a cloth with H-shape pattern.

There is almost the same in number of wefts used per centimeter for ground and pattern making. We see paired wefts (28–32/cm×2) on the ground, whereas on the pattern, we see a single weft each densely filled in (54–60/cm). At the border between ground and pattern, there are some weft filling portions by using 2 picks of paired wefts each along the pattern (Pl. 7c), without warp crossing technique (V-101-2, V-87-2, V-65-3). On the other hand, in order to weave H-shape pattern, it is usual that by way of warp crossing conducted near the pattern first, 4–6 picks of paired ground wefts are interworked with paired warps (2·2·2·2/repetition) or warps (2·1·1·2/repetition), by which the resultant appearance of a little disturbance along the pattern caused by the warp crossing has been minimized (shifting zone), and then a single pattern weft is densely worked in the above warps. The shifting zone devised like this way has helped to make the pattern outline much clearer [Fujii, Sakamoto and Ichihashi 1993: p. 112, Fig. 4, p. 115, Fig. 6a, b]. V-101-2, V-87-2, and V-65-3 have no such warp crossing technique near the pattern as

mentioned above, but they have 2 picks of paired wefts evidenced along the pattern band. According to our observation, this is the technique corresponding to the shifting zone used in weaving H-shape pattern, and it is the technique devised to prevent the pattern border from losing its shape.

The selvage (V-72-5, V-75-5) is of Type 3 [Fujii, Sakamoto and Ichihashi, 1989: p. 116, Fig. 6] with its cord alignment of 3·4·4 in number. Additional thread of a set of 3-threads, just the same as the wefts, is used to cover the selvage wefts. In result, the selvage portion has been made rather thick. And two-plied cord is used for the warp finish (V-58-1).

Textile 40 Textile with geometric and floral pattern band: Representative Specimen No. V-65-10
This is a fragmentary specimen which contains a part turning from thin plain weave ground to tapestry-weave pattern (Pl. 8a, c). The ground, which consists of 18.0–20.0/cm in warp density and 16.0–18.0/cm in weft density, is plain weave of low density (V-73-2, V-65-10: Pl. 8c), and dark reddish brown thread is used for the warp. At the part to change ground into pattern, warp crossing (Type A) is done first of all, and then there comes a shifting zone where 6 picks of ground paired wefts are interlaced with the resultant paired warps, and finally it comes to the pattern making with a single pattern weft densely interworked with the paired warps. Here, a geometric pattern has been arranged by non-horizontal weft weaving technique ('Nagashi-Ori' in Japanese). The pieces which are to be identified into this cloth are too small to exactly grasp the whole information of the pattern. It is certain, however, that several sorts of patterns have been woven by tapestry-weave technique. The wefts (0.20–0.45 mm in diameter) are used for the pattern making to meet the need of individual patterns. Many of the colored threads are 50.0–60.0/cm in weft density. For example, V-125-2 (Pl. 8b) and V-126-4 (Pl. 8d) are so laid out that dotted patterns are arranged in parallel, in the center of which there are floral patterns, all of which seem to have continued in a band-like way.

One of the examples closely resembling the floral patterns seen in Pl. 8b and 8d can be given in the 'daisy' floral pattern in Specimen 98 (C-05-V-3-2) coming from Cave D7, Hill A [Fujii ed. 1976: p. 174, Pl. 98]. There is a possibility that the pattern band of this kind may have been allocated around the lower part of a sleeve, as seen in the examples of the Hatra sculptures [Refer to Fujii, Sakamoto and Ichihashi 1989: Pl. 34c] and some others. It may be said that the pattern representes a dynastic symbol mark handed down from generation to generation in Mesopotamia.

In this way, some information relative to the specific quality inherent in Textile 40 seems to be acquired by virture of the floral pattern evidenced in Specimen 98 (C-05-V-3-2) from Cave D7 to be investigated furthermore. We can cite IV-MK-1362-①, ②, which is the discovery from the neighboring Cave C-17, as another specimen resembling Textile 40 in pattern structure and weave technique. Its ground is of thin plain weave checker. By way of warp crossing near the pattern, as evidenced in Textile 40, next we see the shifting zone composed of warp 2 and ground weft 2, and on the pattern, we see various kinds of patterns (warp 2, weft 1) woven by tapestry-weave technique. As with Textile 40, there are continuous dotted patterns with floral pattern placed in the middle. And the geometric patterns, which are very similar to those in V-65-10 (Pl. 8c), are arranged by 'nagashi-ori' weave technique. The whole band pattern is placed in weft direction. It also proves that the tapestry-weave patterns are very similar to each other in cloth thickness. That is, Textile 40 is 1.06 mm (V-65-10), 0.97 mm (V-125-2) and 0.90 mm (V-126-4), while IV-MK-1362-①, ② is 0.92 mm in pattern thickness, respectively. Such similarity between the above two may be attributed to the fact that they are the discoveries from the neighboring caves, C-16 and C-17. Textile 40 has Type 2 selvage and the cord alignment of 3·3 (V-126-4).

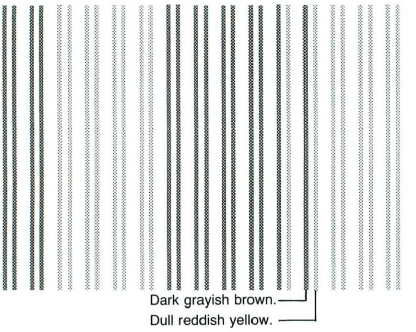

Fig. 7 Paired warps of different colors (Textile 41, Specimen V-103-19, Cave 16).

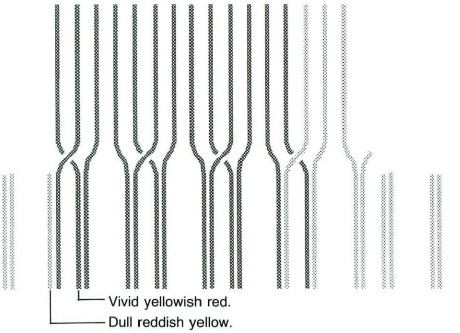

Fig. 8 Paired warps of different colors (Specimen IV-MK-1362-1-3d, Cave 17).

Textile 41 Fragment with paired warps of different colors: Representative Specimen No. V-103-19
This is a single fragment of 2.6×2.0 cm in dimensions (Pl. 9a). A set of four alignments of paired warps colored dark grayish brown and dull reddish yellow each is interlaced with a single weft. It is observed to have been a fragment from tapestry-weave pattern in that we see the return point of weft and the 'nagashi-ori' weave technique in part. Six different colors are used for the pattern wefts, some of which measuring 0.15–0.32 mm in diameter and 68.0–70.0/cm in density, from which elaborate weave technique can be suggested. In observing it more closely, however, we find, at a certain part turning from 4 alignments of dark grayish brown paired warps into other 4 alignments of dull reddish yellow paired warps, two sets of two colors of dark grayish brown and dull reddish yellow paired warps placed side by side between them, which are interlaced with a single weft each (Fig. 7).

For further comprehension of the above evidence, we would like to examine Specimen IV-MK-1362-1-3d (Fig. 8) coming from the neighboring Cave 17. This is of plain weave ground of low weft density, where checker pattern has been woven with the use of 2 colors, dull reddish yellow and vivid yellowish red, for both the warp and weft threads. And it has floral, geometric, dotted patterns, etc. by tapestry-weave technique with the use of several colors of wefts in high density. At the part turning from ground to pattern, warp crossing (Type A) is done near the pattern first; by way of shifting zone, the pattern has a single weft interworked with paired warps each in high density, just as mentioned in Textile 40. Our observation of the paired warps inside the pattern making is that two sets of paired warps of different colors are seen among the groups of individual colors of paired warps (several sets of dull reddish yellow warps; 5 sets of vivid yellowish red warps). It has resulted from the fact that the color threads were odd number 13 when weaving checker pattern on the ground, as well as from the warp crossing positioned. From the above, it is presumed that the evidence of different colors of paired warps seen on the pattern of Textile 41 is partly because odd number warping of the dull reddish yellow threads was once made on the ground which has been missing, thus defying solution.

Textile 42 Gauze-like fragment with 'Kermes' band Pattern: Representative Specimen No. IV-W-53
Here, a deep red pattern composed of warp 2 and weft 1 (V-41-15: Pl. 9c) is woven on a gauze-like plain weave, thin, dark blue cloth (IV-W-53: Pl. 9b). The pattern has a deep red single weft each interworked with paired warps in high density. It seems to have once aimed at brightness of the pattern color representation by covering the warps like this way. It is because the two are common in warp diameter, twist direction, twist No., direction and color that we have identified them into a single cloth. How on

earth was the deep red pattern (V-41-15: Pl. 9c) worked on the dark blue paired warps' ground (IV-W-53: Pl. 9b)? We would like to refer to Textile 16 (IV-OH-368-10) coming from Cave C-12 for a reference to solve the above question [Fujii, Sakamoto and Ichihashi 1989: pp. 144–146, Fig. 28, Pl. 32].

Textile 16, Cave C-12 is a specimen which contains a weft-faced horizontal stripe pattern (warp 2, weft 1) arranged in 3 rows by using deep purplish red pattern weft on the well-balanced gauze-like thin plain weave ground which is woven with fine, dark blue green warps and fine wefts. At the part turning from ground to pattern, warp crossing (2·2·2·2/repeat) is done first; shifting zone composed of 3 or 5 picks of a single ground weft comes next; there finally appears a pattern where a slender pattern weft is densely interworked with paired warps each. The presumption is that such warp crossing and shifting zone techniques were taken to weave a pattern of high density in a thin cloth for preventing the pattern structure from going out of shape.

Deduced from the above example, therefore, we think that in weaving V-41-15 on IV-W-35 from Cave C-16, the ancient weaver made a shifting zone along the pattern by way of warp crossing technique. To our regret, however, there are no such evidences on the surviving IV-W-53. The characteristic common to both Textile 42, Cave C-16 and Textile 16, Cave C-12 lies in their formation of the pattern cloth of about 0.7–0.8/mm in thickness by using bright deep red wefts densely onto the plain weave thin ground. For further information, their data are listed below:

	Textile 42, Cave C-16	**Textile 16**, Cave C-12 (IV-OH-368-10)
Diameter, warp/mm	0.20–0.35	0.20–0.35
weft/mm	0.18–0.30 (IV-W-53)	0.30–0.40 (ground)
	0.18–0.30 (IV-41-15)	0.12–0.30 (pattern)
Density warp/cm	18.0–21.0	22.0–24.0
weft/cm	15.0–16.0 (IV-W-53)	17.0–19.0 (ground)
	64.0 (IV-41-15)	72.0–76.0 (pattern)
Thickness/mm	0.45 (IV-W-53)	0.48–0.56 (ground)
	0.81 (IV-41-15)	0.61–0.69 (pattern)
Dyestuff	kermes [Kimura, Sakamoto and Fujii 1993: pp. 142–143]	un-researched

Probably, the above two were woven for the use of summer outerwear.

Textile 43 Textile with horizontal band pattern: Representative Specimen No. V-2-1

In this specimen, we see both its ground and pattern made into weft-faced plain weave. Compared with the ground weft diameter of 0.50–0.70/mm, the pattern wefts, 0.25–0.35/mm in diameter, are very fine. And the fine pattern wefts are densely interlaced here, 50.0–66.0/cm in weft density, while the ground wefts are 24.0–28.0/cm in weft density. We see paired wefts used at some places. The pattern surviving to our time is 15 cm in maximum width in weft direction and 8.0 cm in maximum length in warp direction.

V-2-1 (Pl. 10b) has no notched part at the edge of the horizontal band pattern. For this reason, we cannot define it as part of an H-shape pattern, deduced from the remaining fragment. Such warp crossing technique and shifting zone traceable at the portion turning from ground to pattern, as is often the case with the textiles with H-shape patterns, cannot be evidenced here, either. The wefts' dyestuff analysis of the fragmentary specimen V-73-4 (Dyestuff test No.: T-43) proves that the wefts were spun by the mixtures of the loose fiber dyed with kermes, the loose fiber dyed with indigo and the loose fiber dyed with yellow natural dye (not yet defined) [Kimura, Sakamoto and Fujii 1993: p. 144, p. 147].

Textile 44 Linen fragment with the evidence of warp-connecting method: Representative Specimen No. V-105-1

This specimen, which uses linen for both the warp and the weft, is a balanced plain weave with the warp diameter of 0.35–1.10 mm, weft diameter of 0.35–0.90 mm; warp density of 9.0–11.0/cm and weft density of 9.0–12.0/cm. Also, this item is characterized by the fact that its warp and weft threads have been dyed gold.

The evidence that threads were connected together by twisting, looping and making a knot has suggested to us the warp direction of this textile (Pl. 10c).

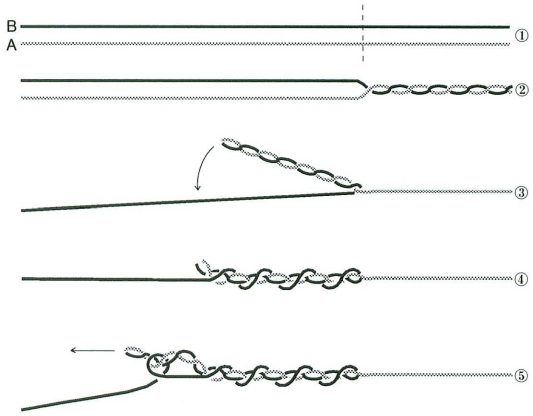

Fig. 9 Warp-connecting method [*cf.*: see Kago 1975: p. 151].

There are also some portions of those connections coming loose. Japan has traditionally adopted such linen thread connecting-method as given below: When the weft thread A (the thread in use) is added to the weft thread B (a new thread), the ends of the threads A and B are softened first, and then twisted together; with the twisted ends directed toward the thread B, all the three are finally made into one (Fig. 9 ①–④). In this way, no knot has been made for connecting the weft threads, accordingly. On the other hand, the warp threads' connecting-method requires some other devices. This is partly because tension runs through the warp threads which are fixed at both beams of the loom, and partly because the back-and-forth work of the reed will easily be liable to the loosening in warp threads' connection, if the same connecting-method as taken to the weft threads is applied to the warp threads.

Thus, to cope with that, the warp threads' connecting-method is so devised that the ends of the threads A and B are softened first, and then twisted together; with the twisted ends directed toward the thread B, the three threads are twisted into one, and then a loop is formed just after the twisted threads of the thread B, through which the two twisted threads (A and B) are passed to make a knot (Fig. 9 ①–⑤).

Textile 45 Linen cloth with sheep fiber used for pattern weft: Representative Specimen No. V-71-1

This is of a linen ground and a band pattern has been finished by using reddish purple color wool as pattern weft (Pl. 11a). Such linen-wool combined weave as seen in Textile 45 has often been found among the textiles coming from the Nile valley. But this is the only linen-wool combined fabric of all the discoveries from the at-Tar area.

Its ground is 0.23–0.60/mm in warp diameter, 18.0–24.0/cm in warp density, 0.20–0.55/mm in weft diameter, 13.0–14.0/cm in weft density and 0.67–0.75/mm in ground thickness. It is a linen fabric of plain weave, comparatively smooth feel, composed of threads of high uniformity in spinning. It has been suggested from the fabric how advanced the spinning technique of those days was.

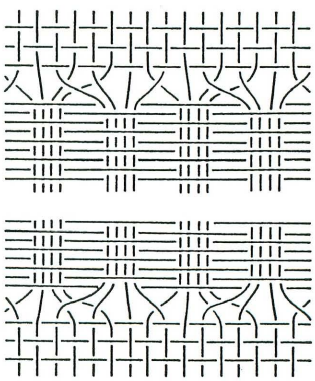

Fig. 10 Warp crossing by means of a set of 4-warps each along the pattern (Textile 45, Specimen V-71-1).

Its patterns of several lengths have been woven in band-like way. The one of about 6 cm in length is the longest of all (V-71-1: Fig. 10, Pl. 12b). The one of 2 cm in length contains parallel bands of the same length with an interval of about 1 cm between them, and then about 5 mm apart, it has 2 parallel lines with the use of 2 wefts (V-59-6: Pl. 12a). The representation method of the band pattern is that a set of 4-warps each, which has been made by crossing warps in a particular way just before getting into the pattern, is interlaced with a single dark wine wool weft each in high density [Fujii, Sakamoto and Ichihashi 1989: p. 113, Fig. 3c], thus resulting in the formation of band pattern in vertical rib-effect. This is the technique belonging to the warp crossing Type C, which may be deemed as variation of Type A and Type B [Fujii, Sakamoto and Ichihashi 1989: p. 113, Fig. 3A, 3B]. The use of this technique brings about a decrease in number of warp and weft interlacing on the pattern, so that it has a softening effect produced in the finished texture. And at the same time, it may be said that this has aimed at producing vertical rib-effect, too. It seems likely that very frequent use of this sort of technique for this specimen was because application of wefts in high density there could lead to clear representation of the band-like pattern. Moreover, when very bulky wool wefts are interlaced with less bulky linen warps, the wool wefts which are floating in ribbing way are liable to frazzle. Furthermore, this specimen has a little disorder caused along the pattern due to the absence of the shifting zone [Fujii, Sakamoto and Ichihashi 1993: p. 115, Fig. 6] which is composed of several picks of paired ground wefts along the pattern after warp crossing, as is often evidenced in weaving H-shape pattern. This has also caused the pattern wefts to be liable to frazzle. Thus, we see almost all the wool wefts getting off the warps in this specimen. When pattern is woven by adopting linen warps and wool wefts, the use of warp crossing technique near the pattern has also been evidenced in coptic fabrics.

V-95-6 has selvage portions on both the ground and the pattern. And the selvage is of Type 1 which means simple turning-back of weft threads. It has a fringed warp finish (V-95-6: Pl. 11b). According to dyestuff analysis, kermes is used for the pattern weft threads [Kimura, Sakamoto and Fujii 1993: pp. 142–143]. Both the warp and the weft of the linen thread have been dyed into dull reddish yellow. The linen fiber analysis, which was made by Mr. Hiroshi Ishii and Mr. Hideo Hosoi, the Technical Department of Tosco Co., Ltd. as well as Tosco Research Laboratory has been reported in the current volum pp. 195–198.

Cotton textiles

Five cotton textiles have been uncovered in all. The following table specifies the comparative studies of their weave structures. According to the table, it shows that one textile has S-twisted warps and Z-twisted wefts, and the other four use Z-twisted warps and wefts.

Textile	No. 46 (V-47-2)	No. 47 (V-79-1)	No. 48 (V-47-9)	No. 49 (V-116-1)	No. 50 (V-65-8)
Size (cm):	5.3×12.5	13.0×25.0	6.8×3.2	38.6×24.6	10.1×5.2
Structure:	plain weave	plain weave	plain weave	plain weave	plain weave
Thickness (mm):	0.82	0.53–0.64	0.58	0.49–0.54	0.76
Raw material:	cotton	cotton	cotton	cotton	cotton
Color:	brownish gold	dull reddish yellow	pale reddish yellow	pale reddish yellow	dark brown
Diameter (mm): warp	0.30–0.80	0.30–0.50	0.32–0.40	0.25–0.50	0.30–0.40
weft	0.40–0.80	0.30–0.50	0.30–0.50	0.25–0.50	0.30–0.40
Twist, Twist No (1 cm) warp	Z 5.0–6.0	Z 8.0–10.0	S 8.0–10.0	Z 8.0	Z 10.0–12.0
weft	Z 5.0–7.0	Z 8.0–10.0	Z 8.0–10.0	Z 8.0	Z 10.0–12.0
Density warp	13.0–15.0	11.0–13.0	16.0–17.0	16.0–18.0	18.0–20.0
weft	10.0	14.0–19.0	11.0–12.0	15.0–17.0	15.0
Selvage				Type 1	

Note: S-twist is only one (warp); the others are Z-twist.
No. 47 (V-79-1) has the contact portions, which mean the severed cloth ends of two non-selvage fragments rolled in, are sewn together (Pl. 12c).
Sewing thread: color (2.5Y 7.5/6: dull reddish yellow), diameter: 0.9–1.0 twist, twist No. —Z —Z —Z > —S4.0

4. Discussion

The thirty-five non-pile textiles from Cave 16 reported in this volume were all so fragmentary that, at first glance, it seemed impossible for us to analyze and identify these fragments into a single textile each. With the progress of work, for all that, it has been observed that some similarity and relativity lie between these textiles and the textiles uncovered at their nearby caves, Cave C-12 and Cave C-17. By way of presentation of the latter's distinctive qualities, we were thus able to investigate the qualities inherent in the 35 items to a considerable degree.

(1) Materials: In speaking of their materials unearthed so far, there are two linen textiles and five cotton textiles in a mass, besides twenty-eight textiles woven with sheep fiber and other beast fiber. Such uncovered conditions as the above are the most unusual of all that have ever been reported.

The two linen textiles examined here are unique in that both of them are of S-twist threads. This will lend a special interest when thinking over the fact that the spiral structure of linen and ramie fibers is S-twist in direction. The fiber analysis proves that both items are made of linen whose raw material is flax, but not ramie whose raw material is boehmeria, which has been attempted by Technical Department, TOSCO Co. Ltd. as stated in the volume. These two items are regarded as the ones of high quality finished into uniform textures, with their warp and weft holding similar values in diameter and twist count in each textile. As shown in the optical microscopic photo, they are colored gold/dull reddish yellow. In view of the evidence that the dye has been partially penetrated into the depth of the fiber, there is high possibility of the two items having been dyed at the stage of yarns. Moreover, as regards Textile 45, we see sheep thread dyed with kermes woven onto the pattern weft and its resultant pattern woven in band-like way. Thus, vertical rib-effect will be formed on the band pattern by using a set of 4-linen warps interlaced with a single sheep weft, both of which are different in material. This is a textile which we would like to compare with a coptic textile for the good of pattern structure and weave technique. In the meantime, there is no pattern portion in Textile 44, but the warp-connecting method observed here draws our attention.

Now comes up the question of whether or not there was natural vegetation of flax, linen's raw material, in some oases areas around the at-Tar Caves in those days. It is thought that flax, which is native to the Gulf area, Egypt and Mesopotamia, is an annual plant, later coming to be grown by sowing. (Boehmeria, on the other hand, which is ramie's raw material, is a perennial plant cropped 4–5 times a year for ramie production.)

It was in April 1989 that the Iraqi Directorate General of Antiquities and Heritage (Director General: Dr. Muayad Said Damerji, Excavator: Mr. Muzahim Mahmud Hussein) excavated a sarcophagus placed in the second tomb-chamber (Room 49), 5 m below the floor in N.W. Palace of Assurnasirpall II, dating back to the 9th century B.C., in Nimrud [Damerji 1991: pp. 9–16]. At that time, the Iraqi team uncovered two female bodies and some textiles in the sarcophagus. The textiles have been identified as the ones of linen and Indian cotton make, according to the reports made by Fibers & Textiles Laboratories, TORAY Industries, Inc. as mentioned separately in the volume pp. 199–206. The analysis proves that the linen is slightly smaller than the at-Tar specimens in fiber diameter. We can draw a number of inferences from the

above fact. One of them might be that growth of flax is subject to variation of climate and soil ingredient, since Iraq geographically differs from north, middle to south. No matter what answer may come, it is very significant that linen use as clothing in the New Assyrian period has thus been identified. Deduced from the above, therefore, it follows that these two at-Tar textiles were woven by way of flax cultivation and its fiber processing work done at some places near here, or they were woven by using the yarn which had been transported from some other places inside or outside Mesopotamia, or the textiles themselves were brought into the at-Tar area from some other places inside or outside Mesopotamia as final products.

In addition, the cotton textiles unearthed during our current work, are of Z-twist for both warp and weft, except for an item whose S-twist warps are interlaced with Z-twist wefts. It is commonly evidenced that the outside view of cotton fibers has their natural spiral directions equally halved with Z-twist and S-twist in ratio. What matters here in this connection is whether or not the cotton fiber of twisting by hand is anything to do with the fiber's natural spiral direction, or this phenomenon has any connection with regional or racial differences with which it has occurred. It is taken as a matter of course that the evidence that the majority of the at-Tar specimens uncovered so far are Z-twist with the mixture of S-twist thread would afford very interesting problems. Such being the situation, further analysis of the uncovered at-Tar specimens must be pushed forward in response to the analytical result that the Nimrud item contains Indian cotton, as already mentioned above.

(2) **Design:** In summarizing the textile designs woven with sheep fiber and the other few beast fibers so far recorded in this report, we notice that horizontal stripe and horizontal band designs are rather outstanding. Horizontal stripe is mainly seen in Textile No. 30～Textile No. 35–2 including waveform, weft stripe pattern with wave running, while horizontal band including plant pattern is mainly found in Textiles, No. 29, No. 36, No. 38～No. 43, and No. 45 (linen ground). Textile 40 has the horizontal band on which geometric, dotted and floral patterns are woven together. The design drawn on Textile 40 closely resembles the motif on IV-MK-1362-1 from Cave C-17 which has a pattern band woven on the checker ground. And the warp arrangement on Textile 41 has been clarified by means of comparative studies between that and IV-MK-1362-1, with attention directed to the shifting method from checker ground to pattern.

Besides, at Cave C-17, we have uncovered a human image pattern, Item 4 (Specimen No. IV-MK-1360), which is common to the human image pattern (Textile 14: Registered No. V-132, Textile 15: Registered No. V-35, Textile 16: Registered No. V-44-10) from Cave C-16 in motif representation [Fujii, Sakamoto and Ichihashi, 1994: pp. 82–83, Pls. 1–4]. Cave C-17 has also yielded a specimen with H-shape pattern (Registered No. IV-MK-455). Deduced from the fact that 5 textiles bearing H-shape pattern or the like have been confirmed at Cave 16 [Fujii, Sakamoto and Ichihashi 1993: pp. 109–133, Pls. 1–7], it is certain that coexistence of human image pattern and H-shape pattern can be traced here. We may recognize from the above, therefore, that there is a close relation between the burial goods in Cave C-16 and those in Cave C-17. At the time of our investigation work, however, the terrace which should have been connecting both the neighboring caves was already found nearly gone into decay.

Meanwhile, the technique of weaving pattern band on the gauze-like ground on Textile 42 can be extracted from its comparison with that on Textile 16 coming from Cave C-12. The decorative selvage on Textile 21 contains rather complicated weaving method, different from Textile 2, from Cave C-12 (textile with a flower and tree design band) whose dovetailed tapestry-weave technique is uniform. But both are similar in intention to try to devise decorative selvage. The slant pattern on Textile 18 is common to that on Textile 4–1 from Cave 12 in tapestry-weave technique. It also looks like the dovetailed tapestry-weave technique by which slant patterns were woven on the corner grounds of the pile textile IV-MK-1382 from Cave 17. In addition, Cave C-12 has yielded Textile 3 with tree design band which is inserted between

wave-form patterns above and below [Fujii, Sakamoto and Ichihashi 1989: p. 124, Fig. 13, pp. 124–125, Pl. 28a]. The pattern and weave structure evidenced here are more complicated than those of Textile 36 from Cave C-16, but some relation between the two is recognizable in the tree-branch/plant design motif.

As for waveform pattern, Textile 35–1 from Cave C-16 has such waveform patterns as horizontal stripe pattern inserted in-between. But Textile 2 [*ibid.*: p. 119, Fig. 8, p. 123, Fig. 12, Pl. 27a, b] and Textile 3 from Cave C-12 have the waveform patterns with flower and tree design bands and gradated pattern bands allocated in the middle.

Furthermore, Textile 4–1 and Textile 15 [*ibid.*: p. 134, Fig. 20, Pl. 32a] are good examples of horizontal band pattern among the ones unearthed at Cave C-12. They can be compared with Textile 39 and Textile 43 from Cave C-16. Also, Cave C-12 has uncovered Textile 14 (large cloth with H-shape and square pattern) together with Textile 12 (fragment with gamma pattern) from its slender corridor [*ibid.*: pp. 129–134, Figs. 14, 16, Pls. 29, 31]. It is thus presumed from this Cave C-16, where, as already mentioned, fragments with H-shape pattern have been unearthed, once had relations as to the burial textiles not only with its terrace-connecting Cave C-17 but also with another adjacent Cave C-12.

In the next report, where the burial textiles from Cave C-17 are to be reported, we would like to sum up the cultural complex inherent in the Hill-C textile goods by means of the individual qualities of the burial textiles which have been discovered from the three caves, C-12, C-16 and C-17, Hill-C. In addition, we expect that this will eventually enable us to establish a comparison between the textiles from Hill-C and the ones from Hill-A.

List of Data on Non-pile Textiles from Cave 16, Hill C

Explanatory notes

The following textile data indicate the analyses based on the research method specified in Chapter I, Textiles from at-Tar Caves Part 1: Cave 12, Hill C [*Al-Rāfidān* Vol. X, pp. 110–112]:

1. The Textile number (*e.g.*: Textile 17) indicates an identified series of fragmentary specimens, of which the representative one is best-preserved and most characteristics. And each fragmentary specimen has its own registered number given at the time of its excavation.
2. 'Size' is determined by "the maximum length of warp direction×the maximum width of weft drection".
3. 'Thickness' is given by "Peacock dial thickness gauge, H 0.01–10 mm (OZAKI MFG. Co., Ldt.)".
4. The color of all the textiles is chiefly given to its representative specimen in accordance with 'Jacal color cards 220', following the ones shown in the revised Munsell Table. But, markedly discolored representative specimens are replaced by some other better preserved ones from among fragmentary specimens for naming, if available.
5. 'Thickness, diameter, twist count and thread density' are shown with their minimum-maximum values. 'Diameter' shows the thread diameter measured with the 25-fold magnifer (Monocular 8×30, Asahi Pentax).
6. The weft density in the case of two or more wefts used at one shed is indicated as follows: It is shown by the number of shed and the weft number which is passed at a single opening operation. For example, the data description is: (12–14)×2/cm; the figures in the parentheses show the the minimum-maximum values at the spots where the frequencies of shed are measured, '×2' means paired weft; '×3' means three wefts. And the multiplied value is equivalent to the actual number. In the case of double or more warp threads in parallel, the warp density is indicated as the ones mentioned above.
7. The thread number of selvage cord is so arranged as to start from the selvage edge in regular order.
8. When a selvage or an edge is observed in the fragmentary specimen, its detail and specimen No. are additionally written.
9. The figures and photos shown here all accord with the warp direction, and the textiles with edges and pile knots clearly identified are positioned with their weave finish up and weave start down in warp direction.
10. The description of 'raw material' of beast fibers entered in the report has conformed to the analytical results of Fibers & Textiles Laboratories, Toray Industries, Inc.
11. The raw material marked with the asterisk * is from the analytical result given by Fibers & Textiles Laboratories, Toray Industries, Inc. (see pp. 187–193, Pls. 1–4 of this volume), while the raw material without any mark on is from our determination based on some analytical data hitherto given by Fibers & Textiles Laboratories, Toray Industries, Inc. [1990: pp. 69–79, Pls. 1–13; 1991: pp. 163–165, Pls. 3–4; 1993: pp. 149–150, Pls. 1–2] and some others.
12. The dyestuff analytical results of reddish purple color line obtained here come from Dr. Mitsuo Kimura, Professor of Mie University.

Textile 17: Checker fragment

Representative specimen:	Registered No. V-39-3			
Size (cm):	4.9×4.4			
Structure:	Plain weave: warp 1, weft 1, balanced			
Design:	Checker pattern			
Thickness (mm):	1.00			
	Warp (1)	Warp (2)	Weft (1)	Weft (2)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	9YR 5.5/8 (brownish gold)	5YR 2/1.5 (dark grayish brown)	9YR 5.5/8 (brownish gold)	5YR 2/1.5 (dark grayish brown)
Diameter (mm):	0.25–0.35	0.40–0.55	0.40–0.70	0.60–0.80
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (6.0–8.0)	—S (4.0–5.0)	—S (5.0–6.0)
Density:	13.0–14.0	13.0–14.0	10.0–11.0	10.0–11.0
Fragmentary specimens:	V-39-3 V-21-8 V-90-15			

Textile 18: Fragment with slant pattern

Representative specimen:	Registered No. V-125-1		
Size (cm):	12.7×9.2		
Structure:	Ground Variation of plain weave: warp 1, weft 2.		
	Design Plain weave, warp 1, weft 1, weft-faced, tapestry-weave technique		
Design:	Slant pattern		
Thickness:	Ground 1.12		
	Pattern 1.38		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)	4R 3.5/10 (deep red)
Diameter (mm):	0.45–0.75	0.45–0.70	0.45–0.6
Twist, Twist No.:	—S (3.0–4.0)	—Z (3.0–4.0)	—Z (3.0–4.0)
Density (/cm):	8.0	(12.0–13.0)×2	28.0–36.0

Textile 19: Fragment with tapestry-weave technique

Representative specimen:	Registered No. V-90-2		
Size (cm):	6.1×2.3		
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced		
	Design Variation of plain weave: warp 1, weft 2, weft-faced, tapestry-weave technique		
Design:	Stripe pattern (0.7 cm in width)		
Thickness (mm):	Ground 1.50		
	Pattern 1.52		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	5YR 2/1.5 (dark grayish brown)	5.5Y 7/5 (dull yellow)	7.5RP 2.4/5 (dark wine)
Diameter (mm):	0.55–0.65	0.40–0.60	0.40–0.50
Twist, Twist No. (/cm):	—S (10.0)	—S (3.0–5.0)	—S (2.0–3.0)
Density (/cm):	8.0–9.0	(15.0–18.0)×2	(14.0–16.0)×2
Fragmentary specimens:	V-90-2 V-6-1 V-87-8		

Textile 20: Fragment with additional thread selvage

Representative specimen:	Registered No. V-2-3	
Size (cm):	6.2×3.8	
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced	
Thickness (mm):	Ground 1.15	
	Warp	Weft (ground)
Raw material:	*Sheep	*Sheep

Color:	5YR 2/1.5 (dark grayish brown)	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	0.30–0.45	0.35–0.60
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (3.0–5.0)
Density (/cm):	8.0–10.0	(16.0–17.0)×2
Selvage:	Type 3; Cord 4·6·4, additional thread of 3-parallel wefts (V-2-3)	
Fragmentary specimen:	*V-2-3	

Textile 21: Fragments with decorative selvage

Representative specimen:	Registered No. V-86-1			
Size (cm):	11.4×6.4			
Structure:	Ground Variation of plain weave: warp 1, weft 2. weft-faced			
	Design Variation of plain weave: warp 1, weft 2. weft-faced			
Design:	Decorative pattern			
Thickness (mm):	Ground Immeasurable			
	Pattern 1.05–1.15			
	Warp	Weft (ground)	Weft (pattern)	Weft (pattern) V-68-5
Raw material:	*Sheep	Sheep	*Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)	7R 4/10 (deep yellowish red)	5GY 5/8 (deep yellowish green)
Diameter (mm):	0.35–0.45	0.25–0.30	0.25–0.40	0.25–0.48
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (2.0)	—S (3.0–4.0)	—S (5.0–6.0)
Density (/cm):	8.0–9.0	(18.0–20.0)×2	(18.0–20.0) ×2	(19.0–20.0)×2
Selvage:	Type 4; Cord 5·3·3 (V-86-1, V-68-5)			
Fragmentary specimens:	*V-86-1 V-68-5			

Textile 22: Dull green fragment

Representative specimen:	Registered No. V-47-21	
Size (cm):	1.8×1.8	
Structure:	Plain weave: warp 1, weft 1, weft-faced	
Thickness (mm):	0.73	
	Warp	Weft
Raw material:	Sheep	Sheep
Color:	5G 5/4 (dull green)	5G 5/4 (dull green)
Diameter (mm):	0.30–0.40	0.30–0.45
Twist, Twist No. (/cm):	—S (6.0–8.0)	—Z (4.0–5.0)
Density (/cm):	11.0	40.0
Dyestuff:	The dyestuff (dull green) analysis is now in progress.	
Fragmentary specimens:	V-47-21 V-41-17	

Textile 23: Deep yellow green fragment

Representative specimen:	Registered No. V-107-8	
Size (cm):	3.5×4.3	
Structure:	Plain weave: warp 1, weft 1, balanced	
Thickness (mm):	0.84	
	Warp	Weft
Raw material:	Sheep	Sheep
Color:	5GY 5/8 (deep yellow green)	5GY 5/8 (deep yellow green)
Diameter (mm):	0.35–0.50	0.40–0.80
Twist, Twist No. (/cm):	—Z (5.0–7.0)	—Z (2.0–4.0)
Density (/cm):	13.0	9.0
Dyestuff:	The dyestuff (deep yellow green) analysis is now in progress.	
Fragmentary specimens:	V-107-8 V-90-19	

Textile 24: Belt-like fragment

Representative specimen:	Registered No. V-101-6	
Size (cm):	23.0×5.0	
Structure:	Plain weave: warp 1, weft 1, warp-faced	
Thickness (mm):	2.00	
	Warp	Weft
Raw material:	*Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	1.50–2.30	1.30–2.00
Twist, Twist No. (/cm):	$\frac{-Z}{-Z}$>—S, $\left(\frac{3}{3}\right.$>—3$\left.\right)$	$\frac{-Z}{-Z}$>—S, $\left(\frac{3}{3}\right.$>—3$\left.\right)$
Density (/cm):	7.0–8.0	4.0
Selvage:	Type 1; Cord 2 (V-101-6)	
Others:	*The cloth has several parts of two stitches each finished up with plied yarns (5YR 2.4/4: dark brown) which seem to have come from normal goat.	
Fragmentary specimens:	*V-101-6 *V-107-4 V-51-6 V-75-11	

Textile 25: Belt-like fragment

Representative specimen:	Registered No. IV-W-8-⑥	
Size (cm):	13.7×5.9	
Structure:	Plain weave: warp 1, weft 1, weft-faced	
Thickness (mm):	2.44	
	Warp	Weft
Raw material:	Sheep	*Sheep
Color:	10R 4.5/10 (deep reddish orange)	9YR 5.5/8 (brownish gold)
Diameter (mm):	1.00–1.50	0.55–1.20
Twist, Twist No. (/cm):	—Z (2.0–4.0)	—Z (3.0–4.0)
Density (/cm):	5.0	15.0
Selvage:	Type 1; Cord 2 (IV-W-8-⑥)	
Fragmentary specimens:	*IV-W-8-⑥ IV-W-8-⑤	

Textile 26: Medium-thick fragment

Representative specimen:	Registered No. V-21-19	
Size (cm):	3.5×3.2	
Structure:	Plain weave; warp 1, weft 1, balanced	
Thickness (mm):	1.21	
	Warp	Weft
Raw material:	Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	0.45–0.90	0.60–1.0
Twist, Twist No. (/cm):	—S (4.0–7.0)	—S (1.0–2.0)
Density (/cm):	9.0–10.0	12.0–13.0
Selvage:	Type 2; Cord 2 (V-41-13)	
Fragmentary specimens:	V-21-19 V-41-13 V-44-9 V-127-8 V-127-10	

