

# ラーファイダーン

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## メソポタミアにおける製陶具

—前5—3千年紀の撫で・削り・磨き具等を中心として—

'Potter's tool' in Mesopotamia during the fifth to third millennium B.C.

井 博幸\*

## はじめに

土器の製作は陶土の確保に始まり、素地作成、成形、調整（整形）、施文、乾燥、焼成などの工程を経て完成する。各作業工程ごとに様々な道具や施設が複合してかかわりをもち、使用された道具は多岐にわたる。メソポタミアは窯業生産が盛んな地域のひとつで、既に前6千年紀の標準ハッスーナ期頃には、焼成室と燃焼室が上下に分離した昇焰：垂直焰式の構造窯が採用され、高温での土器焼成が行われるようになった<sup>1)</sup>。このころから専門工人化が進むとの指摘もある〔Oates and Oates 1976：43〕。また、轆轤の使用は極めて早く、ウルク期（前3300年以前）には轆轤で挽かれたとみなし得る土器が出現するし、轆轤と推定される製品は多くの遺跡から発見されており、我々が調査したテル・グッバ Tell Gubba の初期王朝I期（以下 ED I 期という）層からも径約70 cmの土製円盤が出土した（Fig. 8）。このように前3000年頃のメソポタミアでは、専門工人による高速回転の轆轤を駆使した土器の大量生産体制が整っていたのである。同じ頃「陶工」：BAHAR<sub>2</sub>の職名が官職リストに登場してくる〔前川 1989：61〕。

轆轤の普及は、土器生産の技術革新をもたらすとともに、あらたな道具の出現を促したと想定しうる。現在までの発掘報告書には Potter's tool, あるいは pottery smoother, burnisher/polisher などと称され、土器生産に関係したと考えられる数多くの道・工具が所収してある。本稿の目的は、それらの遺物が、指摘されたように土器生産に関係した道具であるのか否か、関係するとすれば、どのような使用形態が考えられるのかを検証することにある。その手段として、製陶具と推定されている製品を比較的類似する材質で復元製作し、それを実際に粘土に使用して、使用痕の状態を出土遺物例と比較する方法を採った。もちろんこれらの道具には、これまで土器製作には直接関係すると見做されていなかったものや、使用目的の特定をめぐって解釈の定まらない製品をも含んでいる。それに加え道具の復元製作や使用痕の観察にはおのずから限界がある。それは古代のメソポタミアで使用されたものと同じ材質が得られないことにもよる。

なお小論で使用する編年は Moorey [1985] を参考とし、ジェムデト・ナスル期（以下、JN 期と略記する）の終末を紀元前3000年頃に想定する。ここで使用する用語について触れておきたい。現在、焼成された粘土製の遺物に対し ceramic/pottery/terracotta/baked clay などが使用されているが、小論では ceramic で統一し、その訳語として土製品をあてる。特にことわらない限りすべて焼成されたものである。Potter's tool には製陶具をあて、総称して道具という。居住空間を伴う Potter's house は陶工の家、Potter's workshop を製陶工房とし、Potter's wheel は製陶轆轤とせず単に轆轤とよぶ。製品の計測値はミリメートル、出土遺物の表示スケールは 1/2 で統一する。

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## これまでの研究の概略

土器生産に関係したと推測される道具の形態は多様であるが、現時点までまとまった論考・研究はない。そこで、以下に当該種に対する解釈の変遷を報告書から引用し、略記してみることにする。

初期のメソポタミア考古学は、所謂美術品や彫像などの博物館の展示に耐えうる遺物収集が主目的をなしていたといえる。1900年代になると、層位学的な調査や、最も普遍的な土製品などにも注意が払われるようになる。このような状況にあって1925年のキシュ Kish A 丘の発掘調査報告は、今日、製陶具とみなされる遺物を最初に掲載した書物といえよう。Mackay は三日月形土製品の写真を示し製品の使用目的に触れ、セットで出土したことや形態的特徴から、鳴子もしくは拍子木 *clappers or bones* が推測されるが、材質の脆弱さは否めない [Mackay 1925 : 206-7, Pl. 44] とし、解釈に際して苦慮した様子が窺われる。なお同書には後に触れる土製環も報告されており、1点にはピチュメンの付着を認めると説明する [ibid. : Pl. 46. 2234]。

メソポタミアの製陶具について最初に言及した研究者は、フランスのスーサ Susa 遺跡調査団の Mecquenem である。彼は Acropole から出土した三日月形や半円形の土製品数点を報告し、中国での使用例を参考に、その類似性を指摘した [Mecquenem et Scheil 1928 : 112]。彼の慧眼には驚かされるが、出土層位など問題がない訳ではない。

キシュの後、ジェムデト・ナスル Jemdet Nasr 遺跡を調査した Mackay は、特徴的な斧形土製品を銅製品の模倣と解釈したが、使用目的の特定は避けた [1931 : 266]。

Woolley は著名なウル Ur 王墓の調査報告書中で、墓から出土した3点の三日月形製品に触れ、簡単にその材質を説明した。使用目的としてアミュレットあるいは単に三日月形の製品と解説した [Woolley 1934a]。

同年 Woolley は、カルケミシュ Carchemish の西に存在したユヌス Yunus の報告で、土器窯・土器と共に製陶に関係したと考えられる石製の道具を示し使用目的の特定を試みている。この中には製陶コテ *trowel* とされた3点を含む [Woolley 1934b]。

Mallowan はアルパチャ Arpachiyah のハラフ期に伴う TT6 レベルの製陶工房について言及し、多量の精緻なハラフ彩文土器群と共に、製陶工房の判断材料ともなったパレットや、彩色に使用するためと考えられる顔料原石の塊が伴出したことを明らかにした [1935 : 16-17]。しかしその他の製陶具に関しては、骨製品数点 (パレットと磨き具) を報告するに留めている。なお、この TT6 レベルで発見された遺構を、製陶工房とする見解を支持する研究者もいる [Oates and Oates 1976 : 53]。

土器整形に関係したと考えられる土製・骨製の道具を始めて言及した点で、テペ・ガウラ Tepe Gawra の調査報告は注目してよい [Speiser 1935]。Speiser は主に VIII 層から出土した平滑な板状土製品に対し、土器を滑らかにするための道具 *smoother* と呼び、使用形態の特定をおこなった。さらに層位・材質毎の出土傾向を簡単に示すと共に、多くの例に紐を通すための孔が穿ってあると指摘した [ibid. : 81]。

ヌジ Nuzi 遺跡の報告者 Starr は、カッシート期の王宮から出土した土製品と、ウバイド期に伴う製品に注目しており、土器を磨くための道具 *burnisher* と呼称して、時間的な広がりも明らかにした [1937/39 : 117, Pl. 39]。

1938年、中央イランのテペ・シアルク Tepe Sialk を調査した Ghirshman は、北丘 I 期に伴う細長い石製の道具と、南丘 IV 期に伴う斧形石製品を報告した。彼は砥・削り具と解釈した [1938 : 23, 125]。



ところで、スーサ出土遺物に関して、一旦、製陶具と推測した Mecqunem は十数年後の報告では、三日月形で線刻を伴う土製品を coupe-herbes と解釈した [1943 : Fig. 43]。

1952年出版のディヤラ川流域の土器に関する研究は、ある意味ではメソポタミア考古学史上、画期をなすものであったといえる。この中で Delougaz は、土器生産に関係したと推定される道具を示し注意を喚起した。これらの道具はイシン・ラルサ期に伴うとされる土製品で、三日月形と側面がカーブした板状のものである。使用目的としては、製作途上の容器の表面を滑らかにしたり、あるいは口縁部や凸帯などの細かなモデリングに使用されたと解釈。道具自体の製作については、特別に製作されたものか土器片を再利用したのかははっきりしないと説明した [Delougaz 1952 : 122, Pl. 131]。

Woolley はウルの報告第4冊に、JN-ED I 期に帰属する三日月形および不定型の土製品数点を再び掲載した。三日月形平面の道具については potter's smoother (?) と疑問符を付して記述するものの、その他の製品を potter's burnisher と説明しており [1955 : 197, Pl. 45]、ヌジヤアスマル出土例で示唆された解釈を支持したとも受けとれる。

1963年には石斧状の石製品に対し、製陶具の可能性を指摘する記述があらわれる [Lenzen 1963 : 54]。

しかしながら1960年代以降も、三日月形土製品が製陶具であるとする認識は、全ての研究者に受け入れられることはなく、相変わらず形状説明に終始した報告もある [MaCown et al. 1967 : Pl. 156 ; Martin 1988 : fiche 1]。

1971年にはスーサのアクロポリスに関する2冊の報告書が刊行された。Steve と Gasche は三日月形の土製品を製陶関係の道具(?) とのみ述べ多くを説明しない [1971 : 143]。Le Brun は、土器片再利用品と篋状の製品を図示し、前者は製陶に、後者は皮革製造に関係した道具と推測した [1971 : Fig. 56]。

ハブーバ・カビーラ Habuba-Kabira 遺跡出土の土器を研究した Zürenhagen は、ウルク期の広場から出土した三日月形の土製品と、石製や土製の斧形の製品に注目しており、共に土器整形具として利用されたと推定した [1978 : 79-80]。なかでも三日月形の製品を削り具と規定したことは看過できない。

1984年に報告されたヤリム・テペ Yarim Tepe の概報には、半円／三日月形土製品の解釈に言及した記述がある。Merpert, Munchaev と Bader は使用痕の観察から、これらの道具は一種のスクレイパーであると規定し、使用部位は内面であることを明らかにした。そして、様々な使用目的が考えられるが、なかでも皮革生産はそのひとつであると結論を下した [Merpert et al. 1984 : 39]。

ハムリン盆地のウバイド期を総括した Jasim は、テル・アバーダ Tell Abada のウバイド層から出土した半円形の土製品に関して、使用対象を特定してはいないが polishing や sharpening に使用されたと解釈した [1985 : 66]。このほか同書には、使用による擦過痕のある比較的長い偏平な石多数が紹介されており、磨き具や擦り具と考えられた [ibid. : 79-83]。

南西イランの先史時代遺跡を継続研究するミシガン大学グループの Alden は、これまで機能の解明がなされていなかった土製の環に注目し、陶工の道具として使用された可能性が高いとする論を展開した [1988]。その論旨はこうである。殆どの遺跡で窯もしくは窯屑との共伴関係が認められる。道具の殆どが堅緻な焼成である。環の上面には使用によると考えられる擦過痕（円周方向に直交する）が存在しており、加えて土器外面に削りの痕跡を残すものが多いなどの点を考慮すると、これらの土製環は削り具 ring scraper として陶工が使用した、と言うものである。Alden が主張した土製環に対する解釈の判断は今後委ねるとしても、ユニークな発想と使用／整形痕の細かい観察は、現在の研究の方向性を示しているといえよう。



わが国では、ハラフ土器・文化に関し、製陶の一側面である窯や顔料、およびパレットに言及した常木晃の論考〔1986〕がある。これは土器インダストリーを体系的に把握する試みがなされたものである。

このように土器生産に関係したと推定される道具の形態は多様である。しかし、今日の時点までこれらを総括する研究が行われなかったことも事実である。メソポタミアを中心とした西アジアでは、土器新石器時代以降の多くの遺跡が調査され、各時代をつうじての土器窯の発見数は膨大な数に達する。しかしながら窯に付随、もしくはその付近に存在したと考えられる製陶工房、即ち土器製作の場所はもちろん、製陶に関係した道具の出土は窯の検出例に比して著しく少ない。これは窯が遺構として残存するという利点がある反面、遺構としての製陶工房の判断基準があいまいなことや、道具は持ち運び可能で、しかも、特殊な状況を除いて使用場所に遺存しないことなどが関係しているのであろう。

### 出土遺跡と遺物

ウル シュメールの最重要都市のひとつ。イギリス隊を中心に1919-34年まで継続調査された。ウバイド期からササン朝期までの層がある。とりわけ注目されるのはウルク(?) / JN-ED I 期にかけての円形窯が十数基集中して発見され、それらの窯から廃棄された焼成不良品などを中心とした残層が5mもの厚さに堆積していた Pit F である〔Woolley 1955; Woolley and Moorey 1982: 26-7〕。この地点の9.4mの深さ—窯に伴う上層付近—からは spoon とされた土製品(8)が出土したが、製陶関係の遺物とは判断されなかった。このほかの製陶関係遺物は三日月形と側面がカーブしたもので、Predynastic 期の墓から出土した3点(1-3)と、それ以前の層に伴う4点である。三日月形では上部の切れ込みが浅く両端部が鋭いものと、切れ込みが深く端部が丸みをもつもの等のバリエーションがあり、後者にはスーサ例同様、線刻を伴うものが存在する。側面がカーブした道具は三角形断面とされ、No. 6の端部は丸く整形してあり、他はすべて直線的な辺をなす。No. 7は三角形断面

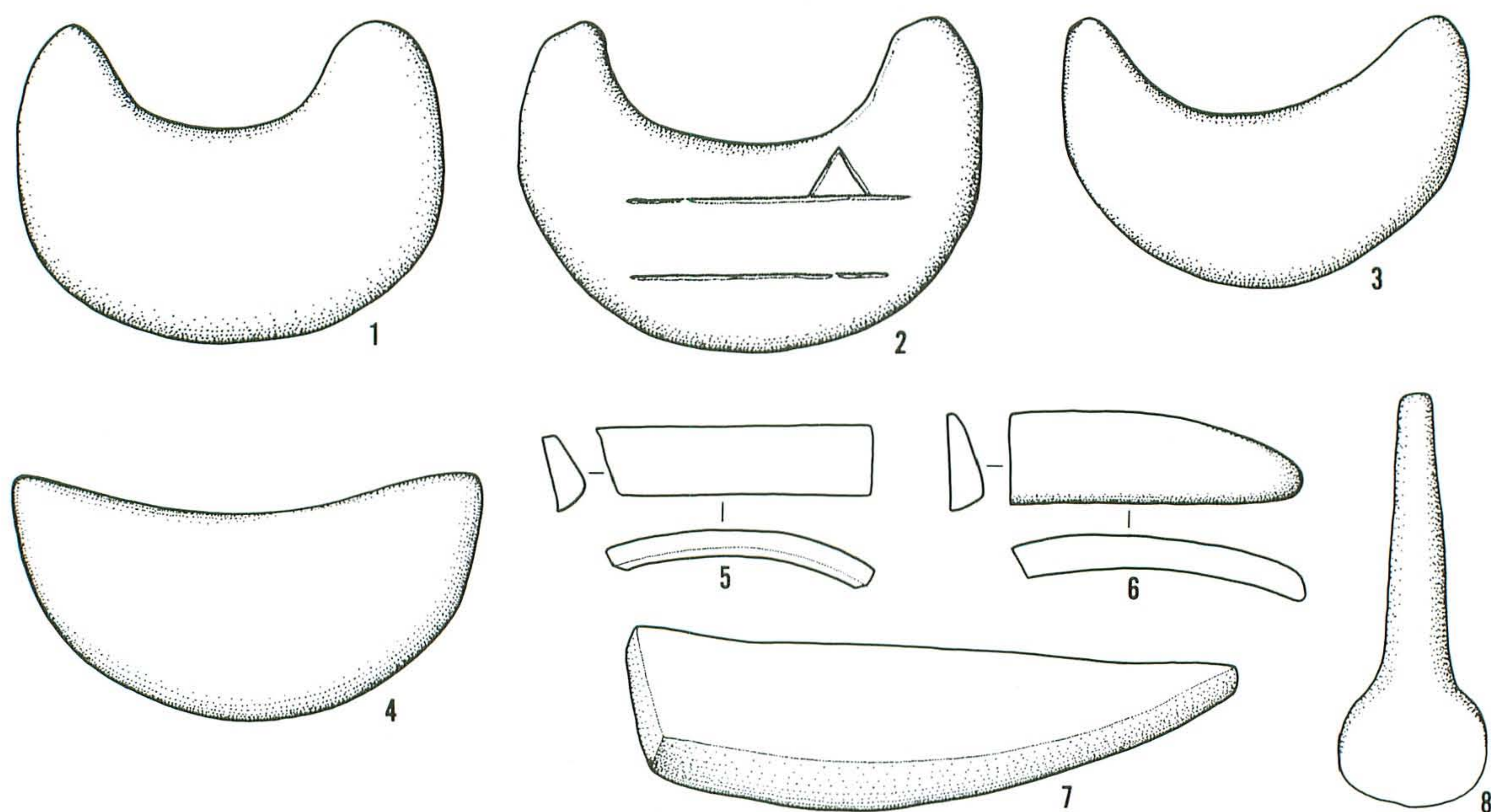


Fig. 1 Ur 出土の製陶具 (1/2). Woolley 1934a: Pl. 221 (1-3), Woolley 1955: Pls. 16 (8), 45 (4-7) より



と説明するが実測図はそのように見えず、広がった小口は僅かに concave するとされ、骨製品の模倣であろうと推測する〔Woolley 1955:197〕。なお Woolley [1934a] に報告された三日月形土製品の計測値ははっきりとしない。というのも指示されたスケールに従うと、これらは他の類例と比較しても際立った大きさとなる。したがって右の表には二つの計測値を示した。

単位は mm である。

ウルク シュメールの最重要都市。ギルガメシュ叙事詩の舞台でもあり、初期王朝期頃には面積が500ヘクタールを超えるメソポタミア最大の都市に発展した。本格的な調査は1912年ドイツオリエント学会によって開始され、数度の中断はあるが、今日までドイツ考古学研究所が調査を継続する。ウバイド期からパルティア時代まで重要な都市（宗教的中心地）として存続しつづけた。Eanna IV 層の層52から、斧状を呈する石器が出土した。黒色の石で、長 85, 最大幅 25, 最大厚 9 mm を計測する (Fig. 2)。土器表面を研磨するための道具と推測されており、製品自体の表面も平滑である〔Lenzen 1963:54〕。

ニップール シュメールの宗教都市である。1889年に調査は開始され、何度かの中断をはさんで今日まで発掘は続けられている。TB 地区11層292地点（台形平面の部屋で窯は伴わない：アッカド時代）から、両端部が丸みをもつ三日月／ブーメラン形の土製品が出土した。表面は盛り上がり、裏面は僅かにくぼむ。断面は平凸型。差渡 90, 最大幅 35, 最大厚 8 mm を計測する〔MaCown et al. 1967:Pl. 156〕。

アブ・サラビーク Abu Salabikh 直接、製陶具に関する言及はないけれども、西丘 West Mound の調査報告に stone smoother に触れた記述がある〔Postgate ed. 1983:96〕。しかし、使用対象が土器製作であったか否かまでは明らかにされていない。1988-89年の主丘の調査では、A 地区から ED II-III 期前半と推定される陶工の家と、それに付随した轆轤が図示され〔Postgate 1990〕、製陶活動の一端が明らかになりつつある。

キシュ 初期王朝期の重要な都市遺跡である。本格的な調査は1912年に始められ、1923-33年にかけてオックスフォード大学とシカゴのフィールド自然史博物館との合同調査団によって行われた。A 丘から両端部が丸まって終わる三日月／ブーメラン形の製品がセットで出土した。それらの両面はスムーズに整形されているとい

No.	長さ/差渡	最大幅	最大厚	材質	時代
1	170-85?	85-43?		石製	ED II-III?
2	185-92?	85-43?		土製	ED II-III?
3	160-80?	70-35?		土製	ED II-III?
4	94	42	5	土製	JN-ED I
5	55	14	6	土製	JN-ED I
6	59	19	7	土製	JN-ED I
7	120		10?	土製	JN-ED I
8	84	30		土製	JN-ED I

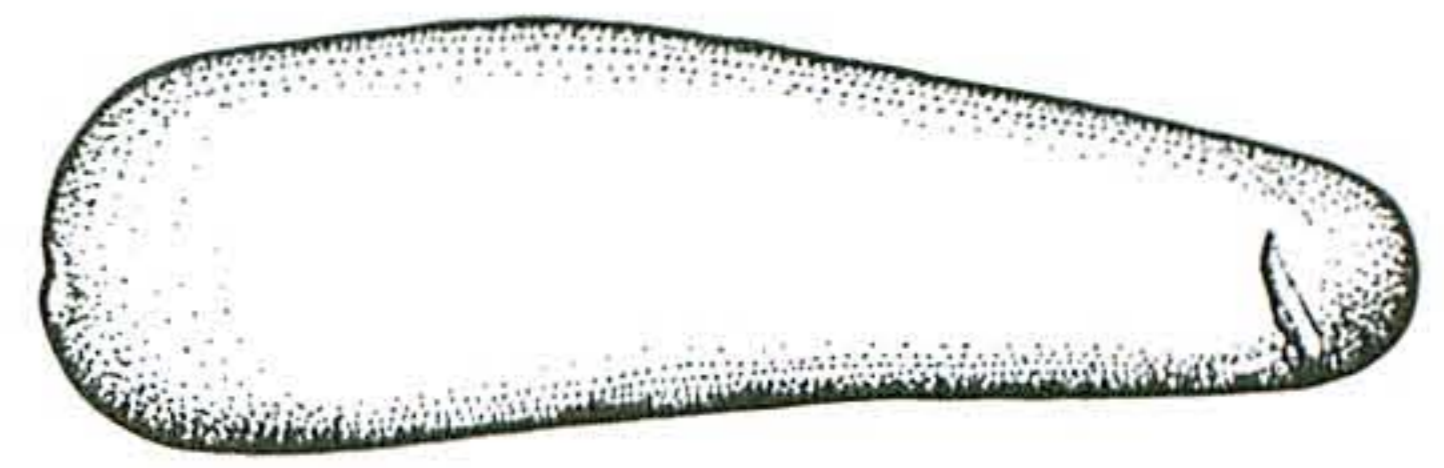


Fig. 2 Uruk 出土の製陶具 (1/2). Lenzen 1963: taf. 34a より

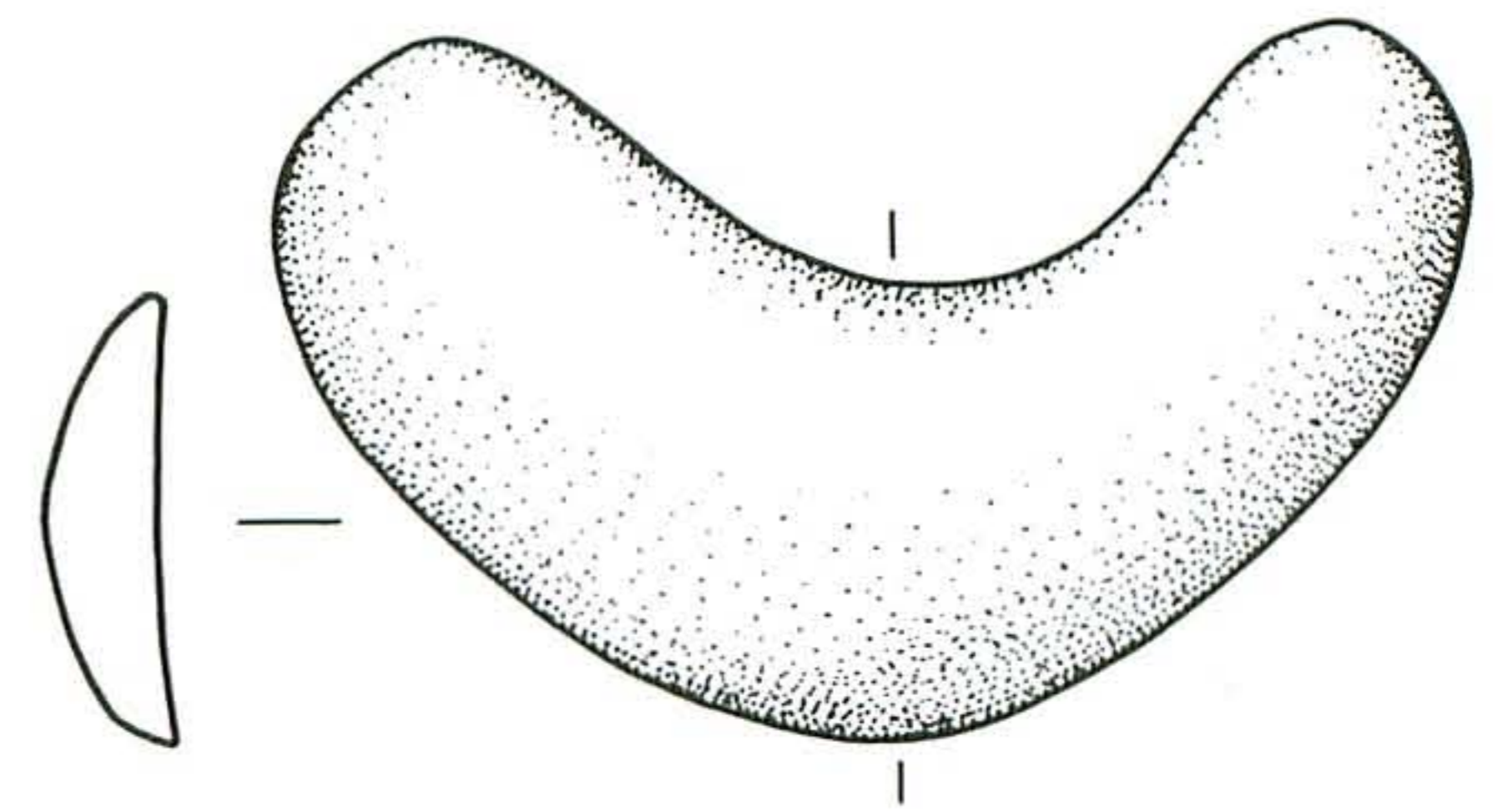


Fig. 3 Nippur 出土の製陶具 (1/2). MaCown et al. 1967: Pl. 156. 24 より

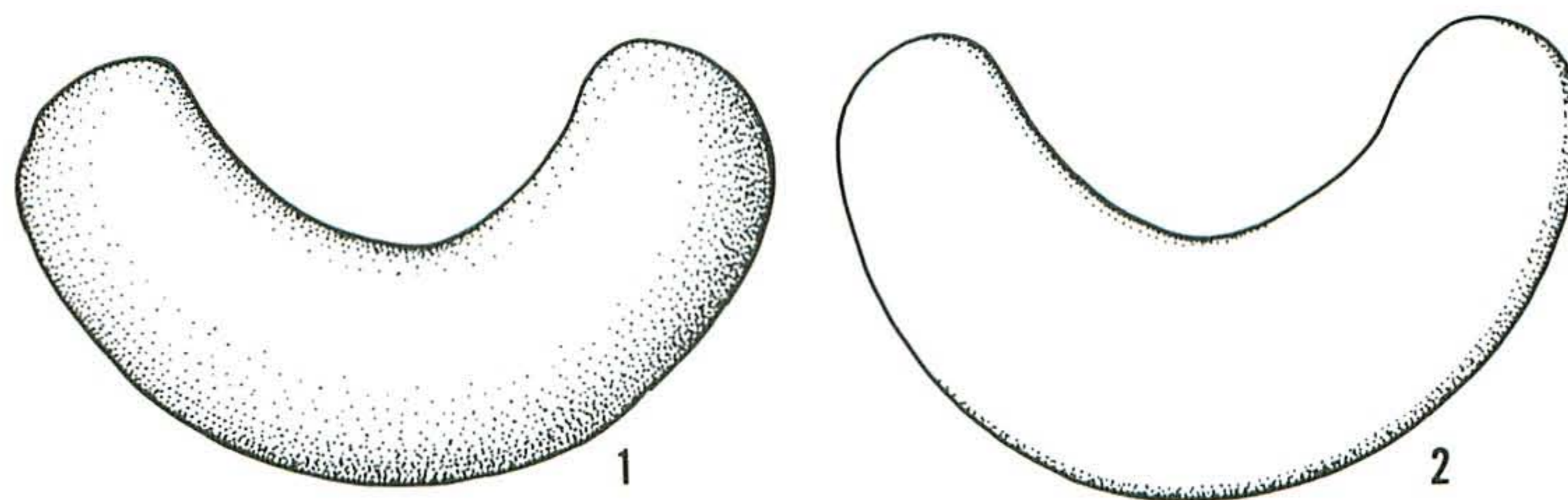


Fig. 4 Kish 出土の製陶具 (1/2). Mackay 1925: Pl. 44 より



う [Mackay 1925 : 206]。詳細な観察はなされておらず、写真から判断する限りでは、一面が盛り上がり他面は平らな様子がみてとれる。比較的薄い製品で、その断面形は既述したニップール出土例に近いと思われる。

pottery stand とされた土製環の焼成は堅緻、上縁は薄いと指摘する [ibid. : 206]。宮殿 A の西側では複数の土器窯も発見されているが [Moorey 1978 : 64]、土製品と窯との関係は不明である。

No.	差渡	最大幅	最大厚	材質	時代
1	90	29	8	土製	ED III
2	88	32		土製	ED III

ジェムデト・ナスル メソポタミア考古学編年のタイプサイトである。1988年からイギリス考古学研究所による再調査が開始された [Matthews 1989 ; 1990]。使用目的のはっきりしない3点の斧／鑿形土製品は、先端が幅広く柄部分が次第に細くなって終わる。共に良好な胎土を使用して製作され、色調は straw-color を呈し、表面は滑らかである。No. 2 には使用によると思われる刃こぼれがある [Mackay 1931 : 266]。土器窯は管理／行政機能をもつと考えられた建物の最大の部屋（おそらく中庭）で3基が発見されている [Moorey 1978 : 151 ; Matthews 1989 : 230] ほか、1988年の調査でも円形プランの窯が検出された [Matthews 1989 : Pl. 33b]。

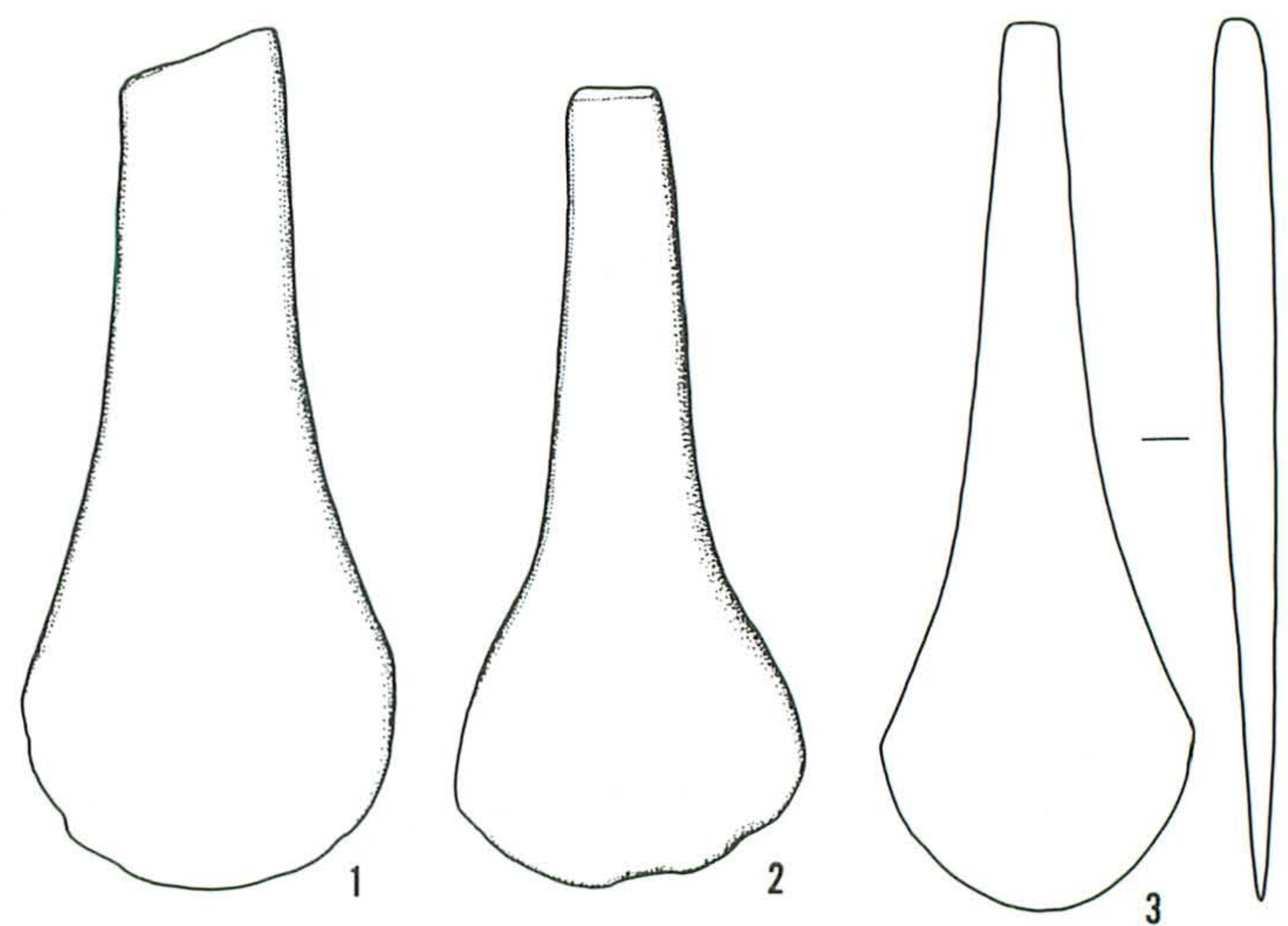


Fig. 5 Jemdet Nasr 出土の製陶具 (1/2). Mackay 1931 : Pl. 75 より

No.	長さ	最大幅	最大厚	材質	時代
1	122	54		土製	JN
2	114	50		土製	JN
3	128	45	8	土製	JN

テル・アスマル ディヤラ川流域に存在する遺跡で、1929-36年にかけてシカゴ大学オリエン特研究所が調査を行った。古代名は Eshnunna。バビロン第一王朝以前には有力な都市国家のひとつとして、南メソポタミアの都市国家と覇権を争う。製陶具として三日月／ブーメラン形土製品1点と、カーブした板状製品5点 (Fig. 6) を報告するが、解説からこのほかにも破片状となった多数の道具が存在したことが判る [Delougaz 1952 : 122]。しかし窯や製陶工房との関係は不明である。三日月形の製品は一面が盛りあがり、他面は平らで両端部は丸まって終わる (1)。板状の道具はいつでも湾曲する側面を特徴とし (2-6)、一端は刃状に加工され、刃の平面形は半円に近く、刃と反対側の小口も丸みをもたせてある。2点には中心をややずれた位置に紐を通すための孔が穿ってある (3, 4)。

No.	長さ／差渡	最大幅	最大厚	材質	時代
1	120	34	16	土製	イシン・ラルサ
2	138	30	14	土製	イシン・ラルサ
3	128	33	11	土製	イシン・ラルサ
4	155	30	15	土製	イシン・ラルサ
5	159	30	12	土製	イシン・ラルサ
6	163	40	11	土製	イシン・ラルサ



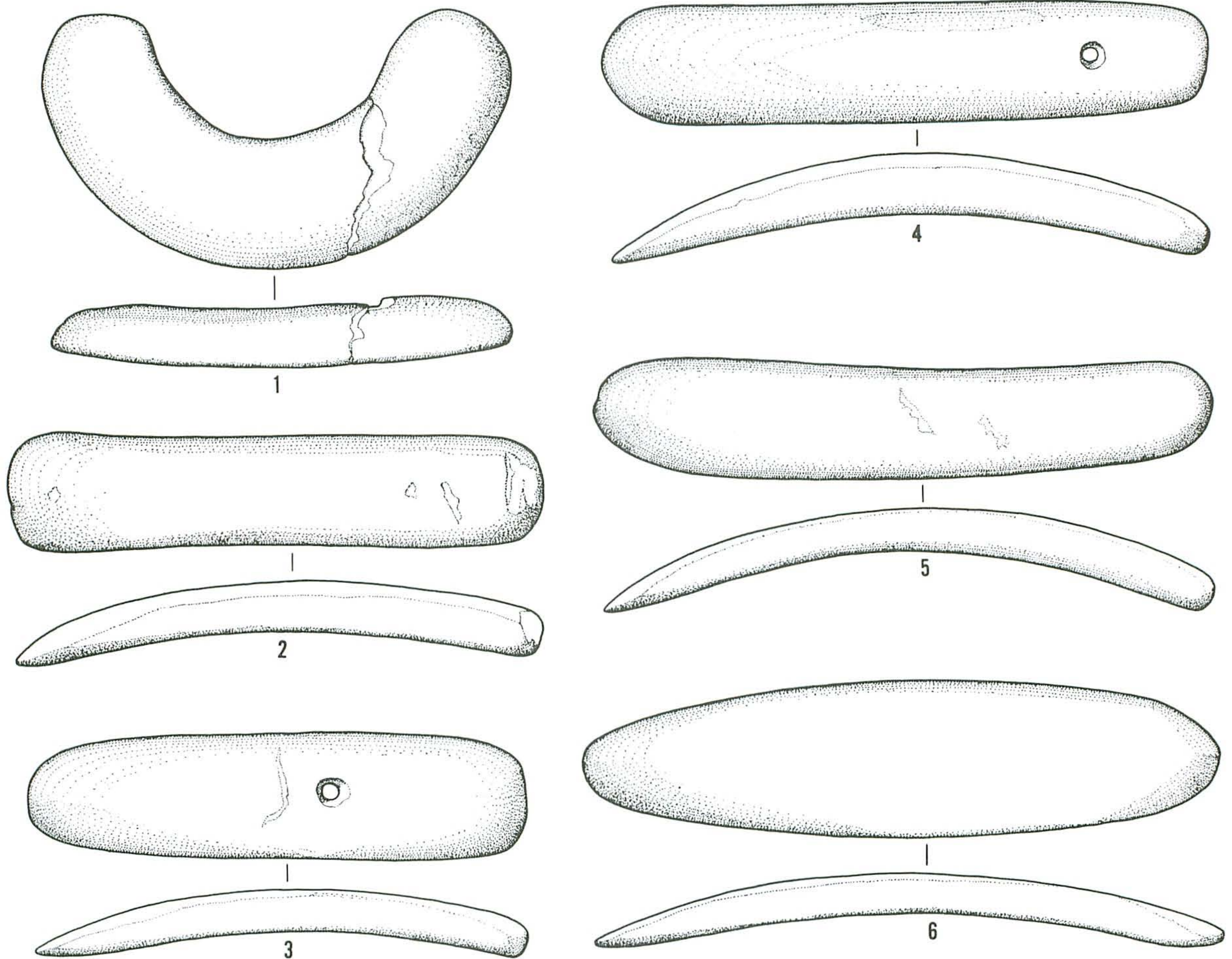


Fig. 6 Tell Asmar 出土の製陶具 (1/2). Delougaz 1952 : Pl. 131 より

スーサ 古代エラムの首都である。本格的な調査は1897年 Morgan によって始められ、今日までフランス調査団によって継続されている。長年にわたる継続調査の成果もあって、最も多くの関連製品を報告する。製陶関係の遺物はアクロポリスに集中して発見された。すべて土製品で、基本的な形として半円形、三日月形、斧・篋／鑿形などがある。帰属年代ごとではウルク後期に伴うもの2点 (Fig. 7. 14, 15), JN 期と推定されるもの3点 (11-13), およびその前後と推定されるが不確かなもの10点がある。三日月形土製品には線刻を伴う3点がある。おそらく線刻は陶工印 Potter's mark と考えられる。文字とすれば No. 8 は GAR, NINDA : 容器／パンとよめ [Green and Nissen 1987 : No. 196], No. 9 は ZAG, ENKU に類似する [ibid. : No. 615]。三日月形製品の殆どに刃状加工がなされたらしいことは、断面形や草刈りと推測されたことから類推できる。断面の形状が判るものは少ないけれども、半円／三日月形は総じて厚い断面で、なかでも上部は特に厚く加工されている (11-13)。斧／鑿形の製品では柄部分が厚く、刃に向かって次第に薄くなり、刃の先端は円形に整えてある (10)。破片の No. 15 も No. 10 に近い形に復元可能であろう。使用痕の観察、製品自体の製作方法に関する情報には触れられていない。表中の計測値に ( ) を付したものは破損品を示す<sup>2)</sup>。

No.	長さ／差渡	最大幅	最大厚	材質	時代	No.	長さ／差渡	最大幅	最大厚	材質	時代
1	120	52		土製	不明	4	150	46		土製	不明
2	120	43		土製	不明	5	114	35		土製	不明
3	(74)	70		土製	不明	6	88	32		土製	不明



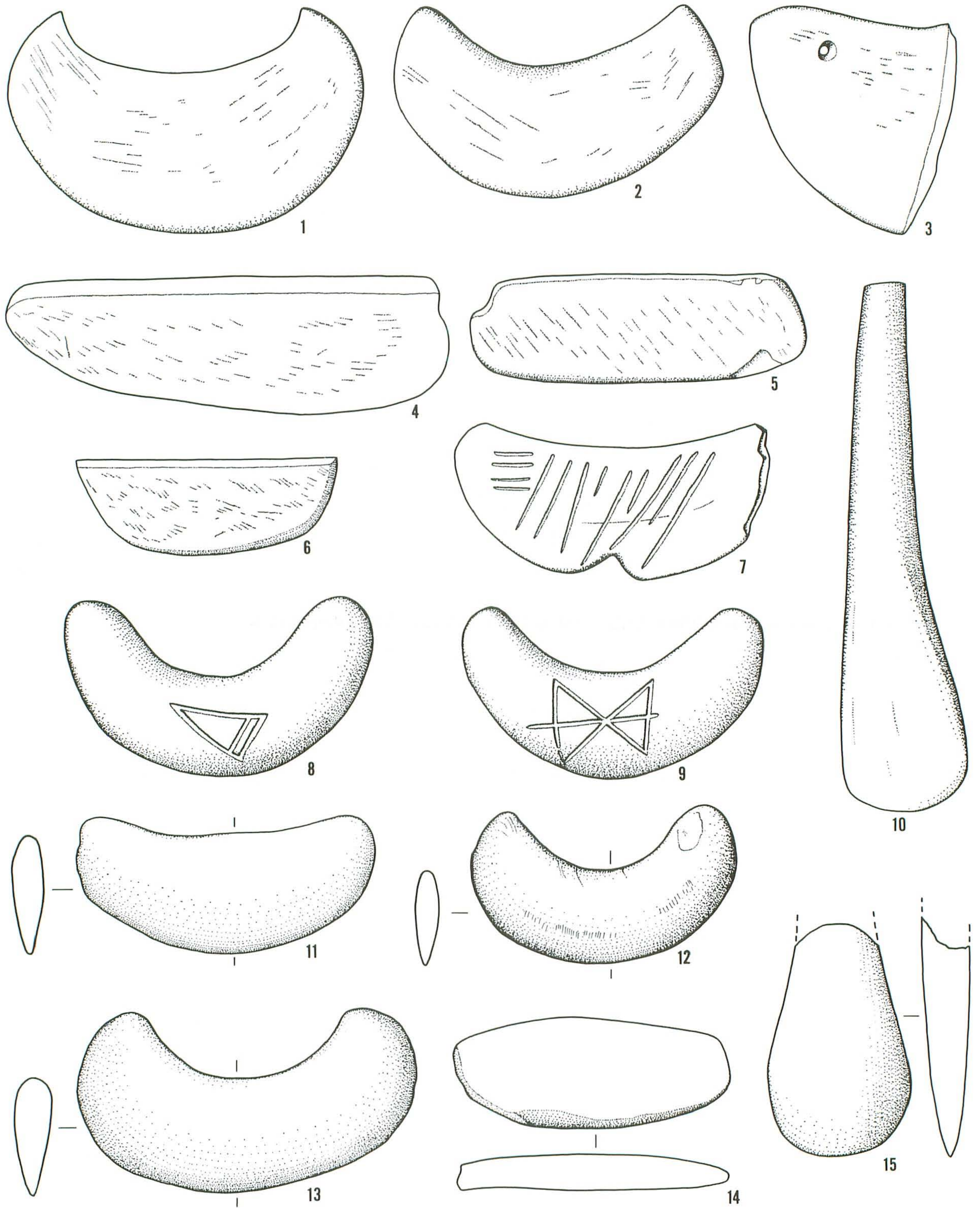


Fig. 7 Susa 出土の製陶具 (1/2). Mecquenem et Scheil 1928 : Fig. 18 (1-6), Mecquenem et Contenau 1943 : Fig. 10 (7-10), Steve et Gasche 1971 : Pl. 28 (11-13), Le Brun 1971 : Fig. 56 (14-15) より



No.	長さ/差渡	最大幅	最大厚	材質	時代	No.	長さ/差渡	最大幅	最大厚	材質	時代
7	(106)	44		土製	不明	12	88	30	8	土製	JN
8	100	36		土製	?	13	112	40	12	土製	JN
9	103	32		土製	?	14	92	37	13	土製	ウルク
10	177	42		土製	?	15	(77)	47	15	土製	ウルク
11	99	40	10	土製	JN						

テル・グッバ ハムリン・ダム建設に伴う緊急調査として、1977-80年にかけて国士舘大学隊が発掘調査を行い、JN 期から ED I 期まで連続する層位を検出した〔藤井編 1981〕。複数の窯や轆轤と考えられる土製品 (Fig. 8) をはじめ、製陶に関係したと推測される若干の遺物が出土した。轆轤(?) は ED I 期の中頃と推定される V 層 (2900-2800 B.C. 頃) から出土した土製円盤の半欠である。

ここで本論の趣旨には沿わないがこの土製品を観察してみる。胎土は粗くスサと砂粒を多量に混和する。焼成は比較的高温でなされ、色調は淡緑色を呈する。復元径は 71-72 cm で正円に近い。厚さは 5-8 cm を計測する。断面形は中央部が僅かに厚く縁部に向かって次第に薄くなり、縁部の稜はなく滑らかである。上面(?) は使用のためばかりでなく、当初からスムーズに仕上げられており、中央に径 2 cm の比較的大きい孔が穿ってある。中央孔から半径 6 cm の位置には孔を取り巻く環状溝 (幅約 2 cm, 深さ約 0.5 cm) が走る。中央孔と環状溝の間にも放射状溝が 4 箇所存在したようであるが、現在は二つのみが遺存する。このほか上面には残存部のみで 34 個の小孔 (径 4-7 mm) が穿ってある。小孔の分布状況をみると、中心部付近は同心円状に比較的整然と配されているが、環状溝の外側の配置状況に統一性は認められない。残存部とほぼ同じ密度で小孔が穿たれていたと仮定すれば、全体ではおよそ 70 個の小孔が存在したことになる。これらの小孔は本来裏面まで貫通していたと思

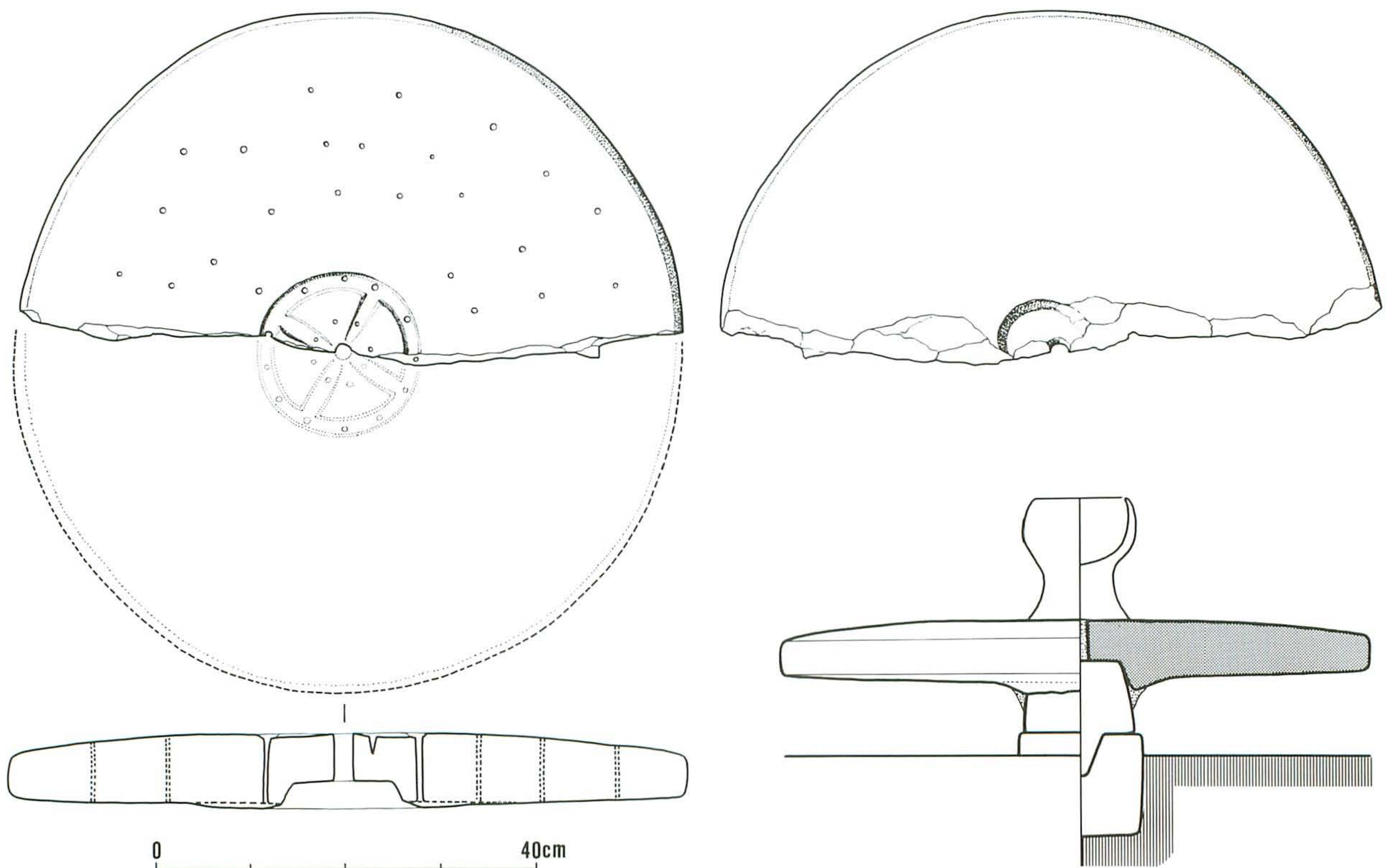


Fig. 8 Tell Gubba 出土の轆轤 (回転盤) と、轆轤の復元



われるが、裏面に二次的に塗布された粘土（本体とともに焼成されている）のため貫通するものはない。

裏面も平らであるが上面とは明らかに相違する。中心部には径 13 cm で深さ 3 cm の窪みが、上面中央から穿たれた孔に対応して存在する。この窪みの底面は平らであり、特別な痕跡、たとえば回転したような痕跡はない。たぶんこの窪みは径の大きい何か（回転軸）を挿入するために設けられたのであろう。先述したが裏面には、スサを多量に含んだ粘土が中心側に厚く縁部に薄く塗布されていた。しかし窪みには達していない。おそらくこの粘土は中央に存在した部品：回転軸をサポートする機能も兼っていたのであろう<sup>3)</sup>。

大型で、しかも重量のある製品であることなどを考慮すると、轆轤の回転盤として使用された可能性が極めて高い。なお上面の中央にある環状溝は轆轤の中心を知る目安となり、放射状の溝は粘土塊の安定に有効である。また、表面に多数穿たれた小孔の性格は轆轤本来の機能には関係せず、むしろ製作段階に必要な配慮であったと考えている。つまりこのように大型で、しかも厚みのある製品を粘土で製作するとなると、乾燥や焼成段階には収縮率の差や残留した水分の影響によって、部分的な亀裂発生危険性が高まる。その予防措置として円盤を製作した工人は、経験的に多数の小孔を穿ったのであろう。

酷似する土製品はほぼ同時代と推定されるカファジャ Khafajah の Nintu 神殿 III 層から出土しており、報告

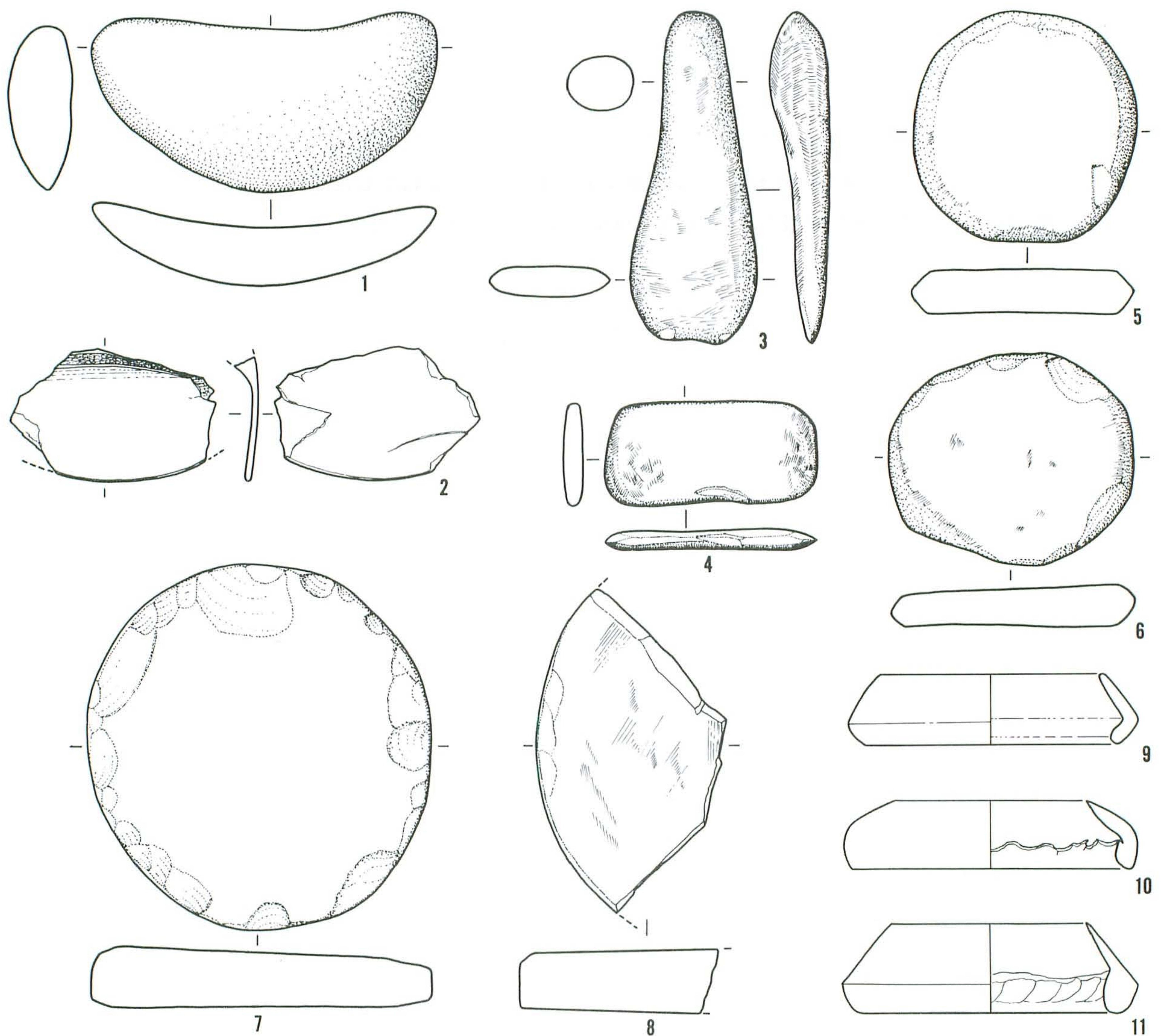


Fig. 9 Tell Gubba 出土の製陶具 (1/2)



者も轆轤と考察した [Delougaz and Lloyd 1942 : 101]。ED II–III 期に属するアブ・サラビークの陶工の家 [Postgate 1990 : 103–4]、イランのガブリストン [Majidzadeh 1989 : Pl. 33] から類似した轆轤が発見され、時・空間的な広がりを見せつつある<sup>4)</sup>。時期は降るが、完好な回転軸と軸受けのセット資料が、古代オリエント博物館のシリア調査団によってテル・マストーマで発見されている [Egami et al. 1989 : Pl. 6]。古代轆轤の実例と復元に関しては Evely [1988] や Amiran and Shenhav [1984] の論考に詳しい。

三日月形土製品　グッバの南裾に設定した遺跡範囲確認のトレンチ中から出土した。ここでは灰層を中心とした厚い堆積と多量の土器片 [井 1990 : Fig. 7]、土製環数点、円盤状石製品 (Fig. 9. 5) を検出したことから、窯を発見することはできなかったものの、しいて推測すればこの付近で土器生産が行われたとする推定もなりたとう。伴出の土器から ED I 期前半頃の遺物と推定される。道具は両端部がなだらかに終わる半円／三日月形で (Fig. 9. 1)、その形はスーサ出土例に類似する。縦断面形もスーサ例の特徴に共通するが当例は著しく厚い。横断面も僅かにカーブする。胎土中に多量の砂粒を混和する。焼成は良好、色調は黄桃色、表面はザラつき長期間の使用を感じさせる。

斧形石製品　グッバの調査では、通常の石斧とは異なるやや薄手の石斧状製品が、表層 (4) と ED I 期と推定される層位 (3) から出土した。ともに石灰岩と考えられる比較的柔らかい石で丁寧に製作されている。No. 4 は長楕円形の板状品で、両小口部は半円形で鋭い両刃に加工され、刃部分やその付近には製作／使用時についたと思われる平行する擦痕があり、後述するテペ・ガウラ出土例 (Fig. 15. 1) と共通点が多い。一般的な石斧に近い形をもつ No. 3 は黒灰色を呈し、自然石を利用して磨き／擦って形を整える。刃は両刃で先端部を欠く。

半円形(?) 骨角器　IVb 層から出土した。動物骨 (肩甲骨?) を利用した薄い製品で、弧部分を中心に使用する (Fig. 9. 2)。磨き具として報告したが [井 1989 : 208]、土器内面の調整具としても機能しうる。

円盤状石製品　扁平な石を使用した道具が出土し、縁部の形態から 2 種に分類できる。第 1 類は径 10 cm 以内で、上・下面は丁寧に磨かれ、円周部の中央に稜をもうける。これらは縁部を中心に使用されており、ここに明瞭な使用痕：擦痕を認める (5, 6)。第 2 類はパレットと考えられ、結晶質の石 (大理石?) を使用して円形に整形し、両面を平滑に磨き縁部も垂直に整えてある。1 類よりも大型で厚い断面をもつ。完形品 (7) と破片 (8) が出土した。

環状土製品　VII 層 (9)、IV 層 (10)、III 層と II 層のあいだに介在した土器中心の中間層 (11)、および三日月形土製品出土地点の灰層中から数点が出土した。しかし土器整理が完全に終了していないため、出土総数は把握できていない。殆ど混和剤を含まない精良な胎土を使用して製作されており、色調は黄色および青灰色を呈し、焼成温度は高い。なかでも No. 11 は過焼成といえるほどに堅緻である。側面形は 3 点ともに共通しており、最大径を中心よりやや低い位置にもち、ここを起点として内側に屈曲する。屈曲は鋭いものと緩いものがある。底部：底面は丸く整形されているけれども、上縁部は鋭い。No. 9 の上縁部には弧に直交する細かい擦痕を認める。また No. 11 の上縁部は薄くて鋭く、内面の一部に細かい剝離痕が観察される。

No.	長さ/差渡	最大幅	最大厚	材質	時代	No.	差渡	最大幅	最大厚	材質	時代
1	97	45	17	土製	ED I 前期	7	69		12	石製	ED I
2	(58)	(37)	(6)	骨製	ED I 後期	8	103		17	石製	ED I
3	93	35	16	石製	ED I 後期	9	82	20	4	土製	JN
4	60	29	6	石製	表層	10	82	20	6	土製	ED I
5	66		12	石製	JN 終末	11	83	25	10	土製	ED III/AK
6	69		12	石製	ED I						



余談になるが、ハムリン盆地の緊急調査で発掘されたソングルAとB遺跡からも、製陶関係の遺構が出土した。ソングルAではサマッラおよびハラフ期に伴う2基の昇焰式土器窯を、ソングルBのI層では13基のウバイド期の窯を検出しており、窯層に伴って土製環が出土した〔藤井編 1981〕。

ゲルディ・レシュ Gerdi Resh ディヤラ川の上流に存在する遺跡で、径約 160 m、高さ 10 m を計る。1971年にイラク考古総局の Ismail Hijara が調査を行い、ウルク期に属する三つの建物レベルを確認した。比較的残存状態が良い第3層では、狭い通路を挟んで複数の建物が存在し、それぞれの建物内に円形のオーブンもしくは土器窯が施設されていた〔Hijara 1976 : Fig. 2〕。出土遺物として灰・赤色磨研土器、bevelled-rim bowl のほかに、

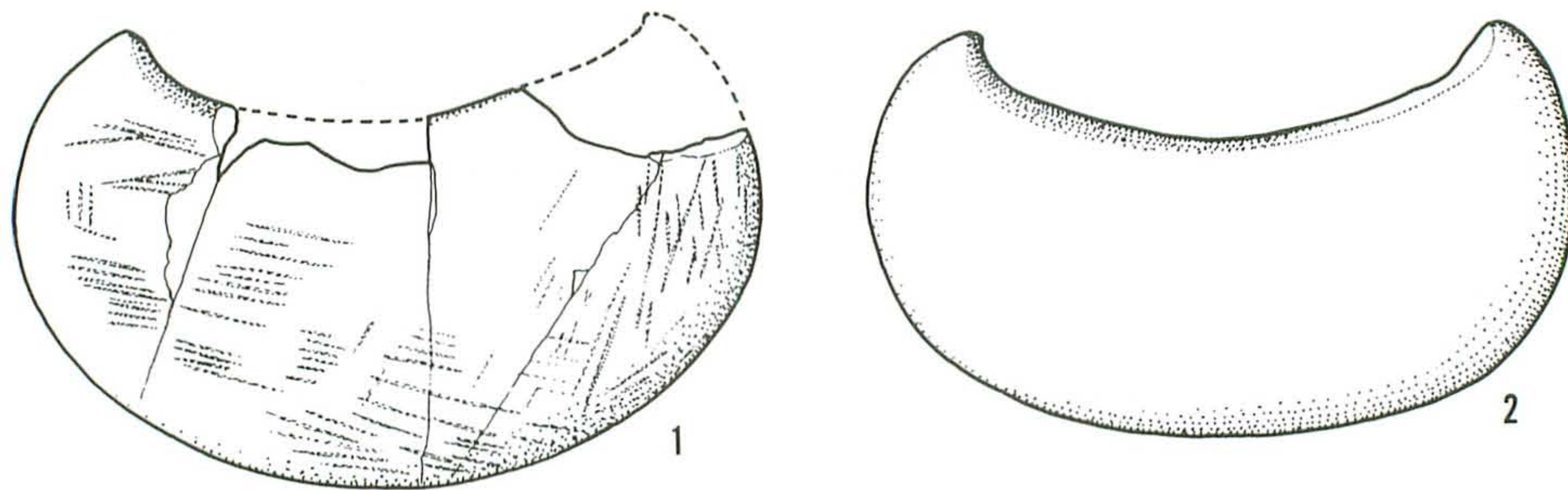


Fig. 10 Tell Gerdi Resh 出土の製陶具 (1/2). Hijara 1976 : Pl. 7 より

三日月形土製品2点を報告する (1, 2)。土器片を再利用したと考えられるもの (1) の表面には荒い擦痕がつく。他は完形で、共に両端部が角状に小さく突起する特徴をもつ。

No.	差渡	最大幅	材質	時代
1	(116?)	57?	土製	ウルク
2	110?	46?	土製	ウルク

ヌジ 1925-31年にかけて、アメリカ調査団によって発掘が行われた。ウバイド期からササン朝までの遺構や土器窯が発見された。製陶関係の遺物として土器片を転用した半円形と、隅丸方形および楕円形のものがある。楕円形を呈する No. 3 は板状で両端が尖り、縁部は薄くされているようである〔Starr 1937/39 : Pl. 117〕。

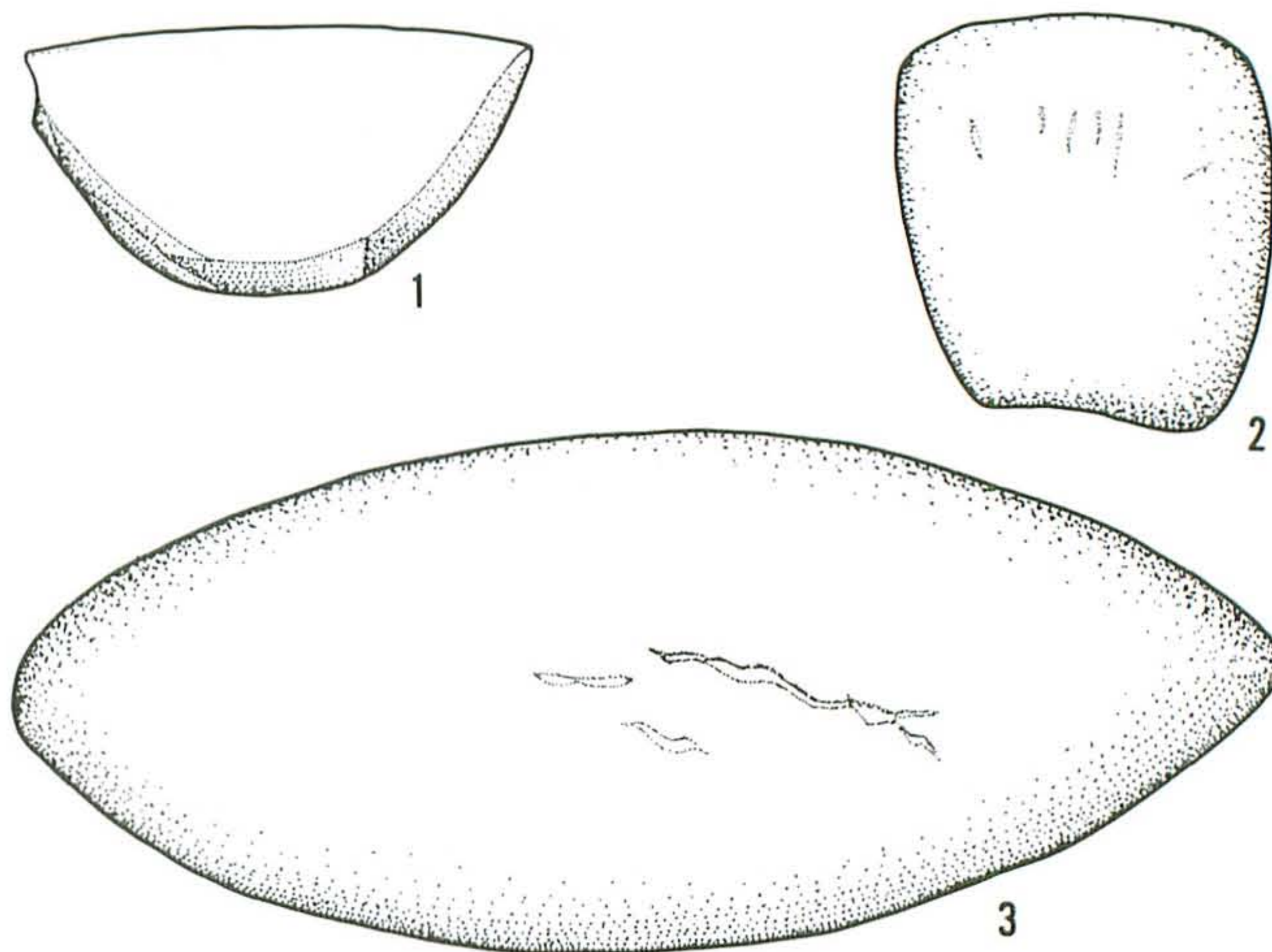


Fig. 11 Nuzi 出土の製陶具 (1/2). Starr 1937/39 : Pls. 39 (1), 117 (2, 3) より

No.	長さ	最大幅	材質	時代
1	66	35	土製	ウバイド
2	53	49	土製	カッシート
3	165	67	土製	カッシート

テル・アバーダ ハムリン・ダム建設に関係して1977-78年にイラク考古総局によって調査が行われた。ウバイド期を中心とした遺跡で、多数の土器窯をはじめ興味ぶかい遺構と遺物が出土した。土器窯は1-3層を通じて10基以上が検出され、特に1層では数基ごとの集中が確認された〔Jasim 1985 : Fig. 25〕。製陶具として報告されたものはないが、その可能性がある遺物として半円形の土製品がある。プラノ・コンベックス型の断面（一面は平ら、他面は盛り上がる）をもち、盛り上がった表面には黒色の彩文が直線的な縁部に沿って施してあり、平らな裏面の上部：彩文に対応する部位には浅い擦痕がある。曲面部は刃状となっている (1)。このほか、擦り



／磨きに使われたと推定される小型の石製品 (2, 3), 先端が丸く整えられ斧／鋏状を呈し unretouched hoes とされた石製の道具 (4) や, 攪拌棒 stirring rod とされアスファルトが一端に付着した長さ 12-17 cm の細長い自然石数点<sup>5)</sup>などが報告されている [ibid. : Fig. 83]。このほかにも製陶に関係した道具が存在したに違いないが, 出土状況や窯との関係など不明な点が多い。

No.	長さ／差渡	最大幅	最大厚	材質	時代
1	127	50	15	土製	ウバイド
2	70	20	5	石製	ウバイド
3	68	17	6	石製	ウバイド
4	95	52	9	石製	ウバイド

ラス・アル・アミヤ Ras al 'Amiya ユーフラテスとティグリス川の間中に位置し, 排水運河掘削工事中に発見された遺跡で, 1960年にイギリス考古学研究所によって発掘が行われた。ハッジ・ムハンマド併行期もしくは僅かに遅れる時代の遺跡で, 5層が確認された [Stronach 1961]。製陶に関係するか否か不明であるが, 平らな板状の土製品多数(?) が発見された。図示の道具は両端を欠失する。焼成は堅緻, 色調は青灰色を呈し, 黒色の小礫を混和する。現存長 108, 最大幅 51 mm である [ibid. : 136]。

ハッジ・ムハンマド Hajji Muhammad ドイツのウルク調査団によって1937-39年にかけて調査が行われ, ウバイド期の比較的早い時期に位置づけられる彩文土器が出土した。遺構に関しては不明であるが, ラス・アル・アミヤ例に類似した土製品を報告する。現存長 75, 最大幅 50 mm の板状品で, 残存する小口は丸みをもち, 表面は滑らかである [Ziegler 1953 : taf. 35I]。

テペ・ガウラ 1931-38年にかけてアメリカ調査団によって発掘され, ハラフ期からミタン二期におよぶ20の層位を検出した。製陶に関係するとみなされる遺物は全層を通じて出土したが, なかでも VIII 層に集中していた。これらは普遍的な土製品に加え, 石製, 骨製品が存在しており, 土製品の多くには吊り下げのための孔が穿つてあると説明するが [Speiser 1935 : 81] 図示されてはいない。道具は楕円形 (小判形) と長方形で, 3点ともに使用によるものか, あるいは製作時についたか判然としない細かい擦痕を認める。説明が無いとため細部の特徴は不明であるけれども, 写真から判断する限りでは3点とも小口部が薄く整形されているように見え, No. 3 には刃が

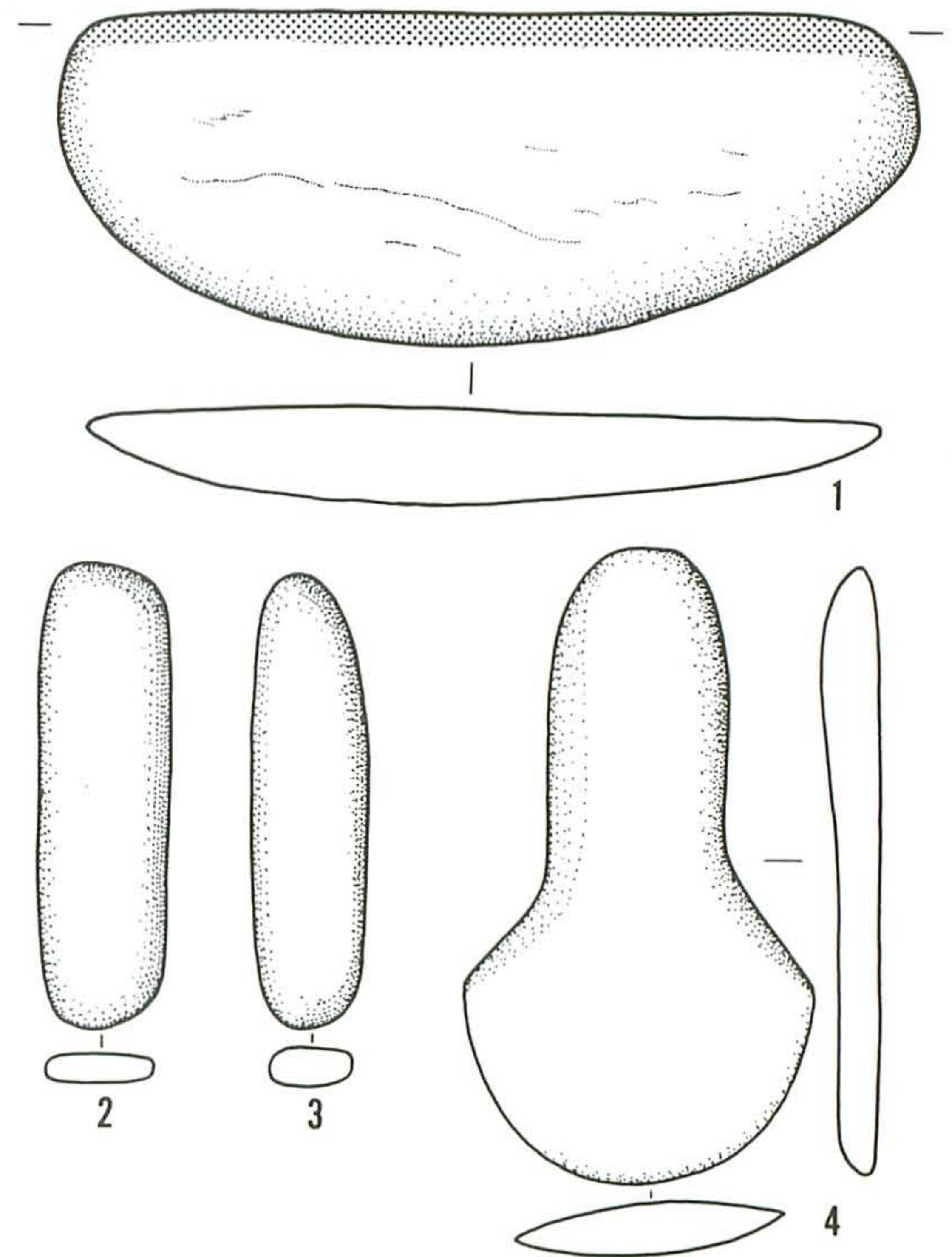


Fig. 12 Tell Abada 出土の製陶具 (1/2). Jasim 1985 : Figs. 62 (1), 83 (2-4) より

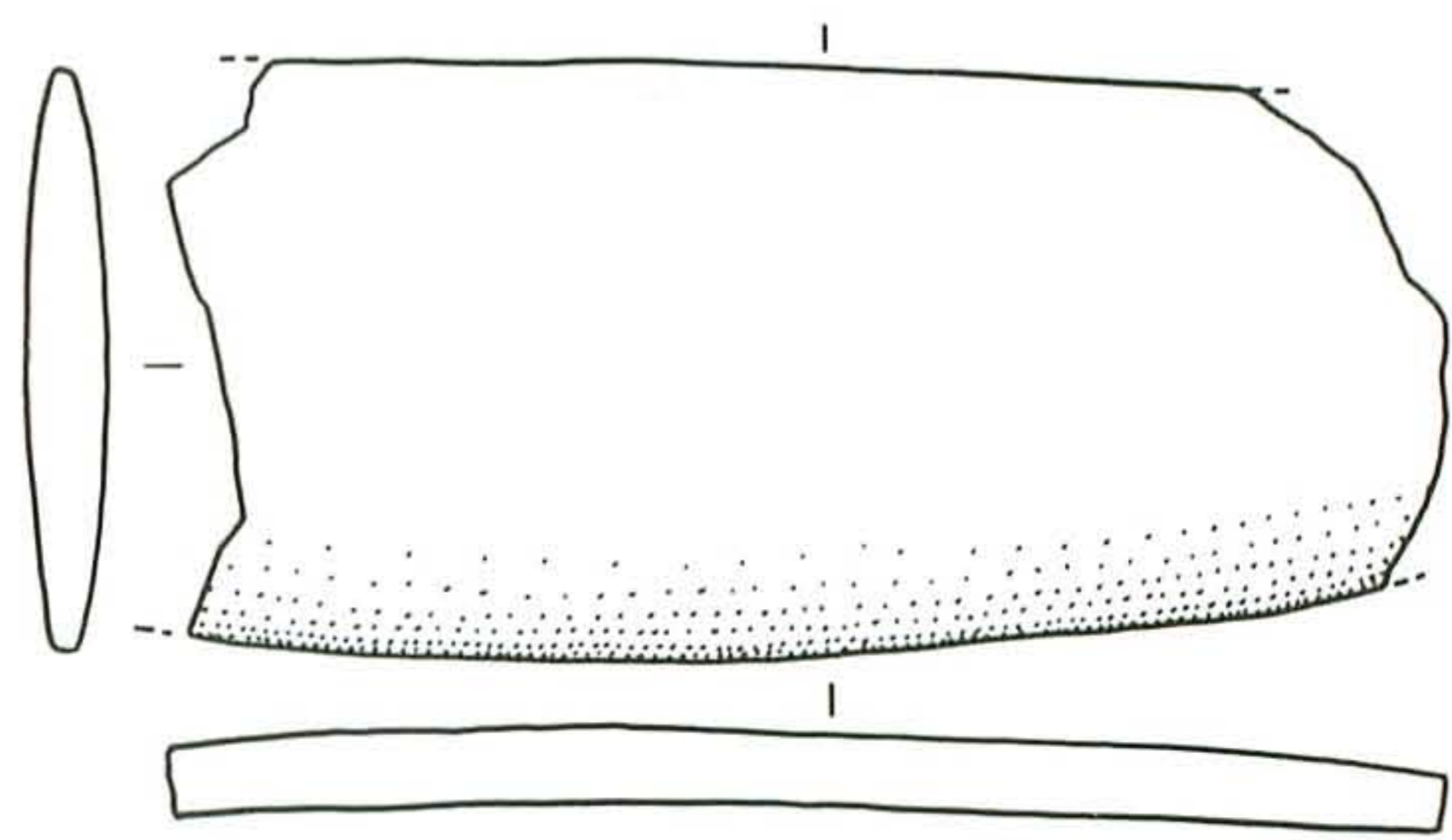


Fig. 13 Ras al 'Amiya 出土の土製品 (1/2). Stronach 1961 : Pl. 43. 24 より

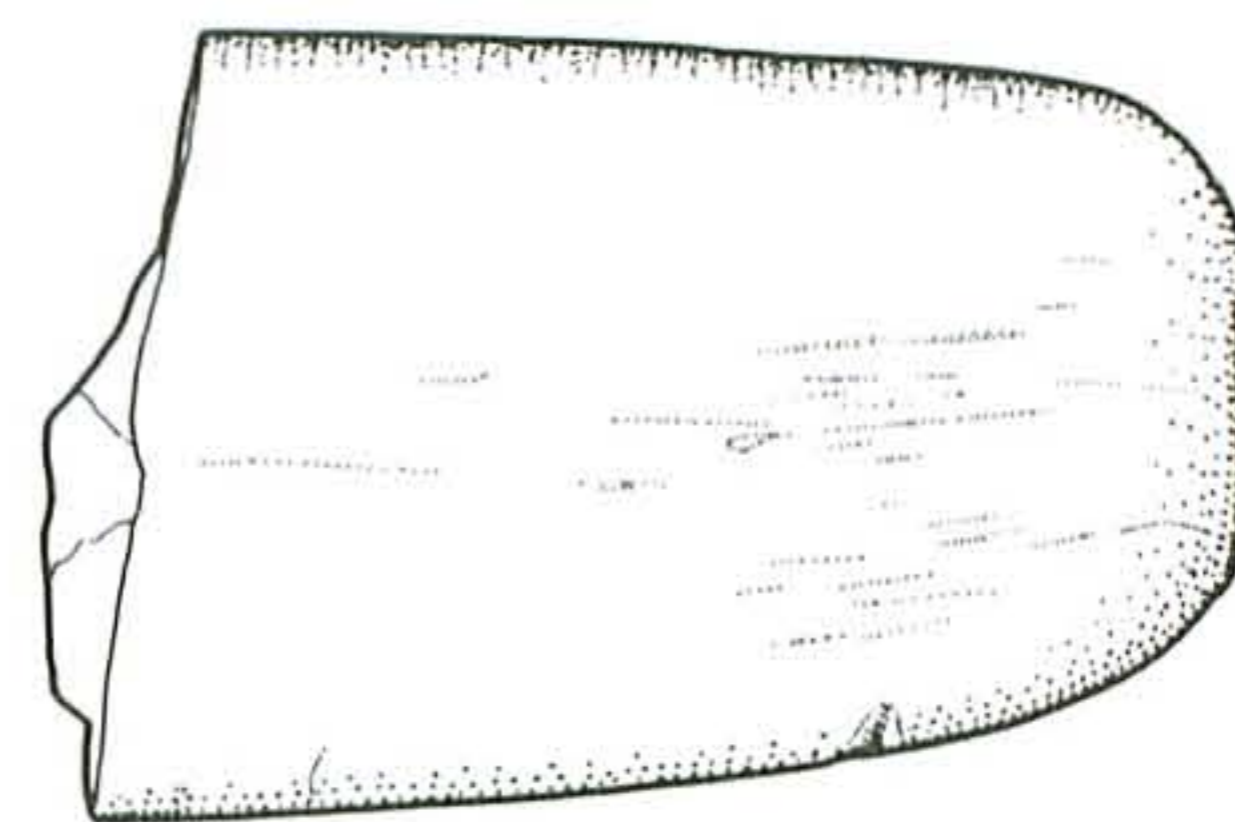


Fig. 14 Hajji Muhammad 出土の土製品 (1/2). Ziegler 1953 : taf. 35I より



伴っているようでもある。ガウラの編年に関しては諸説があるが、Rothman [1989] に従えば遺物の帰属年代は表のようになる。

No.	長さ	最大幅	材質	時代
1	46	18	石製	ウルク/JN?
2	58	20	土製	ウルク/JN?
3	93	19	土製	ウルク後期

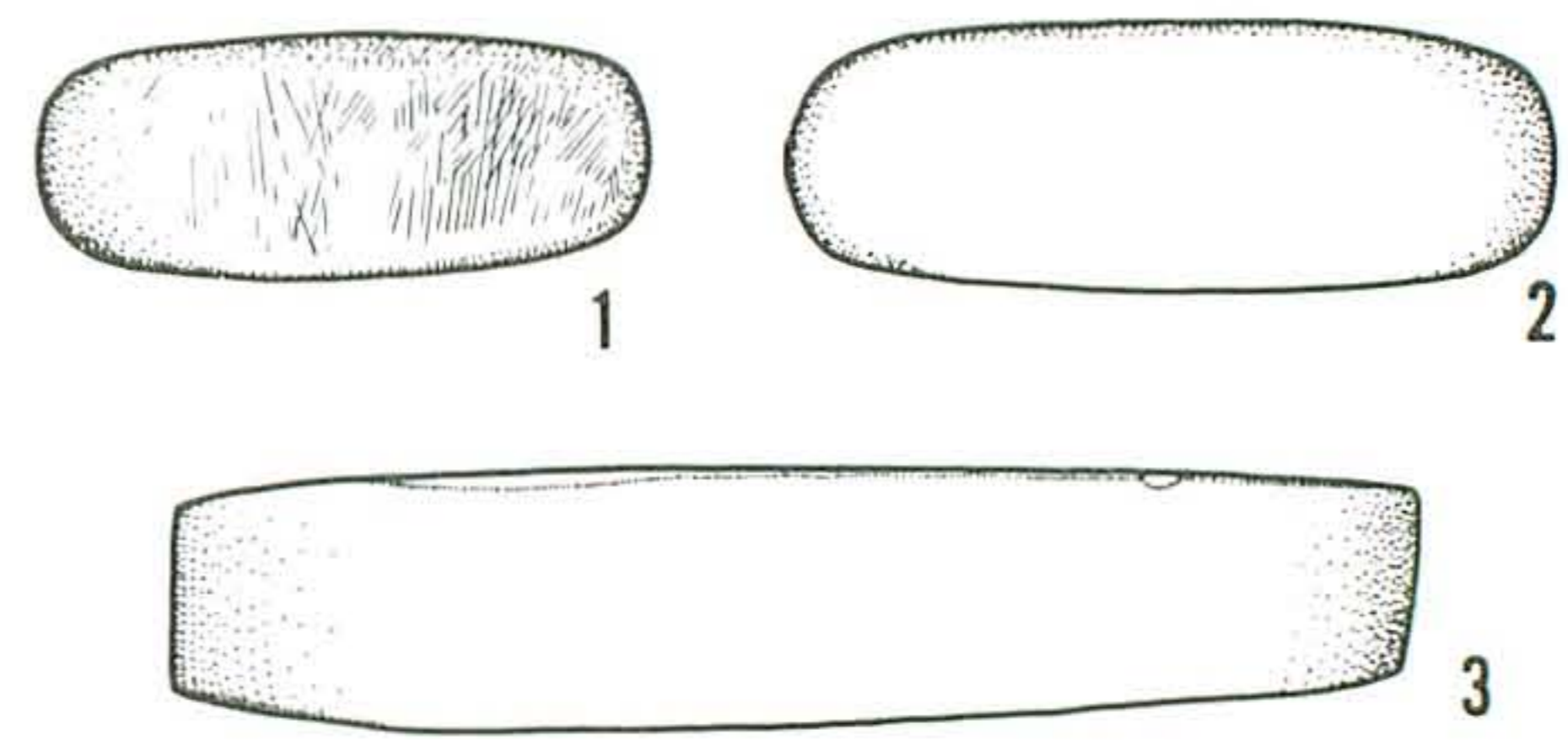


Fig. 15 Tepe Gawra 出土の製陶具 (1/2).  
Speiser 1935 : Pl. 31a より

テル・ムシャリファ Tell Musharifa エスキモースル・ダム (サダム・ダム) 関係の遺跡として1984年に国士館大学が調査した。遺跡は約 250×150 m の長楕円形で 2.5 ha 以上の広さをもつ。比高は 1.5 m である。層位は 3 層ありガウラの IX-XI 層に併行すると推定された。Ia-Ib 層では石・礫を敷きつめた通路によって区画された 2 棟以上の建物を検出した。このうちの一棟は陶工の家、他の一棟はグライ・レシュ 2 層型の家屋 [Lloyd 1940 : Fig. 2] である。前者の内部とその周辺には複数の土器窯が存在した (Fig. 16)。窯のディテールや出土遺物については多く触れられていない。興味ある例として、製陶に関係したと推測される大型の石杵、石臼、磨石(?), および扇状スクレイパー fan scraperなどを報告する [Oguchi 1987]。

これらは陶工の家および製陶工房と考えられ、堆積した灰層からも、操業は比較的長期間におよぶと推定できる。建物周辺から出土した遺物は通常的生活必需品ばかりでなく、土器生産に関係した道具が相当の確率で混じっていると思われる。幸いにも筆者は数日間調査に参加する機会を得た。その際の実見では、石製品の数量の多さが気になった。なかには比較的深く不規則な凹面をもつ石臼に、赭土が付着したものなどが存在しており、顔料の粉碎用に石杵とセットで使用されたことを示唆する<sup>6)</sup>。公表された扇状スクレイパーは非常に薄いフリント製で、縁部は丁寧な刃付けがしてあり、土器整形具としても充分実用に耐えうるものだ。

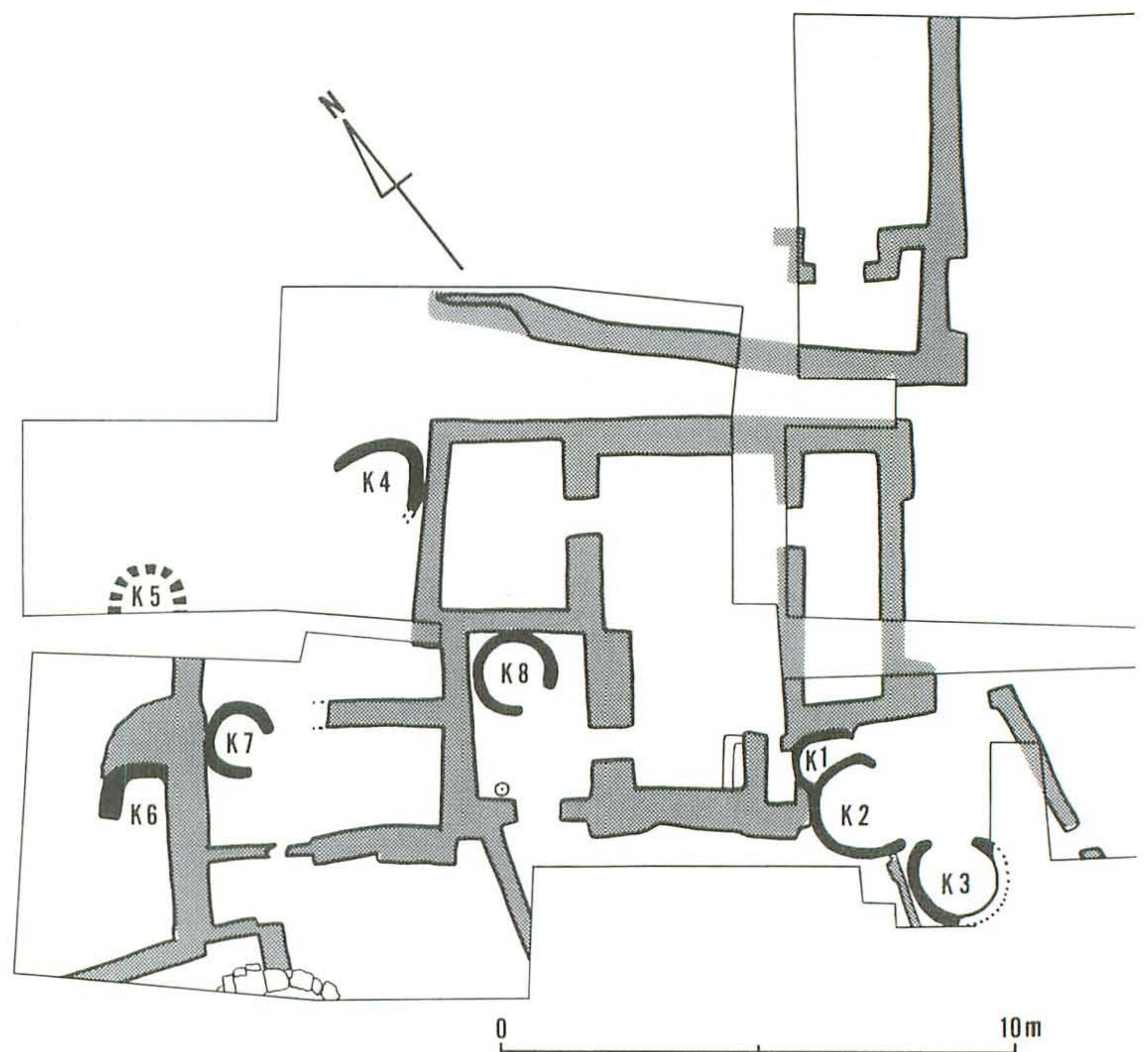


Fig. 16 Musharifa 検出の製陶関係遺構. Oguchi 1987 : Fig. 12 より

テル・ムシャリファは土器生産の実体や、その道具などを体系的に知ることができる恰好の遺跡である。報告書刊行を期待する。

テル・サラサート 東京大学によって1956年以降断続的に調査が行われた。プレ・ハッスーナ期以降の層位が連続する。2号丘ではウバイド/ウルク前期の Q-R・2 区から包丁形土製品が出土した (1)。一面が盛り上がり他面は平らで、弧部分は刃状となるが使用痕は観察されないという [江上 1958 : 166]。2号丘の XIV 層からは碗形土器の口縁部を再利用した半円形の土製品 (2) が出土した [深井・堀内・松谷 1970 : 118]。使用目的に



関する言及はないが、出土地点付近では3基の土器窯も発見されており、この付近が土器生産を含む工房区として利用されていたと推測でき、時期は異なるがアルパチャのTT6レベルの状況 [Mallowan and Rose 1935: 10] に類似しているようである。このほか XIV 層からは扁平な板石を利用したパレット9点が出土し、そのうちの1点には赤色顔料が付着する。牛の角形と形容された石製品は全面が丁寧に磨かれたようになっているが、これが調整によるものか使用によるのかは判然としないという。このほかにも径4-7

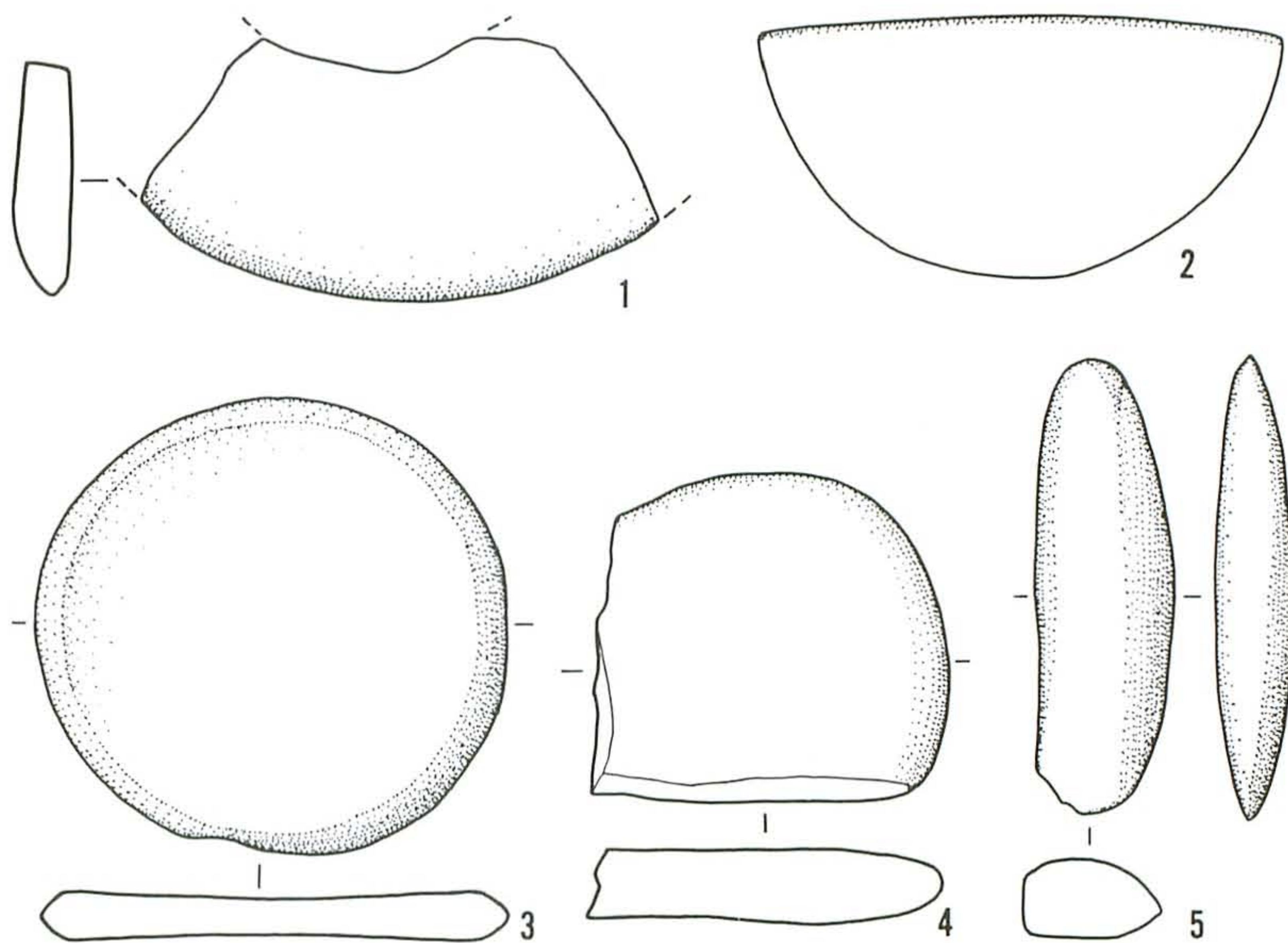


Fig. 17 Tell Thalathat 出土の製陶具 (1/2). 江上 1958 : Fig. 62 (1), 深井・堀内・松谷 1970 : Pls. 35 (2), 86 (4, 5), 深井・堀内・松谷 1974 : Pl. 59 (3) より

cm ほどで、側面や平坦面に使用によると考えられる摩擦痕をもつ石32点が出土し (4), 16点は XIV 層に集中するという [深井・堀内・松谷 1970 : 109-110]。R101 の下層から発見されたヘラ状石器 (5) は出土層位が確定できず、XIV 層より遅い時期の遺物と考えられている。丁寧に磨いて整形され両端は刃状に尖り、一端に赤褐色の顔料状の物質が付着することから、パレットとセットで使用された可能性も否定できないという [深井・堀内・松谷 1970 : 107]。5号丘表面採集品として円形のパレットを報告する (3)。円盤状で両面の中央付近が僅かにくぼみ、円周部の中央に沿って稜がめぐる [深井・堀内・松谷 1974 : 70]。

No.	長さ/差渡	最大幅	最大厚	材質	時代
1	(82)	40	9	土製	ウバイド?
2	81	42		土製	ウバイド
3	75		8	石製	不明
4	(56)		11	石製	ウバイド
5	73	22	12	石製	ウルク?

ハブーバ・カビーラ タブカ・ダム建設に伴う事前調査として、ドイツ隊により1969-75年にかけて発掘が行われた。メソポタミアのウルク後期と関係の深い町邑/都市遺構が検出され、南メソポタミアの植民都市との考えもある。製陶具は三日月形の製品と、斧/鑿形の道具である。三日月形の道具は2点がまとまって出土したことから、セットで使用された可能性が高いと示唆する。これらの両端部は鋭く尖り、上面は盛り上がり裏面は僅かに concave し、縁部は鋭い刃付けがしてある。胎

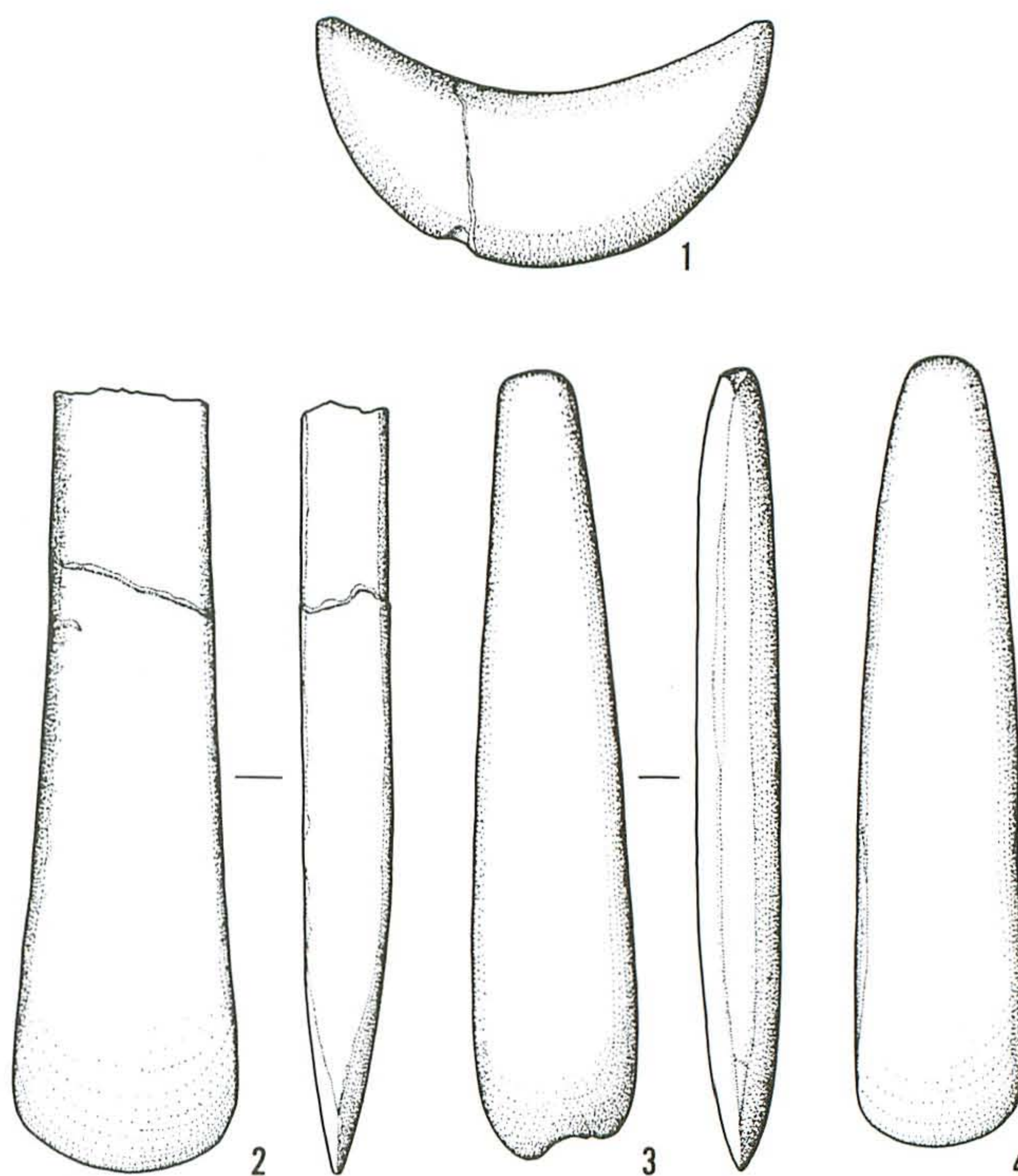


Fig. 18 Habuba Kabira 出土の製陶具 (1/2). Sürenhagen 1978 : Figs. 32-34 より



土は緻密，焼成は堅緻である。斧／鑿形の道具も広場から出土した。とりわけ No. 2 は円形火床付近（窯？）から出土したとされる。最大幅は半円形をなす刃の基部付近にあり柄部の先端が最も狭い。表面の全面は滑らかに仕上げられ No. 3 にはエンゴーベがかけてある〔Sürenhagen 1978 : 79-80〕。

ハンマム・エト・トルクマン ユーフラテスの支流バリフ川流域に存在する遺跡で，1981-84年にかけてアムステルダム大学が調査を行い，ウバイドからパルティア／ローマ時代までの層位が検出された〔van Loon ed. 1988〕。製陶具と考えられる遺物として，円形で中心部がくぼみ円周部がすれ滑らかとなった道具（2）や，轆轤成形の土器片を擦って整形したやや大型の道具（3），篋と解説された先端が丸い両刃の土製品（1）などを報告する〔ibid. : 562, 575〕。調査範囲内では土器窯は発見されていない。

No.	長さ／差渡	最大幅	最大厚	材質	時代
1	(32)	26	13	土製	後期青銅器
2	60		5	土製	ウルク
3	(62)	(53)	4	土製	後期青銅器

ヤリム・テペ ソビエト科学アカデミーによって1969年に調査が開始され，1980年の10次調査をもって一応終了した。プレ・ハッスーナ期以降の新石器時代を中心としたテルで，複数のテル群によって構成される。各テル，各層を通じて相当数（数十基？）の土器窯が発見され，土器生産が盛んに行われていたことが判明した。製陶に関係すると指摘された遺物はないが，半円／三日月形の土製品を報告する。3号丘のウバイド層からは上部が僅かにくぼむ半円形土製品（Fig. 20. 2）が，ハラフ期の第3層からも，おなじように両端部が丸みを持ち上部が僅かにくぼむ三日月形土製品（Fig. 20. 1）が報告されており，スクレイパーと考察された<sup>7)</sup>。2点はともに土器片を再利用しているという。このほかにも多量のパレットや，骨角器，石臼などが出土した。

アルパチャ 1932年にイギリス考古学研究所が調査を行った。ニネヴェの北東数キロに位置する金石併用期の遺跡である。再調査は1976年にイラク考古総局によって行われた〔Hijara 1980〕。著名なトロス型建物を始め，

No.	長さ／差渡	最大幅	最大厚	材質	時代
1	74	28		土製	ウルク
2	120.5	34.5	13	土製	ウルク
3	128	27	13.5	土製	ウルク
4	127	26		石製	ウルク

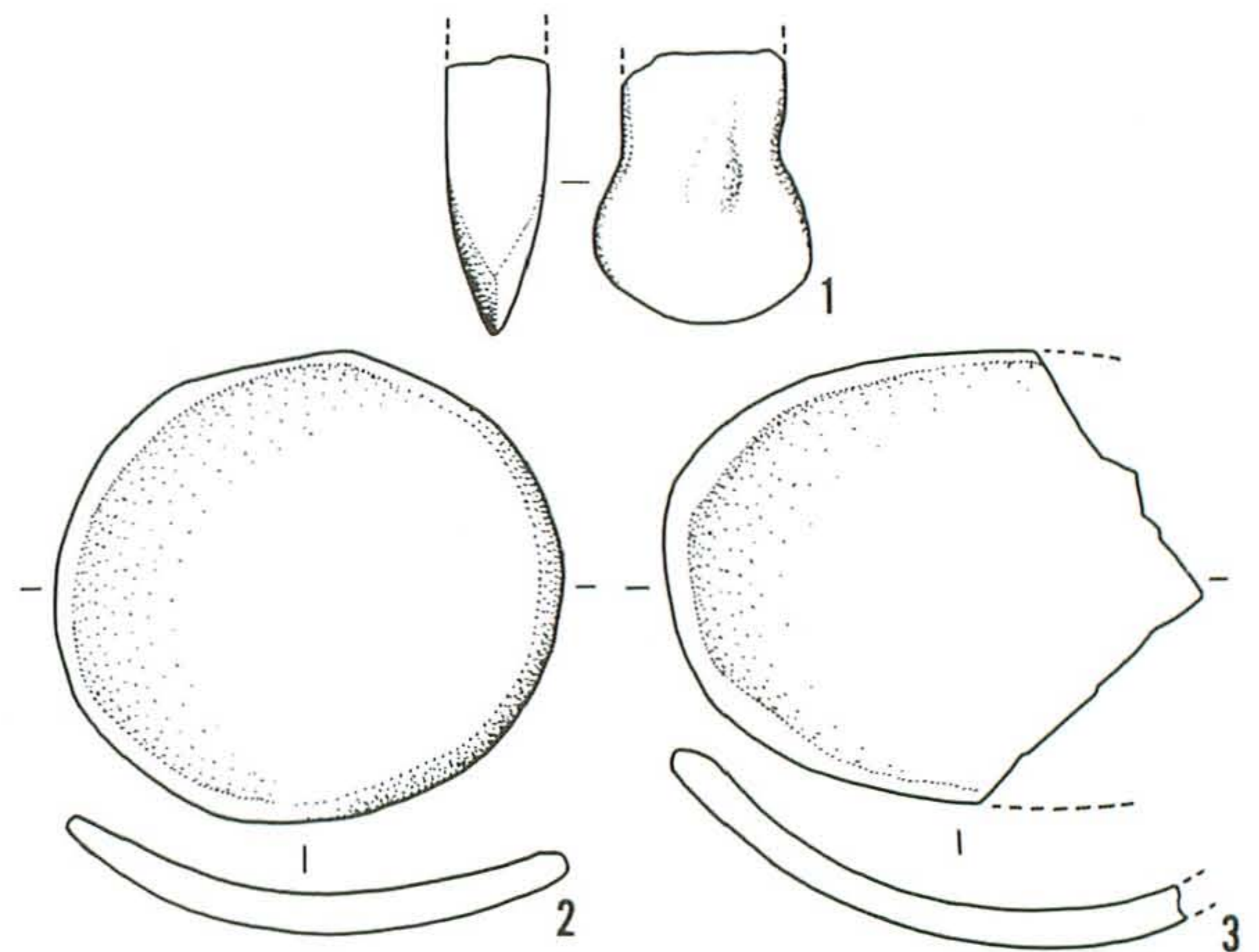


Fig. 19 Hammam et-Turkman 出土の製陶具 (1/2). van Loon ed. 1988 : Pl. 174 より

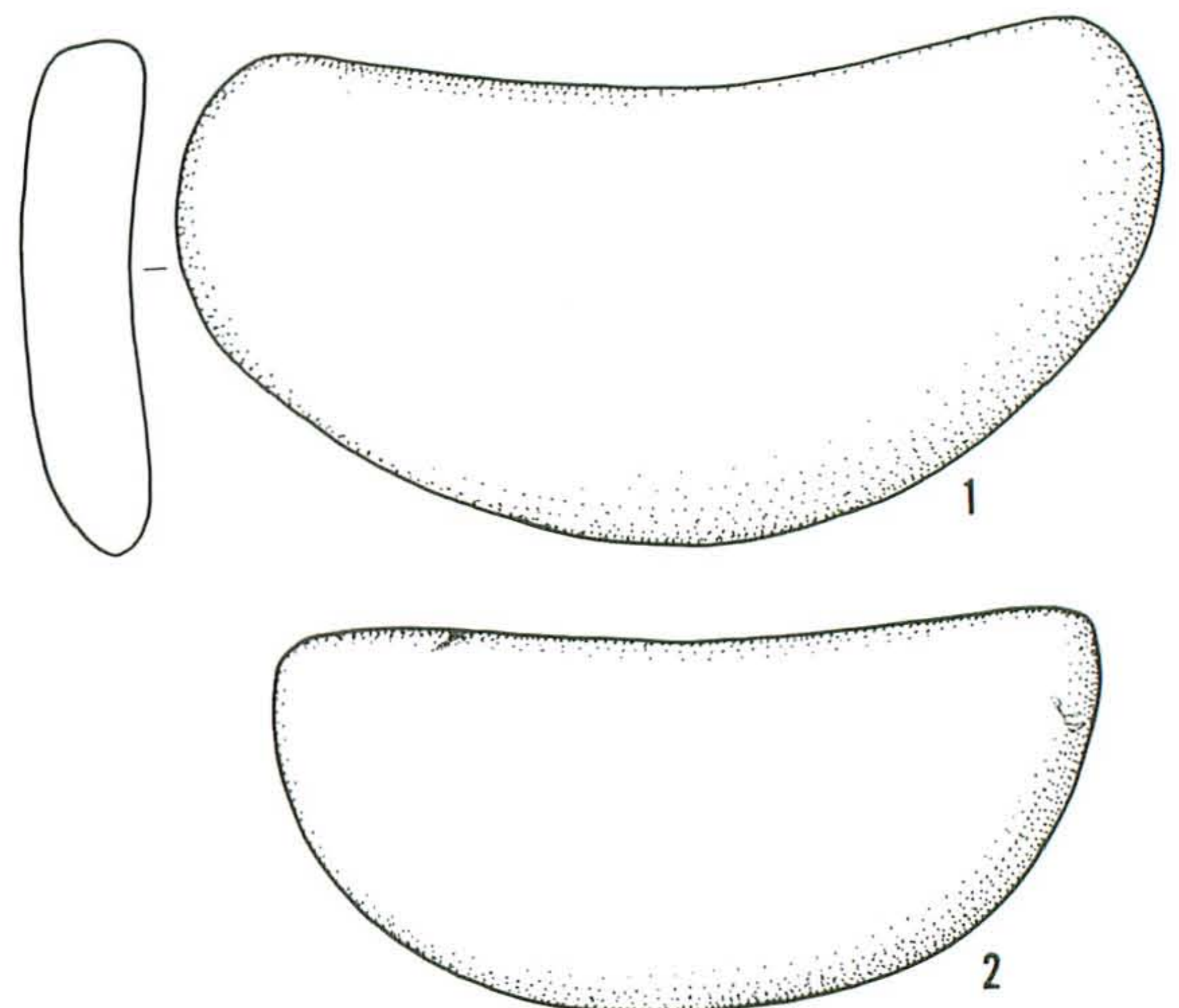


Fig. 20 Yarim Tepe 出土の製陶具 (1/2). Munchaev et al. 1984 : Fig. 8 (1), Bader et al. 1981 : Pl. 24 (2) より

No.	差渡	最大幅	最大厚	材質	時代
1	123	58	14	土製	ハラフ
2	103	47		土製	ウバイド



ハラフ期に属する TT6 レベルからは製陶工房と推定された遺構や土器窯も発見されており、ハラフ期のタイプサイトとして重要である。製陶に関係したと考えられるものとして、パレット、顔料の原石、骨製の道具が報告されている。骨製品には、パレットと推定された半円形 (1) と方形 (2) のものがあるほか、平らな磨き具3点も所収する [Mallowan and Rose 1935 : Pl. 12]。

半円／楕円形の骨製品は動物の肩甲骨利用と考えられ、土製品に共通する特徴をもつ。

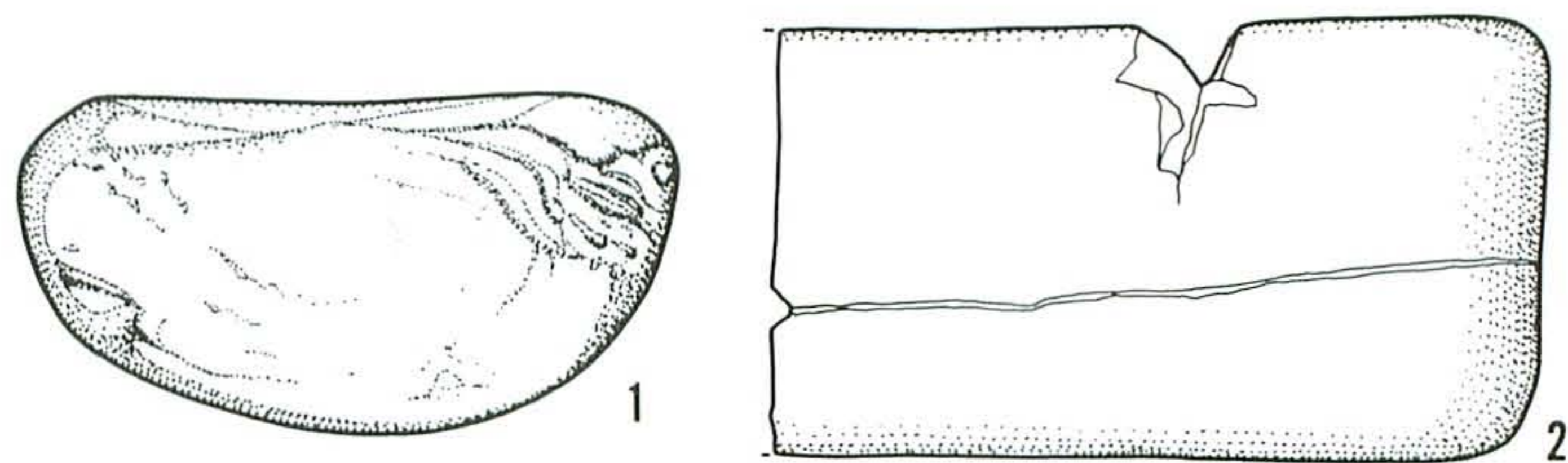


Fig. 21 Arpachiyah 出土の製陶具 (略 1/2). Mallowan and Rose 1935 : Pl. 12a より

No.	差渡	最大幅	材質	時代
1	73?	37?	骨製	ハラフ
2	(85?)	50?	骨製	ハラフ

カルケミシュ／ユヌス 大英博物館のカルケミシュ調査団が短期間発掘を行ったユヌスでは、円形で構造の異なる2種類(?)の土器窯4基以上と、灰や焼き損じた土器の捨場と考えられる大規模な竪坑が発見された。

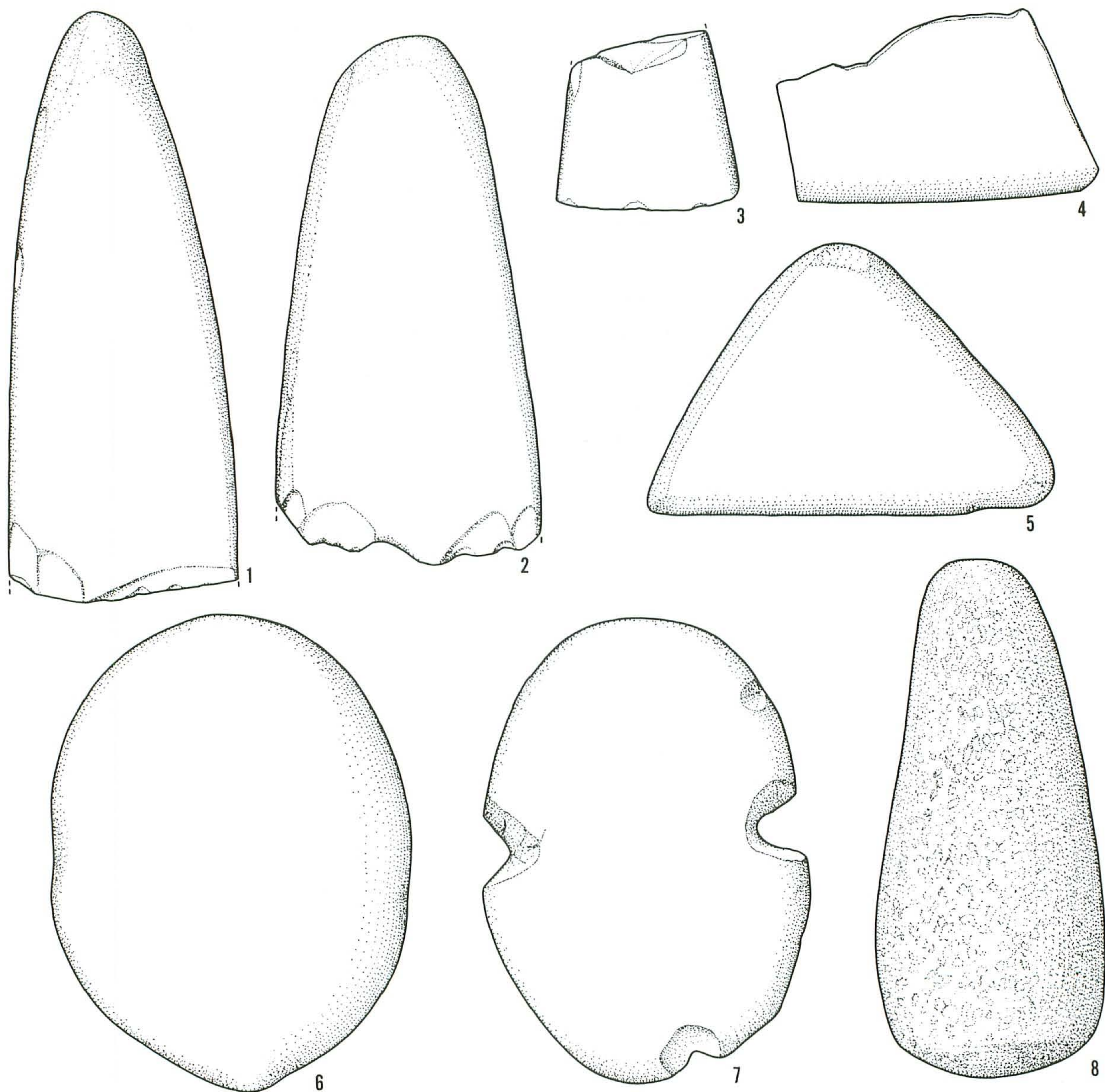


Fig. 22 Ynus 出土の製陶具 (1/2). Woolley 1934b : Fig. 2 より



製陶に関係したと考えられる道具として扁平な斧形の石器 (1-3), さまざまな形をもつ薄く平滑な石 (4-6), 粘土の mixer と推測された3箇所にかぎりのある扁平な石 (7) や, 粘土を粉碎するために使用されたと思われる石杵 (8), 大型の環石などを報告する [Woolley 1934b : Fig. 2]。なかでも扁平な斧形の道具は丁寧に磨き, 滑らかに仕上げられており, 斧としての使用ではなく「コテ」のような使用形態を想定している。報告された

No.	長さ/差渡	最大幅	材質	時代
1	(168)	65	石製	ハラフ
2	(150)	(75)	石製	ハラフ
3	(51)	52	石製	ハラフ
4	(90)	(55)	石製	ハラフ
5	115	77	石製	ハラフ
6	137	102	石製	ハラフ
7	132	93	石製	ハラフ
8	147	65	石製	ハラフ

道具のすべてが土器生産に関係したとの確証はないが, その可能性は高く, 当時の製陶具のセットを知るうえで貴重な資料を提供する。

シアルク 中央イランに位置する。1933-37年にかけて調査は行われた。遺跡は大きく北丘と南丘に分かれており, 後期ハッスーナ/サマッラ併行期頃から前一千年紀頃までの遺構が確認された。北丘のI層からは, 先端が鋭い刃状をなし, 全体を磨いて仕上げた石製の道具が出土し, 彫琢や磨き具として使用されたと考えられた (1-5)。また, 南丘IV層 (JN 併行期?) からは石製パレットと共に, 黒灰色頁岩(?) 製で長 130, 最大幅 28 mm の斧/鑿形の道具 (6) が報告されている [Ghirshman 1938 : 23]。

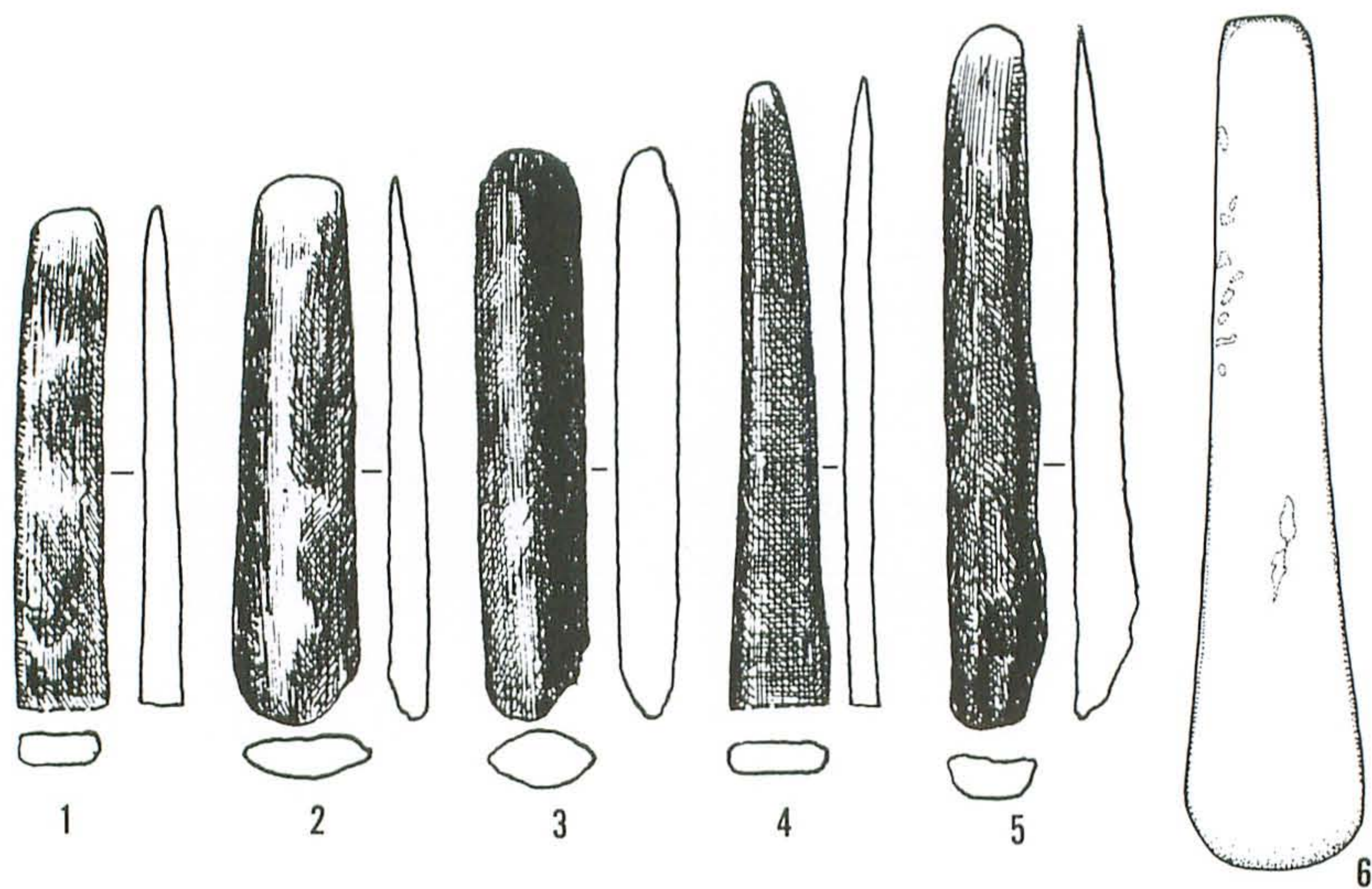


Fig. 23 Sialk 出土の石器 (1/2). Ghirshman 1938 : Pls. 28 (6), 53 (1-5) より

テペ・ヒッサール カスピ海の南東約 70 km に位置する遺跡で, 1931-32年にかけてペンシルバニア大学

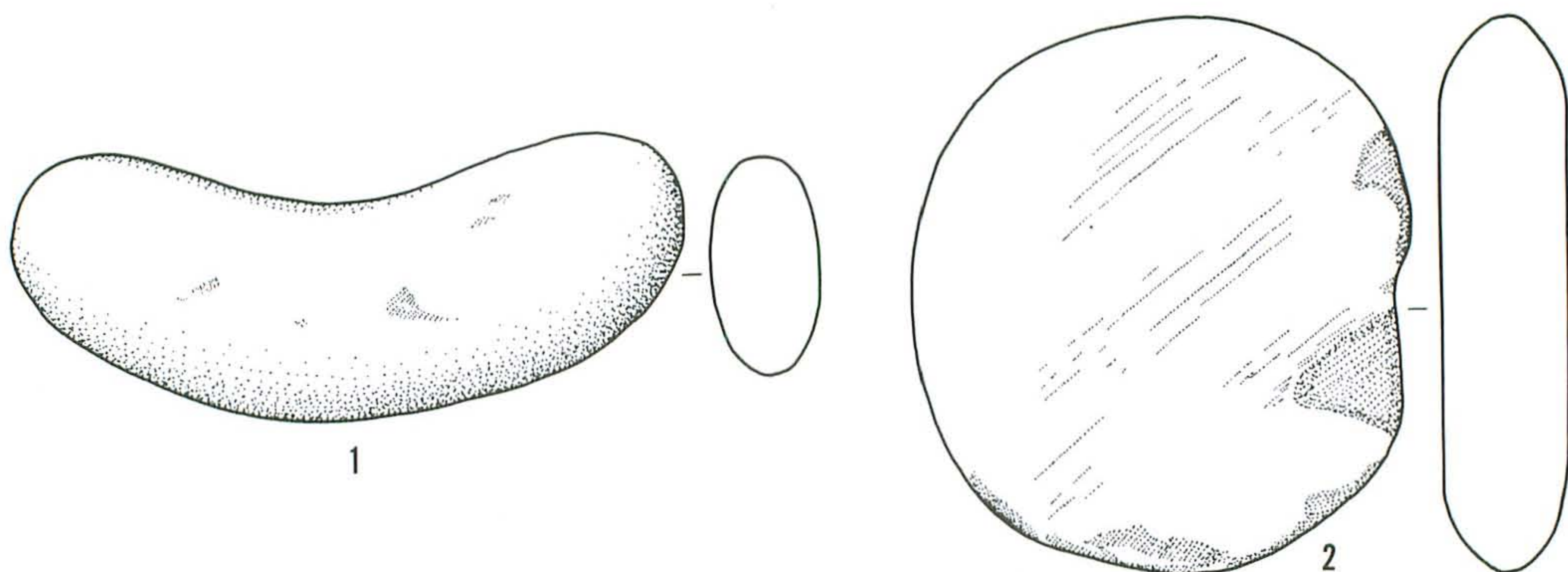


Fig. 24 Tepe Hissar 出土の製陶具 (1/2). Schmidt 1937 : Pls. 14. H2935 (1), 17. H2644 (2) より



によって調査が行われた。最下層はシアルク III-IV 層に併行すると考えられている。土器窯と考えられる遺構は確認されていないが、Ic 層出土品として三日月形土製品が (1)、I 層からは磨石 (2) を報告する。三日月形土製品は性格不明の *problematical object* として報告されて

おり、その断面は厚く丸みをもつ [Schmidt 1937: 53, 419]。磨石は円形で両面が平ら、側面は稜状となる。

No.	差渡	最大幅	最大厚	材質	時代
1	113	36	20	土製	ウルク併行期?
2	95		22	石製	ウルク併行期?

タペ・サンギ・チャハマック イラン北東部、シャールード市の北 8 km に位置する新石器時代の遺跡で、テペ・ヒッサールに位置的にも近い。1971年から隔年毎に三次にわたって東京教育大学が発掘調査をおこなった。遺跡は東丘と西丘からなり、東丘では 6 層、西丘では 5 層の文化層が確認された。東丘の 2 層以下では、建物群とともに、円形や楕円形の日干煉瓦造の土器窯複数が発見された。建物群の構成や性格も上層と下層では若干の変化が認められるという [増田ほか 1977: 6]。製陶に関係したと推定される遺物として、中心部のくぼみに赤色物質が付着した大型の石臼 (Fig. 25. 4) や、同じように赤色物質 (鉄丹) が付着する磨石 (3) の他に、彩色に使用されたと考えられる磨かれた酸化鉄塊や、アラバスター製パレット状石器の出土を報告する [ibid.: 16]。このほか特徴的な道具として、シアルク I 層出土例に酷似した磨製石斧 (1, 2) を報告する。これは報告者によって石斧 C 類に分類されており、著しく薄く細長い道具である。一般的な石斧が硬質の石を使用するのに対し、C 類のそれは泥岩系の軟質な素材を使用することから、鑿状ではあるが木工具としては不適切であると示唆する [ibid.: 12]。このほかにも骨製の道具多数が報告されており、この中には土器表面の調整具として機能したと推測されるものが多いように見受けられる。なお東

丘出土土器の表面調整としては、スリップ、研磨が一般的である。連続する土器窯の発見は、ここで継続的な土器生産—おそらく専門工人による—が行われていたことを証明している。

No.	長さ	最大幅	最大厚	材質	時代
1	142	18	7	石製	シアルク I/II 併行?
2	(42)	12	4	石製	シアルク I/II 併行?
3	104	74	50	石製	シアルク I 併行?
4	523	400?	43?	石製	シアルク I 併行?