Textile 27: Small, deep red fragment

Representative specimen:	Registered No. V-75-2	
Size (cm):	4.4×3.5	
Structure:	Plain weave: warp 1, weft 1, weft-faced	
Thickness (mm):	1.31	
	Warp	Weft
Raw material:	Sheep	Sheep
Color:	9YR 5.5/8	4R 3.5/10

	(brownish gold)	(deep red)
Diameter (mm):	0.35–0.50	0.35–0.65
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (5.0–6.0)
Density (/cm):	8.0	30.0–32.0
Fragmentary specimens:	V-75-2 V-103-12	

Textile 28: Gauze-like fragment

Representative specimen:	Registered No. V-116-4	
Size (cm):	15.7×8.1	
Structure:	Plain weave: warp 1, weft 1, balanced	
Thickness (mm):	0.66	
	Warp	Weft
Raw material:	Sheep	Sheep
Color:	2.5Y 7.5/6	2.5Y 7.5/6
	(dull reddish yellow)	(dull reddish yellow)
Diameter (mm):	0.38–0.50	0.30–0.50
Twist, Twist No. (/cm):	—S (12.0–15.0)	—S (5.0–8.0)
Density (/cm):	14.0–15.0	15.0–16.0
Selvage:	Type 1 (V-116-4)	
Fragmentary specimens:	V-116-4 V-68-3 V-21-16	

Textile 29: Textile with 'Tyrian purple' band pattern

Representative specimen:	Registered No. V-85-2		
Size (cm):	5.3×3.6		
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced		
	Design Plain weave: warp 1, weft 1, weft-faced, tapestry-weave technique		
Design:	Band pattern		
Thickness (mm):	Ground 1.03		
	Pattern 0.97–1.00		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	4R 2.4/5	3PB 1.5/4	4R 2.4/5
	(dark red)	(dark blue)	(dark red)
Diameter (mm):	0.30–0.45	0.30–0.45	0.30–0.45
Twist, Twist No. (/cm):	—S (10.0)	—Z (5.0)	—Z (5.0)
Density (/cm):	13.0	44.0–48.0	28.0
Selvage:	Type 2; Cord 3·2 (V-85-2)		
Dyestuff:	Tyrian purple (dark red) V-85-2 (warp and pattern weft)		
Fragmentary specimens:	V-85-2 V-90-13		

Textile 30: Fragment with horizontal stripe pattern

Representative specimen:	Registered No. V-39-10			
Size (cm):	10.5×5.2			
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced			
	Design Plain weave: warp 1, weft 1, weft-faced			
Design:	Horizontal stripe pattern			
Thickness (mm):	Ground 0.95			
	Pattern 0.95–1.08			
	Warp	Weft (ground)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	10R 2/3	10R 2/3	9YR 5.5/8	10R 4.5/16
	(dark reddish brown)	(dark reddish brown)	(brownish gold)	(deep reddish orange)
Diameter (mm):	0.25–0.40	0.30–0.40	0.30–0.40	0.30–0.40
Twist, Twist No. (/cm):	—S (10.0)	—S (5.0–7.0)	—S (5.0–7.0)	—S (5.0–7.0)
Density (/cm):	10.0	46.0–56.0	46.0–56.0	46.0–56.0

	Weft (pattern)
Raw material:	Sheep
Color:	5G 5/4
	(dull green)
Diameter (mm):	immeasurable
	(one thread only)
Twist, Twist No. (/cm):	immeasurable
Density (/cm):	immeasurable
Fragmentary specimens:	V-39-10 V-127-12

Textile 31: Fragment with color gradated horizontal stripe pattern

Representative specimen:	Registered No. V-44-11			
Size (cm):	4.6×2.0			
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced			
	Design Plain weave: warp 1, weft 1. weft-faced, color gradation			
Design:	Color gradated horizontal stripe pattern			
Thickness (mm):	Ground immeasurable			
	Pattern 1.12			
	Warp	Weft (ground)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	5YR 2/1.5	9YR 5.5/8	5YR 2/1.5	5YR 5/10
	(dark grayish brown)	(brownish gold)	(dark grayish brown)	(deep orange)
		Color gradation		
Diameter (mm):	0.30–0.48	0.40–0.65	0.40–0.60	0.30–0.50
Twist, Twist No. (/cm):	—S (9.0–10.0)	—S (3.0–5.0)	—S (5.0–7.0)	—S (4.0–6.0)
Density (/cm):	9.0–10.0	28.0–29.0	9.0–11.0	28.0–29.0
Selvage:	Type 2; Cord 4·4·4 (V-39-8)			
Fragmentary specimens:	V-44-11 V-39-8			

Textile 32: Fragment with color gradated horizontal stripe pattern

Representative specimen:	Registered No. V-41-10		
Size (cm):	7.5×2.1		
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced		
	Design Plain weave: warp 1, weft 1, weft-faced, color gradation		
Design:	Color gradated horizontal stripe pattern		
Thickness (mm):	Ground immeasurable		
	Pattern 1.16		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6	2.5Y 7.5/6	5YR 2/1.5
	(dull reddish yellow)	(dull reddish yellow)	(dark grayish brown)
		Color gradation	
Diameter (mm):	0.40–0.65	0.40–0.60	0.40–0.60
Twist, Twist No. (/cm):	—S (8.0-10.0)	—S (4.0–5.0)	S (4.0–5.0)
Density (/cm):	9.0	38.0	38.0
Others:	Color gradiation, 4.0 cm		
Fragmentary specimens:	V-41-10 V-44-18		

Textile 33: Fragment with horizontal stripe pattern

Representative specimen:	Registered No. V-44-7
Size (cm):	5.4×5.4
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced
	Design Plain weave: warp 1, weft 1, weft-faced
Design:	Horizontal stripe pattern

Thickness:	Ground immesurable			
	Pattern 1.20			
	Warp	Weft (ground)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6	2.5Y 7.5/6	N1	10GY 3/4
	(dull reddish yellow)	(dull reddish yellow)	(black)	(dark yellowish green)
Diameter (mm):	0.40–0.55	0.20–0.55	0.30–0.40	0.25–0.40
Twist, Twist No. (/cm):	—S (7.0–10.0)	—S (3.0–4.0)	—S (2.0–3.0)	—S (2.0–4.0)
Density (/cm):	7.0	24.0–28.0	24.0–28.0	24.0–28.0
	Weft (pattern)			
Raw materinal:	Sheep			
Color:	10R 4.5/10			
	(deep reddish orange)			
Diameter (mm):	0.40–0.55			
Twist, Twist No. (/cm):	—S (2.0–3.0)			
Density (/cm):	immeasurable			
Dyestuff:	The dyestuff (deep reddish orange) analysis is now in progress.			
Fragmentary specimens:	V-44-7 V-9-1 V-41-11 V-47-27 V-58-9			

Textile 34: Fragment with two pieces sewn together

Representative specimen:	Registered No. V-39-11		
Size (cm):	11.1×3.8		
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced		
	Design Variation of plain weave: warp 1, weft 2, weft-faced		
Design:	Horizontal stripe pattern		
Thickness (mm):	Ground 1.11–1.15		
	Pattern immeasurable		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6	2.5Y 7.5/6	5YR 2/1.5
	(dull reddish yellow)	(dull reddish yellow)	(dark grayish brown)
Diamter (mm):	0.35–0.45	0.25–0.40	0.25–0.40
Twist, Twist No. (/cm):	—S (10.0)	—S (2.0–4.0)	—S (5.0–6.0)
Density (/cm):	9.0–10.0	18.0×2	20.0×2
Selvage:	Type 3; Cord 3·3·3·3, a paired weft is used for additional thread (V-39-11)		
Otheres:	Sewing thread: diameter 0.90–1.20, twist, twist no, S S S S — Z (3.0)		
Fragmentary specimens:	V-39-11 V-21-3 V-47-17 V-75-14		

Textile 35–1: Fragment with a set of waveform, horizontal stripe patterns

Representative specimen:	Registered No. V-65-6			
Size (cm):	10.2×6.7			
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced			
	Design Variation of plain weave: warp 1, weft 2, weft-faced			
Design:	waveform, horizontal stripe pattern, tapestry-weave technique			
Thickness (mm):	Ground 1.36			
	Pattern 1.52			
	Warp	Weft (ground)	Weft (patten)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6	9YR 5.5/8	N1	2.5Y 7.5/6
	(dull reddish yellow)	(brownish gold)	(black)	(dull reddish yellow)
Diameter (mm):	0.40–0.66	0.22–0.35	0.25–0.40	0.25–0.40
Twist, Twist No. (/cm):	—S (7.0–8.0)	—S (6.0–8.0)	—S (4.0–6.0)	—S (5.0–7.0)
Density (/cm):	7.0–8.0	(28.0–32.0)×2	(28.0–32.0)×2	(28.0–32.0)×2
	Weft (pattern)			
Raw material:	Sheep			

Color:	7R 5/14 (vivid yellowish red)
Diameter (mm):	0.25–0.40
Twist, Twist No. (/cm):	—S (4.0–6.0)
Density (/cm):	(28.0–32.0)×2
Fragmentary specimens:	V-65-6 V-68-14 V-44-3

Textile 35–2: Fragments with various sorts of stripe patterns

Representative specimen:	Registered No. V-126-2a			
Size (cm):	7.1×3.8			
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced			
	Design Variation of plain weave: warp 1, weft 2, weft-faced			
Design:	Various sorts of stripe patterns including floral patterns, tapestry-weave technique			
Thickness (mm):	Ground 1.1			
	Pattern 1.36			
	Warp	Weft (ground)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Goat hair?	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	9YR 5.5/8 (brownish gold)	N1 (black)	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	0.45–0.65	0.25–0.40	0.30–0.45	0.20–0.35
Twist, Twist No. (/cm):	—S (9.0–10.0)	—S (5.0–10.0)	—S (3.0–4.0)	—S (4.0–5.0)
Density (/cm):	8.0–9.0	24.0×2	immeasurable	33.0×2
	Weft	Weft (pattern) —V-44-1—	Weft (pattern) —V-44-2—	
Raw material:	Sheep	Sheep	Sheep	
Color:	4R 3.5/10 (deep red)	10R 3/5 (reddish brown)	10G 2.4/3 (dark bluish green)	
Diameter (mm):	0.15–0.20	0.55	0.40	
Twist, Twist No. (/cm):	—S (5.0–10.0)	—S (4.0)	—S (6.0)	
Density (/cm):	immeasurable	26×2	34	
Selvage:	Type 2; Cord 3·4, but sometimes 4·3 (V-126-2b, -2c, V-44-1)			
Edge:	Weave finish, warp 2 or 3 (1 cord) $\begin{matrix}-S\\-S\end{matrix}>-Z$ (diam. 3.0 mm) V-44-2, V-127-18			
Others:	*Sewing thread (Sheep): 5YR 2.4/4 (dark brown), diam. (1.90–2.00), Twist, Twist No. $\left(\begin{matrix}-Z(3)\\-Z(3)\end{matrix}>-S(2)\right)$			
Fragmentary specimens:	*V-126-2a V-126-2b V-126-2c V-126-2d V-41-4 V-41-10 V-41-24 V-44-1 V-44-2 V-44-26 V-47-3 V-47-5 V-47-26 V-58-19 V-73-9 V-74-2 V-75-18 V-103-3 V-116-6 V-126-6 V-127-18 V-95-4 V-37-9 V-41-19			

Texitle 36: Fragment with horizontal plant pattern band

Representative specimen:	Registered No. V-88-1		
Size (cm):	14.9×13.7		
Structure:	Ground Plain weave: warp 1, weft 1.		
	Design Plain weave: warp 1, weft 1, weft-faced		
Design:	Horizontal plant pattern, tapstry-weave technique		
Thickness (mm):	Ground 1.31		
	Pattern 1.50		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	*Sheep	*Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	10R 2/3 (dark reddish brown)	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	0.40–0.55	0.20–0.35	0.45–0.55
Twist, Twist No. (/cm):	—S (7.0–8.0)	—S (5.0–6.0)	—S (5.0–6.0)
Density (/cm):	7.5–8.0	28.0–30.0	24.0–32.0
Others:	Specimens IV-W-32-3, V-47-8 use paired wefts on both grounds and the patterns, diam.: ground (26.0–32.0)×2, pattern (22.0–30.0)×2		
Fragmentary specimens:	V-88-1 *IV-W-32-3 V-47-8 V-41-22 V-44-4 V-58-21 V-68-2 V-71-3 V-75-13 V-87-5		

Textile 37: Mottled fragment

Representative specimen:	Registered No. V-4-1		
Size (cm):	14.6×9.3		
Structure:	Ground Plain weave: warp 1, weft 1, weft-faced		
	Design Variation of plain weave: warp 1, weft 2, weft-faced		
Design:	Several stripe line patterns		
Thickness (mm):	Ground 1.21		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	10R 4.5/10 (deep reddish orange)	10R 4.5/10 (deep reddish orange)	5YR 4/4 (brown)
Diameter (mm):	0.50–0.70	0.50–0.70	0.20–0.30
Twist, Twist No. (/cm):	—S (7.0)	—S (3.0–5.0)	—S (3.0–5.0)
Density (/cm):	8.0–9.0	24.0–28.0	(13.0–15.0)×2
Fragmentary specimen:	V-4-1		

Textile 38: Fragment with warp alignment of 2·1/repeat

Representative specimen:	Registered No. V-21-13	
Size (cm):	2.6×2.7	
Structure:	Design Variation of plain weave: warp (2·1) repeat, weft 1, weft-faced	
Design:	A pattern woven with tapestry-weave technique on the 2/1 twill ground	
Thickness (mm):	Pattern 1.63	
	Warp	Weft (pattern)
Raw material:	Sheep	*Sheep
Color:	2.5Y 9/5 (light reddish yellow)	1R 3/10 (deep purplish red)
Diameter (mm):	0.40–0.70	0.60–0.80
Twist, Twist No. (/cm):	—S (6.0–8.0)	—Z (4.0–6.0)
Density (/cm):	6.0	20.0–22.0
Dyestuff:	Kermes (weft thread)	
Fragmentary specimen:	*V-21-13	

Textile 39: Textile with horizontal band pattern

Representative specimen:	Registered No. V-95-1		
Size (cm):	11.8×17.9		
Structure:	Ground Variation of plain weave: warp 1, weft 2, weft-faced		
	Design Plain weave: warp 1, weft 1, weft-faced		
Design:	Horizontal band pattern		
Thickness (mm):	Ground 1.35–1.55		
	Pattern 1.10–1.25		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)	5YR 5/10 (deep orange)
Diameter (mm):	0.30–0.45	0.25–0.35	0.25–0.35
Twist, Twist No. (/cm):	—S (9.0–10.0)	—S (4.0–5.0)	—S (4.0–5.0)
Density (/cm):	7.0–10.0	(28.0–32.0)×2	54.0–60.0
Selvage:	Type 3; Cord 3·4·4 (V-72-5, V-75-5, V-95-5), additional threads of 3-parallel weft		
Edge:	Weave finish, warp 2 (1 cord) —S, warp 2 (1 cord) —S >—Z (diam. 3.0 mm) V-58-1		
Fragmentary specimens:	V-95-1 V-21-9 V-41-7 V-44-6 V-47-6 V-47-11 V-51-1 V-58-1 V-65-3 V-65-9 V-68-19 V-72-5 V-73-7 V-73-13 V-74-1 V-75-1 V-75-5 V-77-1 V-87-2 V-90-5 V-95-5 V-98-2 V-101-2 V-103-4 V-106-1 V-116-8 V-122-2 V-126-10 V-127-4 V-134-6		

Textile 40: Textile with geometric and floral pattern band

Representative specimen: Registered No. V-65-10
Size (cm): 5.8×3.2
Structure: Ground Plain weave: warp 1, weft 1, balanced
Design Variation of plain weave: warp 2, weft 1, weft-faced
Design: Geometric and floral patterns, tapestry-weave technique
Thickness (mm): Ground 0.60 (V-73-2)
Pattern 1.06 (V-65-10) 0.97 (V-125-2) 0.90 (V-126-4)

	Warp	Weft (pattern)	Weft (pattern)	Weft (pattern)
Raw material:	*Sheep	Sheep	Sheep	Sheep
Color:	10R 2/3 (dark reddish brown)	10R 2/3 (dark reddish brown)	10R 5.5/6 (light reddish brown)	4R 4.5/14 (vivid red)
Diameter (mm):	0.28–0.35	0.35–0.40	0.40–0.45	0.40–0.45
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (2.0–3.0)	—S (2.0)	—S (3.0–4.0)
Density (/cm):	18.0–20.0	16.0–18.0	22.0	40.0

	Weft (pattern)
Raw material:	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)
Diameter (mm):	0.20–0.30
Twist, Twist No. (/cm)	—S (4.0–5.0)
Density (/cm):	54.0–60.0

	Weft (pattern) V-125-2	Weft (pattern) V-125-2	Weft (pattern) V-125-2	Weft (pattern) V-125-2
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	10R 3/5 (reddish brown)	4R 5/6 (dark rose)	9R 4/10 (deep yellowish red)	5GY 6/4 (leaf)
Diameter (mm):	0.18–0.25	0.20–0.30	0.18–0.25	0.15–0.20
Twist, Twist No. (/cm):	—S (7.0–8.0)	—S (8.0–10.0)	—S (7.0–8.0)	—S (7.0–8.0)
Density (/cm):	55.0–60.0	52.0–60.0	50.0–60.0	55.0–65.0

Selvage: Type 2; Cord 3·3 (V-126-4)
Fragmentary specimens: V-65-10 V-21-12 V-39-1 V-41-20 V-47-10 V-47-16 V-58-14 V-58-22 *V-73-2 V-75-10 V-90-7 V-103-11 V-125-2 V-126-4 V-127-14

Textile 41: Fragment with paired warps of different colors

Representative specimen: Registered No. V-103-19
Size (cm): 2.6×2.0
Structure: Design Variation of plain weave: warp 2, weft 1, weft-faced
Design: Some patterns woven by tapestry-weave technique
Thickness (mm): Pattern 0.72

	Warp (1)	Warp (2)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	5YR 2/1.5 (dark grayish brown)	5B 2/4 (dark grayish blue)	5GY 6/4 (leaf)
Diameter (mm):	0.20–0.25	0.20–0.30	immeasurable	0.18–0.25
Twist, Twist No. (/cm):	—S (10.0–12.0)	—S (8.0–10.0)	immeasurable	—S (6.0–8.0)
Density (/cm):	22.0	22.0	immeasurable	68.0–70.0

	Weft (pattern)	Weft (pattern)	Weft (pattern)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep	Sheep
Color:	5YR 2/1.5 (dark grayish brown)	2.5Y 7/10 (gold)	9YR 6.5/11 (gold)	7R 4.5/12 (strong yellowish red)
Diameter (mm):	0.18–0.22	0.15–0.32	0.20–0.30	0.20–0.30
Twist, Twist No. (/cm):	—S (6.0–8.0)	—S (5.0–6.0)	—S (5.0–6.0)	—S (5.0–6.0)
Density (/cm):	68.0–70.0	68.0–70.0	68.0–70.0	68.0–70.0

Fragmentary specimen: V-103-19

Textile 42: Gauze-like fragment with 'Kermes' band pattern

Representative specimen: Registered No. IV-W-53
Size (cm): 8.4×12.8, 3.2×6.2 (pattern) V-41-15
Structure: Ground Plain weave: warp 1, weft 1, balanced
Design Variation of plain weave: warp 2, weft 1, weft-faced (V-41-15)
Design: 'Kermes' band pattern
Thickness (mm): Ground 0.45
Pattern 0.81 (V-41-15)

	Warp	Weft (ground)	Weft (pattern) V-41-15
Raw material:	*Sheep	Sheep	*Sheep
Color:	3PB 1.5/4 (dark blue)	3PB 1.5/4 (dark blue)	4R 3.5/10 (deep red)
Diameter (mm):	0.20–0.35	0.18–0.30	0.18–0.30
Twist, Twist No. (/cm):	—S (9.0–10.0)	—S (6.0)	—Z (6.0–12.0)
Density (/cm):	18.0–21.0	15.0–16.0	64

Selvage: Type 1; Cord 2 (IV-W-53)
Dyestuff: Kermes (weft thread of V-41-15)
Fragmentary specimens: *IV-W-53 V-21-11 V-39-4 *V-41-15 V-122-4

Textile 43: Textile with horizontal band pattern

Representative specimen: Registered No. V-2-1
Size (cm): 20.7×16.0
Structure: Ground Plain weave: warp 1, weft 1, weft-faced
Design Plain weave: warp 1, weft 1, weft-faced
Design: Horizontal band pattern (8.0 cm in maximum length in warp direction)
Thickness (mm): Ground 0.85–1.01
Pattern 1.13–1.64

	Warp	Weft (ground)	Weft (pattern)
Raw material:	Sheep	Sheep	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)	10R 2/3 (dark reddish brown)
Diameter (mm):	0.30–0.40	0.50–0.70	0.25–0.35
Twist, Twist No. (/cm):	—S (8.0–10.0)	—S (1.0–2.0)	—S (6.0–8.0)
Density (/cm):	9.0–12.0	24.0–28.0	44.0, 50.0–66.0 (IV-W-32-②)

Selvage: Type 3; Cord 3·4·3 (V-21-1), additional thread of 3-parallel wefts
Dyestuff: Wefts (V-73-4) were spun by the mixtures of the loose fiber dyed with kermes, the loose fiber dyed with indigo and the loose fiber dyed with natural dye (not yet defined).
Fragmentary specimens: V-2-1 IV-H-1-8 IV-W-24 IV-W-32-② IV-W-51 IV-W-66-② IV-W-68 V-21-1 V-39-7 V-41-5 V-44-21 V-47-29 V-73-4 V-75-20 V-87-6 V-106-1 V-118-1 V-122-7 V-126-5 V-127-2

Textile 44: Linen fragment with the evidence of warp-connecting method

Representative specimen: Registered No. V-105-1
Size (cm): 14.1×9.5
Structure: Ground Plain weave: warp 1, weft 1, balanced
Thickness: Ground 0.92

	Warp	Weft
Raw material:	Linen	Linen
Color:	2.5Y 7/10 (gold)	2.5Y 7/10 (gold)
Diameter (mm):	0.35–1.10	0.35–0.90
Twist, Twist No. (/cm):	—S (4.0–5.0)	—S (4.0–5.0)
Density (/cm):	9.0–11.0	9.0–12.0

Others: Warp and weft threads have been dyed gold.
Fragmentary specimens: V-105-1 V-95-2 V-103-10 V-107-6

Textile 45: Linen cloth with sheep thread used for pattern weft

Representative specimen:	Registered No. V-71-1		
Size:	9.4×9.8		
Structure:	Ground Plain weave; warp 1, weft 1, balanced		
	Design Variation of plain weave; warp 4, weft 1, weft-faced		
Design:	Band pattern in vertical rib-effect		
Thickness (mm):	Ground 0.67–0.75		
	Pattern 1.15–1.25		
	Warp	Weft (ground)	Weft (pattern)
Raw material:	Linen	Linen	Sheep
Color:	2.5Y 7.5/6 (dull reddish yellow)	2.5Y 7.5/6 (dull reddish yellow)	7.5RP 2.4/5 (dark wine)
Diameter (mm):	0.23–0.60	0.20–0.55	0.25–0.35
Twist, Twist No. (/cm):	—S (4.0–6.0)	—S (5.0–6.0)	—Z (3.0–4.0)
Density (/cm):	18.0–24.0	13.0–14.0	56.0–62.0
Selvage:	Type 1, V-95-6		
Edge:	Warp finish: Fringe (length in warp direction: 18.5 cm)		
Dyestuff:	Kermes (pattern weft) V-95-6		
Fragmentary specimens:	V-71-1 IV-W-23-② V-41-2 V-47-14 V-58-6 V-65-5 V-72-3 V-73-5 V-90-12 V-95-6		

Textile 46–50: See pp. 158–159

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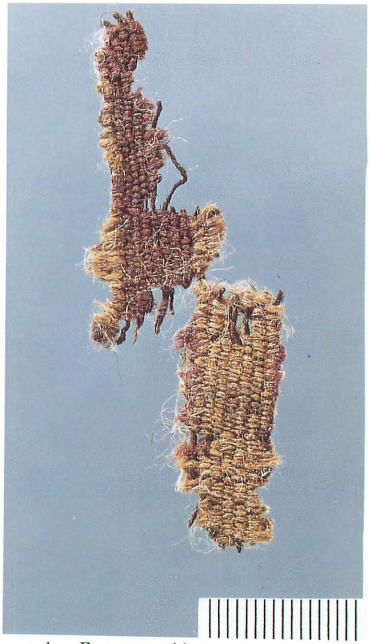
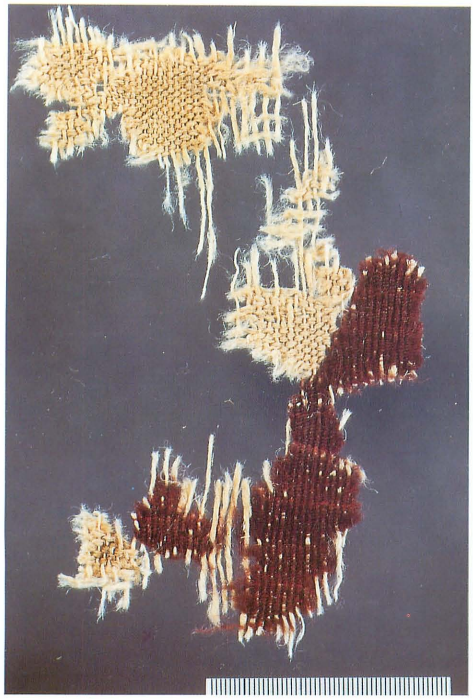
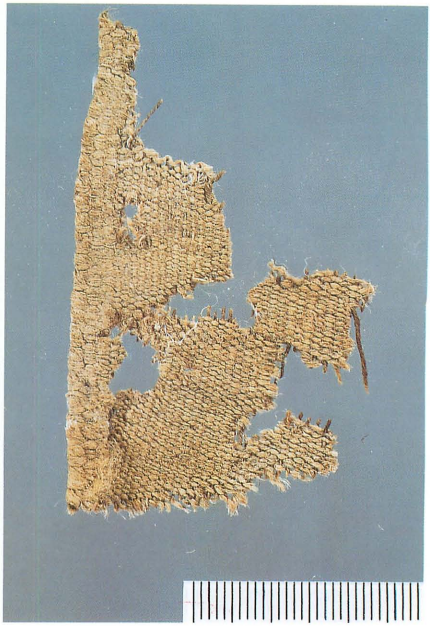
a. Checker fragment (Textile 17).



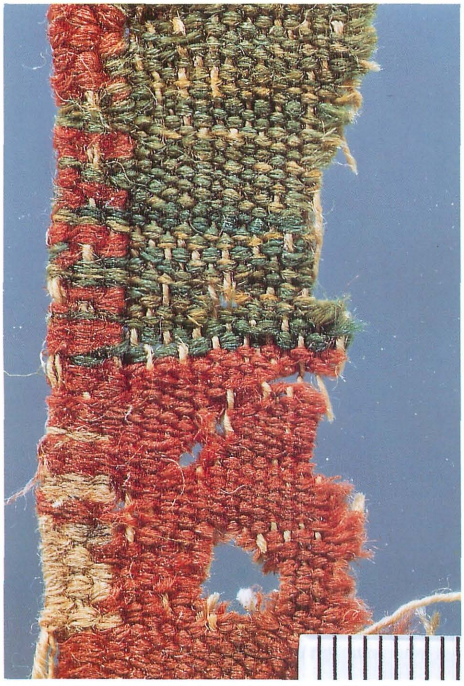
b. Fragment with tapestry-weave technique (Textile 19).



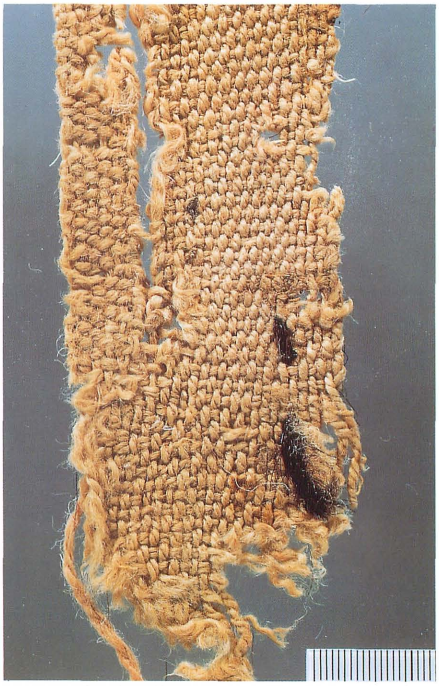
c. Fragment with slant pattern (Textile 18).



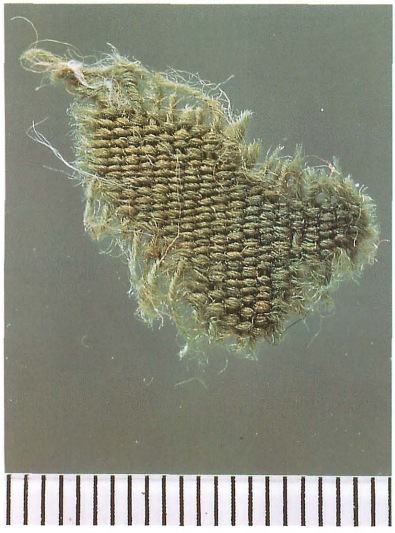
d. Fragment with selvage, Type 3, cord 4·6·4 (Textile 20).



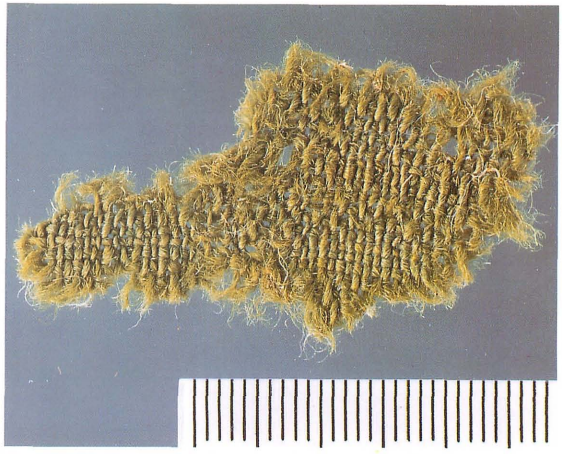
a. Fragment with decorative selvage (Textile 21).



b. Belt-like fragment (Textile 24).

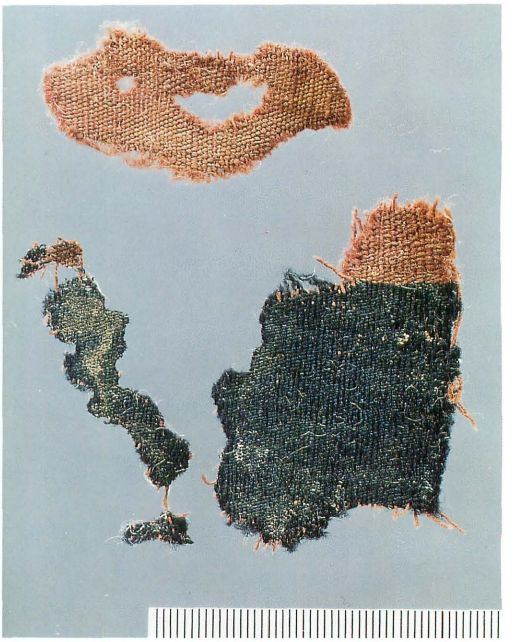


c. Dull green fragment (Textile 22).



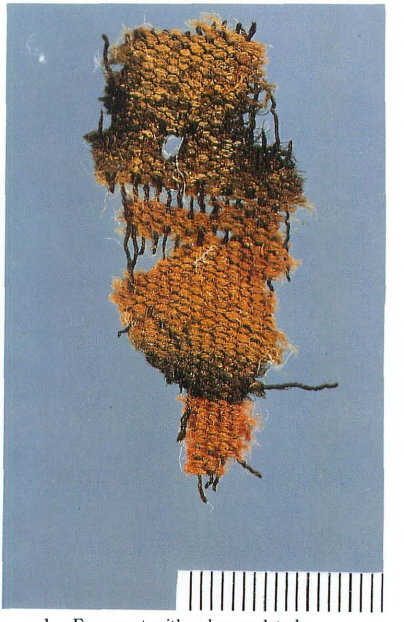
d. Deep yellow-green fragment (Textile 23).

a. Belt-like fragment (Textile 25).



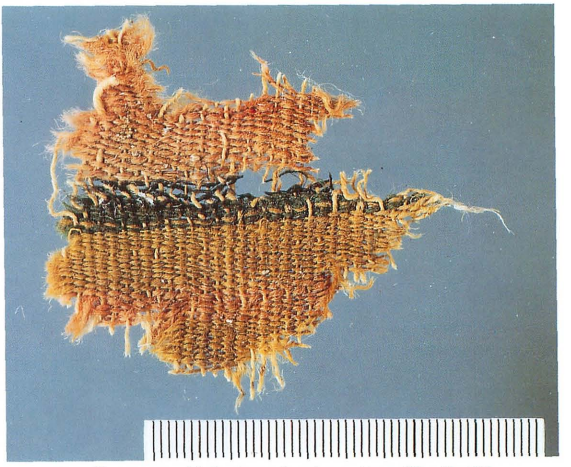
b. Textile with 'Tyrian purple' band pattern (Textile 29).

c. Fragment with horizontal stripe pattern (Textile 30).

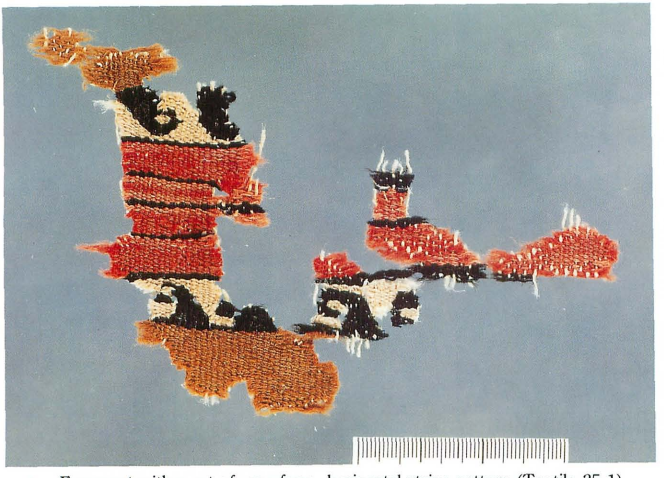


d. Fragment with color gradated horizontal stripe pattern (Textile 31).

a. Fragment with color gradated horizontal stripe pattern (Textle 32).



b. Fragment with horizontal stripe pattern (Textile 33).



c. Fragment with a set of waveform, horizontal stripe pattern (Textile 35-1).

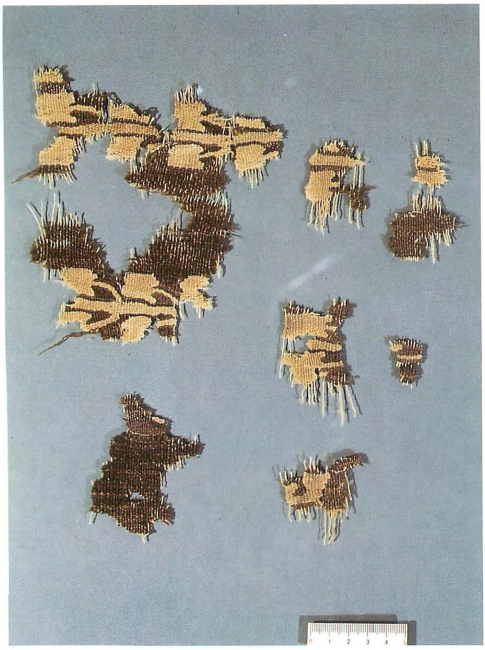
d. Fragment with two pieces sewn together (Textile 34).

a. Fragment with various sorts of stripe pattern (Textile 35-2, Specimen V-44-1).

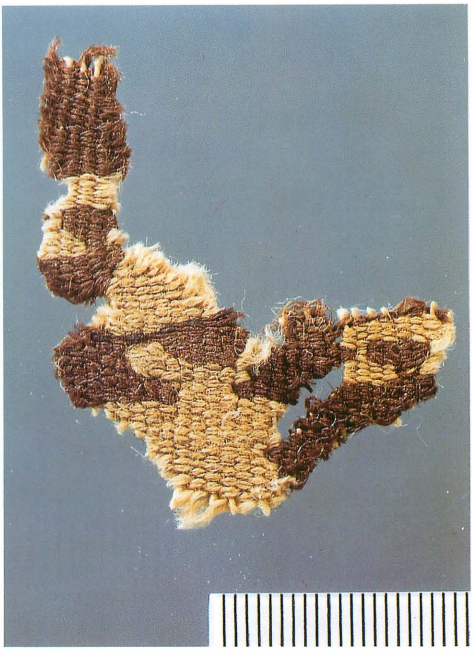
b. Fragment with various sorts of stripe pattern (Textile 35-2, Specimen V-44-2).

c. Fragment with various sorts of stripe patterns (Textile 35-2, Specimen V-126-2a).

d. Fragment with various sorts of stripe patterns (Textile 35-2, Specimen V-95-4).



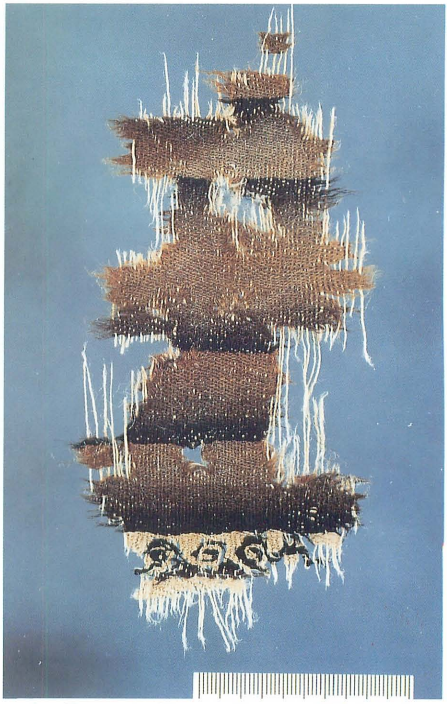
a. Fragments with horizontal plant pattern bands (Textile 36, Specimen V-88-1).



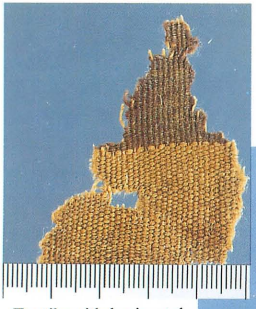
b. Fragment with horizontal plant pattern band (Textile 36, Specimen V-47-8).

c. Fragments with horizontal plant pattern band (Textile 36, Specimen IV-W-32-3).

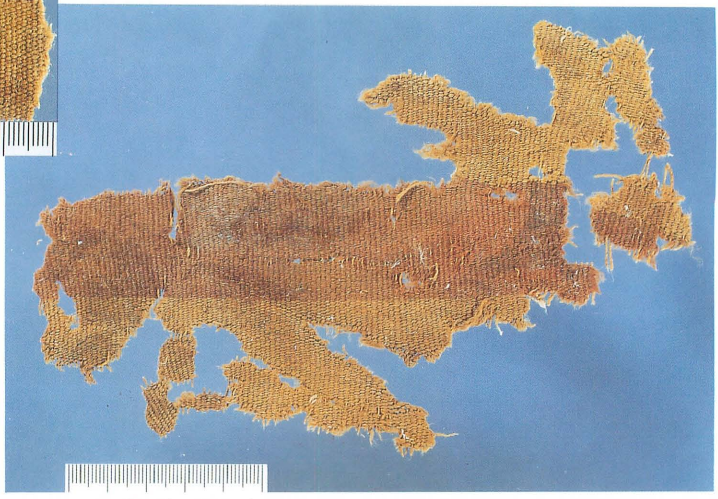
a. Fragment with warp alignment of 2·1/repeat (Textile 38).



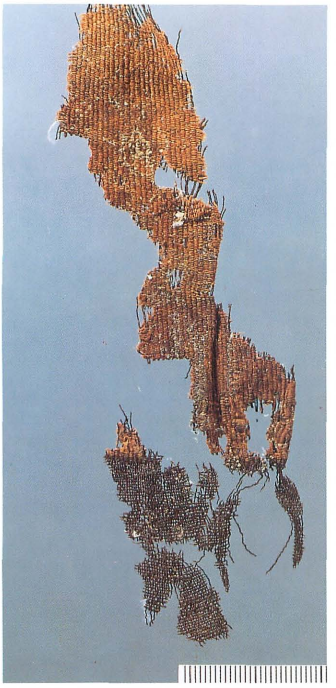
b. Fragment with warp alignment of 2·1/repeat, weft 2 on the pattern and 1/2 twill ground (Specimen IV-OH-2, Cave 7 Hill C).



c. Textile with horizontal band pattern, 2 picks of paired wefts each along the pattern (Textile 39, Specimen V-65-3).

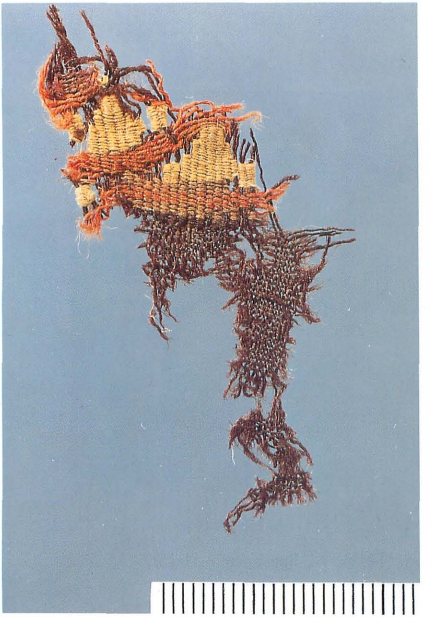


d. Textile with horizontal band pattern (Textile 39, Specimen V-95-1).

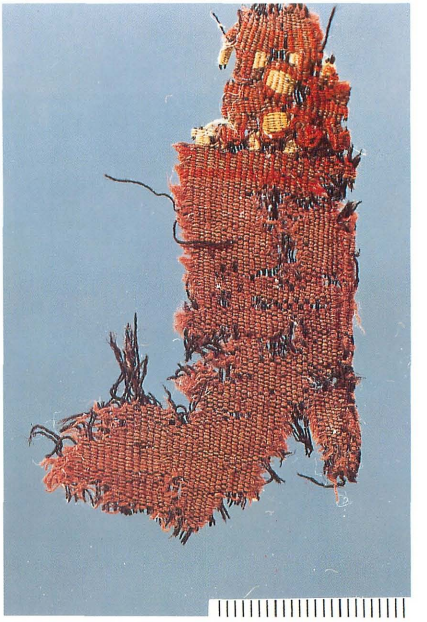


a. Fragment with vertical band
(Textile 40, Specimen V-39-1).

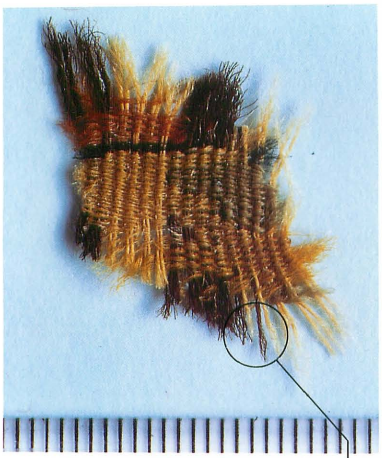
b. Fragment with floral pattern band
(Textile 40, Specimen V-125-2).



c. Fragment with geometric pattern band
(Textile 40, Specimen V-65-10).

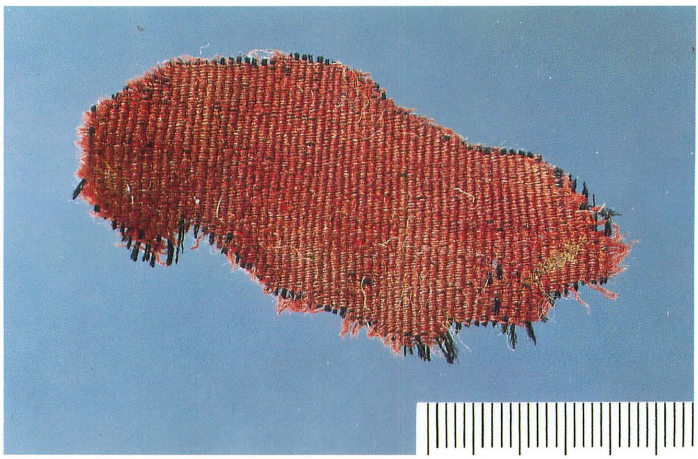


d. Fragment with floral pattern band
(Textile 40, Specimen V-126-4 with Selvage).

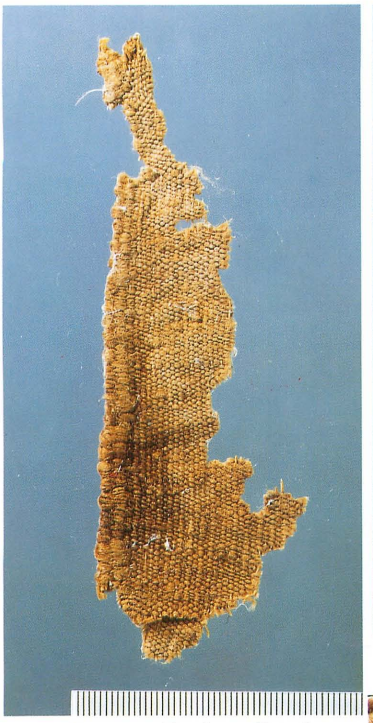


a. Fragment with paired warps of different colors (Textile 41).

b. Gauze-like fragment (Textile 42, Specimen IV-W-53).



c. A part of 'Kermes' band pattern (Textile 42, Specimen V-41-15).

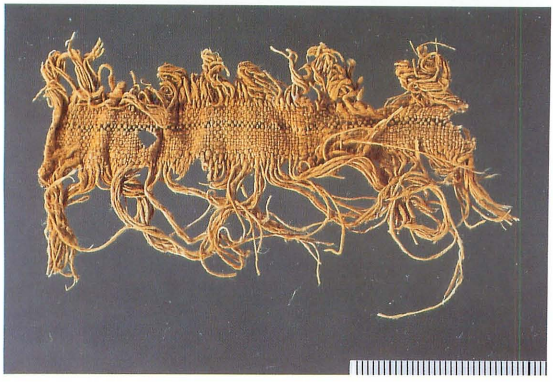


a. Fragment with selvage, Type 3, cord 3·4·3 (Textile 43, Specimen V-21-1).

b. Textile with horizontal band pattern (Textile 43, Specimen V-2-1).

c. Linen fragment with the evidence of warp-connecting method (Textile 44).

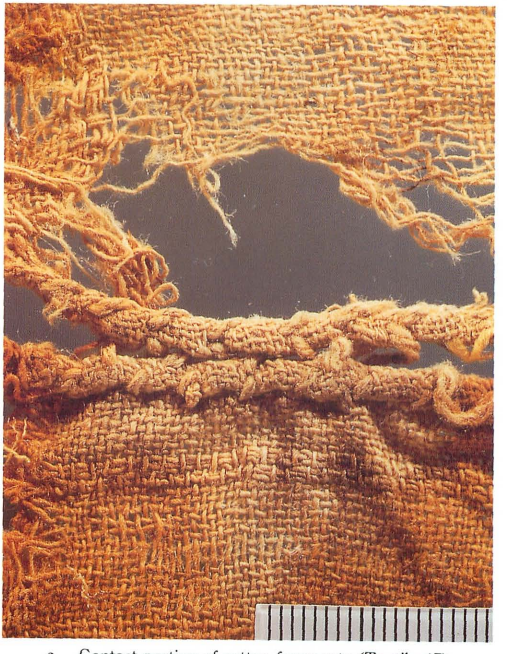
a. Linen cloth with sheep thread used for pattern weft (Textile 45).



b. Linen cloth with sheep thread used for pattern weft and fringed warp finish (Textile 45, Specimen V-95-6).

a. Linen cloth with sheep thread used for pattern weft (Textile 45, Specimen V-95-6).

b. Linen cloth with sheep thread used for pattern weft, warp crossing by means of a set of 4-warps each along the pattern (Textile 45, Specimen V-71-1).



c. Contact portion of cotton fragments (Textile 47).

REPORT ON THE ANALYSES OF TEXTILES UNCOVERED AT THE ANCIENT IRAQI SITE: PART 4

Fibers & Textiles Laboratories,
TORAY Industries, Inc.*

Given below are the results of morphological analyses attempted by us on the textiles found at at-Tar Caves. The English was kindly improved by Mrs. Maya Ikuma.

Summary

Textiles coming from at-Tar Caves:
Fiber analyses (No. 33–No. 48)

A. In view of the fiber surface structure and cross sectional structure, it has been proved that all the samples are composed of beast fibers which belong to animal fibers. The fibers which have great resemblance to sheep fibers, one of today's typical beast fibers, are used there.
B. The samples treated here are nearly the same in fiber thickness, unlike the other sheep fibers from at-Tar Caves that have ever been analysed. The sample numbers follow those in the report that appeared in *Al-Rāfidān* Vol. XI [Fibers & Textiles Laboratories, Toray Industries, Inc., 1990, p. 70, Table 1], Vol. XII [Fibers & Textiles Laboratories, Toray Industries, Inc., 1991, p. 164, Table 1], and Vol. XIV [Fibers & Textiles Laboratories, Toray Industries, Inc., 1993, p. 150, Table 1].

Analytical details

Methods

A. **Pretreatment:** The textiles were treated with ultrasonic wave washing while immersed in water, since their fiber surfaces were found soiled by lots of mud or the like.
B. **Observation of the fiber surface structure:** The textiles were observed by using the scanning electron microscope after Au-Pd shadowing had been applied to their fiber surfaces.
C. **Observation of the cross sectional structure:** The optical microscope observation was carried out on a section of 6 μm in thickness each into which the samples were cut by Minot's microtome after embedding them in paraffin.
D. **Elementary analyses:** Each sample was left to the analyses by means of scanning electron microscope and X-ray microanalyzer after its carbon shadowing.

Observations and consideration

Material analyses

Pls. 1–4 show the results of photo-observation of the samples' fiber surface structures and cross sectional structures. And Table 1 indicates the results of their morphological analyses.

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Excepting one stitch thread, all the samples are judged to be of sheep fibers, seen from their fiber surface structures, cross sectional structures and fiber widths.

Table 1 Analytical Results of Beast Fibers of the Non-Pile Textiles: Cave 16, Hill C

Sample No.	Description				Material Beast fiber	Fiber width (μm)
	Textile No.	Specimen No.	Kind	Color of outward appearance		
33	T-20	V-2-3	Selvage warp	Dark grayish brown	Sheep	15–40
34	T-20	V-2-3	Selvage weft	Dull reddish yellow	Sheep	15–30
35	T-20	V-2-3	Ground warp	Dark grayish brown	Sheep	20–35
36	T-20	V-2-3	Ground weft	Dull reddish yellow	Sheep	~25~
37	T-21	V-86-1	Warp	Dull reddish yellow	Sheep	20–50
38	T-21	V-86-1	Pattern weft	Deep yellowish red	Sheep	18–50
39	T-24	V-107-4	Warp	Dull reddish yellow	Sheep	15–40
40	T-24	V-101-6	Stitch thread	Dark brown	Normal goat	70–100
41	T-25	IV-W-8-⑥	Ground Weft	Brownish gold	Sheep	15–35
42	T-35-2	V-126-2a	Sewing thread	Dark brown	Sheep	20–40
43	T-36	IV-W-32-3	Warp	Dull reddish yellow	Sheep	15–30
44	T-36	IV-W-32-3	Ground weft	Dark reddish brown	Sheep	15–35
45	T-38	V-21-13	Pattern weft	Deep purplish red	Sheep	15–30
46	T-40	V-73-2	Warp	Dark reddish brown	Sheep	15–40
47	T-42	IV-W-53	Warp	Dark blue	Sheep	20–40
48	T-42	V-41-15	Pattern weft	Deep red	Sheep	20–45

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Pl. 1

Longitudinal view

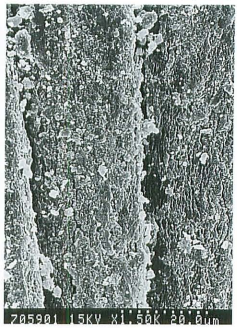
Cross section

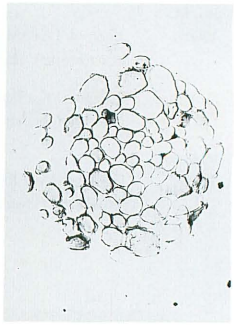
×1000

×1500

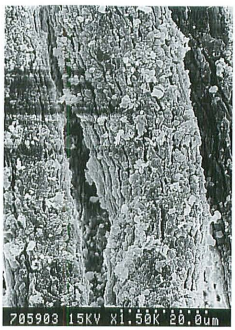
×200

Sample No. 33
(Dark grayish brown)
Sheep fiber, selvage warp.

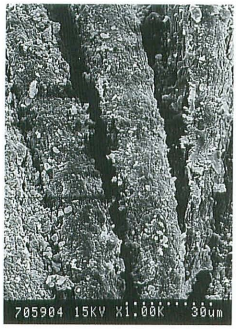


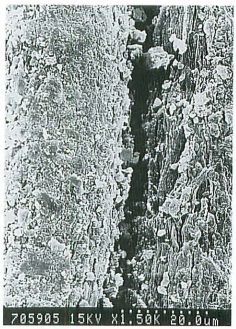


Sample No. 34
(Dull reddish yellow)
Sheep fiber, selvage weft.

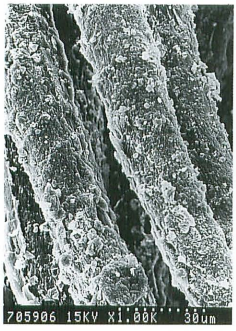


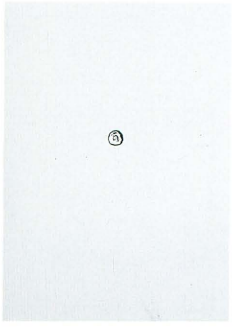
Sample No. 35
(Dark grayish brown)
Sheep fiber, ground warp.





Sample No. 36
(Dull reddish yellow)
Sheep fiber, ground weft.





Samples 33, 34, 35 and 36

Longitudinal view

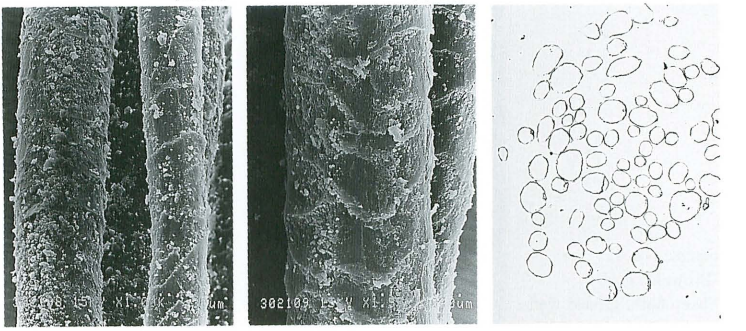
Cross section

×1000

×1500

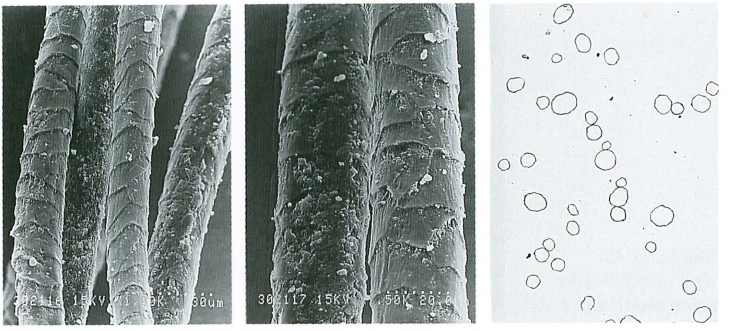
×200

Sample No. 37
(Dull reddish yellow)
Sheep fiber, warp.

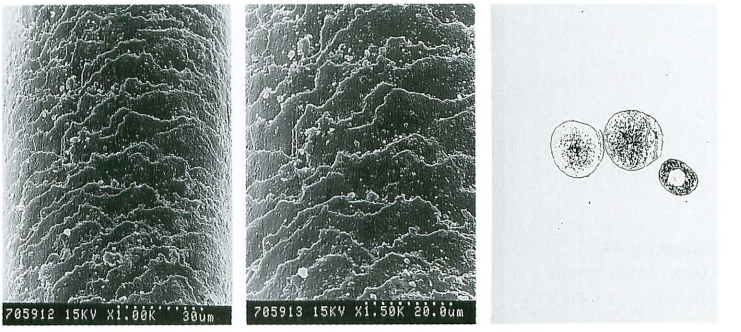


Sample No. 38
(Deep yellowish red)
Sheep fiber, pattern weft.

Sample No. 39
(Dull reddish yellow)
Sheep fiber, warp.

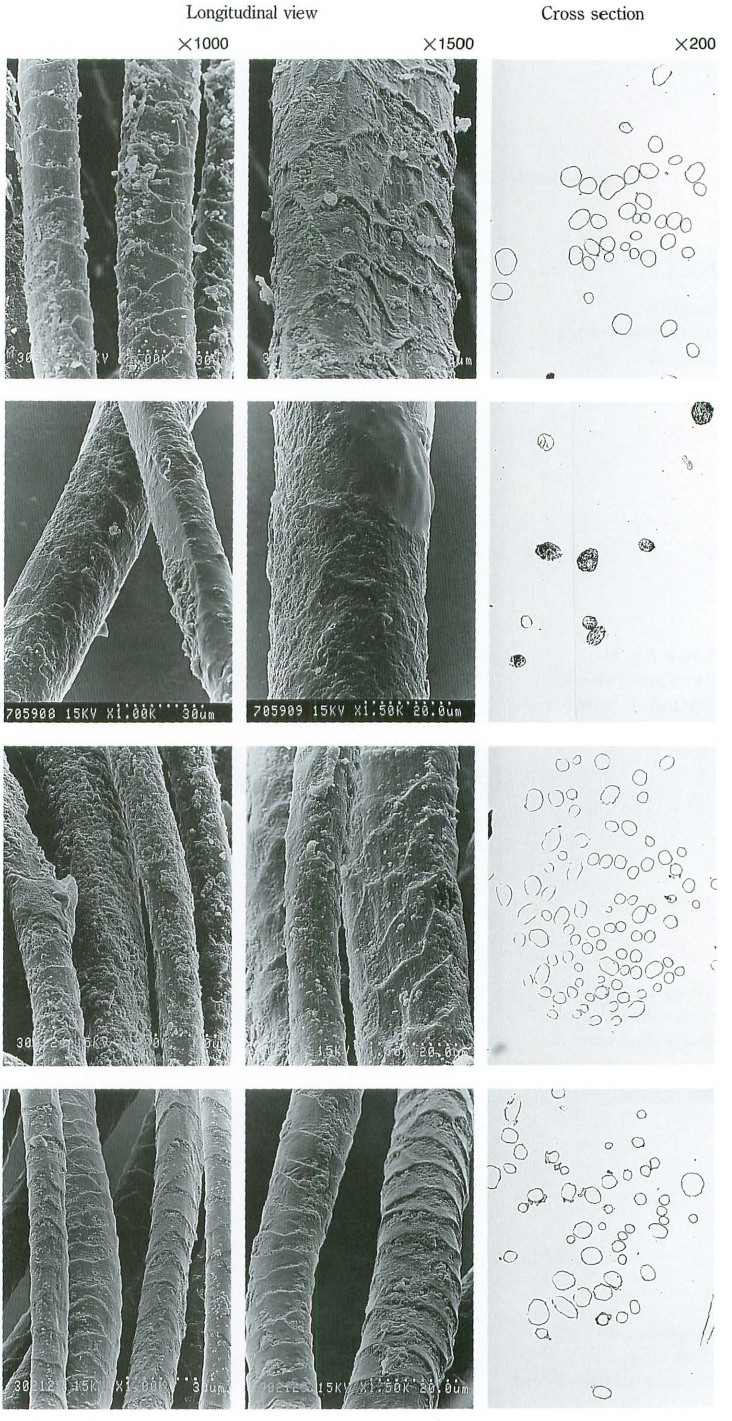


Sample No. 40
(Dark brown)
Normal goat, stitch thread.



Samples 37, 38, 39 and 40

Pl. 3

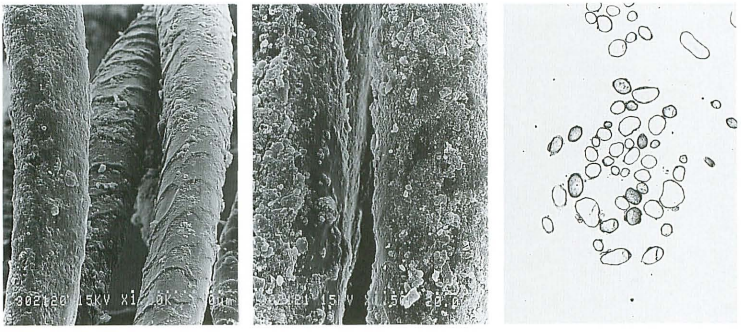


Samples 41, 42, 43 and 44

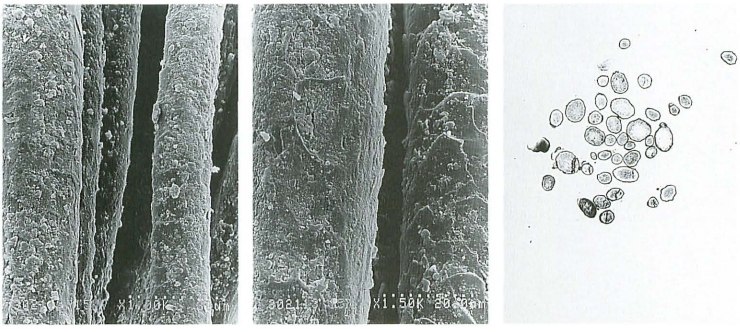
Longitudinal view ×1000 | Longitudinal view ×1500 | Cross section ×200

Sample No. 45
(Deep purplish red)
Sheep fiber, pattern weft.

Sample No. 46
(Dark reddish brown)
Sheep fiber, warp.



Sample No. 47
(Dark blue)
Sheep fiber, warp.



Sample No. 48
(Deep red)
Sheep fiber, pattern weft.

Samples 45, 46, 47 and 48

REPORT ON THE ANALYSES OF LINEN TEXTILES UNCOVERED AT AT-TAR CAVE C-16

Technical Department
TOSCO Co., Ltd.*

This is to report the results of morphological analyses attempted by us on the textiles uncovered at at-Tar Cave C-16. The English was kindly improved by Mrs. Maya Ikuma.

1. Analytical outline

It is judged from the fibers' cross sectional and lateral views that the sample textiles, Textile 45 (V-71-1) and Textile 44 (V-105-1) use linen yarns, a kind of plant fibers, for both the warp and the weft.

2. Analytical description

Research method

A. Observation of the fiber surface structure

The fiber surfaces of the samples were observed by scanning electron microscope and optical microscope, after applying Au-Pd shadowing to their fiber surfaces.

B. Observation of the fiber's cross sectional structure

After embedding them in paraffin, the samples were cut into a section of 6 μm in thickness each by microtome, and then each section was observed by optical microscope. Also, the servered part-ends were observed by scanning electron microscope, respectively.

3. Analytical results and consideration

Our fundamental concept to identify the materials was to emphatically discriminate between linen and ramie. By the way, these two specimens have no resemblance to the other plant fibers.

(1) Observation by scanning electron microscope

The samples' lateral view proves that fine denier fibers are mixed in the warp and the weft, showing a distinctive quality of linen. Moreover, nodes have been confirmed.

The samples' cross sectional view shows that the fibers are not flat, but shaped like roundish polygon, with the ratio of lumen existing there less than that in ramie, from which the tested specimens have been concluded to be of linen-make.

(2) Observation by optical microscope

The samples' cross sectional view is not of flatness, but of roundish polygon, whose lumen is less than ramie in ratio, which has the quality of linen.

Gold dye has been partially penetrated into the depth of fibers as to both the specimens, from which it can be presumed that the yarns themselves were primarily subjected to dyeing procedure.

(3) It is observed from the sample V-105-1's cross sectional view by scanning electron microscope and

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optical microscope that flatness exists in part. Its comparison with ramie is that the sample V-105-1 is less than half the size of ramie in major axis of the cross section, while the sample's average fiber diameter, 18 μm, is very different from that of ramie, 51 μm. Judging from the fact that it has linen's specific quality, V-105-1 has been concluded linen-make.

Fiber diameter values

Sample No.	Yarn	Fiber shape	Fiber diameter (μm)	Data No. (n)
V-71-1	Warp	Polygon	16.92	10
		Flatness	Major axis 27.53 Minor axis 9.14	5
	Weft	Polygon	14.57	10
V-105-1	Warp	Polygon	13.01	10
		Flatness	Major axis 20.48 Minor axis 10.93	5
	Weft	Polygon	13.72	10

(Investigated by TOSCO Research Laboratory)

Single fiber diameter of linen and ramie of the present time

	Average diameter (μm)	Diameter range (μm)
Linen	23	13–31
Ramie	51	42–66

(by H. Ookawa 1980)

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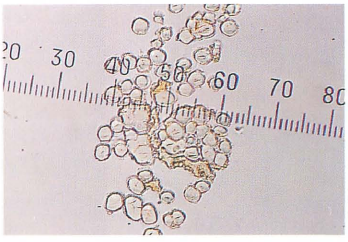
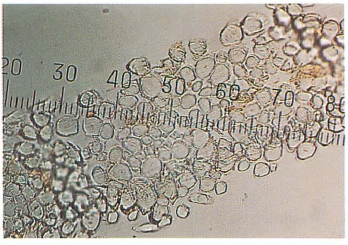
Longitudinal view ×20

Cross section ×500

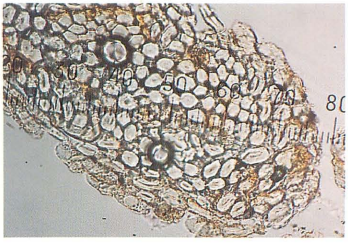
Specimen V-71-1, warp.



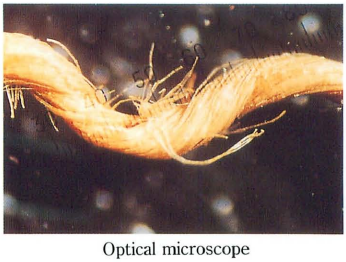
Specimen V-71-1, weft.

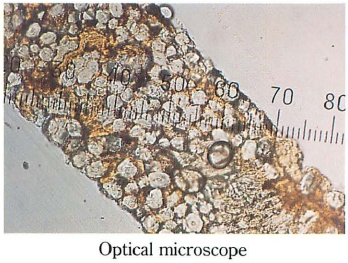


Specimen V-105-1, warp.



Specimen V-105-1, weft.

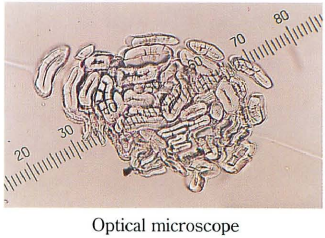




Optical microscope

Optical microscope

×1000

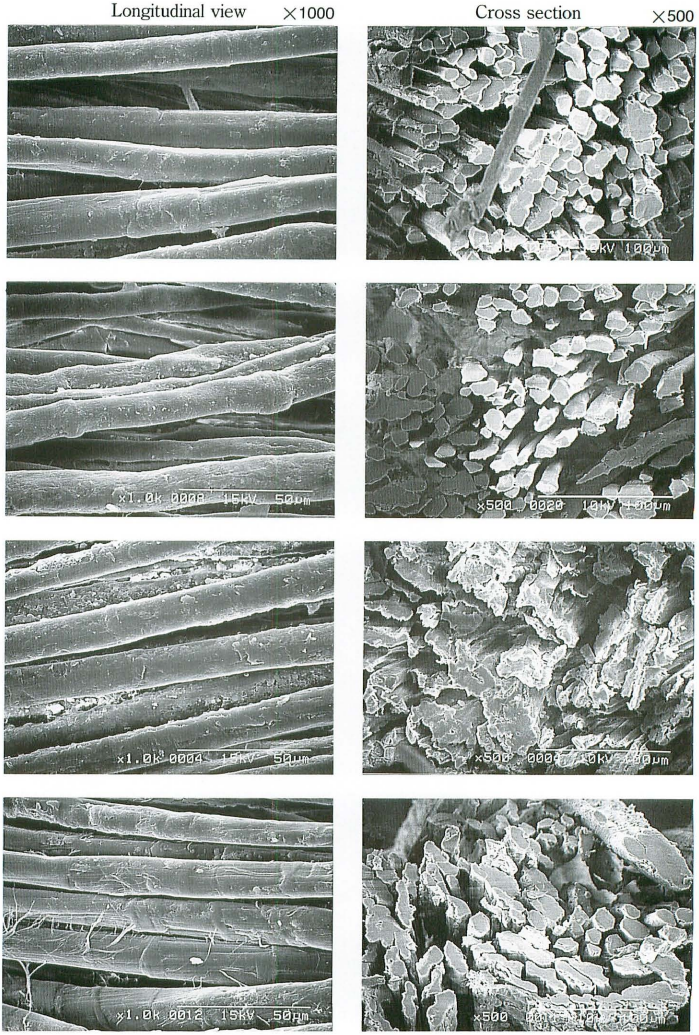


Ramie

Optical microscope

Specimens V-71-1 and V-105-1

Pl. 2



Specimens V-71-1 and V-105-1

REPORT ON THE ANALYSES OF TEXTILES UNCOVERED AT THE NIMRUD TOMB-CHAMBER

Fiibers & Textiles Laboratories,
TORAY Industries, Inc.*

Given below are the results of morphological analyses attempted by us on the textiles found at the Nimrud tomb-chamber. These are the textile specimens which have been uncovered together with two female bodies from the inside of a sarcophagus placed in the second tomb-chamber which presumably belongs to Queen Ya-Ba-A. It was found during the excavation work of April 13–14, 1989 by the Directorate General of Antiquities and Heritage, Iraq in Nimrud that the tomb-chamber had been constructed 5 m below the floor level of Room 49, N.W. Palace of Assurnasirpal II (9th century B.C.) (Refer to Muayad Said Damerji, 1991, The Second Treasure of Nimrud, *Bulletin of the Middle Eastern Culture Center in Japan* Vol. V: Dedicated to H.I.H. Prince Takahito Mikasa on the Occasion of His Seventy-Fifth Birthday, pp. 9–16). Dr. Muayad Said Damerji, Director General of the said Directorate General made a request to us for the analyses on the quality of these textile specimens through Professor Hideo Fujii, Head of the Japanese Archaeological Expedition to Iraq. The English was kindly improved by Mrs. Maya Ikuma.

Summary

Textiles coming from a sarcophagus:

Fiber analyses (Specimen No. 1–No. 9)

A. In view of the fiber surface structure and cross sectional structure, seven items have been identified as those of plant fibers, six of which are linen fabrics of bast fibers, while the rest is a cotton fabric of seed fibers.

B. Also, the use of linen has been confirmed for both the cloth yarns surrounding metallic cylinders from outside, and their core yarns.

C. The particle-like substances found stuck fast to the textiles and the metallic cylinders have been regarded as copper.

Analytical Details

Methods

A. **Pretreatment**: The textiles were treated with ultrasonic wave washing while immersed in water, since their fiber surfaces were found soiled by lots of mud or the like (Pl. 1a, 1b).

B. **Observation of the fiber surface structure**: The textiles were observed by using the scanning electron microscope after Au-Pd shadowing had been applied to their fiber surfaces (Pls. 4–6).

C. **Observation of the cross sectional structure**: The optical microscope observation was carried out on a section of 6 μm in thickness each into which the samples were cut by Minot's microtome after embedding them in paraffin (Pls. 4–6).

* 3-3-7, Sonoyama, Ohtsu, Shiga Prefecture

D. **Elementary analyses:** Each sample was left to the analyses by means of scanning electron microscope and X-ray microanalyzer after its carbon shadowing.

Observations and consideration

Material analyses

Pls. 4–6 show the results of photo-observation of the samples' fiber surface structures and cross sectional structures. And Table 1 indicates the results of their morphological analyses.

a. Specimens No. 1–3, No. 5 and No. 7–8, which are the ones of bast fibers, have been thought to be linen-make, judging from their thicknesses and internodes' lengths (Pls. 1–4 and 6).

b. Specimen No. 4. the one of seed fibers, has been defined as Indian cotton, through the examination of its cross sectional structure and the wrinkles forming in the epidermis structure.

c. Most of the particle-like substances evidenced in Specimens No. 6 and No. 9 have proved to be copper. Plate 6 shows the analytical results. The elementary analysis of the particles contained in Specimens No. 6 and No. 9 has revealed the presence of Cu in great quantities.

Table 1 Results of the morphological analyses

Specimen No.	Specification	Materials			Fiber range (μm)
		Plant fiber		Metal	
		Seed fiber	Bast fiber		
1	Textile		Linen		5–13
2	Textile		Linen		5–13
3	Textile		Linen		8–13
4	Textile	Cotton			15–18
5	Textile		Linen		8–20
6	Lump in textile			Copper (Particles or the like)	—
7	Metallic cylinder		Linen (Outside cylinder)		10–21
8	Metallic cylinder		Linen (Core yarns)		12–22
9	Metallic cylinder			Copper	—

a. Before cleaning (Specimen No. 5).

b. After cleaning (Specimen No. 5).

c. Specimen No. 1.

d. Specimen No. 2.

Textiles uncovered at the Nimrud Tomb-chamber (Specimen Nos. 5, 1 and 2)

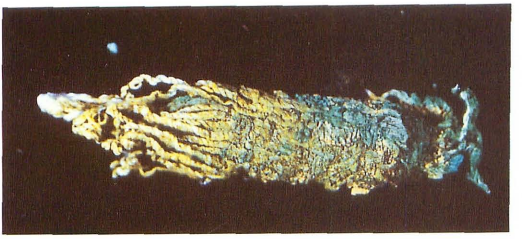
a. Specimen No. 3.

b. Specimen No. 4.

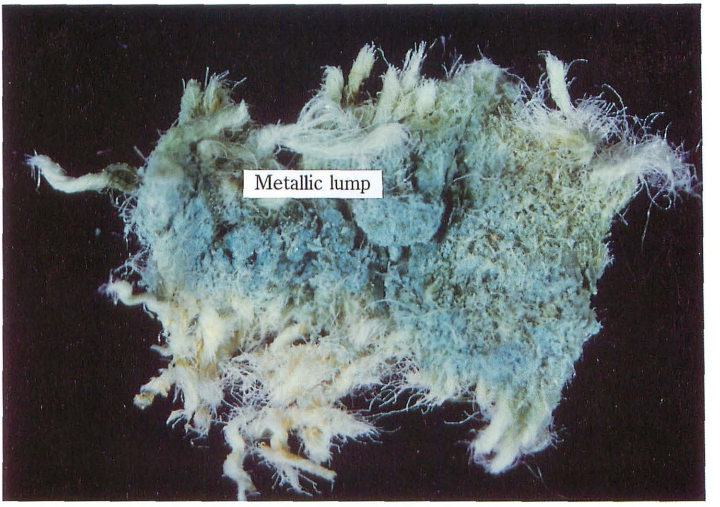
c. Specimen Nos. 6–9.

d. Outside metallic cylinder (Specimen No. 7).

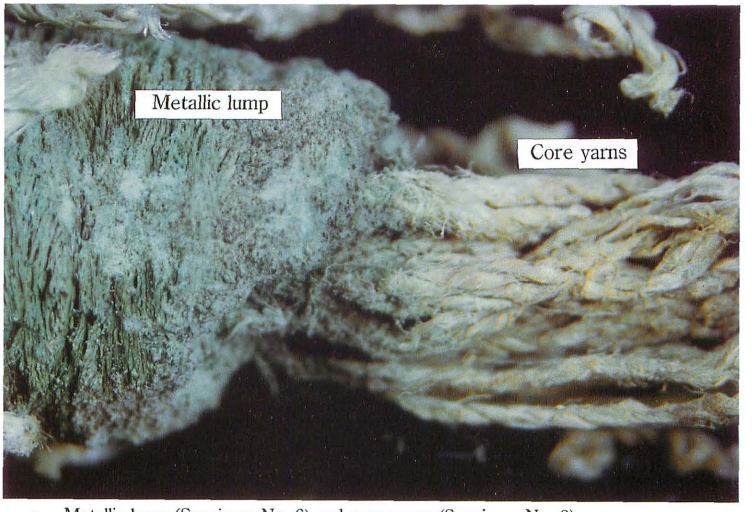
Textiles uncovered at the Nimrud Tomb-chamber (Specimen Nos. 3, 4 and 6–9)



a. Metallic cylinder (Specimen No. 9) covered by textile (Specimen No. 7).