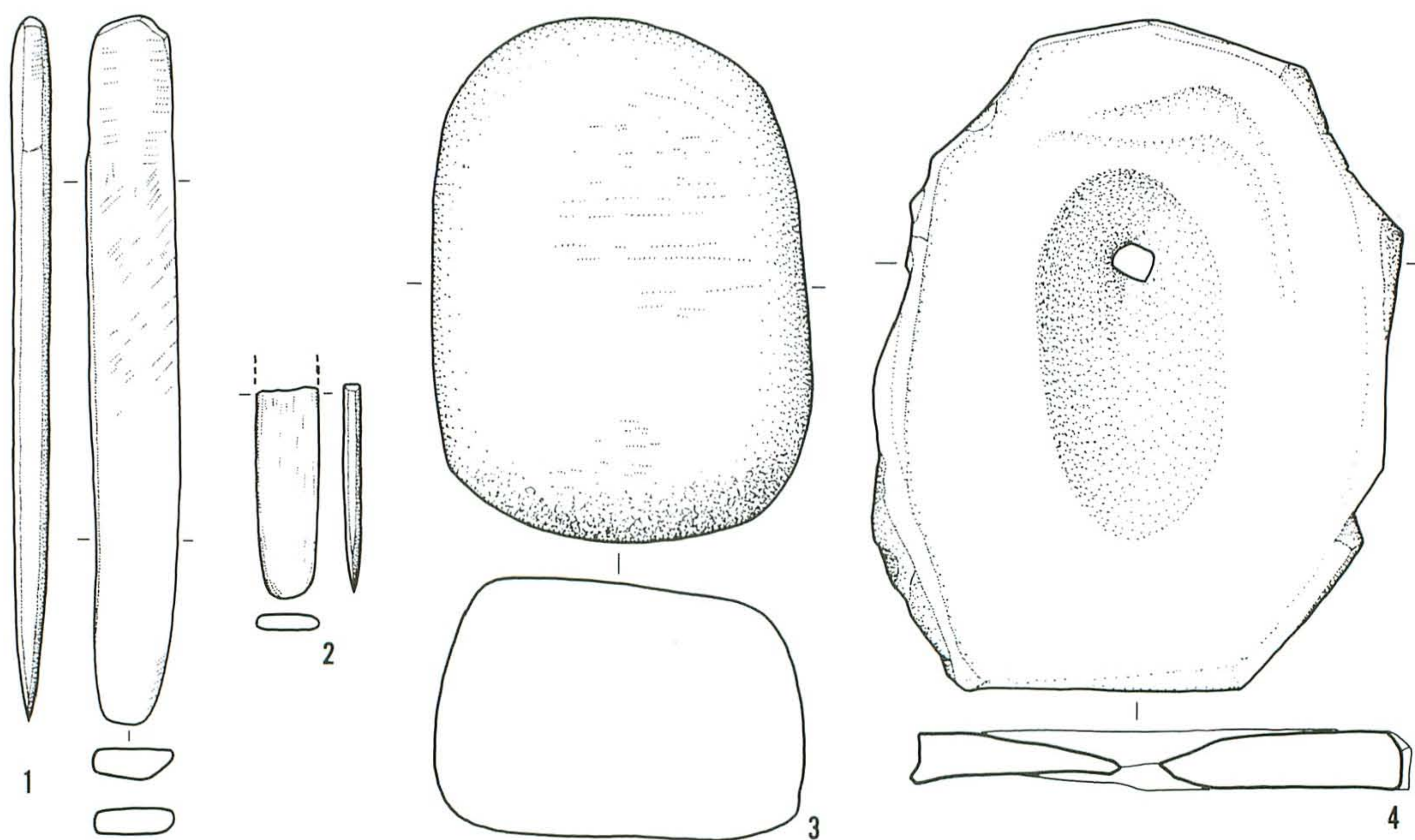


Fig. 25 Tappeh Sang-i Chaxmaq 出土の製陶具(?) (1/2: 1-3). 増田ほか 1977: Figs. 15 (1, 2), 16 (3, 4) より



テペ・ガブリストン Tepe Ghabristan テヘラン市の北西、カズヴィン平原に存在する遺跡で、テヘラン大学によって調査が行われた。II 9 層（シアルク III 4-5 期に併行）では、調査区の四カ所で製陶に関する遺構が検出され、このうちの第四番目の製陶関係遺構は、窯、工房、粘土の貯蔵施設、および居住空間を伴う本格的な陶工の家であり、輻輳と推定された土製品も出土した [Majidzadeh 1989]。報告者はこれらの工房群を、専門工人の施設と説明するが、製陶具として多量の白/乳鉢 mortar（赤色物質が付着した例もある）や、数点のパレットの出土を報告するにすぎない [ibid. : 161-165]。

ジャファラバード フランスの調査団によって1967-71年にかけて調査が行われた。スーサの北約 7 km に位置する小丘で、メソポタミアのウバイド期に相当する 5 層の文化層が確認された。第 3 層では、比較的小規模であり統一性のない泥土造の建物群とともに、5 基の円形窯が発見された。このうちの 1 基は中央広場の端に、他の 4 基は建物群の西側の狭い範囲に集中して構築されていた [Dollfus 1971 : 26-27, Fig. 8]。製陶具として報告されたものはないが、扁平で側面がカーブし、長楕円形の平面をもつと考えられる板状の土製品 2 点 (Fig. 26. 1-2) と、細く厚い柄部と幅広く薄い先端をもつと思われる土製の道具 (3) が所収してある。長楕円形の道具は柄杓 cuiller と推測されており、共に精良な胎土を使用して、ほぼ同じ大きさに整え、側面や小口部は丸みを持たせて仕上げている。なかでも No. 1 には研磨が施してある。鍬/篋形の道具 (3) も cuiller の破片と考えられており、精良な胎土を使用し、スリップをかけ、表面を研磨して仕上げる [ibid. : Fig. 20]。

ここで図示した 3 例の他にも、3 層からは石製や骨製の様々な道具が出土しており、その組合せは既述したユヌス出土例のそれと共通点が多いようにおもわれる。しかし、個々の道具をして製陶具に比定するには問題が多すぎる。また、3 層で検出された構築物のいくつかは、製陶工房の可能性があるが、どの施設をもって工房とするかも、問題を多く孕んでいる。ここで明言できることは、この調査区が土器製作を含む生産区域として利用されていたことである。

No.	長さ	最大幅	最大厚	材質	時代
1	(90)	55	12	土製	ウバイド併行
2	(100)	56	13	土製	ウバイド併行
3	(90)	(65)	26	土製	ウバイド併行

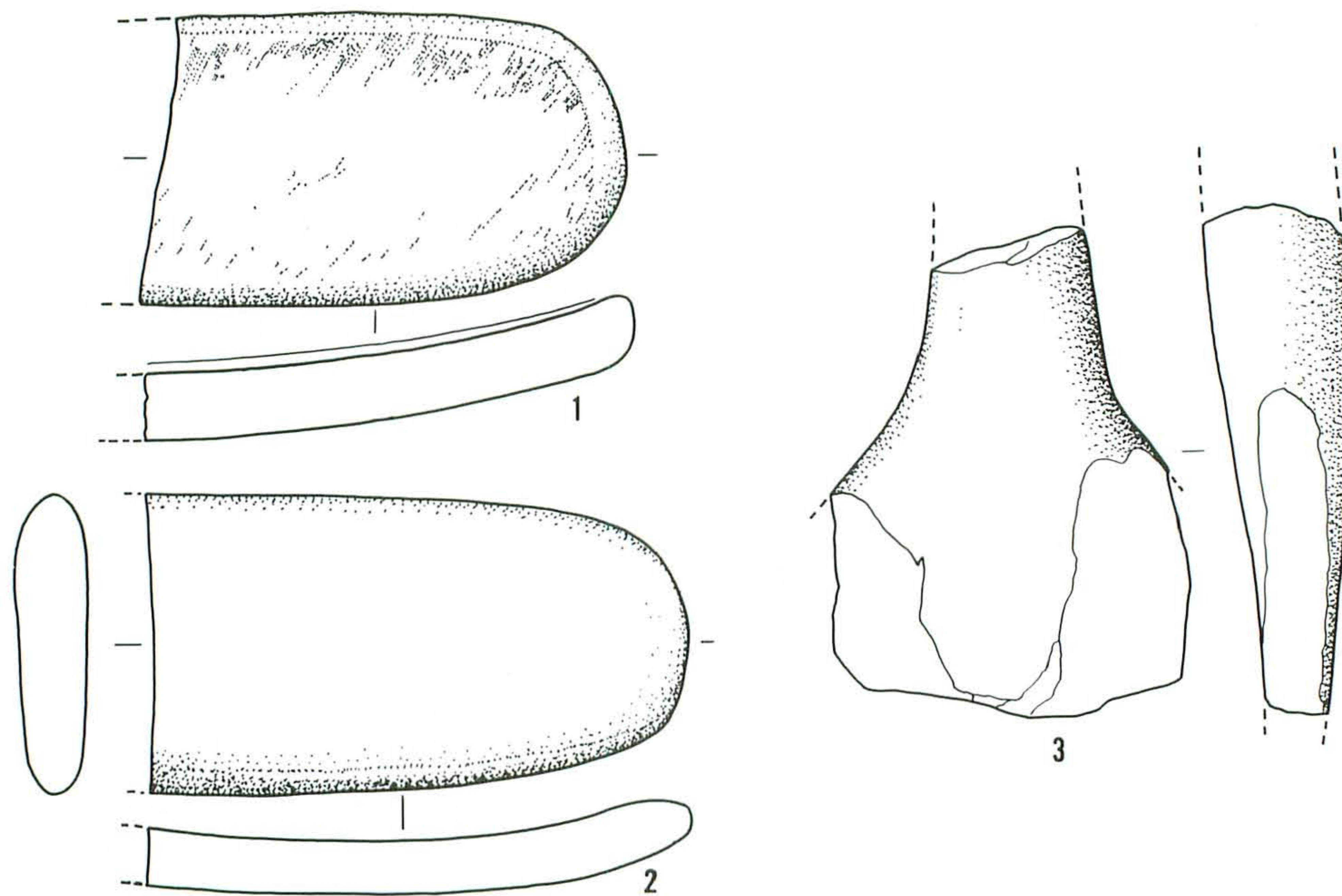


Fig. 26 Jaffarabad 出土の製陶具 (1/2). Dollfus 1971 : Fig. 20. 9-11 より



ブラウ・モニュメント 大英博物館が収蔵する 'Blau Monument' は出土遺跡がはっきりしないものの、文字の特徴や描かれた人物像から、ウルク IV/III 層頃 (ウルク後期/JN 期) の遺物と推定されている。表・裏面には浮彫にした神官王(?) 工人などを配し、余白部に文字を線刻する。工人は石製容器を製作しているとする解釈や [Frankfort and Davies 1971 : 88], 製品自体を製陶器と推測する意見もある [マロワン著, 杉 訳 1970 : 65]。黒色の石を使用し半円形に全体を整え、縁部を滑らかにした後で人物・文字を刻む。弧部分はなだらかに丸みを持たせて仕上げ、直線状をなす部分は稜を形成する (Fig. 27b)。差渡 158, 最大幅 74, 最大厚 14 mm を計測する。おそらくこの道具は、稿末に付した鑿/鏡形の道具 (Fig. 61) とともに、実用のためでなく象徴的な意味を持たせて製作されたものと考えられる。文字は解読されていない。

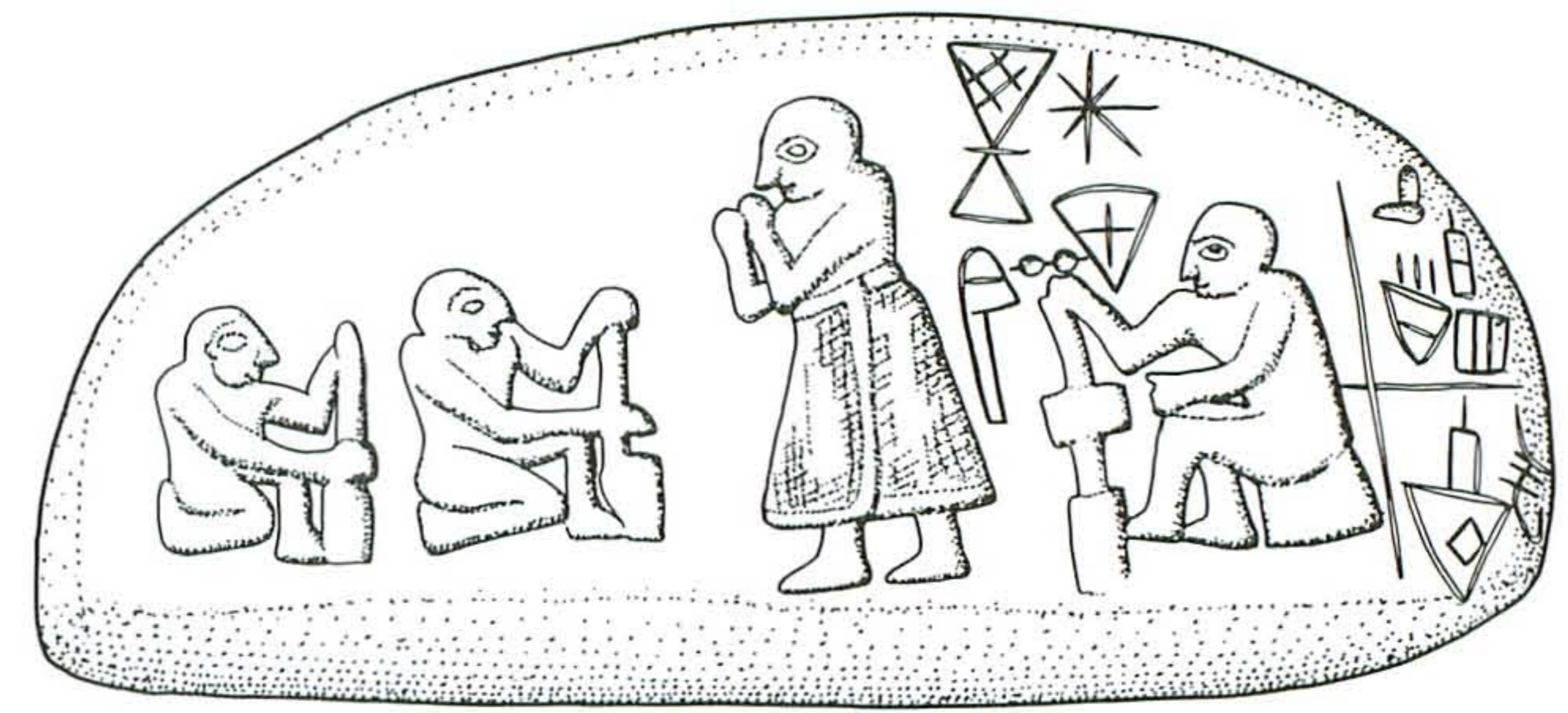
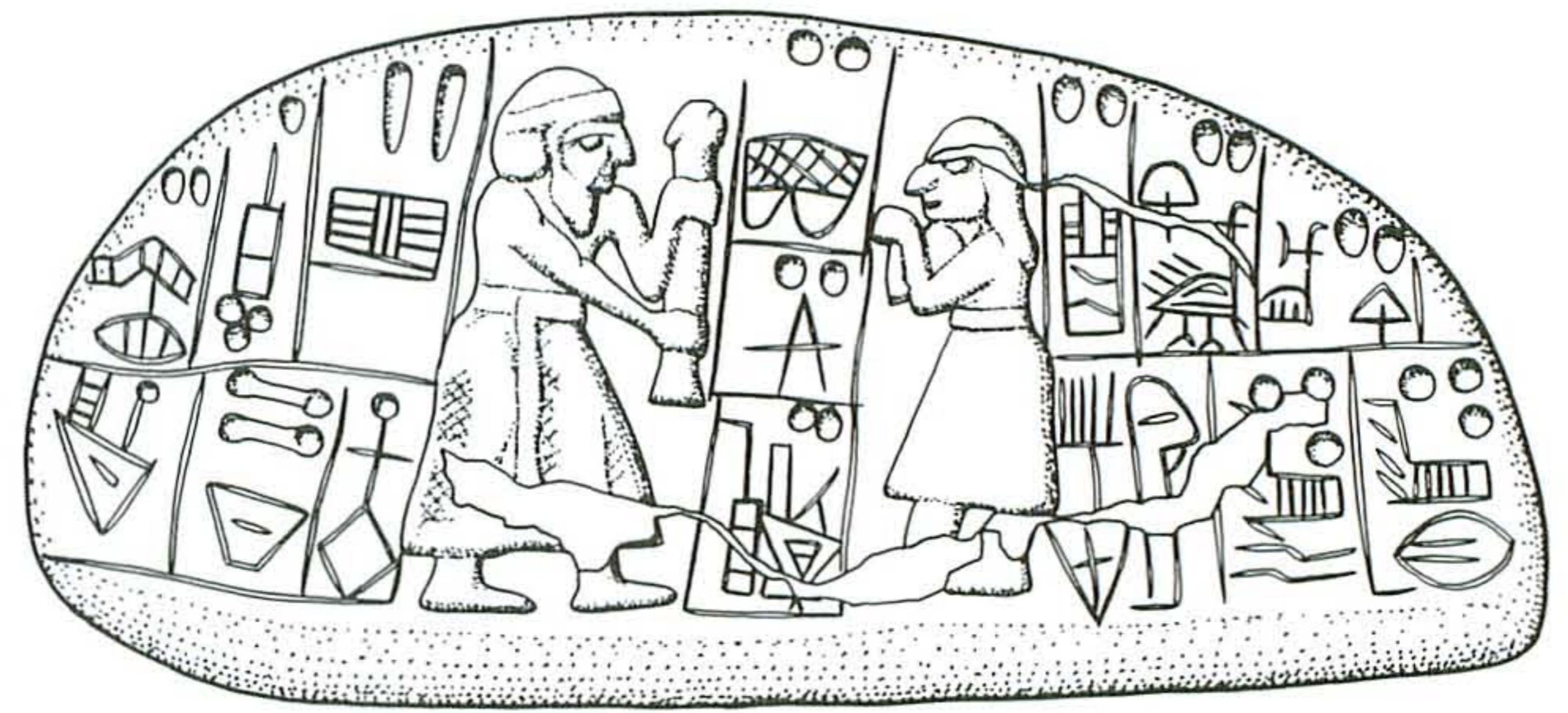
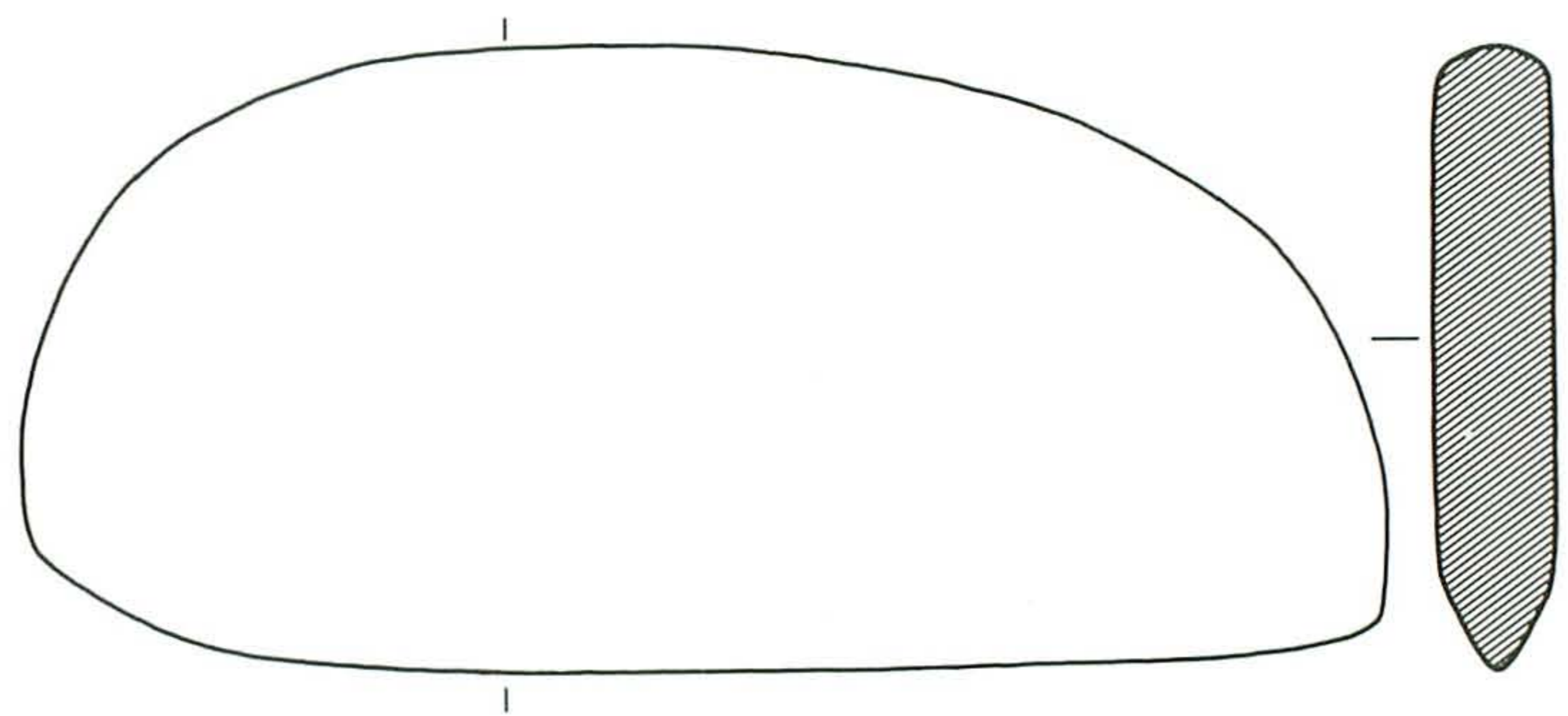


Fig. 27 'Blau Monument' (1/2). Amiet 1977 : Nos. 232, 234 より

Fig. 27b 'Blau Monument' 実測図 (1/2).  
Courtesy of the British Museum,  
drawing by Ms. Anne Searight



印章関係 印章関係の遺物には前 4 千年紀後半/終末頃の製品に、しばしば土器製作の情景を描いたと考えられるものがある (Fig. 28. 1-4) が、道具まで判別できる資料となると少ないと言わざるを得ない。これらの中で Fig. 28. 4 は高い台状の器物の上に土器が表現されていることから、このモチーフを回転台もしくは低速の轆轤と解釈する研究者もいる。ウルク後期-JN 期頃の遺物と推定され、ドリル技法によって図像を描いたものの中に、さげ髪の女性 pigtailed woman が諸々の生産労働に関係して登場し、土器製作場面もその一部として表現されていることは興味をもたれる (Fig. 28. 5)。

アッカド期の印章資料には、土器生産/陶工を描いたと考えられるものが多くある (Fig. 28. 6-10)。これらの殆どは、紀元前 2800-2700 年頃の実在の人物と考えられ、羊飼からキシユの王になったエタナ Etana に関する一連の神話として表現されている。それは通常、鷲に乗って空に昇る人物 (エタナ) と、それを見上げる羊飼およびその番犬、柵などで構成され、上部の余白には必ずといって良いほど、大型土器と共に何らかの作業をする人物が描いてある (6-10)。印章の研究者 Porada は、エタナ関係印章のうち、少なくともいくつかの例は土器を製作する情景を描いたと推測し、大型土器の付近に整然と配された環状のモチーフ (6-8) は、紐土成形するために予め用意された粘土群の可能性が高いと示唆した。また土器に接した環状品の解釈として、これは装飾を行っている場面であると指摘した [Porada 1984 : 21-23]。Alden は Porada の説を引用し、この円形の表現



は環状スクレイパーそのものであると解釈した〔1988：145〕。

Porada の薫陶を受けた Collon は、これは土器生産に関係する情景ではなく、これまでの解釈どおり、環状のモチーフはチーズの乾燥を示し、人物と共に描かれた大型土器は攪乳器 churn として乳製品の加工に使用されたと解釈した。特に大型土器のいくつかには、口を蓋したもの (6, 9, 10) が存在すると指摘する〔Collon 1982：78-80〕。

このようにエタナ関係の印章資料の解釈は、はっきりした定説を見ていない。これらのいくつかが土器生産を表現した可能性もないではないが、大型土器の口縁部に表現された蓋(?) と、その先端からのび胴部に達する道具 (9：Collon はストッパーと考えた) など、解決されなければならない問題もある。

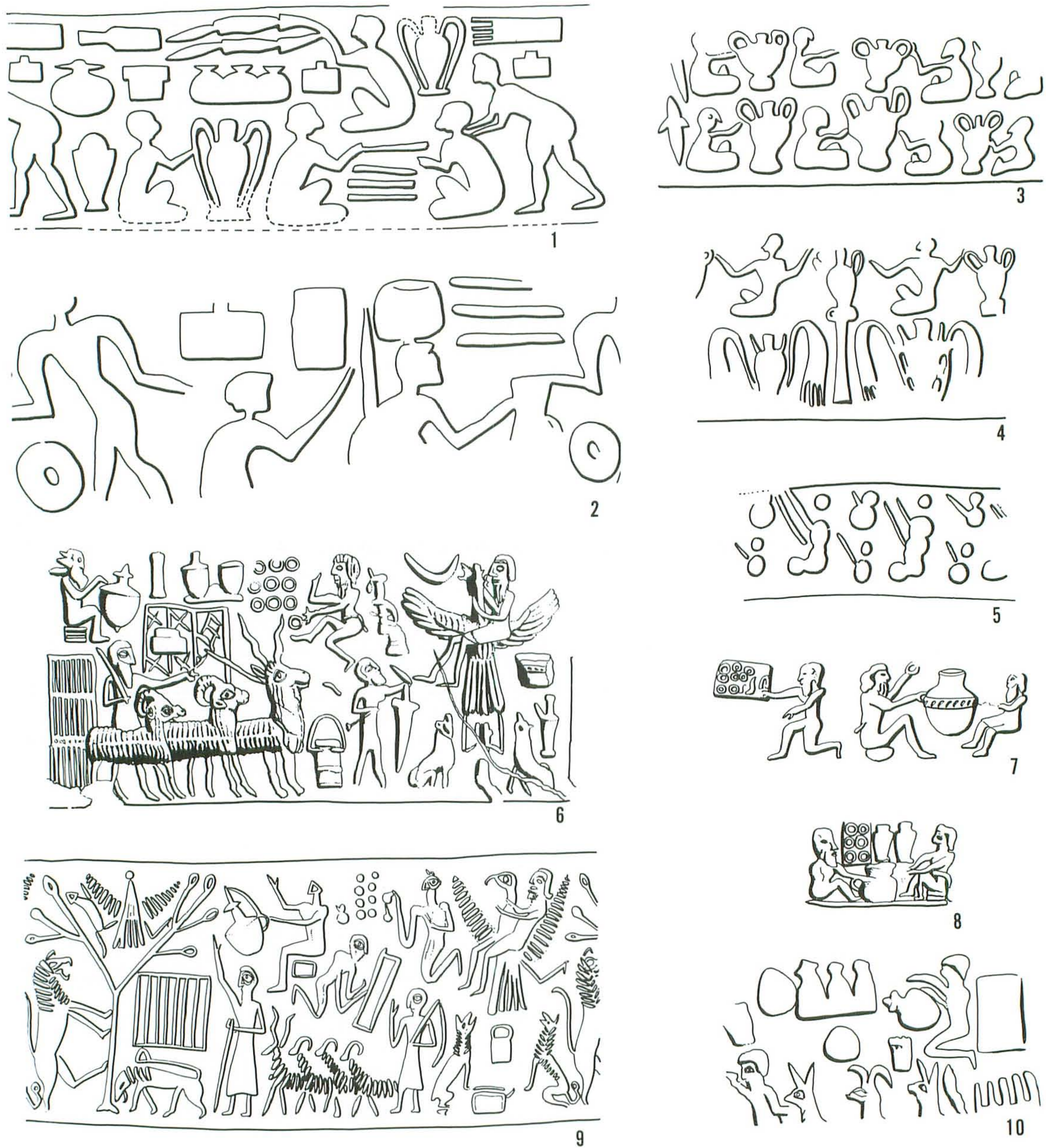


Fig. 28 土器製作を表現した(?) 円筒印章印影 (1/1). Susa 出土円筒印章印影 Amiet 1972 : Nos. 646 (1), 654 (2), Amiet 1980 : Nos. 262 (3), 264 (4), Gubba 出土の円筒印章印影 (5), アッカド期の円筒印章印影 Boehmer 1965 : Nos. 693 (6), 695 (7), 703a (8), Collon 1982 : Nos. 151 (9), 153 (10) より (Nos. 7, 8, 10 は印影の部分のみ)



## 製陶具の分析

形態分類 (Fig. 30) 出土した製陶具と考えられる遺物を、その平面形を基準に8分類する。

タイプ1：半円形を基調とするもの。

2a：三日月形を基調とするもの。

2b：三日月形を基本形とするが、上部の切れ込みが深く端部は丸みをもち、ブーメランに近い形のものもある。

3：斧／鑿形で基部が細く、広がった先端に刃をもつもの。

4：平面形は多様であるが、側面が湾曲するもの。

5：楕円・長楕円形を基調とするもの。

6：円形を基調とするもの。機能的に1類：磨き／擦り具、2類：パレット、3類：扇／円盤状スクレイパーのサブタイプを設定する。

7：方形・長方形、三角形など。

8：いわゆる「環状スクレイパー」である。

各タイプは必ずしも明瞭に画しえない。特にタイプ1と2a, 2aと2b, 4と5は中間形態のものが多い。このほか将来的には石臼, 石杵, 打製・磨製の石製品, 骨製品などのタイプ分けが必要であると考えている。

材質 土製品が主で、石製品および骨製品が存在する。タイプ1：土製, 骨製と「ブラウ・モニュメント」の石製がある。タイプ2：1点の石製品 (Fig. 1. 1) があるほかは専ら土製品。タイプ3：土製と石製品があり石製品では緻密な黒色系の石が使用される。タイプ4：土製品のみ。タイプ5：土製と石製。タイプ6：おもに石製品。タイプ7と8：土製品に限定される。

法量 (Fig. 29) タイプ1：最大例 158 mm から最小例 66 mm までがあり、大きさに統一性があるとは思われない。土器片の再利用が可能のため、さほど大きさにはこだわらなかったとみてよからう。

タイプ2：差渡の最大は 123, 最小は 74 mm。幅は最大 58, 最小 28 mm である。完形で残る19点の平均値は差渡 99 mm, 最大幅 40 mm となり、著しく大型の製品や小型のものは存在せず、全体的に平均した大きさである。なお、計測値のはっきりしないウル出土の3例を Fig. 29 中に白ヌキ円で示した。

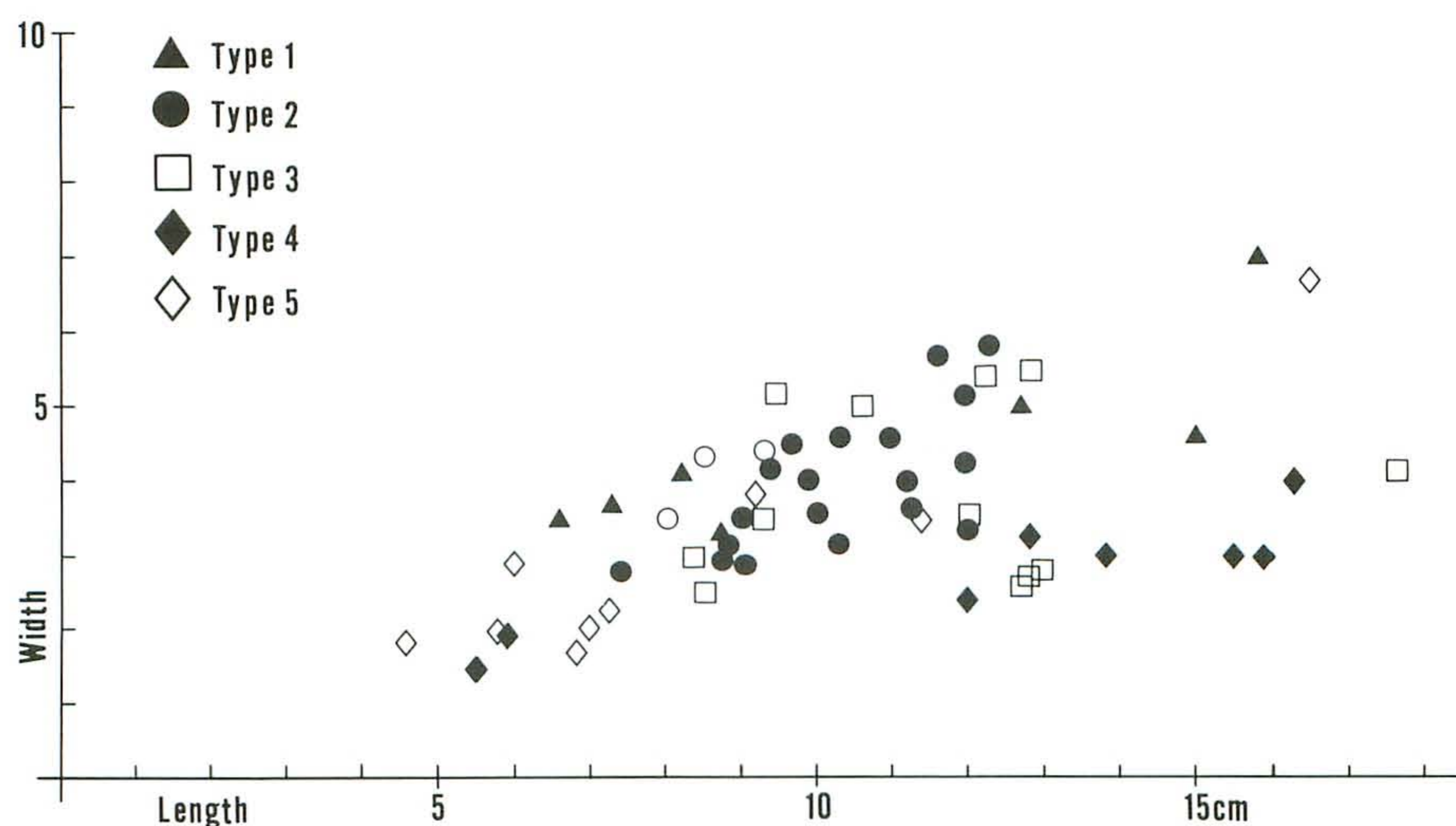


Fig. 29 製陶具 (タイプ1-5) の計測値







タイプ3：完形で遺存するものが少ないためはっきりしたことは判らないが、長さは177-85、幅は50-25 mmの範囲内にある。大きく100 mm以下の製品と120 mm以上の製品に二極化するようであり、このうち大型は手に握って使用するだけの長さが確保されている。ハブーバ・カビーラ例 (Fig. 18. 3, 4) と、シアルク例 (Fig. 23. 6) がほぼ同じ値であることは興味深い。

タイプ4：個体差が大きい。しかし、アスマル出土例に限ると長さ148 mm、幅33 mmが平均値となる。タイプ1-3と比較すると細長い道具であることが図からも判明する。破片出土のジャファラバード例の最大幅は、ともに55 mm以上である。おそらく完形品はアスマル例に近い大きさであったと推測される。

タイプ5：ガウラ例 (Fig. 15. 1, 2) に代表される小型のグループと、ヌジ出土例 (Fig. 11. 3) のように極端に大きいものが存在する。

タイプ6：個体差が大きいが手のひらにのる程度の製品が中心をなす。

タイプ8：径80-120 mm、高さ14-32 mmのものが多いとされ [Alden 1988: 143]、極端に大きいものや小さいものは存在しない。グッバ出土例は径約80 mm、高さ20-25 mmであった。

分布状況 (Fig. 31) 限られた資料を使用している分析であることを始めに断ったうえで、タイプ別の分布状況を観察してみる。

タイプ1：サラサート、アバーダ、スーサを結ぶ線の東側にあり、ザグロス山脈に沿った分布を示す。「ブラウ・モニュメント」が製陶具で、しかもウルク出土ということであれば [Amiet 1977: 445]、分布圏は南メソポタミアまで拡大することになる。

タイプ2：ウルを南限、スーサを東限とし、グッバに達し、ハブーバ・カビーラに及ぶ。カスピ海に近いヒッサールでも確認されたことから、メソポタミア低地との間にあるザグロスの高山地帯にも確実に存在するはずである。サラサート例 (Fig. 17. 1) は、ヤリム・テペ出土例などから推して当該種の可能性が強くなる。

タイプ3：ウルク、ウル、スーサ、シアルク、サンギ・チャハマックなど、イランからメソポタミア低地にかけての範囲に中心が存在するようで、ハムリン山脈内グッバ以北の、いわゆるクルディスタン地方からは現時点での報告はない。しかし、ユーフラテス川中・上流域のハブーバ・カビーラに、類例が存在する事実は無視できない。

タイプ4：メソポタミア低地 (シュメール・アッカド) と、ジャファラバードに存在するものの、検出例は少なく、はっきりした分布圏を示すまでにはいたらない。

タイプ5：スーサとガウラ/サラサートを結ぶ線に沿い、ザグロス山脈の前山地帯で確認され、南メソポタミアのウバイド期にも存在する。

タイプ6：1類はグッバ、サラサート、アバーダ、ファラ [Martin 1988: 57, Fig. 206] などで確認されている。これは単に報告例が少ないという問題だけであろう。2類のパレットは彩文土器の分布圏すべてに存在すると考えてよいが、ある程度の地方色や時代差を考慮する必要があるであろう。3類は北メソポタミアからシリア (ムシャリファ、カシュカショク、ジャバル・アルーダを結ぶ線)、レバント、パレスティナ、シナイ半島までの新石器時代-前期青銅器時代の比較的早い時期に集中しており<sup>8)</sup>、南メソポタミアでの出土例を知らない。

タイプ7：ガウラ出土例のみであることからタイプ5のヴァリエーションのひとつとも考えられる。三角形はユヌス出土例のみである。鑿/籠形のブラウ・モニュメント (Fig. 61) もこのタイプとしてよからう。

タイプ8：南西イランから地中海沿岸までの広い分布圏をもち [Alden 1988: Fig. 1]、ユーフラテス川上流



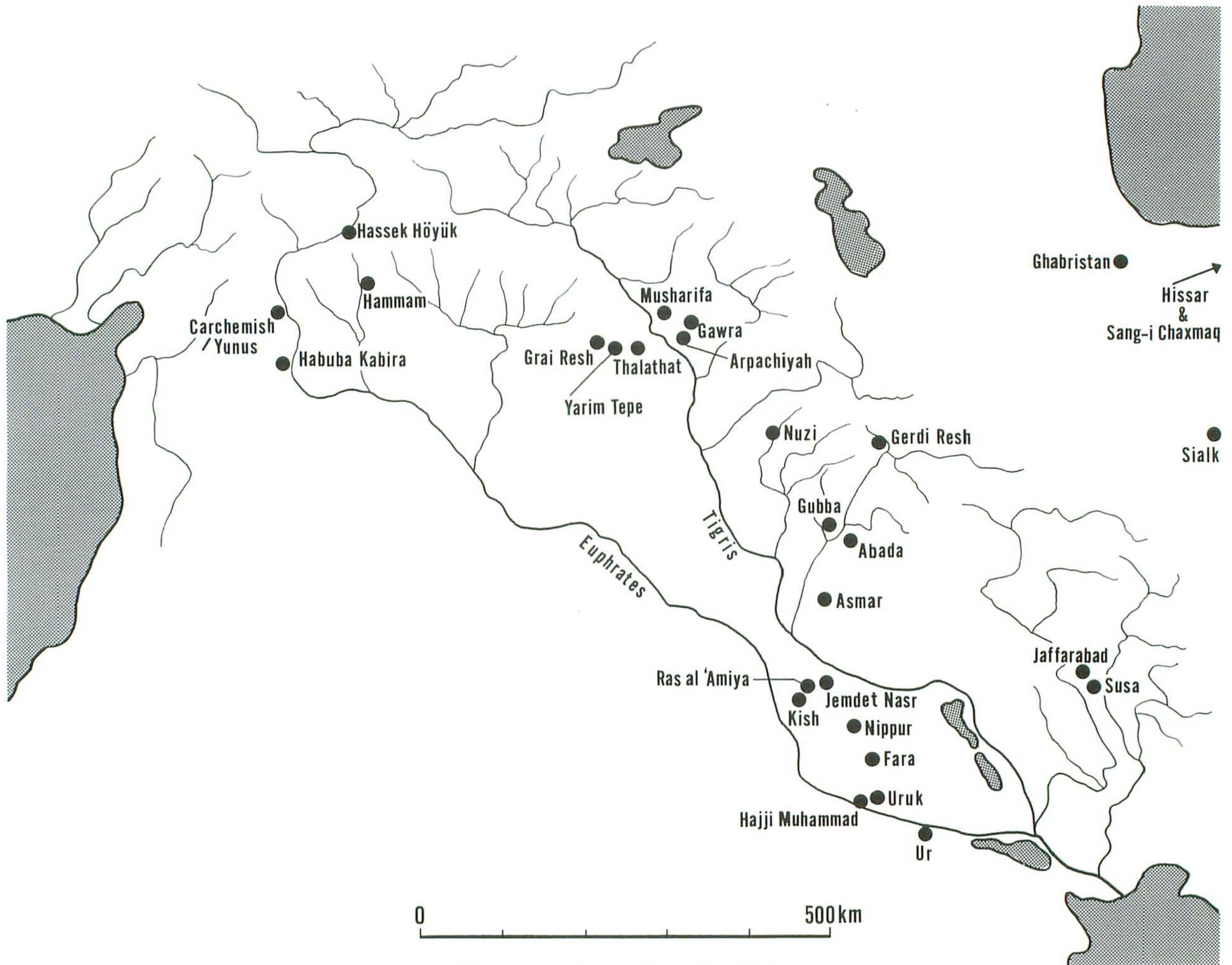


Fig. 31 製陶関係遺物の出土遺跡

域でも出土が報告されている [Behm-Blancke 1982 : abb 24 ; Algaze 1986 : Fig. 4]。

Fig. 31 中に各タイプの分布圏を線で囲もうとしたが、範囲の広大さに比較して道具の報告は限られており、分布圏の線引きは無理と判断せざるを得なかった。タイプ2・3や8の広い分布が示唆するように、製陶具はセットで使用されたと考えられ、あるタイプの道具が発見されれば、それに付随して必ず別の道具が存在したにちががなく、調査の進展次第では各タイプの分布圏の拡大は明白である。特にこれまで比較のおろそかにされた石製品、なかでもタイプ6などは広範囲に確認できるであろうし、タイプ2や3は全メソポタミア平原に分布が拡大すると予測できる。タイプ1と5は山麓地帯に沿って確認されているが、その分布圏は更に拡がり、とくに北西方向への展開が予測される。またタイプ4に関しても報告例が少ないというだけで、限定された範囲に留まる道具とは考えられない。現在盛んに調査が行われているハブール川やバリフ川流域の遺跡は、これらの資料の不備を補ってくれるものと期待している。このほかメソポタミア低地に関しても、道具に視点を据えた発掘と、これまでの出土遺物の再調査は当然必要になってこよう。

時代的変遷・系譜 (Fig. 30) タイプ1の祖型と考えられる骨製の道具がアルパチャのハラフ期には存在しており (Fig. 21. 1), ウバイド期に連続する。それ以降ではスーサのアクロポリス出土の帰属年代のはっきりしない2例や、グッバ出土の骨製品があるが、現状ではED I期以降の出土例はない。初期の例が示すように土器片の再利用が可能のため手軽に製作でき、今後、時・空間的な広がりを見せるものと期待される。同じような形態の骨製の道具がどの程度の頻度で発見されるかにもよるが、骨製の道具がヒントになって、土製の当該種が



くられた可能性は否定できない。使用目的のはっきりしない「ブラウ・モニュメント」のうちの半円形の製品は、形態的特徴から判断すればこのタイプに属し、時期的にもウバイドと ED I 期の中間に位置づけられる。

タイプ 2 の道具は北メソポタミアのハラフ期には存在しており、ウバイド期に連続することが判明した。ハラフ/ウバイド期の例は、上部が僅かにくぼみ両端は丸みをもち、長楕円形と三日月形の間形と言えるものである。上部のくぼみが次第に深くなり両端が尖り気味に終わるものは、現状ではハブーバ・カビーラのウルク期を嚆矢とし、ED I 期頃まで確実に存在する。これとは別に、上部の切れ込みはさほど深くないが、両端部の上部が角状に突起する例がゲルディ・レシュやスーサで確認されている。このほか第 4 のタイプとして、両端の突起も無く上部の切れ込みも深いものが存在しており、ウルク期頃には形・厚さなど不安定さが目立つ。しかし 2b タイプは ED 期頃には斉一的となり、ED II-III 期頃では上部の切れ込みが深く裏面の平らなものが主流を占めるようになる。アッカド期以降では三日月形とするよりも、むしろブーメランに近い形のものが趨勢となる<sup>9)</sup>。つまりこれらの道具は、初期には専ら 2a タイプが使用され、ウルク期頃の 2a, 2b 併用期を経て、最終的には 2b タイプのみが残存したと考えられるのである。スーサ出土例 (Fig. 7. 3) がこのタイプとすれば、孔を穿つ製品も存在したことになる。

形態のみに限れば、ヤリム・テペ 2 号丘出土のフリント製の半円形スクレイパー [Merpert et al. 1981 : Fig. 12] や、シャガル・バザルのハラフ層出土例 [Mallowan 1936 : Fig. 6. 4] などは何らかの関係を窺わせるようにもみえる。ところがハラフ期には、既に述べてきたようにタイプ 1・2 に代表される半円/三日月形土製品も存在することから、これは使用対象の差を示している可能性がある<sup>10)</sup>。

ところで、スーサとウル出土の 4 例に陶工印と考えられる線刻が伴うことは注目できよう。陶工印(?) を記した製品は既にウルク期以前に存在しており、土器や [江上 1958 : Fig. 49 ; Lloyd 1940 : 18 ; Oguchi 1987 : Fig. 55 ; Behm-Blancke 1982 : abb 24 ; Potts 1981], タイプ 8 の環状スクレーパー [Alden 1988 : Fig. 2], およびタイプ 2 の道具に限って確認されている<sup>11)</sup>。このことは、タイプ 2 と 8 が製陶具として使用されたことの傍証たりうるといえまいか。

タイプ 3 の先行形態と思われるものが既にハラフ期には存在するが (Fig. 21. 1-3), それらに刃が伴ったかどうか不明である。ウルク後期以降 JN-ED I 期までの例は形も統一され、先端部の形状から、大きく広がる刃部をもつものと、柄の基部から刃部にかけて直線的な広がりをもつものに細分が可能である。しかしながら断面形に大きな差は認められず、機能は同一であったとみなしうる。推測されるその初現もはっきりしないが、ここに興味ある例が存在する。メソポタミアから遠く離れた中央イランのテペ・シアルク北丘 I 層からは、石製で鋭い刃をもち、側面が磨かれた薄手の斧/鑿形石器 (Fig. 23. 1-5) が出土しているし、東北イランのサンギ・チャハックでも同じような道具が発見された (Fig. 25. 1, 2)。ハムリン盆地のアバーダではウバイド期の stone chisel とされる細長い石製品や [Jasim 1985 : Fig. 78], unretouched hoe とされ、丸く整った先端と細くやや厚い柄部をもつ道具が報告されており (Fig. 12. 4), 後者はタイプ 3 の土製品に酷似する。このように断続的ではあるが、同一機能とみなしうる道具の存在が明らかになりつつある。ただ、僅かの資料をもって系譜の連続性や、何らかの関係を言及するには慎重にならざるを得ず、今後の類例の増加を期待したい。ED 期以降の出土例がないことは使用の途絶を意味するのではなく、むしろ新素材 (銅) を使用して道具の製作が継続されたと考えるのが妥当であろう。

タイプ 4 の最古の例としてジャファラバード 3 層出土例 (Fig. 26. 1-2) があげられる。またタイプ 5 との中間



形態をもつラス・アル・アミヤ例 (Fig. 13) も、その断面形は僅かにカーブしており、法量や形態はタイプ 4 に共通する特徴を有するようである。この観察が当を得たものであるとすれば、メソポタミアとスシアナ平原で、ほぼ同じ時期に同じ道具が使用されていたことになる。しかしそれ以降の例としては、ウル出土例とアスマルのイシン・ラルサ期のものが報告されているにすぎない。破片状態で出土すると道具の全体像を把握するのが困難なこともあるが、今後出土例は確実に増加すると期待できる。

タイプ 5 はハッジ・ムハンマド例やラス・アル・アミヤ出土例が示唆するように、ウバイド期の比較的早い時期から使用され、ED I 期まで継続するが、その中間を埋める資料は多くない。時期的にも降るカッシート期に当該種が存在することから、相当長期間継続使用された道具とみて大過ないだろう。カッシート期の大型製品はタイプ 4 との関連で注目できよう。

タイプ 6 については機能上の問題も多く、将来的には小分類した 1 - 3 類を独立させるべきであると考えている。1 類については多量の出土が報告されたサラサート 2 号丘例が参考になる。ここでは径 4-7 cm 程度の平らな丸石 32 点が確認された。XIII 層 3 点、XIV 層 16 点、XV 層 6 点、XVI 層 2 点、不明 5 点であるという〔深井・堀内・松谷 1970: 109〕。このことから新石器時代の古い段階から使用されていたことがわかる。そして ED 期やニネヴェ 5 期には確実に存在することが確かめられているが、その前後の使用に関しては多くの例証に当たっておらず、今後の課題としたい。このほか土器片を利用して円形に整え、側面・円周部をおもに使用した道具との関係など、今後解明されなければならない問題もある。

パレットは新石器時代以降の多くの遺跡で確認されており、比較的早い段階に両縁付の定型化したものが出現する〔常木 1986: 93〕。前 4 千年紀後半以降、彩文土器使用の衰退と相まって、パレットの簡略化がおこるようである。ハムリン盆地内では数少ないウルク中／後期の Tell Rubeidheh から、グッバ例に酷似した楕円形の製品が報告されている〔Killick ed. 1988: Fig. 27. 2〕。しかし今回は、はっきりした傾向が窺えるだけの例を検討していない。

3 類はムシャリファやジャバル・アルーダ〔Tenison 1983: Fig. 16〕で確認されており、縁部に丁寧な刃付けを行う。ナトゥーフ文化頃の製品と比較すると、刃付けの丁寧さと薄さが際立っている。打製の扇状スクレイパーの使用が、ウルク後期頃を境として次第に衰えるとみられることは、石器生産の減退と相まって、この道具の機能に変わる新たな道具の出現を間接的に暗示しているともとれる。南メソポタミアでの分布が確認されないとすれば、西方系の道具ということになるだろう。

タイプ 7 はガウラのウルク後期層出土例のみで、はっきりしたことは判らない。「ブラウ・モニュメント」で稿末に付した鑿／窺形の道具の端部形状は一端が尖り、他端は平らで片面は丸味をもたせて仕上げてあり (Fig. 61)、ガウラ例に共通する特徴を認める。

タイプ 8 は Alden の論考〔1988〕に詳しい。メソポタミアでは既にウバイド期 (ウバイド 3?) に存在しており、ED III/アッカド期頃までは確実に生産・使用される。ウバイド期の例はサラサート 2 号丘での窯内からの出土〔深井・堀内・松谷 1970: 118〕や、ソングル B 出土例〔藤井編 1981: Fig. 55〕からも証明される。ウバイド期の製品は手捏で成形され、ウルク後期以降になると轆轤成形のものが多くなる。

これまでの分析で気付いた点を整理してみると、以下の点がおぼろげながら浮かびあがる。

タイプ 1 や 2 の道具の古い例は北メソポタミアに集中する。とりわけタイプ 1 はハラフ文化圏の全域で確認できる可能性があるし、タイプ 2 に関しても北メソポタミアに顕在する。南メソポタミアのウバイド期の道具のア



センブリッジが今ひとつはっきりしないこともあるが、北メソポタミアのハラフ／ウバイド併行期まで遡る明確な製陶具の報告を欠くことから、タイプ1や2を北メソポタミアの後期新石器／金石併用期に特徴的な道具と見ることも不可能ではない。

ウルク期になると、タイプ1や2は西アジアの広い地域で確認されるようになる。このことはウルク文化の広い分布・影響範囲とも良く符号しており、穿った解釈を行えば、ウルク文化の担手に採用された道具が、その文化圏の拡大に伴って、西アジアのほぼ全域に流布した可能性を指摘することもできる。その際、タイプ2などでは、サブ・タイプと称してもよい若干の形態差を発生させた、と見ることもできる。

同様にタイプ8の道具についても、現状で最古の例は北・中部メソポタミアのウバイド期に存在しており、これがウルク期頃に、ほぼ西アジアの全域——bevelled-rim bowlの分布圏に大略重複——に広く分布するようになる〔Alden 1988:145〕。このこともウルク文化の広域性を抜きにしては考えられない。

一方タイプ3の祖型と考えられる道具は、中央／東北イランからハムリン盆地にかけて存在しており、タイプ1や2の分布状況と多少異なる。しかしウルク期ころには他の道具と同じように分布圏を拡大するようだ。

### 道具の機能を考える

小論でとりあげた製陶関係の道具は、おもに土器が乾燥する時点、即ち製作工程からすれば、調整(整形)・施文段階で機能したと考えられるものが中心をなす。土器の製作が調整段階になると、外壁面の荒削り trimming/fettling や、内・外面の削り／掻き取り scraping, 撫で smoothing, 磨き burnishing, 擦り rubbing など細かい仕上げを行う。このほか特定の目的・施文によって刷毛調整 brushing, 櫛描 combing, 彩色 painting, 刻線 incising, スタンプ stamping などの技法を駆使する〔Rice 1987; 佐原 1979〕<sup>12)</sup>。

ここでは出土遺物の形態・材質的特徴から、これらの道具がどのような形で土器表面の調整や施文に関わりをもったかを、若干の推測をまじえながらタイプ別に考察してみる。

**タイプ1** 轆轤が普及する以前には殆どの土器が紐土成形され<sup>13)</sup>、普及後でも大型の壺・甕形土器では紐土成形が踏襲され、轆轤を回転台的に利用して調整を行う。このため紐土間の接合と壁厚の均質化は重要な作業となる。タイプ1はその平面形からも判るように殆どが曲面で構成されており、鋭い刃状のこの曲面部がおもに使用されたと推定して間違いないだろう。製品の形状から判断すると、弧部分は土器内面の撫でや、削り・掻き取りに使用されたものと考えられ、いわゆる「スモーター／スクレイパー」として機能したはずである。ただ弧部分の使用角度次第では、撫でや擦りの他に、曲率の修正にも効力を発揮する。また上部が直線的に整形されたものが多い点を考慮すると、この部分を使用した外面の調整(削りや擦り)が行われたのかもしれない。

**タイプ2** 既にハラフ期には使用されていた息の長い道具である。ハラフ／ウバイド期の使用部位は内面で〔Merpert et al. 1984:39〕、これがハブーバ・カビーラ例に継承され、鋭い刃状に加工された縁部が主たる使用部位と判断できる。スーサ (Fig. 7. 11-13), グッバ (Fig. 9. 1), ニップール出土例 (Fig. 3) はさほど鋭い刃ではないが、一応それらしく整えてある。意図的な縁部の刃付と曲面のみで構成された製品である点などを考慮すると、タイプ1同様、曲面に使用するための道具とみるのが妥当であろう。著しく大型や小型の製品が存在せず、コンパクトに整えられていることなどからも、内面調整のために考案された道具と考えてよい。

あとで実験結果について触れるが、内壁面を荒く削る際には刃を上向け立て気味にして手前に引けばよいし、凹凸をならし壁厚を平均化するためであれば刃を下向けて使用すればよく、角張ったコーナー部がないため、底



部から肩部までのすべての内壁面の調整に機能しうる。刃部分の補修（研ぎ出し）さえ行えば、相当長期間の使用に耐える道具である。弧部分の刃付けが明瞭でないものについては、弧そのものが機能に関係すると想定している。即ち、擦り／撫でが主たる機能であったと考えたい。このほか弧部分を内壁面に当てれば壁体の立ち上がり加減を知る目安となり、曲率の修正にも有効である。つまりこれらの道具を一種の曲率調整具（内コテ）として使用し、上手に応用すれば、比較的簡単に同一規格の容器を製作することができ、轆轤とセットで使用すればその効果は飛躍的に向上したと思われる。使い勝手という観点からみると、上部がなだらかにくぼむことは持つための配慮と思われ、しかも手にかかる圧力を分散させる効果もある。実に機能的な製品といえよう。しかしながらタイプ1との間に機能上の差は見出せない。

タイプ3 手にもって作業するために柄の部分が比較的長く、しかも滑らかに整形されており、柄に装着して使用されたとは考えられない。細長く薄い断面で、鋭い刃を有し、全体を丁寧に磨いて仕上げるという共通点がある。法量分析で判明したように大型の製品は手に握って使用できるだけの十分な長さが確保されているが、小型の製品は握って使用するには長さ不足のようである。つまり形態は類似するが使用目的は異っていたのかもしれない。形態や刃の状態からも窺われるように、これらが激しい作業に使用されたとは考えられず、何らかの軽作業用として特別に作成された可能性が高い。例示した12点の内訳は石製と土製品がほぼ半数を占めており、同一の作業に使用されたと仮定すれば、土製品が機能しうる硬度のものを対象としていたと考えられ、湿った粘土・皮革・木(?)などを想定することができる。ここで参考となるのがサング・チャハマック例の観察で、その材質的特徴から木工具としての使用は不適切〔増田ほか 1977:12〕との指摘は看過できない。したがって筆者は、土器製作が主な対象であったと推測したい。その際、滑らかな体部は先学の指摘もあるように磨き具として機能するが、それはあくまでも副次的な機能である。刃は何かを削る／切るためであったとみてよい。現代の道具にもみられるように、ひとつの道具が複数の機能を有したとしても何ら不思議ではない。勿論、土器生産に限って使用されたとは断定するものではない。

タイプ4 機能面からみると、刃を伴うものと、伴わないものに細分しなければならず、必ずしも形態と機能の一致が認められない。アスマル出土例に共通する側面の湾曲は、これらの道具が曲面に使用するために製作されたことを暗示する。想定される使用形態としては、外壁面の削り具としても機能するし、内面の削りにも使用可能であり、内・外面の撫でや曲率の修正にも有効な道具で、特定の目的に限らず使用された可能性がある。Delougaz が示唆したように細かい部分のモデリングにも有効である〔1952:122〕。重要な点は刃と滑らかに整形された曲面を伴うことである。同時代の調整技法を窺えるものとして、アスマルに位置的にも近いソングルA遺跡のイシン・ラルサ期の墓から出土した紐土成形になる大型壺がある〔Kamada and Ohtsu 1988: Figs. 13, 14〕。これらの土器の内面は縦・斜め方向に削って調整されており、当時、内面の削りが頻繁に行われたことがわかる。ただ、イシン・ラルサ期にはタイプ2の道具も存在することから、どのタイプの道具が内面の削りに使用されたかは判然としない。数点、孔を穿ったものが存在するが (Fig. 6. 3, 4)、孔そのものが機能に関係したとは考えられない。たぶん孔は紐を通すためであり、道具の収納や作業上の配慮であったと思う。

明確な刃を伴わないジャファラバード例などは、おもに撫で、擦り、磨きなどに使用されたと考えられ、機能的にはむしろタイプ5に類するものとなる。その際の主な使用部位は側面と小口／先端と考えられる。

タイプ5 これらの道具は磨き・擦り具と考えられ、磨研土器の出現頻度とも関係してくる。例えば、北メソポタミアのシャムシャラ Shamushara 遺跡では、ハッスーナ／サマッラ期頃の層位から、比較的長い自然石を



利用した道具が多量に出土しており、その使用痕を観察した Mortensen は、これらの石が擦り・磨きなどに使用されたと指摘した [1970 : Fig. 46]。このことはハッスーナ／サマッラ期の磨研土器の出現頻度の高さともよく符号し、骨製品などの他にも石製品が土器の調整に使用され可能性を示していると言える。このほか Jasim によるアバーダ出土の石製品の観察も示唆に富むものである [1985 : 74-84]。ウルク期頃には磨研土器の出現頻度も高く、壺形土器に限らず鉢や碗にも研磨を施すものが存在する。その際、内面の研磨にはガウラ出土例 (Fig. 15. 1, 2) のように小型で平滑な製品や、先端が丸まった道具が有効と考えられる。

同じように細長く扁平な石製の道具は、多量の磨研土器が発見されたシャー・テペ (ヒッサールの北、カスピ海に近い位置にある) からも報告されており、磨き具 whetter に類似すると指摘された [Arne 1945 : 281]。ここでは円形や隅丸長方形で、側面を含む表面の全面が平滑になった自然石30点が出土しており、土器製作に際し磨きや擦り／撫でに使用されたのであろうと推測する [ibid. : 280, Pl. 73]。

なお現代の使用例から推すと大型の土製品は主に内面の擦り、撫でに使用されたとされる。

**タイプ 6** 1類は意図的に平らにされ、面は光沢をもつほどに磨かれ、円周部の全面に稜を設けるなどの斉一性が認められる。このことは、平らな面と側面の稜が何らかの機能に関係したとみるのが自然である。通常これらの円盤はパレットと理解されることが多い。もっとも、大型の製品に関してはパレットとして実際に使用されたものが存在すると思われるが、径が 4-10 cm の小型の製品は何らかの調整具の可能性が強く、側面の使用痕はそのことを示唆する。これが土器生産に関係した道具とみるならば、おそらく磨かれた平らな面は、擦り・磨きに利用され、側面を利用して擦り／撫で・掻き取りをおこなったとみれる。このように解釈すればサラサート 5号丘出土例 (Fig. 17. 3) の上・下面の中央付近が凹むことも納得できる。今後は側面／円周部の観察が重要になってくる。これが製陶具であるか否かは、今までに出土した遺物の再検討と、今後の調査次第といえそう。また土器片を転用した円盤状土製品との機能・使用形態の違いは、これからの解明にかかっている。

新石器—前期青銅器時代の扇状スクレイパーに限らず、それ以前のスクレイパーに関しても、その機能・使用形態となると不明な点が多いとされる [藤本 1979]。ただジャバル・アルーダ [Tenison 1983 : Fig. 16] や、ムシャリファ [Oguchi 1987 : Pl. 1. 6]、カシュカショク例 [Matsutani ed. 1991 : Pl. 78. 1] に共通する特徴は、薄く平らな板状で縁部の刃付けが極めて丁寧になされていることであり、形の説明でも fan/tabular/discoidal と形容される所以でもある。換言すれば、薄さと縁部の細かい刃付けはその機能を暗示しており、スクレイパーとせずナイフと解釈する研究者もいる。出土位置・状況の細かい分析が必要となるが、窯もしくは工房に関係して出土したとすれば、土器生産に関係した道具のひとつである可能性が高くなり、内面の削りや掻き取り、あるいは粘土の切断などに使用することができる。土器内面に 'flint-scraped' が実際行われたとすれば、この道具はそれを担当した有力候補となろう。

**タイプ 7** 例が少なく不明な点が多い。磨き・擦りや指で調整できない部位に使用されたと考えられる。

**タイプ 8** Alden の解釈は正鵠を射ているかのようなようであるが、今少し実例の使用痕を観察する必要があると思われる。側面の形態は内傾が著しいものや、垂直に近いものまであり、削り／掻き取り具として機能したのであれば、様々な部位の使用を想定した準備がなされていたことになる。しかし焼台や器台としての可能性も完全には払拭できない。

当該品が土器生産に関係した遺物らしい、との考えは殆どの研究者の共通認識といえそうであるが、使用形態となると意見が別れる。例を記すと、Carter はスーサの Ville Royale I の 5層 (2200-1900 B.C. 頃) から出土し



た8点を、土器生産に関係する stand or ceramic tool と推測している [1980:28]。サラサート5号丘では鉢 Ia グループ (carinated bowl) 中に、底部の色調が異なる製品が確認できることから、環状土製品が焼台として窯内で使用された可能性もあると指摘する [深井・堀内・松谷 1974:46]。実際、窯内からの出土が報告されている [深井・堀内・松谷 1970:118]。

グッバ出土例でも上縁部が使用／調整のためすれた部分が存在しており、Alden の観察結果に符号する。しかしこれとは別に、明らかに未使用／未加工と思われる著しく薄い製品も存在した。上縁部の擦痕が道具としての使用痕であればその主張は首肯できる。一方、単なる調整痕とすれば問題は複雑になる。ウルク期に限らずメソポタミアでは丸底土器が生産され、特に小型土器に丸底となったものが多く、土製の環をそれらに使用すれば土器の安定性は飛躍的に向上する。焼台として窯内で使用したと仮定すれば、多くの製品に過焼成に近いものが認められることも納得でき、一度に限らず数回使用された結果とみてよかろう。個人的に筆者は Alden の解釈を支持する立場をとるが、現時点で機能の特定に結論を下すには時機尚早ではなかろうか。このあと道具の復元と使用痕の観察を試みるので、その結果も参照願いたい。

### グッバ出土土器の調整痕の観察

グッバ VII 層 (JN 期) では明らかに系統の異なる3種類の彩文土器が出現する。これらは量的に最も多い精製された胎土を使用した単彩文土器 monochrome ware (Fig. 32. 1-3) と、南メソポタミアの遺跡でも発見される多彩文土器 polychrome ware (Fig. 32. 4)、およびここには図示していないが水簸した胎土を使用して手造り (紐土成形?) された多彩文土器 [小谷・井 1981: Fig. 11. 2, 5] である。

単彩文土器は胴部から肩部までの内面が横・斜め方向の削り／掻き取りで調整され、外面の一部も内面と同じように削りを施し、こののち撫でや擦りで表面を安定させたり、スリッパをかけて滑らかにする。特に内面頸部の基部付近まで施された削り調整は、VII 層単彩文土器に顕著な技法とみなされ、破片状態で出土した単彩文土器を判別する根拠にもなった。小型の単彩文土器は胴部の外面のみを削り調整しており、内面に特別な調整はなされない (Fig. 32. 1)。

多彩文土器は轆轤成形され、肩部は白色もしくは淡黄色のスリッパをかけ軽く磨き(?)、赤彩で割付を行ってから黒色で幾何学文を描く。胴部内・外面の調整は削り仕上げののち、外面に赤彩を塗布する。単彩文土器に比べ総じて器壁が厚い (Fig. 32. 4)。

VI 層 (ED I 期) になると、JN 期の多彩文土器の系統をひく緋色土器 Scarlet ware と、JN 期の単彩文土器の流れをくむ単彩文土器が併存するが、後者は次第に緋色土器に同化され、ついには単彩文土器独自の器形と彩色方法を保持しながらも、多彩文を採用するようになる (Fig. 32. 7)。そして ED I 期の後半には、かろうじて施文パターンのみで系統が判別できる程度に同化してしまう (Fig. 32. 11)。

緋色土器では JN 期の多彩文土器と同じ調整がおこなわれる。一方、ED I 期の単彩文土器では内面の調整に顕著な差があらわれる。それは土器内面の削りが胴部以下に限定され、肩部は轆轤を使用した最終調整がなされるようになる。このことは、この間に相当高度な轆轤技術の習得がなされたことを証明している。つまり JN 期の陶工は、ED I 期の単彩文土器 (Fig. 32. 6) と同じようなものを轆轤成形・調整したかったのであるが、それができる程の技術レベルに達しておらず、やむなく内面を削って薄くしたのである。壺型土器での内面の削りは、口径が 8 cm 前後のものまで行われている (Fig. 32. 9)。このことから判るように ED I 期のハムリンで



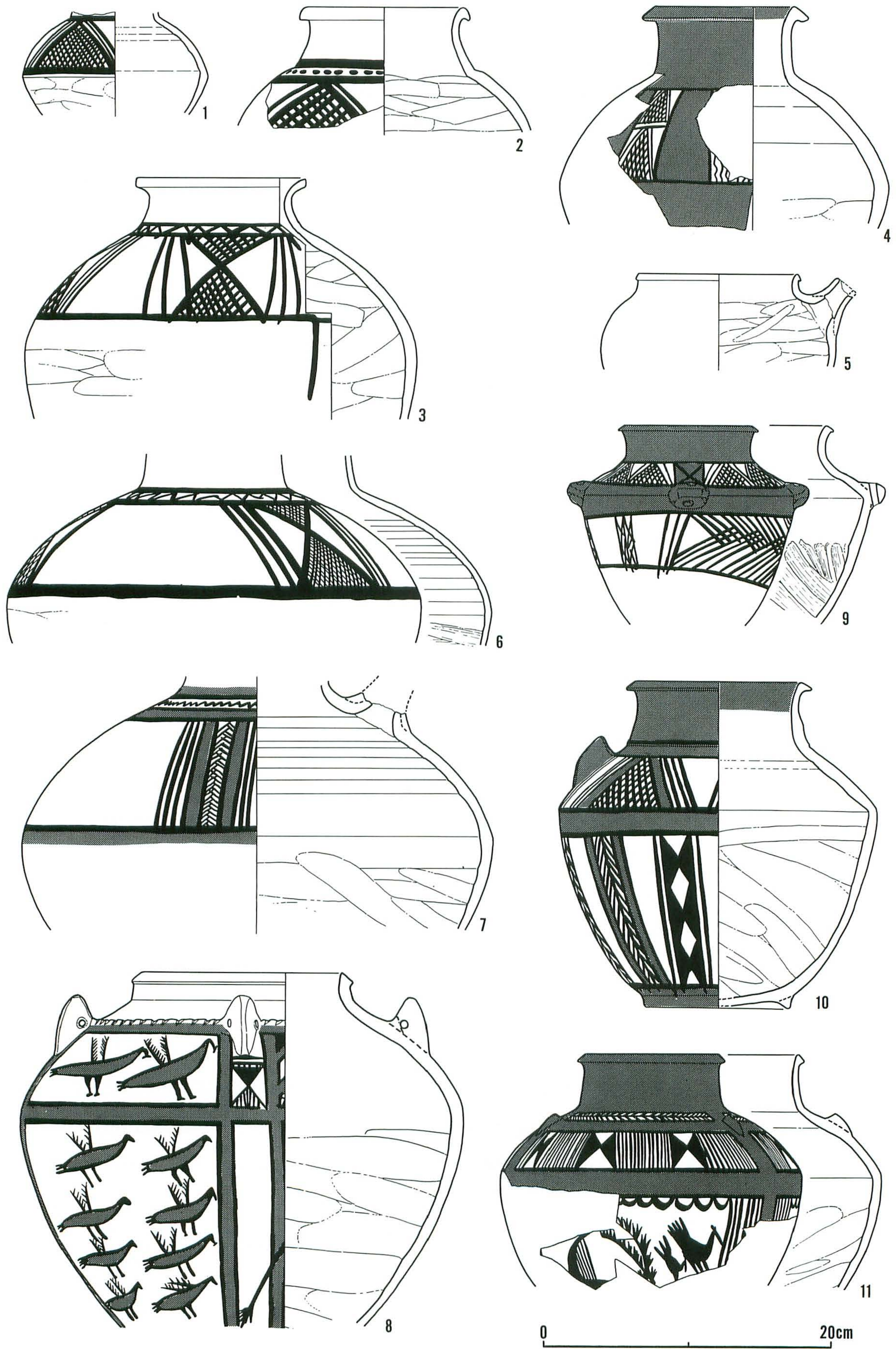


Fig. 32 Tell Gubba 出土の JN-ED I 期の土器. VII 層 (1-5), VI 層 (6-10), IV 層 (11)



は、手を入れることが可能な土器の殆どが削って調整されたのである。

轆轤出現初期に限らず今日においても、大型土器は紐土成形を行ったのち削って壁面を薄くする。その際、轆轤／回転台が使用されることもある。ED I 期と併行関係にあると推定される北メソポタミアのニネヴェ 5 期の土器でも、土器内外面の削りや擦りは最も普及した調整技法で、サラサート 5 号丘出土例において細かい観察がされており、ハケまたはヘラによる整形や、ササラ状の道具による削り痕のような整形痕が存在すると指摘されている〔深井・堀内・松谷 1974：45〕。ED III 期頃においても胴部内外面の削りに変化はみられず、グッバの墓出土例には削りの痕跡を残すものが多く、その痕跡から道具は幅広い削り面を確保でき、かつ曲面を有した道具であると示唆した〔井 1990：152, Figs. 8-12〕。ほぼ同時代と推定されるアッシリアの土器も類似する調整技法を駆使する〔井・川又 1984/85：192〕。そして前二千年紀初頭ころのイシン・ラルサ期でも同じであり〔Kamada and Ohtsu 1988〕長期間変わることはない。メソポタミアとほぼ同時期／僅かに遅れて轆轤が採用されたインダス文明でも、初期轆轤成形土器の多くで削り／掻き取りによる調整が確認されている〔鎌田 1986〕。このように土器の胴部を中心とした内・外面の削りや掻き取りは、中型以上の土器の殆どで観察できる。なかでも丸底に仕上げられた轆轤／紐土成形の壺型土器は、その調整痕の有無にかかわらず、相当の削りや撫で・擦り／磨きを行って仕上げたに違いない。

ここでグッバ出土の壺形土器に施された調整痕を拓本 (Fig. 33) と写真 (Figs. 34-37) で観察する。拓本・写真の掲載順序は左側が外面、右側が内面である。

001 JN 期, VIIc 層。無文土器底部破片 (径 14 cm)。外面底部：一方向の削りのち周縁部に沿った削り。胴部外面：斜め方向の削り、削り幅一定せず。内面：水平および斜方向の削りで進行方向に沿う条痕がのこる。削りの最大幅 44 mm, 横断面は中央部がくぼむ。柔らかい時点で調整。

002 JN-ED I 期。リザーブ・スリップ壺破片。胴部径 24 cm。外面肩部：轆轤仕上げのち水平方向のリザーブ・スリップ。外面胴部：水平方向の幅広い削り。内面肩部：轆轤痕 (皮もしくはコテを使用したなど)。内面胴部：最大径より -3 cm までは轆轤, その下部は水平方向の削り。

003 JN 期, VIIc 層。底部径約 12 cm。大型無文土器破片。砂粒と白色物質混和。底部：静止糸／細紐切りのち縁部を轆轤／回転台を使用して連続削り。胴部外面：最大幅 28 mm の水平方向削り。内面：比較的乾燥時点での不定方向削り (最大幅 22 mm)。

004 JN 期, VII 層。暗緑褐色単彩文土器破片。外面：轆轤仕上げのちスリップ。内・外面頸部：轆轤。内面肩部：水平方向の撫でにちかい削り。

005 JN 期, VIIc 層。赤褐色単彩文土器破片。混和剤の少ない胎土。外面肩部：頸部直下を最大幅 37 mm で水平に削る, のち撫で。内面肩部：比較的乾燥時点に鋭利な道具を使用して, 水平方向に最大幅 25 mm で削る。

006 JN 期, VIIa-b 層。無文土器破片。部位不明。砂粒, スサを混和した粗い胎土, おそらく煮沸用で内面は黒変し脆い。外面：水平方向の削り。内面：縦方向の削り／掻き取り<sup>14)</sup>。

007 JN 期, VIIc 層。無文土器破片。砂粒を多く混和する。外面：水平方向の削り／掻き取り。内面：水平方向の削り／掻き取りのち撫で。内外面で使用された道具は異なる。

008 JN 期, VIIc 層。大型無文土器破片。細砂混和。外面：撫でのち青白色スリップ。内面：丁寧な削り。壁厚が薄く, 乾燥時点に発生した亀裂を外面から土でもってふさぐ。



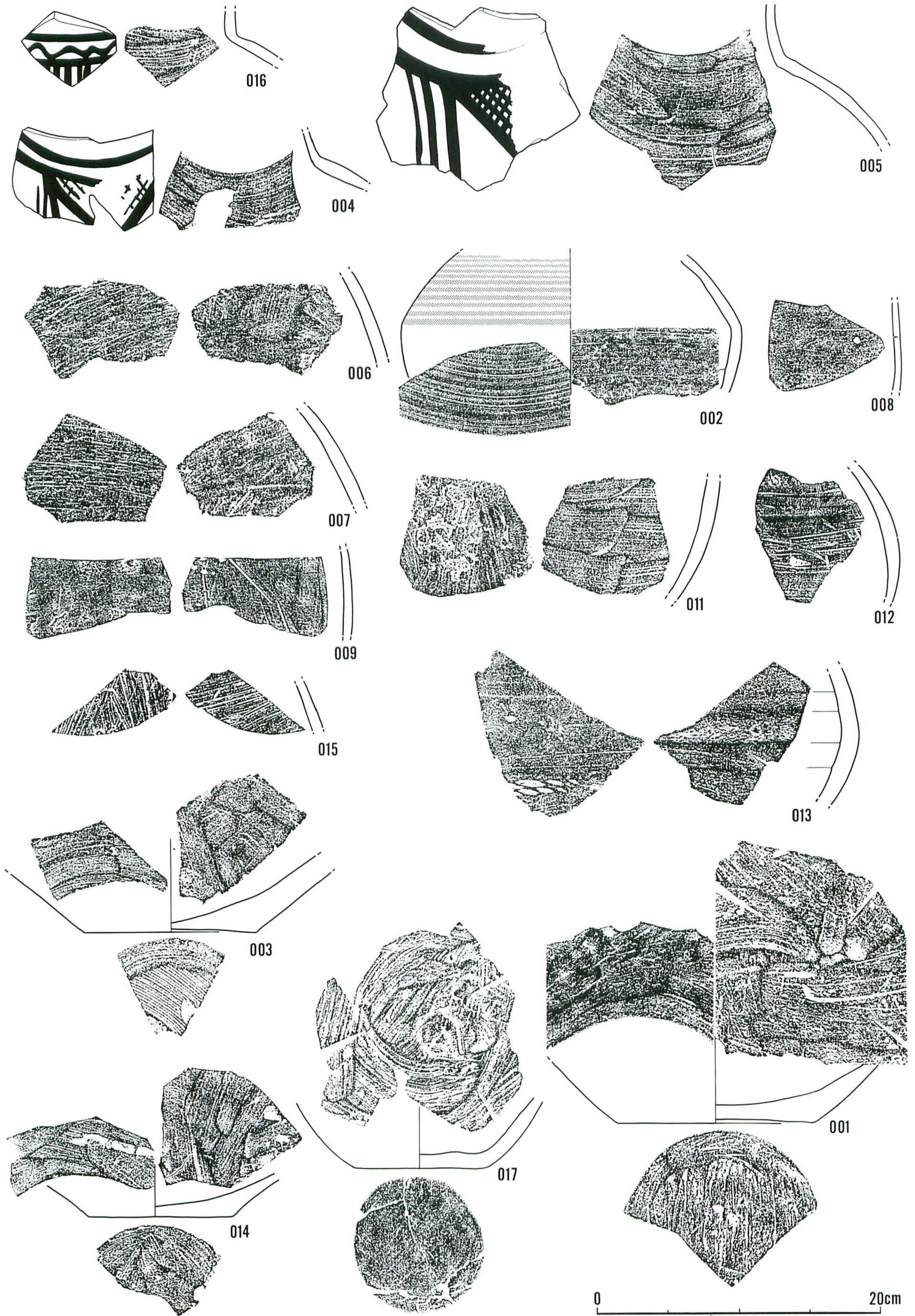


Fig. 33 Tell Gubba 出土土器の調整痕拓影



009 JN 期。大型単彩文(?) 土器破片。部位不明。混和剤を殆ど認めない胎土。外面：撫でのちスリップ。内面：削り／擦りののち、皮などを使用した斜方向の撫で（作業面は平ら）。

010 JN 期, VIIb 層。無文土器胴部破片。外面：横方向の削りのちスリップ(?), 一部に網代／ビチューメンでコーティングされた編物の痕跡あり。内面：横方向の削り (Fig. 36)。

011 JN 期, VIIb 層。大型土器胴部破片。胎土中に黒・茶褐色の砂粒を多量混和。外面：幅広く平らな削りのちスリップ。内面：最大幅 37 mm で中央がくぼむ水平方向の削り, 乾燥が進んだ時点で鋭利な道具を使用。

012 JN 期, VIIb 層。中一大型土器破片。混和剤の少ない精良な胎土。外面：削りのち青白色スリップ。内面：水平方向の削り／擦り。

013 JN-ED I 期。大型土器破片。砂粒と白色物質混和。外面：肩部は轆轤利用, 最大幅より下は削って薄くする。最大径の直下に水平方向に走る縫いの緩い縄の痕跡があり, この上に粘土を塗布する（縄は成形に関係したものらしい）。内面：肩部は轆轤仕上げ, 胴部は幅広い水平方向の削り。