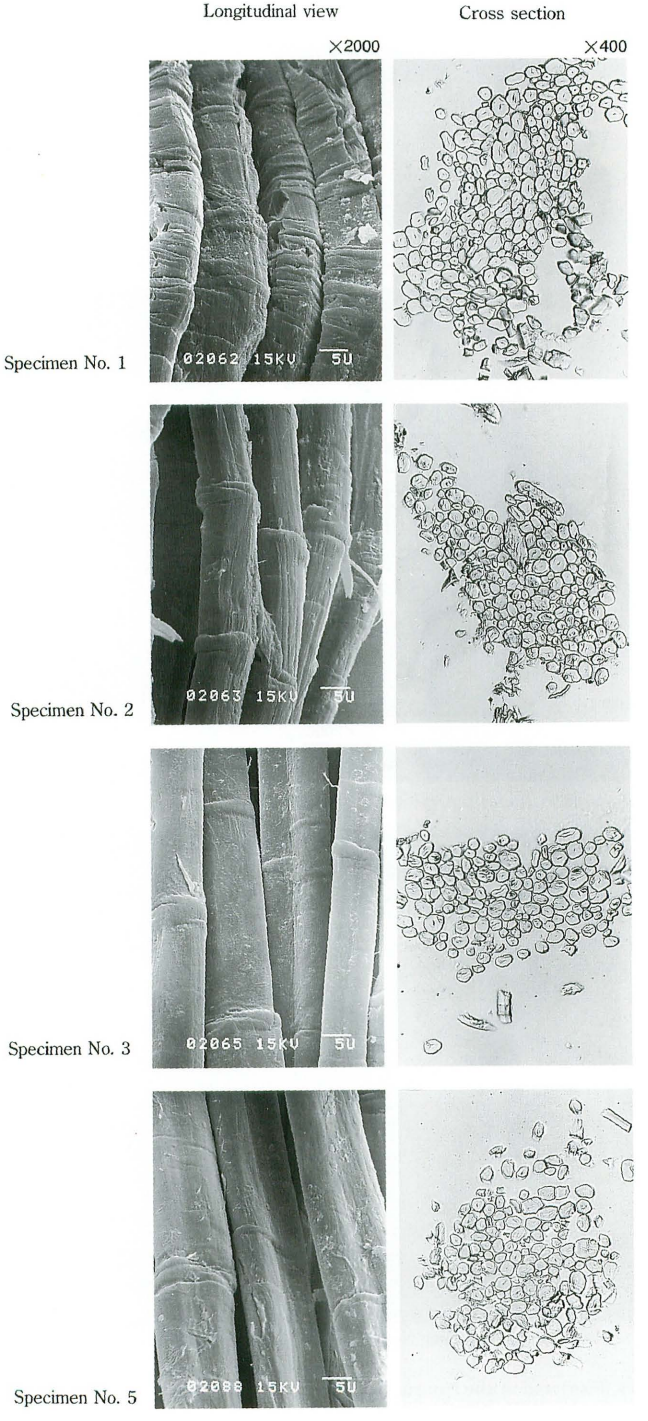
b. Metallic lump in textile (Specimen No. 6).



c. Metallic lump (Specimen No. 6) and core yarns (Specimen No. 8).

Textiles uncovered at the Nimrud Tomb-chamber (Specimen Nos. 6, 7, 8 and 9)

Pl. 4

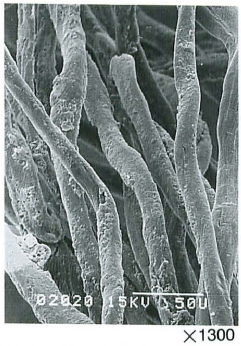


Textiles uncovered at the Nimrud Tomb-chamber (Specimen Nos. 1, 2, 3 and 5)

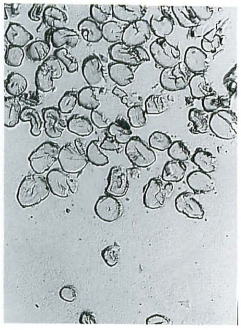
Longitudinal view

Cross section

×500

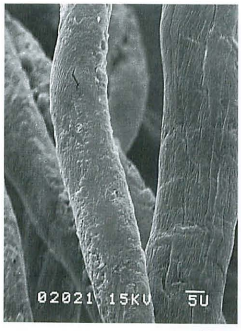


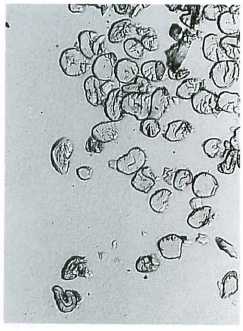
×400



Specimen No. 4

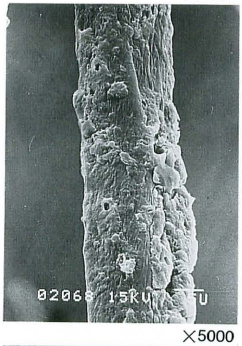
×1300





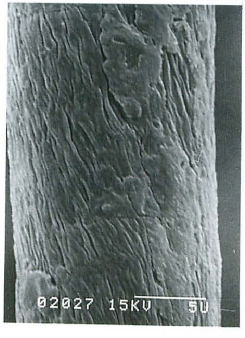
Specimen No. 4

×2000



Specimen No. 4

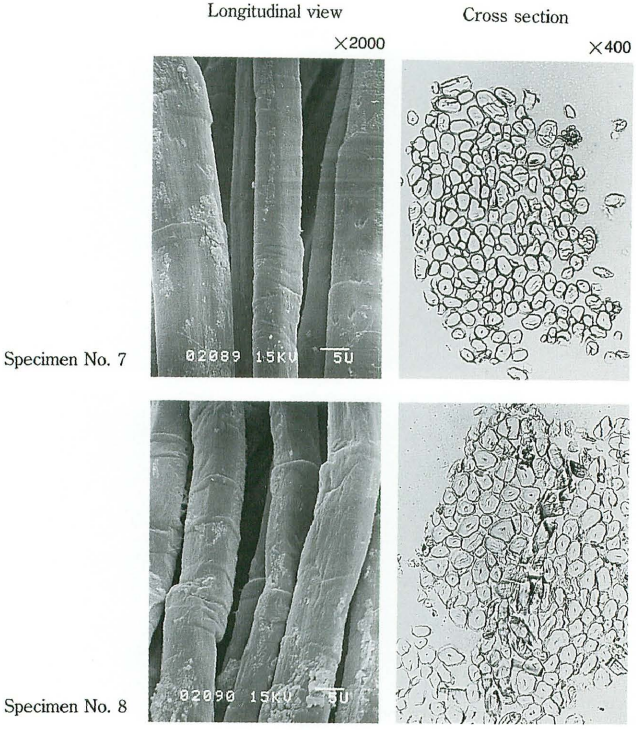
×5000

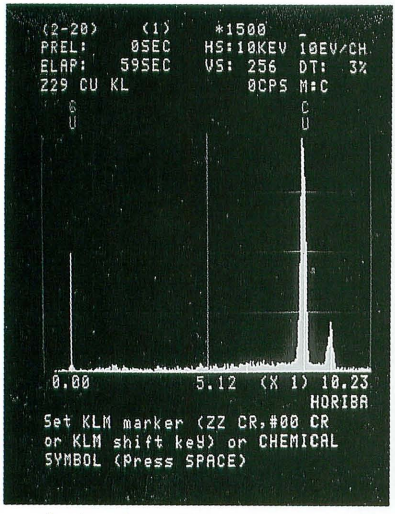


Specimen No. 4

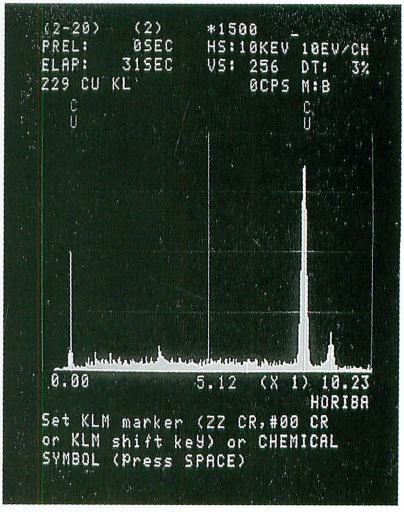
Textiles uncovered at the Nimrud Tomb-chamber (Specimen No. 4)

Pl. 6





Specimen No. 6: Elementary analyses.



Specimen No. 9: Elementary analyses.

Textiles uncovered at the Nimrud Tomb-chamber (Specimen Nos. 6–9)

THE ARCHIVE OF AŠŠUR-MĀTU-TAQQIN FOUND IN THE NEW TOWN OF AŠŠUR AND DATED MAINLY BY POST-CANONICAL EPONYMS

Ali Yaseen AHMAD*

Introduction

Discovery

The circumstances of discovery are described in *Sumer* 35, 306–343 and, more briefly, in *Iraq* 43, 172–173. During the excavations, undertaken by the State Organization for Antiquities and Heritage 1979–1980, an area of about 11 ten-metre squares was opened, not far south of the Parthian Palace, against the western wall of the New City (*ālu eššu*) of Aššur. One of the Neo-Assyrian rooms of this level had a circular kiln with its fuel chamber intact, but the principal find was a group of 52 cuneiform tablets, mostly legal documents of the post-canonical period. The 34 tablets, out of this group published below, were unearthed in a stone door socket of a private house by Sd. Muyassar Said. There is a good chance that this house is identical to the one described in **Text 10**. For an approximate location see the map of Aššur, TAVO B IV 21.

Identification of the tablets

The tablets were originally given field numbers (Aššur 1 through 31, followed by 33A, 34A and 35A). When they had been transferred to the Iraqi Museum, Baghdad, they were assigned provisional shelf numbers. Both field and shelf numbers are indicated in the heading of **Texts 1–34** of the present edition. The final IM (Iraqi Museum) numbers are known for eight texts only,

IM 119276	**Text 21**	IM 119287	**Text 23**
(not IM 119576?)		IM 119288	**Text 12**
IM 119281	**Text 16**	(not IM 129288?)	
IM 119282	**Text 24**	IM 119290	**Text 22**
IM 119284	**Text 17**	IM 119292	**Text 20**

The unknown IM numbers of the remaining 26 tablets should be sought for in the vicinity of the above numbers. The hand copies published below will enable scholars to identify those tablets the IM numbers of which could not be indicated here. Regarding **Text 12** and **Text 21**, they might have numbers IM 119288 and IM 119276 respectively, not IM 129288 and IM 119576 as given in the following edition. The tablets were copied long ago and the present author was not able to collate the hand copies on the originals. Many readings with an added exclamation mark are, therefore, not the result of fresh collations but are to be considered conjectural. It is hoped that a later inspection of the tablets will verify the suggested readings and clarify those passages which remain enigmatic. Great care has been taken in the commentary sections to explain the discrepancies between the hand copies and the transcriptions. One of the reasons for

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It is with great pleasure that I present my first edition of cuneiform texts to D. J. Wiseman, Professor Emeritus, School of Oriental and African Studies, University of London. He deserves all the credit for it. Next I would like to thank Dr. Muayyad Said Damirji, Director General of Antiquities and Heritage, for his kind permission to allow me to study and publish these texts. I extend my gratitude to Sd. Muyassar Said, the archaeologist who discovered these tablets and who encouraged me to study and to copy them. My sincere thanks is due to all the members of the expedition at Aššur during the seasons 1979 and 1980, for their help and generosity. I wish to express my deep appreciation to Karlheinz Deller, Professor Emeritus, University of Heidelberg, who has given great support to the present edition of Aššur-mātu-taqqin's archive. I would like to thank Professor Hideo Fujii, who generously accepted this edition for *AL-RĀFIDĀN*.

presenting this text edition in its admittedly imperfect form, is the need to supply all the available evidence to the project of the Deutsche Orient-Gesellschaft which aims at the final publication of all tablets excavated by Walter Andrae at Aššur. These texts are housed in İstanbul Arkeoloji Müzeleri and Vorderasiatisches Museum Berlin. Further Aššur texts found their way to other museums in Geneva, London, Paris, Yale and elsewhere. The texts found at Aššur after Andrae's excavations (officially closed on Dec. 31, 1913), by Iraqi and German excavators, may contribute to the prosopography of Aššur during the post-canonical period and help to arrange the post-canonical eponyms in a more reliable sequence.

Chronology of the tablets

Most, but not all, eponym dates contained in the present edition are already listed by A.R. Millard, *The Eponyms of the Assyrian Empire, 910–612 B.C.* (SAAS, vol. II, Helsinki 1994). Reference to this book is made in the heading of each individual text (eponym ... listed/not listed SAAS II). Readers should bear in mind that Millard quotes the texts by their field numbers.

Out of the 34 texts two are undated (**Texts** 28 and **29**) and two dates had been destroyed (**Texts 3** and **12**). 28 out of the remaining 30 texts bear post-canonical dates.

Text 5 (field number Aššur 6) is dated by *limmu Kanūnāyu ša bēti ešši*, which means 666 B.C. The entry SAAS II, p. 97, under Kanūnāyu 671 B.C., has to be corrected accordingly.

Text 6, roughly contemporary to **Text 5**, is dated (l. 15) by *lim-mu* 1. MUŠ-*ni-nu*. Given the chronological proximity to *Kanūnāyu ša bēti ešši* this new eponym cannot be classified but as extra-canonical (on this term see R. Whiting *apud* A. Millard, SAAS II, p. 78).

The 28 post-canonical eponyms are, in alphabetical order,

Adad-rēmanni, **Texts** 4 and **20**
Aššur-gimillī-terre, **Texts 11** and **30**
Bēl-aḫu-uṣur, **Texts** 25 and 33
Daddî, **Text** 8
Iqbi-ilāni, **Text 13**
Mušallim-Aššur, **Texts 9** and **31**
Nabû-da"inanni, **Text 1**
Nabû-sagib, **Texts 24, 26, 27,** and **34**
Nabû-tappūtu-alik, **Texts 7** and **14**
Sîn-ālik-pāni, **Text 16**
Ṣalmu-šarru-iqbi, **Texts** 2 and 32
Šamaš-mītu-uballiṭ, **Text 21**
Šamaš-šarru-ibni, **Texts 10, 17, 18, 19,** and **22**
Upaqqa-ana-Arba'il, **Texts 15** and **23.**

Four out of these fourteen eponyms, viz. Bēl-aḫu-uṣur, Daddî, Nabû-tappūtu-alik, and Ṣalmu-šarru-iqbi, can be assigned to the reign of Sîn-šarru-iškun (see SAAS II, p. 75) while all the remaining eponyms fall into the reign of Aššurbānipal.

The Archive of Aššur-mātu-taqqin

As can easily be seen a certain Aššur-mātu-taqqin is the central person of this text group found together in a stone door socket, but only 24 out of 34 texts (70,6%) are clearly related to Aššur-mātu-taqqin:

He buys a male slave in **Texts** 3 and **9**; he buys a female slave in **Texts 4, 7** (together with Ātanaḫ-ili and Pān-Aššur-lāmur), 8 (together with Sūniš-Aššur), and **11**; and he buys a house in **Text 10** (his name partly restored). He is a creditor of silver loans in **Texts 13, 14, 16,** 18 (together with Aššur-ukallanni), **19,** and **22,** and of various commodities in **Text 15.** He is the addressee of the private letter, **Text** 28. In all

probability the memo **Text 29** was written by him. In **Text 30** he adopts a son (together with his wife?). In **Text 31** he inherits the house and a slave woman from his father Mannu-kī-Arba'il. Twice he succeeds in lawsuits, **Texts 32** and, together with Aššur-dūrī, **34**. He acts as "debtor" in commercial loans, **Texts 21, 23,** and **24**. **Text 12**, fragmentary and ill defined, has his father, Mannu-kī-Arba'il, as the central person.

How the remaining ten texts fit into Aššur-mātu-taqqin's archive depends on better insights regarding his family and especially his business partners.

Aššur-mātu-taqqin's Family

From **Text 31** it becomes clear that Aššur-mātu-taqqin was a son, maybe the firstborn son of Mannu-kī-Arba'il, and that Aššur-dūrī was one of his brothers. In line 20 of this text even his sisters are mentioned, an unusual feature at this point of the document. **Text 30** shows that Aššur-mātu-taqqin was married; his wife's name is probably to be found in lines 2 and 5. Nevertheless, this marriage remained childless and the couple decided to adopt a boy to act as their future heir. Whether Sūniš-Aššur (**Text** 8), Ātanaḫ-ilī and Pān-Aššur-lāmur (**Text 7**), and Aššur-ukallanni (**Text 18**) were also brothers of Aššur-mātu-taqqin is open to discussion. Aššur-mātu-taqqin's profession might be hidden behind the enigmatic IGI.E (**Text 11**:6). In general he appears as a money lender and he is definitely involved in joint commercial activities. In this capacity he belonged to a group of people labelled EN KASKAL.MEŠ who invested money in commercial trips. Investment of this kind is typical for loans from Aššur in post-canonical times. The exact nature of this business requires further research; for the time being see K. Deller, "*tamkāru*-Kredite in neuassyrischer Zeit," *JESHO* 30 (1987) 1–29, esp. 21–24.

Officials mentioned in Aššur-mātu-taqqin's texts

Best attested is the *ḫazannu* by the name Āmur-Aššur (**Texts 9**:19 and **30**:21 in witness list; **Text 31**:1–2). He was probably in charge of *ālu eššu*; one of his predecessors was Aššur-ālu^{2}-uṣur in **Text 5**:20, dated 666 B.C.). An anonymous *ḫazannu* is mentioned in **Text 32**:4, an equally anonymous *šaknu* in **Text 32**:3.6.

A *rab kallābāni* (if correctly read) appears at the head of the witness list of **Text 30**:20; his name is Aššur-nādin-aḫi. A *rab ḫanšā*, named Ḫanî, is mentioned in **Text 10**:34. Clergy and officials of Ešarra are totally absent from Aššur-mātu-taqqin's archival texts.

The geographical horizon

URU.*Ta-ga-ri-te-ni* (**Texts 4**:3 and **15**:3), variant URU.*Ta-ga-ri-te-in* (**Text 14**:2) is relatively frequent. It corresponds URU.*Ta-ga-ri-te-ia-ni* in VAT 8699:10 (two KASKAL.MEŠ each carrying forty *šappātu* of wine were sent there). The toponym is relatively well attested in NB and LB texts; it has to be sought at modern Tikrit, from Aššur downstream of the Tigris.

Interesting is the use of *mad-bi-ru* (not inflected) in **Text 29**. It seems to be another variant of the locality written elsewhere *madburu*, *mudburu*, and *mudabbiru*, usually rendered by "steppe". Barley produced ina KUR.*Mu-da-bi-ri* is mentioned in the NA letter ND 23355:13 (H.W.F. Saggs, *Iraq* 21, pl. XLIV, no. LII; see K. Deller, *Or*NS 33, 260).

Some topographical information

The house described in **Text 10** is adjacent to two houses of private individuals but also adjacent to the *ḫarrān šarri*, the Royal road, on one side, and to a *suqāqu*, a lane, on the other side. Thus the *ḫarrān šarri* ran right through the New City, probably to the southernmost city gate.

Text 1 Sale of a Female Slave

Aššur 1

Shelf No.912.

obv. 15 lines, rev. 15 lines, l.e. 2 lines, total 32 lines.

Dimensions 80 x 50 x 25 mm.

Seller Urda-aḫḫēšu.

Buyer Ilu-pî-uṣur.

Price 1 $\frac{1}{2}$ mina of silver.

Eponym Nabû-da''inanni (PC, not listed SAAS II, p.104).

Scribe not indicated.

obv. 1 NA_4.KIŠIB 1.ÌR-PAP.MEŠ-šú

2 EN MÍ ta-da-ni

stamp seal impression

3 MÍ.URU.Arba'-ìl-i-tú GÉME-šú

4 ú-piš-ma 1.DINGIR-KA-PAP

5 TA* IGI 1.ÌR-PAP.MEŠ-šú

6 ina lìb-bi 1 $\frac{1}{2}$ MA.NA KÙ.BABBAR

7 il-qé kas-pu gam-mur ta-din

8 MÍ-su šu-a-tu za-ár-pa-at

9 laq-qe-ia-at tu-a-ru

10 de-e-nu DUG_4.DUG_4 la-áš-šu

11 man-nu šá ina ur-kis ina ma-ti-ma

12 i-za-qu-pa-an-ni GIB-u-ni

b.e.13 lu-u 1.ÌR-PAP.MEŠ-šú lu-u DUMU.MEŠ-šú

14 lu-u DUMU.DUMU.MEŠ-šú <lu-u> ŠEŠ.MEŠ-šú

15 lu-u DUMU.ŠEŠ.MEŠ-šú <šá> de-e-nu

rev.16 DUG_4.DUG_4 TA* 1.DINGIR-KA-PAP

17 DUMU.MEŠ-šú ù DUMU.<DUMU>.MEŠ-šú

18 de-e-nu DUG_4.DUG_4 ub-ta-'u-u-ni

19 10 MA.NA KÙ.BABBAR SUM-an kas-pu

20 a-na 10.MEŠ-te ina EN GUR

21 ina la de-ni-šú DUG_4.DUG_4-ma la i-laq-qé

22 ṣi-ib-<tú> bé-e-nu ina 1+me U_4.ME

23 sa-ár-tú ina kala MU.AN.NA.MEŠ

24 IGI+1.Ra-ḫi-mu IGI+1.A-ḫu-nu

25 IGI+1.Da-ni-i IGI+1.Ta-am-su-nu

26 IGI+1.SU-Aš+šur IGI+1.Ak-ku-da-nu

27 IGI+1.PAP-ia IGI+1.RI-< >

t.e.28 IGI+1.Aš+šur-kil-la-an-ni
29 IGI<+1>.SUḪUŠ-a-a IGI+1.DINGIR-la-SU
30 IGI+1.Qur-di-d.U+GUR
l.e.31 ITU.ŠE U_4 17 KÁM
32 lim-mu 1.d.AG-KALAG-in-an-ni

Translation

1-2 Seal of Urda-aḫḫēšu, owner of the woman being sold.
3-7 f Arba'ilītu, his slave woman, he contracted and Ilu-pî-uṣur bought her from Urda-aḫḫēšu for 1 $\frac{1}{2}$ mina of silver.
7-10 The money is completely given. That woman is purchased and acquired. Any revocation, lawsuit or litigation is void.
11-18 Whoever in the future, at any time lodges a complaint (and) breaks the contract, whether Urda-aḫḫēšu or his sons, his grandsons, his brothers, his nephews, who seeks a lawsuit or litigation with Ilu-pî-uṣur, his sons and his grandsons:
19-21 he shall pay 10 minas of silver (and) return the money tenfold to its owner.
22-23 (Guaranteed against) seizures of epilepsy for 100 days, (against) fraud for all the years.
24-30 Witness Raḫīmu. Witness Aḫūnu. Witness Danî. Witness Tamsūnu. Witness Erība-Aššur. Witness Akkudānu. Witness Aḫūya. Witness Ri< >. Witness Aššur-killanni. Witness Ub(a)rāyu. Witness Ilī-lā-erība. Witness Qurdi-Nergal.
31-32 Month Addaru, 17th day, eponym year of Nabû-da''inanni.

Commentary

3 Instead of 4* = Arba the copy has İ, one horizontal too much.
8 In MÍ-su the -su is not the possessive pronoun but a phonetic complement sinnissu^{su}, or (following S.Parpola and J.N. Postgate) issu^{su}.
14 There are several omissions in the lines to follow, 14.15.17. 22.27.29, marked by < > in the transcription.
18 de-e-nu DUG_4.DUG_4 is, however, put twice, ll.15/16 and l.18. This duplication has been disregarded in the translation.
20 Maybe one should restore the end of this line as follows: ina EN.<MEŠ-šú> GUR<-ra>. See note to l.14.
27 The second name is incomplete; no attempt has been made to restore it.

Text 2 Sale of a Male Slave

Aššur 2.
Shelf No.913.
Dimensions 90 x 50 x 25 mm.
obv. 14 lines, b.e. 4 lines, rev.22 lines, l.e. 2 lines, total 42 ll.
Seller Salamānu s. Ḫad⌈i? ⌉.
Buyer Kēn-Aššur and f(?)Amme'e.
Price: 1 mina $2\frac{1}{2}$ shekel of silver.
Eponym: Ṣalmu-šarru-iqbi (PC; not listed SAAS II, p.116-117).
Scribe: Not indicated or broken away.

obv. 1 NA_4.KIŠIB 1.⌈Sa-la-ma(-a)-ni⌉
2 DUMU 1.Ḫa-d⌈i? ⌉
3 EN ÌR ⌈tadāni⌉
stamp seal impression
4 1.d.U+GUR-DÙ ÌR-u-šú
5 ša 1.Sa-la-ma-nu!
6 ú-piš-u-ma 1.GIN-Aš+šur
7 TA* MÍ!?.Am-me-'e!
8 ina lìb-bi 1 MA.NA 2 GÍN $\frac{1}{2}$ KÙ.BABBAR
9 ina+1 ma-né-e šá Gar-gar!-mis
10 TA* IGI 1.Sa-la-ma-a-ni
11 iš!-ši il-qé kas-pu gam-mur
12 ta-di-ni tu-a-ru de-nu!
13 DUG_4.DUG_4 la-a-šu
14 man-nu šá ina ur-kiš ina ma-ti-ma
b.e.15 lu-u 1.Sa-la-ma-a-nu
16 lu-u DUMU.MEŠ-šú lu-u DUMU.DUMU.MEŠ-šú
17 lu-u PAP-u-šú lu-u DUMU.PAP.MEŠ-šú
18 lu-u mu-mu-šu! qur-<bu>
rev.19 ša de-e-nu DUG_4.DUG_4
20 TA 1.GIN-Aš+šur TA* MÍ!?.Am-me-'e!
21 TA* DUMU.MEŠ-šú-nu DUMU.DUMU.MEŠ-šú-nu
22 ub-ta-u-ni i-qa-bu-u-ni
23 ma-a ÌR a-ba-ṭar
24 Aš+šur d.IM EN d.PA
25 lu-u EN de-ni-šu kas-pu
26 a-na 20.MEŠ ana EN-šu u-GUR
27 ina la! de-ni-šú i-da-bu-bu-ma
28 la i-laq-qé ṣib-tú be-ni
29 sa-ár-tu ana kala-at MU.AN.NA.MEŠ
30 ITU.AB U_4 16 KÁM
31 lim-mu 1.NU!-MAN-E !

rev.32 IGI+1.Mu-še-zib-Aš+šur A 1.U+GUR-[ ]
33 IGI+1.Sa-gíb-Aš+šur A 1.EN-ZU
34 IGI+1.IGI-Aš+šur-la!-mur!
35 IGI+1.PAP+U-NU-KA-i-DINGIR
36 A 1.DINGIR-A-[ ]x
37 IGI+1.Na-bu-u-[a
38 IGI+1.ZI-x[ ]DU
39 IGI+1.AḪ-[
40 IGI+1.MAN-[
l.e.41 pu-u-tú-ḫu! I NAB TI 1 ṢI ZU IA SI AN
42 TA* IGI 1 AN ḪI RA RI i-na-ši

Translation

Seal of Salamānu, son of Had[i], owner of the slave being sold. Nergal-ibni/bāni, slave of Salamānu, they contracted and Kēn-Aššur with $^{f(?)}$Amme'e bought him from Salamānu for one mina and $2\frac{1}{2}$ shekel of silver in (the standard of) the mina of Carchemish. The money is completely given. Any revocation, lawsuit or litigation is void. Whoever in the future, at any time, whether Salamānu or his sons, his grandsons, his brother, his nephews or any relative of his, seeks lawsuit and litigation with Kēn-Aššur (and) with $^{f(?)}$Amme'e, with their sons (and) with their grandsons, and says "I shall redeem the slave": Aššur, Adad, Bēl (and) Nabû shall be his opponents. He shall return the money twentifold to its owner. He shall contest in his non-lawsuit and not succeed.
(Guaranteed against) seizures of epilepsy <for 100 days> (and against) fraud forever.
Month Kanūnu, 16th day, eponym year of Ṣalmu-šarru-iqbi.
Witness Mušēzib-Aššur, son of Nergal-[ ].
Witness Sagib-Aššur, son of Bēl-le'i.
Witness Pān-Aššur-lāmur.
Witness ...-pî-ili, son of Ilī-a-[ ]x
Witness Nabû[a]
Three more witnesses whose names are partially destroyed.
(On l.e.) putuḫḫu inašši clause the details of which are unintelligible.

Commentary

5 Last sign PAP in copy.
6 The unusual spelling stands for uppišū-ma, 3 masc. plural.
7 Copy has 1.AŠ.AM.ME.ḪI+BAR. Tentatively this name is understood as that of Kēn-Aššur's wife (with 1.AŠ read as MÍ!?).

How the couple Kēn-Aššur and Amme'e is related to Aššur-mātu-taqqin remains obscure.

11 Copy has ŠA-ši instead of išši; this form and the following ilqe are in 3rd masc. singular, in contrast to uppišū l.6 and the suffix -šunu in l.21.

12 At the end of line de-nu! is copied as DI-PAP.

18 Copy has mu-mu-LA. Maybe one should restore mu-mu-<nu>-šu! qur-<bu> in accordance with SAA VI 335 r.6.

20 The second name is copied as 1.AŠ.AM.ME.IM.

26 "twentifold" instead of "tenfold" (ana ešrāte) is quite unusual a penalty. Correct to a-na 10!.MEŠ ?

27 Copied as ina NA de-ni-šú.

28 At the end <ana 100 ūmāte> should be added; it is also left out in text 4:27.

29 The sign AD in ana kala-AD MU.AN.NA.MEŠ is difficult to explain; is *kullat šanāti meant?

31 Copy has 1.PAP-MAN-E.

35 The sign copied as PAP+U could be man! but a spelling -ka-i- for -ki-i- seems to be rather unusual.

41f. The exact wording of these two lines can only be established by inspection of the original. If ZU is URU a GN may be found; in l.42 durāru "debt remission" might have been intended. For the NA phrase putuḫḫu našû see K.Deller, WZKM 57,38-41; J.N.Postgate, FNALD p.43f., §3.4.4.

Text 3 Sale of a Male Slave

Aššur 3.
Shelf No.914.
obv. 15 lines, b.e. 2 lines, rev. 13 lines, total 30 lines.
Dimensions 86 x 43 x 25 mm.
Seller Ayya-aḫḫē s. Ḫanūnu.
Buyer Aššur-mātu-taqqin.
Price 16 shekel of silver.
Eponym broken away
Scribe Šinî

obv. 1 NA_4.KIŠIB 1.A-a-PAP.MEŠ
2 DUMU 1.Ha-nu-nu
3 EN LÚ.TUR SUM-ni
stamp seal impression
4 1.Ia-di-il! ÌR-šú
5 4 ru!-ṭu ša 1.A-a-PAP.MEŠ
6 DUMU 1.Ḫa-nu-ni
7 ú-piš-ma 1.Aš+šur-KUR-LAL
8 ina lìb-bi 16 GÍN KÙ.BABBAR
9 il-qé kas-pu gam-mur
10 ta-din LÚ.TUR šú-a-tú
11 up-pu ≪U≫ TI z[a-r]ip ≪IA≫ TI
12 tu-a-ru de-e-nu
13 DUG_4.DUG_4 la-áš-šu
14 man-nu šá ina ur-kiš ina ma-te-me
15 i-ba-<la-kàt>-u-ni i-di-bu-u-ni
b.e.16 ma-a ÌR a-paṭ!-ṭár!
17 Aš+šur LUGAL <lu> EN de-ni-šú
rev.18 a-de-e ša LUGAL
19 ina ŠU!-šú lu-u-ba-'i!-u
20 5 MA.NA KÙ.BABBAR SUM-an
21 ina de-ni-šú DUG_4.DUG_4-ma NU TI
22 ṣib-tú bé-e-ni a-na 1 me U_4.ME
23 sa-ar-tú kàla MU.AN.NA.MEŠ
24 IGI+1.Pu-šá-a-a
25 IGI+1.Zi-da-a-nu PAP-šú
26 IGI+1.SU-i
27 IGI+1.Qí-bit-Aš+šur
28 IGI+1.BÀD-Aš+šur
29 IGI+1.Aš+šur-MU-AŠ

rev.30 IGI+1.Šin-i A.BA

one line uninscribed

31 ITU.DU$_6$ U$_4$ <n KÁM lim>-mu 1.x[ ]x

32 LÚ.GAR KUR x[ ].

Translation

1-3 Seal of Aya-aḫḫē son of Ḫanūnu, owner of the boy being sold.

4-9 Yadi-il, the slave of Aya-aḫḫē son of Ḫanūnu, (he stands) four half-cubits, he has contracted and Aššur-mātu-taqqin bought him for 16 shekel of silver.

9-11 The money is completely given. That boy is sold and taken, is bought and acquired.

12-13 Any revocation, lawsuit, or litigation is void.

14-17 Whoever in the future, at any time violates the agreement (and) says 'I shall redeem the slave': Aššur (and) the king shall be his opponents.

18-20 The treaty of the king shall call him to account. He shall contest in his lawsuit and not succeed.

22-23 (Guaranteed against) seizure of epilepsy for 100 days, (against) fraud all the years.

24-30 Witness Pušāyu. Witness Zidānu, his brother. Witness Rībî. Witness Qibīt-Aššur. Witness Dūrī-Aššur. Witness Aššur-šumu-iddina. Witness Šinî, the scribe.

31-32 Month Tašrītu, nth day, eponym year of x[ ]x, the governor of x[ ].

Commentary

3 LÚ.TUR has, according to SAA VI, p.309b, the equivalent ṣeḫru, "boy, manservant". His legal status is that of a slave, as said in ll.4 and 16. LÚ.TUR in l.3 and 10 points to his age group; this is confirmed by his height of four half-cubits, l.5, ca. 1 meter.

4 Yadi-il, a West Semitic name, "God knows". The IL looks like DU with an inscribed ŠE on the copy; compare IL in l.9.

11 This line contains redundant clauses and spurious signs (U and IA). The stative uppu, well known from MA sales documents, is quite unexpected in a NA text, see J.N. Postgate, FNALD, p.14, § 2.1.2.

15 The two verbs in the subjunctive are written very carelessly. Instead of i-di-bu-u-ni the form *iqabbûni is expected, see text 2:22. Confusion of the verbs qabû and dabābu ?

16 The form apaṭṭar is copied as a-KAL plus a faulty DAR. KAL has to be corrected to -paṭ!; DAR = ṭár is an unconventional phonetic value in NA.

17 Contrary to all known references of this clause (see J.N. Postgate, FNALD p.20) where one god or several gods are referred to, in this line the god Aššur and the king are combined. There is, however, a faint possibility that LUGAL is part of the DN: Aššur-šarru, "King Assur".

19 The aleph sign lacks one horizontal.

26 Reading Rībî conjectural.

30 Reading Šinî conjectural.

31f. The year should be that of a PC eponym but no restoration can be proposed. One has to bear in mind that not all the titles of PC eponyms are known.

Text 4 Sale of a Female Slave

Aššur 4.
Shelf No.915.
Dimensions: 90 x 44 x 25 mm.
obv. 17 lines; b.e. 4 lines; rev. 20 lines; total 41 lines.
Seller: Nādinu s.Zammāni from Tagariteni.
Buyer: Aššur-mātu-taqqin.
Price: 33 shekel of silver.
Eponym: Adad-rēmanni (PC, listed SAAS II, p.80).
Scribe: not indicated.

obv. 1 NA_4.KIŠIB 1.Na-di-nu
2 A 1.Za-am-ma-a-ni TA*! ŠÀ!?
3 URU.Ta-ga-ri-te-ni
4 EN GÉME ta-da!-ni
stamp seal impression
5 MÍ.Bi-i'-ru!?-a GÉME-šú
6 šá 1.Na-di-nu up!-piš-ma
7 1.Aš+šur-KUR-LAL ina ŠÀ 33 GÍN KÙ.BABBAR
8 ša URU.Gar-ga-mis TA* IGI
9 1.Na-di-nu il-qe kas-pu
10 ga-mur ta-a-din GÉME šu-a-tú
11 za-ár-pat laq-qe-at <tu-a-ru>
12 de-e-nu DUG_4.DUG_4 la-a-šú
13 man-nu šá ina ur-kiš ina ma-te-ma
14 lu-u 1.Na-di-nu lu-u DUMU.MEŠ-šú
15 lu-u DUMU.DUMU.MEŠ-šú lu-u ŠEŠ-šú
16 lu-u DUMU.PAP!.AD-šú lu-u GAR-nu-šú
17 lu-u ḫa-za-nu-šú lu-⟨u⟩qur-bu-šú
18 lu-u GAL ki-ṣir lu-u ERIM.ME
b.e.19 EN il-ki lu-u qur-bi-šú
20 lu-u mám-ma-ni-šú šá de-e-nu
21 TA* (erasure) 1.Aš+šur-KUR-LAL
rev.22 [DUMU.MEŠ-šú DUMU.DUMU.MEŠ]-šú
23 [ ]
24 [ ]
25 [ ]-šú
26 [ ]
27 [la i]-laq-qe ṣib-tú be-en-nu <ana 100 ūmāte>
28 sa-ár-tú a-na kàla MU.AN.NA.ME
29 ITU.BÁR U_4 15 KÁM
30 lim-mu 1.d.IM-rém-a-ni !

rev.31 IGI+1.Sa-gíb-Aš+šur A 1.Aš+šur-mu-ba-al$^{!}$-⌜liṭ⌝
32 IGI+1.PAP-u$^{!}$-a$^{!}$-SU A 1.Šá$^{!}$-ab-[ ]
33 IGI+1.Qí-bit-Aš+šur A 1.Me-ia-ki
34 IGI+1.A-di-i A 1.GIN-Ì
35 IGI+1.IGI.x-Aš+šur A 1.IGI-Aš+šur-la-mur
36 IGI+1.Mu-LAL-Aš+šur A 1.Arba-ìl-a-a
37 IGI+1.DINGIR-DI-ma-nu URU.Ta-gi-[ri-te-ni]
38 IGI+1.(erasure)Aš+šur-DÙ$^{!}$-ÁŠ :
39 IGI+1.Aš+šur-PAP.MEŠ-šal$^{!}$-lim$^{!}$
40 IGI+1.GU$_4$.MAN.RI A 1.Bir-d.UTU
41 IGI+1.Man-nu-ki-i A 1.d.PA-AŠ-PAP

Translation

Seal of Nādinu son of Zammāni, from Tagariteni, owner of the slave woman being sold.

^{f}Bi'ru'a, the slave woman of Nādinu, he contracted and Aššur-mātu-taqqin bought her from Nādinu for 33 shekel of silver (to the standard) of Carchemish. That slave woman is purchased and acquired. Any <revocation>, lawsuit, or litigation is void. Whoever in the future, at any time, whether Nādinu or his sons, grandsons, his brother, his nephew, or his prefect, or his mayor, or his neighbour, or the cohort commander, or troops belonging to <his> labour-duty superior or to his neighbour, or any other relative of his who seeks lawsuit with Aššur-mātu-taqqin, his sons, his grandsons (lacuna) [He shall contest in his lawsuit and not su]cceed.

(Guaranteed against) seizures of epilepsy <for 100 days>, (and against) fraud forever.

Month Nisannu, 15th day, eponym year of Adad-rēmanni.

Witness Sagib-Aššur, son of Aššur-muballiṭ.

Witness Aḫū'a-erība, son of Šab[ ].

Witness Qibīt-Aššur, son of Meyaki.

Witness Adî, son of Kēnu-na'id.

Witness IGI.x-Aššur, son of Pān-Aššur-lāmur.

Witness Mutaqqin-Aššur, son of Arba'ilāyu.

Witness Ilī-salmānu (from) Tagi[riteni].

Witness Aššur-ēpiš-ṣibūtī dito.

Witness Aššur-aḫḫē-šallim.

Witness GU$_4$.MAN.RI, son of Bir-Šamaš.

Witness Mannu-kî, son of Nabû-nādin-aḫi.

Commentary

2 At the end of this line the signs IŠ ŠE are copied. These two syllables can hardly be part of the patronymic Zammāni; on the other hand the toponym in l.3 calls for DUMU, ša or issu libbi. IŠ could easily be a misread TA* and, faut de mieux, ŠE could be amended to ŠÀ.

4 DA in ta-da$^{!}$-ni is lacking one vertical in copy.

5 The fPN is difficult to explain: copied as MÍ.BI.'A.U.U+GUR.A it has been assumed that U.U+GUR is misread for RU; Nergal is hardly to be expected in a fPN.

6 Copy has E-piš-ma; correction to up$^{!}$-piš is easier than to u$^{!}$-piš-ma.

11 The scribe seems to have omitted <tu-a-ru> inadvertently.

18 After GAL ki-ṣir one should insert -<šú>. The wording ERIM.ME ^{19}EN il-ki-<šú> lu-u qur-bi-šú is, to the present writer's knowledge, unique.

27 At the end of line one has to insert <ana 100 ūmāte>.

31 Patronymic is copied as 1.Aš+šur-mu-ba-BA-⌜liṭ⌝.

32 The sign copied as PAD should be separated into -u$^{!}$-a$^{!}$ to yield an explainable mPN. The patronym is partly broken; it is, however, unconceivable that it begins with 5 or iá.

35 The first mPN could not be read satisfactorily. The x between IGI and Aš+šur is a signum nullius.

38 Copy shows 1.(erasure)Aš+šur-PA-ÁŠ; for the name Aššur-ēpiš-ṣibūti *compare* NATAPA 35:16.

39 The end of this name is copied -IGI+ŠÚ.

40 The first name as copied cannot be read; one could suggest correction to 1.Pa$^{!}$-qud$^{!}$-du$^{!}$. For 1.Bir-d.UTU compare 1.Bir-Sam-si in text 6:17.

41 1.Man-nu-ki-i seems to be incomplete but compare the same name in text 13:20.

Text 5 Sale of a Female Slave

Aššur 6.
Shelf No.917.
Dimensions 92 x 50 x 27 mm.
obv. 14 lines, b.e. 3 lines, rev. 17 lines, t.e. 3 lines,
l.e. 3 lines, total 40 lines.
Seller: Tarbî.
Buyer: Abâ.
Price: 1 $\frac{1}{2}$ mina of silver.
Eponym: Kanūnāyu ša bēti ešši, not listed SAAS II, p.97. 666 B.C.
Scribe: not indicated.

obv. 1 NA_4.KIŠIB 1.Tar-bi-i
2 EN MÍ.La-tu-ba-ši-ni
3 MÍ.TUR-šú ta-SUM-ni
stamp seal impression
4 MÍ.La-tu-ba-ši-ni
5 MÍ.TUR-su ša 1.Tar-bi-i
6 ú-piš-ma 1.A-ba-a
7 ina lib-bi 1 $\frac{1}{2}$ MA.NA KÙ.BABBAR
8 ša URU.Gàr-ga-mis
9 il-qé-e' kas-pu
10 ga-mur ta-SUM-ni
11 MÍ šu-a-tu za-ar-pa-<at>
12 na-ši-at tu-a-ru
13 de-nu DUG_4.DUG_4
14 la-áš-šu
b.e.15 man-nu ša ina ur-kiš
16 ina ma-ti-mi
17 i-bala-ka-tu-u-ni
rev.18 3 MA.NA KÙ.BABBAR
19 i-SUM-an MÍ i-pa-ṭar
20 IGI+1.Aš+šur-ZU-PAP ḫa-za-nu
21 IGI+1.Pa-qa-ḫa
22 IGI+1.Gab-bi-ia
23 IGI+1.Í-15 GAL ki-ṣir
24 IGI+1.AD-DÙG!.GA
25 IGI+1.Man-nu-ki-URU.NINA
26 IGI+1.Sa-gi-15
27 IGI+1.Suk-a-a
28 IGI+1.ITU.AB-a-a

rev.29 IGI+1.Ba-al-a-su-ri
30 IGI+1.EN-PAP-ir
31 IGI+1.d.UTU-SU
32 IGI+1.PAP-BÀD
33 IGI+1.GÌR.2-Aš+šur
34 IGI+1.Aš+šur-İ
t.e.35 ITU.< > U_4 22 KÁM
36 lim-mu 1.ITU.AB-a-a
37 ša! É GIBIL!
l.e.38 IGI 1.ÌR-a-a IGI 1.Aš+šur-re-< >
39 ša ANŠE.KUR.RA.MEŠ ta-da-na-ma
40 IGI 1.d.PA-ú-bal-liṭ-su

Translation

Seal of Tarbî, owner of ^{f}Lā-tubaššīni, the young girl to be sold. ^{f}Lā-tubaššīni, a young girl of Tarbî: Abâ has contracted and bought her for 1 $\frac{1}{2}$ mina of silver by (the mina of) Carchemish. The money is paid completely. That woman is acquired (and) taken. Any revocation, lawsuit, or litigation is void. Whoever violates the agreement in the future (or) at any time shall pay three minas of silver (and) he will redeem the woman.
Witness Aššur-...-uṣur, the mayor.
Witness Paqaḫa.
Witness Gabbiya.
Witness Na'id-Ištar, the cohort commander.
Witness Abu-ṭāba.
Witness Mannu-kī-Ninua.
Witness Saggi-Ištar.
Witness Sukkāyu.
Witness Kanūnāyu.
Witness Ba'al-asuri.
Witness Bēl-nāṣir.
Witness Šamaš-erība.
Witness Aḫu-dūrī.
Witness Šēpē-Aššur.
Witness Aššur-na'id.
Month < >, 22nd day.
Eponym year of Kanūnāyu, (governor) of the New Palace.
Witness Urdāyu. Witness Aššur-re< >,
who .... the horses.
Witness Nabû-uballissu.

Commentary

3 MÍ.TUR-šú and MÍ.TUR-su (l.5): the NA reading of MÍ.TUR is not established beyond doubt; recently K.Radner (Die Goldschmiede von Assur, M.A. thesis, Vienna 1994, p.70) favoured the idea that MÍ.TUR (beside MÍ.KAL.TUR) stands for batussu, "young woman". If this proves to be correct the suffixed -su in l.5 cannot be the possessive 3 m.sing. (it should be *batussušu); it has to be taken as a phonetic complement.

6 Abâ is buyer also in text 6:7. Both documents are older than those which have Aššur-mātu-taqqin as central person. If he is kin to Abâ remains open to speculation.

9 Note the spelling ilqe' (for *ilqeḫ/ilqaḫ ?); it is found also in some other, unpublished tablets from Aššur.

12 sinnissu šu'ātu zarpat naši'at: compare sinnissu zarpat naši'at VAT 8641:11 (K.Deller, WZKM 57,30 and K.Radner, Die Goldschmiede von Assur, p.59-60) and SAA VI 272 r.5

19 i-pa-ṭar: this spelling supports K.Radner's reading ipa(IB)-ṭar in VAT 8641:15. Lines 9b-19 of the present text are more or less identical to VAT 8641:8b-15.

20 Not attempt has been made to read this name since the elements ZU and PAP are not combined elsewhere. For the office of ḫazannu see K.Radner, Die Goldschmiede, p.75-76.

21 For the name Paqaḫa see ND 679:13-14 (BaM 24,251). He was šakin māti of Libbi-āli under Tiglatpileser III.

24 Copy has 1.AD-ŠE.GA.

26 1.Sa-gi-15 could well be a syllabic spelling of the name spelled 1.SANGA-15 elsewhere.

37 Copy has SU É UB.UD, but the evidence collected SAAS II, p. 97 (Kanūnāyu 666) leads easily to the proposed reading.

38 The second witness's name is incomplete; restore Aššur-rē'<ṣūwa> ?

39 This line is difficult to understand. It is not clear how the horses fit into this simple transaction. The verbal form as it stands cannot be correct. "To whom the horses were given" is ša sisê tad(a)nūniššūni.

40 Nabû-uballissu could be the scribe.
The witnesses in lines 21, 26, 28 also occur in text 6, lines 24, 25, 23 respectively.

Text 6 Sale of a Female Slave

Assur 7.

Shelf No.918.

Dimensions 82 x 45 x 25 mm.

obv. 11 lines, b.e. 2 lines, rev. 12 lines, total 25 lines.

Seller: 1.d.ŠÚ-IK-KUR (reading ?).

Buyer: Abâ.

Price: $\frac{1}{2}$ mina of silver.

Eponym: 1.MUŠ-ni-nu (see commentary).

Scribe: not indicated.

obv. 1 NA$_4$.KIŠIB 1.d.ŠÚ-IK-KUR
stamp seal impression
2 EN MÍ SUM-ni
3 MÍ.Ú-bu-uk-tú
4 GÉME šá 1.d.ŠÚ-IK-KUR
5 ú-piš-ma ina lìb-bi
6 $\frac{1}{2}$ MA.NA KÙ.BABBAR
7 a-na 1.A-ba-a
8 i-šim! MÍ za-ár-pat
9 la-qe-at tu-a-ru
10 de-nu DUG$_4$.DUG$_4$ la-a-šú
11 man-nu ša GIB
b.e.12 10 MA.NA KÙ.BABBAR
13 SUM-an!
rev.14 ITU.AB U$_4$ 28 KÁM*
15 lim-mu 1.MUŠ-ni-nu
16 IGI 1.Aš+šur-DI-PAP!-šú
17 IGI 1.Bir-Sam-si
18 IGI 1.Mu-ta-kil-Aš+šur
19 IGI 1.ZU-KA-Aš+šur
20 IGI 1.Aš+šur!-KUR-LAL!
21 IGI 1.SUḪUŠ-d.10
22 IGI 1.A-bat-tú-ru
23 IGI 1.ITU.AB-a-a
24 IGI 1.Pa-qa-ḫa
25 IGI 1.<Sa>-gi-d.15

Translation

Seal of Marduk-IK-KUR, owner of the woman to be sold.
fUbbuktu, slave woman of Marduk-IK-KUR he contracted and sold her for half a mina of silver to Abâ. The woman is purchased and acquired. Any revocation, lawsuit, or litigation is void. Whoever breaks the contract, will pay 10 minas of silver.
Month Kanūnu, 28th day, eponym year of 1.MUŠ-ni-nu.
Witness Aššur-šallim-aḫūšu.
Witness Bir-Samsi.
Witness Mutakkil-Aššur.
Witness ZU-KA-Aššur.
Witness Aššur-mātu-taqqin.
Witness Ubru-Daddi.
Witness Abatturu.
Witness Kanūnāyu.
Witness Paqaḫa.
Witness <Sa)ggi-Ištar.

Commentary

1 and 4: the element -IK-KUR defies identification.
3 The fPN is tentatively understood as verbal adjective of *'bk D; see,however, AHw 1425a for a MB mPN UP-PU-KI.
7 Aba buys a slave woman in no.5 too. Both texts must be relatively contemporary.
8 Verb copied as i-IL; compare i-ši-im BaM 24,247,3:10; i-ši-mu 250,6:12. This verb (to be distinguished from *šīm, "to determine") must be a synonym of tadānu, "to sell".
11 After GIB a subjunctive ending -ni oder -u-ni should be added.
13 Copy has SUM-BAR.
14 Reading of this eponym name uncertain (Mušninu, Ṣirninu ?). If the signs are correctly copied Mušninu/Ṣirninu were an extracanonical eponym of Assurbanipal's reign. This follows from a comparison with text 5 (same archive, buyer Abâ, several identical witnesses) written in 666 B.C. (eponym Kanūnāyu ša bēti ešši).
16 Copy has 1.Aš+šur-DI-NU-šú.
19 Is this name correctly copied?
20 Copied as 1.DINGIR-KUR-ME. The proposed reading is by no means certain.

Text 7 Sale of a Female Slave

Aššur 8.

Shelf No.919.

obv. 16 lines, rev. 19 lines, t.e. 2 lines, l.e. 1 line, total 38 lines.

Dimensions 82 x 45 x 25 mm.

Seller Marduk-iddina son of Dubbāyu, from Ninua.

Buyers Aššur-mātu-taqqin, Ātanaḫ-ilāni and Pān-Aššur-lāmur.

Price 2 minas 4 shekels of silver.

Eponym Nabû-tappūtu-alik, rab ša rēši (PC, not listed SAAS II, p. 109).

Scribe Nabû-zēr-ketti-uṣur.

obv. 1 NA_4.KIŠIB 1.d.MES-SUM-na
2 A 1.Du-ub-ba-a-a URU.Ni-nu-a-a
3 EN MÍ SUM-ni

stamp seal impressions

4 MÍ.A-mat-d.A-se-e-en
5 GÉME-šú ša 1.d.MES-SUM-na
6 ú-piš-ma 1.Aš+šur-KUR-LAL
7 1.A-ta-na-aḫ-DINGIR.MEŠ
8 1.IGI-Aš+šur-IGI.LAL ina ŠÀ 2 MA⅃NA⅂4 GÍN.MEŠ KÙ.BABBAR
9 TA* IGI+1.d.MES-SUM-na
10 TI-ú kas-pu gam-mur ta-din
11 MÍ šu-a-tú zar_4-pat TI-at
12 tu-a-ru de-e-nu DUG_4.DUG_4
13 la-áš-šu ina ur-kiš
14 lu-u ina ma-ti-me lu-u
15 1.d.MES-SUM-na lu-u DUMU.MEŠ-šú
16 lu-u DUMU.DUMU.MEŠ-šú lu-u PAP-šú
rev.17 lu-u DUMU.PAP.AD-šú lu-u mám-ma-<nu>-šú
18 qur-bu ša de-né DUG_4.DUG_4
19 TA* 1.Aš+šur-KUR-LAL 1.A-tan-ḫa-DINGIR.MEŠ
20 1.IGI-Aš+šur-IGI.LAL DUMU.MEŠ-šú-nu DUMU.DUMU.MEŠ-šú-nu
21 ub-ta-ú-ni ma-a MÍ a-paṭ-ṭar
22 kas-pu ana 10.MEŠ-te ana EN.MEŠ-šú
23 GUR-ra ina la de-ni-šu
24 DUG_4.DUG_4-ma la TI-qé
25 ṣib-tú be-en-nu ina 1 me U_4.ME
26 sa-ar-tú ina kàla MU.AN.NA.MEŠ

27 IGI+1.SU-d.Na-na-a
28 IGI+1.Pa[!]-qud-du IGI+1.AD-IGI.LAL

rev.29 IGI+1.IGI-Aš+šur-IGI.LAL A 1.Za-ba-an-a+a
30 IGI+1.La-li-ia A 1.IGI.LAL-Aš+šur
31 IGI+1.Mu-ba-liṭ!-Aš+šur! A 1.Ṣu-lu-ma!-a-a
32 IGI+1.Mu-še-zib-Aš+šur A 1.DI-DINGIR.MEŠ
33 IGI+1.U+GUR-sa-gíb A 1.Ba-u-a
34 IGI+1.Aš+šur-ú-kal-la-ni
35 ITU.ŠE.DIRI U_4 13 KÁM*
t.e.36 lim-mu 1.d.PA-tap-pu-tú-a-lik LÚ*.GAL SAG
37 IGI+1.d.PA-NUMUN-GIN-PAP A.BA
l.e.38 1.Aš+šur-PAP-A 1.ŠEN.GIŠ.EDIN² U x[ ]

Translation

1-3 Seal of Marduk-iddina, son of Dubbāyu, the Ninevite, owner of the woman being sold.

4-10 f Amat-d.Asēn, slave woman of Marduk-iddina, he contracted and Aššur-mātu-taqqin, Ātanaḫ-ilāni (and) Pān-Aššur-lāmur bought her for 2 minas 4 shekels of silver from Marduk-iddina.

10-13 The money is completely given, that woman is purchased (and) acquired. Any revocation, lawsuit, or litigation is void.

13-21 In the future, at any time, whether Marduk-iddina or his sons, his grandsons, his brother, his nephew or a close relative of his who seeks lawsuit (and) litigation with Aššur-mātu-taqqin, Ātanḫa-ilāni (and) Pān-Aššur-lāmur, saying "I shall release the woman",

22-24 he shall return the money tenfold to its owners. He shall contest in his non-lawsuit and not succeed.

25-26 (Guaranteed against) seizures of epilepsy for 100 days, (against) fraud all the years.

27-34 Witness Erība-Nanâ. Witness Paquddu. Witness Abu-āmur. Witness Pān-Aššur-lāmur son of Zabanāyu. Witness Laliya son of Āmur-Aššur. Witness Muballiṭ-Aššur son of Ṣulumāyu. Witness Mušēzib-Aššur son of DI-DINGIR.MEŠ. Witness Nergal-sagib son of Baua. Witness Aššur-ukallanni.

35-36 Intercalary month Addar, 13th day, eponym year of Nabû-tappūtu-alik, the Chief Eunuch.

37 Witness Nabû-zēr-ketti-uṣur, the scribe.

38 Aššur-nāṣir-apli, ...

Commentary

4 [f]Amat-Asēn contains the name of a (probably foreign) goddess, Asēn; it is, to the present writer's knowledge, not attested elsewhere.

6-8 Aššur-mātu-taqqin, Ātanaḫ-ilāni, and Pān-Aššur-lāmur were probably brothers. Note the variants 1.A-ta-na-aḫ- in l.8 and 1.A-tan-ḫa- in l.19.

13 Should one insert <man-nu ša> ?

18 Since qur-bu is not separated by lu-u from the preceding entries; it is rather an attribute to mammānušu, "a close relative of his".

28 Copied as 1.GIŠ-qud-du.

29 The patronymic Zabanāyu is added to distinguish the witness Pān-Aššur-lāmur from his namesake in ll.8 and 20.

31 These names appear in the copy as 1.Mu-ba-IGI-DINGIR and 1.Ṣu-lu-GIŠ-a-a.

38 Meaning of the line on the left edge is unclear. Aššur-nāṣir-apli is definitely a PN. What follows could be a PN (with theophoric element d.Šerū'a ?) but this is far from certain. They could be guarantors (EN.ŠU.2.MEŠ) of the slave woman, or they were involved in the process of weighing and checking the amount of silver paid in this transaction. On the other hand, Aššur-nāṣir-apli is an Assyrian royal name and royal names were never given to common men. So there is doubt even on the correctness of the copy in this case.

Text 8 Sale of a Male Slave

Aššur 9.
Shelf No.920.
Dimensions 82 x 50 x 25 mm.
obv. 18 lines; b.e. 3 lines; rev. 12 lines; total 33 lines.
Seller: Nabû-da''iq s. Baḫiānu.
Buyers: Aššur-mātu-taqqin and Sūniš-Aššur.
Price: half a mina of silver.
Eponym: Daddî (PC), listed SAAS II, p.92.
Scribe: Nabû-nādin.

Obv. 1 NA_4.KIŠIB 1.d.PA-SIG_5
2 DUMU 1.Ba$^!$-ḫi-a-nu
3 EN ÌR ta-da-ni
stamp seal impression
4 1.Ḫa-an-ṭu-ṭu ÌR (erasure)
5 šá 1.d.PA-SIG_5 ú-piš-ma
6 1.Aš+šur-KUR-LAL 1.Su-niš-Aš+šur
7 ina lìb-bi $\frac{1}{2}$ MA.NA KÙ.BABBAR
8 i-ta-ṣu kas-pu ga-mur
9 ta-din tu-a-ru de-e-nu
10 DUG_4.DUG_4 la-áš-šú
11 man-nu šá ina ur-ki-ši a-na ra-mìni-šú
12 lu 1.d.PA-SIG_5 lu DUMU.MEŠ-šú
13 lu DUMU.DUMU.MEŠ-šú lu PAP-u-šú
14 šá de-e-nu DUG_4.DUG_4
15 TA* 1.Aš+šur-KUR-LAL TA* 1.Su-niš-Aš+šur
16 TA* DUMU.MEŠ-šú-nu TA* DUMU.DUMU.MEŠ-šú-nu
17 ub-ta-u-ni Aš+šur d.UTU EN d.PA
18 lu EN de-ni-šú ṣib-ti bé-en-ni
b.e.19 a-na 90 u_4-mu.MEŠ sa-ár-tú <DÙ>
20 šá-na-te še-ḫu ši-bi-ru
21 bi-ti ITU.MEŠ
rev.22 ITU.BÁR U_4 10 KÁM*
23 lim-mu 1.U.U-i
24 IGI+1.Pa$^!$-qud-du
25 IGI+1.Rém-u-<ut>-DINGIR
26 IGI+1.Ku-lu-'u
27 IGI+1.Aš+šur$^!$-bi-sún-nu$^!$
28 IGI+1.Šuk$^!$-na-a-a

rev.29 IGI+1.Tab-URU[!]-a-a
30 IGI+1.A-du-šú
31 IGI+1.Gab-bu-a-a
32 IGI+1.d.PA-AŠ
33 IGI+1.d.PA-na-din

Translation

Seal of Nabû-da''iq son of Baḫiānu, owner of the slave being sold. Ḫanṭuṭu, Nabû-da''iq's slave: Aššur-mātu-taqqin (and) Sūniš-Aššur have[!] contracted and bought him for half a mina of silver. The money is paid completely. Any revocation, lawsuit, or litigation is void. Whoever in the future seeks lawsuit or litigation for himself(?) either Nabû-da''iq or his sons, grandsons, his brother against Aššur-mātu-taqqin (and) Sūniš-Aššur, their sons (and) their grandsons: Aššur, Šamaš, Bēl (and) Nabû may be his opponents. (Guaranteed against) seizure of epilepsy for 90 days, (against) fraud for <all> the years, (against) possession by a spirit (and) ... (for a period) "between months".
Month Nisannu, 10th day, eponym year of Daddî.
Witness Paquddu.
Witness Rēmūt-ili.
Witness Kulu'u.
Witness Aššur-bisunnu.
Witness Šuknayu.
Witness Tabalāyu.
Witness Adušu.
Witness Gabbu-āyu.
Witness Nabû-iddina.
Witness Nabû-nādin.

Commentary

2 Copy has 1.AN-ḫi-a-nu.

4 In the erasure one should look for the possessive suffix -šú.

6 The PN Sūniš-Aššur --attested here and l.15 for the first time -- displays the same grammar as the GN Puzriš-Dagan: construct of the adverbial terminative followed by the genitive of a DN. Behind this name the phrase ana sūni Aššur šakānu, "to place upon the lap of Aššur" (OA, see K.Deller, OrNS 37,472; CAD S 388a) becomes transparent; it may even imply adoption. -- The relationship between Aššur-mātu-taqqin and Sūniš-Aššur is not clear; were they brothers or father and son?

11 Instead of ana raminīšu, "for himself", one would expect ina matīma, "at any time".

19 Note that the ṣibtu bennu clause is shortened by ten days; normally this guarantee is extended to 100 days. For the spelling u_4-mu.MEŠ compare SAA VI 201 r.15; in both cases the fem. plural ūmāte is expected. At the end of l.19 <DÙ> or <kala> should be inserted.

20 šá-na-te for MU.AN.NA.MEŠ: the scribe Nabû-nādin frequently prefers syllabic spellings (see commentary to text 10:6). For the clause šēḫu/šeḫḫu berte urḫāni see K.Deller, BaM 16, 374-375 and CAD Š II 266b. In this new reference ši-bi-ru (if read correctly) is added after še-ḫu; obviously this cannot be šibirru "staff".

24 Here, 7:28, 15:15, and 16:3 this name is copied 1.GIŠ-qud-du; in 9:29 there is a clear 1.Pa-qud-du while in 18:14 and 22:5 the name is spelled 1.Pa-qu-du. 1.GUR-qud-du 24:10 might also be amended to 1.Pa!-qud-du. In K.Radner, Die Goldschmiede von Assur (M.A. thesis, Vienna 1994) 6:12 a name copied 1.GIŠ.TAB.DU occurs; this name might as well be read 1.Pa!-qud!-du.

27 Copy shows 1.DINGIR.BI.GUL.PAP; reading amended according to text 10:38 (same archive, also written by Nabû-nādin).

28 Copied as 1.15-na-a-a; reading 1.Šuk!-na-a-a conjectural, also 1.Pat!-na-a-a (for Patināyu?) possible.

29 Copied 1.Tab-ZU-a-a; for the spelling 1.Tab-URU-a-a see SAA VI 234 r.5 and 283 r.18.

30 This name, written 1.A-du-šu, is found in text 10:32.

33 Though A.BA is not added after the last witness's name there can be no doubt that he is identical with 1.d.PA-na-din A.BA of text 10:42.

Text 9 Sale of a Female Slave

Aššur 11.
Shelf No.922.
obv. 10 lines; b.e. 1 line; rev. 19 lines; l.e. 1 line, total 31 ll.
Dimensions 63 x 30 x 19 mm.
Seller Lā-teggi-ana-Aššur s. Meya-ṣabūtu.
Buyer Aššur-mātu-taqqin.
Price 50 shekel of silver.
Eponym Mušallim-Aššur (PC, not listed SAAS II, p.101-102).
Scribe Mušēzib-Aššur.

obv. 1 NA_4.KIŠIB 1.La-te-gi-ana-Aš+šur
2 A 1.Me-ia-ṣab-u-tú
3 EN MÍ SUM-ni

stamp seal impression

4 MÍ.Arba-ìl-i-tú
5 GÉME-šu ša 1.La-te-gi-ana-Aš+šur
6 ú-piš-ma 1.Aš+šur-KUR-LAL
7 ina+lìb-bi 50 GÍN KÙ.BABBAR
8 TA* IGI 1.La-te-gi-ana-Aš+šur
9 A 1.Me-ia-ṣab-u-tú
10 iš!-ši kas-pu gam!-mur
b.e.11 ta-ad-din
rev.12 tu-a-ri de-nu
13 DUG_4.DUG_4 la-šú
14 ina ur-kiš ina ma-te-me
15 šá e-bala-kàt-u-ni
16 5 MA.NA KÙ.BABBAR SUM-an
17 šá ši-i-ḫi! ber-te ITU.ME-ni
18 sa-ar-tú a-di ṣa-at U_4.MEŠ

19 IGI+1.IGI.LAL-Aš+šur LÚ*.ḫa-za-nu
20 IGI+1.Re-man-ni-DINGIR
21 IGI+1.Aš+šur-tak-lak URU.Ni-na-a-a
22 IGI+1.Man-nu-ka-a-a
23 IGI+1.DI-[ ] A 1.Aš+šur-TI-su!-E
24 IGI+1.GÍDIM-TA*-Aš+šur
25 IGI+1.Ši-bu-u
26 IGI+1.Mu-qa!-lil!-IDIM!
27 IGI+1.Mu-še-zib-Aš+šur A.BA
28 IGI+1.ÌR!-d.Na-na-a

rev.29 IGI+1.Pa-qud-du
30 IGI+1.ZI-IGI
l.e.31 ITU.APIN U_4 1 KÁM* lim-mu 1.Mu-DI-Aš+šur

Translation

Seal of Lā-teggi-ana-Aššur, son of Meya-ṣabūtu, owner of the woman being sold.
[f]Arba'ilītu, slave woman of La-teggi-ana-Aššur, he has contracted and Aššur-mātu-taqqin has bought her for 50 shekel of silver from Lā-teggi-ana-Aššur, son of Meya-ṣabūtu. The money is completely given. Any revocation, lawsuit or litigation is void. Who violates the agreement in the future, at any time, will pay 5 mina of silver. (Guaranteed against) possession by a spirit between months, (against) fraud forever.
Witness Āmur-Aššur, the mayor.
Witness Rēmanni-ili.
Witness Aššurtaklāk, the Ninevite.
Witness Mannukaya.
Witness DI[ ]son of Aššur-ballussu-iqbi
Witness .....-Aššur.
Witness Šibû.
Witness Muqallil-kabti.
Witness Mušēzib-Aššur, the scribe.
Witness Urda-Nanâ.
Witness Paquddu.
Witness ...
Month Araḫsamna, 1st day. Eponym year of Mušallim-Aššur.

Commentary

2 The sequence of signs here and in l.9 suggests the adopted reading though no meaningful interpretation can be provided.
10 Copy has TA* IGI, a mistake perhaps induced by TA* IGI in l.8. GAM is copied as two superimposed winkelhaken.
17 Copy shows ši-i-ZA instead of ši-i-ḫi.
18 The literary expression adi ṣāt ūmē instead of ana kala šanāti *is* unique in this clause.
23 End of patronymic copied as -TI-ZU-E.
24 No reading which would make sense could be found for the predicative element GÍDIM-TA*-.
25 Copy has 1.Mu-x-ZIK-PAP.

For the persons mentioned in this document see text 30.

Text 10 Sale of a House

Aššur 28
Shelf No. 939
Dimensions unknown
obv. 19 lines; rev. n+24 lines; l.e. 2 lines; total 45+n lines
Sellers: Nabû-šallim-aḫḫē and Nabû-mālik, sons of Erība-aḫḫē
Buyer: Aššur-[mātu-taqqin]
Eponym: Šamaš-šarru-ibni (PC), listed SAAS II, p.119
Scribe: Nabû-nādin

obv. 1 NA_4.KIŠIB 1.d.PA-DI-PAP.MEŠ
2 NA_4.KIŠIB 1.d.PA-ma-lik
3 PAP! 2! PAP.MEŠ-e DUMU 1.SU.PAP.MEŠ
4 EN É ta-da-a-ni

seal space

5 É ĕp-šu a-di GIŠ!.ÙR.MEŠ-šú
6 [a]-di GIŠ.i-di-la.MEŠ-šú É dan-nu
7 (indented, smaller script) a-di i-ga-ra-ti-šú
8 [É 2]-e TÙR É kur!-ḫu ina lìb-bi
9 [p]u-ú-ru 15 20 ina am!-mì-ti
10 [ru]-up-šu "SUḪUR"! É 1.Ú-ni-nu
11 ["SUḪU]R"! KASKAL MAN "SUḪUR"! É [PN]
12 ["SUḪU]R"! su-qa-q[u!]
13 [1.d.P]A!-DI-PAP.MEŠ DU[ ]
14 [ú-piš]-ma 1.Aš+šur!-[KUR-LAL]
15 [ina lìb-bi n?]½ MA.NA 4(or 5)! GÍN! KÙ!.BABBAR
16 [TA* IGI 1.d.PA]-DI-PAP.MEŠ TA* IGI
17 [1.d.PA-ma-lik]il!-qe! kas-pu
18 [ga-mur ta]-din! É šu-a-tú
19 [za-rip l]a-qé t[u-a-ru]

rev. first two (or more?) lines broken away
22 [1 MA.N]A! KÙ.BABBAR 1! MA!.NA KÙ!.GI!
23 [ina bur-ki d.NI]N.LÍL! i-šá-ka-an
24 [2 ANŠE.KUR.RA BAB]BAR.MEŠ!-ti <ina> GÌR.2 Aš+šur
25 [i-ra-k]a!-sa! DUMU.UŠ-šú ra-bu-<u>
26 [ina ḫa-am-ri d.]IM i-qa-lu
27 [kas-pu in]a 10-a-ti ina EN-e-šú
28 [GUR]-ra ina de!-ni-šú DUG_4.DUG_4-ma
29 [NU TI-q]é Aš+šur d.UTU d.EN d!.PA!
30 [lu EN d]e-ni-šú a-de-<e> šá MAN ina ŠU.2!-i-šú <luba''iū>

rev.31 IGI+1.Ba-i-ú IGI 1.d.IM-it-tal-ka
32 IGI+1.A-du-šu IGI+1.Sa-al-ma-nu
33 IGI+1.Ha-an-nu!-ia
34 IGI+1.Ha-ni-i GAL 5O
35 IGI+1.ZÁLAG-a-a IGI+1.d.Sa-il-ti-DINGIR
36 IGI+1.Qur-di-i IGI+1.d.MAŠ-PAP-PAP
37 IGI+1.ŠU.2-Aš+šur-IGI.LAL IGI+1.ÌR!-Aš+šur
38 IGI+1.Aš+šur-bi-sún-nu
39 ITU.DU$_6$ U$_4$ 11 KÁM*
b.e.40 lim-mu 1.d.UTU-MAN-DÙ
41 LÚ*.tur-ta-nu
42 IGI+1.d.PA-na-din A.BA
43 IGI+1.DINGIR-iq-bi
l.e.44 ina libi DUG.[
45 1BÁN NINDA 1.x[

Translation

Seal of Nabû-šallim-aḫḫē (and) seal of Nabû-mālik, two brothers, sons of Erība-aḫḫē, (jointly) owners of the house being sold.

A built house with its beams, with its doors and with its walls. The main house, the domestic quarters, the cattle pen, the kurḫu building (are) within (its precincts). A lot 15 (cubits long and) 20 cubits wide, adjoining the house of Uninu, adjoining the King's Road, adjoining the house of PN, adjoining the alley: ... Nabû-šallim-aḫḫē ...

Aššur-mātu-taqqin has contracted and bought it from Nabû-šallim-aḫḫē (and) from Nabû-mālik for n $\frac{1}{2}$ mina(s) 4 (or 5) shekels of silver. The money is paid completely. That house is purchased and acquired. (Any) revocation ... (lacuna) ... shall place 1 mina of silver (and) 1 mina of gold in the lap of Mullissu, shall tie two white horses to the "feet" of Aššur, shall burn his first-born son in the sacred precinct of Adad. He shall return the money tenfold to its owners. He shall contest in his lawsuit and not succeed. May Aššur, Šamaš, Bēl (and) Nabû be his opponents. The treaty of the king shall call him to account.

Witness Baiyu. Witness Adad-ittalka.
Witness Adušu. Witness Salmānu.
Witness Hannūya.
Witness Hanî, commander-of-fifty.
Witness Nūraya. Witness Sa'ilti-ilu.
Witness Qurdî. Witness Ninurta-aḫu-uṣur.
Witness Qātē-Aššur-āmur. Witness Urda-Aššur.
Witness Aššur-bissunnu
Month Tašrītu, 11th day. Eponym year of Šamaš-šarru-ibni, commander-in-chief.
Witness Nabû-nādin, scribe.
Witness Ilu-iqbi.
(two lines on l.e. left untranslated).

Commentary

3 copy 1+en. Reading 1+EN-PAP.MEŠ-e (*Bēl-aḫḫē) per se not excluded. Emendation to PAP! 2! is preferred for two reasons: There is no NA_4 at the beginning of l.3 and there is not enough space for the restoration of three names in ll.16-17. For n PAP.MEŠ-e at the beginning of a document see NATAPA 52:1; no MEŠ after DUMU and EN, as in ll.3-4 of the present text.

5 Correction from PA to GIŠ! is self-evident.

6 GIŠ.i-di-la.MEŠ-šú (*ēdilātešu) is the first syllabic spelling of GIŠ.IG.MEŠ-šú in a NA house sale contract. In view of other syllabic spellings of the scribe Nabû-nādin (i-ga-ra-ti-šú l.7, pu-ú-ru l.9, ina am-mì-ti l.9, ru-up-šu l.10, ra-bu-<u> l.25, i-qa-lu l.26; šá-na-te text 8:20) the question may be asked if ēdilāte/īdilāte is not the common rendering of GIŠ.IG.MEŠ (pace SAA VI 294b dassu, dalāte). The noun ēdiltu is known sofar only from the synonym list CT 18,4 r.I 28 (AHw 187b; CAD E 33a) but i-dil-taš BWL 54:33 might as well be translated "his door" (AHw 364b "Verriegelung").

7 i-ga-ra-ti-šú: the walls are mentioned not infrequently in late house sales from Aššur: É.SIG_4.MEŠ NATAPA 52:4.

8 É ŠE-ḫu corrected to É kur!-ḫu on the basis of É ku-ur-ḫu CTN III 2:3; É kur-ḫu VAT 9829:4; É 2-e É kur-ḫu Ass.13955 (Ass.Photo 4127 gl) l.8.

9 pūru is normally used for a lot of arable land (K. Deller, OrNS 35, 316-317) but here it clearly denotes an area within a town. The two figures 15 and 20 stand for the measurements of length and width though only the latter, rupšu, is explicitely mentioned; see NATAPA 28:5 for a similar abbreviation. Copy shows ina 4*-mì-ti, here emended to ina am!-mì-ti. The spelling i-mu-tu NATAPA 28:5 might be a hint to an alternative reading ina i!-mì-ti which would fit the traces better.

10 KIB.ZA (l.10), ṢUR.ZA (l.11) and the partially preserved signs in ll.10-11 should convey the meaning "adjoining" for which three sign groups are available in NA, "SUḪUR", GAB.DI and GAB.DU. Here a reading "SUḪUR" is assumed in all cases.

11 Mention of the King's Road, ḫarrān šarri, in the midst of a town is quite unexpected. One has to conclude that, in Libbi-āli at least, the ḫarrān šarri started right at the palace gate and left the urban territory through one of the city gates.

13 The preserved signs DI-PAP.MEŠ suggest restoration of the seller's name but this leaves the following DU unexplained. At this point of the document one could also think of a restoration [12] [ina šatti] [13] [šá a-na 1 GÍN K]Ù.BABBAR! 2BÁN! ŠE!.PAD!.MEŠ DU[-u-ni] "in the year in which one shekel of silver buys two su of barley"; for this clause see K.Deller, OrNS 33, 257-261.

14 In this line the buyer's name has to be mentioned; he is, in all likelihood, Aššur-mātu-taqqin. A AN of copy should, therefore, be amended to 1!.Aš+šur!-[KUR-LAL].

15 The signs between MA.NA and BABBAR should be part of the purchase price and the currency, hence the emendation 4(or 5) GÍN! KÙ!.BABBAR.

16 Instead of EN DIŠ IB il!-qe or -qé is required.

22 For the penalty clause l.22-26 see B.Menzel, Assyrische Tempel, II T 208-210, nos.237-256. The syllabic spelling ra-bu-<u/ú> (expected rabi'u) for lographic GAL-u/u is noteworthy.

30 For the clause adê ša šarri ina qātēšu luba''i'ū see K. Watanabe, BaM Beih.3,20-21, nos.5.173-188.

33 Emendation seems necessary because 1.Ḫa-an-PAP-ia makes no sense.

37 at the end, copy has 1.ITU-Aš+šur.