014 JN 期。大型土器底部破片。胎土中の混和剤は少ない。底部：不定方向の削り。外面：最大幅 30 mm の幅広い削りで条痕をとともなう, 紐土成形の痕跡が窪みとしてのこる。内面：最大幅 30 mm の不定方向削り, 削りの断面は弧状に中央がくぼむ。

015 JN 期, VIIc 層。中一大型土器破片。部位不明。細砂混和。外面：先端が平らな(?) 道具による掻き取り／擦り, 調整の最大幅は 40 mm で明瞭な条痕を伴う。内面：擦り・撫で／掻き取り(?), 調整条痕は外面のそれより細かい。

016 JN 期, VIIc 層。赤褐色単彩文土器。胎土中多量の砂混和。外面：削りのち撫で(?)。内面：水平方向の擦りにちかい削り(?)。

017 JN 期, VIIb 層。無文土器破片。少量の砂およびフリントの微細片を混和。底部：削りのち丁寧な撫で。外面：削りのちスリップ, 一部にビチューメンが付着。内面：基本的に円周方向に沿う擦り／撫で, 細かく隆起する条痕を伴う。道具の作業面は幅広い。

このようにグッバの VII 層出土の壺・甕形土器では削り, 掻き取り, 撫で, 擦りなどで内外面を調整して仕上げている。器形や使用目的によって異なる表面調整が行われたことは確かであるが, 全体の傾向を明らかにできるほど土器整理は進んでいない。このほかに轆轤成形のみで仕上げられた小型の土器もある。円錐形碗 conical/hemispherical bowl やゴブレット solid-footed goblet などでは, 底部に回転糸切りの痕跡を, 体部には轆轤による水挽き痕を顕著にのこす [小谷・井 1981 : Fig. 19]。これらは消耗品であり, 轆轤の利点は消耗品を安くしかも大量生産できる点にある。

なお, 筆者は南メソポタミアの同時代の土器を観察する機会がなかったため, 南メソポタミアの土器がどのような調整を施して仕上げられたのかを知らない。報告書による情報は極く限られており, 轆轤成形は判るとしても, それ以上の細かい観察がなされていないのが実情である。従って中部／北メソポタミアとの調整技法の比較は今後の研究課題としたい。

このほか土器の調整に関する興味ある言及として 'flint-scraped' [Lloyd 1940 : 19 ; Akkermans 1988 : 193, 312], 'pebble-polished' [Woolley 1934b : 158, 160] などが報告書中で指摘されているが, 実際にこれらの遺物を見ていないので, あり得ることではあるが, 石製品による調整かどうかはコメントできない。また Tepe Farukhabad の土器に観察される 'chatter marks' [Wright ed. 1981 : 33] などは特徴的な調整技法である。



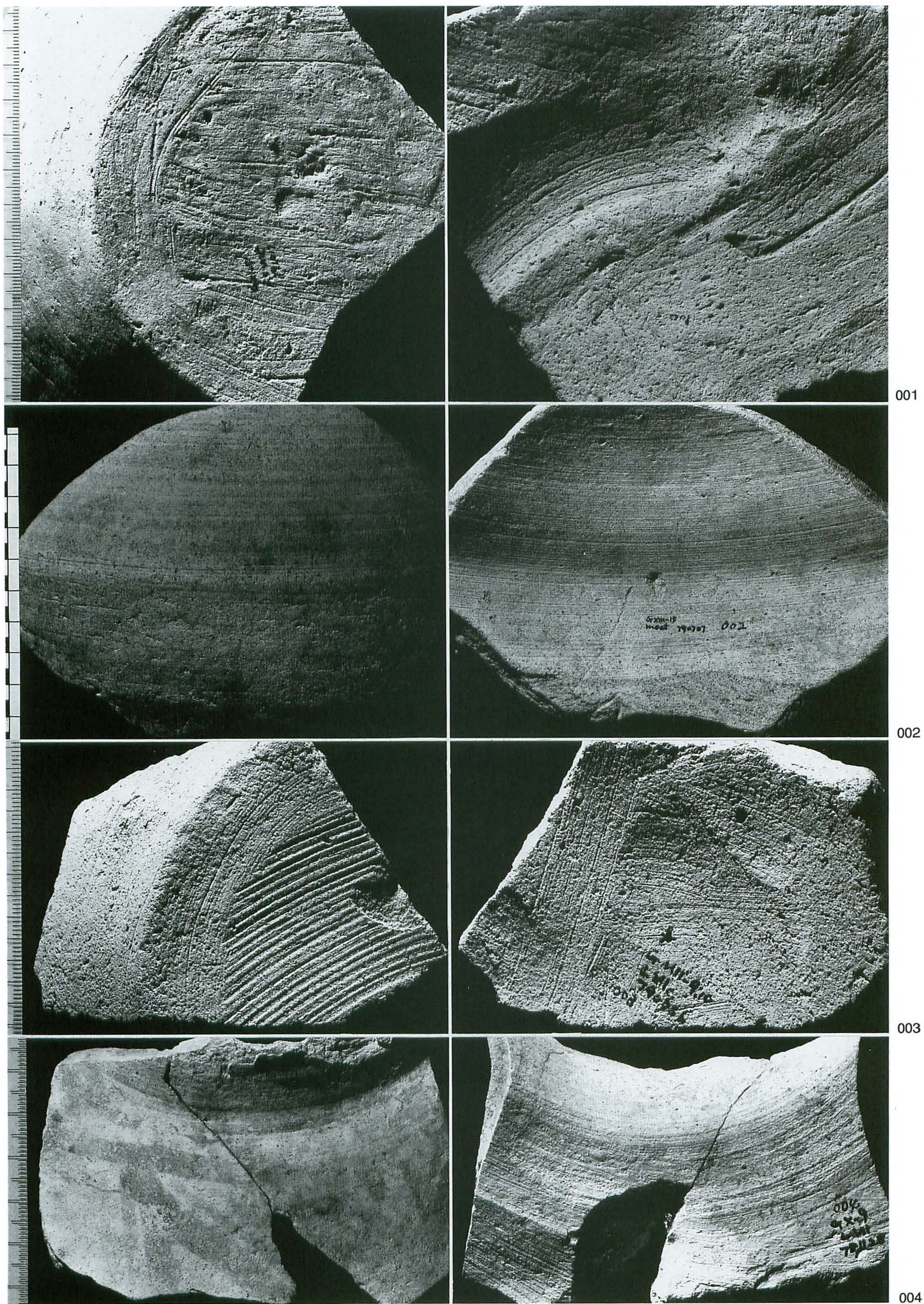


Fig. 34 Tell Gubba 出土土器の調整痕



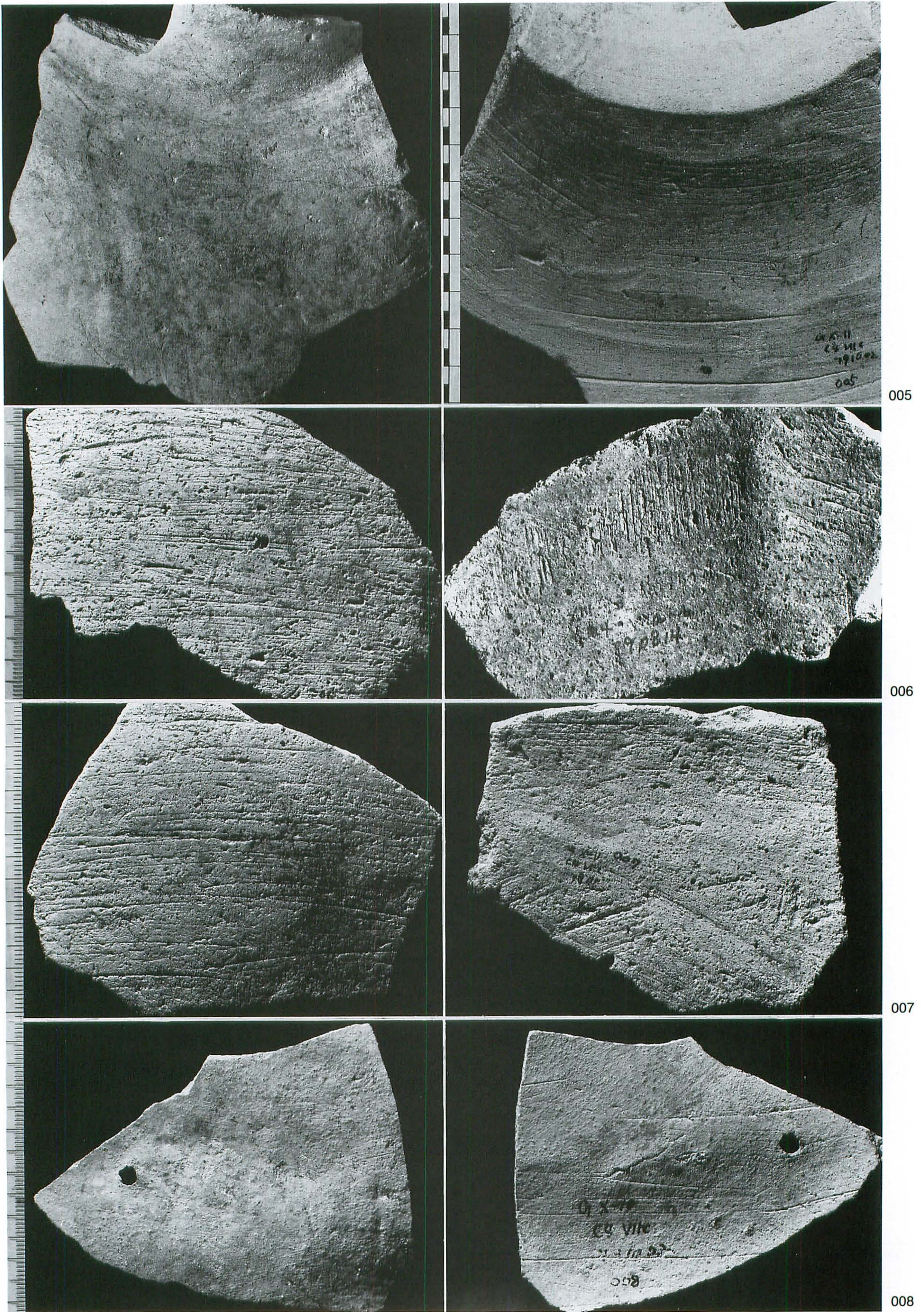


Fig. 35 Tell Gubba 出土土器の調整痕



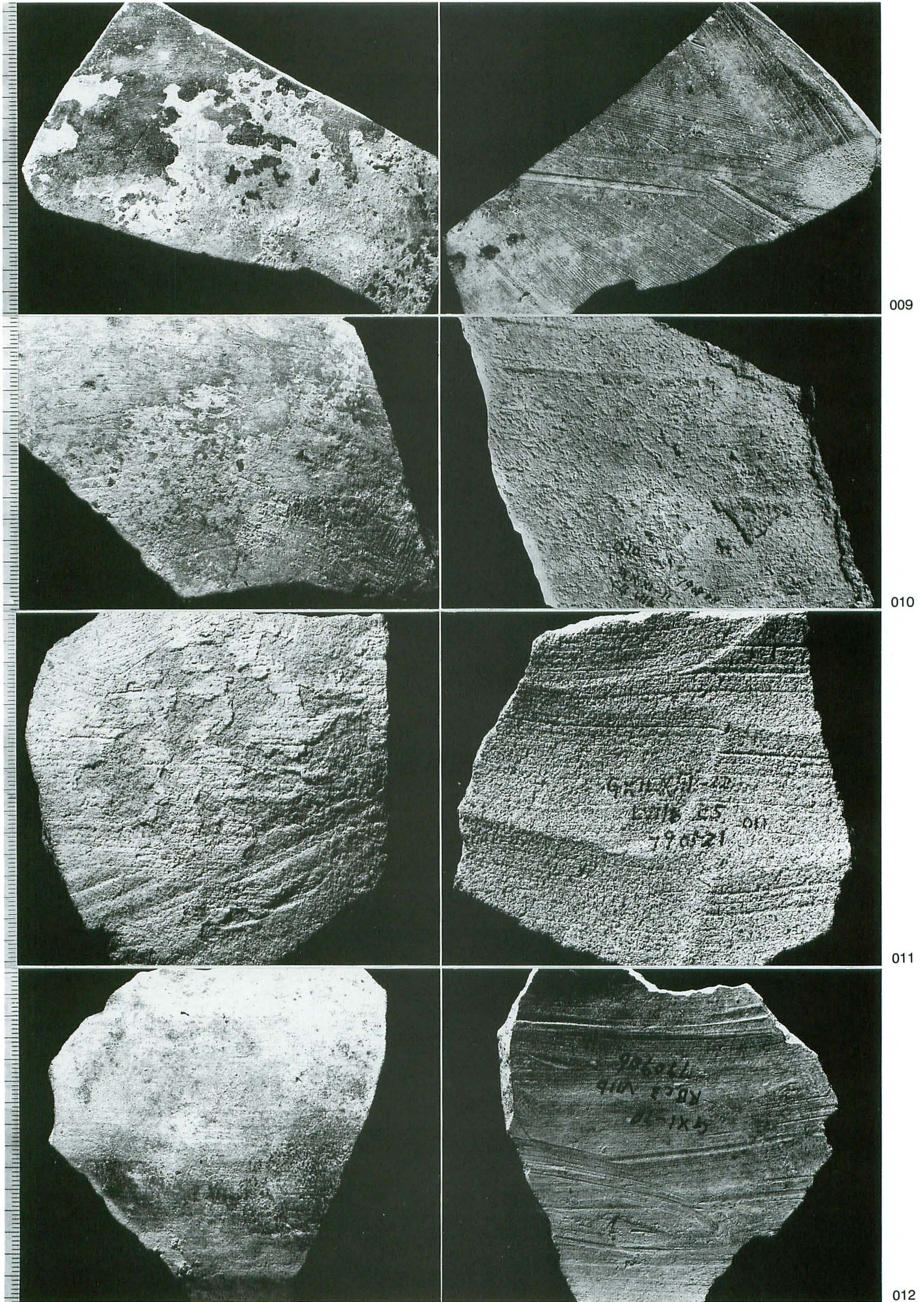


Fig. 36 Tell Gubba 出土土器の調整痕



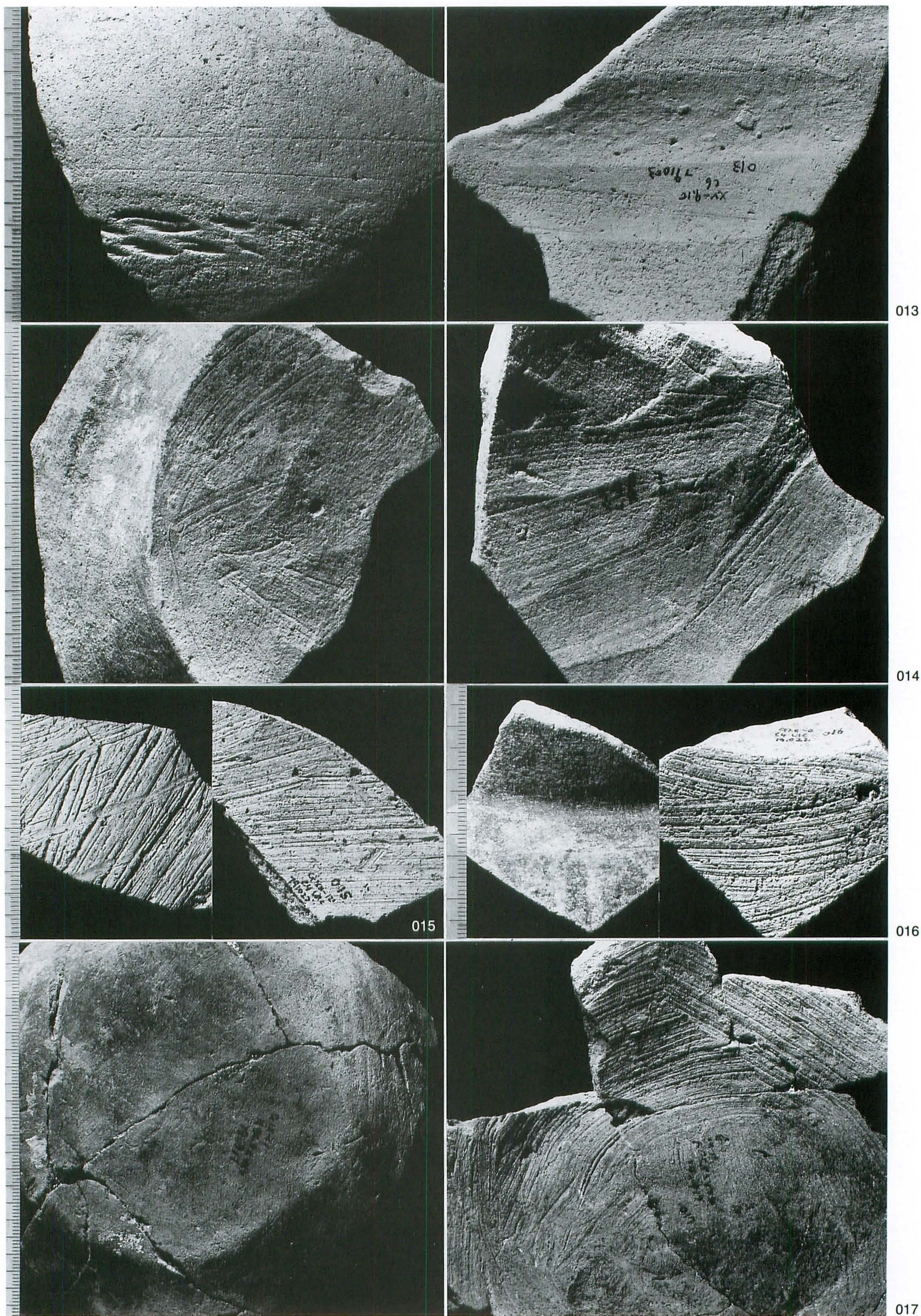


Fig. 37 Tell Gubba 出土土器の調整痕



## 製陶具の復元と使用：調整痕の観察

## 道具の復元製作

タイプ2の道具は二種類の方法で復元した。第一は比較的硬質の植木鉢を使用して、ハブーバ・カビーラ例に類似した道具を製作した。荒削りにはグラインダーを使用し、最終仕上げに砥石を用いた (Fig. 38. 2)。差渡84, 最大幅40mmである。第二はスーサ出土例を模して粘土から製作し、陶磁器用電気炉を使用して900度で30分間焼成した結果、既存の破片を利用したものに比べ簡単に造形でき、特に微妙なカーブの作出が容易にできることが分かった (Fig. 38. 1)。差渡115, 最大幅43mmである。粘土から復元した道具の内面は、ニップール例 (Fig. 3) やハブーバ・カビーラ例のように僅かに concave する断面を示したが、意図的にくぼませた訳ではない。これは厚さが均一でない製品に発生する現象で、乾燥収縮と粘土の可塑性に起因するものである〔素木：1982〕。

タイプ3の道具も二種類の方法で復元した。第一は建物外壁装飾用の硬質煉瓦／タイルを使用し、ハブーバ・カビーラ出土例を模して製作した。始めに手動のグラインダーを使用してあらましの形を整え、最終的に砥石を使用して刃付けをした。長さ130, 最大幅37, 厚さ9mmである (Fig. 39. 3)。第二は粘土から製作したもので、板状にした粘土を平らな面に当て、少し乾燥した段階で整形を行えば極めて簡単に道具が完成する (Fig. 39. 1, 2)。法量は148×39mmと、137×49mmである。

タイプ4の道具はテル・アスマル出土例を参考に、二種類の植木鉢を使用して製作した (Fig. 39. 4, 5)。大型の使用材質は三日月形

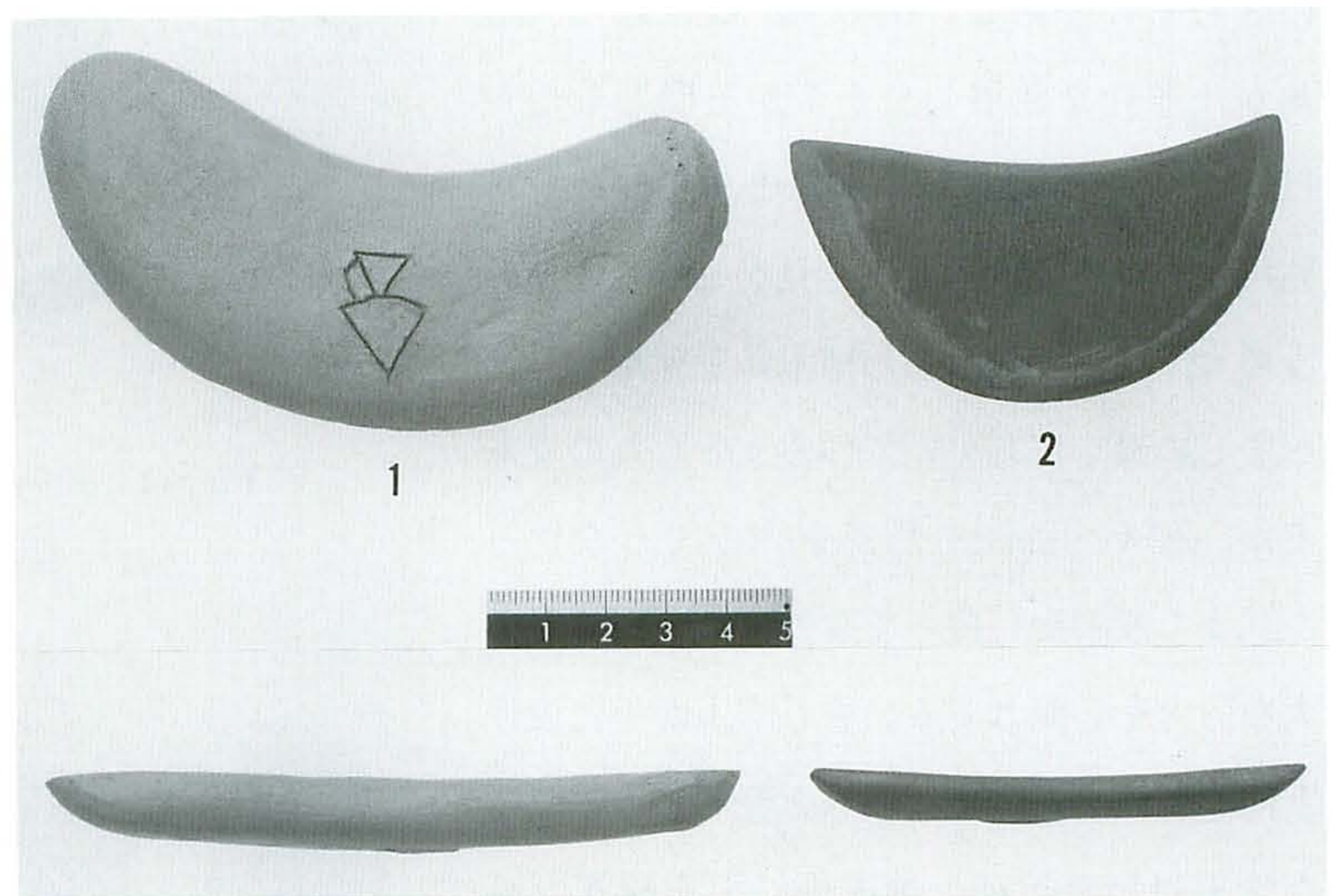


Fig. 38 復元製作した道具 (タイプ2)

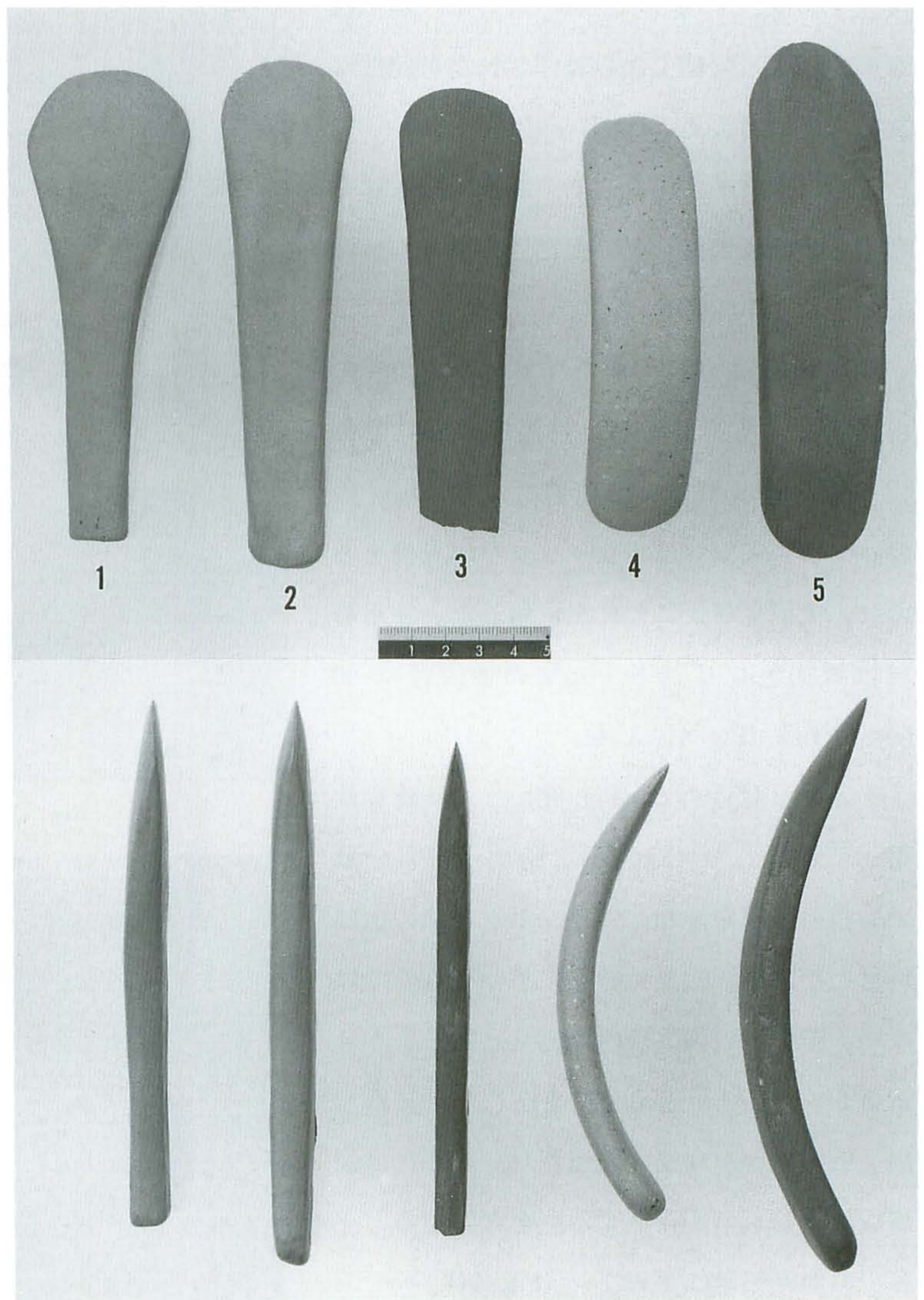


Fig. 39 復元製作した道具 (タイプ3：1-3), (タイプ4：5, 6)



のそれと同材質，小型は軟質で混和剤を多量に含むものである。Delougaz はこれらの道具が土器片を使用したか否か不明としたが〔1952：122〕，復元してみると，土器片を再利用した可能性は小さいと見なしうる。というのも，様々な形をした植木鉢を使用し，あらかしの形を打ち欠いて作ろうとしたのであるが，仲々，意図した形を作成できなかった。また最初から擦って製作するとなると多大な労力を必要とする。もし陶工が土器製作と同じ要領であらかしの形を整形し，乾燥時点で刃付けを行い，焼成後に刃を研ぎだせば，いとも簡単に道具が完成する。従ってタイプ4に限らず殆どの土製の道具は，陶工自身の手によって粘土から製作された可能性が極めて高いと言えよう<sup>15)</sup>。

このほかタイプ4として，硬質の植木鉢を利用して簡単に打ち欠いただけの道具も製作してみた (Fig. 40)。

タイプ6. 1類は河原で採集した結晶質の自然石で，楕円形の石は長径 60 mm，厚さ 12 mm を計る (Fig. 41. 1, 2)。3類の扇／円盤状スクレイパーはムシャリファ出土例を参考に，大沼克彦氏に製作を依頼した。使用石材は灰褐色フリント，大型の最大径は 80 mm である (Fig. 41. 3, 4)。

タイプ8は手捏ね (Fig. 42) と，轆轤を使用して復元した (Fig. 43)。胎土中に目分量で砂粒と小礫を混和してメソポタミアの土に似せたが，科学的分析結果に基づくものではない。乾燥後の製品は他の道具と同じように電気炉を使用して900度で焼成した。しかし出土例の殆どが高温で焼成され，なかには過焼成に近いものが存在する点を考慮すると，多少の温度不足は否めない (Fig. 44)。

復元作業を通じて判明したことであるが，

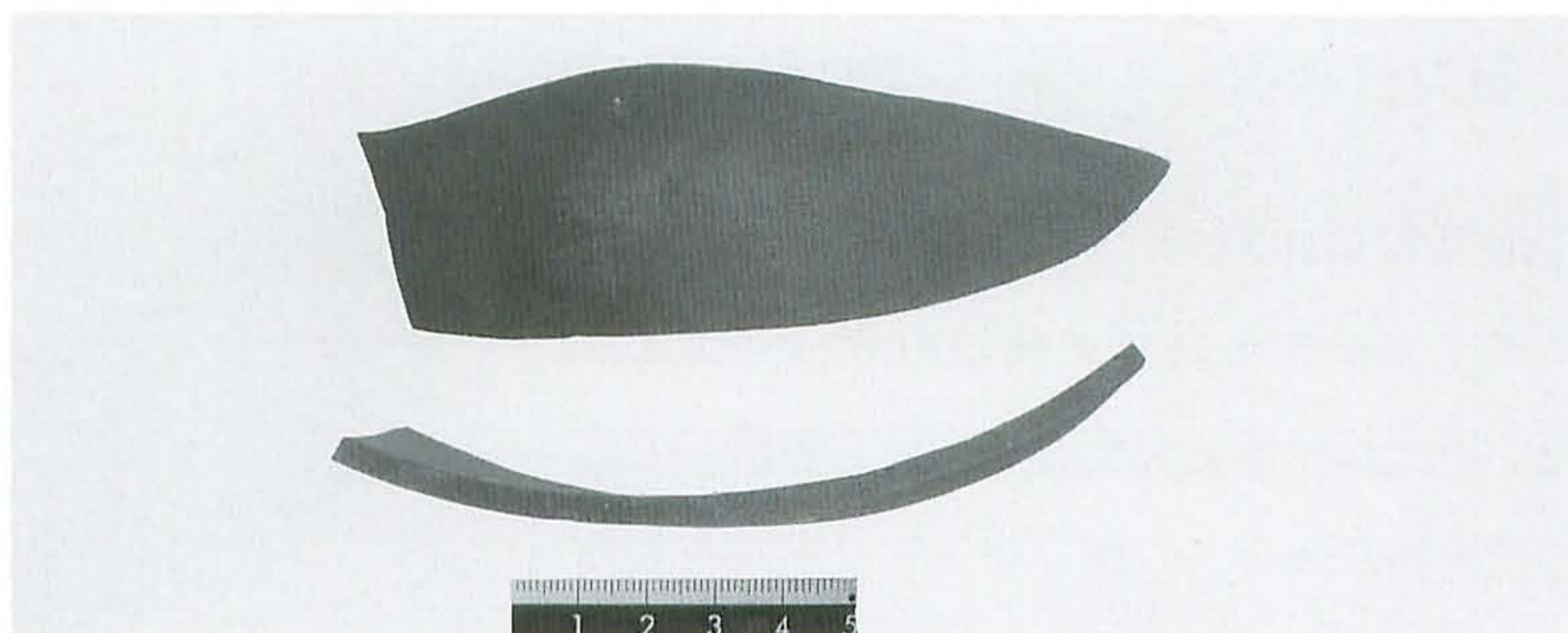


Fig. 40 植木鉢を簡単に打ち欠いただけの道具 (タイプ4)

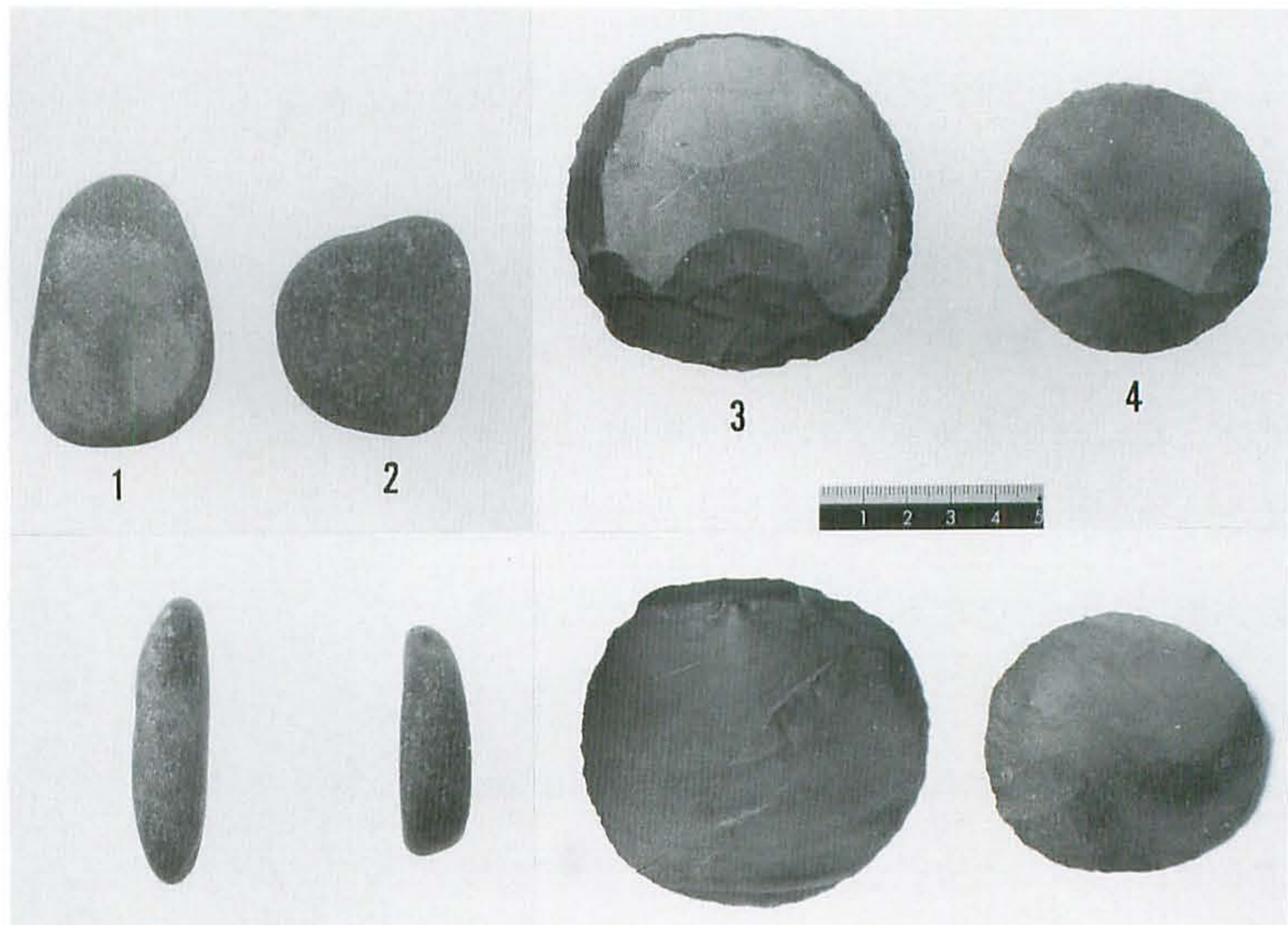


Fig. 41 自然石 (1, 2) と復元製作した道具 (タイプ6.3類：3, 4)

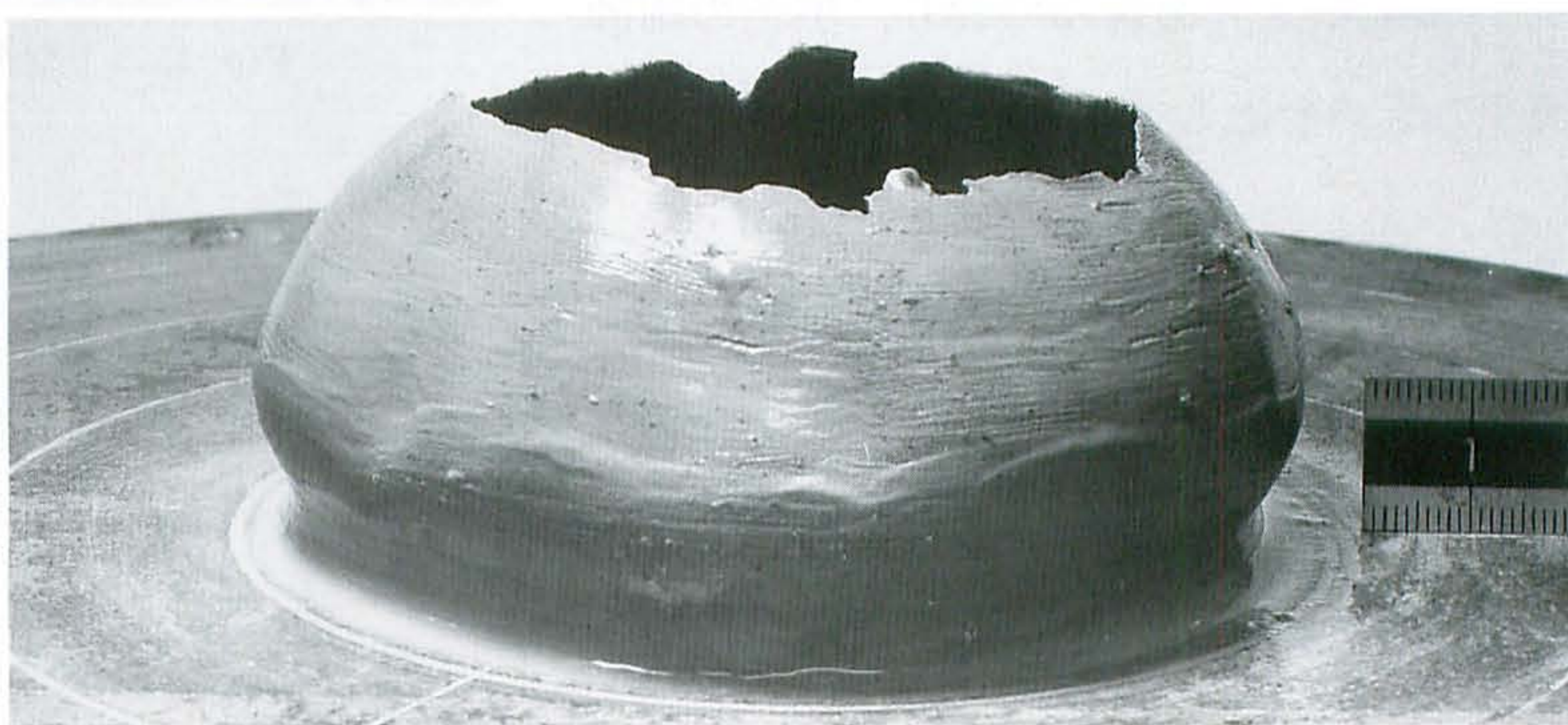


Fig. 42 手捏ねで製作したタイプ8の道具

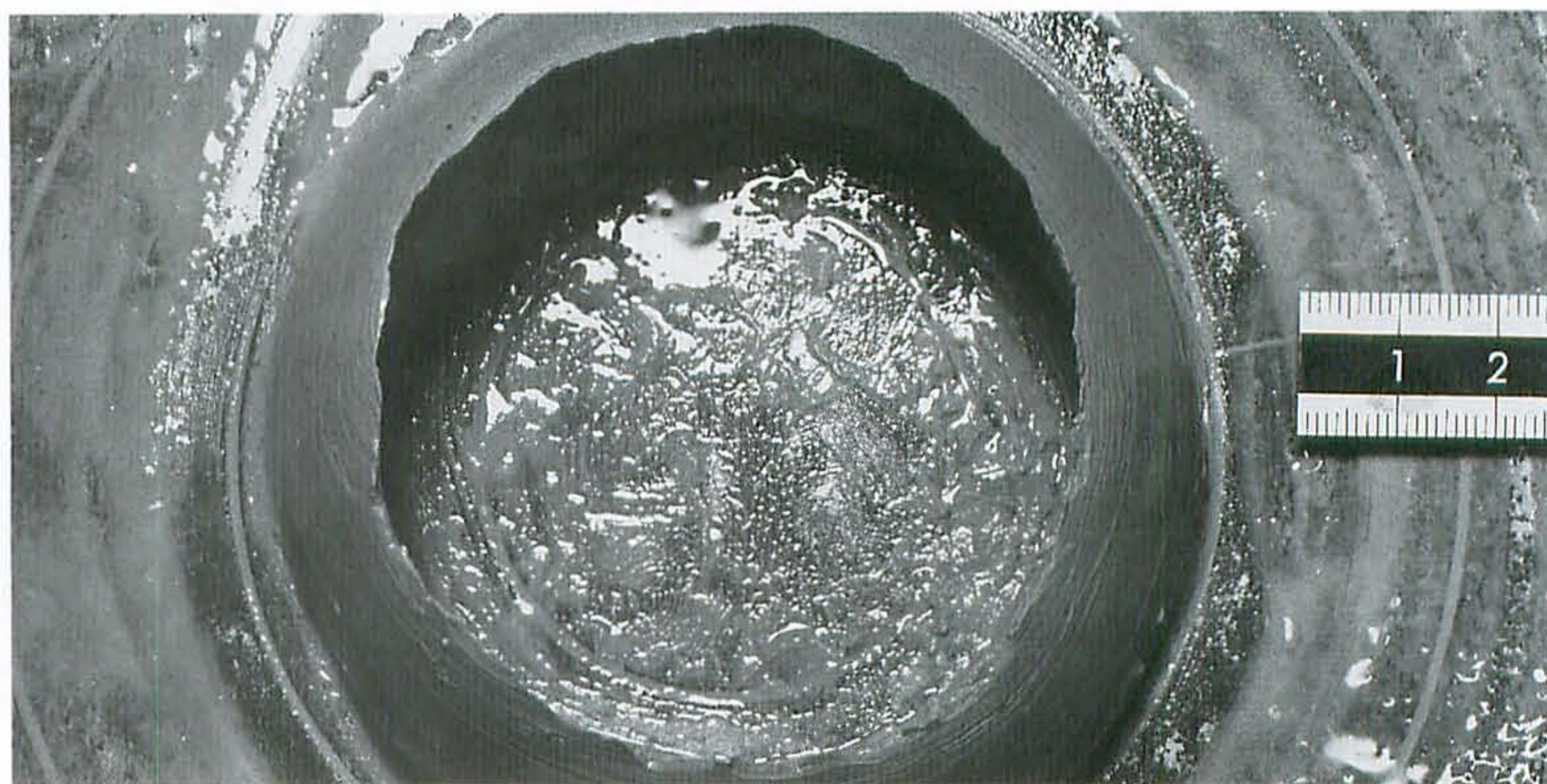


Fig. 43 轆轤で復元製作したタイプ8の道具



環の上面／縁を薄く仕上げようとすると、どうしても多少縁部が波打ってしまい、底面と並行な上縁を作ることは難しい。特に上縁部の波打現象は手捏ね製品に顕著に現出する (Fig. 42)。焼成後に、波打った上縁部を水平に調整すべく荒砥石の上で回転運動に近い擦りを行うと (Fig. 45)、内壁面に微小な剥離が生じ、外面には殆ど発生しないことが確かめられた。剥離の大きいものは幅 5 mm、奥行き 2.5 mm ほど、小さいものは幅 2 mm 未満であった (Fig. 46)。Alden は内面の小剥離を使用によると考えたが [1988:144]、これはむしろ調整時に発生した可能性が強くなった。このように製作上の観点に立つと、上縁部に認められる擦痕は使用のためばかりとはいいきれず、焼成後に上縁部を水平に整えた際の調整痕の可能性もでてくる。

#### 使用痕の観察

土器の復元製作に使用した陶土は市販品で、「木節粘土」を含んでおり、黒色の細砂や白色の小礫を比較的多く混和したものである。成形は紐土成形 (Fig. 47)。調整の時期は半乾きの段階、いわゆる leather-hard の状態である。

タイプ 2 (三日月形の道具) 弧部分が刃状となったものは内面の削りに特に有効で、一度に広い面積を連続して削ることができる。刃の角度を調整することで深くも浅くも自由自在に加減が可能である。製品自体がコンパクトで、しかも刃が曲面をもつことから内壁面の如何なる部位にも対応でき、口縁部がすぼまった土器に対しても、手を入れることができれば使用可能である (Fig. 48)。調整痕は 005 や 014 に近いものとなる。

タイプ 2a ほど鋭い刃を成さない 2b の道具を削りに使用すると、使用面の先端形状に沿

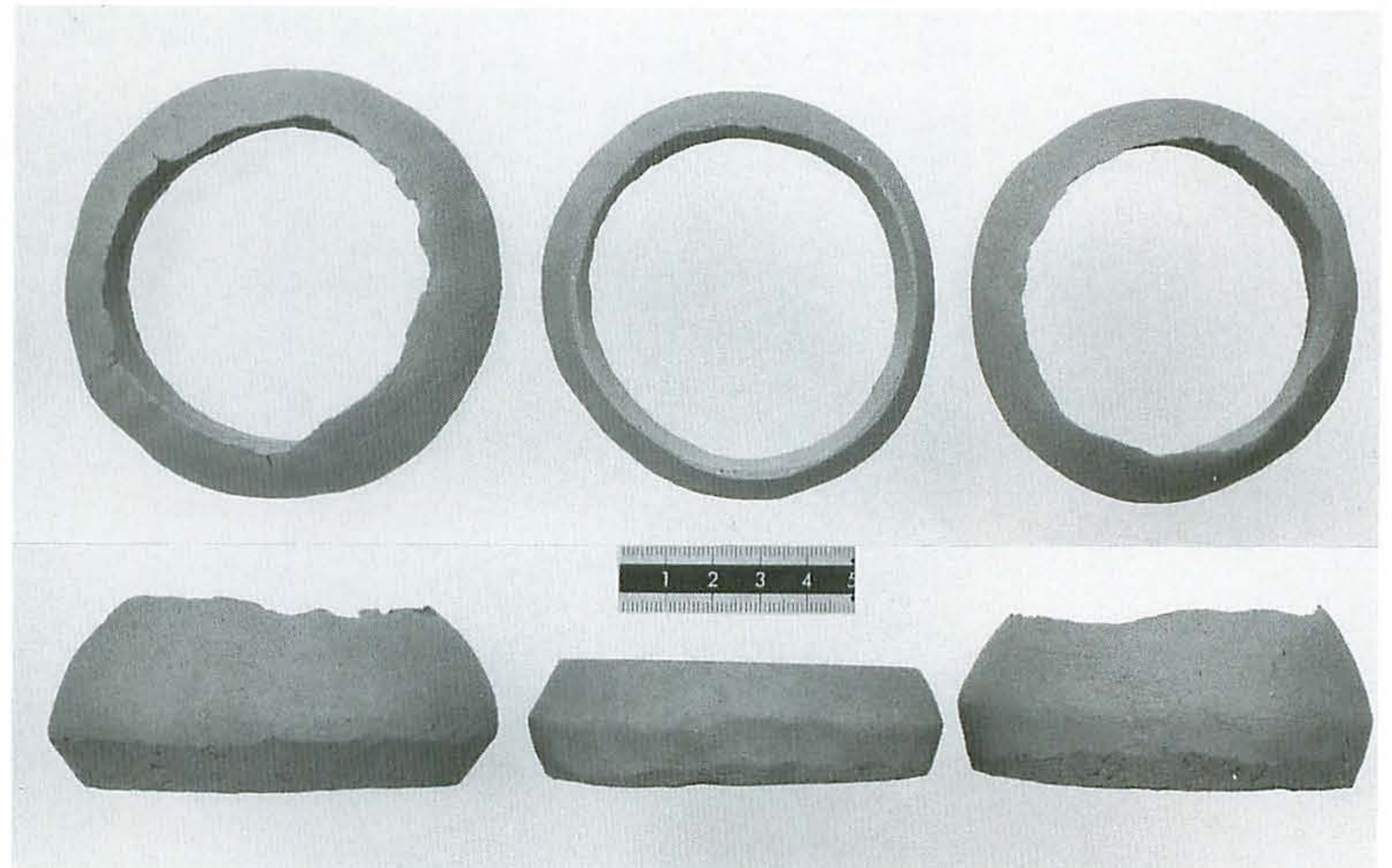


Fig. 44 焼成したタイプ 8 の道具



Fig. 45 上縁部を水平に整えるための荒砥石上での調整

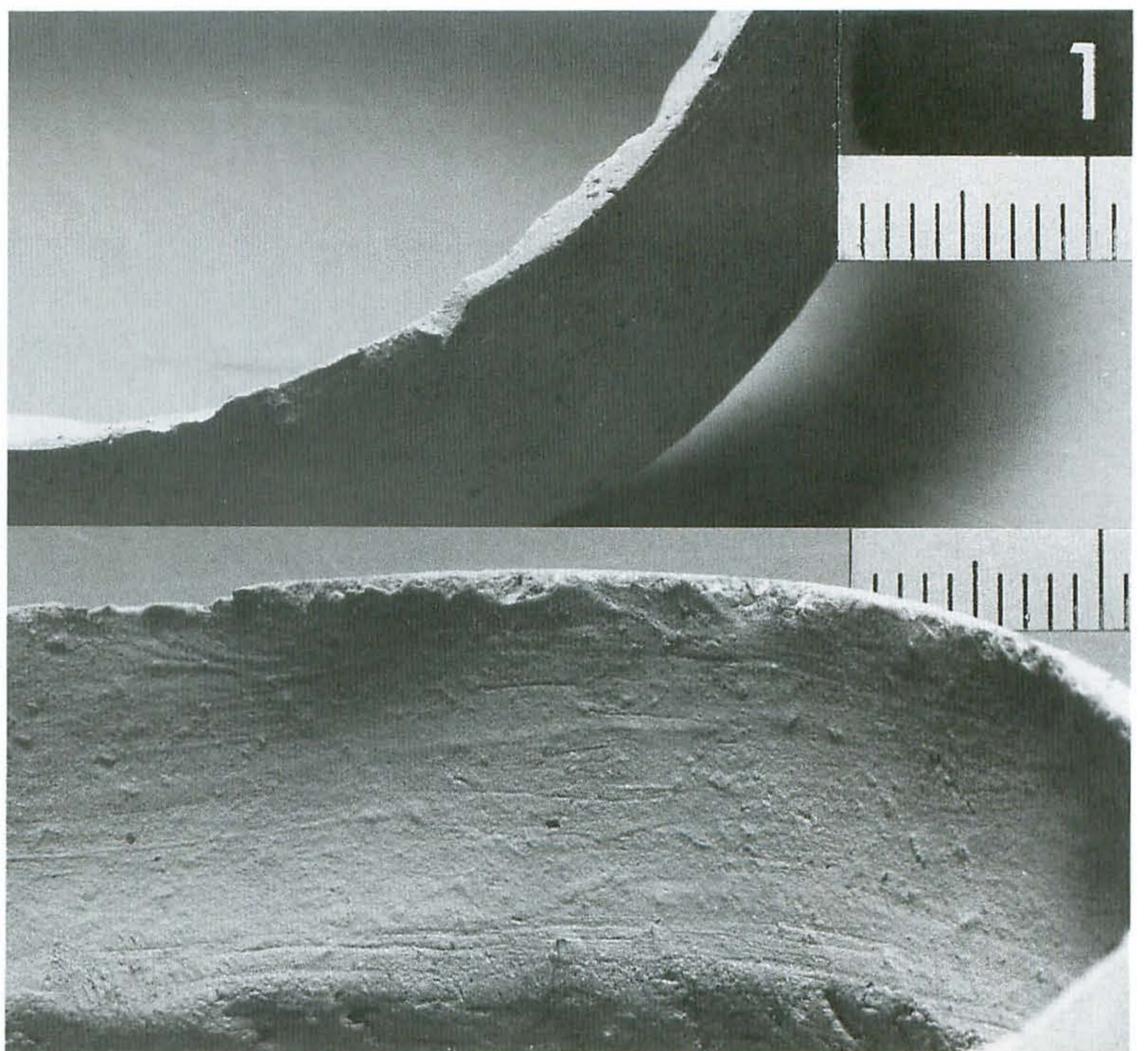


Fig. 46 水平に整形した上縁部と、内面に発生した小剥離



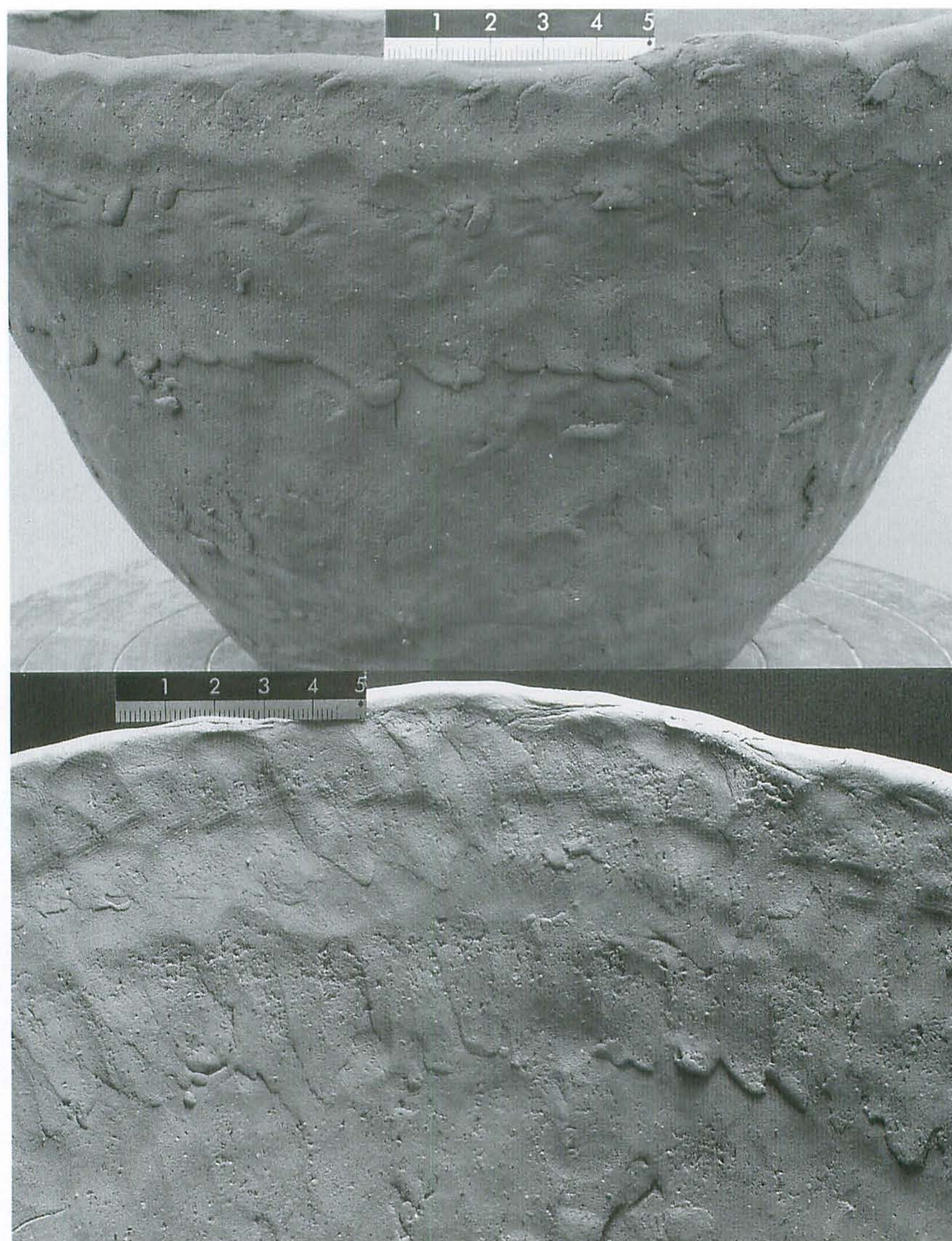


Fig. 47 紐土成形した土器



Fig. 48 タイプ2aの道具による内面の調整(削り)



う条痕がのこり、胎土中の礫の移動が目立つやや粗い調整痕(004に類似)となる(Fig. 49)。同じ道具の表面(盛り上がった部分)を使用して内面の擦りを行うと、刃部の剥離に沿った細かく盛り上がる条痕と、細かい粘土の移動が観察され、調整痕は017に類似するものとなる(Fig. 50)。

実験で得られた痕跡と017の調整痕では条痕の密度が異なるが、これは道具の先端形状の差によると推測してよい。外面への使用も可能であるが、凸面と凸面の接触となるため、削った痕跡は比較的深くくぼむ。

小型土器や部分的に曲率が小さい碗、鉢などの曲率を修正する目的で使用しても、刃状部が障害となることはなく、道具のカーブに沿わない凹凸を削り・擦りながら修正する。

タイプ3(斧/鑿形の道具) 細かく端整なけずりの痕跡を残すが、土器が湿った段階に削りを行うと、道具の表面が滑らかなのと、刃の角度が小さいために摩擦係数が高くなり、削った土が道具に付着する。始発点から2-3cmは削りが可能であるが、この付近を過ぎると粘土を押しのみで削るという作業には程遠い。このことから分かるように、紐土成形された器壁に対してはあまり有効とは見なしえず、内面などの連続削りに使用されたとは考えられない。乾燥が進むと粘土の付着は気にならなくなる。ただ外面の小範囲の削りは柄も邪魔とはならない。削りよりも細かい部分のモデリングや、柄部・先端を使用した磨きなどがむしろ有効と感じた(Fig. 51)。

先端が丸まった土製のタイプ3の道具を使用して、乾燥がさほど進まない時点で内面の擦り/撫でを行うと、条痕が目立たない緻密な表面をもつ調整痕が現れる。胎土が比較的湿った状態でこの作業を行えば、道具に付着



Fig. 49 タイプ2bの道具による内面の調整(削り)

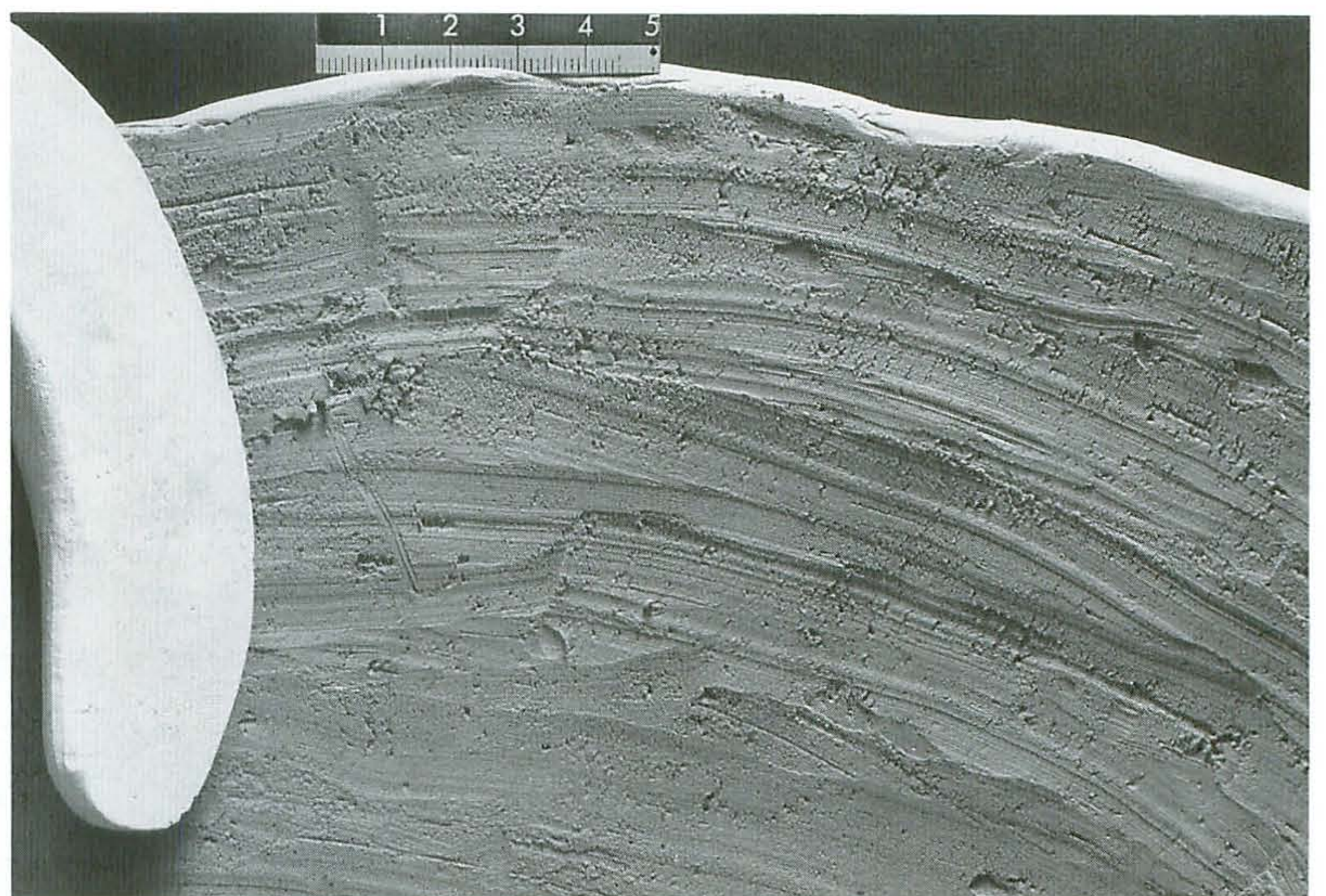


Fig. 50 タイプ2bの道具による内面の調整(擦り/撫で)

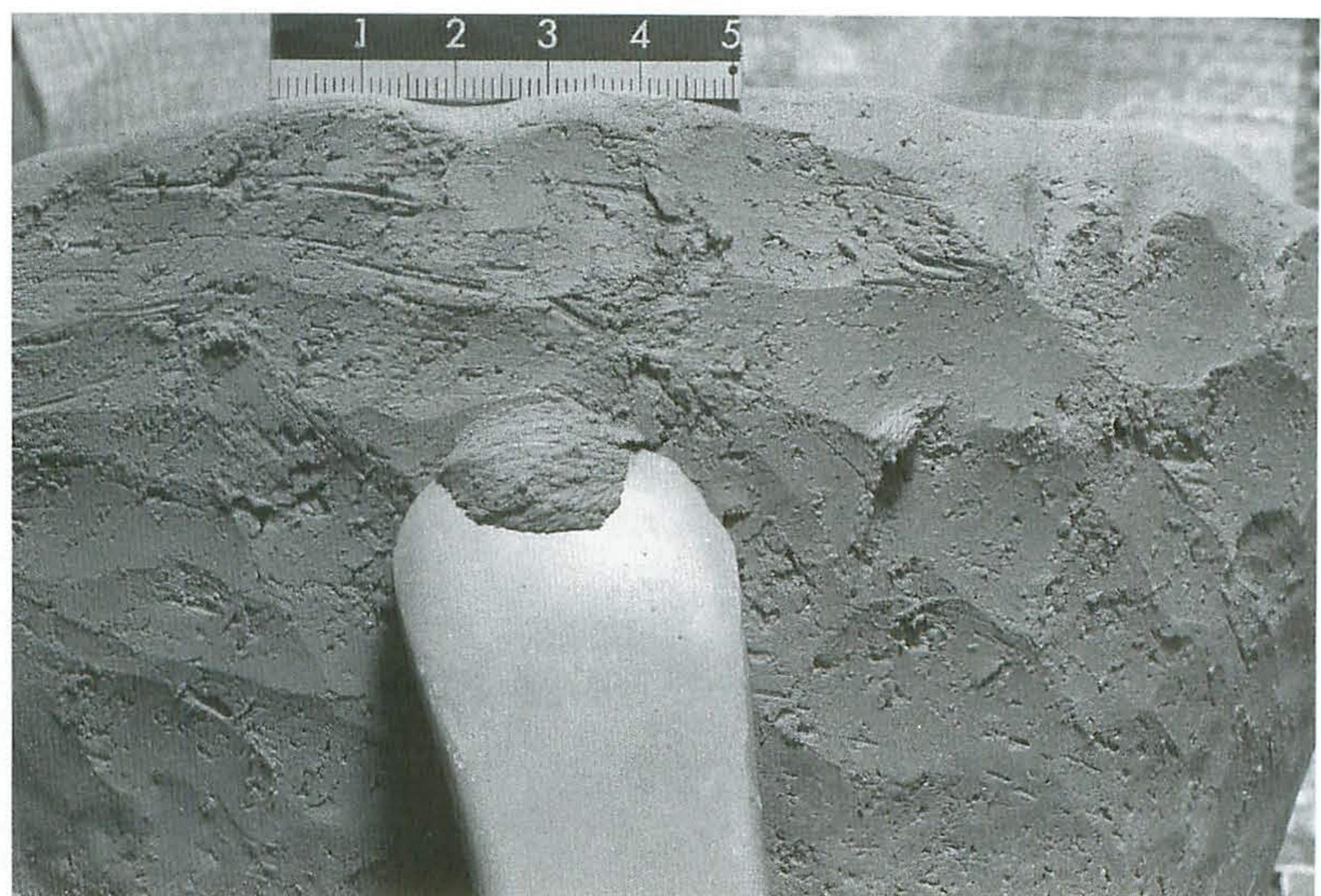


Fig. 51 タイプ3の道具による外面の調整(削り)



した粘土が影響して、土器の表面は細かくささくれた状態となる (Fig. 52)。ただ道具を水につけながら作業をすると、土の付着は防止できる。

タイプ4 (側面がカーブした道具) 内面の削り/擦りに使用してみたところ、下から上方向への使用が最も効果的と思われた。丸い刃から側面にかけての部分を使用し、擦るようにして上方に引くと、削りと擦りをミックスしたような調整痕が出現する (Fig. 53)。外面の削りも行ってみた。先端が鋭いこともあって滑らかに削ることができるものの、各作業単位ごとに明瞭な稜がのこる (Fig. 54)。出土した土器の外面にはこのような稜は確認できないので、このタイプの道具が外面の削りに使用された可能性は否定してよからう。

タイプ4 (未整形の土器片) ウル出土例に類似する三角形の先端をもつカーブした破片を使用した。あまり乾燥が進まない段階に有効で、例えばタイプ3の道具に削った土が付着するような状態においても、これを使用するとスムーズに作業でき土離れもよい。掻き取り/擦り痕は進行方向に沿う細かい条線がのこり、作業面に沿う微細な凹凸をともなう (Fig. 55)。

タイプ6.1類 (扁平な板石で円周部が稜状をなす自然石) 他の道具と同じように側面を使用して内面の擦り/撫でを行うと、最も緻密で滑らかな調整痕が得られる (Fig. 56)。石に付着した粘土をそのままにして作業を継続すると、調整痕は次第に荒くなり、表面が細かくささくれた状態となる (Fig. 56 上部)。したがって、付着した粘土を布などで取り除いたり、道具に水を付けながら作業をしたほうが、より良い結果をうむ。

タイプ6.3類 (扇状スクレイパー) 刃の



Fig. 52 タイプ3の道具による内面の調整 (擦り/撫で)



Fig. 53 タイプ4の道具による内面の調整 (削り/擦り)



Fig. 54 タイプ4の道具による外面の調整 (削り)



角度は三日月形製品（タイプ2a）の刃の角度とほぼ同じである。土器が湿っている段階に、スクレイパーの平らな面を内側にして土器内面にあて、手前に引くと面白いほど簡単に、しかも有効に削り／掻き取ることができる。その痕跡は刃の状態にもよるが、通常粗い条痕が並行し、横断面は小さい波状となる（本邦のハケ目／カキ目に近い）。しかし位置をややずらして同方向に作業すると、凹凸が平均化し、条痕がさほど目立たなくなる（Fig. 57）。削り取った粘土の付着も少なく、ほぼ三日月形土製品の状態に近い。ただ乾燥が進んだ時点ではあまり有効な道具ではない。所謂 flint-scraped が、このような調整痕を指すのかどうかを、実際に遺物を見て確かめたいと考えている<sup>16)</sup>。