42 Nabû-nādin is also scribe of No.8:33; A.BA is, however, omitted there.

44-45 No attempt has been made to restore these two concluding lines; the (Babylonian) reading lib/lub-luṭ is out of question at this point.

Text 11 Sale of a Female Slave

Aššur 30.
Shelf No.941.
obv. 13 lines, b.e. 2 lines, rev. 15+n lines, l.e. 2+n lines,
total 32+n lines. Dimensions 74 x 46 x 24 mm.
Sellers [ ]balla-ilāni and Mutaqqin-Aššur.
Buyer Aššur-mātu-taqqin.
Price $17\frac{1}{2}$ shekel of silver.
Eponym Aššur-gimillī-terre (PC, listed SAAS II, p.83).

obv. 1 [NA_4.KIŠIB 1.(x)-bal-la-DINGIR.MEŠ(-ni)]
2 [NA_4.KIŠIB 1.Mu-LAL-Aš+š]ur
3 [EN GÉME ta]-da-a-ni
stamp seal impression
4 [MÍ].[d].NIN.LÍL-BÀD GÉME-šú-nu
5 [šá 1.]-bal-la-DINGIR.MEŠ-ni šá 1.Mu-LAL-Aš+šur
6 [ú-piš-ma] 1.Aš+šur-KUR-LAL IGI.E
7 [ina lib-bi] $17\frac{1}{2}$ GÍN KÙ.BABBAR
8 [TA* IGI 1.]-bal-la-DINGIR.MEŠ
9 [TA* IGI 1.] Mu!-LAL!-Aš+šur il-qe
10 [kas-pu gam-mur] ta-di!-nu
11 [tu-a-ru d]e-e-nu
12 [DUG_4.DUG_4 l]a-áš-šú
13 man-nu šá ina ur-kiš ina ma-te-me
b.e.14 [lu-u 1.(x)-bal-l]a!-DINGIR.MEŠ
15 [lu-u 1.] Mu!-LAL!-Aš+šur! lu-u DUMU.MEŠ-šú-<nu>
rev.16 [lu-u DU]MU!.DUMU!.MEŠ-šú-nu
17 [šá] de-e-nu DUG_4.DUG_4
18 [TA*] 1.Aš+šur-KUR-LAL DUMU.MEŠ-šú
19 DUMU.DUMU.MEŠ-šú ub-ta-ú-ni
20 ma-a GÉME a-paṭ-ṭar
21 Aš+šur d.UTU EN d.AG!
22 lu-u EN de-ni-šu
23 ITU.GU_4 U_4 10 KÁM lim-mu 1.Aš+šur-ŠU-GUR
24 [ṣib]-tú! x-ni ŠU[ ]MA
25 [ ]x Ì ÌR[ ]x
26 [še-e-ḫu] a-na [ber]-ti ITU.MEŠ
27 [ ]MA PI ME
28 [ ]GUR GAL ma-za-si
29 [ḫa]-za-nu šá! PI IGI ZU A
30 [ ]KU LU BU
remainder of reverse broken away
traces of two more lines on l.e. (witness names)

Translation

1-3 Seal of [ ]balla-ilāni, seal of Mutaqqin-Aššur, owners of the slave woman being sold.

4-9 f Mullissu-dūrī, the slave woman of [ ]balla-ilāni and of Mutaqqin-Aššur, he contracted and Aššur-mātu-taqqin ... bought her for $17\frac{1}{2}$ shekel of silver from [ ]balla-ilāni (and) from Mutaqqin-Aššur.

10-12 The money is completely given. Any revocation, lawsuit or litigation is void. 13-20 Whoever in the future, at any time, whether [ ]balla-ilāni or Mutaqqin-Aššur, or their sons, their grandsons, who seeks lawsuit (and) litigation with Aššur-mātu-taqqin, his sons (and) his grandsons, saying 'I redeem the slave woman':

21-22 Aššur, Šamaš, Bēl (and) Nabû will be his opponents.

23 Month Ayyaru, 10th day, eponym year of Aššur-gimillī-terre.

24 (Guaranteed against) seizures of epilepsy .... 25 (against) fraud ... 26 (against) possession by a spirit (for a period)"between months".

27-30 Line endings of witness list, mentioning a rab mazzassi and a mayor.

Commentary

1-3 Restorations on the basis of ll.4-5 (and 8-9).

4 A slave woman by the name Mullissu-dūrī was part of Aššur-mātu-taqqin's share of his paternal estate; see notes to text 31:6.

6 The last two signs, copied as IGI.E, are unclear. Emendation to IGI+DUB! (masennu) seems unwarranted.

9 Copy has, after the break,]DU-Aš+šur.

10 Copied as ta-IGI-nu.

15 Copied as MAN x NU GAR. The name has, however, to be read here and in l.9 according to l.5

16 Copy has]x.AD.MEŠ-šú-nu; formula beginning with l.15 requires the proposed emendation.

21 The last copied sign resembles TIM but the lū bēl dēnišu clause normally ends in Marduk/Bēl and Nabû.

24 The clauses containing ṣibtu bennu, sartu, šēḫu are inserted after the date which is quite unusual. The exact wording of ll.24-25 cannot be reconstructed safely but the restorations

26 in l.26 are fairly certain.

28 The title rab mazzassi does not seem to be attested elsewhere; the chosen transcription should be considered with reserve.

Text 12 Contract, unspecified

Aššur 31.

Shelf No.942.

IM 129288.

Envelope, tablet enclosed. Total 23 lines (4 of which on l.e.).

Date broken away (probably canonical eponym).

Scribe not indicated or broken away.

1 [NA$_4$.KIŠIB] 1.d.UTU-PAP-PAP
2 [A/DUMU 1.]-ib-ba-a-a
3 [ ]šá 1.Man-nu-ki-Arba-ìl
stamp seal impression
4 [ ]1.d.UTU-PAP-PAP
5 [ ]šá 1.Man-nu-ki-Arba-ìl
6 [ ]ḪAR
7 [T]A ṢI BI ŠE
8 [ ]1.d.UTU-PAP-PAP
9 [ ]1.Man-nu-ki-Arba-ìl
10 [ ]1.d.UTU-PAP-PAP
11 [ ]UD A ina ŠÀ
12 [(-)l]a-áš-šú
13 [1.]d.UTU-PAP-PAP
14 [ ]KID IGI+1.Sa-ni-a-a
15 [ ]x IGI+1.d.UTU-PAP-PAP
16 ša TA IGI+1.Sa-ni-a-a
17 [x] DÙ e-ṣip
18 [1.]Man-nu-ki-Arba-ìl
19]TE TAR
l.e.20 IGI+1.EN-PAP-AŠ
21 IGI+1.Ra-u-a
22 IGI+1.Aš+šur-URU$^{?}$-PAP$^{?}$
23 IGI+1.ITU.AB-a-a

No translation can be offered of this fragmentary text. The central person is Mannu-kī-Arba'il (ll.3.5.9.18) to whom Šamaš-aḫu-uṣur owes something. Mannu-kī-Arba'il almost certainly is Aššur-mātu-taqqin's father known from text 31:4. While text 31, an inheritance text, has been written after Mannu-kī-Arba'il's the present text can only have been written while he was still alive. Together with texts 5 and 6 text 12 belongs to the oldest texts found in Aššur-mātu-taqqin's archive.

Text 13 Loan of Silver with Personal Pledge

Aššur 14.

Shelf No.920.

Envelope, tablet enclosed, total 24 lines, dimensions 53 x 52 x 8 mm.

Creditor Aššur-mātu-taqqin.

Debtor Nergal-lū-bāni son of Qurdi-Adad.

Pledge Sayama, the debtor's brother.

Eponym Iqbi-ilāni (PC, not listed SAAS II p.96).

Scribe not indicated.

1 NA_4.KIŠIB 1.d.U+GUR-lu-DÙ
2 DUMU 1.Qur-di-d.IM
3 13 GÍN.MEŠ KÙ.BABBAR
4 ša 1.Aš+šur-KUR-LAL
stamp seal impression
5 ina IGI+1.U+GUR-lu-DÙ
6 1.Sa-ia-ma PAP-šú
7 šá!-pár-tú ÚŠ! ZÁḪ
8 ina muḫ-ḫi PAP-šu
9 ina ITU.DU_6 KÙ.BABBAR SUM-an
10 PAP-šú ú-še-ṣa
11 šumu u_4!-mu! e-te-gi!
12 1 MA.NA KÙ.BABBAR SUM-an
13 ITU.ŠU U_4 15 KÁM
14 lim-mu 1.Iq-bi-DINGIR.MEŠ
15 IGI+1.Mu.LAL-Aš+šur
16 IGI+1.SU.MEŠ-DINGIR
17 IGI+1.Aš+šur-PAP.MEŠ-SU
18 IGI+1.IGI-Aš+šur-IGI.LAL
19 IGI+1.Qur-da-a-a
l.e.20 IGI+1.Man-nu-ki-i
21 IGI+1.Qar-ḫa-a
22 IGI+1.Še-'e-KUR-LAL
23 IGI+1.LAL!-un-KAM-eš!
24 IGI+1.Ḫa-ru-ri-i

Translation

1-2Seal of Nergal-lū-bāni, son of Qurdi-Adad.
3-4 13 shekel of silver, belonging to Aššur-mātu-taqqin, at the disposal of Nergal-lū-bāni. 6-8His brother Sayama is pledge. If he dies or flees, the responsability is upon his brother. In the month Tašrītu he pays the silver and he releases his

brother. 11If he (the pledge) is negligent for one day, he (the debtor) pays 1 mina of silver.

13-14Month Du'ūzu, 15th day, eponym year of Iqbi-ilāni.

15-24Witness Mutaqqin-Aššur. Witness Rībāte-ili. Witness Aššur-aḫḫē-erība. Witness Pān-Aššur-lāmur. Witness Qurdāyu. Witness Mannu-kî. Witness Qarḫâ. Witness Še'e-mātu-taqqin. Witness Tuqun-ēreš. Witness Ḫarurî.

Commentary

1 This type of PN is without parallel. Reading *Nergal-lū-bāni, "Nergal, may he be a creator!" conjectural.

7 First sign is copied 5 instead of šá!; fourth sign DIŠ+U instead of ÚŠ!.

11 IGI-ŠE is copied for u$_4$!-mu! and e-te-DIN for e-te-gi!.

19 Copy would also allow a reading 1.Si-da-a-a.

22 Še-'e is probably a corrupt spelling for Se-'e, the Aramaic name of the moongod.

23 Copy has ḪAL-UN-KAM-U. For the (hitherto unexplained) name Tuq/Tu-qu-nu-erreš/ēreš see AHw 1372a tuqnu 2).

Text 14 Loan of Silver with Work Agreement

Aššur 15.
Shelf No.926.
obv. 9 lines, rev. 7 lines, l.e. 5 lines, total 21 lines.
Envelope (tablet enclosed).
Dimensions 46 x 33 x 24 mm.
Creditor Aššur-mātu-taqqin.
Debtor Samsiūnu.
Eponym Nabû-tappūtu-alik (PC, not listed SAAS II, p.109).
Scribe not indicated.

obv. 1 NA_4.KIŠIB 1.Sam-si-u-ni
2 TA* ŠÀ URU.Ta-ga-ri-te-in
3 1.A-ku-e-d.AG
stamp seal impression
4 DUMU-šú ṭup-pi-šú
5 ana IGI 1.Aš+šur-KUR-LAL
6 i-pa-làḫ-šu
7 10 GÍN.MEŠ KÙ.BABBAR
8 [1].Sam-si-u-nu AD-šú
9 [i] g!-ri-šú ša ṭup-pi-šú it-ti-ši
rev.10 [u] $_4$-mu e-te-gi DUMU-šú
11 [I] TU? im-te-ki KÙ.BABBAR e-ṣip! SUM-an
12 ÚŠ ZÁḪ ina UGU AD-šú
13 ITU.GAN U_4 1 KÁM lim-mu
14 1.d.PA-tap!-pu!-u!-tú-a-lik
15 IGI+1.Ḫaš-di-i
16 IGI+1.ÌR-Aš+šur
l.e.17 [IGI+1.]x-Aš+šur
18 IGI+1.A-tan-ḫa-DINGIR
19 IGI+1.Qar-qi-pa
20 IGI+1.Ḫa-ru-U.U
21 IGI+1.Aš+šur!-tak-lak

Translation

1-2 Seal of Samsiūnu from Tagaritein.

3-6 Akue-Nabû, his son, will serve Aššur-mātu-taqqin for a period of less than one year (ten months?).

7-9 Samsiūnu, his father, has taken away 10 shekel of silver as his (i.e. his son's) wages for a period of less than one year.

10-11 If his son is negligent one day, if he stops working one month(?), he will repay the silver twofold.

12 If he dies or flees, the responsability is upon his father.
13 Month Kislīmu, 1st day, 14 eponym year of Nabû-tappūtu-alik.
15 Witness Hašdî.
16 Witness Urda-Aššur.
17 ⌈Witness ⌋x-Aššur.
18 Witness Atanḫa-ilī.
19 Witness Qarqipa.
20 Witness Ḫaru-Daddi.
21 Witness Aššur-taklāk.

Commentary

This type of loan is typical for the city of Aššur (see, e.g., NATAPA nos.6, 46 and 48). The key verbs egû makû occur also in a Nimrud text (e-te-gi en-ti-ki, CTN III 9:7-8). The loan is styled as if it were the salary of a person put at the creditor's disposal by the debtor.

1 The PN Sam-si-u-nu (l.8) with genitive Sam-si-u-ni is West Semitic comparable to Samson.

3 The meaning of this PN is unexplained unless one corrects it to 1.A-ke!-e-d.AG.

4 ṭup-pi-šú and ša ṭup-pi-šú (l.9) denotes a short period of less than one year; see AHw 1394b. Normally, igru loans from Aššur cover a period of ten months.

9 For the restoration compare ig-re-e-šú NATAPA 48:2 and 11.

10-11 The restorations at the beginning of these two lines are problematical: either one restores ⌈šú⌋m-mu in 1.10 or ⌈u⌋$_4$-mu. Consequently one has to restore ⌈SUM⌋-an in 1.11 or amend the AN of copy to ⌈IT⌋U!. The above transcription chooses the second possibility because the phrase šummu ētegi mar'ušu iddan, "if he is negligent, his son repays (the sum of 10 shekel of silver)" is without parallel. In all the known documents in case of egû and makû the loan has to be repaid twofold by the debtor.

14 -pu!-u!- seems to be written oven an erasure.

20 For the assumed interpretation compare 1.Ḫa-ra-U.U SAA VI 244 r.5.

21 Copy has DINGIR-tak-lak; in Aššur text the name occurs always in the form of Aššur-taklāk. The signs DINGIR and Aš+šur are frequently hard to distinguish, especially where the signs are squeezed.

Text 15 Loan of Various Commodities

Aššur 16.
Shelf No.927.
obv./rev. 17 lines, l.e. 4 lines, total 21 lines.
Dimensions 38 x 28 x 25 mm.
Envelope (tablet enclosed).
Creditor Aššur-mātu-taqqin.
Debtor Samsiānu.
Eponym Upāqa-ana-Arba'il (PC, listed SAAS II, p.124).
Scribe not indicated.

obv. 1 NA_4.KIŠIB 1.d.UTU-a-nu
2 A 1.A-du-ú-a-nu
3 TA* ŠÀ URU.Ta-ga-ri-te-ni
4 1 ANŠE! qa!-li-a-te
unused seal space
5 [n m]a-qar!-a-te qa-nu-a-te
6 5 MA.NA taḫ-ḫi
7 ½ MA.NA ŠÚ.NU
8 ša 1.Aš+šur-KUR-LAL
9 ina IGI 1.d.UTU-a-nu
10 ina U_4 1 KÁM šá ITU.NE SUM-an
11 šum!-ma! la i!-din!
12 e-ṣip-pi SUM-an
13 ITU.GU_4 U_4 16 KÁM
14 lim-me 1.Pa-qa-ana-Arba-ìl
15 IGI+1Pa!-qud-du
16 IGI+1.PAP-im-me-e!
17 IGI+1.Na-din-nu-PAP
l.e.18 IGI+1.EN-İ
19 IGI+1.DÙ-IGI.LAL
20 IGI+1.d.PA-DI-mu-GIN
21 [IGI+1.]-Ú-DU

Translation

1-3 Seal of Samsiānu, son of Adu'ānu, from Tagariteni.
4-9 1 emar of roasted barley, n bundles of reeds, 5 mina of taḫḫu-wool, ½ mina of ..., belonging to Aššur-mātu-taqqin, at the disposal of Samsi-ānu.
10-12 He will repay (the loan) on the first day of month Abu. If he does not repay (on that day), he will have to repay twofold.

13-14 Month Ayyaru, 16th day, eponymy year of Upāqa-ana-Arba'il.
15 Witness Paquddu.
16 Witness Aḫi-immē.
17 Witness Nadinnu-nāṣir
18 Witness Bēl-na'id.
19 Witness Gabbu-āmur.
20 Witness Nabû-šulmu-ukīn
21 [Witness]udu.

Commentary

1 There are good reasons to assume that the debtors of text 14 and text 15 are the same person. The name is West Semitic with two different spellings: 1.Sam-si-u-nu/ni and 1.d.UTU-a-nu, i.e. Samsiūnu and Samsiānu; the endings -ānu and -ūnu may stand for the ending -ōn.*Samsōn would hence be a good normalization of the name. The linguistic background is probably Canaanite.

4-7 The commodities are without parallels among the NA loan documents; to yield some sort of understanding one is forced to amend the copy in a rather ruthless way. What one would expect in ll.4-7 is (a) a figure, (b) a measurement, and (c) the name of the commodity. --- The list can hardly start with the preposition a-di and the only commodity ending in -li-a-te is qali'āte (ŠE.SA.A). The measurement could also be 1 ANŠE! 2BÁN. Instead of DIŠ+PAP qa (= PAP+DIŠ) has been assumed.

5 Straw and reeds are measured in bundles, maqarrutu, plural maqarrāte. The copy displays [m]a-ḪIR-a-te. The form qanu'āte may in fact be the NA equivalent of GI.MEŠ.

6 taḫ-ḫi, some sort of wool, see AHw taḫḫum 3) (1302a) and taḫû I (1303a).

7 ŠÚ.NU cannot be the pronoun or possessive suffix. No suitable correction comes to mind. Wool, metals or minerals is the range to be sought for.

11 Copy has ina+IGI DIŠ LA ḪAL U PAP, but at this point of the document only šumma lā iddin fits the context.

15 Copied as 1.GIŠ-qud-du.

16 Last sign in copy is SI; the witness is probably identical with 1.PAP-me!-e in text 34:20.

20 The reading of this name requires further investigation.

Text 16 Loan of Silver

Aššur 17.
Shelf No.928.
IM 119281.
obv./rev. 14 lines, l.e. 1 line, total 15 lines.
Dimensions 44 x 32 x 26 mm.
Envelope (tablet enclosed).
Creditor Aššur-mātu-taqqin
Debtor Aḫī-immē son of Kanūnāyu.
Eponym Sîn-ālik-pāni (PC, not listed SAAS II, p.114).
Scribe not indicated.

obv. 1 NA_4.KIŠIB 1.PAP-me-e
2 A 1.ITU.AB-a-a
3 7 GÍN KÙ.BABBAR
4 ša 1.Aš+šur-KUR-LAL
stamp seal impressions
5 ina IGI+1.PAP-me-e
6 ina pu-u-ḫi it-ti-ši
7 ana 6-si-šú GAL-bi
8 ina ITU.GAN U_4 21 KÁM*
9 lim-mu 1.30-DU-IGI
10 IGI+1.Ḫaš-da-a-nu
11 IGI+1.ÌR-Na-na-a
12 IGI+1.DUG_4.DUG_4-le-pu-šú
13 IGI+1.Pa!-qud-du
14 IGI+1.Mu-LAL-Aš+šur
15 IGI+1.Mu-še-zib-[Aš+šur]

Translation

1-2Seal of Aḫī-immē, son of Kanūnāyu.
3-67 shekel of silver, belonging to Aššur-mātu-taqqin, at the disposal of Aḫī-immē. He has taken it as a loan. 7It shall increase by one sixth.
8-9Month Kislīmu, 21st day, eponym year of Sîn-ālik-pāni.
10Witness Ḫašdānu. 11Witness Urda-Nanâ. 12Witness Lidbubu-lēpušu.
13Witness Paquddu. 14Witness Mutaqqin-Aššur. 15Witness Mušēzib-[Aššur].

Text 17 Loan of Silver for Commercial Activities

Aššur 18.
Shelf No.929.
IM 119284.
total 18 lines. Dimensions 23 x 25 x 21 mm. Tablet without envelope.
Creditors Aššur-<u>kallanni, Mannu-kī-ili, 1.AN-A-E-DIŠ
Debtors Abdi-munu, Ia-PAP-nu
Eponym Šamas-šarru-ibni (PC, listed SAAS II, p.119)
Scribe not indicated

1 NA_4.KIŠIB 2 EN KASKAL.ME
2 8 GÍN KÙ.BABBAR
3 ša 1.Aš+šur-<ú>-kal-la-ni
4 ša 1.Man-nu-ki-DINGIR
5 ša 1.AN-A-E-DIŠ
stamp seal impression
6 ina IGI 1.Ab-di!-mu-nu
7 ina IGI 1.Ia-PAP-nu
8 ina IGI 2 EN KASKAL.ME
9 ana 5-tú-šú GAL-bi
10 šá kar!-mu-ni KÙ.BABBAR SUM-ni
11 ITU.APIN U_4 22 KÁM*
12 lim-mu 1.d.UTU-MAN-DÙ
13 IGI+1.Aš+šur-PAP.MEŠ-DI
14 IGI+1.ŠU.2-Aš+šur-IGI
15 IGI+1.3O-DINGIR-a-a
16 IGI+1.ÌR-Aš+šur!
17 IGI+1.d.PA-rém-a-ni
18 IGI+1.Aš+šur-mu-< >

Translation

[1]Seal(s) of two commercial agents. [2]Two shekel of silver [3-5]belonging to Aššur-<u>kallanni, Mannu-kī-ili, (and) 1.AN-A-E-DIŠ, [6-7]at the disposal of Abdi-munu (and) 1.Ia-PAP-nu, (that is) of two commercial agents. [9]It shall increase by one fifth. [10]Whoever will be the latest, will pay. [11-12]Month Arahsamna, 22nd day, eponym year of Šamaš-šarru-ibni. [13-18]Witness Aššur-aḫḫē-šallim. Witness Qātē-Aššur-amur. Witness Sîn-ilā'a. Witness Urda-Aššur. Witness Nabû-remanni. Witness Aššur-mu< >.

Commentary

3 The name has been corrected according to 1.Aš+šur-ú-ka-la-ni in text 18:5, written in the same eponym year.

5 Transcribed as copied; reading obscure.

6 Copy has 1.Ab-d.PA-mu-nu; compare the (Phoenician) name 1.Ab-di-ḫi-mu-nu SAA VI 283:15.

7 This name might be an error for Ia-aḫḫē (see APN 90b).

10 Copied šá kal-mu-ni, but compare ša kar-me-u-ni ^{2}SUM-an NATAPA 64 l.e.1-2 (with note on p.131), likewise in a loan of silver for commercial activities.

14 The Qātē-Aššur-āmur is not attested elsewhere; error for Qātē-Aššur-aṣbat ?

16 Copy has 1.ÌR-DINGIR, but see 1.ÌR-Aš+šur text 23:6.

Text 18 Loan of Silver

Assur 19.

Shelf No.930

Envelope, tablet enclosed; total 16 lines.

Dimensions 30 x 23 x 20 mm.

Creditors: Aššur-mātu-taqqin and Aššur-ukallanni.

Debtor: Dilīl-Aššur, son of Pān-Ištar-lāmur.

Eponym: Šamaš-šarru-ibni (PC , listed SAAS II, p.119).

Scribe: not indicated.

1 NA_4.KIŠIB 1.Di-lil$^!$-Aš+šur
2 DUMU 1.IGI-15-IGI.LAL
3 8 GÍN KÙ.BABBAR
4 ša 1.Aš+šur-KUR.LAL
5 ša 1.Aš+šur-ú-ka-la-ni
stamp seal impression
6 ina IGI 1.Di-lil$^!$-Aš+šur
7 ina pu-u-ḫi it-ti-ši
8 ina ITU.GU_4 SUM$^!$-an
9 šumu la SUM-ni
10 ana 5-tú-šú GAL-bi
11 ITU.ŠE U_4 12 KÁM*
12 lim-mu 1.d.UTU-MAN-DÙ
13 IGI+1.Ki-i-nu
14 IGI+1.Pa-qu-du
15 IGI+1.Mu-še-zib-Aš+šur
16 IGI+1.d.Iš-tar-DÙ

Translation

1-2Seal of Dilil-Aššur, son of Pān-Ištar-lāmur. 3-68 shekel of silver, belonging to Aššur-mātu-taqqin (and) to Aššur-ukallanni, at the disposal of Dilīl-Aššur.7He has taken it as a loan. 8-10He shall pay back in the month Ayyaru, if he does not pay it will increase by a fifth. 11-12Month Addaru, 12th day, eponym year of Šamaš-šarru-ibni. 13-16Witness Kīnu. Witness Paquddu. Witness Mušēzib-Aššur.Witness Ištar-ibni.

Commentary

1 The name here and in l.6 is copied 1.DI.ŠÀM-Aš+šur. ŠÀM is more exactly NINDAxAN, in outline similar to LIL.

8 Copy or text has erroneously ITU-an.

16 There remains some doubt about this name. Is it rather 1.d.U+GUR$^!$-NUMUN$^!$-DÙ, Nergal-zēru-ibni ?

Text 19 Loan of Silver

Aššur 21.

Shelf No.932.

Tablet without envelope. Total 15 lines. Dimensions 33 x 28 x 24 mm.

Creditor Aššur-mātu-taqqin

Debtor Aššur-ballussu-iqbi son of Urda-Sîn.

Eponym Šamaš-šarru-ibni (PC, listed SAAS II, p.119).

Scribe not indicated.

1 NA_4.KIŠIB 1.Aš+šur-TI-su-E
2 DUMU 1.ÌR-d.30
3 5 GÍN KÙ.BABBAR
4 ša 1.Aš+šur-KUR-LAL
stamp seal impression
5 ina IGI+1.Aš+šur-TI-su-E
6 ina pu-u-ḫi it-ti-ši
7 ana 5-tú-šú GAL-bi
8 ITU.BÁR U_4 11 KÁM*
9 lim-mu 1.d.UTU-MAN-DÙ
10 IGI+1.Ki-ṣir-d.PA
11 IGI+1.UŠ-tú-Aš+šur
12 IGI+1.A-tan-ḫa-DINGIR
13 IGI+1.Ḫa-an-ab-bi
14 IGI+1.Gab-bu-I
l.e.15 IGI+1.A MA A MAN ME

Translation

1-5 Seal of Aššur-ballussu-iqbi, son of Urda-Sîn. 5 shekel of silver, belonging to Aššur-mātu-taqqin, at the disposal of Aššur-ballussu-iqbi.

6-7 He has taken it as a loan. It will increase by one fifth.

8-9 Month Nisannu, 11th day, eponym year of Šamaš-šarru-ibni.

10-15 Witness Kiṣir-Nabû. Witness Tardītu-Aššur. Witness Atanḫa-ilī. Witness Ḫanabbi. Witness Gabbūya (or Gabbu-ūda). Witness A MA A MAN ME.

Commentary

13 Should AB be corrected to -nab!- ?

14 As copied the name cannot be correct. Amend to 1.Gab-bu-ia! or to 1.Gab-bu-ZU!.

15 No plausible reading can be suggested for these five signs.

Text 20 Loan of Silver

Aššur 22.

Shelf No.933.

IM 119292.

Tablet without envelope.Total 14 lines. Dimensions 35 x 25 x 24 mm.

Creditors Ištar-emūqēya and Nergal-uballiṭ.

Debtor Qibīt-Aššur son of Šār-Aššur.

Eponym Adad-rēmanni (PC, listed SAAS II, p.80).

Scribe not indicated.

1 NA_4.KIŠIB 1.Qí-bit-Aš+šur
2 A 1.IM-Aš+šur
3 15 GÍN KÙ.BABBAR
4 šá 1.15-e-muq$^{!}$-ia
5 šá 1.U+GUR-u-TI
stamp seal impression
6 ina IGI 1.Qí-bit-Aš+šur
7 a-na 5-ut-ti-šú
8 i-ra-bi
9 ITU.APIN U_4 14
10 lim-me 1.d.IM-rém-a-ni
11 IGI 1.PA KI ⌜x⌝
12 IGI 1.d.ME.ME.x (x)
13 IGI 1.Aš+šur-MU-GIN
14 IGI 1.Ki-ṣir-Aš+šur

Translation

1-2 Seal of Qibīt-Aššur, son of Šār-Aššur.

3-6 15 shekel of silver, belonging to Ištar-emūqēja (and) to Nergal-uballiṭ, at the disposal of Qibīt-Aššur.

7-8 It will increase by one fifth.

9-10 Month Arahsamna, 14th day, eponym year of Adad-rēmanni.

11-14 Witness Paki... Witness Gula-... Witness Aššur-šumu-ukīn. Witness Kiṣir-Aššur.

Commentary

4 The fifth sign is copied like DU but the upper horizontal is shorter than the lower horizontal.

5 An alternative reading would be 1.U+GUR-UMUN-TI, Nergal-bēlu-uballiṭ.

11 1.Pa-qí-⌜du⌝ might be a possible reading but this name is not attested elsewhere.

12 The last two signs could be -NUMUN$^{!}$-AŠ, Gula-zēru-iddina.

Text 21 Loan of Silver for Commercial Activities

Aššur 23.
Shelf No.934.
IM 119576.
Envelope, tablet enclosed, neither seal space nor stamp seal impressions. Total 10 lines. Dimensions 31 x 21 x 15 mm.
Creditor Ištar-tarība.
Debtors Ištar-tarība and Aššur-mātu-taqqin.
Eponym Šamaš-mītu-uballiṭ (PC, not listed SAAS II, p.119).
Scribe not indicated.

1 9* GÍN KÙ.BABBAR
2 šá 1.15-SU
3 ina IGI+1. : :
4 ina IGI+1.Aš+šur-KUR-LAL
5 ana 8-tú-šú GAL
6 ITU.SIG$_4$ U$_4$ 15 KÁM
7 lim-mu 1.20-ÚŠ-TI
8 IGI+1.ZÁLAG-DINGIR.MEŠ
9 IGI+1.Bi-su-u-a
10 IGI+1.d.PA-ú-<a>

Translation

1-4 9 shekel of silver, belonging to Ištar-tarība, at the disposal of ditto and of Aššur-mātu-taqqin. 5 It will increase to an eighth.
6-7 Month Simānu, 15th day, eponym year of Šamaš-mītu-uballiṭ.
8-10 Witness Nūr-ilani. Witness Bisû'a. Witness Nabû<a>.

Commentary

3 ina pān 1.ditto.ditto indicates that in this loan the creditor and the first of the debtors are identical. This is typical for commercial loans from Aššur, see K.Deller, BaM 15, 242-245 and 250-251.
4 Though Aššur-mātu-taqqin is debtor in this loan it has been found as part of his private archive. This certainly is due to the special nature of commercial loans.
7 In all known references for this eponym Šamaš is written with the sign 20, never d.UTU or d.Šá-maš.
9 Bisû'a could well be identical with his namesake in the ḫundurāyu archive (see SAAB V, p.16 for references).
10 Interpolation of <a> is, of course, conjectural.

Text 22 Loan of Silver

Aššur 24.

Shelf No.935.

IM 119290.

Tablet without envelope. Total 12 lines. Dimensions 28 x 21 x 17 mm.

Creditor: Aššur-mātu-taqqin.

Debtor: Paquddu son of Šiddudu.

Eponym: Šamaš-šarru-ibni (PC, not listed SAAS II, p.119.

Scribe: not indicated.

1 NA_4.KIŠIB 1.Pa-qu-du

2 A 1.Šid-du-du

3 2 GÍN KÙ.BABBAR

4 ša 1.Aš+šur-KUR-LAL

stamp seal impression

5 ina IGI+1.Pa-qu-du

6 ina pu-u-ḫi it-ti-ši

7 ana 5-tú-šú GAL-bi

8 ITU.ŠE U_4 12 KÁM*

9 lim-mu 1.d.UTU-MAN-DÙ

10 IGI+1.Ki-i-nu

11 IGI+1.DI-mu-Aš+šur

12 IGI+1.SU!-30

Translation

1-5Seal of Paquddu, son of Šiddudu. 2 shekel of silver, belonging to Aššur-mātu-taqqin, at the disposal of Paquddu.6He has taken it as a loan.7It will increasy by one fifth.

8-9Month Addaru, 12th day, eponym year of Šamaš-šarru-ibni.

10-12Witness Kīnu. Witness Šulmu-Aššur. Witness Erība-Sîn.

Commentary

12 The sign SU is lacking one vertical.

Text 23 Loan of Silver for Commercial Activities

Aššur 25.

Shelf No.925.

IM 119287.

13 lines. Dimensions 36 x 28 x 25 mm. Tablet without envelope.

Creditor: Aš+šur-MU-IGI-NU.

Debtors: Aššur-mātu-taqqin, Urda-Aššur, Nabû-šamgur.

Eponym: Upāqa-ana-Arba'il (PC, listed SAAS II, p.124).

Scribe not indicated.

1 NA_4.KIŠIB 3 EN KASKAL!.ME!

2 $4\frac{1}{2}$ MA‹NA› $2\frac{1}{2}$ GÍN KÙ.BABBAR

3 SAG!.ME! šá 15 šá Arba-ìl

4 šá 1.Aš+šur-MU-IGI-NU

stamp seal impression

5 ina IGI 1.Aš+šur-KUR-LAL

6 ina IGI 1.ÌR-Aš+šur

7 ina IGI 1.d.PA-šam-gur

8 a-na 8-tú-šú GAL-bi

9 ITU.ŠE U_4 20 KÁM*

10 lim-me 1.Pa-qa-ana-Arba-ìl

11 IGI+1.SUḪUŠ-É!.KUR!-ri

12 IGI+1.Si-lim-Aš+šur

13 IGI+1.U+GUR-u-TI

Translation

1-3 Seal(s) of three commercial agents. $4\frac{1}{2}$ mina $2\frac{1}{2}$ shekel of silver, first fruits of Ištar of Arbela, 4-8 belonging to Aššur-MU-IGI-NU, at the disposal of Aššur-mātu-taqqin, Urda-Aššur (and) Nabû-šamgur. It shall increase by one eighth. 9-10 Month Addaru, 20th day, eponymy year of Upāqa-ana-Arba'il. 11 Witness Ubru-ekurri. 12 Witness Silim-Aššur. 13 Witness Nergal-uballiṭ.

Commentary

1 For texts dealing with the activities of EN KASKAL.MEŠ see NATAPA nos.12, 64, 88, 112. Copy has 3 EN IŠ.

3 Copied as ŠÁ 1 AN šá 15 šá Arba-ìl.

4 Last three signs transcribed as copied. Is Aššur-mušallim meant?

11 Second element appears in copy as SI/GUR-ḪI-ri.

Text 24 Loan of Silver for Commercial Activities (?)

Aššur 26.

Shelf No.937.

IM 119282.

Tablet without envelope, 11 lines. Dimensions 32 x 23 x 17 mm.

Creditor, debtor see commentary below.

Eponym Nabû-sagib (PC, listed SAAS II, p.106).

Scribe not indicated.

1 21 MA.NA KÙ.BABBAR ša 1.ZÁLAG-⌜x⌝
2 ša ina IGI 1.Aš+šur-KUR-LAL
3 TA*! tar-ṣi! ITU!.ŠE
4 SUM!-nu! šumu NU i-di-nu
5 TA* IGI ≪1≫ a-ḫe-iš! u<ṭ-ṭu-ru>
6 <ina> IGI ≪1≫ EN ši-ip-ri!-š<ú-nu>
7 ITU.ZÍZ U_4 30 KÁM
8 lim-mu 1.d.PA-sa-gíb
9 IGI+1.Aš+šur-PAP-PAP
10 IGI 1.Pa!-qud-du
11 IGI 1.A NU ŠE Ì

Commentary

The wording of this contract is quite uncommon and, especially for ll.5-6 without parallel. The above transcription should be used, therefore, with caution.

1 "21" is copied like GAM+DIŠ. The last sign (on r.e.) has the outline of ⌜KI⌝; d.ZALAG-⌜U+GUR⌝! might be a possible reading but this is far from certain.

2 Combined ša and ina IGI is not attested elsewhere in a loan. It may indicate that Aššur-matu-taqqin is both creditor and debtor. This situation is not unexpected in a commercial loan but the verb i-di-nu in l.4 calls for at least two debtors. However, a second debtor cannot be found in this text.

3 This line apparently contains information on the date of repayment, but two substantial corrections are necessary to yield it: first amend URUDU.ŠE to ITU!.ŠE and secondly TA* tar-DI into TA* tar-ṣi! (and delete one spurious vertical in TA*): "from the beginning of month Šabāṭu (on)"; for issu tarṣi see AHw 1332a tarṣu III B 4).

4 After the date of repayment and before the clause šumma la iddinū the only possible verb is iddunū. Copy has IGI-DIŠ which has to be corrected to SUM!-nu!. The spurious IGI-DIŠ in ll.4.5.6.

may have been influenced by IGI(+)1. of the witness list.

5 Copy shows something like TA* IGI 1 a-ḫe-RU plus a ditto sign. If one amends RU to iš the expression issu pān aḫe'iš calls for the verb uṭṭurū, "they are mutually paid off" (see J.N. Postgate, FNALD p.57 § 4.3). This is evidently in conflict with l.4 "if they do not pay". The clue to the understanding of this seeming conflict may just be sought in l.6.

6 Copied as IGI 1 EN ŠI IB ḪU ⌜X⌝ it could be helped by inserting <ina> before IGI, by deleting 1 before EN and by correcting ḪU to RI (the rare šibḫu "Ablagerung", AHw 1227a should be dismissed). The term bēl šipri is not attested elsewhere; it could be translated literally by "owner of the commission" (German "Auftraggeber"), i.e. the person responsible for the whole enterprise. In the present case it is a good guess that he was Aššur-matu-taqqin himself, or his father Mannu-kī-Arba'il. The small winkelhaken at the end of the line is taken as the lower part of šú.

10 Copied as 1.GUR-TAR-DU the name can easily be corrected to 1.Pa$^{!}$-qud-du, Aššur-mātu-taqqin's witness with the highest number of attestations.

11 No sense can be made of the name copied as 1.A NU ŠE İ. The DN Anum is excluded by the missing determinativ d.

Text 25 Loan of Silver without Interest

Aššur 33 A.

Shelf No.944.

Tablet without envelope. 10 lines. Dimensions 40 x 25 x 15 mm.

Creditor Aššur-šallimšu.

Debtor Nabû-šumu-ukīn.

Eponym Bēl-aḫu-uṣur (PC, listed SAAS II, p.87).

Scribe Not indicated.

1 5 GÍN KÙ.BABBAR
2 šá 1.Aš+šur-DI-šú
3 ina IGI 1.d.PA-MU-GIN
4 A 1.La-⌜TÉŠ?⌝-Aš+šur
5 ITU.APIN U_4 1
6 lim-mu 1.EN-PAP-PAP
7 KÙ.BABBAR NU GAL!
8 IGI+1.d.PA-TI-ni
9 IGI 1.AŠ.DU.KA.ḪAL.⌜ṢUR⌝
10 IGI 1.Ḫa-ni-i

Translation

1-4 5 shekel of silver, belonging to Aššur-šallimšu, at the disposal of Nabû-šumu-ukīn, son of Lā-tubaššanni-Aššur.

5-6 Month Araḫsamna, first day, eponym year of Bēl-aḫu-uṣur.

7 The silver will not increase.

8-10 Witness Nabû-balliṭanni. Witness ... Witness Ḫanî.

Commentary

4 Reading of patronymic conjectural. 1.La-⌜TÉŠ-ana⌝-Aš+šur could also be reconciled with available space and traces.

7 ṣarpu lā irabbi (GAL lacks one horizontal) is quite unusual; see J.N. Postgate, FNALD pp.42-43, § 3.4.3. Also the position of this clause (after the date) is uncommon.

9 No suggestion can be made for the reading of this name. A mere guess: 1.PAP!-DU-ka (Aḫu-illika) plus a profession.

Text 26 Loan of Silver

Aššur 34 A.

Shelf No.945.

Broken envelope, tablet enclosed. Total 14 lines.

Dimensions 35 x 25 x 15 mm.

Debtor Mušēzib-Aššur son of Ṭāb-x[ ].

Creditor ŠU[ ]

Eponym Nabû-sagib (PC, listed SAAS II, p.106).

Scribe not indicated.

1 NA_4.KIŠIB 1.M[u-še-zib-Aš+šur]
2 A 1.DÙG-x[ ]
3 8 GÍN [KÙ.BABBAR]
4 ša! 1.ŠU[ ]

stamp seal impression

5 ina IGI 1.Mu-še-zib-Aš+šur
6 EN 50 u_4-mu
7 SUM!-na šumu NU <i>-di-ni
8 ana 5-tú-šú GAL-bi
9 ITU.KIN U_4 2
10 lim-mu 1.d.PA-sa-gíb
11 IGI 1.NUMUN-[ ]
12 IGI 1.ÌR-[ ]
13 IGI 1.x[ ]
14 IGI 1.Aš+šur-šim-ti!-[ši-mi]

Translation of ll.6-8: He will pay him after fifty days. If he does not pay, it will increase by one fifth.

Commentary

4 First sign in copy TA*; sign before break could also be KU, compare 1.Túk-lat-Aš+šur, creditor of text 27.

6 Counting days is relatively rare, if not unique in loan documents.

7 SUM!-na is copied İ.GAR-na. Omission of <i> may be intentional, reflecting syllabic la-din/di-ni. Hence, là-di-ni is equally possible.

14 The sign before the break looks like a partially preserved GI or ZI. "Aššur, determine my fate" is a conjectural interpretation of what is left of this name.

Text 27 Loan of Silver *(for Commercial Activities)*

Aššur 35 A.

Shelf No.946.

Tablet without envelope. Total 13 lines. Dimensions 30 x 20 x 10 mm.

Creditor Tuklat-Aššur.

Debtors Aššur-erība and Ša-lā-Aššur-mannu.

Eponym Nabû-sagib (PC, not listed SAAS II, p.106).

Scribe not indicated.

1 [n] GÍN KÙ.BABBAR 1.Du-mu-qi!
2 [n] ½ GÍN KÙ.BABBAR 1.Šá-la!-Aš+šur-man-nu
3 8½ GÍN KÙ.BABBAR [1.]-a-na
4 ša 1.Túk-lat-Aš+šur
5 ina IGI 1.Aš+šur-SU
6 ina IGI 1.Šá-la!-Aš+šur-man-nu
7 ITU.ŠE U$_4$ 1 KÁM*
8 lim-mu 1.d.PA-sa-gíb
9 ina lìb-bi šá ITU.ZÍZ SUM-nu
10 <šumma> la! SUM-nu A TI DIN
11 IGI 1.Mar-di-i
12 IGI+1.Aš+šur-SUM!-ZI
13 IGI+1.Su!-ú!-niš-Aš+šur

Translation

1-6 n shekel of silver Dummuqu, n ½ shekel of silver Ša-lā-Aššur-mannu, 8½ shekel of silver [ ]ana: belonging to Tuklat-Aššur, at the disposal of Aššur-erība and of Ša-lā-Aššur-mannu.

7-8 Month Addaru, 1st day, eponym year of Nabû-sagib.

9-10 They will pay within the month Šabāṭu. <If> they do not pay, ...

11-13 Witness Mardî. Witness Aššur-nādin-napulti. Witness Sūniš-Aššur.

Commentary

The amount of the loan is the total of shekels listed ll.1-3. They are probably open loans owed by these three men to the creditor. Instead of paying them to Tuklat-Aššur they pay them to the two new debtors mentioned ll.5-6. The fact that one of the debtors appears twice, Ša-lā-Aššur-mannnu, shows that he is a member of two different groups of commercial agents.

1 Copy has 1.Du-mu-EN. The name could also be corrected to 1.DI!-mu-EN.

2 and 1.6: The second sign is copied DI and KI respectively.

10 Lines 9-10 should come before the date. šumma is left out and İ is copied instead of la!. End of line is obscure; may be ana mitḫur is meant.

Text 28 Private Letter

Aššur 10.

Shelf No.921.

Dimensions 44 x 24 x 16 mm.

Senders Urdî and Mutaqqin-Aššur.

Adressee Aššur-mātu-taqqin.

obv. 12 lines, b.e. 1 line, rev. 11 lines, l.e. 2 lines, total 26 ll.

Undated; scribe not indicated.

obv. 1 IMI 1.ÌR-i
2 IMI 1.Mu-LAL-in-Aš+šur
3 a-na 1.Aš+šur-KUR-LAL-in
4 lu-u DI-mu a-na PAP.{MEŠ}-ni
5 d.PA d.ŠÚ a-na :
6 lik-ru-bu
7 an-nu-tú LÚ*.NE.IA
8 ina muḫ-ḫi ZI.MEŠ-ni
9 i-da-'i-bi KASKAL-ni
10 ša-al a-mur
11 a-bu-tú a-ki SA.AR.PAD
12 šup-ra-na-ši
b.e. 13 ù qa-ba-li
rev. 14 ru-ku-ús
15 TA* IGI-ni i-zi!-[iz]
16 u_4-mu ša e-gér-tú
17 ta-mar!-u!-nu
18 $DUG_4.DUG_4$ ḫu-ur-ṣa
19 šup-ra-na-ši
20 ID.BI.AŠ ga-ba-ru-u
21 ša e-gér-tú šup-ra
22 la ina muḫ-ḫi 5 TA* qu-ru-bu
23 ina UGU ga-bi-ku-nu
24 i-zu-uq!-pu
l.e. 25 mi-nu aḫ-ḫur
26 e-gér-tú la qur-bi-ka

Translation

Letter of Urdî (and) Mutaqqin-Aššur. To Aššur-mātu-taqqin:
Let it be well with our brother. May Nabû (and) Marduk bless
ditto (i.e. our brother). ... pushes against our life. Ask
for our way and see (after it)! Send us word that/how ....
and be prepared for fighting! Take up position in front of
us!

The day on which you will read this letter, send us a reliable word. At least(?) send an answer to the letter. The matter does not concern five (people). They have launched an attack against all of you. How else (can you say that) the letter does not concern you?

Commentary

Like almost all NA private letters this text presents difficulties of various kind. Not all of them can be explained.

4 The plural sign MEŠ is unwarranted and has to be deleted.

7 The first word, an-nu-tú, can hardly be the plural of anni'u since the pertaining verb in l.9, i-da-'i-bi, is in the singular. One could suggest to amend an-nu-UD to an-nu-ri!, "now". LÚ*.NE might be an error for EN DU_{14}, bēl ṣassi, "enemy, adversary". At the end the suffix should be in the plural, -ni!. annûri bēl ṣassīni ina muḫḫi nupšāteni ida''ibi, though not attested elsewhere seems to be good idiomatic Neo-Assyrian.

9 The second last sign is rather KASKAL than BI.

10 SA.AR.PAD as copied does not make sense; one could think of sa-ar-ra-tú-ni "write us that the word/the matter is untrue".

13 qa-ba-li stands for qablē (BA "inversed" spelling).

14 In ru-ku-ús UŠ is used with an uncommon phonetic value (not listed as attested in NA by W. von Soden - W.Röllig, AS[4], p.25).

15 The imperative rukus in l.14 calls for another imperative in l.15; though the copy has i-GI-[ ]the reading iziz is highly probable.

17 The reading follows [30]ina u_4-me ša i-gér-tú [31]ta-mar-u-ni KAV 213:30-31 and [7]⌈u_4-m⌋u šá ni-ib-zu [8]an-ni-u ta-mar-u-ni K.Radner, Die Goldschmiede von Assur, text 23:7-8. The form tammarūnu (instead of tammarūni) is explained by K.Deller and S.Parpola, OrNS 26,338.

18 Within the NA paradigm there is no accusative ending in -a. The spelling ḫurṣa must therefore be an erroneous inversion of vowels for ḫarṣu.

20 The first two (or three) signs are left unexplained; one would expect an adverb like "at least".

22 The interpretation expressed in the translation is open to doubt; it is not quite clear whether qu-ru-bu stands for qarrub or for qarrubū.

24 Copy has i-zu-ÚR-pu which cannot be derived from *zrp (i/i). Both the construction with ina muḫḫi and the vocalism advise emendation to izzuqpū (3 m. plural perfect tense of *zqp).

Text 29 Memorandum or Draft of a Letter

Aššur 5.

Shelf No.916

Dimensions 78 x 36 x 20 mm

obv. 17 lines, rev. 16 lines, t.e. 2 lines, l.e. 2 lines, total 37.

Undated. Scribe not indicated.

obv. 1 2O GÍN KÙ.BABBAR.MEŠ
2 a-na 1.Pu-ši-i
3 a-ti-din a-ki!
4 a-na mad-bi-ru
5 il-lik-u-ni 1O GÍN KÙ.BABBAR
6 1O GÍN KÙ.BABBAR šu x (x) ra
7 x IŠ A x x TE
8 a-na lìb-bi mad-bi-ru
9 ⌜a-ki DU⌝-u-ni
10 ú-se!-bi-la-šú
11 ŠE!.ḫab-bar-tú ša! ina lìb-bi!
12 mad-bi-ru na-su-ḫa-ni
13 ana-ku ú-sa-lim
14 1O GÍN KÙ.BABBAR a-ki
15 TA* lìb-bi mad-bi-ru
16 il-lik-an-ni
17 AD-ni šá ina KUR-šú
rev.18 ina URU.⌜Maš⌝-ka
19 it-ta-lak
20 ANŠE.KUR.RA
21 i-sa-ad-du
22 MÍ-šú ta-ta-lak
23 e-ṣa-di a-da-niš
24 uṣ-ṣi-di
25 7 GÍN KÙ.BABBAR i-se-niš
26 ḫa-ba-la-ka
27 3BÁN GIŠ.KIN!.GEŠTIN.MEŠ
28 3BÁN ŠE.GÚ!.NUNUZ.MEŠ
29 6 MA.NA URUDU.MEŠ
30 3BÁN ŠE.PAD.MEŠ
31 a-ki ina lìb-bi
32 mad-bi-ru ta-lik-u-ni
33 a-na MÍ-šú a-ti-din
b.e. 34 ṭup!-pu ana-ku
35 ṣab-ta-ku

l.e.36 10 GÍN KÙ.BABBAR a-ti-din e-gér-ti
37 ša 2 $\frac{1}{2}$(?) MA.NA URUDU! Ú!-se-ṣi-a

Translation

1-5When Puší went off to the desert I gave him 20 shekel of silver.
6-10 10 shekel of silver (and again?) 10 shekel of silver ... I sent to him when he went to the midst of the desert.
11-13The grain stalks which were extracted in the midst of the desert I paid them in full.
14-19 10 shekel silver when he came from the midst of the desert. Our father who is in his country, went off to the town of Malka.
20-21They dragged (away) a horse. 22His wife has left.
23-24Do your best to harvest the fields! 25-26You owe me altogether 7 shekel of silver. (or: my)
27-33I gave 3 su of grape wine, 3 su of "naked" barley, 6 minas of copper, 3 su barley rations to his wife when she went off to the midst of the desert. 34-35I am in possession of the tablet (i.e. the receipt?).
36-37I gave 10 shekel of silver. I took out my (loan) document amounting to $2\frac{1}{2}$ minas of copper.

Commentary

The text seems to be a memo listing various expenditures (see attidin l.3.33.36; ussēbilaššu l.10, ussallim l.13); the writer does not identify himself but there are good reasons to assume that anāku (l.13 and 34) is Aššur-mātu-taqqin.
Nevertheless there are at least two second persons singular: the imperative uṣṣidi (l.24) and probably the stative habbulāka (l.26). By these forms one of his partners may be addressed; he too remains unidentified. Thus text 29 might as well be a draft of a letter.

2 Puší is the only person mentioned by name in this document; he is not found elsewhere in the archive of Aššur-mātu-taqqin.

3 The last sign is copied more or less like KA; in accordance to a-ki ll.9.14.31 it has been amended to ki!.

4 mad-bi-ru here and ll.8.12.15.32 stands for the genitive madbiri. Though the ending is quite unusual it seems to belong to NA madburu "steppe, desert" (see CAD M 1/11b-12b).

6 The repetition may be due to dittography. We refrained from reading šu-up!-ra at the end of the line in view of the quite obscure traces in l.7. Do they contain another PN ?

11 At the beginning instead of ŠE the sign KUR is copied, at the end BE instead of BI. In the center of the line copy has IŠ instead of ŠA.
ŠE!.ḫab-bar-tú is probably the fem. plural of ḫabburu/ḫabbaru "(green) shoot, stalk" (CAD Ḫ 14b-15b) with a proposed reading ḫab-bara-tú or -te!. The stative in 3rd fem. plural nassuḫāni in l.12 requires this assumption.

13 Probably short for ussallim attidin.

18 Reading of GN conjectural.

21 The verb šadādu is used here in the sense "to remove forcibly"; see CAD Š 1,26. Horses are also mentioned in text 5:39.

24 So far the dictionaries do not list any references to eṣādu D "to harvest", but in hendiadyoin with e-ṣa-di l.23 there can be no doubt that *'ṣd D is meant.

26 ḫa-ba-la-ka stands probably for ḫabbulāka, 2nd masc. singular; less likely 1st c. singular (for *habbulāku).

27 Instead of GIŠ.KIN copy has GIŠ.PAD. It is not quite clear whether this entry means grapes or the beveridge, wine.

28 Copy has KI instead of GÚ; for ŠE.GÚ.NUNUZ = gu-lu-bu-ti see PVA 27, "naked" barley. Both dictionaries list lexical references only. If correctly read this entry could be a welcome addition to the NA lexicon of cereals.

34 The first word of this line is copied as DI-BA-BU. Even if corrected to da!-ba-bu it would hardly fit the verb ṣabtāku. Beside ṭup!-pu other readings (tu!-up!-pu or tú!-up!-pu) should not be excluded.

36 e-gér-ti is definitely "my document"; this interpretation excludes that the wording continues with ša 1.PN.

37 If the emendation URUDU! for AD is correct the preceding MA.NA is the unit of weight and, consequently, the signs between ša and MA.NA have to be numerals. Caution is indicated, however, since URUDU in 1.29 is correctly copied and followed by the plural sign MEŠ.
The first sign in ú!-se-ṣi-a lacks two verticals in the copy.

Text 30 Adoption of Son

Aššur 12.
Shelf No.923.
Dimensions 90 x 51 x 23 mm.
obv. 14 lines, rev. 19 lines, t.e. 3 lines, l.e. 2 lines, total 38.
Adoptant(s) Aššur-mātu-taqqin, Mannu-kī-[Arba'il .
Adoptee 1.NU-[ ]-Aššur.
Eponym Aššur-gimillī-terre (PC, listed SAAS II, p.83).
Scribe: Not indicated or broken away.

obv. 1 NA_4.KIŠIB 1.ḪAL-x[
empty seal space
2 ša 1.Aš+šur-KUR-LAL šá 1.Man-nu-k[i-
3 DUMU.MEŠ-šú la-áš-šú 1.NU-[Aššur]
4 a-na DUMU.MEŠ-šú i-sa-kan
5 7 DUMU.UŠ-šú ša 1.Aš+šur-KUR-LAL ša! 1.Man!-[nu-ki-
6 li-bi-ši-ú 1.x[ ]-Aš+šur
7 DUMU.UŠ-šú GAL-u šá ina ur-kiš ina ma-te-me
8 i-bala-kàt-u-ni di-bi an-nu!-te
9 ú-šá-áš-nu-ni Aš+šur d.UTU
10 EN d.PA lu-u EN de-ni-šú
11 a-de-e šá LUGAL ina ŠU.2-i-šú
12 lu-u-ba-'i-u AN.NI ZÁḪ-šú
13 ur-ki-iš 1 MA.NA KÙ.BABBAR 1!MA!.NA! KÙ!.GI!
14 [ina b]ur-ki! d.NIN!.LÍL SUM!
rev.15 2 ANŠE.KUR.RA BABBAR.MEŠ ina GÌR.2 Aš+šur!
16 i-ra-ka-sa
17 DUMU.UŠ-šú GAL-u ina ḫa-am-ri
18 šá d.IM i-qa-lu
19 ina de-ni-šú DUG_4.DUG_4-ma la TI-qe
20 IGI+1.Aš+šur-AŠ-PAP GAL kal-la!-ba!-<ni>
21 IGI+1.IGI.LAL-Aš+šur LÚ*.ḫa-za-nu
22 IGI+1.DI-DINGIR A 1.PAP-BÀD
23 IGI+1.Arba-ìl-a-a IGI+1.MU-Aš+šur
24 IGI+1.Ba!-la!-si-i A 1.PAP-BÀD
25 IGI+1.ŠÀ.URU-a-a IGI+1.ḪI.BU.PAP
26 IGI+1.SU-Aš+šur A 1.Ki-ṣir-Aš[+šur]
27 IGI+1.Mu-kín-Aš+šur A 1. ⋮ ⋮ :
28 IGI+1.Qur-di-Aš+šur A 1. : ⋮ :
29 IGI+1.Mu-kín-Aš+šur GAL GÌR[
30 IGI+1.Man-nu-ki-a-a IGI+1.La-te-g[i-a-na-Aš+šur]
31 IGI+1.[ ]GIN-A IGI+1.IGI-x[

rev.32 IGI+1.Qí-bit-[x x]
33 IGI+1.[ ]x x x]
34 IG I+1. x x[ ]
35 IGI+1.Aš+šur-[ ]
36 IGI+1.Bar-[ ]
l.e.37 ITU.GU$_4$ U$_4$ 16 KÁM*
38 lim-mu 1.Aš+šur-ŠU-GUR

Translation

Seal of PN (probably the adoptee's father).
Aššur-mātu-taqqin (and) Mannu-kī-[ ](probably his wife's name) have no son. He has adopted 1.NU-[Aššur]. May seven sons be born to Aššur-mātu-taqqin (and to his wife) [1.NU-]Assur will (nevertheless) be (in the position) of his first-born son. Who(ever) violates the agreement in the future (or) at any time, and changes these words: Aššur, Šamaš, Bēl (and) Nabû will be his opponent. The treaty of the king shall call him to account. ... ... he shall put 1 mina of silver (and) 1 mina of gold in the lap of Mullissu. He shall harness two white horses to the "feet" of Aššur. He shall burn his first-born son in the sacred precinct of Adad. He shall contest in his lawsuit and not succeed.
Witness Aššur-nādin-aḫi, commander of outriders(?).
Witness Āmur-Aššur, mayor.
Witness Šallim-ilī son of Aḫu-dūrī.
Witness Arba'ilayu. Witness Šummu-Aššur.
Witness Balasî son of Aḫu-dūrī.
Witness Libbālāyu. Witness ḪI.BU.PAP
Witness Erība-Aššur son of Kiṣir-Aššur.
Witness Mukīn-Aššur son of ditto.
Witness Qurdi-Aššur son of ditto. Witness Mukīn-Aššur, ...
Witness Mannukī'ayu. Witness Lā-teg[gi-ana-Aššur].
Witness [ ]-mukīn-apli. Witness 1.IGI-x[
Witness Qibīt-[
two lines of witness list almost completely destroyed.
Witness Aššur-[
Witness Bar-[
Month Ayyaru, 16th day, eponym year of Aššur-gimillī-terre.

Commentary

This adoption document is paralleled by TCL 9,57 (see J.N. Postgate, FNALD No.17) and NATAPA 51, both from Aššur.

1 As in these texts the tablet should be sealed by the adoptee's (natural) father.

2 It is highly unlikely that the second name should be male; the name of Aššur-mātu-taqqin's wife is to expected here (as in TCL 9,57:5 and 7).

3 If a married childless couple is mentioned in l.2, one has to insert a NU: DUMU.MEŠ-šú-<nu>. At the end (as in l.6) the adoptee's name is required; read Lā-tubaššanni-Aššur ?

4 DUMU.MEŠ-šú instead of DUMU-(u-)ti-šú (read mar'uttišu) is a scribal error probably due to DUMU.MEŠ-šú in l.3. Or MEŠ denotes the abstract ending -utti- (derived from -ūti, the plural ending of masculine adjectives?). At the end note the perfect issakan. As in TCL 9,57 no price is paid to the adoptee's father while in NATAPA 51 a nāmurtu-"gift" of 15 shekel silver is handed over.

5 At the end again the adoptive mother's name should be read. For the clause ll.5-7 see Postgate,FNALD p.114 (with variant "ten sons" in ND 5480 and OB VS 8,127,11).

8-9 dibbī annûte ušašnûni seems to be unique in a NA legal text.

12-13 AN.NI ZÁḪ-šú ur-ki-iš, as copied, cannot be understood. One would expect a phrase like "if he says 'you are not my (adoptive) father, I am not your (adoptive) son'. ZÁḪ might imply that he flies from Aššur-mātu-taqqin's house, but ḫalāqu is said of slaves only. A closer inspection of the original certainly will solve this problem.

13 End of line is copied A.TA.A.DIN but all parallels point to 1 mina of gold as the correct reading.

14 Copied ⌈ina b⌋ur-DI. Line ends in AD which has been corrected here to SUM! though GAR-an/išakkan only would fit the phrase.

15 UD copied instead of Aš+šur at the end of this line.

20 The first witnesses profession is copied GAL KAL.NA.NA.

24 This witness is copied 1.ÌR-BA-si-i.

25 No meaningful reading could be found for the last three signs.

26 GAL GÌR⌈ cannot be restored to a known commander's title. Some witnesses of text 30 occur in the witness list of text 9.

Text 31 Division of Inheritance

Aššur 27.
Shelf No.939.
Dimensions 62 x 34 x 16 mm.
obv. 13 lines, rev. 15+n lines, total 28+n lines.
Testator Mannu-kī-Arba'il.
Legatee Aššur-mātu-taqqin.
Eponym Muš[allim-Aššur] ? (PC, not listed SAAS II, p.101-102).
Scribe broken away.

obv. 1 NA_4.KIŠIB 1.IGI.[LAL-Aš+šur]
2 LÚ.ḫa-za-nu x[ ]
3 EN ḪA.LA zu-a-zi
4 ḪA.LA šá! 1.Man-nu-ki-Arba-ìl
5 i-zu-zu-ni
stamp seal impression
6 MÍ.<d.>NIN.LÍL-BÀD GÉME
7 É AD a-na gi-mir-ti-šú
8 a-di NI.NI a-na GIŠ.IG.MEŠ-šú
9 MÍ a-ni-tú ḪA.LA
10 šá 1.Aš+šur-KUR-LAL
11 É MÍ ḪA.LA
12 ú-ṭu-ru mam-ma
13 TA*! mam-ma la DUG_4.DUG_4
rev.14 1.Aš+šur-KUR-LAL BI KUR IB NU
15 1.Aš+šur-BÀD ina lìb-bi la qur-bu
16 man-nu šá ina ur-kiš ina ma-te-me
17 lu-u 1.[Aš+šur]-BÀD 1.IGI-x-Aš+šur
18 1.Aš+šur-x[ ]-ia-ni
19 DUMU.MEŠ-šú[⌜de⌝-nu!
20 DUG_4 ?[DUG_4 TA*] NIN.MEŠ-šú
21 DUMU.MEŠ-šú DUMU.DUMU.MEŠ-šú
22 ub-ta-u-ni Aš+šur d.UTU
23 lu EN de-[n]i-šú
24 ITU.NE [U_4 n KA]M
25 lim-mu 1.Mu-ša[l!-lim-Aš+šur]
26 IGI+1.KASKAL-LA[
27 IGI+1.ZI-[
28 [IGI+1.] ⌜x x⌝[
remainder of reverse broken away

Translation

1-5 Seal of Am⌈ur-Aššur⌋, the mayor of⌈ ⌋, "owner" of the inheritance being divided. Inheritance of Mannu-kī-Arba'il (which) he divided.

6-10 f Mullissu-dūrī, the slave woman, the paternal house in its entirety including the beams(?) and its doors. This woman is the share of Aššur-mātu-taqqin.[11]The house (and) the woman are (his) share.[12]They are (mutually) paid off. Neither shall litigate against the other.[14]Aššur-mātu-taqqin is ....[15]Aššur-dūrī does not have anything to do with it.[16]Whoever in the future, at any time, whether Aššur-dūrī or PN_2 or PN_3, their(?) sons who seek a lawsuit (or) litigation against his sisters, his sons,(and) his grandsons:[22]Aššur (and) Šamaš will be his opponents.

[24]Month Abu,⌈nth day⌋, eponym year of Muša⌈llim-Aššur⌋.

26-28 (Three only partially preserved names of witnesses).

Commentary

This inheritance document is very much condensed in its wording (lines 1-15) and it cannot be fully understood without the help of comparative material. Among the tablets from Assur NATAPA 52 (VAT 14436) and the two related fragments Ass.Fd.Nr.9573 b and e (see NATAPA I pp.136-137), NATAPA 71 (VAT 9330) and FNALD 18 (Copenhagen No.8612) should be consulted. Within Aššur-mātu-taqqin's archive text 34, the lawsuit of Ḫal<di>-da''inanni against Aššur-dūrī and Aššur-mātu-taqqin is to be connected with the present text. Another division of inheritance from Assur is BM 122698, published by A.R.Millard and K.Deller, AfO 32,42ff.

1 The restoration is based on text 9:19 and text 30:21.

2 Three ḫazannu's are involved in the division of inheritance BM 122698:26-27. The inheritance text FNALD 18 is sealed by Lā-turammanni-Aššur, the rab ḫanšâ of the Egyptian colony in Aššur; see J.N. Postgate's comment on p.116.

3 For this phrase see K.Deller, WZKM 57,33.

4 The first three signs are copied as ḪA.LA A, but šá! is required. The syntax of ll.4-5 is somewhat sloppy: "the inheritance of Mannu-kī-Arba'il (which he, i.e. the mayor Amur-Aššur) divided". The obvious translation "The inheritance which Mannu-kī-Arba'il divided (scil. in his last will)" suffers from the fact that the clause bēl zitti zu'āzi in l.3 would thus become meaningless.

6 The slave woman Mullissu-dūrī occurs again in the sales document text 11:4 where she is bought by Aššur-mātu-taqqin from [ ]balla-ilāni and Mutaqqin-Aššur for $17\frac{1}{2}$ shekel of silver. Though it cannot be excluded that she is a namesake by coincidence the situation might be more complicated: originally inherited from his father Mannu-kī-Arba'il in the course of events Aššur-mātu-taqqin could have given her to [ ]balla-ilāni and Mutaqqin-Aššur as a pledge (šapartu). He missed the deadline to repay his loan and lost her to his creditors. With text 11 he redeemed her.

7 The same wording could be found in FNALD 18:3 [É].ḪAD! a-di gi-mir-te-šú.

8 a-di NI.NI is difficult to understand; a-di ì-lí, "including the (house) gods" would be a nice idea but it is without parallel in NA inheritance texts. At this point of the document one would expect a-di GIŠ.ÙR.MEŠ-šú, "including its beams".

11 The indented bētu sinnissu zittu seems to be a superfluous repetition of the preceding lines.

12 uṭṭurū lacks issu pān aḫē'iš; see FNALD 18:17; NATAPA 52 r.3; NATAPA 71 r.8.

13 The first sign is copied as É; correction to TA* is unavoidable.

14 The last four signs are unintelligible; no attempt has been made to correct them.

17 and 18 mention further brothers of Aššur-mātu-taqqin and Aššur-dūrī. In l.18 Aššur-ukallanni (known from text 18) may have been intended.

20 issē aḫātišu, "with his sisters", seems to be the correct reading but without parallel in such a context.
For a reconstruction of Aššur-mātu-taqqin's family see introduction.

Text 32 Lawsuit

Aššur 13.

Shelf No.924.

Tablet without envelope. Total 16 lines. Dimensions 57 x 40 x 30 mm.

Parties: Aššur-mātu-taqqin vs. Abirî.

Judge: šaknu.

Eponym: Ṣalmu-šarru-iqbi (PC, not listed SAAS II, p.116-117).

Scribe: not indicated.

1 de-e-nu ša 1.Aš+šur-KUR-LAL
2 TA* 1.A-bi-ri-i
3 ina IGI LÚ*.GAR-nu id-da-bu-bu-u-ni
4 u_4-mu ša 1.Na-ḫi-ru-u
three stamp seal impressions
5 il-lak-ka-a-ni
6 ina IGI! LÚ*.GAR-nu e-qa-ri-bu
7 šum$_4$-ma la <e>-qa-ri-bu
8 1 MA.NA KÙ.BABBAR 1.A-bi-ri-i
9 a-na 1.Aš+šur-KUR-LAL SUM-na
10 ITU.ZÍZ U_4 26 KÁM*
11 lim-mu 1.NU-MAN-E
12 IGI 1.Ḫa-an-ṣi-i
13 IGI 1.Pa-qu-du
14 IGI 1.d.U+GUR-DÙ
15 IGI 1.Aš+šur-bal!-liṭ
16 IGI 1.A-bi-ri-i

Translation

1-3 Lawsuit which Aššur-mātu-taqqin litigated with Abirî before the prefect. 4-6 The day on which Naḫirû will come they (i.e. Abirî and Naḫirû) will appear before the prefect. 7-9 If they do not appear Abirî will have to pay 1 mina of silver to Aššur-mātu-taqqin.

10-11 Month Šabāṭu, 26th day, eponym year of Ṣalmu-šarru-iqbi.

12-16 Witness Hanṣî. Witness Paquddu. Witness Nergal-bāni/ibni. Witness Aššur-balliṭ. Witness Abirî.

Commentary

6 Copy has EN AŠ instead of ina IGI.

7 possibly a crasis spelling, la-qa-ri-bu.

15 The second element appears in the copy as NUN-liṭ.

16 Though Abirî is party of the lawsuit his name has been included in the witness list.

Text 33 Lawsuit

Aššur 20.

Shelf No.931.

Tablet without envelope. Total 11 lines. Dimensions 32 x 25 x 16 mm.

Parties: DINGIR-Ú-UŠ$_{11}$ vs. DINGIR-DA-DA.

Judge: ḫazannu.

Eponym: Bēl-aḫu-uṣur (PC, not listed SAAS II, p.87).

Scribe not indicated.

obv. 1 de-e-nu
2 šá 1.DINGIR-Ú-UŠ$_{11}$
3 TA* 1.DINGIR-DA-DA
4 ina IGI! LÚ.ḫa-za-ni <idbubūni>
5 KÙ.BABBAR šal-lu-mu <tadin>
6 DI-mu ina ber-<te/tú-šú-nu>
rev. 7 ITU.APIN! <U$_4$> 22 KÁM*
8 lim-mu 1.EN-PAP-PAP
9 IGI+1.DINGIR-ma-<lid>-gul!
10 IGI+1.PAP-la-mur
11 IGI+1.Nu-ku-pa

Translation

1-4 Lawsuit which 1.DINGIR-Ú-UŠ$_{11}$ litigated with 1.DINGIR-DA-DA before the mayor.

5-6 The silver is completely paid. There is (judicial) peace between them.

7-8 Month Araḫsamna, 22nd day, eponym year of Bēl-aḫu-uṣur.

9-11 Witness Ilumma-lidgul. Witness Aḫu-lāmur. Witness Nukupa.

Commentary

2 This PN is hardly read correctly. Since in ll.4-6 substantial parts of the line are missing (or rubbed off) this may apply also to l.2. 1.Aš+šur!-ú-ka!-<la-an-ni> is a possible candidate.

4 At the beginning EN is copied instead of ina IGI. The verb should be restored at the end as suggested.

5-6 The signs added in the transcription are based on many parallels.

7 The sign APIN has one vertical too much.

9 Copy has 1.DINGIR-MA-GIR$_4$; the above reading can be defended even as a haplography: lid is the beginning of the sign gul.

Text 34 Lawsuit

Aššur 29.

Shelf No.940.

obv. 11 lines, b.e. 1 lines, rev. 13 lines, t.e. 3 lines, l.e. 2 lines, total 30 lines.

Dimensions 73 x 36 x 19 mm.

Judge not mentioned.

Parties Aššur-dūrī and Aššur-mātu-taqqin vs. Ḫal<di>-da''inanni.

Eponym Nabû-sagib (PC, listed SAAS II, p.106).

Scribe Aššur-ballussu-iqbi.

obv. 1 de-e-nu ša 1.Ḫal-<di>-KALAG-a-ni

2 TA* 1.Aš+šur-BÀD 1.Aš+šur-KUR-LAL

3 ina UGU ḪA.LA-šú DUG_4.DUG_4-u-ni

stamp seal impression

4 KÙ.BABBAR ša ḪA.LA-šú x x x[ ]x x

5 1.Aš+šur-BÀD 1.Aš+šur-KUR-LAL

6 it-ta-nu-ni-iš-šú

7 TA* ≪IGI≫ 1.Ḫa-al-<di>-KALAG-an-ni

8 mám+ma ≪TA≫ de-e-nu <NU> DUG_4.DUG_4

9 DI-mu ina ber-tú-šú-ni

10 man-nu šá ina ur-kiš ina ma-ti-me

11 ib-bala-kàt-u-ni Aš+šur

b.e.12 d.UTU d.PA <lu> EN de-nu-šú

rev.13 ITU.ZÍZ U_4 20 KÁM

14 lim-mu 1.d.PA-sa-gíb

15 IGI+1.Aš+šur-PAP LÚ.GAL x[ ]

16 IGI+1.Pa-ra-an-šá-ka

17 IGI+1.ÌR-i

18 IGI+1.Pa-qu-du

19 IGI+1.Ba-la-si-i

20 IGI+1.PAP-me!-e

21 IGI+1.Ḫaš-di-i

22 IGI+1.Mu-LAL-Aš+šur

23 IGI+1.Man-nu-ki-a-a

24 IGI+1.Aš+šur-IGI-a-ni

25 IGI+1.Aš+šur-TI-su-E!

t.e. 26 LÚ*.A.BA!

27 [ ]x (x) x NI

28]šá IGI+1 x (x) Aš+šur

l.e.29 KÙ.BABBAR-šú šá ḪA.LA-šú ≪šá bi bu≫ gab-bu

30 it-ta-nu-ni-iš!-šú

Translation

1-3 Lawsuit which Ḫaldi-da''inanni litigated with Aššur-dūrī (and) with Aššur-mātu-taqqin about his share (of inheritance).

4-6 Aššur-dūrī (and) Aššur-mātu-taqqin have given the silver of his share to Ḫaldi-da''inanni.

7-9 No one shall litigate a lawsuit with Ḫaldi-da''inanni. There is peace between them.

10-12 Whoever in the future, at any time violates the agreement Aššur, Šamaš (and) Nabû shall be his prosecutors.

13-14 Month Šabāṭu, 20th day, eponym year of Nabû-sagib.

15 Witness Aššur-nāṣir, rab x[ ].

16 Witness Paranšaka.

17 Witness Urdî.

18 Witness Paquddu.

19 Witness Balasî.

20 Witness Ahimmē.

21 Witness Ḫašdî.

22 Witness Mutaqqin-Aššur.

23 Witness Mannu-kī-aya.

24 Witness Aššur-ēmuranni.

25-26 Witness Aššur-ballussu-iqbi, the scribe.

27-28 (two broken lines; not certain whether they contained names of witnesses).

29-30 They have given him all the silver of his share.

Commentary

1 The litigant's name is written 1.ḪAL-KALAG-a-ni in l.1 and 1.ḪA-AL-KALAG-an-ni in l.7; it probably occurs a third time at the end of l.4. To yield a theophoric element insertion of <di> is necessary. For another name beginning with 1.Hal-x[see text 30:1. The document seems to imply that Ḫaldi-da''inanni was a (younger) brother of Aššur-dūrī and Aššur-mātu-taqqin.

4 The verbal form ittannūniššu in l.6 is hardly conceivable without a preceding ana PN. There is space for it only at the end of l.4; the copied traces do not point to ana Ḫaldi-da''inanni. Maybe the scribe made a mistake and repeated therefore these lines on the l.e., ll.29-30.

7-8 These two lines are particularly faulty; they cannot be understood without the proposed emendations.

9 Suffix wrong; scribe writes here -ni for -nu (and in l.12 -nu- for -ni-).

12 The clause correctly ends in lu EN de-ni-šú.

17 Urdî and Mutaqqin-Aššur (l.22) are expedients of a letter to Aššur-mātu-taqqin, text 28:1-2.

19 Balasî and Mannu-kī-aya (l.23) occur together in the witness list of text 30.

20 Copy has 1.PAP.MEŠ-e; for the spelling 1.PAP-me-e see SAA VI 37:8.

25 Last sign of the name is copied as GAL.

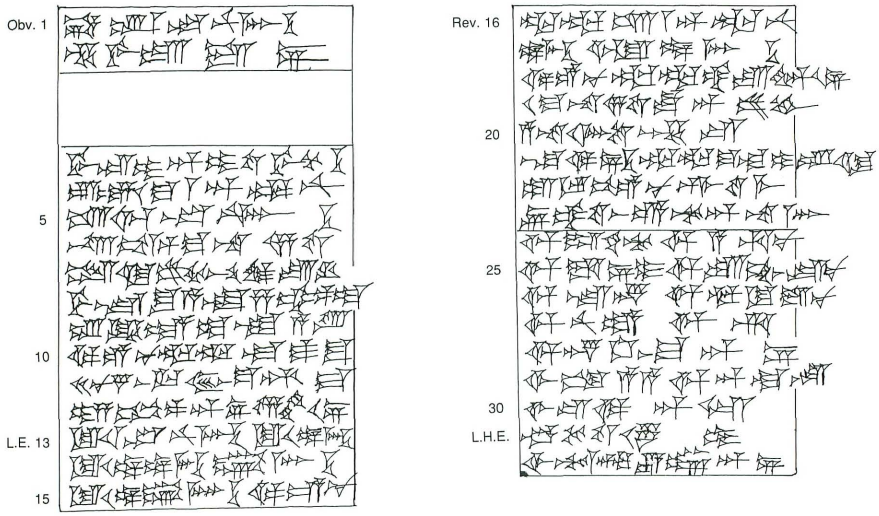
26 Copy has LÚ*.A.NA.