タイプ8（環状スクレイパー）内面にも外面の削りにも有効に機能する。道具の内面が細かく剥離したものを使用して、胎土の乾燥があまり進まない段階に削りを行うと、剥離部位が影響し細かい条痕を伴う調整痕——016や Fig. 48 に類似したもの——となる。一方、内面がスムーズで剥離を伴わないもので削ると、条痕があまり目立たない滑らかな調整痕がのこり、005 にちかい状態となる（Fig. 58）。道具への削除土の付着は非常に少ない。削りの断面は中心部が僅かにくぼみ、001 内面の調整痕に酷似したものとなるが、タイプ2aの道具による調整痕との区別は付け難い。道具の作業面が細かく剥離したもので、あまり角度を付けずに土器表面を擦り気味に引っ掻くと015に類似する調整痕となる。

上縁部を水平に調整したものと、未調整でナイフの刃状に鋭く尖ったものでは、後者の方が格段にスムーズに削れ、鉋に近い効果が得られる。外面でも同じように削ることはで

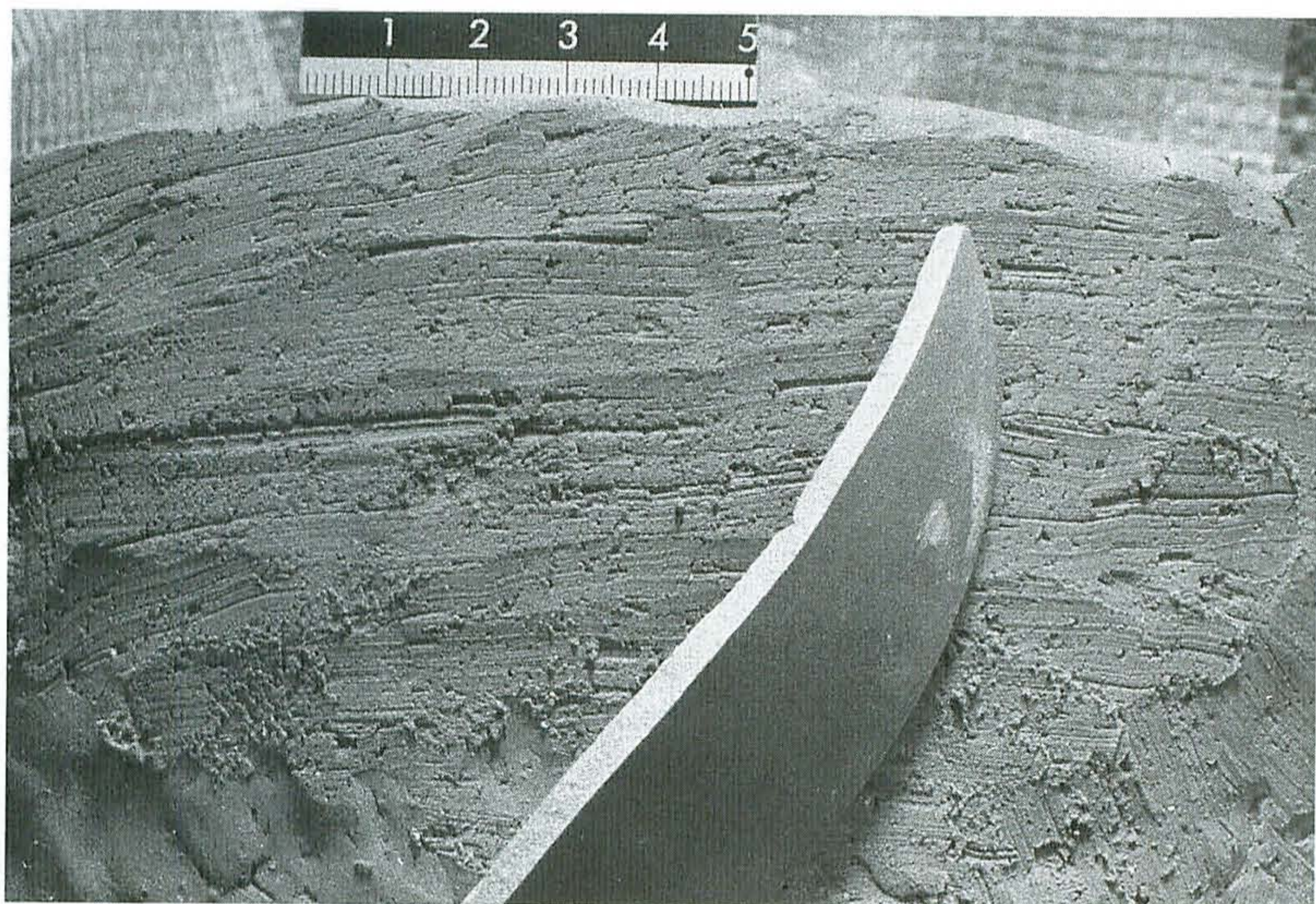


Fig. 55 タイプ4の道具：未調整の土器片による外面の調整（掻き取り／擦り）

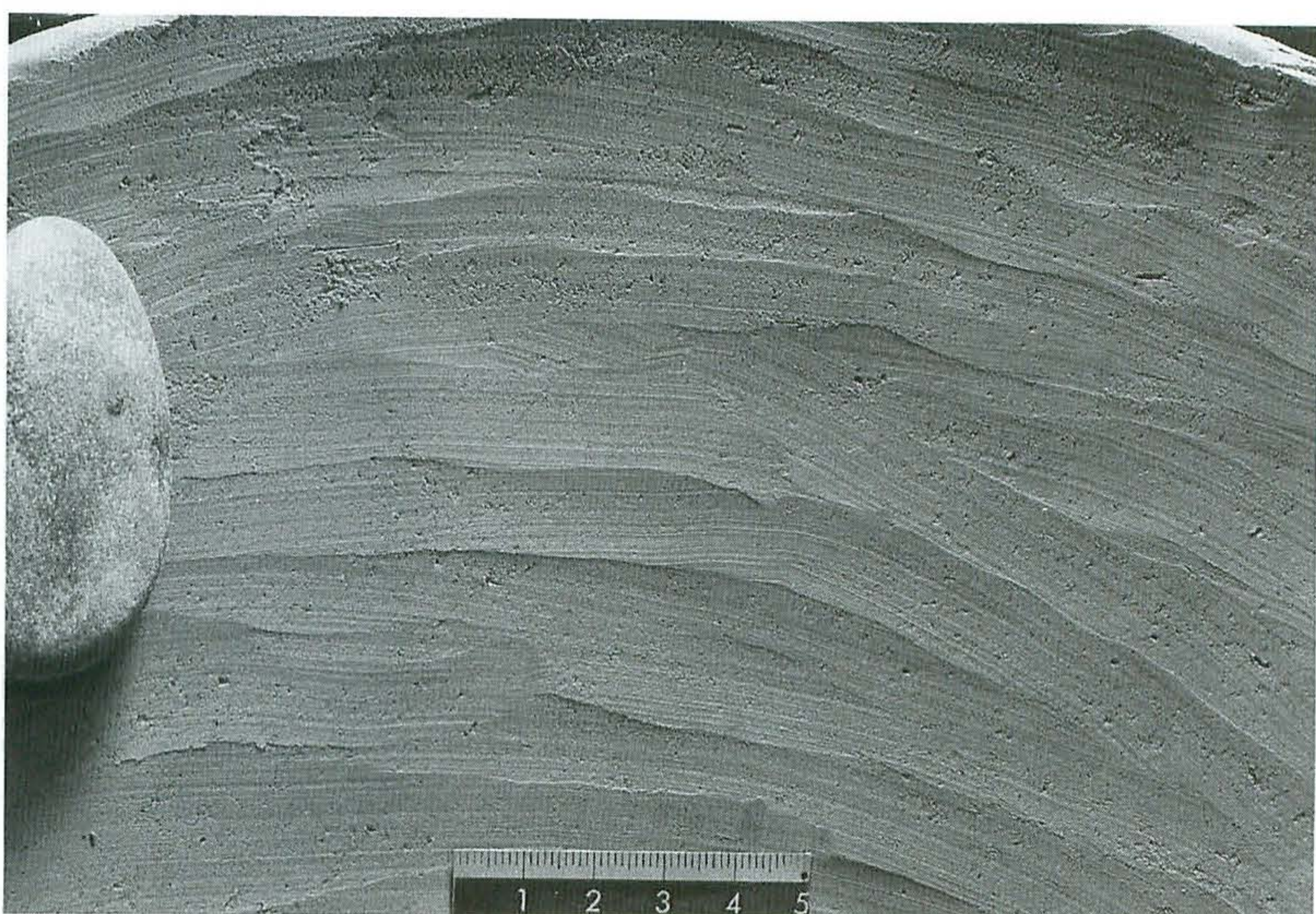


Fig. 56 タイプ6.1類による内面の調整（擦り／撫で）



Fig. 57 タイプ6.3類による内面の調整（削り／掻き取り）



きるが、内面と比較すると刃と器壁の接触角を大きくする必要がある（ほぼ90度に近い角度）。従って内面に比べ砂粒や小礫の移動が多くなり、006や007の外面に認められるような粗い調整痕が現出する（Fig. 59）。Aldenは内面への使用を想定していないが〔1988：144〕、実験ではむしろ内面のほうがスムーズに削れるという反対の結果となった。

本来このタイプの道具は、ナイフの刃のような上縁部を意識して製作されたと考えられるが、たび重なる使用によって作業面が磨耗したり、あるいは欠けたりする度に水平に調整することが行われたようである。その際に内面の小剥離の殆どは発生したのであろう。

ちなみに現代の陶芸家は、「掻きベラ」と称する先端に鉄環のついた道具を使用して、内外面の削り調整をおこなっている。

このほか外面の削りに最も有効な道具は、薄い篋状の道具である。実験では竹を用いたが、薄く平らで、しかも連続して削ることができ、削り面は他のいかなる道具と比較しても滑らかである（Fig. 60）。竹を産出しない西アジアでは骨もしくは木がこの代用品として有効である。

また、今回は実験を行わなかったが、外面に限定した削りには、未調整のフリント製ブレードが、その形状から見ても有効に機能したと思われ、土器の外面調整に関係した可能性は否定出来ない。

限られた条件での実験と観察を試みたが、今後あらゆる可能性と条件を加味した復元的実験が必要であると痛感した。これを機会に実験を継続していくつもりである。その結果、土器の調整技法や道具に対する認識はより確実性を増すことになると思う。



Fig. 58 タイプ8の道具：上縁部を水平に整形したものによる内面の調整(削り)



Fig. 59 タイプ8の道具による外面の調整(削り)

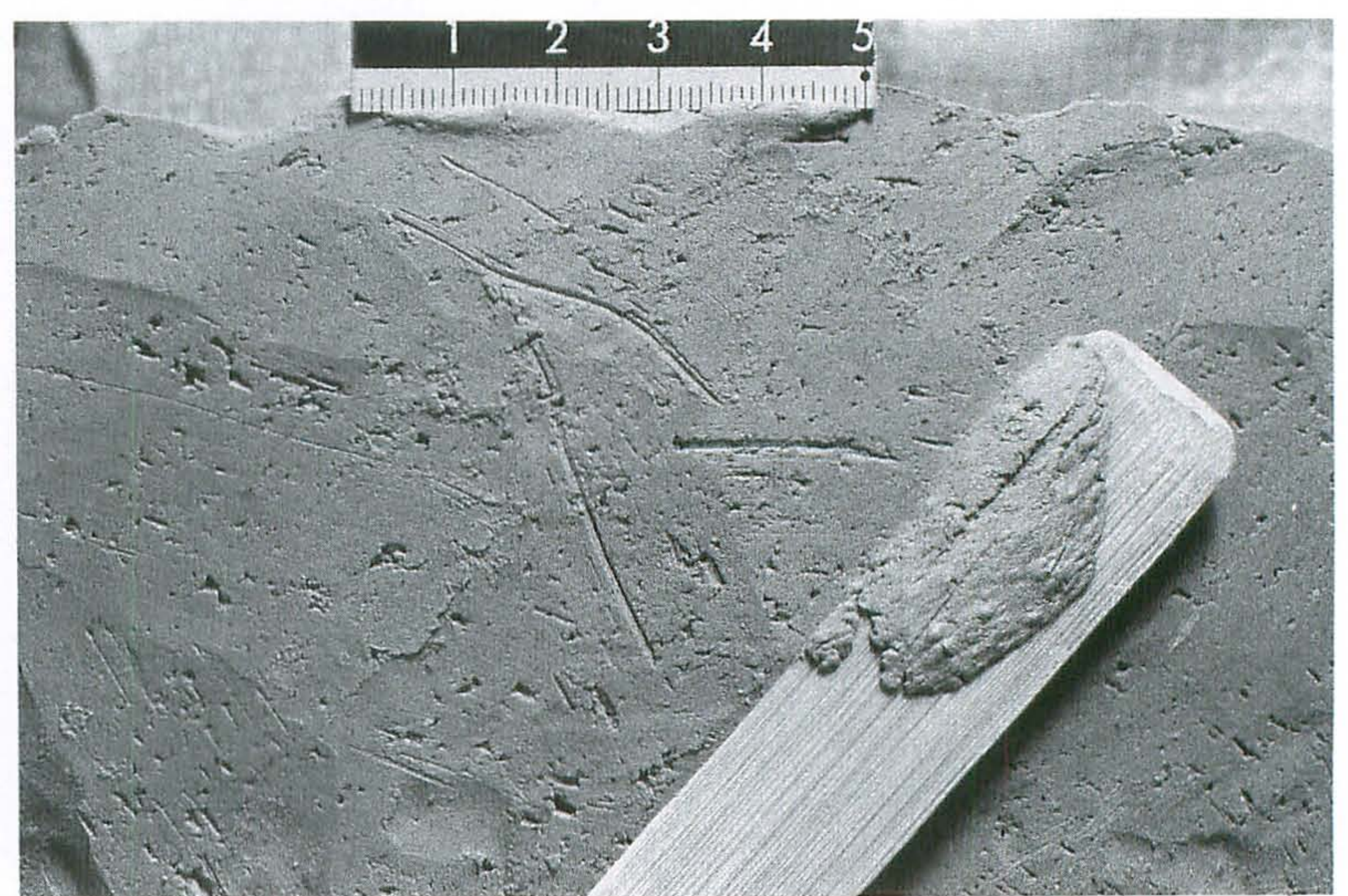


Fig. 60 竹製篋による外面の調整(削り)



## おわりに

前半では製陶具とみなされる道具を観察し、後半では調整痕の観察と、道具の復元製作および簡単な実験を試みた。この作業を通じて、土製の製陶具の系譜がハラフ期まで遡ることが確認でき、轆轤が考案され普及した後でも、それ以前と同じような道具を使用して削り、擦り／撫で、搔き取り、磨きなどの調整作業が相当の頻度で行われたことを明らかにした。ハラフ期頃に考案された半円／三日月形の道具は、内面の調整や、一定規格の容器の製作に極めて有効に機能したと考えられ、数千年に渡って使用された。陶工は自身が使用する道具を粘土を材料として製作し、それを使用して様々な器物を生産したようだ。

本稿では前5-3千年紀の製陶具に視点を当ててみたが、ウバイド期からハッスーナ期については深く追求していない。したがって今後は、ウルク期以前の製陶具のアセンブリッジを捕らえる作業が必要となってくる。そうすれば、ここで指摘した道具の系譜や、あるいは筆者の注意にのぼらなかった新たな道具が判明する可能性もあるし、推論的に展開した道具に対する解釈の検証にもつながる。

結論的なことをいえば、轆轤出現前後の陶工は、土・石・骨・または木製品などを状況に応じて使い分けており、当時の道具は我々が想像する以上に多かったに違いない。当時の製陶工房の実情は1960年代のパキスタンやアフガニスタンの状況が参考になるし〔吉田・小山 1966〕、土器の生産性はウル III 期頃の粘土板文書がしめす数量（300 l 容器：延10日、60 l 容器：延2日、小ボウル：4個／日、小カップ：10-15個／日）〔前川 1989：69〕と大差なかったと推考できよう。

メソポタミアを含む西アジアの遺跡において土器窯が発見されれば、必ずといって良いほど、その付近には製陶工房や不良品の捨場などがあり、製陶に関係した何らかの道具が遺存する可能性が高い。今後は窯のみに注意が払われることなく、土器インダストリーを総合的に把握する作業が必要になってくる。

## 後記・謝辞

土器生産を体系的に把握しようと試みたが、勉強・力量不足や、資料の欠落などもあり、不完全なままで擱筆せざるを得なかった。今後も資料の補充をかねて、製陶関係の遺構・遺物や、技術的側面を中心とした土器生産を追求したいと考えている。諸賢の教示と助言をお願いしたい。

テル・グッバ出土の未公表資料の使用に関しては、国士舘大学イラク古代文化研究所の了解を得た。所長および所員各位に感謝する。なお小論は、イラク古代文化研究所共同研究員北原実徳氏との、1991-92年度共同研究「古代における土器生産—メソポタミアと日本—」のメソポタミアに関する一部である。執筆に際し北原氏からは諸々の技術的なアドバイス、電気炉のアレンジなどをしていただいた。'Blau Monument' に関して British Museum 西アジア部門の J. E. Curtis 博士より、正確な計測値と断面の実測図、および出版の許可をいただいた。実測は同館の A. Searight 女史による。Fig. 33 に示した遺物の実測と拓本は沼本宏俊氏による。横倉雅幸氏には東南アジアの例を、川又正智氏からは中国の回転台・轆轤に関する情報を、大沼克彦氏からはスクレイパーに関する教示を、中近東文化センターには文献複写をお願いした。ここに記して感謝の意を表します。

(1991, 7, 22)



## 注

- 1) 製陶関連遺構のうち、土器新石器時代を中心とした土器窯に関しては常木〔1986〕に良くまとめられており、西アジア全般に関しては Delcroix et Hout〔1972〕が、イランの窯の系譜は Majidzadeh〔1975-77〕に詳しい。
- 2) なお、遺物説明に計測値が示されたものの数値は正確である。しかし、報告書中にスケールのみを記すものは多少の誤差を考慮しておかねばならない。これはその他の遺跡出土品に関しても同じである。
- 3) 回転盤と回転軸の接着にはピチュメンが使用されたと考えられ、回転軸と軸受の潤滑にはある種の油の使用を考えなければならぬ。回転軸と軸受の位置関係については、復元図の方法とその反対の使用方法が想定できる。
- 4) このほか酷似した轆轤は、ディヤラ川流域のマフムディーヤの町に近い Tell Yahudiyah の ED III/アッカド期の神殿(テル・アスマルの方角アブ神殿に類似したプランで、神像/礼拝者像および奉納台と聖台を伴う)からも出土しており、筆者は1981年に実見した。轆轤の大きさはほぼグッパ例に近い。
- 5) 報告者は天然樹脂をボイルするために使用したのではと考えているが、彩色顔料の調合・攪拌にも使用できる。出土状況が不明であるためコメントできないが、土器窯付近から出土したとすれば、一種の製陶関係の道具とみてよい。類似する道具がムシャリファからも出土したように記憶する。
- 6) 常木〔1986〕に顔料粉碎用の石臼に言及した記述がある。Woolley はユヌス出土の石杵を粘土を細かく砕くために使用したと推定した〔1934b:150〕。赭土が付着した道具は後述するサンギ・チャハマック (Fig. 25. 3, 4) や、ガブリスタン〔Majidzadeh 1975-77:217〕からも報告されている。地域は異なるが、アナトリアに存在する Hacilar 遺跡の前期銅石器時代層 (IIA) からは、集落中心の三カ所で製陶工房と考えられる施設が検出されており、ここでは赤色や黄色のオーカーが付着した quern や mortar が多量に出土した〔Mellaart 1970:30-31〕。このようにメソポタミアに限らず彩文土器文化圏では、顔料粉碎用の臼、杵、敲石などは、陶工にとって必須の道具なのである。
- 7) 同じような半円/三日月形土製品は2号丘の全層を通じて出土したとされる。これらを皮革製造用のスクレイパーとする考えは、Munchaev and Merpert, 1981, Early Agricultures Settlement of North Mesopotamia (in Russian): Moscow. の p. 230 に言及されている〔Merpert et al. 1984: Note 8〕が、筆者はこの書を見ていない。従って皮革用と推定されたその根拠が何なのかを知らない。さらに、皮革生産に関係したとする考えは数年後にも強調されており、興味深い説明であるのでここにその文を引用してみる。The former (clay scraper) are made of potsherd and are oval or triangular in form; the inside working edge is coarsely chipped (see Sumer 37 (1981), p. 46, Fig. XVI). Such objects occur in all levels (more than 100 in Level 9 alone) and at other Halaf sites. Presumably they were used for preparing animal skin〔Merpert and Munchaev 1987:29〕。ただ1987年の説明は、土器片を再利用し、これを簡単に打ち欠いた道具に関するもので、Merpert et al.〔1984〕で説明された半円形の土製品とは異なる。半円形土製品も同じような解釈が踏襲されているのか、あるいは解釈の変更がなされたのか知りたいものである。なおヤリム・テペ2号丘9層は、残存状態の良いハラフ期の昇焰式土器窯が発見されたレベルで、樹脂硬化された実物〔Merpert et al. 1981: Fig. 1〕は、モースルの考古学博物館に展示されている。
- 8) 筆者の石器に関する知識は乏しいため、無責任な発言は控えるべきであるが、ここで感じたことを述べておきたい。現在でも扇状スクレイパーが土器製作に関係した遺物であるのか否かの疑問をもっている。というのもムシャリファ例以外に、土器生産施設に関係した出土例が報告されていないからである。ムシャリファ、カシュカショク、ジャバル・アルーダが存在する地帯はメソポタミアの縁部を形成し、南メソポタミアと関係/影響を受けながら独自の文化を発展させる。本文中にも述べたが、当該スクレイパーの分布はパレスティナを経てシナイ半島に達する。南メソポタミアに関する資料の入手が急務であるが、南メソポタミアに存在が確認できなくなると、この道具はメソポタミアに起源しない技術・系統の道具である可能性が強くなり、西方との関係で捉えざるを得なくなる。扇状スクレイパーは、単独で手にもって使用する収穫具の一種と考えられ、一部にプラント・オパール光沢の存在が指摘されると言われ、パレスティナのガッスル文化期の標準遺物とされるが、出土数量は極めて少ないという〔藤井純夫 1981:24〕。使用による光沢は無視できないが、筆者は出土数量の少なさが気になってならないのである。参考までに、本文中で引用した以外で目に触れた扇状スクレイパー関係の文献を記載しておく。

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- 9) このように観てくると、初期のスーサの調査で出土した帰属年代のはっきりしない陶工印をもつ3点は、形態的特徴から判断すれば、ウルク後期を遡ることはなく、アッカド期以降とも考えられない。おそらくJN期からED期頃にかけての年代が与えられるのではなかろうか。
- 10) Merpert and Munchaev [1987] で示唆された他遺跡出土の皮革製造用のスクレイパーとは、これらを指しているのかも知れない。なおメソポタミアでは、三日月形は最もポピュラーな造形品のひとつで、多くの製品に採用される。例えば月神の象徴は三日月であるし、ペンダントやアミュレット等にも広く用いられる。Tokenにも三日月／半円形で線刻を伴うものが多く [Schmandt-Besserat 1988]、容器をあらわすBURの原型サインも半円／三日月形で表現される [前川 1989: 63]。
- 11) 地域は異なるが南西イランのテペ・ヤヒヤの陶工印を研究したPottsの論考 [1981] は興味ぶかい。この中にはスーサ出土例 (Fig. 7. 9) に近い鼓状のマークも存在しているほか、いくつかのマークはインダス文明の初期文字資料に共通点が見出せるという。
- 12) ここで土器生産に関係すると思われる道具・容器・施設を整理してみると、以下のようになる。
- 陶土採集：鋤・鍬などの掘削具，陶土の容器・保管場所。  
 素地作成：水簸の容器，混和剤の容器，保管場所。  
 成形：轆轤／回転台／台，布／革（水挽き用），こて／当板。  
 調整：1) 粗・しあげ削り；ナイフ，篋，鑿，スクレイパーなどの刃を持つ道具。  
 (整形) 2) こすり；石・木・骨などの道具。  
 3) 磨き；石・木・骨などの道具。  
 施文：1) 彩文；顔料粉碎の臼と杵，保管容器，調合容器と攪拌棒，パレット，数種類の筆。  
 2) 刻文；先端が鋭利な複数の道具（金属・石・有機質）。  
 3) スタンプ文；スタンプ。  
 乾燥：棚板(?)。  
 焼成：窯と窯道具（焼台等）。
- このように、本格的な土器生産を行うとなると、多くの道具・容器・場所が関係する。また焼成、乾燥を除く総ての工程に水は深くかかわる。焼成後の土器はその供給体制にもよるが、おそらく一定期間、屋内・外に保管されていたと考えてよい。
- 13) 円盤状の粘土を轆轤あるいは回転台上に置き、紐状の粘土を順次上部に積み足して器を成形する技法に対し、粘土紐巻上げ、輪積み、粘土紐積上げ、紐作りなどの用語が使用されているが、小論では「紐土成形」で統一する。
- 14) ここでの「削り」と「掻き取り」は必ずしも明瞭に区別できない、それは後述する復元した道具による使用痕の観察を見ても明らかである。筆者は、英語表記の *scraped* に削ると掻き取るが含まれ、掻き取りはどちらかと言えば刃を伴わない道具で「引っ掻く」、削りは刃を伴うか刃状となった道具の刃を利用して「削る」動作と個人的に理解している。しかし、どちらともいえない道具が実際に存在するし、例えば三日月形土製品のような道具では、使用面の角度を変えることで両方の作業がこなせる。
- 細かいことを言えば、「掻き取り／掻き目」と「擦り」の区別は困難なこともあるし、「磨き」は「擦り」と基本的に同じ作業であり、道具の差と艶の有無によってのみ、その判別が可能である。
- 15) メソポタミアは殆ど鉱物資源を産出しない地帯である。このため、ある特定の機能をもつ道具の形を粘土を焼成して実際に使用した。ウバイド、ウルク中―後期頃を中心に生産された土製鎌や、JN期の貝製品を模した *long-tubular spiral bead* などはその典型である。このようなことから粘土を操る陶工は、自分が必要とする道具を自ら製作したに違いない。
- 16) ユーフラテス川の上流、東アナトリア高原に存在しケバン・ダム関係の遺跡として調査された *Korucutepe* では、銅石器時代層から 'wiped' or 'flint-scraped' された土器が出土した。その解説は 'a wiped ware with marks on interior and exterior which are usually explained as being caused by wiping with some cloth or grass; experiments by Kalsbeek, however, showed that the same results could be obtained by scraping the vessel with a piece of flint' [van Loon ed. 1978: 59] と説明する。同じような調整痕を持つ土器は、ハンマム・エト・トルクマンの銅石器時代層でも確認されたという [Akkermans 1988: 321]。
- 報告された原色写真図版によれば [van Loon ed. 1978: Pl. 139. 2]、壺／甕の内面頸部に施された横方向の比較的粗い条痕が確認できるが、その調整痕はタイプ6.3類による調整痕とするよりは、むしろタイプ2の道具による調整痕 (Figs. 49, 50) に類似しているように見受けられ、グッパ出土例の004, 016, 017に共通点が多いように思う。掲載の図版は小さく、しかも明瞭とは言い難いため、詳細な特徴の観察はできないが、筆者の観察が正しければ、テクニカル・タームとしての *flint-scraped* は再考を要することになるし、場合によっては使用すべきではないのかもしれない。



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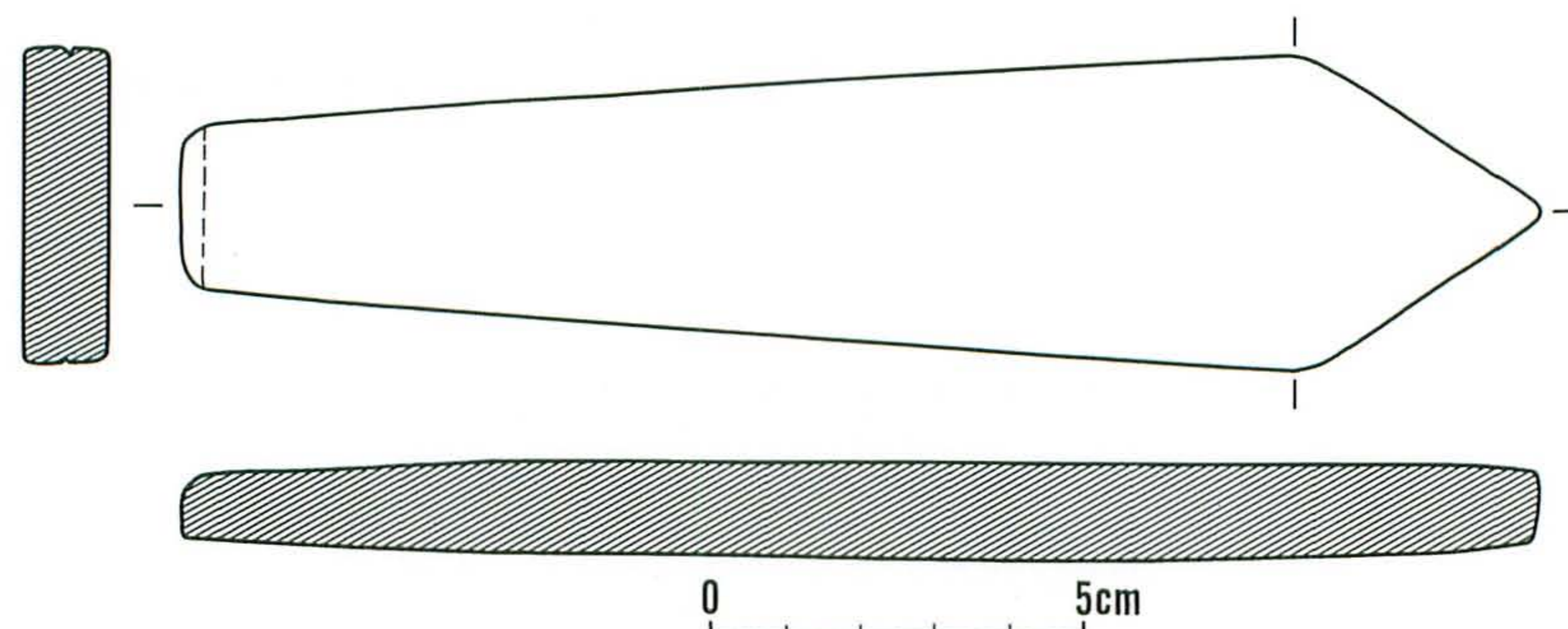


Fig. 61 'Blau Monument' 実測図. Courtesy of the British Museum, drawing by Ms. Anne Searight



## ルヴァロワ技法の再考察 “古典的”ルヴァロワ剥離と円盤形石核剥離

大沼 克彦\*

### はじめに

今世紀の初頭に V. Commont がルヴァロワ技法を記述してからすでに八十余年が経過した [Commont 1909]。

Commont によれば、先ず原石がその凹凸部分を除去されながら円盤形の石核へと準備される。次に石核の表面が修正され、稜線が求心方向に配列される。そして最後に、石核はその表面が少しばかり下方に傾斜するように（左手あるいは右手で）持たれ、細かく面取り調整されている打面の特に選ばれた部分が（石のハンマーで）好角度で一撃される。そして、石核表面の大部分が求心方向剥離痕を持つ大形剥片として剥離される [1909 : p. 122]。

1961年出版の F. Bordes の *Typologie du Paléolithique ancien et moyen* は、彼のルヴァロワ研究集大成とも言えるものである。この中で、ルヴァロワ剥片は“それが石核から剥離される前に石核上の特殊な調整でその形を予め定められるもの”と定義づけられている [p. 14]。

同書に於いてルヴァロワ剥片は三分類されている。背面に平行或いは求心的石核調整痕を残すルヴァロワ剥片、最大長が最大幅の2倍以上の（縦長ルヴァロワ剥片としての）ルヴァロワ石刃、そして、ルヴァロワ剥片（石刃）石核とは異なる特殊な石核から剥離され、剥片自体の剥離軸と剥片先端部の二分割線とが一致するルヴァロワ・ポイントである [pp. 17-18]。

のちに Bordes は、求心方向石核調整痕を持つルヴァロワ剥片（石刃）を“古典的”ルヴァロワ (type classique) として分類している [1980 : p. 45]。

1961年時点の Bordes のルヴァロワ概念は極めて広義なものである。そして、それが、同様に剥片や石刃の形をその上で準備する円盤形石核や角柱形石核などにもあてはまるため、この概念の曖昧性に対する C. B. M. McBurney 等の批判を浴びることとなる [West and McBurney 1954 : p. 147 ; McBurney 1967 : p. 77]。

McBurney 等の批判は、即ち、Bordes 自身も述べているルヴァロワ同定の困難性、そして、研究者各人の考古資料観察や復元製作の経験差から来る同定の多様性 [1961 : p. 17] にかかわる問題提起であったとすることが出来る。

そこで、Bordes は、*Le débitage Levallois et ses variantes* [1980] に於いて McBurney 等の批判に応えようとする。しかし、ルヴァロワと非ルヴァロワを識別するための説得力ある基準を提示することは出来なかったようである。

J. Tixier は1967年以来“Levallois technique”に対して“Levallois method”という用語を提唱してきた [Tixier 1967 : p. 813 ; Tixier et al. 1980]。

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この二つの用語を比較するとき、後者は前者以上に、原石の荒削に始まり石核調整を経て最終的にルヴァロワ剥片が剥離される全工程を意味する。

それ故、この新用語の提起は、ルヴァロワ石核やルヴァロワ剥片を特定石器インダストリーの標準化石にみたてさえした〔Breuil 1932 : pp. 571-572〕それまでの型式中心的な研究傾向に対する疑問の表現であったと思われる。

1980年出版の *Préhistoire de la Pierre taillée : 1: terminologie et technologie* に於いて、Tixier 等はルヴァロワ石刃と後期旧石器的“真正”石刃の違いの説明を試み、前者を、非平行的な稜線を持ち、2つの相対する打面を持つ長方形の石核から連続剥離された石刃と定義した〔p. 46, p. 50〕。

この定義は、Bordes によるそれまでの規定、即ち、最大幅の2倍以上の最大長を持つルヴァロワ剥片としてのルヴァロワ石刃〔1961 : p. 18〕、よりも厳密なものである。

Tixier 等は更に“真正”石刃に伴う重要な特徴として、石刃連続剥離を容易にするために石核剥離開始段階で準備・剥離されるトサカ状稜線を持つ石刃 (crested blade) の存在を挙げている〔1980 : p. 50〕。

以上の Bordes と Tixier によるルヴァロワ研究は、それぞれ考古資料の観察と復元製作に基づき、机上の空論には無い説得力を持っている。それ故、今日まで、ルヴァロワ研究の指標的方法論となってきた。

にもかかわらず、ルヴァロワ剥離にかかわる論議は今尚尽きず、研究者各人が独自の解釈でルヴァロワ資料を分析している現状を見る。

このことはとりもなおさず、Bordes 等のルヴァロワ規定がもともとヨーロッパ資料に関するものであり、中近東など世界各地で様々な時代に異なる契機で出現したと思われる〔Bordes 1968 : p. 137〕ルヴァロワ剥離の変異例にはそのままあてはまらなかったことを示している。

1970年代も半ばになると、F. C. Munday が異なる剥離工程に対応する石核の形態差に着眼する〔1976〕。

Munday は、イスラエル・ネゲヴ砂漠のムステリアン石器群の多様性を見る中で、遺跡と石器素材原産地との距離を考慮しながら〔1976 : p. 119〕、一見異なる型式に属するかに見える石核のいくつかを、ルヴァロワ剥離初期段階石核、典型的ルヴァロワ石核、そして、最終放棄段階としての不規則 (irregular) 石核など、異なる剥離工程に対応するものとして記述した〔1976 : p. 129, p. 131, p. 133〕。

1983年には、イスラエル・Boker Tachtit 遺跡出土の中期旧石器／後期旧石器移行石器群にかかわる A. E. Marks 等のルヴァロワ研究が現われる〔Marks and Kaufman 1983 : pp. 69-125 ; Volkman 1983 : pp. 127-190〕。

この研究は、出土石核と剥片の接合例に基づき、Boker Tachtit 遺跡第 I 層のルヴァロワ・ポイントが、トサカ状稜線を持つ石刃に後続して剥離され、通常のルヴァロワ・ポイント剥離工程にはよらないこと、そして、第 IV 層のルヴァロワ・ポイントが単一打面石刃石核上の石刃連続剥離過程で剥離されていることを述べ、ルヴァロワ研究における接合作業の重要性を示している。

ところで、今日の主導的ルヴァロワ研究者として E. Boëda の名を挙げることに異論はないだろう。

Boëda は先ず (剥片剥離は表面に限られ、裏面には打面作成用の剥離だけが認められる) 片面剥離性をルヴァロワの大前提とし、次いで、それを、彼自身が復元製作で具体的に示す異なる二つの剥離概念に大別する。即ち、*méthode linéale* と記述され、単一の四角形剥片、三角形剥片、ポイント、或いは、尖頭縦長剥片が剥離される単一剥離ルヴァロワ、そして、*méthode récurrente* と呼ばれ、剥片、石刃、或いは、ポイントが連続剥離される複数剥離ルヴァロワの二つである。複数剥離ルヴァロワは、更に、一方向剥離 (*méthode récurrente unipolaire*)、



相対する二方向剥離 (*méthode récurrente bipolaire*), そして, 求心方向剥離 (*méthode récurrente centripète*) の三者に細分されている [1988a; 1988b]。

以上, 欧米におけるルヴァロワ研究の歴史とその現状を概観した。

ルヴァロワをめぐっては, 石核調整剥片と目的ルヴァロワ剥片の相違, “古典的”ルヴァロワ剥離と円盤形石核剥離の関係, 更には, ルヴァロワ石刃と後期旧石器的“真正”石刃の識別など未解明の問題が少なくない。

筆者は本誌前号で, 自身が製作した“古典的”ルヴァロワ剥片とその石核調整剥片にかかわる形態・形式的及び測定値的な特徴を報告し, また, ルヴァロワ剥片石核と円盤形石核を識別することの困難さを指摘した [Ohnuma 1990: p. 126]。

本稿は, ルヴァロワ剥離と円盤形石核剥離にかかわる問題点, とりわけ, “古典的”ルヴァロワ剥離と円盤形石核剥離の関係についての試験的な考察である。

### 円盤形石核について

円盤形石核については, Bordes の *Typologie du Paléolithique ancien et moyen* [1961] 以外に見るべき記述はないようである。

この中で Bordes は, 円盤形石核 (*nucléus discoïde*) を剥離工程の違いから二分した。

その一は, 表面をルヴァロワ状に求心調整された石核から, 大形の前定剥片 (ルヴァロワ剥片) が剥離される代わりに, スード・ルヴァロワ・ポイントを含む剥片が (石核表面中央部に極度の高まりを残さないように) 求心方向に連続剥離されて石核が放棄される工程である。この場合, 剥離が石核の表裏両面に及ぶこともある。その二は, ルヴァロワ剥片を剥離されたルヴァロワ石核が放棄されず, そのまま続けて, 工程その一と同様に連続剥離されるものである [1961: p. 16, pp. 72-73]。

Bordes は, 既に1953年時点で, 円盤形石核とルヴァロワ石核が同一技術によるものであり, それぞれ, 遺跡の立地差に由来する石材獲得の容易性あるいは困難性を表わしたものに他ならないことを述べている。即ち, 石材豊富なオープン・サイトのムステリアンは贅沢なルヴァロワ石核を残し, 一方, 石材の少ない洞穴や岩陰遺跡のムステリアンに於いては, 搬入石核は可能な限り剥離され, その結果, 最終的に円盤状の形で放棄されたとするのである [pp. 232-233]。

前述したように, Boëda はルヴァロワを単一剥離ルヴァロワと複数剥離ルヴァロワに二分する [1988a; 1988b] が, 複数剥離ルヴァロワのうちの求心方向複数剥離 (*méthode récurrente centripète*) と円盤形石核剥離との関係は, 上記 Bordes の1953年論文が提起した“異環境下での同一技術の異表現”という問題にかかわる重要な研究課題である。

我国に於いては, 安斎正人がこのルヴァロワ石核と円盤形石核の問題に取り組んでいる。

安斎は, レバノン国・ケウエ洞穴遺跡出土の中期旧石器の石核の分析に際して, そこに“ボルドのわずかな包括的用語だけでは表現しきれない, 重要な歴史的・地理的現象 [1977: p. 61]”のあることを見出し, 下に引用するケウエ独自のルヴァロワ及び円盤形両石核の定義を作製し, その内容を反映させるための, 技術的基準 (背面と打撃面の調整と腹面の形状) に形態的基準 (外形と断面形) と機能的基準 (剥片の種類と数) を加味して創作した, 分類体系を具体的に提示した [1977; 1982; 1983]。

“亀甲形石核: 典型的標本の背面をみると, 周縁部全体に亘って連続した剥離痕があり, その一端にこれとは



違質の、その後につけられた複数の小剥離痕 (facets) が並ぶ。この小剥離痕が形成する打撃面は、石核の腹面とほぼ直角に近い角度をなしている。背面は凸形で中央に原礫面 (cortex) を残している。次に裏返して腹面をみると、その周縁に7~10個、時には15以上もの小剥離痕が求心状に並ぶ。これらの剥離痕は、背面の一端につけられた上記の特別な打撃面をたたいて剥離した、1個の大型の楕円形剥片の剥離痕によって切截されている。石核全体の外形は亀(甲)に類似する。円盤形石核：背面は亀甲形石核と大差ない。ただし、周縁のどこにも打撃面用の特別な小剥離痕はみられない。腹面には単一の大型剥離痕の代わりに、2~3から5~6個の求心状の剥離痕がみられる。円形に近い外形で、横断面は凸レンズ形を呈する。”〔1977：p. 66〕。

安斎の分類の詳細は割愛するが、ルヴァロワ石核と円盤形石核それぞれの明瞭な定義づけが今尚なされていない状況を見ると、すでに十年前に安斎がその必要性を指摘していることは評価すべきである。

ところで、円盤形石核なる呼称は、その言葉が自ずから示すように、もともとは形に由来している。一方、剥離工程を示すルヴァロワは、亀甲形、円盤形、或いは、角柱形であれ、種々の形の石核上に表現され得るのであり、イコール特定の形態ではない。

これら二種の石核は全く異なる基準による分類範疇である。このことは留意すべき事柄である〔大沼 1986：70頁〕。

#### ルヴァロワ剥離と円盤形石核剥離にまたがる問題点

既に述べたが、筆者は“古典的”ルヴァロワ剥片を製作し、その石核調整剥片にかかわる形態・型的及び測定値的な特徴を本誌前号で報告した〔Ohnuma 1990〕。

この復元製作は5例を数え、山形県寒河江市月布町の月布川河岸で採集した珪質頁岩塊を素材とした。

月布町の東方約14 kmには高瀬山遺跡がある。同遺跡からは、阿部祥人〔Abe 1976〕がその剥離工程を記述した流紋岩製の両面剥離ルヴァロワ様石核が発見されている。

復元製作工程の途中で生じた石核調整剥片と最終剥離された目的ルヴァロワ剥片はそれぞれ種々の属性について分析された。

属性のうち、形態的或いは型的なもの、打面特徴〔Bordes 1947：pp. 7-8；1961：p. 5〕、背面上剥離痕型式〔Tixier 1963：p. 43；Bordes and Crabtree 1969：pp. 2-3；Crew 1975：p. 429〕、背面輪郭形態〔Marks 1976：p. 372〕、先端部形態〔Marks 1976：p. 372〕、タテ断面形態〔Marks 1976：pp. 372-373〕から成り、また、測定値的なものは、打面最大幅、打点直上の打面厚〔Wilmsen 1968：p. 984〕、最大長〔Jelinek 1975：p. 304〕、最大長と直交する最大幅〔Bordes 1961：p. 6〕、最大厚〔Munday 1976：p. 121〕、背面と打面で形成される剥離角〔Barnes and Cheynier 1935：p. 289〕、そして、背面上の剥離痕数から成る。

以下に列挙するものは主要な分析結果である。

1. 石核側面調整剥片は背面の全て或いは部分的に自然面 (cortex) である。
2. 石核表面調整剥片の背面は概して剥離痕である。
3. 石核側面調整剥片の打面は一枚の剥離面 (plain) であることが多い。
4. 石核表面調整剥片の打面は自然面、一枚の剥離面、或いは、山形をなす二枚の剥離面 (convex dihedral faceted) であることが多い。
5. 石核側面調整剥片はその背面上に単一 (single) か一方向 (unidirectional) の剥離痕を持つことが多い。



6. 石核表面調整剥片の背面は斜交する (crossed) 剥離痕であることが多い。
7. 石核側面調整剥片のタテ断面 (lateral profile) は腹面へ向けて湾曲する (incurvate) ことが多い。
8. 石核表面調整剥片のタテ断面は概して平坦 (flat) である。
9. 5例の製作で生じた石核調整剥片と再調整剥片の都合229点の約8%にあたる18点は、背面に斜交剥離痕 (14点) や求心 (centripetal) 剥離痕 (4点) を持ち、目的ルヴァロワ剥片と類似する。しかしながら、これら“擬似”ルヴァロワ剥片は、各製作例に於いて概ね目的ルヴァロワ剥片よりも小形であること、背面上剥離痕数がより少ないこと、そして、目的ルヴァロワ剥片の打面が微細な複数リタッチで入念に調整されている (multiple faceted) のに対し、18点中の8点だけが同様の打面を有していること、などで目的ルヴァロワ剥片とは異なっている (表1) (図1)。

表1 復元製作による最終目的ルヴァロワ剥片とその石核調整過程で剥離された“擬似”ルヴァロワ剥片の主要特徴

		最大長 (mm)	最大幅 (mm)	最大厚 (mm)	打面特徴	背面剥離痕型式	背面剥離痕数	剥離角	備考
製作1	最終目的ルヴァロワ剥片	86	61	10	MF	求心剥離	14	80°	
製作2	最終目的ルヴァロワ剥片	67	52	11	破損	求心剥離	16		
製作3	石核表面調整剥片	72	22	11	MF	斜交剥離	4	55°	石刃
	石核表面調整剥片	68	44	11	CDF	斜交剥離	7	84°	
	最終目的ルヴァロワ剥片	60	62	10	MF	求心剥離	15	78°	
製作4	石核表面調整剥片	87	35	7	CDF	斜交剥離	5	68°	石刃
	石核表面調整剥片	66	41	9	破損	斜交剥離	5	79°	
	石核表面調整剥片	62	40	9	MF	斜交剥離	4	84°	
	石核表面調整剥片	62	33	4	PL	斜交剥離	9	68°	
	最終目的ルヴァロワ剥片 (失敗剥片)	80	74	9	破損	求心剥離	7		
	石核表面再調整剥片	51	38	4	MF	斜交剥離	6	78°	
	石核表面再調整剥片	37	52	8	MF	求心剥離	6	81°	
	石核表面再調整剥片	72	50	7	MF	斜交剥離	9	79°	
	石核表面再調整剥片	60	36	10	CDF	斜交剥離	6	71°	
	石核表面再調整剥片	60	38	7	MF	求心剥離	8	66°	
	石核表面再調整剥片	58	36	7	CDF	求心剥離	7	84°	
	石核表面再調整剥片	50	27	5	CDF	斜交剥離	4	79°	
	石核表面再調整剥片	49	28	5	MF	斜交剥離	5	80°	
最終目的ルヴァロワ剥片	77	44	10	破損	求心剥離	13	87°		
製作5	石核表面調整剥片	70	57	10	PL	斜交剥離	4	62°	石刃
	石核表面調整剥片	72	36	6	破損	求心剥離	8		
	石核表面調整剥片	57	42	6	MF	斜交剥離	5	81°	
	石核表面調整剥片	60	47	9	PL	斜交剥離	6	67°	
	最終目的ルヴァロワ剥片	100	78	10	MF	求心剥離	14	77°	

PL: Plain (一枚の剥離面); CDF: Convex dihedral faceted (山形をなす二枚の剥離面); MF: Multiple faceted (微細な複数リタッチで入念に調整されている); 石刃: Bordes [1961: p. 18] の定義“最大長が最大幅の2倍以上あるルヴァロワ剥片”による。

上記項目9の“擬似”ルヴァロワ剥片は、単一剥離ルヴァロワの石核調整過程で偶然に剥離されることもあるが、より頻繁には、失敗剥離後の、或いは、複数剥離のための石核表面全体に亘る再調整過程で剥離されると思われる。というのも、石核再調整の時点に於いては、石核上の剥離面は殆ど自然面を残さず多少なりとも求心方向に配列された剥離痕で構成されているからである。



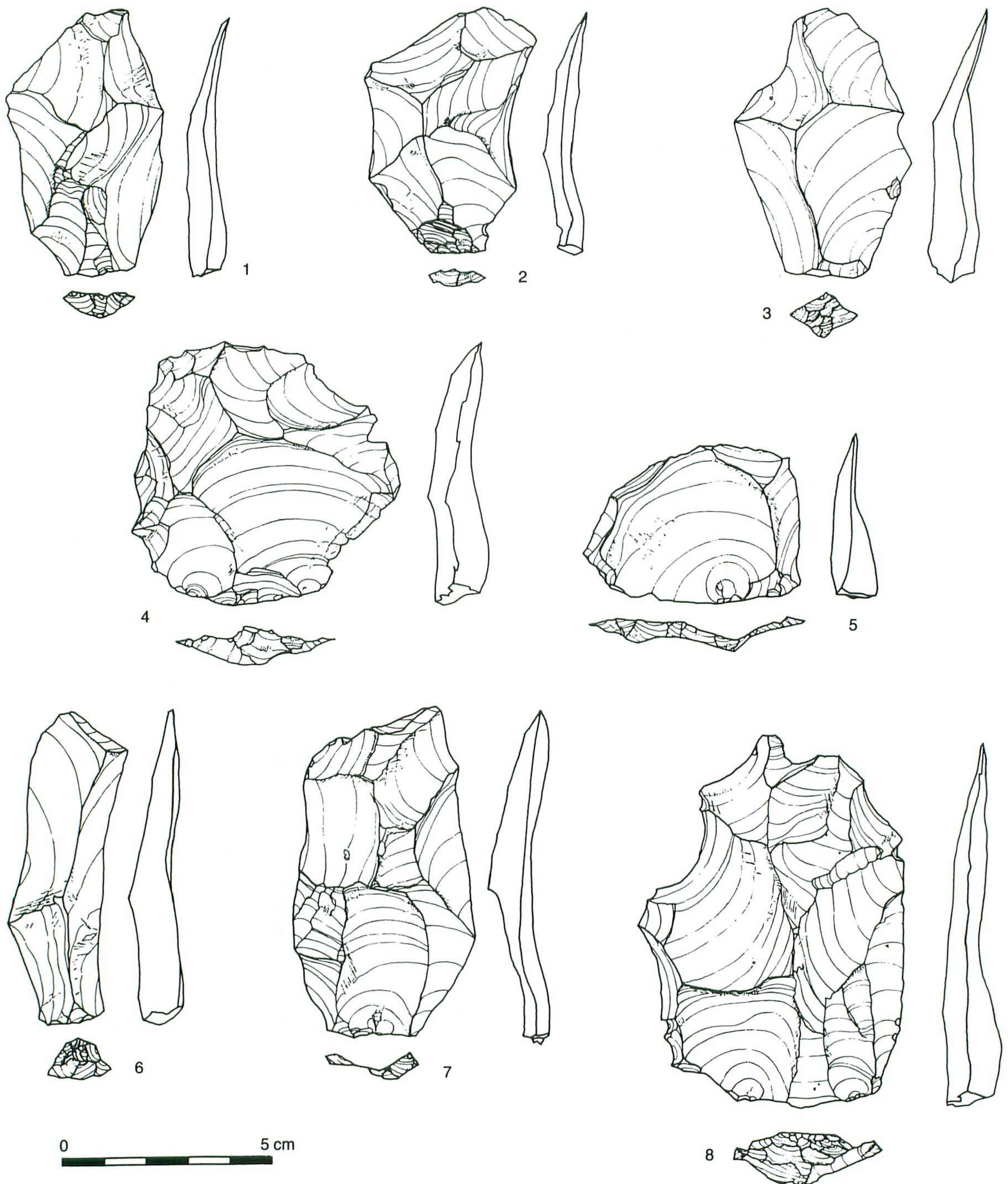


図1 復元製作による石核調整・再調整剥片と目的ルヴァロワ剥片

- |                            |                            |
|----------------------------|----------------------------|
| 1. 石核表面再調整に由来する“擬似”ルヴァロワ剥片 | 5. 石核表面再調整に由来する“擬似”ルヴァロワ剥片 |
| 2. 石核表面再調整に由来する“擬似”ルヴァロワ剥片 | 6. 石核表面調整に由来する“擬似”ルヴァロワ石刃  |
| 3. 石核表面調整に由来する“擬似”ルヴァロワ剥片  | 7. 目的ルヴァロワ剥片               |
| 4. 目的ルヴァロワ剥片               | 8. 目的ルヴァロワ剥片               |



ここで、石核調整或いは再調整過程で意図なく剥離される“擬似”ルヴァロワ剥片と目的ルヴァロワ剥片を如何に見分けるかという問題が生ずるが、特に、石核表面全体を除去しないルヴァロワ剥片が剥離される場合、これらを識別することは容易でない。そして、目的ルヴァロワ剥片の同定とその統計用数量化の中身は研究者各人によって異なるはずである。

それ故、特定石器資料におけるルヴァロワ剥片の重要性はその出現頻度にはなく、むしろ、それが共伴石核などとともに石器資料の製作技術を復元し得る点にあると言うべきである。

ここで本題にもどり、“古典的”ルヴァロワ剥離と円盤形石核剥離にかかわる問題を考えてみることにする。

Bordes の“古典的”ルヴァロワに関する記述は、彼のごく一部の記述 [1961 : p. 17, Plate 3-2] を例外とすれば、この種のルヴァロワが目的剥片の複数剥離ではなく、むしろ、単一剥離を意図したものであるとする。

しかしながら、石材豊富な場所に於いてすら、“古典的”ルヴァロワ複数剥離の可能性を否定することは出来ないだろう。

この複数剥離には、目的剥片剥離の失敗にもかかわらずルヴァロワ石核が放棄されず、或いは、当初の剥離計画が変更される [Bradley and Sampson 1986 : p. 30] ことなく、初めに計画された形や大きさを持つルヴァロワ剥片が石核再調整後に剥離された場合、更には、既に原石荒削り段階で複数剥離が意図されていた場合が想定される。

ところで、筆者の復元製作のルヴァロワ失敗剥離後に施された石核再調整は石核表面全体に亘り、2番目に剥離されたルヴァロワ剥片は、より大きく、背面上剥離痕数が多く、打面がより入念に調整されているなどの点で、石核再調整剥片とは異なっている。また、残核は1枚の主要剥離面を持つ亀甲形を呈している。

Boëda の求心方向複数剥離ルヴァロワ図式 (méthode récurrente centripète) に於いては、2番目以後のルヴァロワ剥離のために施される石核再調整は、最初のもののための石核調整のような石核表面全体に亘るものではなく、石核表面周縁部に施される部分的な修正である。また、再調整後に剥離されるルヴァロワ剥片は石核表面の大部分を除去するものではない [1988a : Fig. 7]。それ故、石核(再)調整剥片と2番目以後のルヴァロワ剥片との違いは小さく、ともに、円盤形石核に由来する剥片と酷似する。また、残核は円盤状の形を呈し、片面剥離の円盤形石核から区別しにくいものとなる。

さて、円盤形石核からすぐさま連想させられるものはスード・ルヴァロワ・ポイント [Bordes 1961 : pp. 22-23] である。

この剥片範疇と関連することだが、筆者の復元製作に於いては合計235点にのぼる剥片のうちの3.4%を占める8点が石核調整過程で典型的スード・ルヴァロワ・ポイント [Bordes 1961 : Fig. 3-7] として剥離された。しかし、この頻度は決して高いものとは言えない。

松沢亜生はフランス・le Tilet 遺跡出土の“古典的”ルヴァロワ剥片の背面上剥離痕の形とそれらの切り合い関係を観察したが、この剥片の母核であった“古典的”ルヴァロワ石核からその剥離工程途中でスード・ルヴァロワ・ポイントが剥離された可能性については懐疑的である [1987 : p. 19]。

これら2例の観察だけをもって“古典的”ルヴァロワ石核から偶然に典型的スード・ルヴァロワ・ポイントが剥離された可能性の高低を論ずることは勿論不可能である。

円盤形石核を典型的スード・ルヴァロワ・ポイントの意図的剥離用素材としてみる [Bordes 1961 : p. 16, pp. 72-73] ならば、たしかに、この石核と“古典的”ルヴァロワ石核の違いは大きくなるだろう。



とはいえ、筆者に関する限り、典型的スード・ルヴァロワ・ポイント剥離用素材としての円盤形石核の実物資料を未だ知らない。そこで、筆者は、典型的スード・ルヴァロワ・ポイントとの不可分離性に於いて円盤形石核を理解するのではなく、むしろ、この石核の持つ円盤状の形態及び複数剥片の求心方向連続剥離という点で理解しているのである。

ここで問題となるのは、筆者の理解する円盤形石核と Boëda [1988a] の謂う求心方向複数剥離ルヴァロワ石核との関係である。

筆者の復元製作で見られたように、求心方向複数剥離ルヴァロワは、目的ルヴァロワ剥片と石核再調整剥片の間に背面上の剥離痕数などなんらかの違いを示し、その意味では、相互に類似した目的剥片が連続剥離される円盤形石核剥離とは相違するかもしれない。

しかし、前述したように、この相違は、求心方向複数剥離ルヴァロワにおける再調整後のルヴァロワ剥片が、最初のもの同様に、石核表面の大部分を除去する場合に生じ得るのである。

Boëda の、大がかりな再調整を欠く、求心方向複数剥離ルヴァロワの図式では、最初の石核調整がその表面全体に亘るのに対し、再調整は石核表面の部分修正である。そして、2番目以後のルヴァロワ剥片は、部分修正を施された石核表面の周縁を廻りながら剥離される [1988a : Fig. 7] ので、最初のものに比べて小形で、その背面上の剥離痕は必ずしも典型的な求心型ではない。それ故、残核と2番目以後のルヴァロワ剥片は、石核表面の剥離痕型式、剥片背面の剥離痕型式、そして、剥片背面の剥離痕数などの点で、円盤形石核とそれに由来する剥片に酷似する。

Boëda の求心方向複数剥離ルヴァロワは、Bordes [1961 : p. 73] が記述した、一旦ルヴァロワ剥片を剥離された石核が放棄されずそのまま求心方向に連続剥離される、円盤形石核の一工程に極めて類似すると言わざるをえない。

## まとめ

“古典的”ルヴァロワ剥離と円盤形石核剥離に関する筆者の考えを整理してみよう。

先ず留意すべきことは、石核はさまざまな属性を持ち、その分類体系と範疇は基準となる属性の違いに応じて異なるということである。

石核の属性としては、形態、剥離回数、そして、剥離痕型式などがある。

このうち、形態に基づく石核範疇としては、Bordes [1961] と Leroi-Gourhan [1965] のものがある。球形、円盤形、亀甲形、円錐形、双円錐形、角錐形、双角錐形、円柱形、そして、角柱形の石核である。

剥離回数に基づく石核範疇は Boëda のルヴァロワ分類のものを代表とする。Boëda の剥離回数は目的剥片剥離だけに関係し、目的剥片の形を準備する石核調整剥離を除外している。分類は、大きく、単一剥離ルヴァロワ、そして、一方向剥離、相対する二方向剥離、及び、求心方向剥離の三者からなる複数剥離ルヴァロワの二者で構成されている [1988a ; 1988b]。

剥離痕型式による石核範疇としては、Leroi-Gourhan [1965] のものが良く知られている。その剥離痕型式は、一方向型、相対する二方向型、そして、三方向以上の求心型である。

さて、Bordes の1961年著書における前期と中期旧石器にかかわる石核分類は、ルヴァロワ（剥片、ポイント、石刃）石核、プロト・ルヴァロワ剥片石核、ムステリアン円盤形石核、角柱形石核、角錐形石核、そして、球形



石核、不定形石核、不可分類石核の三者からなるその他の石核で構成される [pp. 71-73]。

この分類では、工程に基づく石核範疇（ルヴァロワ石核とプロト・ルヴァロワ石核）と形態に基づく範疇（円盤形石核、角柱形石核、角錐形石核、球形石核、不定形石核）とが混在する。これら二群の石核範疇は本来異なる分類基準によるものであり、同一分類の中に共存すべきではない。即ち、これらの石核を形態的基準による呼称で統一するならば、ルヴァロワ剥片石核とプロト・ルヴァロワ剥片石核は、亀甲形石核、円盤形石核、或いは、角柱形石核などとされるべきであろうし、また、ルヴァロワ・ポイント石核とルヴァロワ石刃石核は、角柱形石核或いは角錐形石核などとされるべきである。

1960年前後の Bordes のルヴァロワ概念の曖昧性に対して McBurney が疑問を投じたことについては前述した。この問題提起の中で McBurney はルヴァロワ剥片を複数方向の調整剥離痕と真正打面調整の両者を兼ね備えたものと定義し、ルヴァロワ剥離と円盤形石核剥離を識別するための一手段を提示した [1967: p. 77]。

しかしながら、McBurney の定義は、石核調整と目的剥片剥離に対する入念さの異なるかに見える“古典的”ルヴァロワ剥離にはあてはまるものの、短く剥離した失敗ルヴァロワ剥片、或いは、部分修正された石核表面から短めのルヴァロワ剥片が後続剥離される複数剥離ルヴァロワなどには必ずしもあてはまるわけではない。それ故、多様なルヴァロワ剥離に由来する多様なルヴァロワ剥片すべてに有効であるとは思われないのである。

以上述べたことを踏まえ、筆者はここに一つの石核分類を提起し、その中に多様なルヴァロワ石核と円盤形石核を位置づけてみる（表2）（図2）。

表2 剥離回数による石核分類

単一剥離石核：	
1.	石核調整を全く施されない単一剥片用石核
2.	剥離を導く稜線と打面とを準備する石核調整を経て単一の前定剥片が剥離される石核： ルヴァロワ剥片石核、ルヴァロワ石刃（縦長剥片）石核、ルヴァロワ・ポイント石核
複数剥離石核：	
1.	複数の剥片を剥離する際に剥離を導く稜線が準備されず既存の剥離面が打面として利用される石核
2.	剥離を導く稜線と打面とを準備する石核調整を経て複数の前定剥片が剥離される石核： ルヴァロワ剥片石核、ルヴァロワ石刃石核、ルヴァロワ・ポイント石核、 スード・ルヴァロワ・ポイント石核（片面剥離円盤形石核、両面剥離円盤形石核）、 後期旧石器的石刃石核
“古典的”ルヴァロワ石核の呈し得る形態：	
“古典的”ルヴァロワ石核	石核の形態
Boëda [1988a] の単一剥離（剥片）石核	亀甲形、片面剥離円盤形
Boëda [1988a] の求心方向複数剥離石核	亀甲形、片面剥離円盤形
目的剥片未剥離の“古典的”ルヴァロワ石核	片面剥離円盤形

この石核分類は、石核の形態や剥離方向によるものではなく、剥離回数に基づくものであり、その土台となるものは Boëda のルヴァロワ石核分類 [1988a; 1988b] である。

石核は先ず単一剥離石核と複数剥離石核の二群に大別される。次に、二つの石核群はそれぞれ目的剥片の形状を予め準備するための石核調整を施されたもの、そして、そうではないものの二者に分類される。各石核は剥離回数で範疇化されており、様々な形態と剥離方向に関連する。

石核範疇各々は、本来意図された剥離計画に関しては、常に分離するものではなく、相互に連続もし得るものである。例えば、本分類で石核調整のない単一剥離石核としたものには、もともとそのように意図されたものば



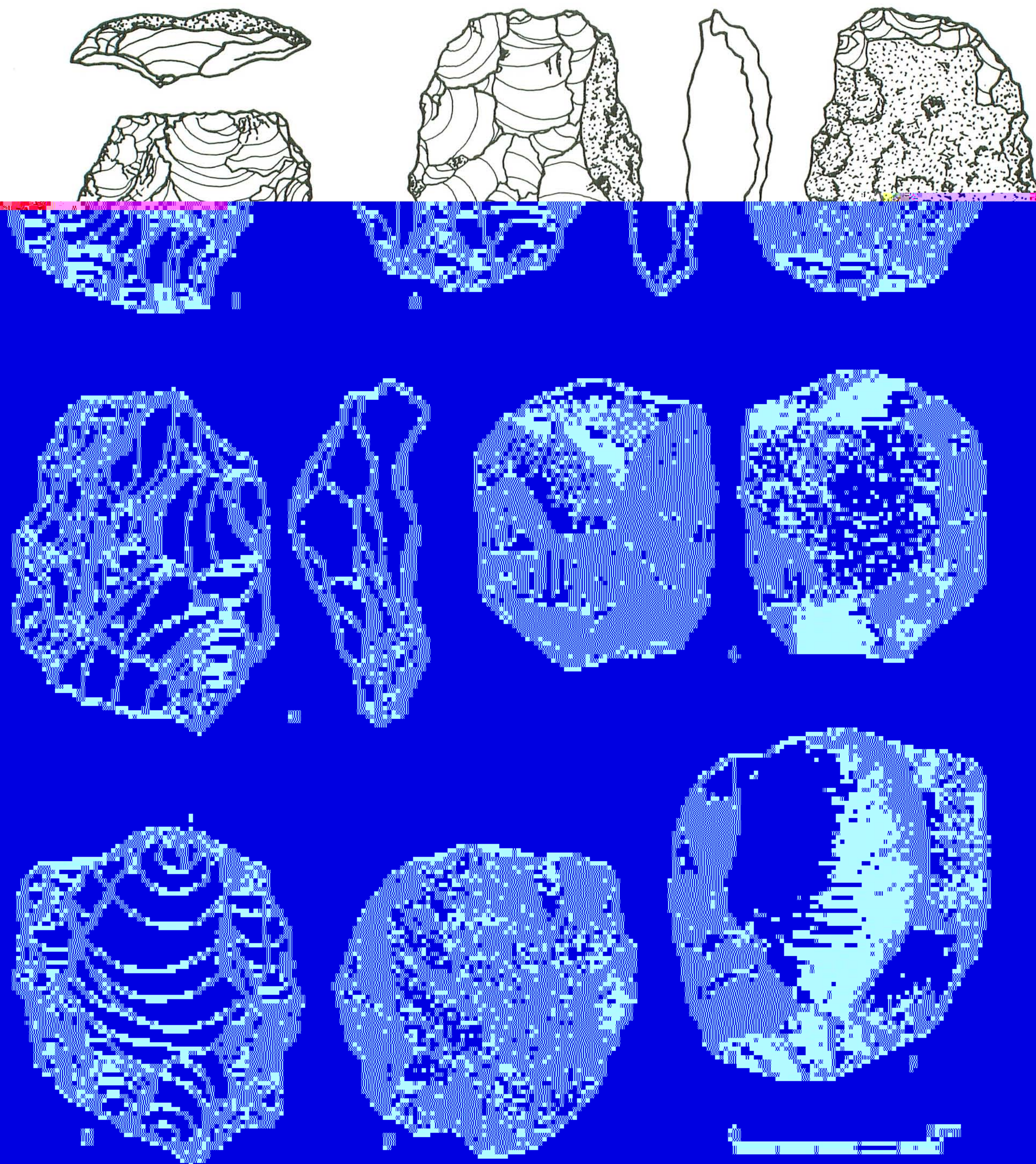


図2 “高野” 産の三葉虫の化石

- 1. 腹面観(左): “高野” 産の三葉虫の化石 (高野産 1000)
- 2. 腹面観(右): “高野” 産の三葉虫の化石 (高野産 1000)
- 3. 腹面観(左): “高野” 産の三葉虫の化石 (高野産 1000)
- 4. 腹面観(右): “高野” 産の三葉虫の化石 (高野産 1000)
- 5. “高野” 産の三葉虫の化石 (高野産 1000)
- 6. “高野” 産の三葉虫の化石 (高野産 1000)
- 7. “高野” 産の三葉虫の化石 (高野産 1000)
- 8. “高野” 産の三葉虫の化石 (高野産 1000)



かりではなく、その他の石核の、何らかの理由で終了された、剥離開始段階を示すものも含まれる。

円盤形石核は本来形態的基準による範疇であり、剥離回数に基づくものではない。しかし、本分類は円盤形石核を含んでいる。というのも、円盤形石核は多くの層でルヴァロワ石核と共伴し、それと緊密な技術的関連を持つと思われるからである。

亀甲形石核は、その典型例に於いては、(入念に調整された特定打面部分の分厚さ故に) 三角形のタテ断面を持ち、凸レンズ状の断面を持つ円盤形石核とは異なるだろう。とはいえ、これら二種の石核には中間形態もあり、明確に区別することは困難である。また、予定されたよりも小形のルヴァロワ剥片が剥離された場合、最終的に1枚の主要剥離面を持つはずであった残核表面は類似した複数剥離痕から成り、その逆もまたあり得るといように、これらの石核が、その放棄時点で、石核剥離開始段階で方向づけられた剥離面様態を示しているとは限らないのである。

円盤形石核は片面剥離と両面剥離のものに二分されるが、前者については、単一剥離“古典的”ルヴァロワ石核、複数剥離“古典的”ルヴァロワ石核、目的剥片未剥離の“古典的”ルヴァロワ石核、そして、スード・ルヴァロワ・ポイント剥離石核の四者とし、後者についてはスード・ルヴァロワ・ポイント用石核とした。但し、ここで言うスード・ルヴァロワ・ポイントは典型例だけではなく、台形などをした、外見上ルヴァロワ・ポイントには似ていない、斜軸剥片と呼ぶことも出来る非典型例 [Bordes 1961 : Fig. 3-8] をも含んでいる。

単一剥離と複数剥離、或いは、片面剥離と両面剥離という異なる剥離概念については、それらを異なる技術伝統の反映としてとらえるのではなく、むしろ、Bordes が述べた [1953 : pp. 232-233] 遺跡の立地差に由来する石材獲得の容易性或いは困難性というような外的要因とのかかわりの中でとらえることが出来るかもしれない。

これまで述べてきたことを整理し、円盤形石核を二分することが可能である。その一は単一或いは複数剥離の“古典的”ルヴァロワ石核であり、その二はスード・ルヴァロワ・ポイント石核である。

以上、筆者は一つの石核分類を提起し、その中にルヴァロワ石核と円盤形石核を位置づけた。

我国に於いても、特に宮城県内で、その最盛期の時代的背景は必ずしも解明されていないにせよ、円盤形の石核が疑いなく存在した [鎌田 他 1989]。その存在が大陸からの技術的伝播・人間渡来の証であるのか、或いは、日本列島における独自の技術的展開であったのかということは、重要、且つ、興味深い問題である。

この日本の状況、更には、ソヴィエトの学者が一種の円盤形石核をルヴァロワと記述しているシベリア [梶原 1986 : p. 24] の状況については今後の研究課題としたい。

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## EARLY CHRISTIAN ARCHITECTURE IN THE IRAQI SOUTH-WESTERN DESERT

Yasuyoshi OKADA\*

### <要 旨>

#### イラク西南沙漠の初期キリスト教建築

イラク西南沙漠のアイン・シャー・イア修道院遺跡から発掘されたイスラーム初期の建築遺構から導きうる、バビロニア地方の教会建築の特色を明らかにする。イラク両河地帯には早くにキリスト教が普及したが、それを証する遺跡は、北部の数例とクテシフォンを別にすれば西南沙漠域に集中して知られる程度である。北部の事例がシリア様式の直写に近いのに対し、西南沙漠の教会建築には、日干煉瓦の軀体、主内陣の扱いなどにバビロニアないしはサーサーン朝建築特有の要素を認める。身廊部の隔壁もシリアでは見られない。これらからバビロニア独自の教会様式を類型化することも可能とみる。

### Introduction

The Kokushikan University Expedition to Iraq, headed by Professor H. Fujii, has discovered through the recent excavations ruins of a Christian monastery in the time of the early Muslim era, situated in an arid region expanding south to the Lake Milh and bounded eastward to the Karbala-Najaf route, which we call the Iraqi South-western Desert. The said monastic site, called Ain Sha'ia, is located some 15 km west to the city of Najaf. The general report of the excavations and a further supplemental study on the ecclesiastical finds have already been published in the latest issues of *al-Rāfidān* [Fujii et al. 1989; Okada 1990]. In addition the Syriac inscriptions brought from the site have been catalogued and commented favorably by Dr. E. Hunter [Hunter 1989].

The site is delimited on the west by a cluster of rock-cut caves in the cliff, called Dukakin, some of which are modified into inhabitable rooms. Nearly 1 km east from the caves there is a small spring at the foot of the cliff, said by local people to be the spring of Sha'ia, from which what the site is called derives. The gentle slope between Dukakin and the spring is dotted with variety of structural remains such as monks' cells and a water reservoir, around which the place is designated Site B in the previous report. Apart from these smaller ruins, near the spring, there is a fortified complex at Site F, some 148×58 m in plan, where a church building was, though not completely, uncovered in the center.

The constitution of the Ain Sha'ia monastery has, however, not satisfactorily been given yet. Although the possibility cannot be excluded that the fortification might have been provided against a possible persecution by the Muslim or any other foreign invasions, it does not enough interpret the coexistence of the fortification with a church in the east and a dwelling quarter for monks in the middle of the whole. Within the former there are a lot of rooms or cells, though excavated only partially, no doubt arranged along the enclosure wall leaving an open courtyard inside, whereas the latter seems to have been accompanied by another church or chapel standing at the nearer spot of a deep recess in the cliff, denominated Site C, of

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which the vestige is evidenced with sturdiness of remaining walls and with plaster fragments of colourful mural paintings<sup>1)</sup>. We have, therefore, to assume a somewhat different function for the Site F fortification, such as a facility for a pilgrimage or commercial caravan, other than solely an ascetic practice or ritual. We can hardly advanced, however, such a discussion about the monastic constitution at Ain Sha'ia, since reliable evidence would be no more expected without further excavations.

As well as such a constitutional interpretation as a whole, an architectural study of the church in the fortification may give a clue to another question of the development of Christianity in Mesopotamia, otherwise of interrelation of Christian sites known to us so far. Early-Christian archaeology in Mesopotamia has scarcely been disputed from the architectural point of view for a long time, though evidence has steadily increased, for example, from Qusair in the south and Qasr Serij in the north, ever since O. Reuther discussed the Christian church in the Sasanian context [Reuther 1938: 560–6]. According to literary sources the Persian Christianity was diffused in Adiabene, the district of present Erbil, as early as the second century; subsequently its supremacy was established at Ctesiphon [Asmussen 1983: 924ff]. Within the district of Hira in the pre-Islamic time, most relevant to the present discussion, more or less forty ecclesiastical names are known to us [Fiey 1968: 203–243], none of which have been identified with a practical site yet. The scarcity of known examples, therefore, by no means implies that the early missionary activity established very few institutions of Christianity from the outset compared with peripheral regions. Henceforth, it is probable that archaeological evidence will still more increase as the church buildings at Ctesiphon, Hira and at Ain Sha'ia had not been discovered until the excavations were carried out. It may, therefore, be allowed to regard this sort of architecture in Mesopotamia as a significant category in the time of the Persian reign through the early Muslim era, which have been likely to escape our notice<sup>2)</sup>.

It is such a subject that the present article will deal with, searching the architectural relation of the church uncovered at Ain Sha'ia with the same sort of monuments from the vicinity and, when necessary, even from the neighbouring countries to Mesopotamia, so as to grasp a concept of the early Babylonian, not Sasanian, church as an early regional style.

### Architecture of the church at Ain Sha'ia

At the beginning an attempt is made to present the structural features and noticeable details of the church building excavated at Ain Sha'ia (Fig. 1), preparing the further comparative discussion<sup>3)</sup>. The church itself does not stand independent, as mentioned above, but is constructed within a fortification. All the skeltal walls are made of mud-bricks and coated with gypsum plaster. Likewise the floors are plastered except those of a few rooms as might be taken for a corridor. The thickness of a wall, measuring 1.10 to 1.15 m, is normally fulfilled with three bricks, otherwise two bricks and two halves. Bricks used for the foundation, a little wider than a wall thereon, are relatively stiff and have a format of  $37 \times 37 \times 10$  cm. Butler has once referred to a unit of linear measurement in early-Christian Syria as follows; the old royal cubit of Babylonia of 555 mm was changed to the foot of 370 mm about the year 500 [Butler 1929: 182f.]. According to these units, the wall thickness of our church coincides with 2 cubits or 3 feet, and a format of foundation bricks with 1 foot. Whether it occurred by chance or intentionally is uncertain since such a fact is hardly proved by any other contemporary architecture in the vicinity. In places are found bricks of  $32 \times 32 \times 11$  cm in the wall body, but whether these are of the original construction or of the later repair is hardly distinguished.

The church proper is reconstructible in plan, leaving out the southern-most room, to an external rectangle of  $22.4 \times 13.8$  m, the proportion of which is nearly  $8:5^4)$ . It consists of a rectangular sanctuary



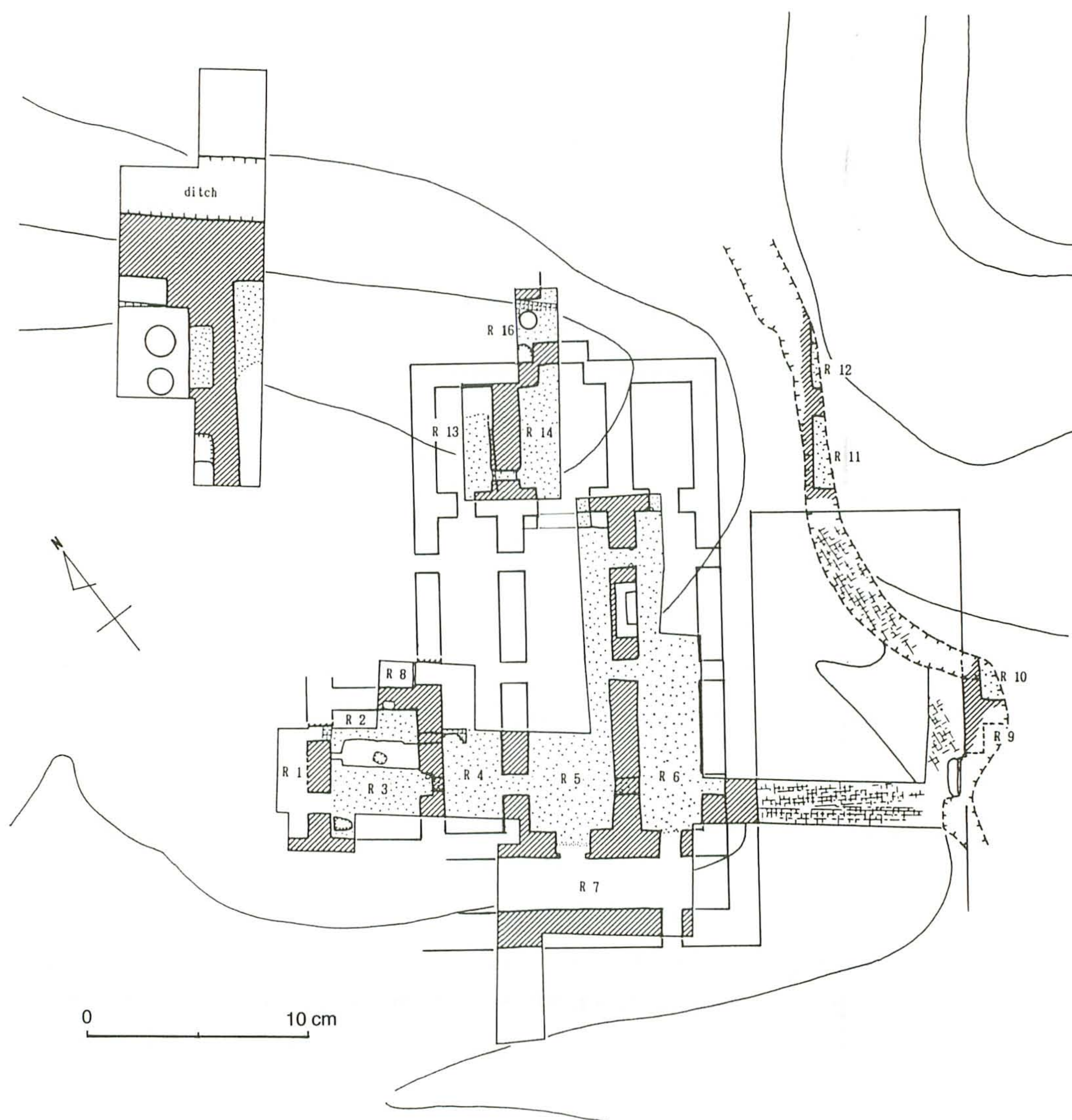


Fig. 1 Church at Ain Sha'ia.

flanked by a little smaller chambers on either side and of a three-aisled nave. The sanctuary is not oriented toward the due east, but deflected as much as 60 degrees to the north. In the present description the direction of this side is regarded as the north for brevity.

The nave is divided into three-aisles by ordinary walls, neither by columns nor piers, most probably each with three narrow passages opening symmetrically. Both in the outer side walls three doorways may have been provided as well, so that four openings could be laid transversely in a line at the outset. The east aisle faces to a courtyard paved with baked bricks, while the west one connects directly to some subsidiary rooms, one of which, furnished with a tripartite niche, has once had another opening onto the aisle in addition to the three mentioned above. On the south, across the nave, lies an earthen-floor room with three openings connecting it to three aisles respectively. This room may be taken to be part of a corridor, though analogous at a glance to a narthex as often seen in Syrian or North Mesopotamian churches, since there is no sign of a front porch in the outer wall, the side wall of the east aisle not extending to form a narrower end of the room. Accordingly the church is thought to be accessible mainly from the paved-courtyard in the east. The internal length of the nave is 14.5 m; the widths of the central aisle and each of side ones, 3.9 m and 2.5 m respectively. The internal width of the nave measures 11.5 m



altogether.

On the north the nave is terminated by three chambers, each 4.6 m deep and with the same width as the corresponding aisle. They apparently form a tripartite sanctuary<sup>5)</sup>, not completely excavated though, judged by the following aspects. The central one, that is the true sanctuary, has a plastered floor made some 0.3 m higher than the floors of the side chambers, or *pastophoria*, and of the nave; it broadly opens to the central aisle bounded with two steps; in its end wall is furnished a rectangular niche, 1.05 m deep, instead of a usual semicircular apse; lastly it is evidenced by a large quantity of plaster fragments with colourful paints reserved that only this apartment was ornamented with mural paintings.

Both the side chambers have not been proved to be actually included within the conjectured rectangle, and in any case, appear to be adjacent to some other rooms. They are surely linked with the aisles perhaps by usual doors; a baked-brick socket was found in the doorway to the eastern one. The western is connected with the sanctuary by a passable slit of about 0.3 m wide. Whether so is the eastern or not is unknown since the spot of the partition between the central and eastern chambers is left unexcavated<sup>6)</sup>. The back of the sanctuary is not exposed to the outer world, but there is a room along the enclosure, with a baking oven and with a door break in the outside wall on the same line as the longitudinal axis of the church.

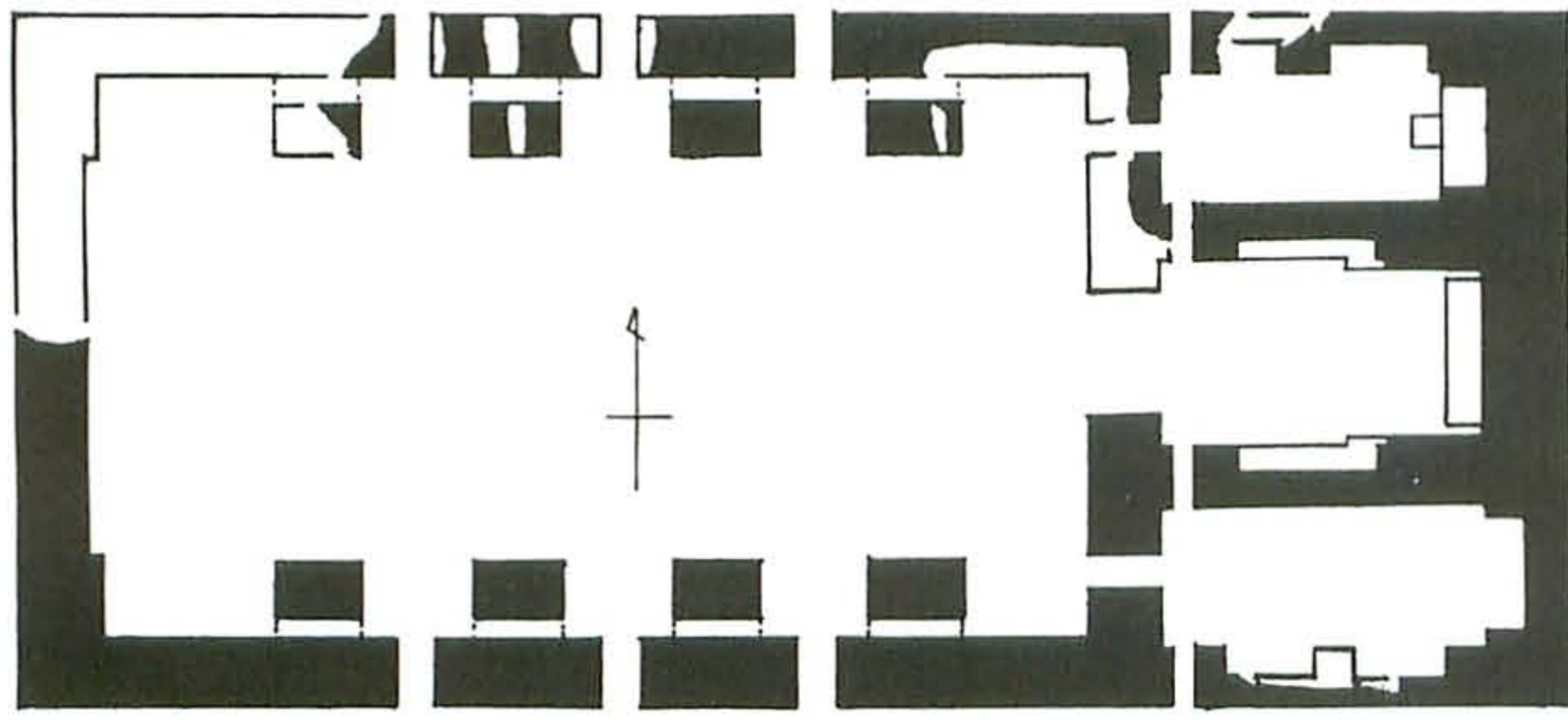
It is most probably during the ninth century that the church became out of use as such, judging by various finds [Fujii et al. 1989: 42ff]. The description of later alterations in places, which would evidence the process to abandonment of the building, is to be left out here, since it scarcely does with the present comparative discussion.

### Review of early churches in Iraq

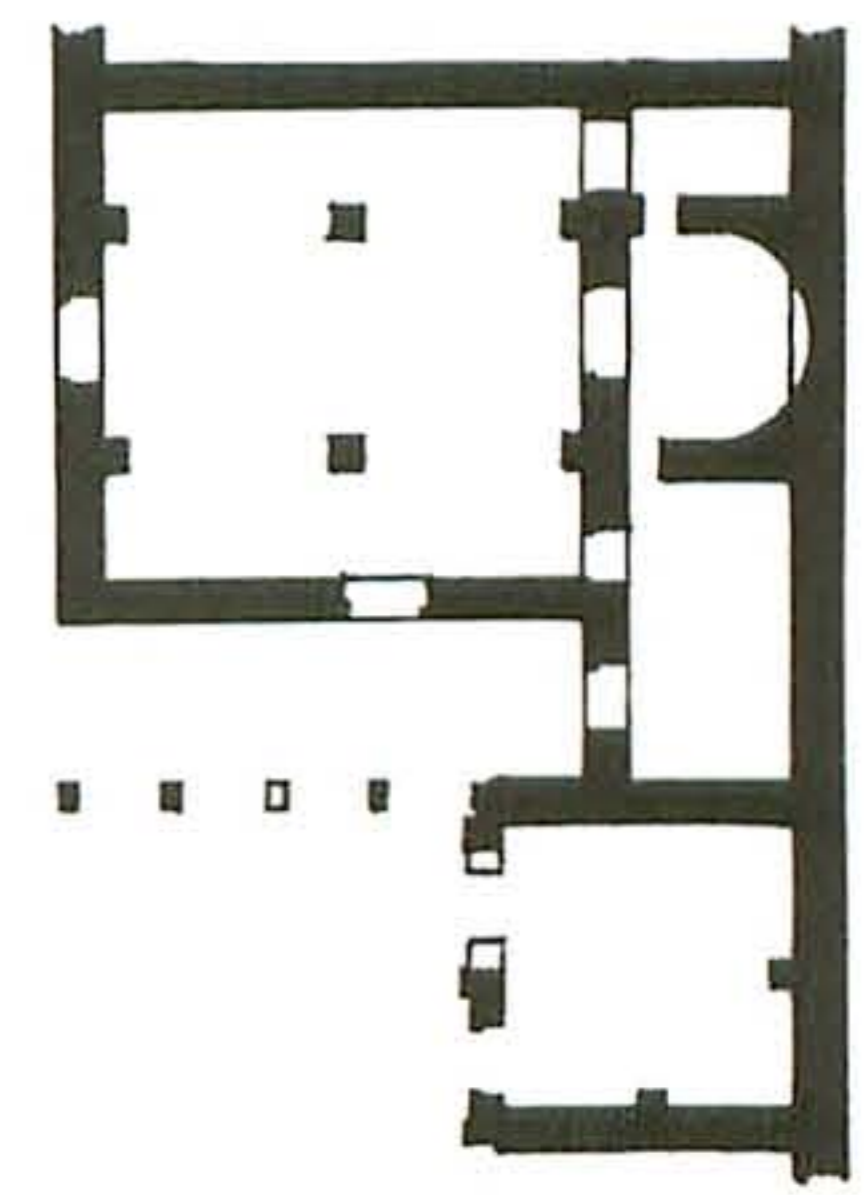
The early Christian sites as far as we know in Iraq are indeed not so many as in Syria or southern Turkey. Even in the north where not a few old churches or monasteries still survive, there may be not more examples than half a dozen having been surveyed archaeologically. In the south, ecclesiastical monuments can be seen, apart from the church found from the mound of Qasr Bint al-Qadi at Ctesiphon, intensively in the South-western Desert region. The archaeological data necessary for comparison are concisely catalogued below. From northern Iraq two church buildings, at Qasr Serij [Oates 1962] and Tell Museifneh [Abbu 1987], are to be taken up, while from the south the examples at Ctesiphon [Reuther 1929], Hira [Talbot Rice 1932; idem 1934], Qusair and at Rahaliya [Finster & Schmidt 1968]. The descriptions will be mentioned individually in the order of<sup>7)</sup>:

- 1) measurements of external rectangle (L. × W.) and approximate value of its proportion,
- 2) orientation of the sanctuary,
- 3) skeltal masonry and material,
- 4) main access,
- 5) nave system and roofing,
- 6) nave measurements (L. × W.) and proportion,
- 7) sanctuary plan and construction,
- 8) furniture and decoration of a sanctuary,
- 9) date of construction,
- 10) other features to note and special remarks.

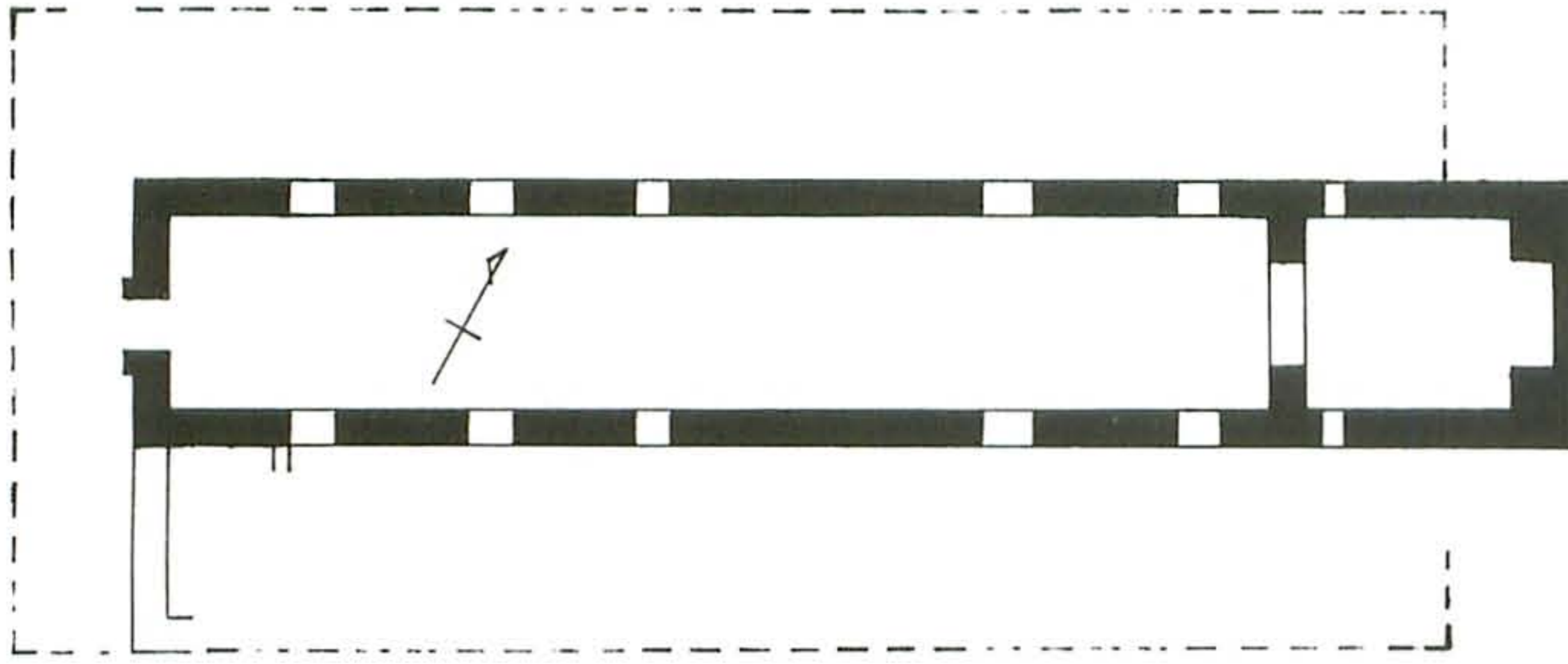




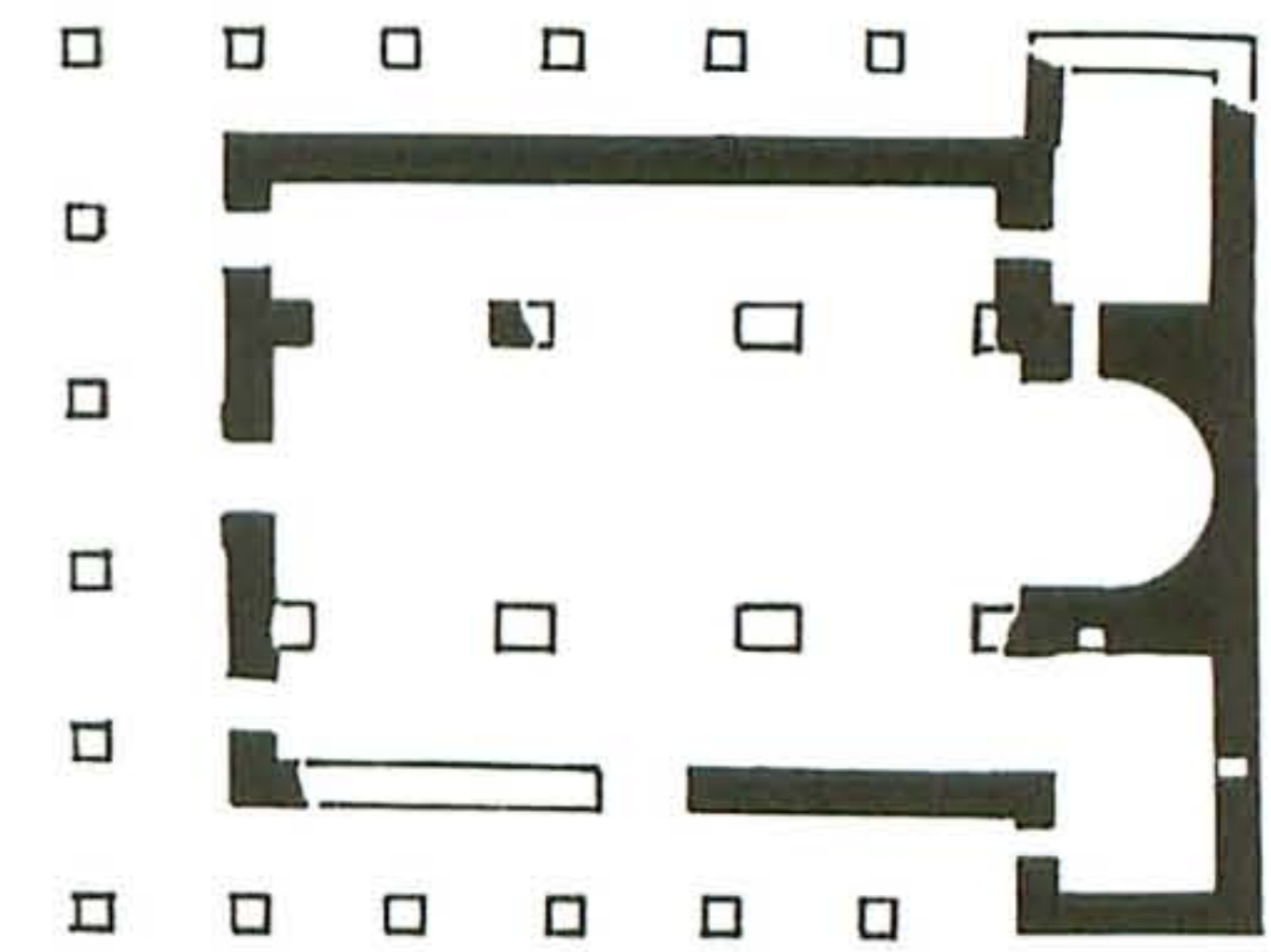
Ctesiphon [Reuther 1938]



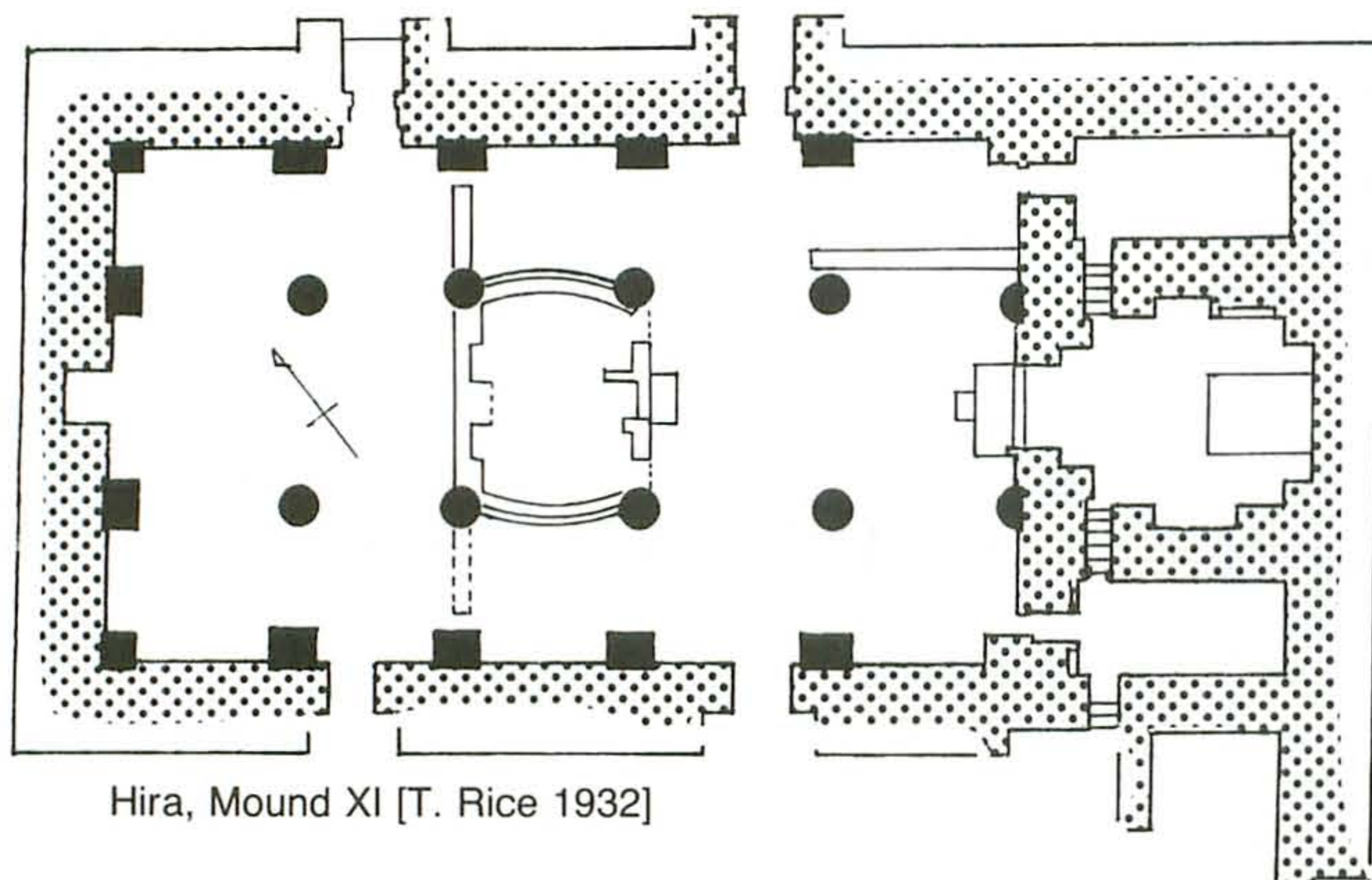
Museifneh [Abbu 1987]



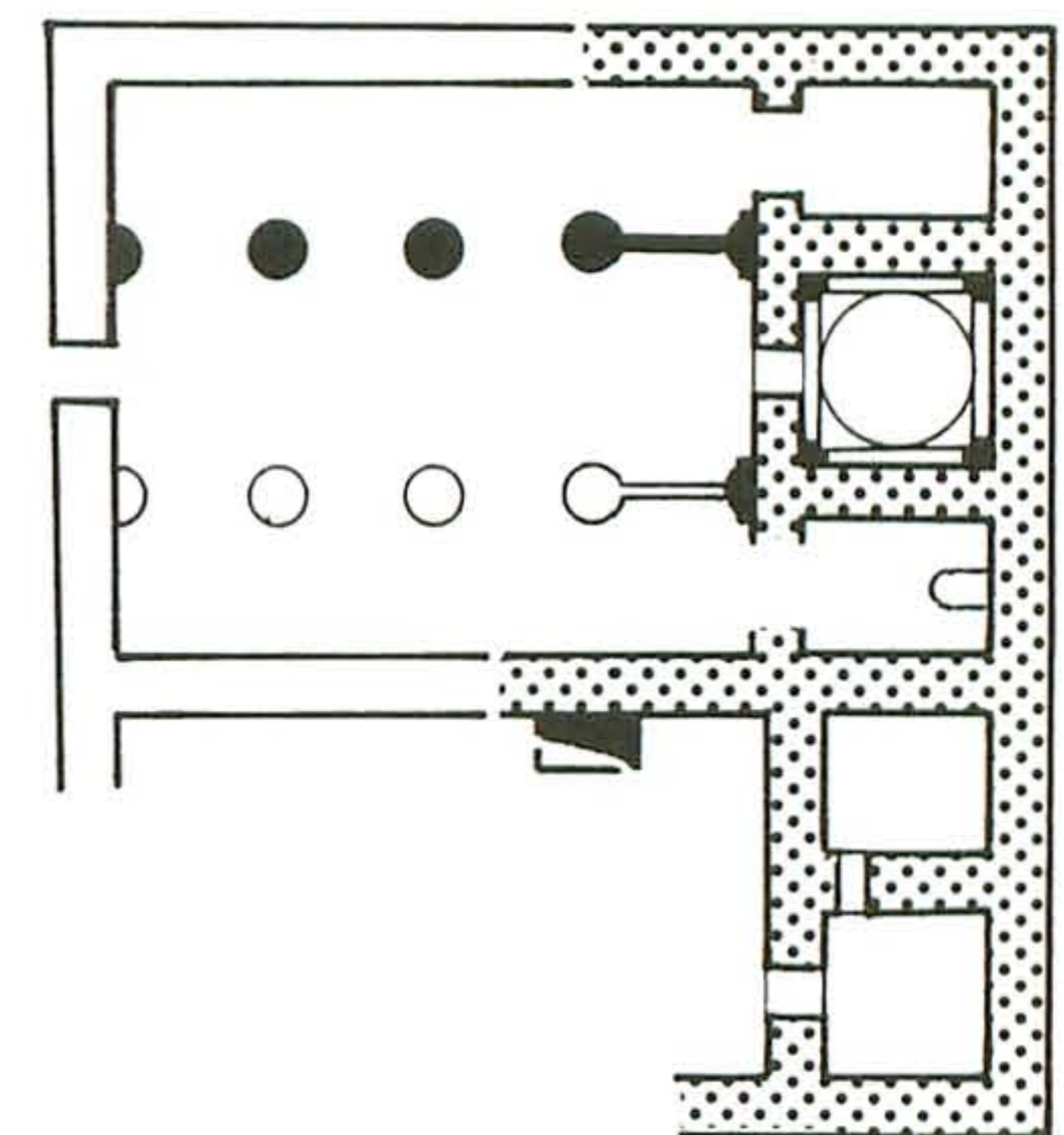
Qusair, Church A [Finster & Schmidt 1968]



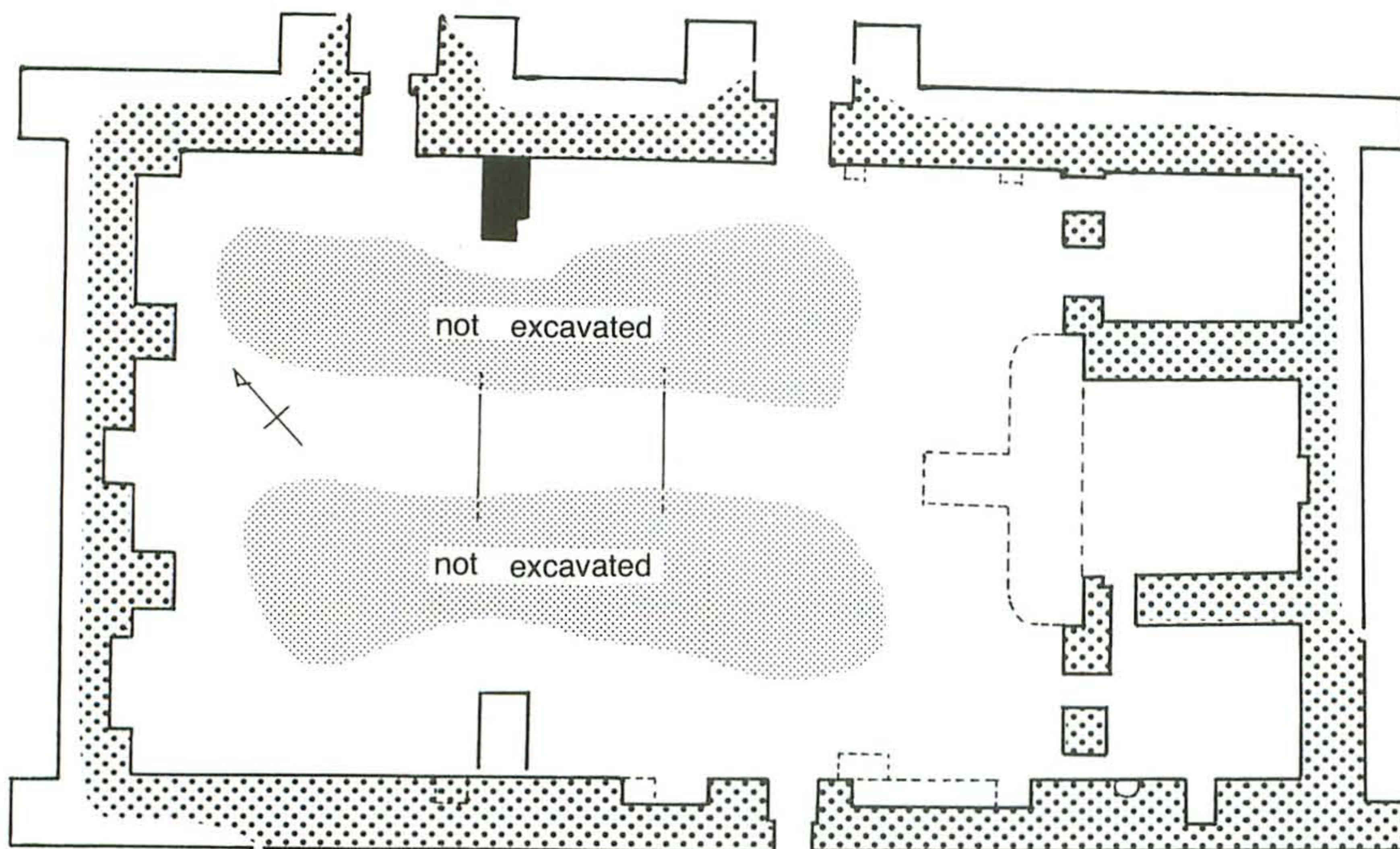
Qasr Serij [Oates 1962]



Hira, Mound XI [T. Rice 1932]



Rahaliya [Finster & Schmidt 1968]



Hira, Mound V [T. Rice 1932]



Fig. 2 Early churches in Iraq.



**a. Ctesiphon, church building from the upper level of Qasr Bint al-Qadi**

- 1)  $42 \times 19$  m (c. 11:5).
- 2) due east.
- 3) baked bricks.
- 4) from one of the long sides, both of which have three doorways symmetrically.
- 5) brick-vaulted single aisle with a series of alcoves on either side.
- 6)  $27.18 \times 15.06$  m (c. 7:4), according to the entry in the published drawings.
- 7) deep rectangle with a straight end wall, possibly vaulted, flanked by pastophoria within the external rectangle; each of the pastophoria connected with the nave, sanctuary and also with the exterior by three narrow passages respectively.
- 8) a step against the end wall and wide niches on either side; in the floor, trace of a ciborium remaining.
- 9) middle or late 6th century, judged mainly from the style of a male figure made of painted stucco.
- 10) No opening is in the western end wall. An older construction lies beneath, of which round columns take the place of square pillars erected at alcoves.

**b. Hira, Mound XI church**

- 1)  $35.7 \times 18.6$  m (c. 23:12).
- 2) deflected  $41^\circ$  south from the due east.
- 3) mud walls<sup>8)</sup>, coated with white plaster, and baked bricks for round and engaged columns as well as for the flooring.
- 4) from the northern long side with two doorways.
- 5) columned nave of three aisles, possibly roofed each by vault; the middle bay occupied by a raised platform of mud brick with arc-shaped benches on either side and with a screen behind.
- 6)  $24 \times 17.1$  m (c. 10:7).
- 7) nearly square, possibly domed, flanked by pastophoria within the external rectangle; both the pastophoria connected with the nave and sanctuary by narrow passages.
- 8) wide rectangular niche in the end wall and narrower niches on either side; ornamented with wall paintings.
- 9) 6th century<sup>9)</sup>.
- 10) In the western end wall of the nave is no opening but a small rectangular niche in the center. Doorways symmetrically arranged in the southern wall perhaps lead to another room complex.

**c. Hira, Mound V church**

- 1)  $58 \times 33.5$  m (c. 7:4)<sup>10)</sup>.
- 2) deflected  $43^\circ$  south from the due east.
- 3) mostly mud; baked bricks for pilasters and for the flooring.
- 4) from the northern long side with two doorways.
- 5) single aisle, with a raised platform in the center; no clue to roofing<sup>11)</sup>.
- 6)  $41.5 \times 27.5$  m (c. 3:2)<sup>12)</sup>.
- 7) nearly square fully open to the nave like an iwan flanked by pastophoria, of which only the southern one is connected with the sanctuary; no clue to roofing.
- 8) small rectangular niche in the end wall; ornamented with wall paintings.
- 9) 7th century, from the viewpoint of the mural paintings<sup>13)</sup>.
- 10) Similar to the Mound XI church, a small niche is in the western end wall.

**d. Qusair, Church A**

- 1)  $43 \times 19$  m (c. 7:3), provided that the possible rectangle is drawn as the excavator conjectured, the assumable protrusion of the sanctuary excluded.
- 2) deflected  $29^\circ$  north from the due east.
- 3) mainly rubble, partially semi-dressed, with mortar for the central body of the edifice; for the sides, mud-bricks with stone foundations beneath.
- 4) uncertain, but probably, if anything, from the southern side since there lie ruins of the relevant building complex.
- 5) stone-vaulted central nave flanked by side aisles, separated each other by ordinary stone walls each with five narrow passages arranged symmetrically.
- 6) width of three aisles altogether uncertain, the central nave  $33 \times 5.8$  m.
- 7) nearly square chamber, covered with a stone-built dome supported by four corner squinches, perhaps slightly protruded from the external rectangle and flanked by pastophoria, each of which has a direct access to the sanctuary through a narrow passage.
- 8) in the end wall a rectangular niche with a half-dome shell above.
- 9) 5th or 6th century, judged mainly from structural character of the Late Sasanian context.
- 10) On the western end of the nave is a doorway with pilasters in the front, and there must be an annexed room just like a narthex.



**e. Qusair, Church B**

- 1) more than  $35 \times 8$  m.
- 2)  $18^\circ$  north from the due east.
- 3) mortared rubble.
- 4) unknown.
- 5) 6) single aisle of the almost identical width with the central span of Church A.
- 7) domed square.
- 8) a tomb disclosed below the end wall niche.
- 9) certainly preceding Church A.
- 10) The western end is cut away by a wadi along which an enclosure runs on the opposite bank embracing Church A.

**f. Rahaliya, Qasr al-Ma'i**

- 1)  $23 \times 15.5$  m (c. 3:2).
- 2) due east?
- 3) mud-bricks for walls, and stones, both chopped and dressed, for supporting frames of the arcade and sanctuary dome.
- 4) accessible perhaps only from the western end.
- 5) columned nave of three aisles, separated by three pairs of circular columns and two pairs of engaged columns on both ends of the nave.
- 6)  $14.5 \times 12.6$  m (c. 8:7).
- 7) square chamber, no doubt covered with a stone-built dome supported by four squinches, flanked by oblong pastophoria within the external rectangle.
- 8) no specific furniture.
- 9) possibly Late Sasanian.
- 10) The sanctuary has no passage to pastophoria; even the doorway to the nave exceptionally narrow. The back wall of the sanctuary is extended south to form the east side of annex rooms; west of the edifice are faintly dotted the relevant remains. The whole complex is embraced by an enclosure.

**g. Qasr Serij, basilica**

- 1)  $23 \times 14$  m (c. 5:3), excluding the outer porticoes on three sides and the projection of the pastophoria; otherwise, if including the porticoes,  $26 \times 20$  m (c. 9:7).
- 2) due east.
- 3) dressed limestone blocks.

- 4) either of two entrances on the west and south sides.
- 5) three aisles separated by arcades each with three arches abutting on rectangular piers; roofed by timber trusses.
- 6)  $15.7 \times 12.8$  m (c. 5:4).
- 7) elongated semicircular apse with a half dome and with the back concealed by the rectangular masonry; flanked by a diakonikon on the north and by a martyrion on the south, both projecting from the nave rectangular.
- 8) a moulded chancel arch spanning the front opening; possibly a passage in the north wall communicating with a diakonikon.
- 9) 6th century, probably c. 565<sup>14</sup>.
- 10) The side entrances in the west wall of the nave are quite conjectural; the porticoes on three sides are assumable on account of certain vestiges marked on the surviving masonry, but neither the form nor position of columns reconstructed is necessarily reliable.

**h. Tell Museifneh, basilica**

- 1)  $13.5 \times 12.6$  m (c. 15:14), including the southern portico.
- 2) due east.
- 3) dressed stone blocks.
- 4) only the entrance from the southern side through a columned porch.
- 5) three aisles separated by arcades each with two arches raised on a square column and pilasters.
- 6)  $8.1 \times 7.8$  m (c. 1:1).
- 7) elongated semicircular apse covered by a half dome, with the back concealed by a straight wall; flanked north by a narrower chamber and south by a wider room projecting from the nave rectangle, both communicating with the sanctuary.
- 8) no specific furniture.
- 9) 7th century or earlier<sup>15</sup>.
- 10) The edifice stands easterly in the enclosure of some  $50 \times 50$  m, with the east end aligned with the enclosure wall; subsidiary rooms adjoin it both on the north and south.

Other than the above, one more example of a type with a transverse nave, which was recently discovered by the British Museum Expedition at Khirbet Deir Situn in the region of the Eski-Mosul reservoir, should be added<sup>16</sup>. Meanwhile there are some other churches still surviving, such as the church at Chidr Elias near Mosul [Preusser 1911: 4ff] and that of Mar Tahmazgerd in Kirkuk [Bell 1982:



74–78], but they have been excluded here from the list because not only of their untypical formation but also of uncertainty of archaeological evidence.

### Comparative discussions

Now the discussion aims at searching the possibility of the typology or classification of the early churches specific in Iraq through the general survey based on the architectural data described above. Apart from the comparisons of individual factors it should be noticed that throughout the churches in Iraq is hardly available both the functional classification as has once been made by G. Bell into “parochial” and “monastic” [Bell: 1982: viii]<sup>17)</sup> and the grouping as is provided by Butler in his reviewing the ground plans of Syrian churches [Butler 1929: 187ff]. Both the churches at Ain Sha’ia in the south and at Qasr Serij in the north represent such a basilical plan as may usually be regarded as parochial, though they stand each in a monastic complex. There is no church planned with the centralized scheme, square or octagonal, on the other hand, as far as we know in Iraq so far. The architectural concept of centralized planning itself was no doubt preferred by the Iranian people, as the type of *chahal taq* represented their own cultic building. Not only a typical building of *chahal taq* but also a general construction of centralized plan is scarcely known so far in any category of the monumental architecture in Mesopotamia, though the ancient ziggurat may give an exception, where the Iranian tradition of architecture had certainly become deeply rooted by the Sasanian time. Such a form was by no means employed as a total appearance of any Mesopotamian church. The comparisons of the other individual factors are as follows:

#### *mass and masonry*

There is no example without a rectangular outline in plan. Only in case of the two in the north, either or both of *pastophoria* protrude from the external wall of the nave side, but each of them still forms another larger rectangle when including the columned portico as never seen in the south. The proportions of them quite vary. That at Ain Sha’ia is interestingly very close to the “golden section”, but it must be either of exception or of accident since no identical proportion can be found among the others.

The masonry varies in the south, while in the north the two churches above are built of dressed stones, of which the technology apparently come from the north-Syrian masonry. In southern Mesopotamia, it can be said that the adherents of Christianity did not always persist by far durable but costly masonry of stones. The churches at Hira, said to be built of mud, show a comparable scale with Syrian cathedrals such as St. Sergius at Resafa. It does not seem, however, so likely that those churches positively tended to inherit an aged tradition of the ancient Babylonian temple architecture usually built of mud brick. Not a few ritual monuments illustrate the non-mud architecture in the time of the Partho-Sasanian reign. The construction of mud-brick churches must be resulted fundamentally from the economy and availability of building material. In fact there are some churches of mud-brick walls seen also in north-eastern Syria [Butler 1929: 200].

In churches mainly of mud or mud-brick, different materials were often combined for the construction of arcade or dome. At Hira round columns erected in the nave are of baked brick, and at Rahaliya not only nave columns but piers carrying a sanctuary dome are of cut or chopped stones. Church A at Qusair represents a Sasanian masonry of mortared rubble.

#### *nave and sanctuary*

The nave plans again show the rectangle without exception, of which the proportions vary between nearly 1:1 and about 3:2, of course, excluding the type of a single-aisle. In reviewing the planning systems they may be divided into large two groups: three-aisled and single-aisled. The first group embraces further subdivisions: the columned nave as most frequently seen in Syria, and the nave peculiarly with wall



partitions. The two churches in the north exemplify the former as well as those at Hira XI and Rahaliya in the south, while the churches at Qusair and Ain Sha'ia fall under the latter. The latter type can be seen, other than in these two, solely in the monastic church at Kharg Island which will be referred to later. In case of the church at Ctesiphon, the nave should be regarded as a type of a single aisle despite the rows of pillars on either side of the nave, since the pillars seem to have provided merely to widen the nave span rather than to form three aisles, the way of which is likely to have a close relation with Sasanian palace architecture [Reuther 1938: 561f].

All the naves are terminated on the east by three chambers, a sanctuary and side chambers, except Church B at Qusair. The back walls of them form a straight line on the exterior as a rule, though in case of Church A at Qusair the central sanctuary may have protruded some distance to the east. Both the sanctuaries in the north consist of semicircular apse, whereas those in the south are always rectangular in plan, often with a niche in the end wall. This contrast is the first to distinguish the styles of the north and south each other. The apse at Qasr Serij fully opens with a chancel arch against the nave as if it would have been directly transmitted from Syria, while the narrower opening of that at Museifneh represents somewhat unique locality. The style with a rectangular sanctuary was rapidly spread also in the north-Syrian region for a parish church in the early 6th century [Beyer 1925: 80ff], but it seems precipitate that the contemporary style of churches in south Iraq may have derived from such a Syrian form. The sanctuary rectangles in Iraq considerably differ in proportion from Syrian ones. Sanctuaries not only of deep rectangle but of regular square are quite rare in Syria. This concerns with the upper structure of a sanctuary. The square plan is apparently sought by a domed construction, such as at Qusair and Rahaliya. Likewise it seems likely that a deep rectangle may be influenced by the structure of vaulted iwan which prevailed as a main room or throne hall in the contemporary architecture. It should be avoided in any case that it might be interpreted simply as a tradition of the Babylonian temple [T. Rice 1934: 58].

#### *orientation and access*

In the western world it is quite natural that the church has an apse oriented toward the due east. Although any deflection was unavoidable it varies within 12 degrees as far as Butler surveyed the Syrian churches [Butler 1929: 182]. Nevertheless, of the churches at Hira, Qusair and at Ain Sha'ia, such a basic orientation is almost neglected. Tolerance of the orientation can be pointed out as a remarkable attribute of the church in south Iraq.

Likewise the direction of access varies. The church at Museifneh in the north can be entered not only through the southern side portico but also from the west end facing the courtyard. Qasr Serij has entrances again both on the south and west sides, though porticoes may perhaps be provided on three sides without a break. The style of entrance with a columned porch on the longer side against an inner room had already introduced in the Assyrian time<sup>18)</sup>, but judging from the total appearance the church style itself is assumed to be transmitted as a whole from north Syria in the Christian era.

In the south, on the other hand, it is characteristic to arrange several doorways symmetrically on either side of the nave except in Qasr al-Ma'i at Rahaliya. At least at Hira and Ain Sha'ia, however, some subsidiary rooms communicate with the church proper on one side. At Ctesiphon and Hira there is no doorway in the end wall opposite to the sanctuary. In any case the main entrance to the nave is to be placed on a longer side as a rule.

Apart from the catalogued churches referred to above, another comparable church building has been disclosed, not in Iraq, at the Kharg Island in the Gulf should be noticed<sup>19)</sup>. It stands in the center of a monastery complex, with a rectangular sanctuary oriented exceptionally toward south-west, deflected some 30 degrees south from the due west. Most impressively its nave is divided into three aisles by ordinary walls, analogous to the churches at Qusair and Ain Sha'ia, each with narrow passages. It is noticeable,



however, that the side aisles as well as the *pastophoria* are by no means planed symmetrically. On the eastern end is provided a transverse room like as a narthex, with no doorway leading to the central nave but with two openings to the side ones respectively. To take a different viewpoint, it seems likely that this church might be single-aisled, then surrounded by a divided corridor. Such an aspect may give a clue to the interpretation of a specific construction of Church A at Qusair, of which the outer walls of the side aisles are built of mud-bricks, quite different from the stone masonry of the central portion. This suggests that the rooms flanking the central nave on three sides may perhaps serve mainly as a circumambulatory, though literary sources may not give any evidence for such a liturgical performance in the Babylonian church. So must be the case, it is believed, with the church at Ain Sha'ia.

## Conclusions

The present matter of concern is whether it is possible to classify the churches in Iraq appropriately. In reviewing their situations, at first, it can be assumed that three churches at Ctesiphon and Hira may have been located in the urbanized circumstances, and that the others stand either independent or in the monastic site distant from an urban region. The former ones correspond to the largest three of the entries, having enough space for a big congregation to recall metropolitan cathedrals. Most of the others are of middle or smaller class to compare with so far known churches in the neighboring countries, such as Syrian ones [Wilkinson 1984: 116ff]. Among them Church B at Qusair and two basilicas at Qasr Serij and Rahaliya can be thought, as the reported circumstances suggest, to have been erected as martyrions.

Secondly architectural studies, that is the main subject here, come to a conclusion that the churches in the north should be distinguished from those in the south. If the northern two were discovered in north Syria as they were, nobody would never believe it judging from the masonry, nave system and even the apse form. In north Iraq, however, it is noticed that some buildings of the so-called Sasanian stone masonry still remain, such as the churches at Chidr Elias and Kirkuk. Of the southern churches two prominent features should be pointed out; one of the two concerns with the construction of the sanctuary, and another the nave partition. The preference of a rectangular construction to a semicircular shape must be linked with the symbolism of the divinity. The native adherents preferred a deep and raised space surmounted by vault or dome, which was certainly much more familiar in those days than shallow and curved sanctuary in plan<sup>20)</sup>.

As for the nave partition questions remain both in the types with columns and with walling partitions. A columned hall with three aisles features not only the western basilica, but also the late Sasanian or early Islamic palace architecture sometimes. Important here is the direction of main access to the church in Iraq, which is always provided on the side, not on the end. In Syrian basilical churches the side entrance seems, at least at the outset, to have been prior to the front one, whereas in such a palace building as has a columned main hall in front of a throne, for example, two Sasanian palaces at Kish and Dar al-Imara at Kufa, no entrance can be found on the side. And it is almost impossible that the tradition of Sumerian temples with the so-called bent-axes still survived. The columned type of church is, therefore, considered to be produced basically following the Syrian examples rather than the Sasanians, though a symmetrical arrangement of doorways must be of local invention. It is corroborated with a raised platform in the nave at Hira apparently of western origin. On the other hand, a type of nave partitioned by usual walls occurs for the first time in the Babylonian desert, apart from the one at Kharg of an obscure date. The motive of alteration from a broadly open columned nave to a walled and closed one can hardly be interpreted merely by easiness or familiarity, since artisans in those days surely excelled in the structure of broad-spanned arches or vaults. As already mentioned above in connection with the monastic church at Kharg Island,



some liturgical demand may have brought such a unique style, but symmetrically arranged entrances and a tripartite constitution with a rectangular or square sanctuary were left as they were. Thus, it may be allowed to set up a new specific style of church.

In addition the entries above seem to exclude the church style of the earliest stage in the period when the Christianity spread over the Babylonian plain for the first time. Unfortunately there is no example known to us showing what is the style of possible churches of such an early date. For Syrian churches there is an hypothetical view that firstly appeared a kind of house church with courtyard, as exemplified by the renown remains disclosed at Dura Europos, and subsequently a primitive single-aisled chapel entered from the portico on the longer side as is seen in the case with Qirk Bizze [Milburn 1988: 125]. These two, however, seem to have developed from different styles of local house from the outset, even though the dates of the two are far apart. In any case the later style of Syrian churches may have hardly established until the contribution of special architects such as Markianos Kyris [Beyer 1925: 38ff]. The similar development from a house church may be presumed about Mesopotamian churches, too, though nothing to evidence at present. The specific church edifice may have emerged on account of necessity of a liturgical congregation. This evolution seem to have begun at the latest in the very early 5th century when six classical provinces with a metropolitan as leader had already been established within the Sasanian territory [Asmussen 1983: 931–2]. All the entries above are thought most probably to be of a later stage afterwards.

Thus, the churches in Iraq, especially in the southern region, though not so many, represents the notable architectural phenomenon in the time around the Muslim conquest, that various factors and elements, both native and alien, skilfully composed not in one way a new category of architecture, neither Sasanian nor Islamic.

### Notes

- 1) Regretfully to say, we were obliged to give up the work at Site C beyond the surface clearance because not only of the danger of unstable rocks but of extreme disturbance of the earth by somebody else probably for the purpose of taking baked-bricks away [Fujii et al. 1989: 78–81].
- 2) Among recent works of the early Christian architecture, Mesopotamian churches are dealt with, for instance, as follows: R. Krautheimer refers to the churches at Ctesiphon, Hira and in the region of the Tur 'Abdin, with almost nothing more than Reuther's view [Krautheimer 1965: 214–7]; R. Milburn nearly neglects evidence from the Mesopotamian plain despite providing a chapter "Church Buildings in Asia" [Milburn 1988: 121–44].
- 3) Unexcavated part, nearly a half of the building, as the illustration shows, has been conjectured to be of a symmetrical construction, and some of measurements to be referred to below are, therefore, estimated based on such a reconstruction.
- 4) By the afore-mentioned cubit these measurements render  $40 \times 25$  with the allowable margin of error, and it is interesting to note that this proportion is equivalent to the "golden section".
- 5) What we call these three chambers follows the term used by Krautheimer here [Krautheimer 1965: 215], whereas Butler designated only a central one as a sanctuary [Butler 1929: 175ff].
- 6) Following the denomination of Syrian churches, the western chamber deserves a *diakonikon* and the eastern does a *prothesis*. The fact is not contradicted with the Syrian case that there is a narrow passage on the west side of the central sanctuary.
- 7) All the data depend upon the report documents insofar as without a proviso; the numerical values, unless documented, have been obtained through the present writer's measuring the original drawings to be cited.
- 8) As far as the excavator describes, wall bodies are built only of mud [T. Rice 1932: 279; idem 1934: 58], but it may be read as mud-brick.
- 9) Although such a date is undeniable as that of foundation, it is noticed that the unearthed small finds seem to suggest rather a later date.
- 10) These values are given based on the attached rough scale in the published report [T. Rice 1932: fig. 2]. Such a size, as is wider than the span of the iwan at Taq-i Kesra, is too large to believe as it is. If the scale were the same as that of Mound XI, each value should be reduced to 60 percent.
- 11) According to the excavator, considerable part of the nave area remains unexcavated. Taking account of such a broad nave,



even if it should be reduced as noted just before, it is probable that some system for the roof support might still be hidden in the earth.

- 12) See note 10.
- 13) The excavator had once roughly estimated the date contemporary with the other church [T. Rice 1932: 279], and revised it in the subsequent report [T. Rice 1934: 57].
- 14) Such a concrete date is based on the identification of the monastic remains as a shrine or house dedicated to renown St. Sergius by Mar Ahudemme [Oates 1962: 87].
- 15) The date follows the description of "Excavations in Iraq, 1981-82" in *Iraq*, vol. 45, p. 217.
- 16) The type of the structure is personally informed through the courtesy of Dr. John Curtis. According to him this church is assigned to the Il Khanid period. Regrettably to say I have not found the report of further details already published by the British Museum yet.
- 17) The recent work by G. Wiessner has reconfirmed such a view of typology with the schematic terms, "Kultbauten mit transversem Schiff" and "Kultbauten mit longitudinalem Schiff" [Wiessner 1981; *idem* 1982].
- 18) Such a style of entrance derives probably from the ancient Syrian tradition, that is called the *Hilani* type of house or palace and introduced to north Iraq [Frankfort 1952: 120-131].
- 19) As I have not seen the original report written by R. Ghirshman yet, the present description is made not from it but mainly from the illustration reproduced by D. Whitehouse [Whitehouse & Williamson 1971].
- 20) In north Mesopotamia, not in present Iraq, exists exceptionally a three-aisled church with a deep rectangular sanctuary, though not completely symmetrical. It is a Monophysite church at Jezirat ibn Omar, neighboring the Tur 'Abdin [Preusser 1911]. Whether it concerns with a influence of the south or not is uncertain.

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## PAINTED DESIGNS OF THE NINEVITE 5 POTTERY

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### I. Introduction

Painted ware of the Ninevite 5 period can roughly be divided into two groups: the painted ware of the Ninevite 5 Transitional Period and that of the Painted and Early Incised Period [Roaf and Killick 1987]. The former is represented by pottery from Tell Karrana 3 and the latter by pottery from Tell Thalathat and Tell Mohammed Arab Period 2. The view that these two groups of Ninevite 5 painted ware were originally derived from the Late Uruk Period is supported by stratigraphical excavations [Fales et al. 1987; Wilhelm and Zaccagnini 1987].

Rova has described the special features of the painted ware of the Late Uruk Period and the Transitional Period [in press], and Killick has set out the characteristics of the painted ware of the Late Uruk Period and the Painted and Early Incised Period [in press]. However, both of them have only outlined the distinctive features of the painted ware, but have not done any detailed classification of the designs.

On the other hand, the detailed research into painted ware excavated from Tell Thalathat, carried out by Hori, Chiyonobu and Matsutani, has included the most of the features of the Painted and Early Incised Period [Fukai et al. 1974]. This is summarized below.

Hori examined in detail the ways the designs were drawn and their layout on the pottery. He pointed out that all of the painted pottery types but the carinated bowls have feet or pedestals on their bottoms [Hori 1985].

Following a detailed grouping of the elements of the patterns and design units, Chiyonobu classified the painted designs into horizontal line patterns, in which repetition of an element constituted horizontal bands, and panel patterns. Furthermore, the painted patterns were subdivided into "design elements".

Matsutani compared the layout of painted designs from various painted ware from Tell Thalathat with those of completely preserved ware from Nineveh. All specimens from Nineveh were regarded as pottery belonging to one single period at the time they were excavated. However, since the more recent discovery of the Transitional levels in the Mosul region, it has become clear that the specimens from Nineveh included painted ware belonging to the Transitional Period [Roaf and Killick 1987; Rova in press]. In particular, the majority of the footed bowls and carinated bowls were obviously from the Transitional Period [Thompson and Hamilton 1932: pls. 53, 54]. Matsutani pointed out that, as could be seen from the numerous specimens of the Transitional Period included in the Nineveh painted pottery, there were clear differences between the layouts of designs of the two periods. As discussed later in this paper, these differences roughly correspond to the differences in design layouts between the Transitional Period and the Painted and Early Incised Period. Matsutani further pointed out that although there were recognizable differences in the design units, there was a lot of similarity in the design elements. He also emphasised the importance of comparison at the levels of design units and layouts with regard to future research.

As mentioned above, no detailed study on painted designs of the whole Ninevite 5 Period has yet been

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carried out. This paper will discuss the transition of painted designs of painted ware from the Late Uruk Period through to the Ninevite 5 Period, which is further divided into several periods. There are many unanswered questions regarding the Ninevite 5 painted designs. The present author will examine the following questions:

- (1) How did painted designs evolve from the Transitional Period to the Painted and Early Incised Period?
- (2) How did painted designs evolve during the relatively long the Painted and Early Incised Period?

It is only natural that the features of painted designs should vary according to the skills of potters and regional characteristics, and it may be inappropriate to set up chronological order based only on comparison of painted designs from different tells. It is possible, however, to show an outline of the transition of the painted designs. Furthermore, the attempt to discuss chronological change in the Ninevite 5 Period through painted designs has to take into consideration the evolution of the shapes of various types of painted ware in the same period.

This paper follows the chronological order of the Ninevite 5 Period established by Roaf and Killick during their research on Tell Mohammed Arab [1987].

## II. Methodology

The specimens of painted designs of painted ware examined here are taken from Nineveh, Tells Billa, Durade, Fisna, Karrana 3, Kutana, Mohammed Arab, Rijm, Thalathat, Thuwajj, Brak, Chagar Bazar and Leilan. These specimens were good enough for a minimum restoration of their pattern elements. A large quantity of painted fragments were found in Nineveh but only very few of their original shapes are known [Thompson and Hutchinson 1931; Thompson and Hamilton 1932; Thompson and Mallowan 1933]. Moreover, it is not completely clear at which strata they were excavated. Consequently, only specimens which were considered to have comparison value were selected. Painted designs of miniature ware have been excluded from this exercise.

The basic classification of painted designs in this paper follows the classification used by Chiyonobu in classifying the painted ware from Tell Thalathat [Fukai et al. 1974]. For example, the terms "pattern elements", "pattern units", "layout of painted designs", "panel", "vertical elements", "horizontal elements", and so on, as well as names of pattern elements, are used in this paper as they were used in the Tell Thalathat research. The classification of painted zones (painted positions) also follows that of Tell Thalathat: Zone A=neck (for jars only); Zone B=upper part of body; Zone C=lower part of body; Zone D=foot and pedestal(stem and skirt) (Fig. 1).

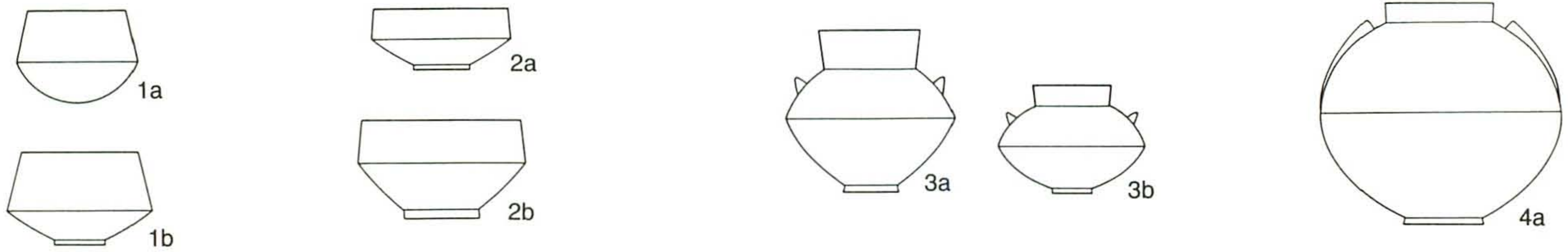
Apart from the above systems of classification, the following techniques have also been adopted.

1. Comparisons of pattern elements, pattern units and design layouts were carried out in order to seek out their differences, similarities and peculiarities. The compositions of painted designs in relation to each type of ware were examined to determine whether the positions of pattern elements and pattern units were in any way affected by the shape of the ware. Types of painted ware comprise carinated bowl (Type 1), footed bowl (Type 2), lugged jar (Type 3) and large jar (Type 4) (Fig. 1).
2. Two adjoining panels were shown in the same figure to show clearly the differences and similarities in design layout.
3. Two or three horizontal lines on rims or on carinations of carinated bowls and footed bowls were presented in figures, as they seemed to be important as painted designs.