27 Is ḫa-za-ni intended at the end of this line?

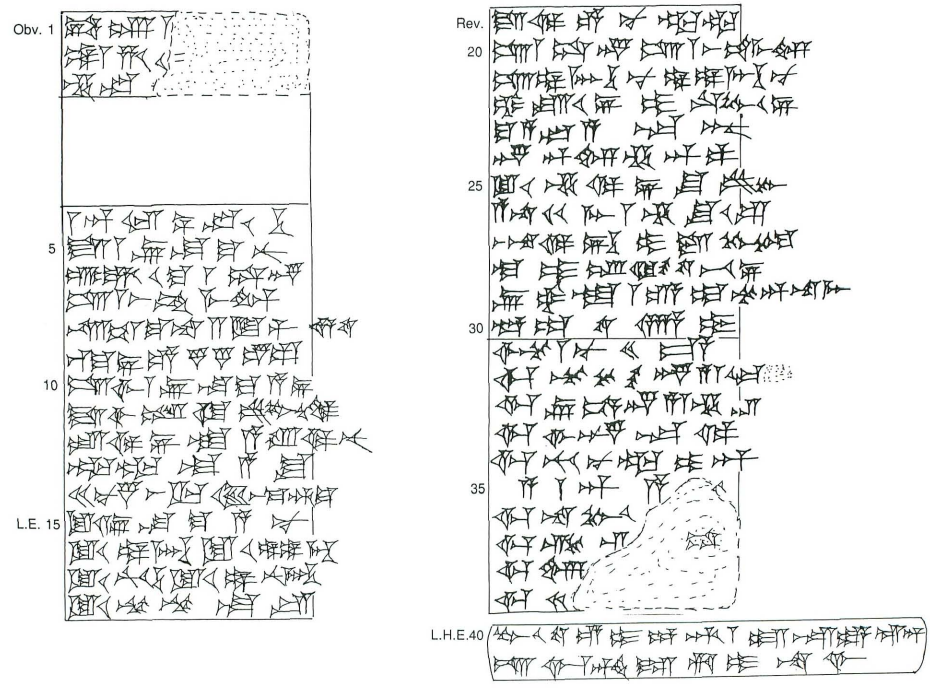
28 A possible reading is šá IGI! É! Aš+šur.

29 The signs ŠÁ BI BU ought to be deleted.

30 IŠ is copied like the numeral 22; it should be corrected on the basis of it-ta-nu-ni-iš-šú l.6.



Text 1 Shelf No. 912, Aššur 1



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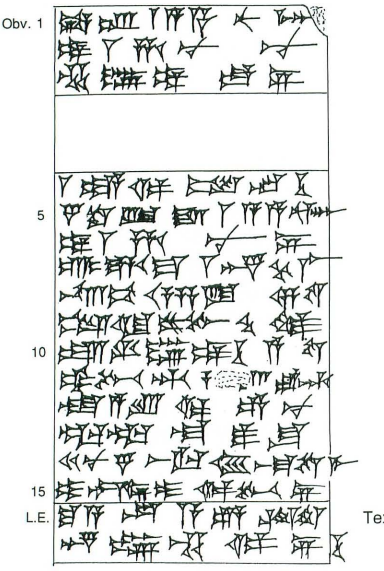
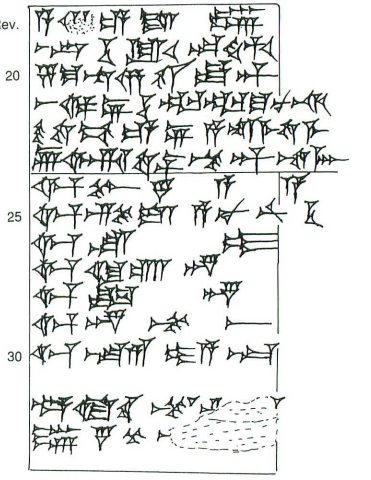
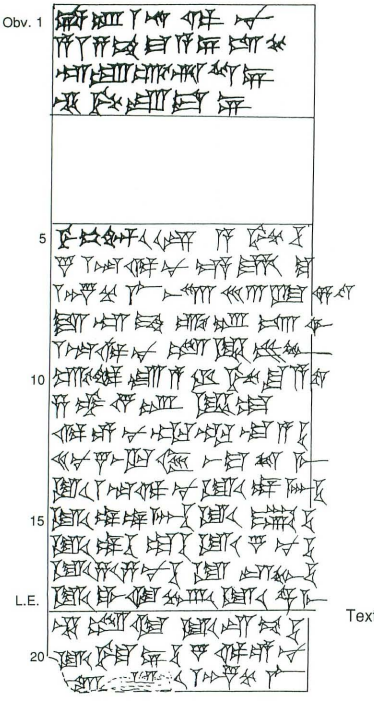
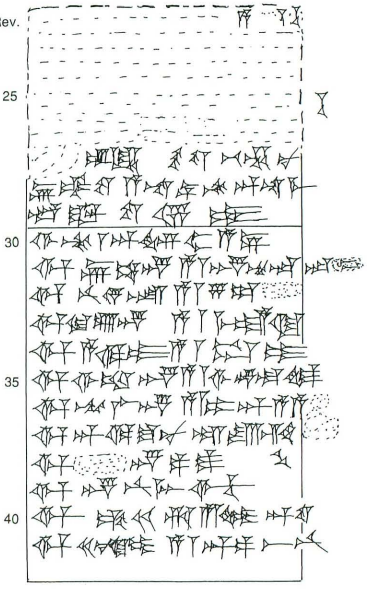




Text 3 Shelf No. 914, Aššur 3





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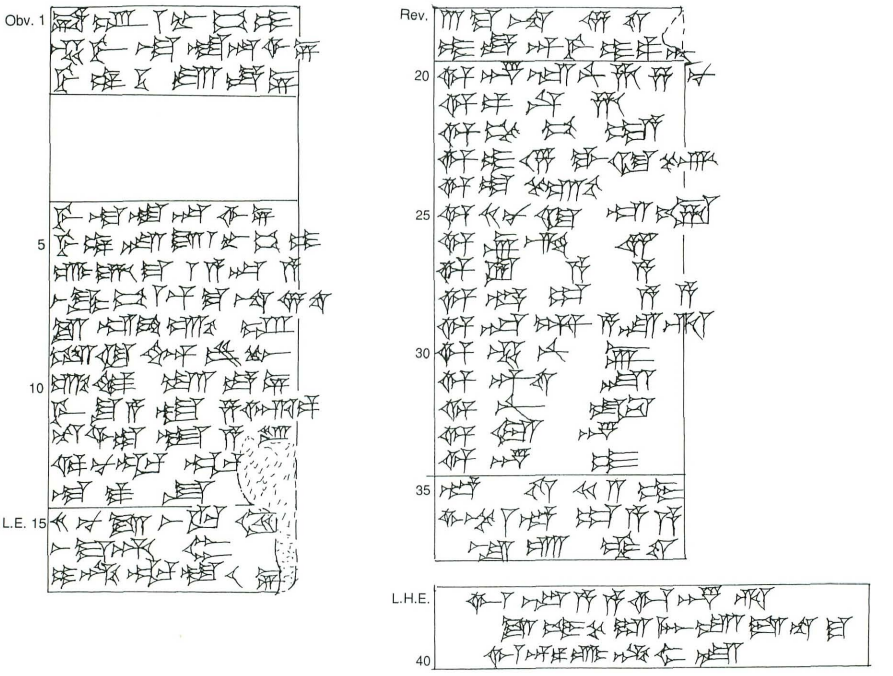

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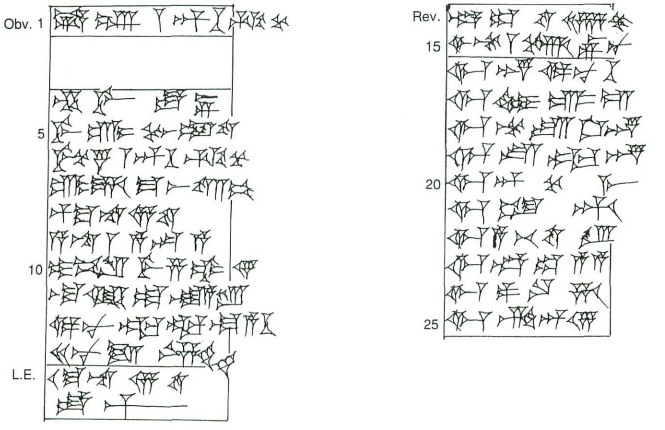
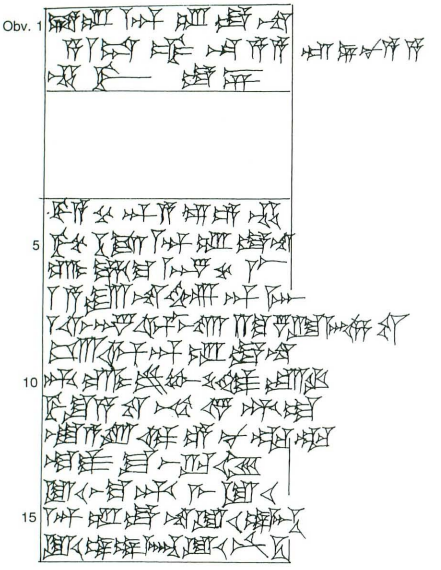
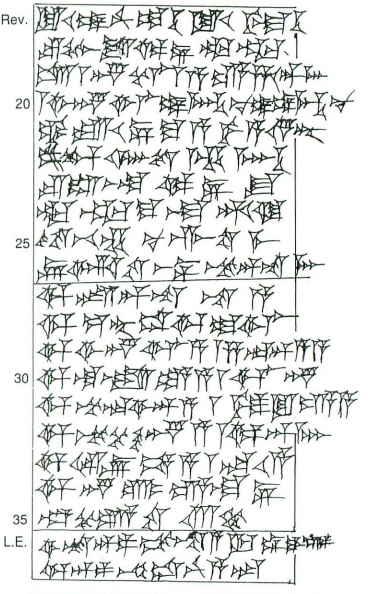
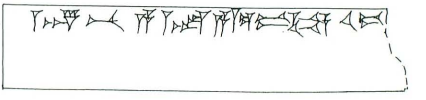


Text 6 Shelf No. 918, Aššur 7







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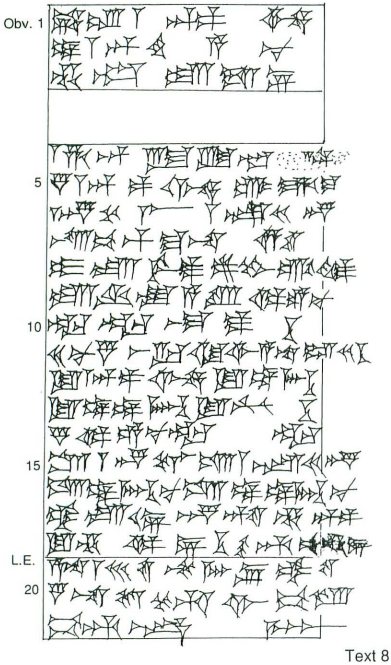
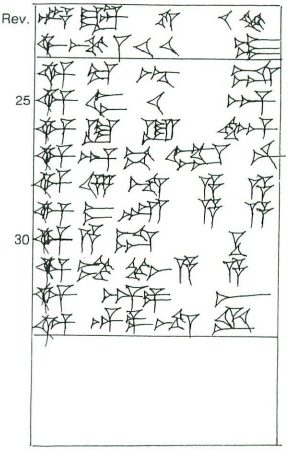
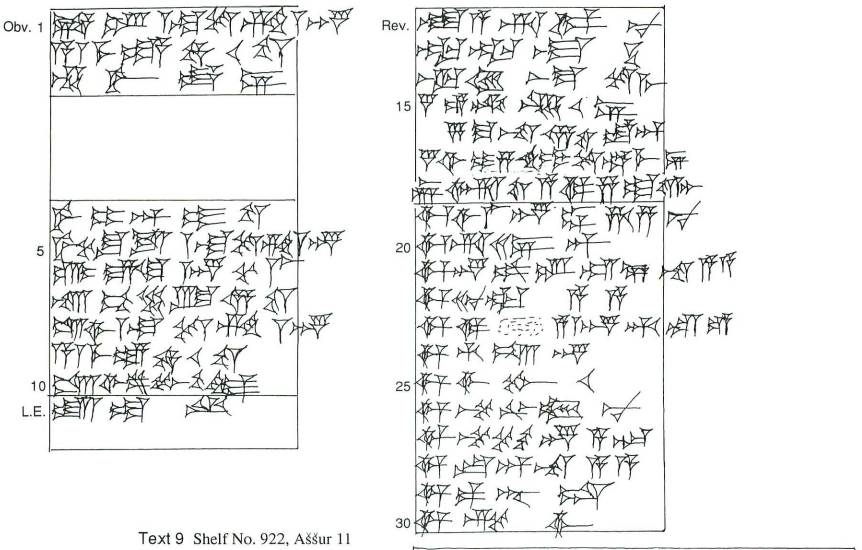
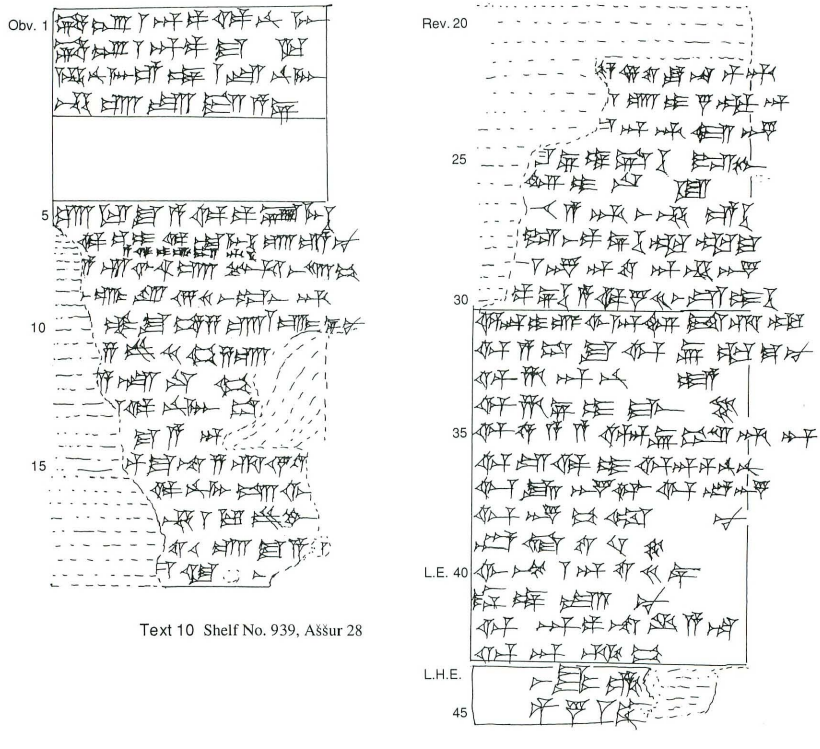




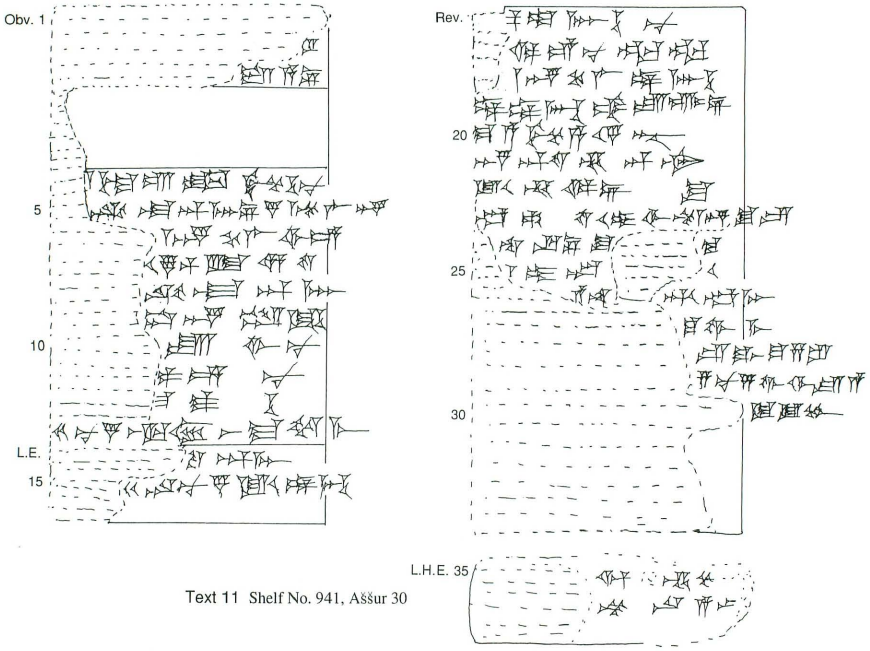
Text 8 Shelf No. 920, Aššur 9



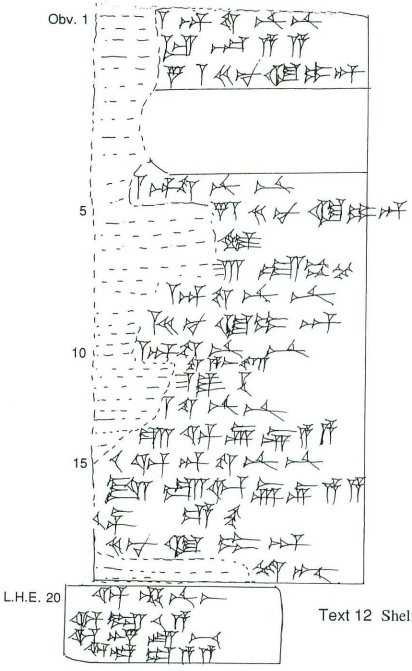
Text 9 Shelf No. 922, Aššur 11



Text 10 Shelf No. 939, Aššur 28



Text 11 Shelf No. 941, Aššur 30



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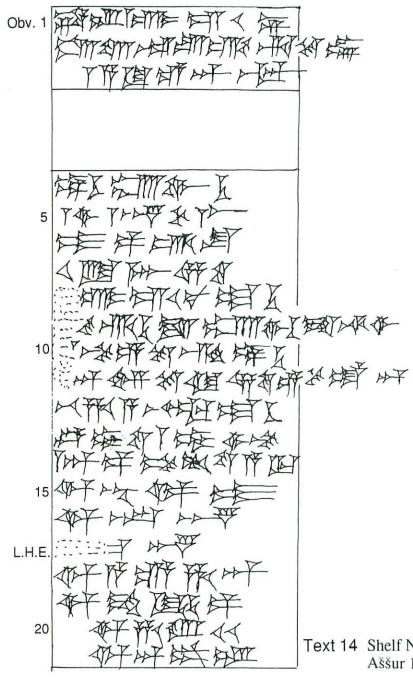

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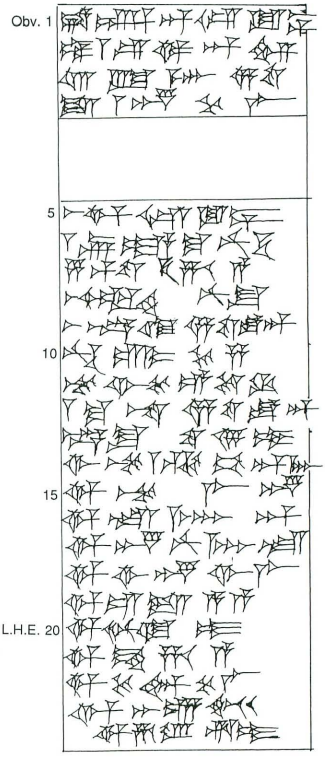

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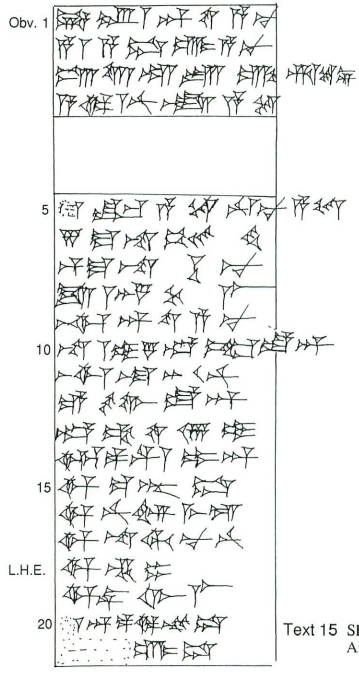

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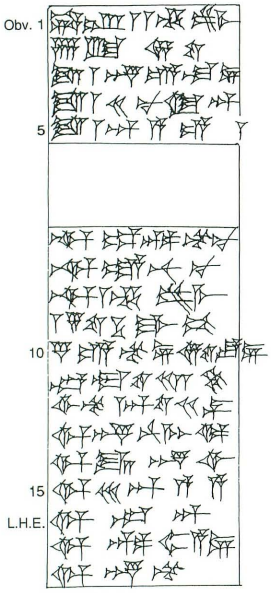

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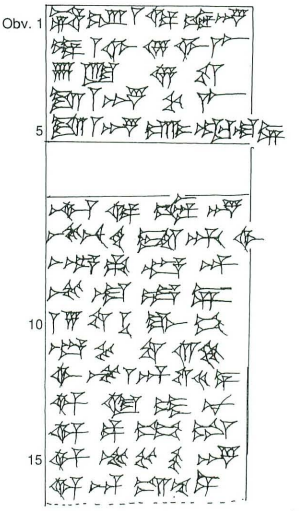

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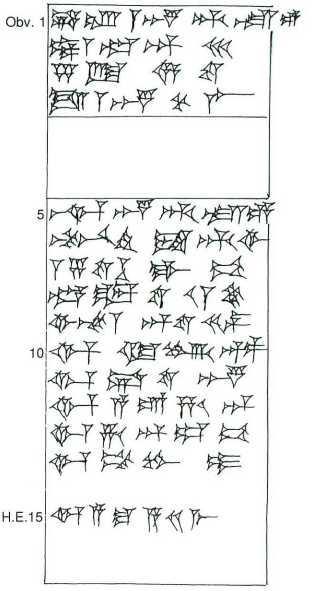

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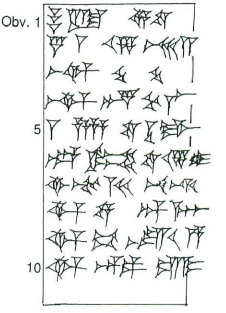
Text 20 Shelf No. 933, Aššur 22



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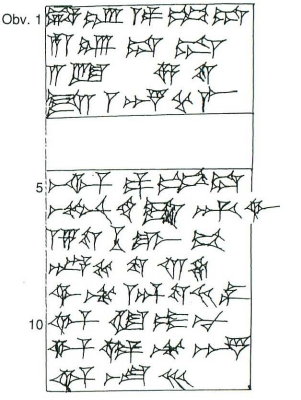

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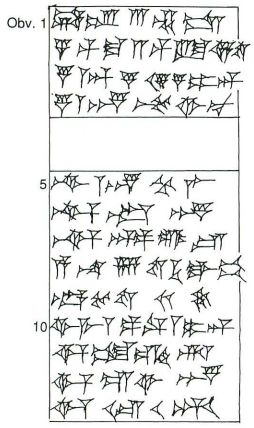

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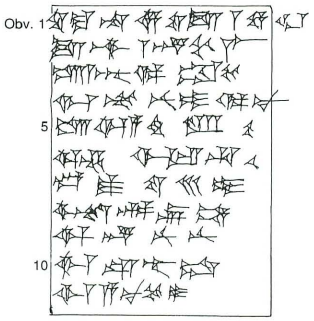

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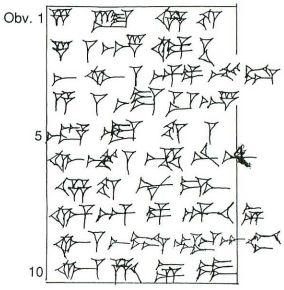

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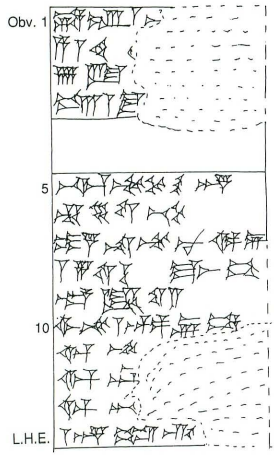

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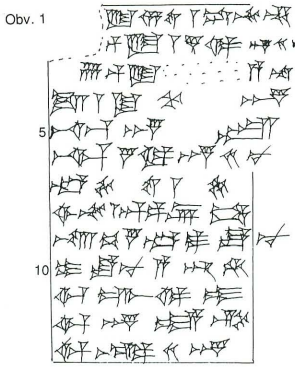

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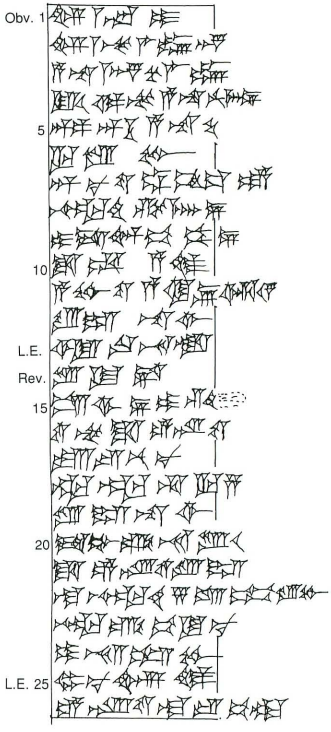

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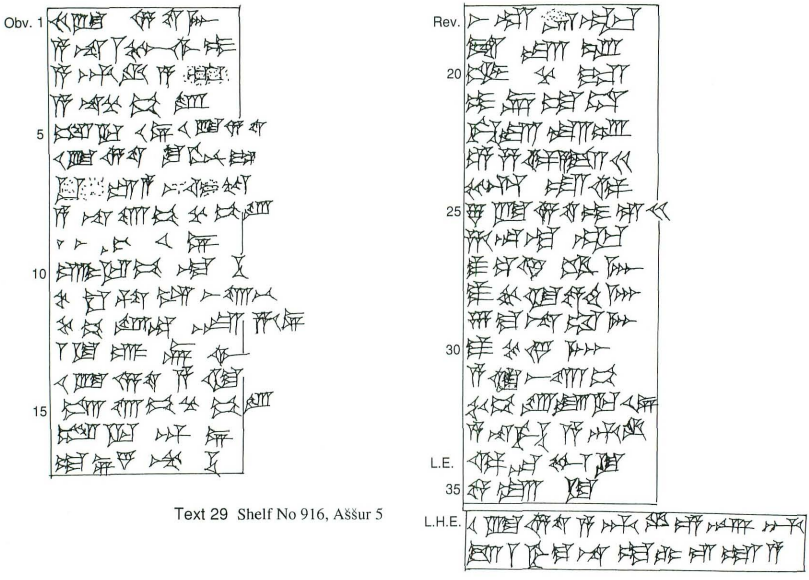
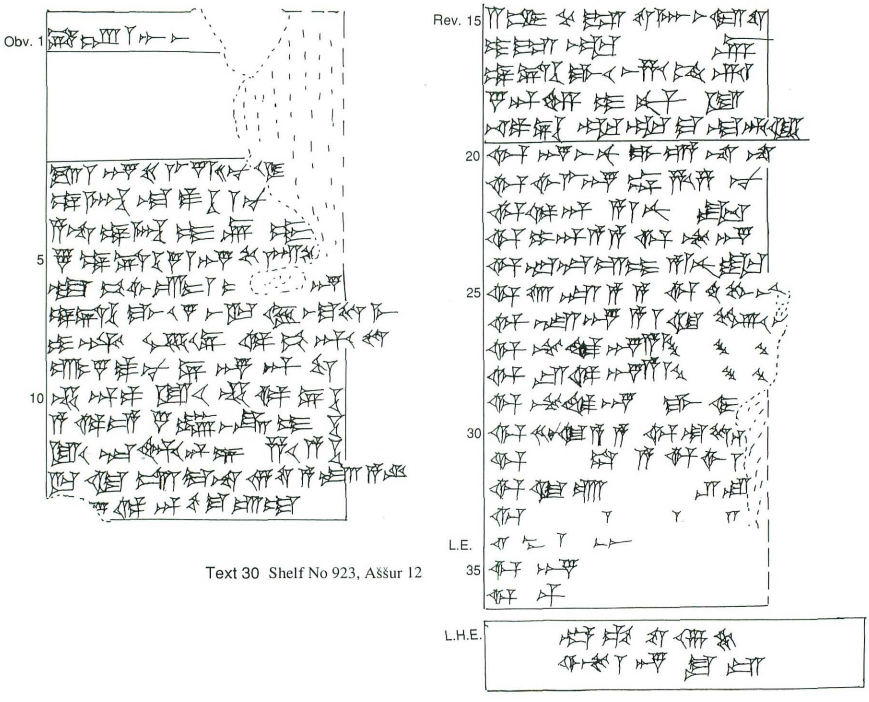
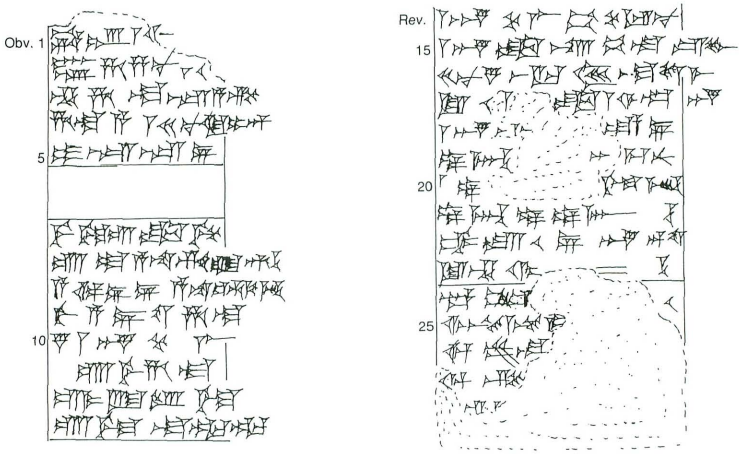


Text 29 Shelf No 916, Aššur 5



Text 30 Shelf No 923, Aššur 12



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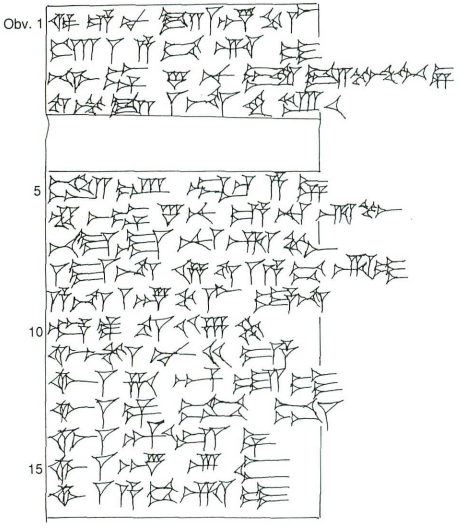

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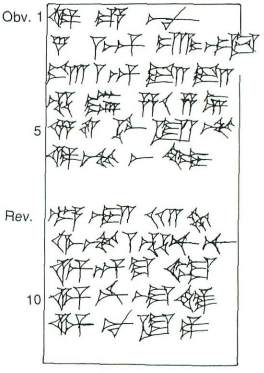

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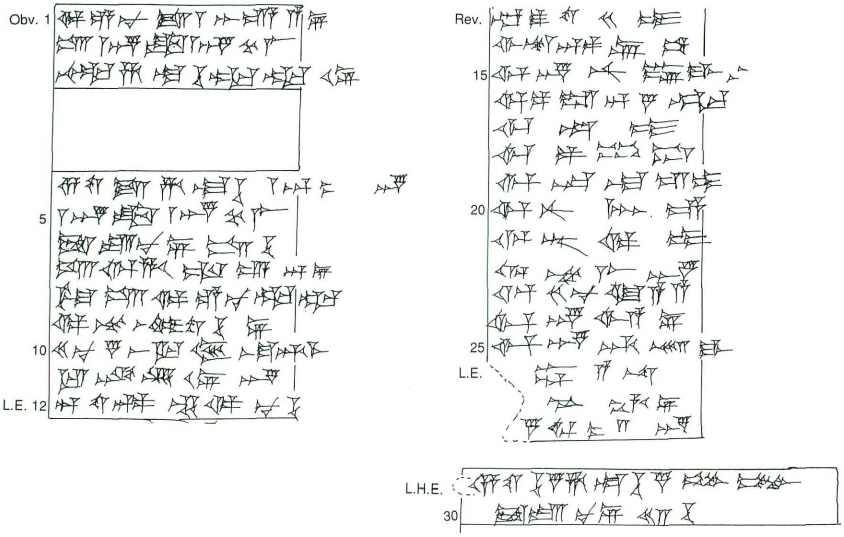

Text 34 Shelf No 940, Aššur 29

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   〔大岡　1987: fig. 12; Naharagha 1981: 45ff〕
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Guideline to writing

1. The manuscript should be typed on one side only of A-4 size paper.
2. On the front page, to the exclusion of the text, the title of article should be written as well as the name, address and position of author(s).
3. Please be sure to prepare necessary drawings and tables on separate papers one by one (less than 23.5× 16.0 cm each in size of completion of printing), with explanations and consecutive numbers respectively, and compile them aside from the text. In addition, designate on the margin of the text where each one should be inserted.
4. The drawings should be inked over, then covered. In general, photo typesetting of letters, numbers, etc. in illustrations will be done by the editorial board.
5. In principle, monochrome photographs, clearly printed larger than 12×8 cm, are acceptable, but not negative films. They shall also require explanations, consecutive numbers, etc., as mentioned in item 3.
6. Explanatory notes should be written on separate papers, each with a consecutive number to be given to the relevant sentence in the text.
7. In the text, specify the literature for reference as below; writer's name, publication year, and quoted pages are arranged in order, enclosed in brackets:

   〔Childe 1956: 30–32〕
   〔Annahar 1943: 123; Agha 1946: pl. 15〕

   If those of the same writer are published in the same year, classify them by additional alphabet to the publication year.
8. Put all the references that have been quoted in the text and notes, and write them as follows: (1) The writers' names are to be listed in alphabetical order. The names of Japanese, Arabs, etc. must be arranged among the European names based on the supposition of their having been rewritten in Latin. (2) The writer's name, issue year, title, volume name, volume number, issue number and publisher's name (place) are to be filled in the references in regular sequence. The title of journals or independent publications should be specified, with underline or by the use of Italic letters.
9. As a rule, the first proofreading shall be done by the original author.

Please note that the next volume (Vol. XVIII: 1997) is to be published as *The Special Volume of Al-Rāfidān in Commemoration to Professor Hideo Fujii's 70th Birthday* and that no ordinary manuscripts are accepted for it.

正 誤 表 CORRIGENDA

(Vol. XVI)

訂正箇所 positions		誤 errors	正 corrections
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	l. 7	Excavations at Tell Songor A	Excavations at Tell Songor A—Samarra Period—
	l. 9	Fluorence	Fluorescence
p. 15	*l.* 2	**1. Stratigraphic order**	(to be eliminated)
p. 17	*l.* 1	**2. Structures**	**Chapter III Structures**
p. 23	*l.* 25	**Structures on Level II**	**Level II**
p. 30	*l.* 1	**Structures on Level III**	**Level III**
p. 34	*l.* 15	**Structures on Level IV**	**Level IV**
	l. 39	**Structures on level Virgin Soil**	**Virgin Soil**
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p. 48	*l.* 1	**Chapter 6 Conclusion**	**Chapter V Conclusion**
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p. 189	*l.* 8	**soket**	**socket**
p. 275	*l.* 2	Hiroko Kamada and Tadahiko Ohtsu	KAMADA, Hiroko and OHTSU, Tadahiko
p. 276	*l.* 18	corners of the buildings BLD 1	corners of the buildings. BLD 1
	l. 26	the NE SW direction	the NE-SW direction
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		BLD 1	BLD 2
		BLD 2	BLD 3
	(unit of scale)	10 cm	10 m
p. 278	in Fig. 4 b)	92 m	89.7 m
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		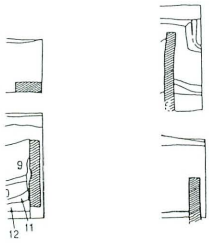	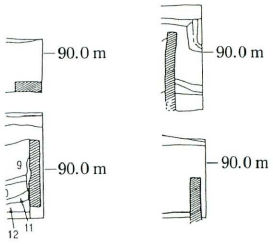
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p. 305	*l.* 9	applique pellets	appliqué pellets
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	l. 36	28.3 cm. XIX-26, upper layer. IV,	28.3 cm. IV,
	l. 40	green..	green.
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p. 367	*l.* 1	**X-ray fluorescence**	**X-ray Fluorescence**
p. 377	*l.* 2	本巻16号	本巻16巻

編集後記

投稿原稿の形態，提出時期がまちまちであったため，編集の仕事に思ったよりも時間を費やしてしまいました。また編集者の専門分野がかたよっているために，特殊な分野の投稿に対しての対応が不十分であると痛感。多くの人の手を経てやっと刊行にこぎつけました。深く感謝します。今後も専門分野によっては外部に編集を依頼しなければならない事もあるので，編集委員を外部に委託できるようなシステム作りが必要と思われます。

シカゴの自然史博物館（Field Museum of Natural History）所属のデヴィッド S. リーズ博士（David S. Reese）が本誌第 XIV 巻掲載の翻訳「動物考古学入門（原著 Zoo-archaeology in Greece: A Reader's Guide; 著者 Sebastian PAYNE）」の追補が出版されたとそのコピーを送って下さいました。興味のある方は下記の記事をご覧下さい。David S. Reese, 1994, Chapter 10: Recent Work in Greek Zooarchaeology in *Beyond the Site: Regional Studies in the Aegean Area*（編集：P. Nick Kardulias）

次号（XVIII 巻）は『藤井秀夫教授古希記念論集』として刊行の予定です。（K．小口）

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