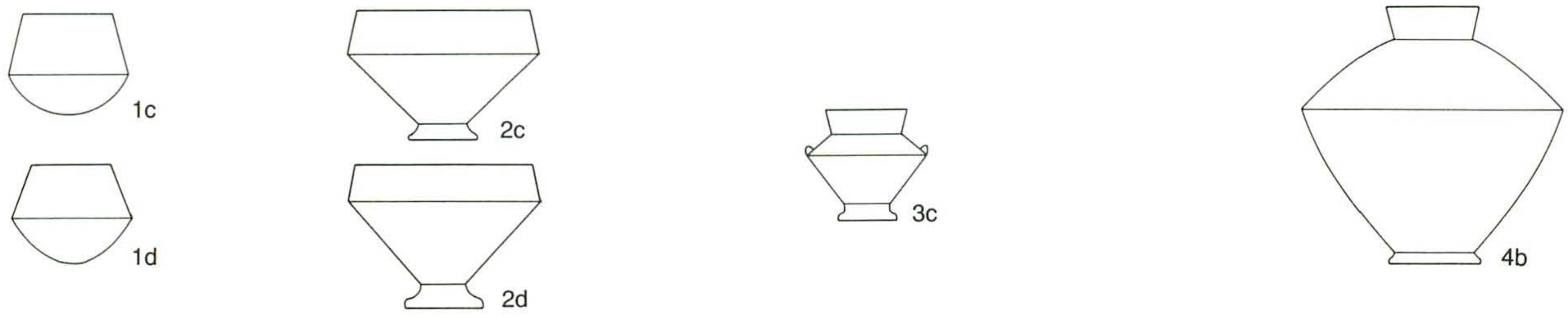
Sketches of painted designs were drawn, following the above methods. Every sketch was drawn on a



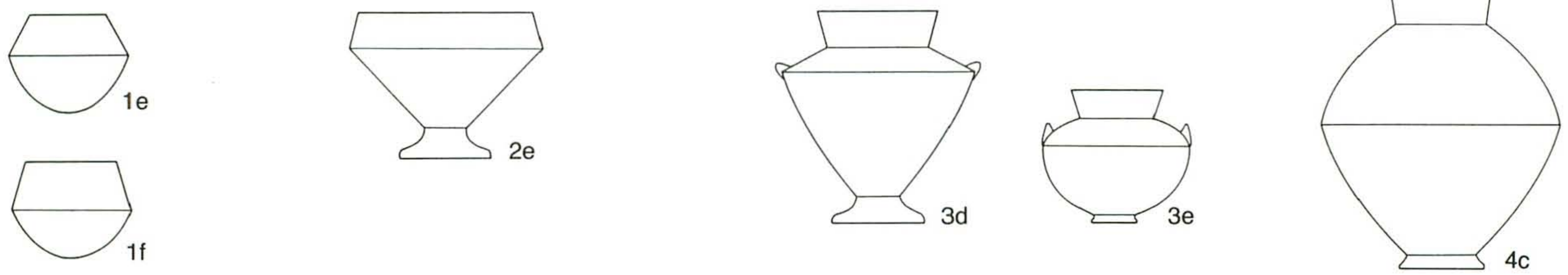
Late Uruk Period



Transitional Period



Intermediate Period?



Painted and Early Incised Period

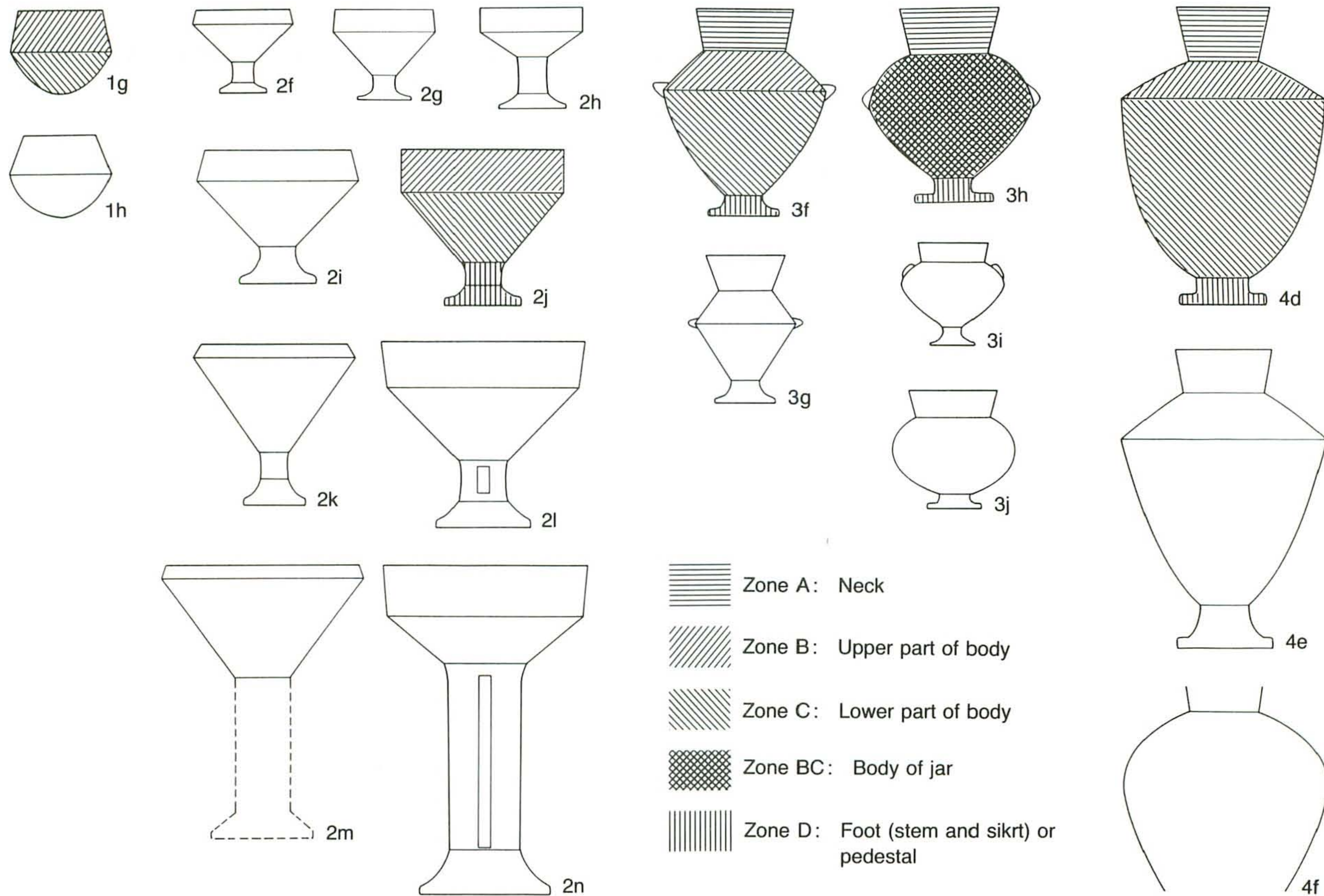


Fig. 1 Types of Painted Pottery in the Late Uruk and the Ninevite 5 Periods.



different scale. The white sections are the restored parts of the designs. As most of the restored parts were based on reduced drawings, the occurrence of some errors was unavoidable.

Comparison of specimens from different sites was also considered but was rejected because the numbers of specimens obtained from each site were different.

In this paper, more emphasis has been put on the composition and layout of painted designs than on painted pattern elements.

### III. Characteristics of Painted Ware

#### 1. Late Uruk Period (Figs. 2, 3)

That the pottery of the Late Uruk Period was a prototype of Ninevite 5 pottery is evident from the results of excavation at Tell Karrana 3 [Fales et al. 1987]. The stratigraphical level and pottery belonging to the same period were found in many tells in the Eski-Mosul Area (Tells Jigan, Khirbet Hatara, Rijm, Jessary, Thuwajj, Siyana Ulya, Khirbet Karhasan, Abu Dhahir and Ger Matbakh). However, the specimens which have been published up to now have been taken almost exclusively from Tells Karrana 3 and Mohammed Arab. Consequently, the specimens examined here were also taken mainly from these two tells. As mentioned above, the characteristics of the pottery of this period have been discussed by Rova and Killick, and their analyses will be referred to in the course of this paper. Furthermore, few specimens of painted ware from Nineveh, which clearly belongs to this period [Killick in press], has been included in the present discussion.

##### a) *Types of painted pottery* (Fig. 1)

The types of painted pottery are roughly classified into carinated bowl (Types 1a and 1b), shallow carinated bowl (Types 2a and 2b), lugged jar (Types 3a and 3b) and nose-lugged jar (Type 4a). Carinated bowls are further divided into two types: one with a rounded base, the other with a ring-base. Some large-sized carinated bowls have a spout on their body (Nos. 2, 3). It is thought that all of the shallow carinated bowls have ring-base. Similarly, lugged jars and large nose-lugged jars also have ring-base on their bottoms.

##### b) *Positions of painted designs*

In all the specimens, painted designs are located on the upper part of the body (Zone B). There is no example of painted design being on the lower part of the body (Zone C). Painted designs in Types 1 and 2 are discernible in Zone B only. Painted designs of Type 3 are divided into two kinds: one has paint in both Zones A and B (No. 18), the other has it in Zone B only. Painted designs in Type 4 are thought to be located in Zone B only, but one specimen exists on which painted design is thought to be located only in Zone A (Killick in press: fig. 1-2). The features common to all types of painted pottery is that most of them have no paint on the top of the rim (lip) [Killick in press; Rova in press].

##### c) *Painted pattern elements* (Fig. 2)

Painted designs are divided into the following pattern elements.

1. Cross-hatched triangles (Nos. 2~6, 9, 16~19, 21~23).
- 2a. Cross-hatched bands (Nos. 5, 8, 15, 23).
- 2b. Cross-hatched rectangles (Nos. 10, 11, 24).
- 3a. Solid triangles (Nos. 1, 6, 20).
- 3b. Solid elongated triangles (No. 7).
4. Checkers and like-checkers (Nos. 10, 12).
- 5a. Horizontal herring bone (No. 8).
- 5b. Vertical to slanting herring bones (Nos. 6, 12, 14, 18).



- 6a. Slanting ladders (single and double) (Nos. 3, 4, 9, 13, 16, 18).
- 6b. Vertical ladders (single) (No. 13).
- 7. Slanting lines (No. 6).
- 8. Solid lozenges (No. 11).
- 9. Vertical butterflies (No. 18).
- 10. Zigzag horizontal band (No. 7).
- 11. Naturalistic motif (No. 11).

The variety of pattern elements found in the Late Uruk Period is smaller than that of the Painted and Early Incised Period discussed below. The main basic elements are cross-hatched triangles, cross-hatched bands and cross-hatched rectangles. Typical painted designs of this period are cross-hatched triangles and solid triangles, with slanting herring bones, slanting ladders and slanting lines arranged outside and parallel to the two slanting sides of the triangles (Nos. 6, 9, 18). These designs are examples of design units made up of two pattern elements. Similar kinds of design are not found in the Ninevite 5 Period. It is believed that these designs are typical of the Late Uruk Period.

*d) Composition and layout of painted designs (Figs. 2, 3)*

As mentioned above, most of the painted designs are located in Zone B. The rules governing the designs and the combinations of the designs in Zone B are analysed below. It seems that the combinations of painted elements can roughly be divided into five categories, as follows.

- P1. One element repeated successively (Nos. 1, 2, 19~22).
- P2. One element drawn horizontally in the form of a belt (No. 15).
- P3. Zone B being divided into two or three small horizontal zones, and one or three different elements being drawn successively in the small zones (Nos. 4~8, 23).
- P4. A pattern assumed to comprise two or three design elements and units drawn alternately (Nos. 9, 13, 16, 18).
- P5. A pattern of panel design by the vertical division of Zone B into rectangular sections (Nos. 10~12, 17, 24).

**P1.** Most of the patterns in group P1 are composed of successive solid or cross-hatched triangles. The three examples in specimens No. 2 in Type 1 illustrate this motif. Judging from these drawings, the numbers of triangles drawn around the vessels vary from four, six to eight [Killick in press; fig. 1-8, 9]. The number of pattern elements on the circumference of a particular painted zone is also important in analysing the division and layout of painted designs in the Ninevite 5 Period. Specimens No. 3 has a slanting ladder motif between cross-hatched triangles. It may therefore be inappropriate to include it in this group. However, based only on the original drawing, it is difficult to imagine that these ladder and triangles elements have been drawn repeatedly. The ladder element seems to have been drawn in irregularly. Other examples of slanting ladders, vertical lines and slanting herring bones, which are thought to have been drawn in irregularly, can be found in specimens Nos. 4, 5, 12 and 16.

**P2.** Example of pattern P2 in Type 2 vessels is to be found only in the cross-hatched band motif in No. 15; and it is not found in Type 1 vessels at all. The same phenomenon also occurs in painted designs of the Transitional Period. The reason why pattern P2 is only found in Type 2 vessels is that Zone B of Type 1 is too wide to contain a single horizontal band. Actually, there is no example in the Transitional Period in which P2 pattern is drawn over Zone B of Type 1 vessels, although the shape of Type 1 vessels from the Transitional Period is similar to that of Type 1 vessels from the Late Uruk Period. Evidently, the space in Zone B of Type 2 vessels is most suitable for drawing P2 pattern.

**P3.** Pattern P3 is subdivided into two groups: one has a cross-hatched band (Nos. 4~6, 23), the other does not (Nos. 7, 8). This pattern is not found in Zone B of Type 2 vessels because Zone B of Type 2 is



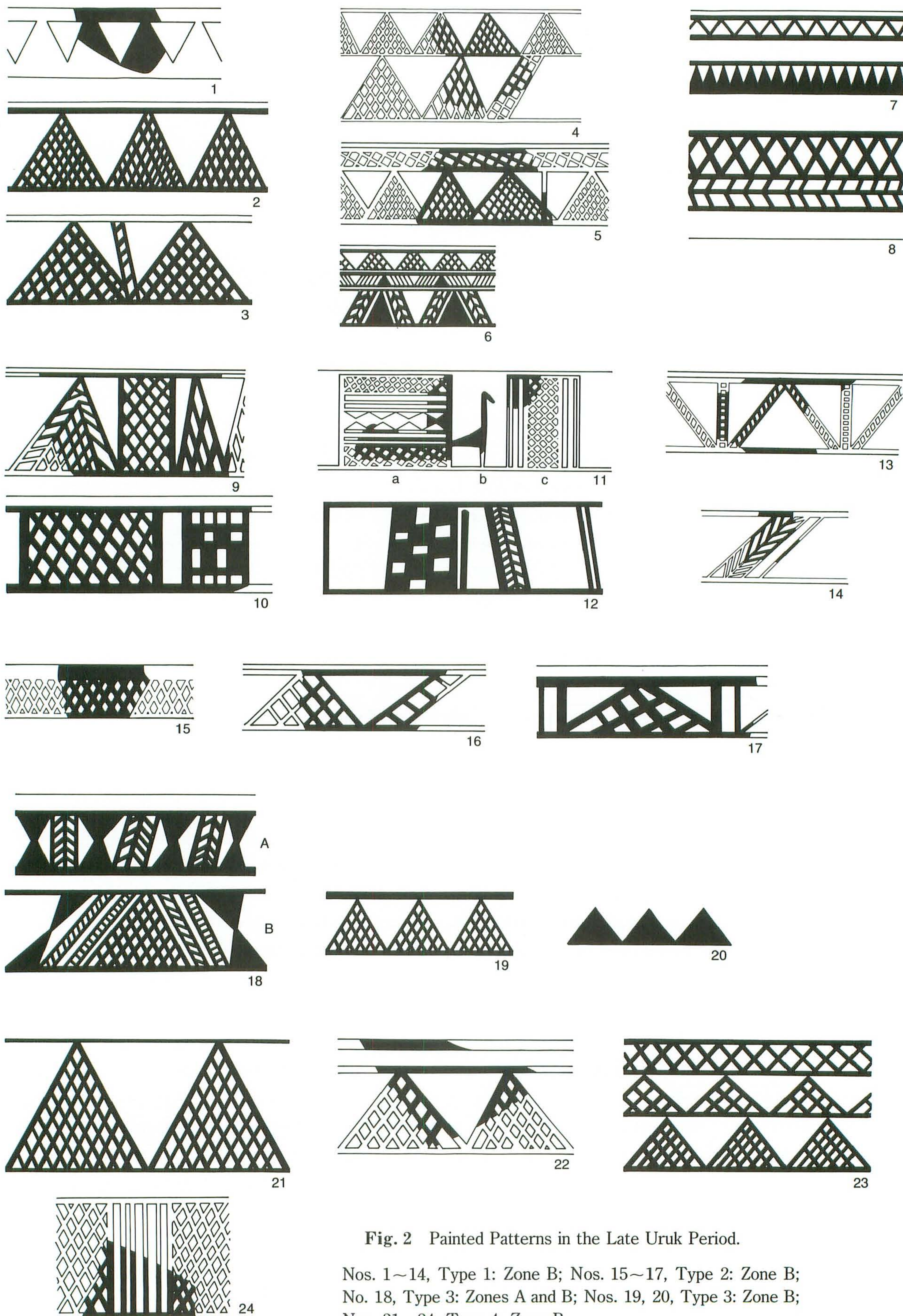


Fig. 2 Painted Patterns in the Late Uruk Period.

Nos. 1~14, Type 1: Zone B; Nos. 15~17, Type 2: Zone B;  
 No. 18, Type 3: Zones A and B; Nos. 19, 20, Type 3: Zone B;  
 Nos. 21~24, Type 4: Zone B.



Table 1. List of Fig. 2

No	Site	Type	Zone	RD(cm)	MD(cm)	BD(cm)	Literature
1	Karrana 3	Type 1	B	11.1			Fales et al. 1987: Fig.8-5
2	Mohammed Arab	Type 1b	B	11.6	16.9		Roaf 1984: Fig.8a
	Mohammed Arab	Type 1a	B	8.2	9.8		Killick in press: Fig.1-8
	Mohammed Arab	Type 1a	B	8.7	9.3		Killick in press: Fig.1-9
3	Mohammed Arab	Type 1b	B	10.9	15.7	5.3	Roaf and Killick 1987: Fig.2
4	Mohammed Arab	Type 1	B	9.1			Killick in press, Fig.1-4
5	Karrana 3	Type 1	B	10.2	11.8		Fales et al. 1987: Fig.9-14
6	Nineveh	Type 1b	B	10.7	14.0	4.8	Thompson and Hamilton 1932: Pl.53-15
7	Mohammed Arab	Type 1	B	7.1	9.4		Killick 1986: Fig.2-7
8	Mohammed Arab	Type 1	B	9.1			Killick 1986: Fig.2-6
9	Mohammed Arab	Type 1	B	12.9	17.8		Killick in press: Fig.1-11
10	Mohammed Arab	Types 1 or 2	B	14.2	15.3		Killick in press: Fig.1-10
11	Mohammed Arab	Type 1	B				Roaf and Killick 1987: Fig.2
12	Mohammed Arab	Type 1	B	8.2	10.9		Roaf and Killick 1987: Fig.2
13	Karrana 3	Type 1	B				Rova in press: Fig.4-7
14	Karrana 3	Type 1	B				Fales et al. 1987: Fig.9-13
15	Karrana 3	Type 2a	B	12.0	12.6		Fales et al. 1987: Fig.9-15
16	Karrana 3	Type 2	B	16.4	17.0		Rova in press: Fig.4-9
17	Mohammed Arab	Type 2b	B	15.3	15.6		Killick in press: Fig.1-13
18	Mohammed Arab	Type 3a	A,B	9.7	16.4	5.3	Roaf and Killick 1987: Fig.2
19	Nineveh	Type 3b	B		12.8	3.4	Thompson and Hamilton 1932: Pl.55-9
20	Nineveh	Type 3b	B	10.5	13.8	5.8	Thompson and Hamilton 1932: Pl.55-4
21	Mohammed Arab	Type 4a	B	12.8	28.2		Roaf 1983: Fig.2-2
22	Mohammed Arab	Type 4	B				Killick in press: Fig.1-5
23	Karrana 3	Type 4a	B	15.2	34.0		Rova in press: Fig.3-5
24	Mohammed Arab	Type 4	B				Killick in press: Fig.1-6

RD: Rim Diameter; MD: Maximum Diameter; BD: Base Diameter

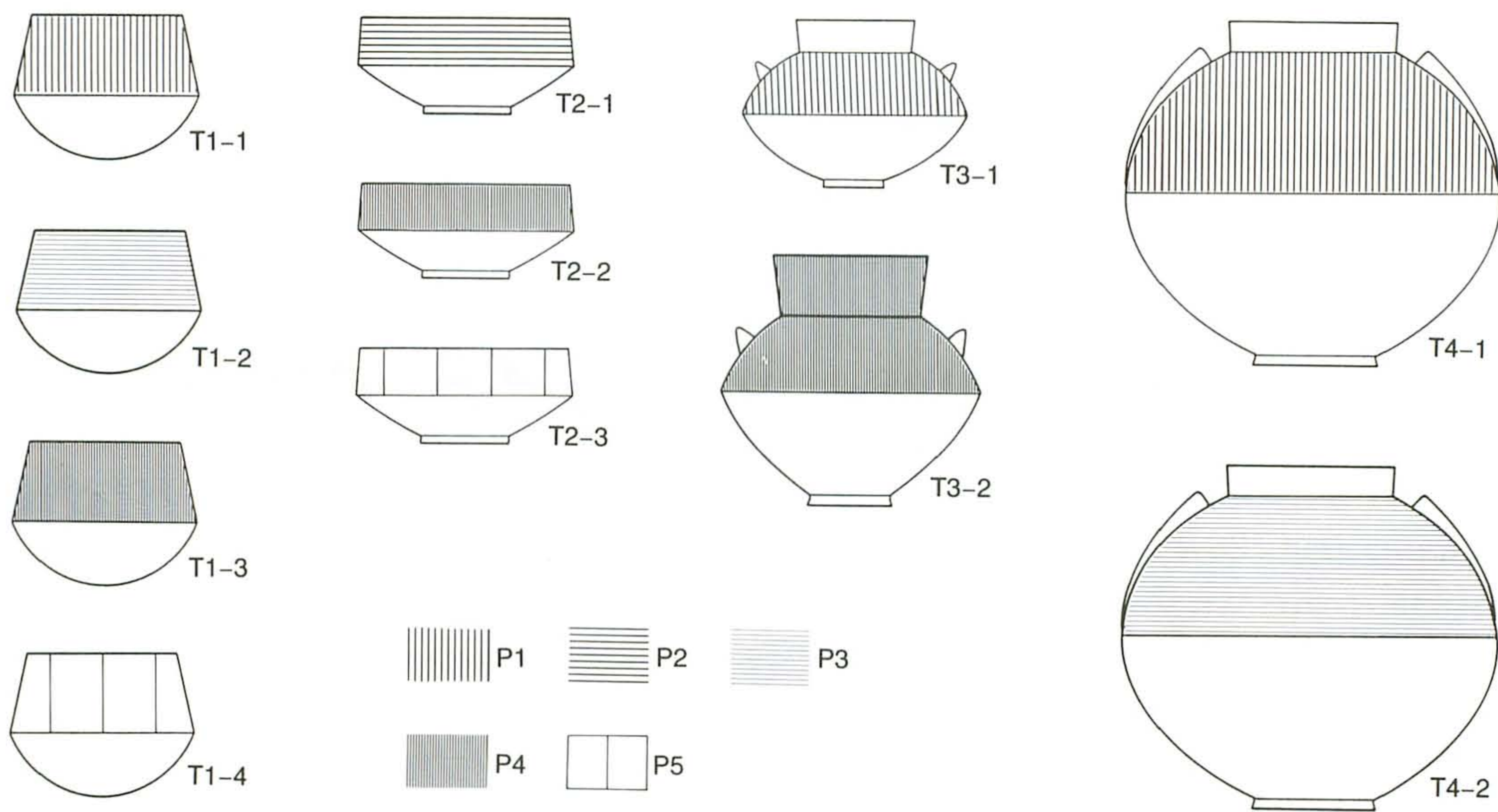


Fig. 3 Variety of Layout of Painted Designs in the Late Uruk Pottery.

narrower than Zone B in Types 1 and 4 and is too narrow for the P3 pattern. The motif comprising a combination of cross-hatched horizontal band and successive cross-hatched triangles is considered typical of Tell Karrana 3 (Nos. 5, 23).

P4. Specimens Nos. 9, 13, 16 and 18 are examples of pattern P4. The only known examples of two alternate elements being repeated regularly are found in Zones A and B of vessel No. 18. No. 9 contains three elements but it is not clear whether these elements are repeated regularly. The design in specimen No. 13 consists of vertical, left-slanting and right-slanting ladders, but the whole layout of the design is not known. There is a possibility that it forms a panel design. Similarly, with regard to specimen No. 16, it is not possible to determine whether a cross-hatched triangle and a slanting ladder have been repeated alternately. As mentioned earlier, it is quite possible that slanting ladders are drawn only on one part of



the vessel.

**P5.** The painted designs of pattern P5 are mainly found in Type 1 and specimens Nos. 17 and 24 have been included in this group. However, it is difficult to reconstruct the whole layout of these designs because the fragments are too small to discern motifs. The designs of specimens Nos. 10 and 12 comprise blank panels of varying dimensions. The designs do not show any distinct regularity and are prototype of the Ninevite 5 panel designs. The design of specimen No. 11 is regarded as a typical design of pattern P5. There are three panels in Zone B of this specimen. The left panel is divided into three horizontal zones (a): the upper and lower zones are filled with a cross-hatched motif while the middle zone is occupied by a row of solid lozenges. As will be discussed later, there are several examples of similar panel design layout to be found in the Transitional Period.

Specimens Nos. 11 and 12, when compared with other specimens of the same type, are thinner and finer carinated bowls. Their shapes are closely related to those of carinated bowls in the Transitional Period and the panel designs are also common to the Transitional Period. Based on these features, it is surmised that these specimens belong to the latest stage of the Late Uruk Period.

*e) Characteristics of painted designs*

The main characteristics of painted designs in the Late Uruk Period can be summarized as follows.

1. Paints are not applied to the lower part of the body (Zone C).
2. There are few examples of paints being applied to the top of the rim (lip).
3. Naturalistic designs are rare.
4. Designs consisting of successive horizontal elements are most common.
5. The dimensions of panels in the same zone in the same vessel are not uniform and the arrangements of panels are irregular.
6. The designs were not painted by skillful and tidy hands; there are a lot of crooked and jugged-out lines [Rova in press; Killick in press].
7. Based on observation of original drawings, it is surmised that only a small variety of brushes were used because the thickness of painted lines do not vary greatly.
8. Most of the designs were painted in dark orange and brownish red; the colour purple was never recognized [Rova in press; Killick in press].

From the above, it is evident that the painted designs of the Ninevite 5 pottery were based on painted elements and compositions of Late Uruk pottery. The differences and similarities between painted designs of these two periods will be discussed in detail in next chapter.

## **2. The Ninevite 5 Transitional Period (Figs. 4~8)**

The specimens examined here are mainly taken from Tells Karrana 3, Fisna<sup>1)</sup> and Jigan Area C<sup>2)</sup> which were located in Eski-Mosul Area. The stratigraphical levels of the Transitional Period have not been proven yet except for Mosul region. The painted ware specimens from Nineveh, which belong to the Transitional period, are examined here to compare with the specimens which were taken from the tells mentioned above. These specimens are classified into two groups in terms of painting: carinated and footed bowls or jars. The features of each type of painted wares in the Transitional Period are discussed here.

### **Painted designs of carinated bowls and footed bowls (Figs. 4~6)**

*a) Types of carinated bowls and footed bowls (Fig. 1)*

All of the painted carinated bowls in the Transitional Period have rounded bases, and are classified into two types: Types 1c and 1d. The shapes of these vessel types are similar to that of Type 1a of the Late



Uruk Period. The carinated bowls with the ring-base are never found in this period. The footed bowls belonging to Types 2c and 2d in this period are carinated on the upper part of the body, and are characterized by the inward-inclined rims and low feet. The footed bowls are considered to have developed from ring-base bowls (Types 2a and 2b) of the Late Uruk Period [Rova in press; Killick in press]. The variety of footed bowls are found from Nineveh, Tells Karrana 3 and Fisna (Types 2c and 2d).

*b) Positions of painted designs*

Painted designs in Type 1 vessels are discernible in Zone B only. Only one specimen (No. 83) has painted designs in both Zones B and C. The location of painted designs of Type 2 vessels are divided into two kinds: one having paint in Zone B only, and another having paint both in Zones B and C (Nos. 49, 54, 59, 60, 66, 68~71, 90, 92, 96). Painted designs located in Zone C are roughly classified into panel designs and concentric semicircular lines. The remarkable difference of painted designs between the Late Uruk and the Transitional Periods is that painted designs in both Types 1 and 2 of the Late Uruk Period are discernible in Zone B only, while those of the Transitional Period are arranged both in Zones B and C. The other features are described as follows:

1. There is no example of painted design on the foot (Zone D).
2. There are few examples of paints applied to the top of the rims (Nos. 40, 49, 50, 55, 57, 61, 65).

These features seem to be succeeded from the Late Uruk Period.

*c) Painted design elements and units* (Fig. 4)

The specimens examined here are taken from Tells Karrana 3, Fisna and Jigan Area C. Painted designs are divided into the following pattern elements:

1. Cross-hatched triangles (Nos. 26, 32~37, 47a, 49, 50, 66, 67).
- 2a. Cross-hatched bands (Nos. 28, 29, 54).
- 2b. Cross-hatched rectangles (Nos. 44, 46c, 73, 74, 78).
- 3a. Solid elongated triangles (Nos. 25, 33, 47e, 65).
- 3b. Solid elongated blunt triangles (No. 46a).
- 3c. Solid right-angled triangles (Nos. 47a, 52).
4. Hatched (Grids) (Nos. 69, 70, 72).
- 5a. Butterflies (Nos. 32, 41, 61~64, 75, 76).
- 5b. Vertical butterflies (Nos. 42, 47c, 74, 77).
6. Solid lozenges (Nos. 46c, 47c, 51, 65, 73).
7. Checker (No. 70).
- 8a. Vertical herring bones (Nos. 40, 75, 76).
- 8b. Slanting herring bones (Nos. 36, 38).
- 8c. Horizontal herring bone (No. 53).
- 9a. Vertical ladders (single and double) (Nos. 39, 41, 42, 47c, 71, 73, 77).
- 9b. Slanting ladders (single and double) (Nos. 35, 37, 67).
- 9c. Horizontal ladders (Nos. 28, 47e).
- 10a. Concentric vertical lines (Nos. 32, 34, 47c, 56, 57, 59, 61~64, 66).
- 10b. Concentric slanting lines (right and left angles) (Nos. 30, 31, 46b, 46d, 47b, 58~60, 72).
- 10c. Concentric horizontal lines (No. 43).
11. Semicircles filled with slanting lines (No. 45).
12. Like-horizontal ladders (No. 55).

Semicircular lines in Zone C has to be differentiated from other design elements. It has to be treated not as a design element, but as an unit or a panel.

Most of these design elements are based on those of the Late Uruk Period. The main characteristics



of painted elements in the Transitional Period can be summarized as follows:

1. The elements Nos. 3a, 4, 5a, 6, 9a,b and 10a,b are drawn frequently. Nos. 3a, 5a and 10a especially, are recognized in many samples. They are typical design elements in this period. Elements Nos. 5a and 10a are found in Type 2 footed bowls rather than in Type 1 carinated bowls.
2. Element No. 11 appeared in the Transitional Period.
3. There are few design elements consisting of circular lines.
4. The combination of these elements in this period is more varied than that of the Late Uruk Period.

d) *Composition of painted designs* (Fig. 4)

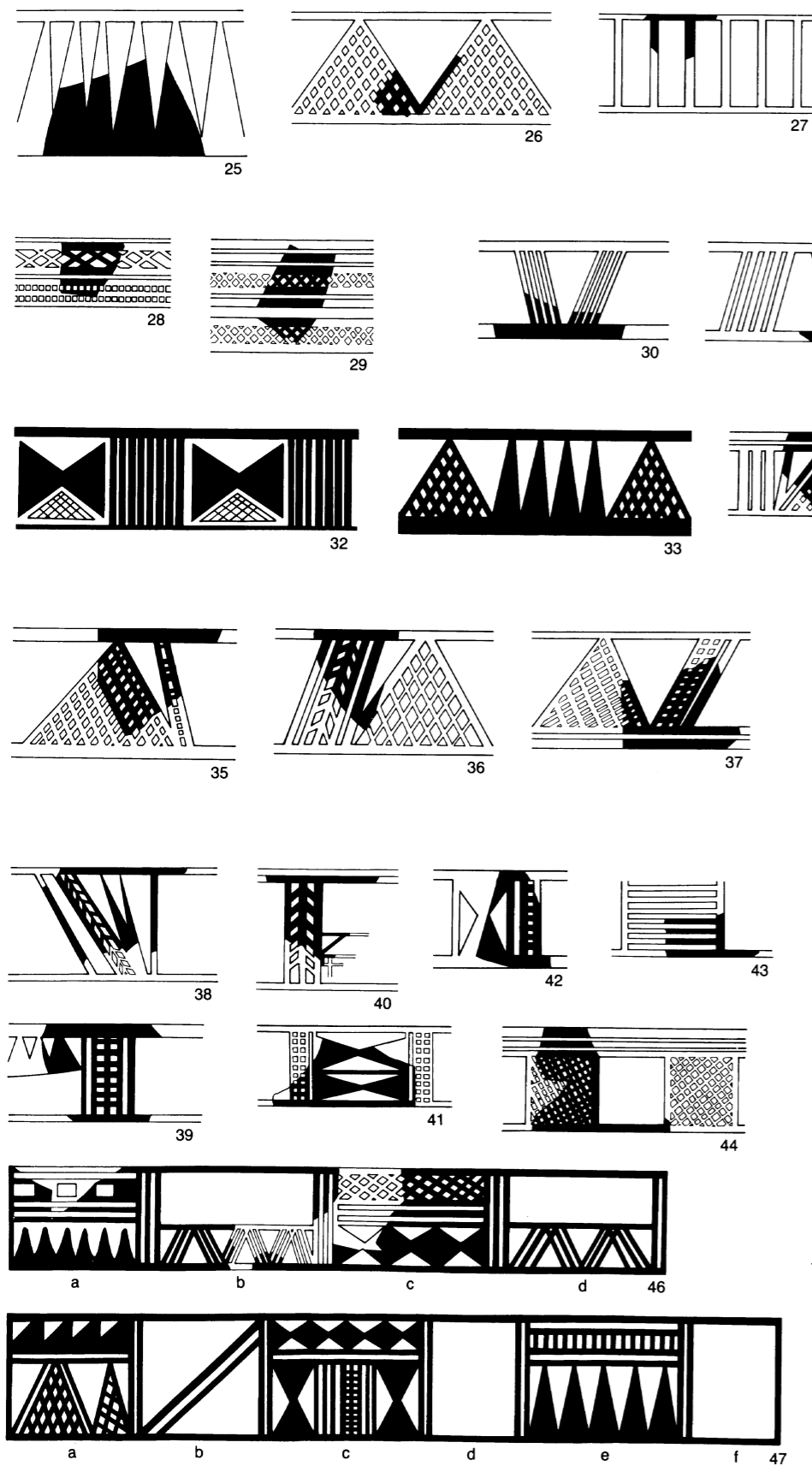
It is difficult to know the entire layout of painted designs in pottery, for most of the specimens are fragmentary. Some of the specimens can not be judged whether the painted designs are composed of

Table 2. List of Fig. 4

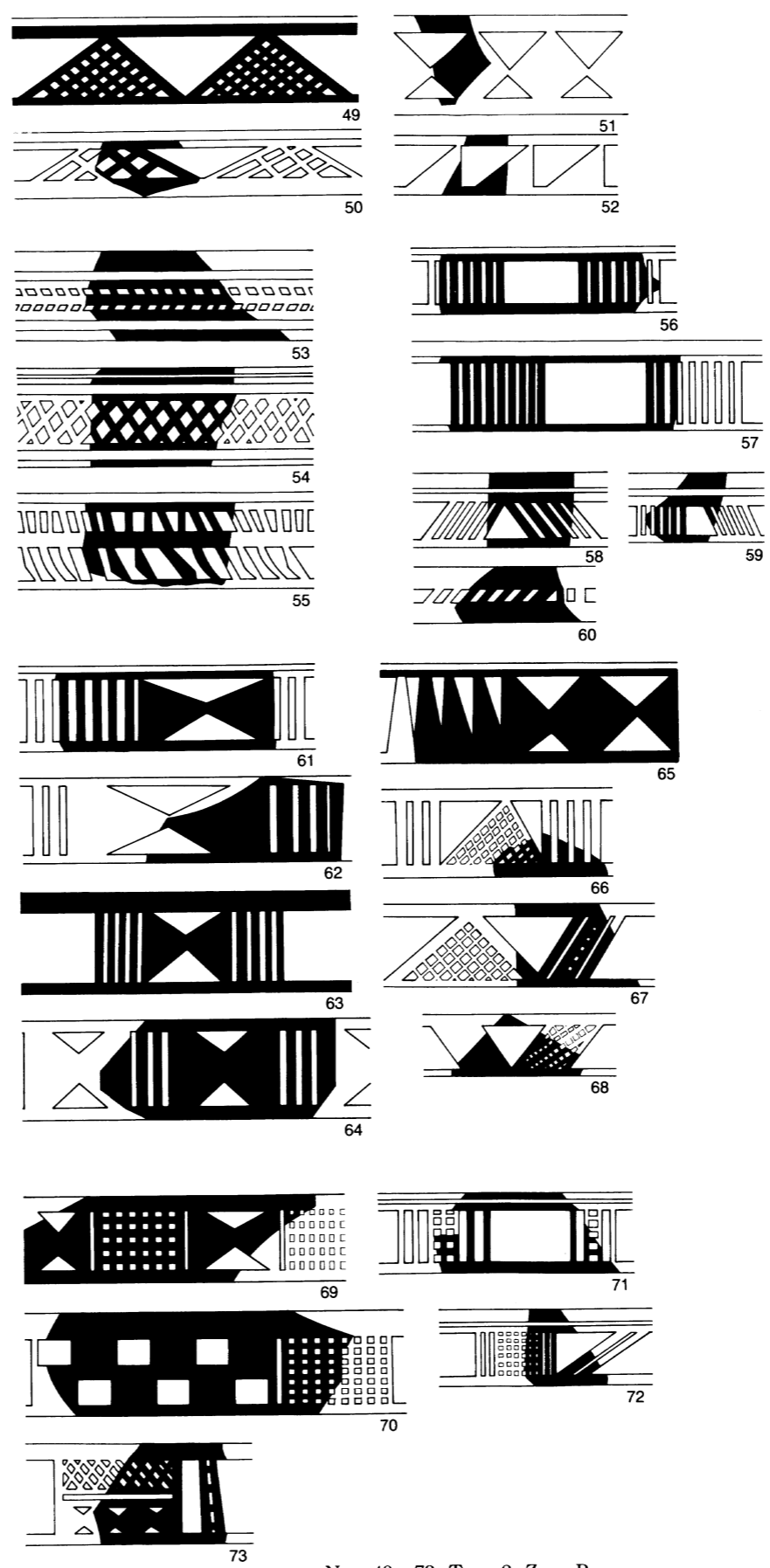
No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
25	Jigan	Type 1	B		15.0		in this paper, Fig.26-4
26	Jigan	Type 1	B		12.5		in this paper, Fig.27-23
27	Jigan	Type 1	B	8.7			in this paper, Fig.27-12
28	Jigan	Type 1	B				in this paper, Fig.26-1
29	Jigan	Type 1	B				in this paper, Fig.27-30
30	Fisna	Type 1	B				Numoto 1988, Fig.16-33
31	Fisna	Type 1	B				Numoto in press, Fig.7-35
32	Fisna	Type 1c	B	8.6	11.1		Numoto 1988: Fig.16-21
33	Jigan	Type 1d	B	6.6	10.5		Fujii 1987: Fig.5-12
34	Fisna	Type 1	B				Numoto 1988: Fig.16-27
35	Jigan	Type 1	B	8.4			in this paper, Fig.27-13
36	Fisna	Type 1	B				Numoto 1988: Fig.16-28
37	Fisna	Type 1	B				Numoto 1988: Fig.16-37
38	Karrana 3	Type 1	B	8.7	11.0		Fales et al. 1987: Fig.10-22
39	Karrana 3	Type 1	B	9.1	12.6		Rova in press: Fig.5-4
40	Karrana 3	Type 1	B				Fales et al. 1987: Fig.10-23
41	Fisna	Type 1	B				Numoto 1988: Fig.16-36
42	Fisna	Type 1	B				Numoto 1988: Fig.16-24
43	Fisna	Type 1	B				Numoto 1988: Fig.16-32
44	Fisna	Type 1	B				Numoto 1988: Fig.16-29
45	Fisna	Type 1	B				Numoto 1988: Fig.16-26
46	Karrana 3	Type 1d	B	9.1	12.7		Rova in press: Fig.5-2
47	Karrana 3	Type 1c	B	10.9	14.8		Rova in press: Fig.5-1
48	Fisna	Type 1	C				Numoto 1988: Fig.16-38
49	Fisna	Type 2d	B,C	14.3	15.4	6.3	Numoto 1988: Fig.16-58
50	Jigan	Type 2	B	14.1	14.4		in this paper, Fig.27-15
51	Jigan	Type 2	B				in this paper, Fig.27-20
52	Jigan	Type 2	B	13.0	15.0		in this paper, Fig.27-14
53	Jigan	Type 2	B	15.7	16.7		in this paper, Fig.26-5
54	Karrana 3	Type 2	B,C	20.3	22.1		Rova in press: Fig.5-7
55	Karrana 3	Type 2	B	20.3			Rova in press: Fig.5-9
56	Fisna	Type 2	B				Numoto 1988: Fig.16-45
57	Jigan	Type 2	B	29.3	30.6		in this paper, Fig.27-26
58	Fisna	Type 2	B				Numoto 1988: Fig.16-42
59	Fisna	Type 2	B,C				Numoto 1988: Fig.16-40
60	Fisna	Type 2	B,C				Numoto 1988: Fig.16-48
61	Karrana 3	Type 2	B	12.1	13.9		Rova in press: Fig.5-8
62	Fisna	Type 2	B				Numoto in press: Pl.11-46
63	Jigan	Type 2	B	15.0	16.7		Fujii 1987: Fig.5-13
64	Fisna	Type 2	B				Numoto 1988: Fig.16-52
65	Karrana 3	Type 2c	B	17.1	18.2	6.7	Fales et al. 1987: Fig.10-21
66	Fisna	Type 2	B,C		13.6		Numoto 1988: Fig.16-55
67	Fisna	Type 2	B				Numoto 1988: Fig.16-46
68	Fisna	Type 2	B,C				Numoto 1988: Fig.16-44
69	Fisna	Type 2	B,C	19.7	21.0		Numoto 1988: Fig.16-50
70	Fisna	Type 2	B,C				Numoto 1988: Fig.16-53
71	Karrana 3	Type 2	B,C	14.2	14.8		Rova in press: Fig.5-8
72	Fisna	Type 2	B				Numoto 1988: Fig.16-41
73	Jigan	Type 2	B	14.3	16.1		in this paper, Fig.27-16
74	Jigan	Type 2	C				in this paper, Fig.27-28
75	Jigan	Type 2	C				in this paper, Fig.27-31
76	Jigan	Type 2	C				in this paper, Fig.27-29
77	Jigan	Types 2 or 4	C				in this paper, Fig.27-33
78	Fisna	Type 2	C				Numoto 1988: Fig.16-57

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter

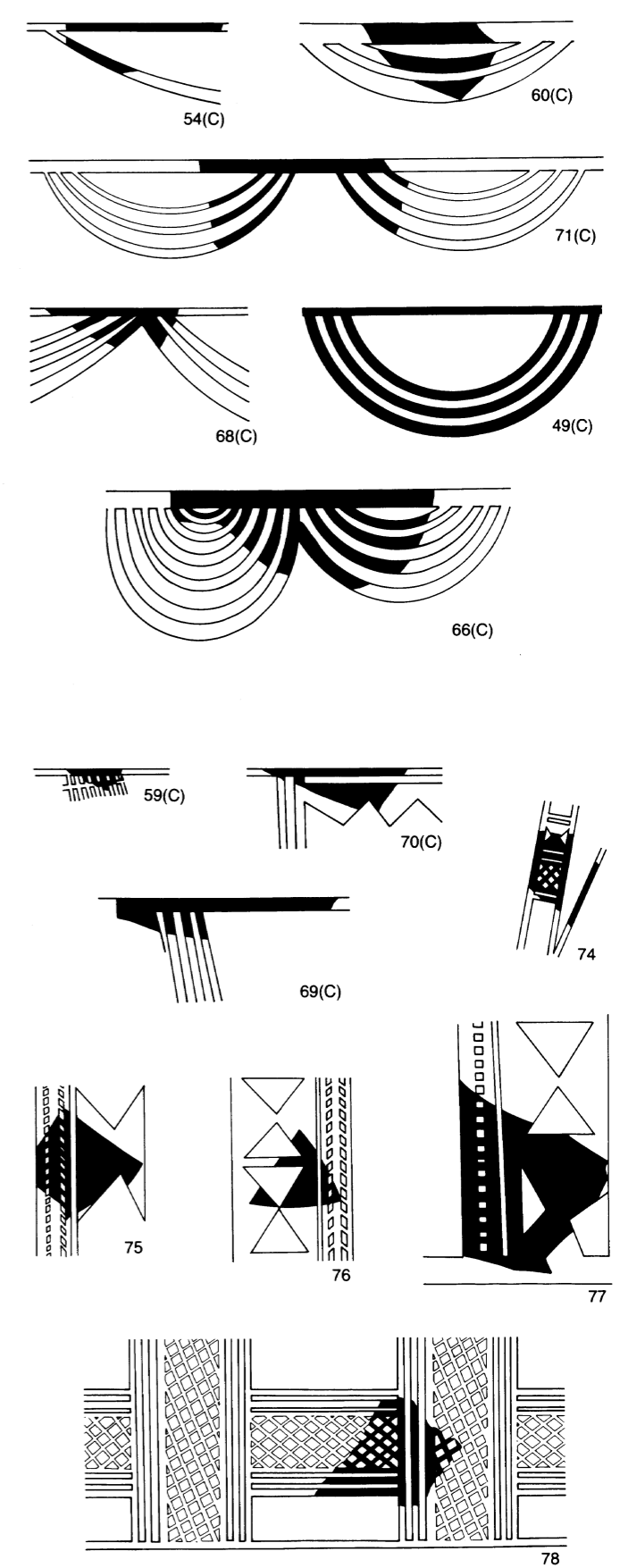




Nos. 25~47, Type 1: Zone B; No. 48, Type 1: Zone C



Nos. 49~73, Type 2: Zone B



Nos. 74~78, Type 2: Zone C; (C): Zone C

Fig. 4 Painted Patterns of Carinated and Footed Bowls in the Transitional Period.



horizontal designs or panel designs. It is to note that there are some specimens in which composition of the painted designs can not be discernible.

The composition of painted designs in Zone B is examined here. There is a slight difference in the composition of painted designs between Types 1 and 2 vessels. The composition of painted designs are classified into five types:

- P1. One element repeated successively (Nos. 25~27, 49~52).
- P2. One element drawn horizontally in the form of a belt (Nos. 53~55).
- P3. Zone B being divided into two or three small horizontal zones, and one or two different elements being drawn successively in the small zones (Nos. 28, 29, 82, 83).
- P4. A pattern assumed to comprise two or three design elements and units drawn alternately, with seven subdivision types (Nos. 30~37, 56~68).
- P5. A pattern of panel design by the vertical division of Zone B into rectangular sections (Nos. 38~47, 69~73).

The composition of painted designs is similar to that of the Late Uruk Period. The composition is more varied larger than that of the Late Uruk Period.

**P1.** Examples of pattern P1 are recognized both in Types 1 and 2. Main elements of these two types are cross-hatched triangles, solid elongated triangles and solid lozenges. Comparing number of the elements of pattern P1 between the Late Uruk and the Transitional Periods, the number of the elements in the Transitional Period is more numerous.

**P2.** Examples of pattern P2 exist in Type 2 vessels only. The reason has been already mentioned in the previous chapter analysing the Late Uruk pottery. Three elements of herring bone, cross-hatched motif and ladder-like motif constitute horizontal bands (Nos. 53~55).

**P3.** Examples of pattern P3 are found in Type 1 only. As mentioned in the previous chapter. There is no example of band motifs composing of repetition of cross-hatched triangles, which are found in specimens Nos. 4, 5 and 6 of the Late Uruk Period. Patterns of specimens Nos. 28 and 29 are common to those of specimens Nos. 7 and 8 of the Late Uruk Period.

**P4.** Pattern P4 is subdivided into the following seven patterns:

- P4a. Concentric slanting lines (four or five lines constitute an unit) both toward the right and the left angles are drawn alternately, as and make zig-zag patterns. It is recognized both in Types 1 and 2 (Nos. 30, 31, 58, 59).
- P4b. Units composed of concentric eight or nine vertical lines and blank zones, which have almost the same width as the units, are repeated alternately (Nos. 56, 57). The pattern is recognized in Type 2 only.
- P4c. The butterfly motifs and motifs of vertical lines are drawn alternately. This pattern is recognized both in Types 1 (No. 32) and 2 (Nos. 61~64). It is very popular in Type 2 vessels. The examples of pattern P4c show the variety of pattern elements. Pattern of specimen No. 32 is composed of butterfly motifs combined with cross-hatched triangle motifs. The pattern of specimen No. 63 is not only successive repetition of butterfly motifs and vertical lines in Zone B. It is supposed that vertical lines are allocated on each side of a butterfly motif, and constitute an unit. The units and blank zones are repeated alternately. The pattern is similar to that of pattern P4b. Pattern P4c is one of the most characteristic painted design in the Transitional Period.
- P4d. Pattern P4d is composed of motifs of solid elongated triangles. Specimens Nos. 33 and 65 are examples of pattern P4d. Specimen No. 33 contains solid elongated triangles combined with cross-hatched triangles. In Specimen No. 65, solid elongated triangles alternate with solid



lozenges or butterflies.

- P4e. Pattern P4e is composed of motifs of cross-hatched triangle and vertical lines (Nos. 34, 66). As for specimen No. 34, parallel lines adjoin apexes of cross-hatched triangles. This pattern is similar to that of specimens Nos. 6, 9 and 18 in the Late Uruk Period. It is regarded that this pattern in the Late Uruk Period is simplified and succeeded by pattern P4e in the Transitional Period.
- P4f. Elements of pattern P4f are motifs of cross-hatched triangles combined with slanting ladders or herring bone motifs (Nos. 35~37, 67). Most of the pattern is recognized in Type 1. There is no evidence that their two motifs are repeated alternately. The composition of elements is similar to that of specimens Nos. 3 and 16 in the Late Uruk Period. It is clear that this pattern is derived from the Late Uruk Period. Other features of pattern P4f are that most of the motifs of slanting ladders and the herring bones contain parallel lines on either side or both sides, and that all of the group P4f specimens were found from Tell Fisna.
- P4g. Elements of pattern P4g are motifs of cross-hatched parallelogram and of solid parallelogram (No. 68). It is not known whether or not these two motifs are successively alternated.
- P5. P5 is a panel pattern. The number of panel patterns and the variety of design greatly increase in the Transitional Period in comparison with the Late Uruk Period. Most of the pattern are found in Type 1. The patterns are subdivided into the following four groups.
- P5a. P5a is a general panel pattern. Most of the examples are found in Type 1 vessels (Nos. 38~47). There is only one example in Type 2 (No. 72). The pattern of specimens Nos. 46 and 47 shows the whole layout of the panel designs. These are important examples to know the features of panel patterns in the Transitional Period. The characteristic features of these two specimens are as follows:
1. Zone B of specimen No. 46 is divided into four sections. Each section of this specimen contains one panel design. Zone B of specimen No. 47 is divided into six sections. The reason why the number of panels is different between these two specimens is that the circumference in Zone B of specimen No. 47 is larger than that of specimen No. 46.
  2. The size of each panel in both specimens is not equal. Especially, the painted panels of specimen No. 47 are wider than unbalanced the two blank panels (d, f).
  3. The number of vertical lines, which partition panels, are three in specimen No. 46, and are two in specimen No. 47.
  4. All the painted panels are divided into two horizontal sections (except for panel b of specimen No. 47).
  5. Two or three typical design elements in the Transitional Period are drawn in each painted panel of these two specimens. Panels of specimens Nos. 46a, 46c, 47a, 47c and 47e are composed of different design elements. Each design element found in specimen No. 47 appears in one panel only.
  6. Specimen No. 47 contains three kinds of panels: blank panels (d, f), a simple design panel (b) and complex design panels (a, c, e) are alternately repeated. The pattern of specimen No. 46 contains simple design panels drawn on the lower half of the panels only (b, d) and designs painted all over the surface of panels (a, c), and these two kinds of panels are alternately repeated. Judging from these features, it is regarded that a blank panel or a simple design panel is always located next to complex of a design panel. The features are common to all the examples in group P5a. It is believed that the allocation of these three kinds of panels is succeeded in the Painted and Early Incised period. For example, the panel design, com-



posed of a pattern which is constituted of one design element or a naturalistic motif, and a panel, on which several design elements are drawn, appear one after another.

The designs of specimens Nos. 46 and 47 contain most of the typical design elements in the Transitional Period.

The designs of many specimens in group P5a contain vertical herring bone and ladder (single or double) motifs (Nos. 39~42). These motifs are usually drawn as lengthwise partitions between panels.

P5b. Two different painted panels of specimens Nos. 69 and 70 in Type 2, composed of one design element, are alternately repeated. The disposition of painted panels are similar to that of group P4c. Hatched motif panels and butterfly motif panels are successively alternate in specimen No. 69. The pattern of specimen No. 70 composed of hatched motif panels and checker motif panels are repeated alternately. No blank panel is found in these two specimens. These specimens were found from Floor B of Tell Fisna. The painted design of specimen No. 69 is considered to be the modified pattern of group P4c. The designs of these two specimens might be a new type of design in the Transitional Period.

P5c. Pattern P5c is composed of blank panels and design panels which consist of ladder motifs and vertical lines (No. 71). Specimen No. 71 is the only example of pattern P5c in Type 2 vessels. The composition of designs is common to P4b.

P5d. Pattern P5d consists of a design panel and a ladder motif (No. 73). The design panel is composed of a horizontal cross-hatched band and lozenges. The design panel is similar to those of specimens Nos. 11a and 46c, as well as to those of specimens from Nineveh. The design panel is believed to be one of the characteristic designs in the Transitional Period.

**Painted designs in Zone C** Painted designs in Zone C (the lower part of body) is discussed here. There is no example in the Late Uruk Period, painted over Zone C. In this period, however, painted designs are recognized on this zone. Most in Type 2. Specimen No. 48 is the only example which has painted design over Zone C in Type 1. It is supposed that the ratio of painted designs in Zone C is relatively low among painted ware in the Transitional Period. The painted designs are roughly classified into concentric semicircular lines (CS) (Nos. 49, 54, 60, 66, 68, 71) and panel motifs (Nos. 59, 69, 70, 74, 78). It is considered that CS motif appeared in this period. The characteristic features of this prototype CS pattern in comparison with CS of the Painted and Early Incised Period are as follows:

1. The curve of CS lines is shallow, while that in the Painted and Early Incised Period is deep.
2. Thickness of each CS line is thin. Especially, the lines of specimens from Tell Karrana 3 (Nos. 54, 71) are thin. The CS lines in the Painted and Early Incised Period are thick and are drawn densely.
3. Four CS motifs are drawn over circumference of Zone C (No. 71), while three motifs are drawn on Zone C in the Painted and Early Incised Period [Fukai et al. 1974].
4. Each of CS motif in the same ware has different number of semicircular lines (Nos. 66, 109), while almost all of the CS pattern in the Painted and Early Incised Period consist of the same number of lines.

Summarizing up CS pattern in the Transitional Period, the CS pattern neither spread over Zone C, nor is in order in comparison with CS pattern in the Painted and Early Incised Period.

A few examples of panel designs in Zone C has been reported. Four pieces of fragments from Tell Jigan (Nos. 74~77) gave us a clue to know the composition of panel designs. All the specimens examined here are small fragments and the composition of panel designs is not known. It is clear that all of these designs are drawn lengthwise. No design as drawn horizontally. These designs comprise blank panels and panels with butterfly motifs and herring bone motifs or ladder motifs (Nos. 74~77). The features are



common to P5a panel design in Zone B. Specimen No. 78 is composed of successive repetition of vertical cross-hatched bands and horizontal cross-hatched bands. The pattern is also drawn basically lengthwise. On the other hand, designs in Zone C in the Painted and Early Incised Period are drawn densely and horizontally. Several different panels in Zone C alternate regularly. These features of panel designs in Zone C in the Painted and Early Incised Period is different from panel designs in the Transitional Period mentioned above.

e) *Characteristics of painted designs of carinated and footed bowls from the unidentified levels (Fig. 5)*

As mentioned above, features of design elements and the composition of designs in the Transitional Period make us possible to select samples taken from Nineveh and other sites considered to belong to the Transitional Period. Most of the specimens selected here from Nineveh preserve complete shape. Therefore, they show the complete layout of painted designs in the Transitional Period<sup>3)</sup>.

These specimens in reference to types of design composition mentioned above are examined here. Specimens from Nos. 79 to 88 are Type 1 vessels painted in Zone B. Painted pattern of specimen No. 79 is pattern P4c. The pattern of specimen No. 80 is pattern P4a. Specimen No. 81 comprise the characteristics of both patterns P1 and P3. There is no example similar to this design. Painted pattern of specimens Nos. 82 and 83 corresponds to pattern P3. Specimen No. 83 found in Tell Brak has concentric semicircular lines in Zone C. The design of specimens Nos. 84 and 86 to 88 corresponds to pattern P5a. The panel design of specimen No. 86a is similar to that of specimen No. 41. The panel design of specimen No. 88c is similar to specimen No. 47e. The pattern of specimen No. 85 is similar to patterns P5a or P5b.

Specimens Nos. 89 to 95 are Type 2 vessels painted in Zone B. The pattern of specimen No. 89 is similar to pattern P4c. The pattern of specimen No. 90 is similar to pattern P4a. The pattern of specimen No. 91, which was found in Tell Thuwaij, is pattern P4b, and it is similar to that of specimen No. 57. The pattern of specimens Nos. 92 and 93 is P5a. The pattern of specimen No. 94 is either P5a or P5c. The pattern of specimen No. 95 found in Tell Thalathat is P5d. Its shape shows typical characteristics of footed bowl in the Transitional Period. It contains a typical beaded rim and a keen carination. Judging from these features, it is supposed that the occupation level of the Transitional Period might have

Table 3. List of Fig. 5

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
79	Nineveh	Type 1d	B	7.5	10.2		Thompson and Hamilton 1932: Pl.53-4
80	Nineveh	Type 1c	B	9.6	11.8		Thompson and Hamilton 1932: Pl.53-7
81	Nineveh	Type 1d	B	8.7	11.6		Thompson and Mallowan 1933: Pl.54-4
82	Nineveh	Type 1c	B	8.7	12.3		Thompson and Hamilton 1932: Pl.53-11
83	Brak	Type 1	B,C	9.2	12.0		Oates 1986: Fig.5-107
84	Nineveh	Type 1	B	9.6	13.9		Thompson and Hamilton 1932: Pl.53-5
85	Nineveh	Type 1c	B	10.0	13.9		Thompson and Hamilton 1932: Pl.53-9
86	Nineveh	Type 1c	B	6.6	8.7		Thompson and Hamilton 1932: Pl.53-6
87	Nineveh	Type 1d	B	7.3	10.2		Thompson and Hamilton 1932: Pl.53-3
88	Nineveh	Type 1d	B	7.5	11.4		Thompson and Hamilton 1932: Pl.53-13
89	Nineveh	Type 2c	B	11.3	12.3	4.1	Thompson and Hamilton 1932: Pl.54-5
90	Nineveh	Type 2d	B,C	9.2	9.3	4.1	Thompson and Hamilton 1932: Pl.54-3
91	Thuwaij	Type 2	B				Numoto in press: Fig.13-78
92	Nineveh	Type 2d	B,C	15.6	16.9	6.4	Thompson and Hamilton 1932: Pl.54-2
93	Nineveh	Type 2	B	14.3	15.1		Thompson and Hamilton 1932: Pl.54-8
94	Nineveh	Type 2c	B	14.8	17.4	6.3	Thompson and Hamilton 1932: Pl.54-1
95	Thalathat	Type 2	B				Fukai et al. 1974: Pl.30-1-2
96	Nineveh	Type 2	B,C	22.7	24.0	8.4	Thompson and Hamilton 1932: Pl.54-7
97	Nineveh	Type 2	B				Thompson and Mallowan 1933: Pl.59-14
98	Nineveh	Type 2	B				Thompson and Mallowan 1933: Pl.59-7
99	Nineveh	Type 1	B				Thompson and Mallowan 1933: Pl.59-12
100	Nineveh	Type 1	B				Thompson and Mallowan 1933: Pl.59-8
101	Nineveh	Type 1	B				Thompson and Mallowan 1933: Pl.59-6
102	Nineveh	Type 1	B				Thompson and Mallowan 1933: Pl.59-5
103	Nineveh	Type 1	B				Thompson and Mallowan 1933: Pl.59-1
104	Nineveh	Type 1	C				Thompson and Mallowan 1933: Pl.59-13
105	Kutan	Type 4	B		25.0		Bachelot in press: Type 15

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter



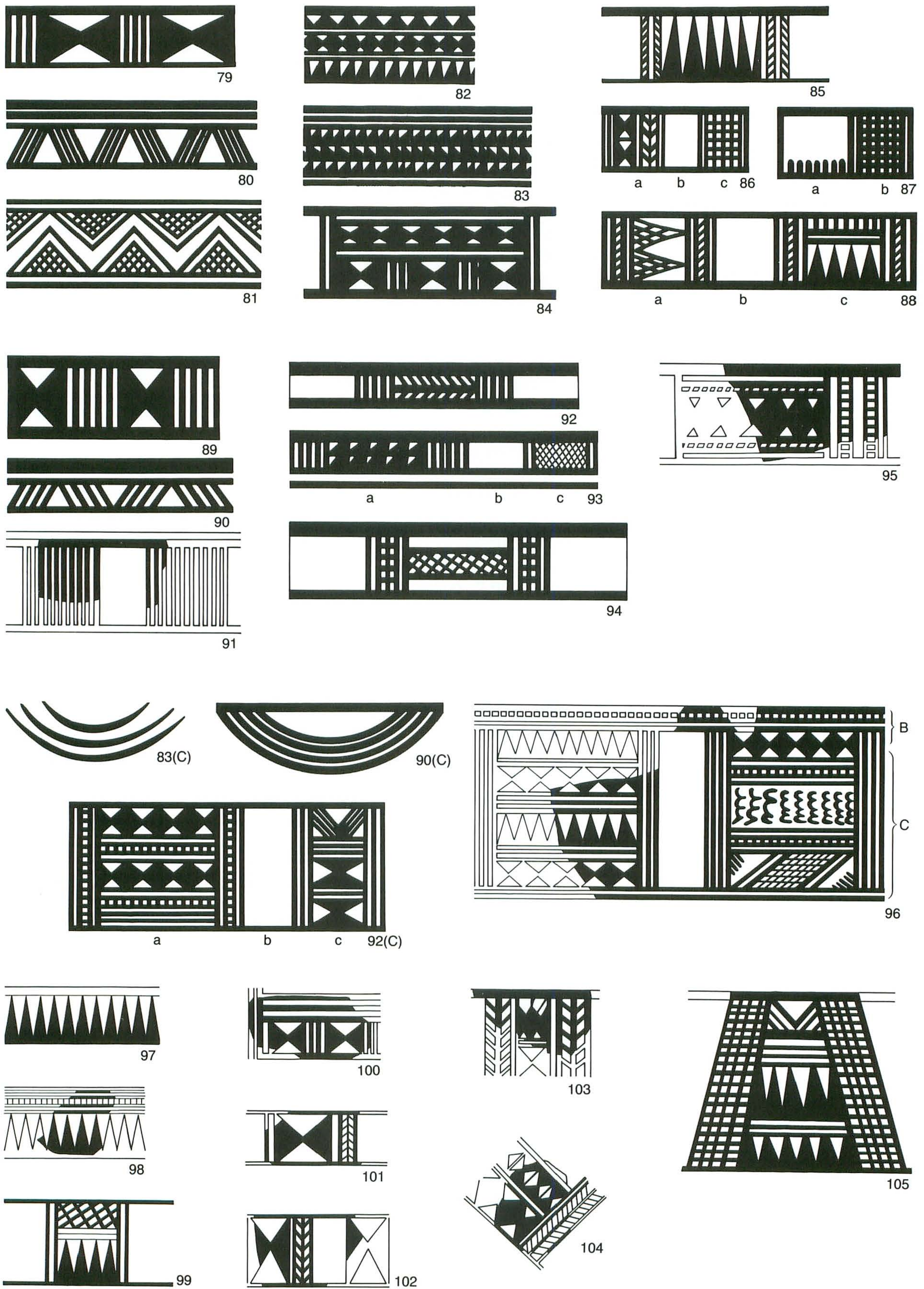


Fig. 5 Painted Patterns in the Transitional Period from Nineveh and Other Sites.

Nos. 79~88, Type 1: Zone B; Nos. 89~95, Type 2: Zone B; No. 96, Type 2: Zones B, C; Nos. 97~99, Types 1 or 2: Zone B; Nos. 100~104: Body sherd; No. 105, Type 3: Zone B; (C): Zone C



existed in unexcavated area of Tell Thalathat.

Specimens Nos. 83, 90, 92 and 96 have paint in Zone C. Painted design of specimens Nos. 83 and 90 are concentric semicircular lines. These two designs are similar to concentric semicircular lines mentioned above. Specimen No. 92a has a panel design which is similar to that of specimen No. 95. The position of painted designs in specimen No. 96 is different from other examples. The designs are drawn across the carination divided into Zone B from Zone C, which is shown on figure. The designs of the upper half of Zone B correspond to pattern P1, and the designs of the lower half of Zone B and Zone C is pattern P5a.

Specimens Nos. 97 to 104 were taken from the Mallowan's prehistoric pit in Nineveh. The designs are composed of solid elongated triangles, butterflies, lozenges, herring bones, ladders and cross-hatched motifs. There are typical design elements in the Transitional Period. Specimen No. 105 taken from Tell Kutan is a jar and comprises panel designs in its shoulder. The excavator proposed that the pottery assemblage from Tell Kutan was chronologically placed in the Painted and Early Incised Period [Bachelot in press]. Judging from the features of design elements and the composition of designs, it is supposed that this specimen belongs to the Transitional Period. The pattern of panel designs is similar to that of specimen No. 92(C)c.

*f) Layout of painted designs (Fig. 6)*

Specimens of complete shape taken from Nineveh are also examined here, because samples with complete shape from other sites are scarcely reported. As mentioned above, only a few examples have painted designs both in Zones B and C.

At first, the difference of design composition in Zone B between Types 1 and 2 is examined:

- 1) Pattern P2 is found in Type 2, while it is not found in Type 1.
- 2) Pattern P3 is found in Type 1, while it is not found in Type 2.

The relation between painted patterns and shapes of pottery are already mentioned in the previous chapter on the Late Uruk Period.

The layout of painted designs both in the Zones B and C is summarized:

1. There are few examples of painted designs in Zone C in Type 1. Only specimen No. 83 shows the layout of painted designs. The pattern of designs is combination of patterns P4 (Zone B) and CS (Zone C) (T1-7). Since examples with complete shapes are rare, the layout of designs in Zone B are not affirmed. It is supposed that only concentric semicircular lines are drawn in Zone C in Type 1 in this period. On the other hand, specimen No. 83 taken from Tell Brak contains design features in the region. Therefore, it is not necessarily possible to compare this design with those from Mosul or Eski-Mosul Areas. It is thought that there is a chronological defference between specimen No. 83 and specimens from Mosul or Eski-Mosul Areas.
2. The patterns in Zone B in Type 2 vessels are classified into patterns P1, P2, P4 and P5. The patterns in Zone C in Type 2 are divided into concentric semicircular lines (C S) and panel designs (P5). Combinations of these patterns are as follows:
  1. P1 (Zone B)+CS (Zone C) (Nos. 49) (T2-5).
  2. P2 (Zone B)+CS (Zone C) (Nos. 54, 60) (T2-7).
  3. P2 (Zone B)+P5 (Zone C) (No. 96) (T2-8).
  4. P4 (Zone B)+CS (Zone C) (Nos. 66, 68, 90) (T2-10).
  5. P5 (Zone B)+CS (Zone C) (No. 71) (T2-12).
  6. P5 (Zone B)+P5 (Zone C) (Nos. 69, 70, 92) (T2-13).

Six types of combination are recognized. The combinations of patterns P1 and P5 and patterns P4 and P5 are not found among specimens, but there is a great possibility that their combinations existed. On the other hand, four types of the design combination are recognized in Zone B only (T2-4, 6, 9, 11). These



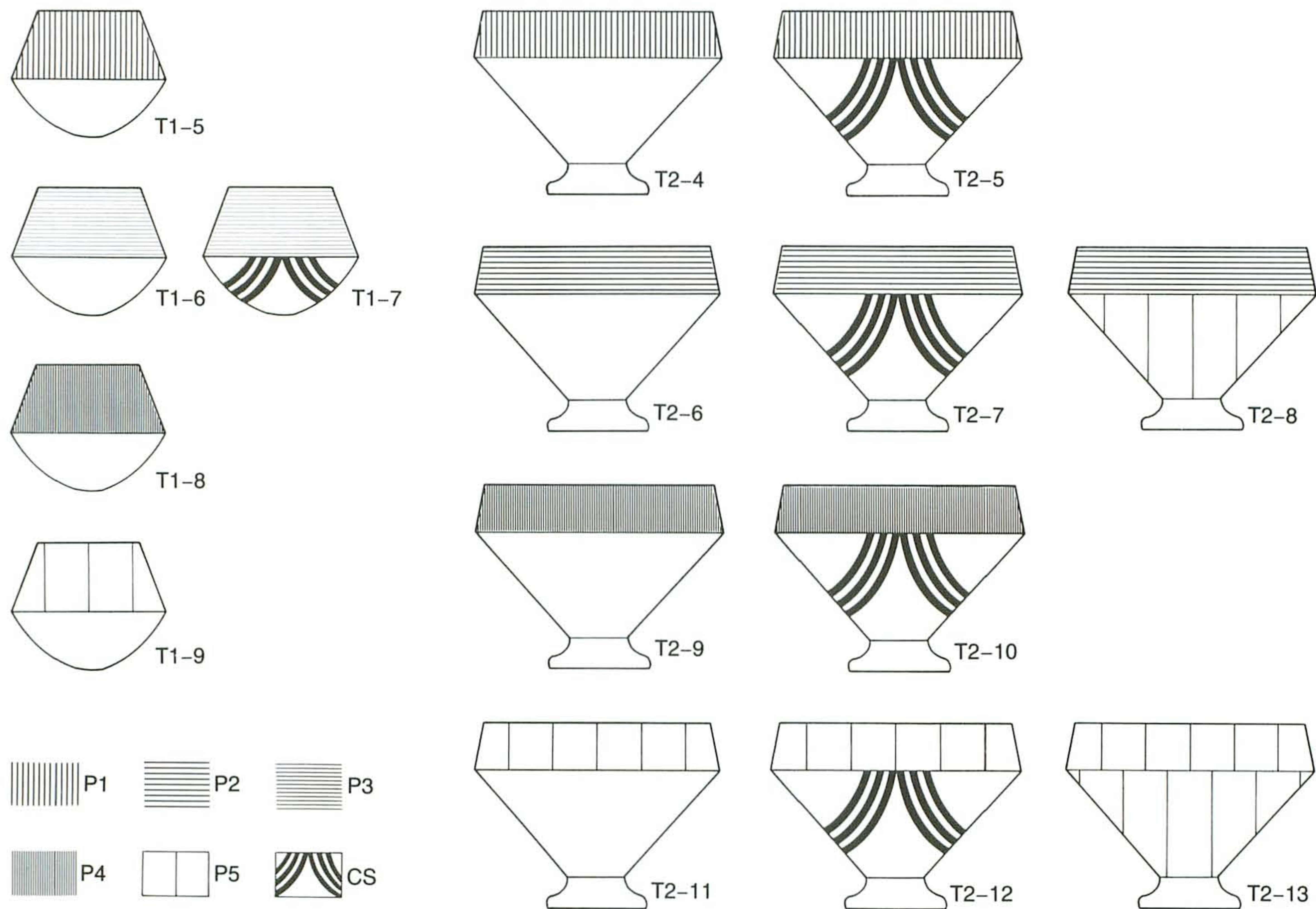


Fig. 6 Variety of Layout of Painted Designs of Carinated and Footed Bowls in the Transitional Period.

types added to the former six types make ten types of layout of painted designs in Type 2.

However, the present author mentions that this classification is rough. The designs in Zone B are roughly classified into five types (P1~P5), which are subdivided as mentioned above. Combination between types of subdivided designs in Zone B and concentric semicircular lines or panel designs in Zone C was to be examined. It is considered that this method is the best way to classify types of design combinations, but that is can not be carried out here, because most of the samples are small at present.

Several questions arise here about chronological order of these painted designs. Is there a chronological difference between examples painted on Zone B only and those painted both in Zones B and C? Generally speaking, there is no example painted in Zone C in the Late Uruk Period, and this feature, therefore, is succeeded to this period. Judging from this fact, it is believed that ware painted in Zone B only appeared prior to ware painted both in Zones B and C [Roaf and Killick 1987]. Examples painted on Zone B only and those comprising concentric semicircular lines pattern (P2, P5+CS) (Nos. 54, 71) are found together in Tell Karrana 3. This fact proves that the new painting pattern, in which concentric semicircular lines are drawn on Zone C, appeared in the Transitional Period. On the other hand, examples with designs in Zone C and those with concentric semicircular lines in Zone C were not found together. It is thought that concentric semicircular lines appeared earlier than panel designs.

There is no clear difference of shapes between specimens painted in Zone B and those painted both in Zones B and C, though all of the specimens belong to Type 2. Specimens of Type 2 taken from Tell Karrana 3 and Nineveh are similar to each other in their shapes (Nos. 65, 89, 90, 92~94, 96). However, there is a slight difference between the shapes of specimens Nos. 49 (from Tell Fisna, Type 2d) and 65 (from Tell Karrana 3, Type 2c). A foot of specimen No. 49 is longer than that of specimen No. 65 [Numoto 1988].

Judging from this fact, it is believed that ware painted in Zone B only appeared prior to ware painted both in Zones B and C. Painted designs of specimens Nos. 69 and 70 in Zone B



belong to pattern P5b, and are supposed to be a new type in Type 2. These specimens seem to comprise painted panel designs in Zone C. At present, it is very difficult to answer the questions mentioned above, since levels the Transitional Period excavated were from only a few tells. Samples of the Transitional Period were scarcely collected, and, furthermore, examples with completed shape are few. The chronological order cannot be examined by comparing with examples in terms of their shapes and their painted designs.

### Painted designs of jars (Figs. 7, 8)

There are few examples of jars in the Transitional Period, and almost all of them are fragments. All specimens were found from Tell Fisna. Jars in the Transitional Period of Tell Fisna mix with jars which show such new features as already mentioned<sup>1)</sup>. It is not believed that all of these jars belong to the typical Transitional Period. Besides, some specimens are not able to be judged as jars, because there are small fragments (Nos. 115, 119). The shapes of specimens Nos. 108 and 118 is not known. Specimen 108 seems to be a potstand, and specimen No. 118 seems to be a lower part of the large footed bowl.

#### a) Types of jars (Fig. 1)

Shapes of painted jars in the Transitional Period are not well-known. Only two examples show their original shapes (Nos. 106, 109). One is a small lugged jar (Type 3c) and the other is a large jar (Type 4b). It is considered that most of jars in this period are characterized by keen carination on the body and the extremely inclined shoulder. There is one example with rounded body (without carination on the body) among fragments of large jars (No. 111). Judging from specimens taken from Tell Fisna only, a lugged jar has a low foot on its base (Type 3c), while a large jar has a ring-base on its base (Type 4b). There is no example of nose-lugged jar, which is recognized in the Late Uruk Period.

#### b) Positions of painted designs

The painted designs are found in Zones A, B and C in the Transitional Period. In the Late Uruk Period, there are no examples painted in Zone C both in Types 3 and 4. In the period, however, painted designs are found in Zone C in Types 3 and 4. Position of painted designs are classified into two kinds: one located in both Zones A and B (No. 106) and the other located in Zones A, B and C (No. 109). Main designs concentrate in Zone B. This feature is identical with design position in Types 1 and 2.

#### c) Painted design elements and composition of painted designs (Fig. 7)

**Painted designs in Zone A** Painted designs in Zone A are composed of horizontal lines on the lip and the neck (Nos. 106, 107). It is supposed that any other painted patterns are not arranged in Zone A except for horizontal lines in the Transitional Period.

**Painted designs in Zone B** Painted designs in Zone B are classified into two types: one is panel

Table 4. List of Fig. 7

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
106	Fisna	Type 4	A, B	12.0	36.2	12.5	Numoto 1988: Fig.17-71
107	Fisna	Types 3 or 4	A				Numoto 1988: Fig.17-60
108	Fisna		A or D				Numoto 1988: Fig.18-95
109	Fisna	Type 3c	B, C		10.0	4.7	Numoto 1988: Fig.17-64
110	Fisna	Types 3 or 4	B				Numoto 1988: Fig.17-68
111	Fisna	Type 4	B				Numoto 1988: Fig.17-65
112	Fisna	Type 4	B				Numoto 1988: Fig.18-90
113	Fisna	Types 3 or 4	C				Numoto 1988: Fig.17-87
114	Fisna	Types 3 or 4	C				Numoto 1988: Fig.17-69
115	Fisna	Types 3 or 4	C				Numoto 1988: Fig.18-88
116	Fisna	Type 4	C			10.0	Numoto 1988: Fig.17-67
117	Fisna	Types 3 or 4	C				Numoto 1988: Fig.16-54
118	Fisna	Type 2	C				Numoto 1988: Fig.18-91
119	Fisna		C				Numoto 1988: Fig.18-86
120	Fisna	Types 3 or 4	C				Numoto 1988: Fig.18-84

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter



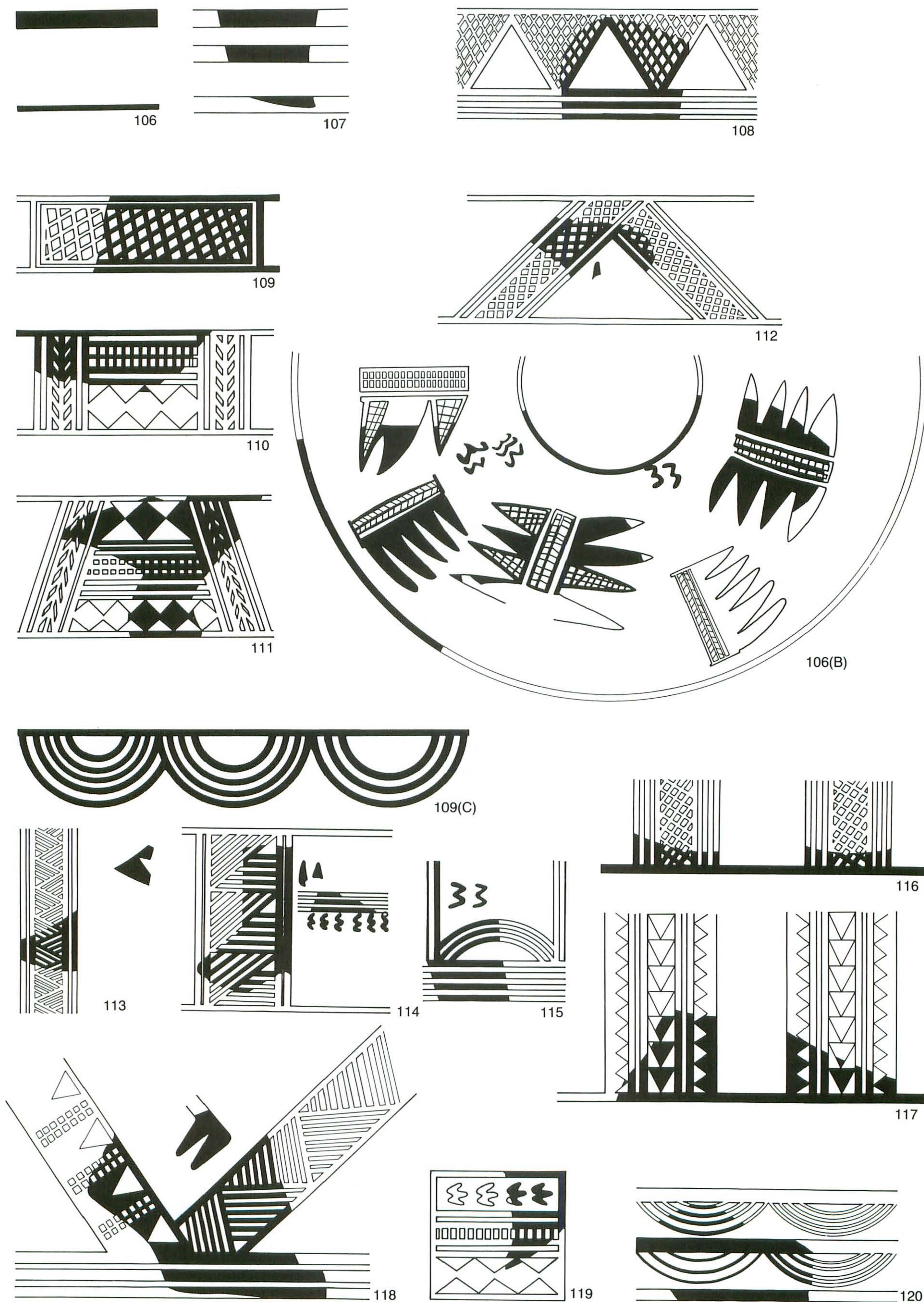


Fig. 7 Painted Patterns of Jars in the Transitional Period.

Nos. 106, 107: Zone A; No. 108: Unidentified part; Nos. 109~112: Zone B; Nos. 113~120: Zone C; (B): Zone B; (C): Zone C



designs (Nos. 109~111), and the other, seen in specimen No. 106, is horizontal belt designs drawn up without regularity. Panel designs consist of characteristic design elements in the Transitional Period. Especially, panels of specimens Nos. 110 and 111 consist of vertical herring bones, arranged on both sides of the panel, comprising composition of horizontal lozenges and horizontal double ladders inside the panel. There are similar examples of panel designs in Types 1 and 2 (Nos. 41, 46a, c, 47a, c, e, 86a, 88c, 92a). It is believed that the panel design is one of the most typical designs in the Transitional Period.

Specimen No. 106 is a distinctive example regarding its motifs and the composition of designs. There is no example similar to this design among Ninevite 5 painted wares. Geometrical motifs like plants, composed of two or three design elements (solid and cross-hatched elongated triangles, herring bones and double ladders motifs), are drawn irregularly over Zone B. Every geometrical motif is different. These motifs are drawn irregularly as if these represent naturalistic motifs. Flying bird motifs are drawn in a part of Zone B. Other features of the design on Zone B are as follows: the motifs are not drawn densely, and many blank space exist.

Specimen No. 112 is a small fragment, and the whole of designs, therefore, is not reconstructed. Both the left and the right angled slanting cross-hatched bands motifs are found on it.

**Painted designs in Zone C** Painted designs in Zone C are classified into concentric semicircular lines (No. 109), panel designs (Nos. 113~117, 119) and a horizontal belt design (No. 120). Three concentric semicircular line motifs of specimen No. 109 are drawn in Zone C, and the number of each motif is different.

Each motif is composed of three, four and five lines. A similar example is concentric semicircular line motif in Zone C of specimen No. 66 (Type 2). The features of this specimen is similar to those of concentric semicircular lines in Type 2 as mentioned above.

Basic panel designs (Nos. 113~117) are drawn vertically. The arrangement is the same way as panel designs in Zone C in Type 2. It is suitable to call these designs vertical belt designs rather than panel designs. Features common to them are as follows:

1. Basic design elements of panels are drawn vertically, while there is a few examples, in which the elements are arranged horizontally, such as seen in Zone C in Type 2.
2. Most of panel designs are accompanied by parallel lines on both sides (Nos. 113, 114, 116).
3. These panel designs alternate blank panels or simple design panels. There is no example in which panel designs are drawn densely over Zone B, such as panel designs in the Painted and Early Incised Period.

Basic composition of the panel designs is common to panel design of Types 1 and 2.

These panel designs contain design elements which are not found in panel designs in Types 1 and 2. These kinds of elements are as follows:

1. Zigzag space filled with slanting lines (Nos. 113, 114, 118).
2. Flying birds (the right and the left ways) (Nos. 114, 115, 119).
3. Naturalistic solid triangles (Nos. 112~114, 118).
4. Vertical succession of triangular forms (No. 117).
5. Vertical succession of inverse triangles (No. 117).
6. Triangles with ladders (No. 118).

Especially, a large number of design elements Nos. 1 and 2 are recognized among specimens taken from Tell Fisna. These design elements are supposed to belong to a slightly later period than the Transitional Period, since most of these design elements were found in examples taken from other sites than Tell Fisna in the Painted and Early Incised Period, and few example were found in Types 1 and 2 in the Transitional Period. There is a great possibility that specimens Nos. 113 to 115, 118 and 119 belong to the Intermediate Period which will be discussed in detail in next chapter. Specimen No. 120 comprises



successive repetition of concentric semicircular lines between two horizontal belts. There is no example similar to this design in Type 2 vessels. This type of pattern is popular in the Painted and Early Incised Period. It is considered that this pattern belong to the later period than the Transitional Period.

d) *Layout of painted designs* (Fig. 8)

Only specimens Nos. 106 and 109 shows layout composing of painted designs (T3-3, T4-3). Zone A of specimen No. 109 is missing. Painted designs in Zone A as mentioned above are supposed to be composed of horizontal lines only.

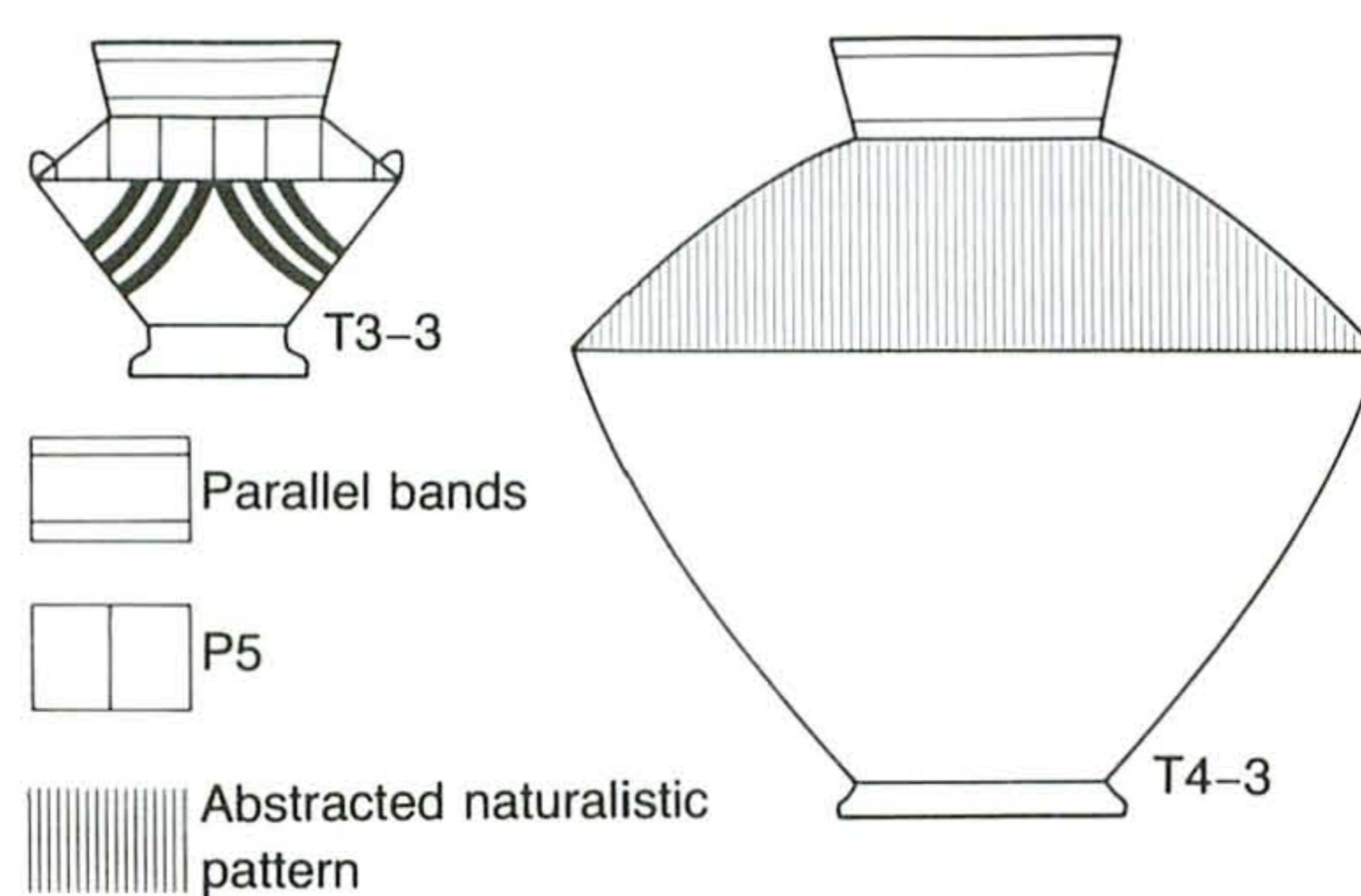


Fig. 8 Layout of Painted Designs of Jars in the Transitional Period.

Painted designs in Zones B and C are mainly examined here. The designs are roughly classified into one painted in Zone B only, and another painted in Zones B and C. The former examples are specimens Nos. 106 and 111. The shapes of these two jars are completely different. Specimen No. 106 has keen carination on the body, while specimen No. 111 has not carination and is characterized by the rounded body. Painted design is also completely different between them. These features suggest that different kinds of designs are drawn according to the shapes. Patterns P1 to P4 are not found in Zone B. Judging from this fact, most of the designs in Zone B are considered to be panel designs. Design of specimen No. 106 is a unique one, which dose not belong to any patterns of P1 to P4.

Specimen No. 109 is an only example which have paint composing combination of both Zones B and C. Pattern P5 (Zone B) and concentric semicircular lines (CS) (Zone C) (T3-3).

It is supposed that combination of painted designs of jars in Zones B and C has not so many varieties as the variety of painted design in Type 2. The main designs in Zone C is considered to consist of concentric semicircular lines and panel designs. It is surmised that the main combinations are pattern P5 (Zone B) and CS (Zone C), as well as patterns P5 (Zone B) and P5 (Zone C).

### Characteristics of painted designs in the Transitional Period

The features of painted designs in the Transitional Period are briefly summarized.

1. Most of the basic design elements and the composition of designs succeed those in the Late Uruk Period.
2. Most of the panel designs are not arranged in order; two types of design panels placed are not repeated alternatly, such as panel designs in the Painted and Early Incised Period, and the dimension of panels is not uniform. The painted zones are not divided into equal sections by rule, such as panel zones in the Painted and Early Incised Period [Fukai et al. 1974].
3. There are many examples of blank panels arranged in panel designs. Few blank panels are found in panel designs in the Painted and Early Incised Period.
4. Design elements of solid lozenges, solid elongated triangles, butterflies, herring bones and ladders



are most common.

5. Patterns composing of butterflies and vertical lines are most common. Panel designs comprising vertical lines, vertical herring bones and vertical ladders on their both sides are popular.
6. Naturalistic motifs are rare.
7. The designs are mainly located in the upper part of the body (Zone B). The designs in the lower part of the body (Zone C) are not common.
8. Only a small variety of brushes were used, because the thickness of painted lines are thin and do not vary greatly. On the other hand, the thickness of painted lines in the Painted and Early Incised Period varies greatly, because variety of brushes were used [Fukai et al. 1974]. For example, in the Painted and Early Incised Period, the outline of cross-hatched triangles and cross-hatched or hatched rectangle motifs were drawn by thick painted lines, and cross-hatched or hatched lines inside the motifs are drawn by finer lines. This method of painting lines is not used in the Transitional Period. The thickness of painted lines do not vary greatly in the Transitional Period.

The difference between painted designs of the Transitional and the Painted and Early Incised Periods will be discussed in detail in chapter of the Painted and Early Incised Period.

### 3. The Ninevite 5 Intermediate Period between the Transitional and the Painted and Early Incised Periods (Figs. 9~12)

The Ninevite 5 Intermediate Period between the Transitional and the Painted and Early Incised Periods is not proved by any archaeological evidence. The concept of the intermediate period is based on the

of painted motifs observed in the Transitional and the Painted and Early Incised Periods. The term of the design and shape. Specimens which show designs of painted motifs were found in the Transitional and the Painted and Early Incised Periods, and they which cannot be identified in the two periods are included in the Intermediate Period. Among specimens which show designs of the Transitional and Early Incised Period, specimens of the Transitional and Early Incised Period were found from Nimrud, Tell Muna, Kalah, Kaniyah, Khuzestan and Choga Misa.

#### Painted designs of rectangular bands and vertical lines (Figs. 9, 10)

##### a) Type of rectangular bands and vertical lines (Fig. 9)

Rectangular bands are identified into two kinds: one with the decoration on the upper middle part of the body and the other one (Type 9a) (Nos. 121-122). The other with the decoration on the lower-middle part of the body and the other kind (Type 9b) (Nos. 123, 124). The shape is similar to grey rectangular bands in the Transitional and Early Incised Period. Specimens with decoration are Nos. 121, 122 and 124. Shapes of vertical lines in the Intermediate Period is not recognized, because there are no examples with complete shape. The body of painted bands is similar to that of vertical lines in the Transitional Period (Type 9a). This suggests that the last transition design from the Transitional Period.

##### b) Specimens of painted designs

Painted designs in Type 9 were found in Zone B. Among these designs, there are examples of horizontal lines consisting of parallel lines of Nos. 121 and 122 on the upper part of Zone B (Nos. 121, 122). There is only one specimen in Zone C (No. 123). Painted designs in Type 9 are basically located both in Zones B and C (Nos. 121, 122, 123).

##### c) Painted designs consisting of vertical lines (Fig. 10)

Vertical lines consisting of a row of vertical lines (Nos. 125-126, 127, 128, 129), design groups which



with slanting lines (Nos. 125, 128(C)e, 130, 132(C)) and naturalistic motifs (Nos. 126, 128(C)).

Flying bird motifs are classified into two kinds: birds are drawn to the right and the left. The two kinds were found from Tell Fisna. It is supposed that these different bird motifs are drawn by different potters. Specimens which contain the flying birds and zigzag space filled with slanting line motifs, are included in the Intermediate Period, even if the vessel shapes are common to those in the Transitional Period.

Many examples comprising flying bird motifs or zigzag space filled with slanting line motifs were found from Floor B in Tell Fisna<sup>1)</sup>. These motifs are not found in the Late Uruk levels<sup>4)</sup> of Tells Karrana 3 and Mohammed Arab, as well as in the Transitional levels of Tells Karrana 3 and Jigan. There are many examples of these motifs found in Nineveh, Tells Karrana 3, Kutana, Mohammed Arab, Thuwaij after the Transitional Period. It is supposed that these motifs appeared later than the Transitional Period. This is one of the reasons to set up this period.

Rows of solid triangles fallen sideways in specimen No. 124 are not found in the Transitional Period. Most of the other elements are common to the Transitional Period.

*d) Composition of painted designs (Fig. 9)*

Composition of painted designs in Zone B are similar to those in the Transitional Period, but the details are slightly different.

- P1. One element repeated successively (Nos. 121, 122, 124, 127, 128).
- P2. One element drawn horizontally in the form of a belt (Nos. 129, 130).
- P3. Zone B being divided into two or three small horizontal zones, and two different elements being drawn successively in the small zones (No. 123).
- P4. A pattern assumed to comprise two or three design elements and units drawn alternately (Nos. 131, 132).
- P5. A pattern of panel design by the vertical division of Zone B into rectangular sections (Nos. 125, 126).

**P1.** Pattern P1 is found in Types 1 and 2 vessels. Among two or three horizontal lines both in the upper part (near the lip) and the lower part (near the carination) of Zone B of Type 1 are common to pattern P1 of specimens Nos. 121, 122 and 124. The reason why horizontal lines are drawn in Zone B of Type 1 vessels is that Zone B is too wide to contain design elements drawn in Zone B. Evidently, the space in Zone B is most suitable for drawing P1 pattern. It is considered that the horizontal lines constitute one of design elements in this period. Horizontal lines are incorporated into painted designs in the Painted and Early Incised Period. There is a possibility that specimens Nos. 122 and 124 are not classified into pattern P1, but pattern P3. Specimens Nos. 127 and 128 are Type 2 vessels, and have not horizontal lines both in the upper and the lower parts of Zone B, because the width of Zone B is narrower than that of Type 1.

**P2.** Pattern P2 are found in specimens Nos. 129 and 130. Designs of specimen No. 129 consist of cross-hatched band motif similar to that of specimen No. 54 in the Transitional Period. Thickness of lines in specimen No. 54 do not vary greatly. Thickness of cross-hatched lines of specimen No. 129 is extremely finer than horizontal outline. Slanting lines of specimen No. 130 are finer than the zigzag outlines. The method drawing outlines thicker and lines inside the motifs finer is popular in the Painted and Early Incised Period, but is not found in the Transitional Period. This is one of the reasons that these samples are included in this period.

**P3.** Specimen No. 123 is only example of pattern P3 in Type 1 vessels. Its design is composed of a horizontal ladder and a row of flying birds motifs. If horizontal lines are regarded as one of design elements, as mentioned above, Nos. 122 and 124 are included into pattern P3.

**P4.** Pattern P4 is found in Type 2 only (Nos. 131, 132). Design of specimen No. 131 is successive



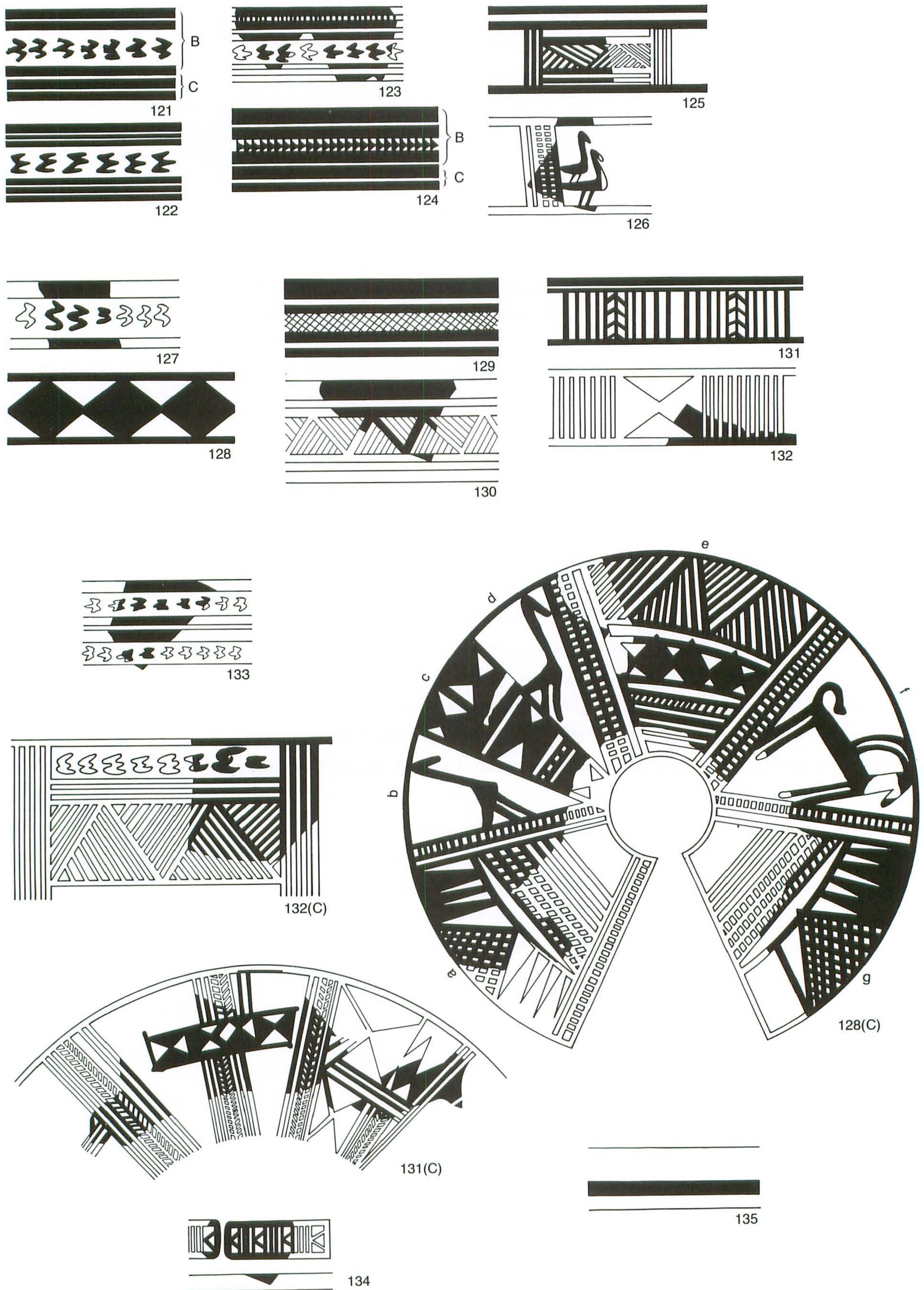


Fig. 9 Painted Patterns of Carinated and Footed Bowls in the Intermediate Period.

Nos. 121~126, Type 1: Zone B; Nos. 127~132, Type 2: Zone B; No. 133, Type 1: Zone C; No. 134: Body sherd; No. 135, Type 2: Zone D; (C): Zone C



Table 5. List of Fig. 9

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
121	Fisna	Type 1e	B, C	7.1	11.1		Numoto 1988: Fig.16-28
122	Nineveh	Type 1d	B	9.0	13.7		Thompson and Hamilton 1932: Pl.53-1
123	Fisna	Type 1	B	8.8			Numoto 1988: Fig.16-23
124	Chagar Bazer	Type 1f	B, C	8.8	9.8		Mallowan 1936: Fig.25-1
125	Karrana 3	Type 1	B	8.8	9.5		Fales et al. 1987: Fig.11-33
126	Karrana 3	Type 1	B	9.7			Fales et al. 1987: Fig.11-31
127	Fisna	Type 2	B				Numoto 1988: Fig.16-43
128	Karrana 3	Type 2e	B, C	16.7	18.2		Rova in press: Fig.6-1
129	Fisna	Type 2	B				Numoto 1988: Fig.16-49
130	Fisna	Type 2	B				Numoto 1988: Fig.16-47
131	Kutan	Type 2	B, C	18.4	20.5		Bachelot in press: Type 15, K 155
132	Fisna	Type 2	B, C				Numoto 1988: Fig.16-56
133	Fisna	Type 1	C				Numoto 1988: Fig.16-39
134	Thuwaij		C				Numoto in press: Fig.13-76
135	Thuwaij	Type 2	D			7.2	Fujii et al. in press: Fig.6-8

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter

repetition of design units composed of vertical herring bone and vertical lines. This pattern is similar to pattern P1. Design of specimen No. 132 is supposed to be a combination of butterfly and vertical lines. This design is the same as pattern P4c in the Transitional Period.

**P5.** Pattern P5 is found in specimen Nos. 125 and 126 of Type 1. Basic design of specimen No. 125 is similar to those in the Transitional Period, because the design comprises vertical parallel lines attaching to both sides of panel, and blank panels combined with design panels. New design elements appeared in design panel. Specimen No. 126 is supposed to be a panel design which contains bird motifs. It is surmised that the panel has vertical double ladder motifs on its both sides, such as panel designs in the Transitional Period.

**Painted designs in Zone C** Only four specimens show composition comprising designs. These specimens are classified into pattern P3 (No. 133) and P5 (Nos. 128(C), 131(C), 132(C)). All specimens of P5 pattern are Type 2 vessels. P3 pattern was not found in Zone C of Types 1 and 2 in the Transitional Period. It is supposed that pattern P3 appeared in the Intermediate Period. Basic panel designs are similar to those in the Transitional Period; they are basically drawn lengthwise, and the division of panels and the combination of design elements are common between these two periods.

Design of specimen No. 132 is a part of a panel design composed of horizontal sections. Flying bird motifs and zigzag space filled with slanting line motifs are drawn on the panel. The whole layout of specimen No. 131 is not reconstructed. The elements on Zone B, such as herring bones and vertical lines are drawn in both sides of the panel and inside of it. Basic design of the panel is the butterfly motif. It is remarkable that a small long sideway panel is independently drawn. The panel comprises vertical butterfly and butterfly motifs repeated alternately. The arrangement of panels are irregular. Although this specimen was taken from Tell Kutan and was chronologically located in the Painted and Early Incised Period [Bachelot in press], it is included in the Intermediate Period, since painted designs of this specimen is different from those in the Painted and Early Incised Period.

Specimen No. 128 is only example to know the composition of painted designs. There are panels in Zone C. Dimension of panels is not uniform. Panels with animal motifs (b, d, f) and panels with geometric designs (a, c, e, g) are repeated alternately. It is possible that a panel with an animal motif or a panel with other motifs exists between Panel (a) and Panel (g). Panel design (a, c, e) and (g) are divided into horizontally, and are painted by typical design elements of the Transitional Period. Panel design (e) comprise zigzag space filled with slanting lines. Panel design (b, d) and (f) consists of a goat or a bird. It is rare that different kinds of animals are drawn on the same vessel. Design composed by geometric panel designs and vertical ladder motifs arranged in both sides of panels are common to panel designs in the Transitional Period. On the other hand, new designs in the Intermediate Period are as follows:



1. Panel designs without any blank panels.
2. Animal motifs and zigzag space filled with slanting lines.

Design of specimen No. 128 show both new and old features. Referring to the specimen No. 128 taken from Tell Karrana 3, the designs were thought to be of a typical Ninevite 5 style [Rova in perss]. However, the arrangement of designs is not well-regulated. Arrangement of panel designs in the Painted and Early Incised Period are more regulated. It is concluded that designs of specimen No. 128 chronologically belong to the Intermediate Period.

Specimen 134 is a body sherd, but its shape is unknown. This specimen contains small long sideway panels similar to those of specimen No. 131.

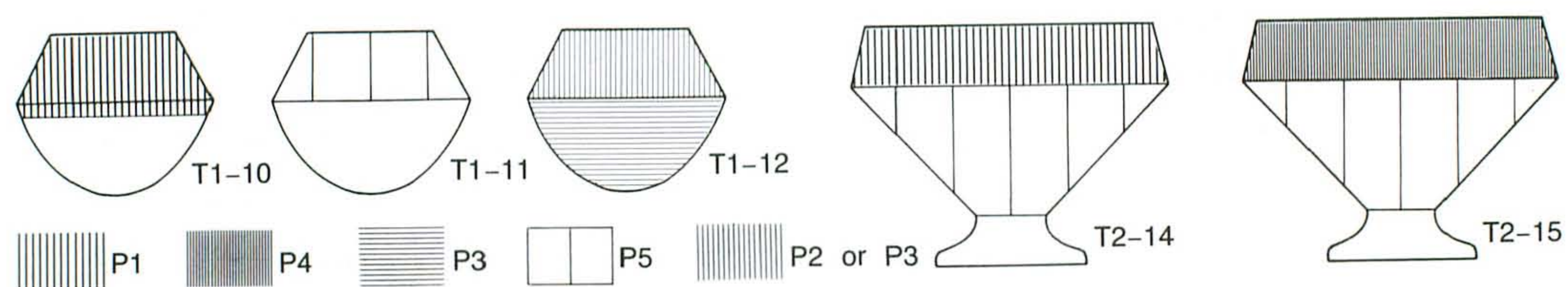
Specimens Nos. 121 and 124 comprise horizontal lines on the upper part of Zone C. No horizontal lines exist under carination in Type 1 vessels of the Transitional Period. This phenomenon appeared in the Intermediate Period.

Specimen No. 135 is a foot (Zone D). The shape and the designs illustrated here are different from a foot in the Transitional and the Painted and Early Incised Periods. The foot is composed of very short stem and its skirt. The height is taller than that of the Transitional Period. A horizontal line is located on the upper part of the edge. Both of specimens Nos. 134 and 135 were found from Phase D of Tell Thuwajj.

*e) Layout of painted designs (Fig. 10)*

Specimens Nos. 121, 122, 124 and 125 of Type 1 and specimens Nos. 128, 131 and 132 of Type 2 show the whole layout of painted designs. The specimens of Type 1 have design on Zone B only (T1-10, 11). Designs of Type 1 vessels in the Transitional Period do not contain pattern P3 in Zone C, but they were found in specimen No. 133 in the Intermediate Period. It is surmised that designs in Zone B is arranged by patterns P2 or P3 (T1-12).

Design of Type 2 vessels is divided into two types: one is composed of combination of patterns P1 (Zone B) and P5 (Zone C) (T2-14), and the other consist of combination of patterns P4 (Zone B) and P5 (Zone C) (T2-15). There is no example composed of these pattern combinations in Type 2 vessels of both the Transitional and the Painted and Early Incised Periods.



**Fig. 10** Variety of Layout of Painted Designs of Carinated and Footed Bowls in the Intermediate Period.

**Painted designs of jars (Figs. 11, 12)**

*a) Types of painted jars (Fig. 1)*

The types of painted jar are roughly classified into lugged jars and large jars. Lugged jars are further classified into two types: one with keen carination on the upper part of the body with extremely inclined shoulders toward inside and low foot on the bottom (Type 3d) (Nos. 136, 139, 140). The other with a rounded body and a ring-base on the bottom (Type 3e) (No. 138). The former type is rare in the Painted and Early Incised Period. There are only a few examples of the later type jar. All of these types of lugged jars are small or medium sized (Max. diam. 10~16 cm). All lugs are vertically pierced.

An example of large jar is specimen No. 137 only (Type 4c). Since it has a gentle carination on the



middle of the body, the part of its shoulder (Zone B) occupies about the half of the body, and its shape of Zone B is slightly roundish. A low pedestal like a ring-base is on the bottom. There is not any example of this type of jar in the Painted and Early Incised Period.

*b) Positions of painted designs*

Specimens Nos. 136 to 138 preserve their complete shapes. The painted designs are found in Zones A, B and C. Painted designs of specimens Nos. 139 and 140 are located in Zones B and C, though Zone A of these specimens are missing. No example painted in Zones A and B only were found.

*c) Painted design elements and units (Fig. 11)*

Design elements are almost the same as those in Types 1 and 2 vessels. Design elements used in the Transitional Period, such as cross-hatched, solid lozenges and solid elongated triangles, were found. Flying birds and zigzag space filled with slanting line motifs are also the main basic elements. The other distinctive design element is hatched quadrilaterals shape like a windmill (No. 141).

*d) Composition of painted designs (Fig. 11)*

**Painted design in Zone A** Designs in Zone A are horizontal lines only (Nos. 136~138).

**Painted design in Zone B** Designs in Zone B are classified into patterns P3 (No. 138), P4 (No. 141) and P5 (Nos. 136, 137, 139, 140).

Pattern P3 is found in specimen No. 138 only was taken from Tell Chagar Bazar. Designs of specimen No. 138 is composed of a horizontal band with slanting lines and a horizontal band with a row of flying bird motifs. Specimens Nos. 136, 139 and 140 (Type 3d), and No. 137 (Type 4c) belong to examples of pattern P5. Specimen No. 136 has two types of panels. It seems that four panels are arranged on the circumference of the body by alternative repetition of these two different panel designs. It is supposed that a butterfly like motifs on panel (a) was drawn along the ridge line on the lug. Specimen No. 139 has four cross-hatched panels and four blank panels located alternately in Zone B. Design of specimen No. 140 is alternative repetition of cross-hatched panels and horizontal lines panels in the Zone B. The total number of panels are thought to be six. Alternative repetition of two types of panel designs are common to these three specimens. This repetition is not popular in the Transitional Period.

Design of specimen No. 137 contains eight panels. Dimension of each panel is not uniform. These panels are classified into three types: 1) Four geometric panels (b, d, f, h); 2) Three bird motif panels (c, e, g); and 3) One blank panel (a). The geometric panel designs are roughly divided into two types: 1) Lengthwise alternative repetition of zigzag space filled with slanting line bands and solid lozenges bands (b, f) and 2) Lengthwise repetition of solid elongated triangles bands (d, h). Bands of slanting zigzag space filled with slanting lines divides bird motif panels (c, e, g) into up and down two narrow space, and bird motifs are drawn on each narrow space. The number of birds is different in each panel. The remarkable features in these bird motif is that bird eyes are expressed by blank space. There is an example taken from Nineveh, in which bird motifs are similar to those in specimen No. 137 [Thompson and Malloyan 1933 pl. 57-8]. Two kinds of geometric panels and bird motif panels or a blank panel are located alternately. Referring to position of the panels, bird motifs were supposed to be drawn on a blank panel. This example of panel design contains both old and new design elements: design elements used in the Transitional Period are still drawn. Arrangement of naturalistic designs and new elements and decrease in the number of blank panels in a pattern are new characteristics of panel design in the Intermediate Period.

The arrangement of panels in these three specimens mentioned above is more regular than that in the Transitional Period, but it is less ordered than that of the Painted and Early Incised Period. The number of panels in each specimens is four (No. 136), six (No. 140) and eight (Nos. 137, 139). Number of panels in each example taken from Tell Thalathat is also four, six and eight [Fukai et al. 1974]. The number of panels in each examples are not odd number but even number.



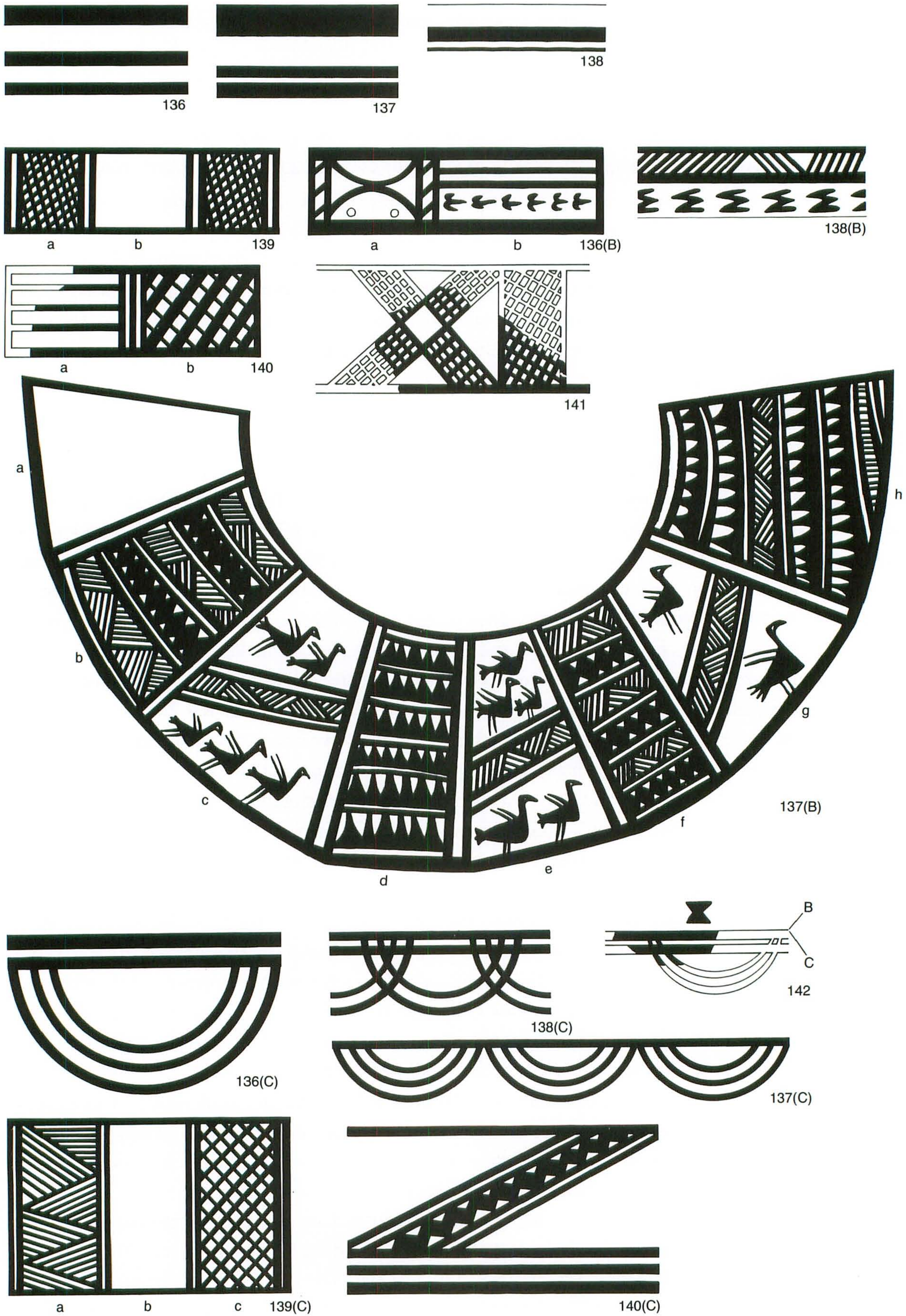


Fig. 11 Painted Patterns of Jars in the Intermediate Period.

Nos. 136~138, Type 3 and 4: Zone A; Nos. 139~141, Type 3: Zone B; No. 142, Type 3: Zone B and C; (B): Zone B; (C): Zone C



Table 6. List of Fig. 11

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
136	Kutan	Type 3d	A, B, C	6.3	10.3		Forest 1987b: Fig. 114
137	Thuwajj	Type 4c	A, B, C	15.2	34.5	12.2	Fujii et al in press: Fig. 6-1
138	Chagar Bazar	Type 3e	A, B, C	7.1	11.5	3.5	Mallowan 1936: Fig. 25-3
139	Fisna	Type 3d	B, C		16.0		Numoto 1988: Fig. 17-70
140	Kutan	Type 3d	B, C		10.0		Forest 1987b: Fig. 114
141	Fisna	Types 3 or 4	B				Numoto 1988: Fig. 17-61
142	Fisna	Type 3f	B, C				Numoto 1988: Fig. 17-63

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter

**Painted designs in Zone C** Designs in Zone C are roughly classified into semicircular lines (Nos. 136 ~138, 142) and a panel design (No. 139).

Specimens No. 136 contains three motifs of concentric semicircular lines (CS) in Zone C. The features of concentric semicircular lines are the same as those in the Transitional Period. This is one of the reasons why this sample is included in the Intermediate Period. Specimen No. 138 comprise six concentric semicircular line motifs in Zone C. These concentric semicircular lines are particular type because lines are overlapped one after another, and the motif consists of two semicircular lines. The lines of this samples are thin. Specimen No. 142 is a fragment of a lugged jar. The shape and its concentric semicircular lines are similar to those of specimen No. 138. Specimen No. 137 has nine motifs of concentric semicircular lines in Zone C. Since arcs of concentric semicircular lines are shallow, these designs are only drawn on the upper part (one third) of Zone C. Three motifs of concentric semicircular lines are usually drawn in Zone C, but specimen No. 137 comprises nine motifs of concentric semicircular lines in Zone C, and specimen No. 138 contains six motifs of them. It is interesting that these numbers are multiple of 3. The number of the motifs does not vary in the Painted and Early Incised Period.

Specimen No. 139 has eight panels in Zone B and six panels in Zone C. Six panels in Zone C are divided into three types; zigzag space filled with lines panel (a), a blank panel (b) and a cross-hatched panel (c). Each type has two panels, and these different panels are located alternately. Panel designs of specimens Nos. 115 to 117 illustrated in the Transitional Period are similar to this panel design.

Design of specimen No. 140 is not a panel design. It is surmised that two or three diagonal slanting bands with zigzag motifs are arranged in Zone C in a zigzag way at long intervals. The design composition is similar to that of specimen No. 118. This pattern is not popular in this period, and it is not found in the Painted and Early Incised Period.

*d) Layout of painted designs (Fig. 12)*

Five examples show the whole layout of designs (Nos. 136~140). Designs in Zone A are discussed here, because only horizontal lines are drawn there. Combination of designs in Zones B and C are examined. The following three types of pattern combination are found in Type 3d vessels:

1. Patterns P5 (Zone B)+CS (Zone C) (No. 136) (T3-5).
2. Patterns P5 (Zone B)+P5 (Zone C) (No. 139) (T3-7).
3. Patterns P5 (Zone B)+diagonal slanting bands (Zone C) (No. 140) (T3-6).

Pattern P5 in Zone B are common to these three types of design combination, but each pattern in Zone C are different.

Design of Type 3e vessel is composed of patterns P3 (Zone B) and CS (Zone C) (T3-4) (No. 138). There are many examples drawn P3 pattern in Zone B of Type 3 in the Painted and Early Incised Period. It is supposed that this pattern is not arranged very often on jars in the Transitional Period. This pattern seems to contain local characteristics, since it was taken from Tell Chagar Bazar. It is very possible that there is a slight chronological difference between Types 3d and 3e.

Design of Type 4c is combination of patterns P5 (Zone B) and CS (Zone C) (T4-4) (No. 137). There is no example of Type 4c in the Painted and Early Incised Period.



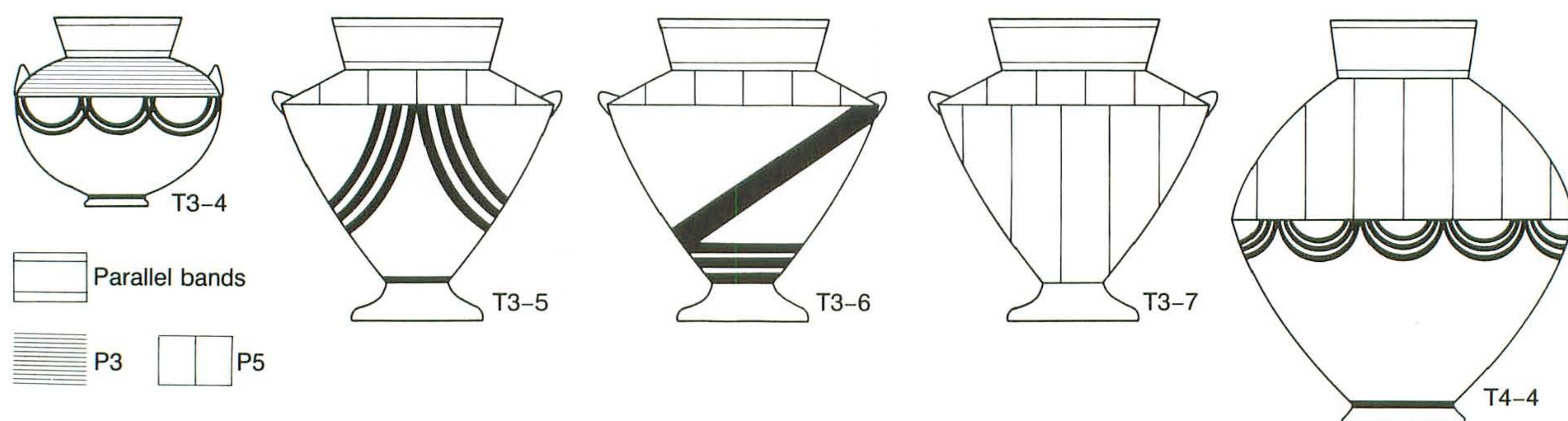


Fig. 12 Variety of Layout of Painted Designs of Jars in the Intermediate Period.

The common features of these five specimens mentioned above are as follows:

1. The dimensions of blank space in Zone C is relatively large. Zone C is not thickly filled with painted designs, if comparing with painted designs in Zone C in the Painted and Early Incised Period.
2. A horizontal line is drawn narrow space between Zones C and D, though most of Types 2, 3 and 4 in the Transitional Period have any paint in this part of the body. There is no example of painted designs in Zone D, which is found in the Painted and Early Incised Period.

#### Characteristics of painted designs in the Intermediate Period

The main characteristics of painted designs in the Intermediate Period can be summarized as follows:

1. The dimension of paint is larger than those in the Transitional Period.
2. The drawing method and the composition of designs are more systematic than those in the Transitional Period.
3. New design elements were adopted.
4. The design elements used in the Transitional Period are still common.
5. The method dividing a panel into several sections is similar to that of the Transitional Period.
6. The design composition is partly related to that in the Painted and Early Incised Period.

The painted designs in the Intermediate Period show the characteristics common in the Transitional Period, and these characteristics are not found in the Transitional Period. Considering these characteristics, the Intermediate Period is assumed.

#### 4. Painted and Early Incised Period (Mohammed Arab Period 2) (Figs. 13~24)

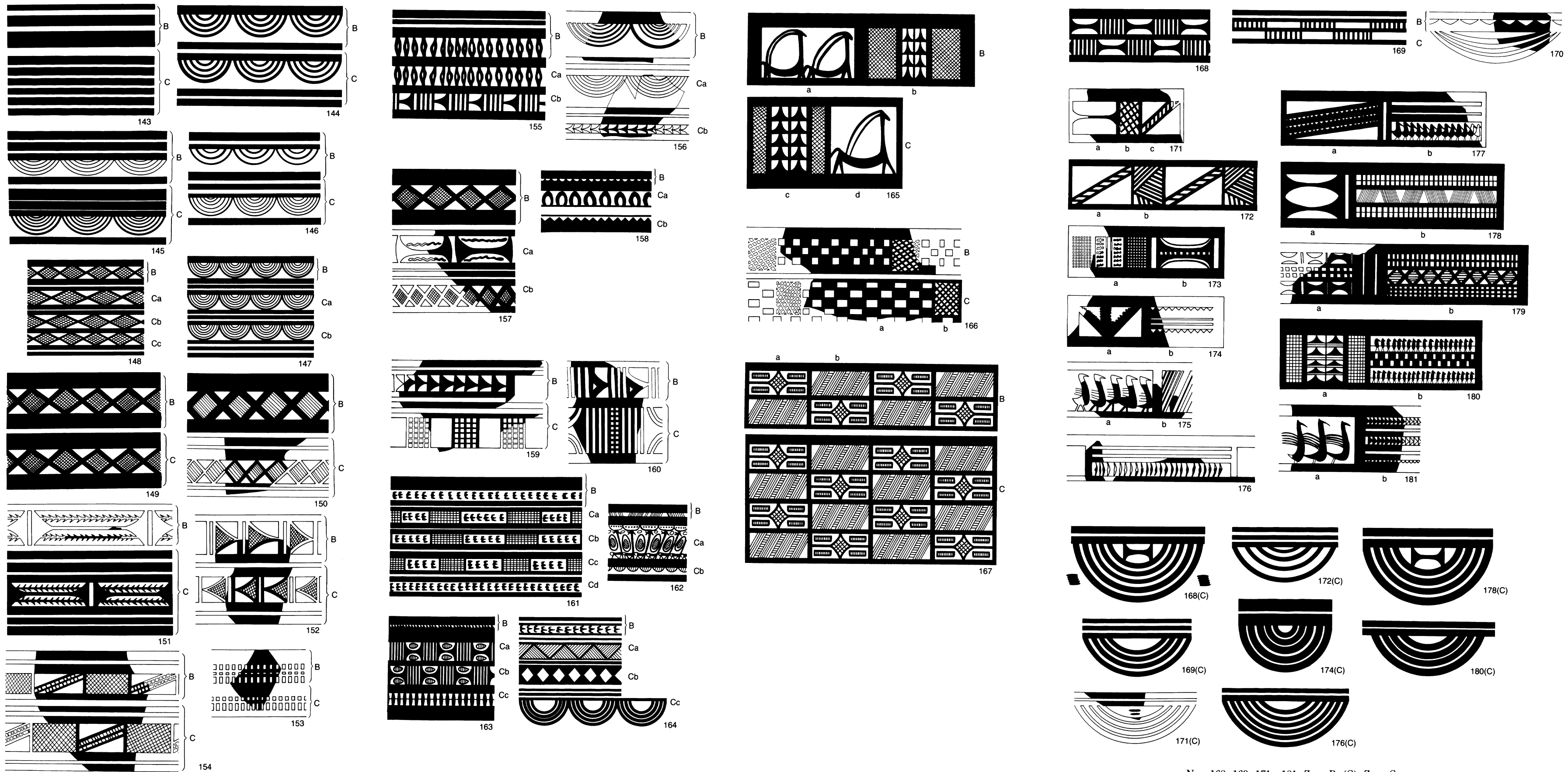
In the Mohammed Arab Period 2, painted ware and incised ware with simple incisions existed side by side. This has been confirmed by stratigraphical excavations [Roaf 1983; 1984]. Specimens belonging to this period are available in large quantities. Those examined here have been taken mainly from Nineveh, Tells Mohammed Arab, Kutan, Rijm, Thalathat, Thuwajj and Fisna. There is a relatively high proportion of complete vessels among these specimens. It is therefore possible to reconstruct all of the features of the painted designs. In particular, complete footed and carinated bowls abound. Accordingly, emphasis is placed on the layout and composition of painted designs in this section and, as there are a lot of specimens of footed bowls, these are to be examined first.

#### Painted designs of footed bowls (Figs. 13~16)

##### a) Types of painted footed bowls (Fig. 1)

A great variety of shapes is found in footed bowls. Body sizes are divided into large size (maximum





Nos. 168, 169, 171~181: Zone B; (C): Zone C

Fig. 13 Painted Patterns of Footed Bowls in the Painted and Early Incised Period.



Table 7. List of Figs. 13 and 15

No	Site	Type	Zone	RD(cm)	MD(cm)	SD(cm)	FD(cm)	Literature
143	Kutan	Type 2g	B,C,D	8.6	8.9		4.0	Bachelot 1987: Fig.7
144	Kutan	Type 2j	B,C,D		16.8	4.0	7.4	Bachelot 1987: Fig.7
145	Rijm	Type 2j	B,C	14.8	15.7			Bielinski in press: Fig.10-5
	Karrana 3	Type 2i	B,C	18.2	19.1			Rova in press: Fig.6-6
146	Mohammed Arab	Type 2h	B,C,D	8.2	8.6	2.1	5.3	Roaf 1983: Fig.3-6
147	Nineveh	Type 2i	B,C	12.8	13.6			Thompson and Hamilton 1932: Pl.54-4
148	Nineveh	Type 2i	B,C	12.5	13.9			Thompson and Hamilton 1932: Pl.54-6
149	Rijm	Type 2j	B,C	17.7	18.2			Bielinski in press: Fig.10-3
150	Mohammed Arab	Type 2j	B,C	17.8	18.9			Roaf and Killick 1987: Fig.3
151	Kutan	Type 2l	B,C		27.6			Bachelot in press: Type 15, K 145
152	Kutan	Type 2l	B,C					Forest 1987a: Fig.8
153	Rijm	Type 2l	B,C	8.0				Bielinski in press: Fig.11-5
154	Mohammed Arab	Type 2j	B,C	22.1	23.2			Roaf 1983: Fig.3-1
155	Rijm	Type 2j	B,C	13.8	13.8			Bielinski in press: Fig.10-4
156	Thuwajj	Type 2i	B,C					Numoto in press: Fig.14-96
157	Rijm	Type 2j	B,C	20.5	20.8			Bielinski in press: Fig.10-2
158	Rijm	Type 2f	B,C,D	7.8	8.3	2.0	4.0	Bielinski in press: Fig.11-2
159	Kutan	Type 2i	B,C	20.0	20.0			Forest 1987a: Fig.8
160	Thalathat	Type 2	B,C					Fukai et al. 1974: Pl.29-1-19
161	Billa	Type 2k	B,C,D	18.5	20.5	3.0	8.5	Speiser 1933: Pl.48-2
162	Nineveh	Type 2m	B,C	20.7	21.6			Thompson and Hamilton 1932: Pl.56-3
163	Nineveh	Type 2m	B,C	33.1	34.8			Thompson and Hamilton 1932: Pl.56-1
164	Nineveh	Type 2e	B,C	14.7	15.6			Thompson and Mallowan 1933: Pl.54-5
165	Rijm	Type 2n	B,C,D	35.0	33.5	11.0	22.0	Bielinski in press: Figs.4,5B
166	Mohammed Arab	Type 2j	B,C	16.8	17.5			Roaf 1983: Fig.3-2
167	Thalathat	Type 2l	B,C,D	41.7	39.0	9.4	19.4	Fukai et al. 1974: Pl.48-19
168	Thalathat	Type 2j	B,C	30.6	30.2			Fukai et al. 1974: Pl.48-1
169	Nineveh	Type 2e	B,C	14.3	15.0			Thompson and Hamilton 1932: Pl.54-9
170	Thalathat	Type 2e	B,C					Fukai et al. 1974: Pl.48-7
171	Thalathat	Type 2	B,C					Fukai et al. 1974: Pl.48-5
172	Mohammed Arab	Type 2i	B,C	12.0	13.1			Roaf and Killick 1987: Fig.3
173	Thalathat	Type 2	B,C	11.1	10.3			Fukai et al. 1974: Pl.48-12
174	Rijm	Type 2j	B,C	19.7	19.3			Bielinski in press: Fig.10-1
175	Kutan	Type 2	B,C		15.9			Bachelot in press: Type 14, K 21816
176	Mohammed Arab	Type 2	B,C,D		12.4	3.0	6.7	Roaf 1983: Fig.3-4
177	Thalathat	Type 2j	B,C	24.7	24.3			Fukai et al. 1974: Pl.48-8
178	Thalathat	Type 2j	B,C,D	24.0	24.0	4.8	11.7	Fukai et al. 1974: Pl.48-3
179	Thalathat	Type 2	B,C					Fukai et al. 1974: Pl.30-1-9,10
180	Billa	Type 2j	B,C,D	20.3	19.5	4.0	8.3	Speiser 1933: Pl.48-1
181	Mohammed Arab	Type 2	B,C					Roaf and Killick 1987: Fig.3

RD: Rim Diameter; MD: Maximum Diameter; SD: Stem Diameter; FD: Foot Diameter

diameter about 30 cm), medium size (maximum diameter about 20 cm) and small size (maximum diameter about 10 cm). Their shapes are divided as follows:

1. Large size: Types 2l, 2m and 2n.
2. Medium size: Types 2i, 2j and 2k.
3. Small size: Types 2f, 2g and 2h.

The classification of these shapes are based on complete specimens. There is a great possibility that other types exist, for example, the shape of a small chalice [Speiser 1935: pl. 29-a].

#### b) Positions of painted designs

All of the painted designs are located in Zones B, C and D. In other words, paint is found on all parts of the body. This characteristic is common also to carinated bowls and jars.

#### c) Painted design elements (Figs. 13~15)

Compared with the Transitional and the Intermediate Periods, the variety of design elements had increased enormously. Among these design elements, many are similar to design elements of the Transitional and the intermediate Periods. However, elements which are obviously new and not found in previous periods are also numerous. The characteristics of design elements and design units in this period are as follows:

1. Rows of concentric semicircular lines (Nos. 144~147, 182~183).
2. Cross-hatched lozenges (Nos. 148~149, 157); lozenges filled with slanting lines, horizontal lines and dots (Nos. 150, 179b, 201).

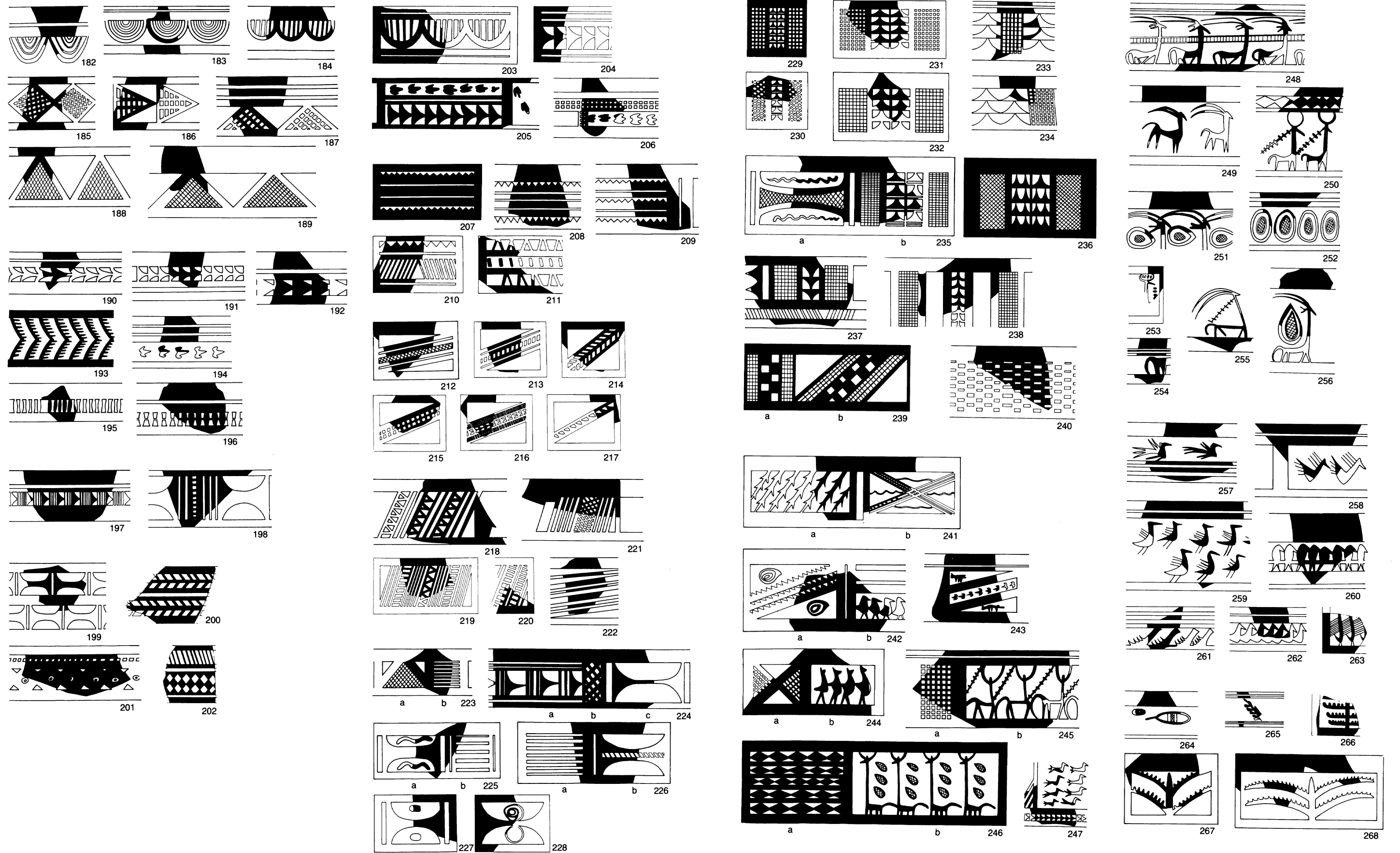


Table 8. List of Figs. 14 and 15

No	Site	Type	Zone	RD(cm)	MD(cm)	SD(cm)	Literature
182	Thalathat	Type 2	B				Fukai et al. 1974: Pl.31-2-5
183	Karrana 3	Type 2	B				Fales et al. 1987: Fig.11-38
184	Thalathat	Type 2	B				Fukai et al. 1974: Pl.29-1-21
185	Thalathat	Type 2	B				Fukai et al. 1974: Pl.29-1-4
186	Thalathat	Type 2	B				Fukai et al. 1974: Pl.29-1-6
187	Thalathat	Type 2	B				Fukai et al. 1974: Pl.29-1-5
188	Thalathat	Type 2	B				Fukai et al. 1974: Pl.29-1-3
189	Thuwaij	Type 2	B				Numoto in press: Fig.14-92
190	Thuwaij	Type 2	B				Numoto in press: Fig.13-71
191	Thuwaij	Type 2	B				Numoto in press: Fig.13-70
192	Durdara	Type 2	B				Spanos 1988: Abb.10-4
193	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-9
194	Thuwaij	Type 2	B				Numoto in press: Fig.13-73
195	Thuwaij	Type 2	B				unpublished material
196	Thuwaij	Type 2	B				Fujii et al. in press: Fig.6-3
197	Billa	Type 2	B				Speiser 1933: Pl.69
198	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-16
199	Fisna	Type 2	B				Numoto 1988: Fig.16-51
200	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-49
201	Rijm	Type 2	B	20.0			Bielinski in press: Fig.11-7
202	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-50
203	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-45
204	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-40
205	Mohammed Arab	Type 2	B	16.2	17.5		Roaf and Killick 1987: Fig.3
206	Rijm	Type 2	B				Bielinski in press: Fig.11-6
207	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-44
208	Billa	Type 2	B				Speiser 1933: Pl.69
209	Billa	Type 2	B				Speiser 1933: Pl.69
210	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-42
211	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-38
212	Billa	Type 2	B				Speiser 1933: Pl.69
213	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-53
214	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-55
215	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-54
216	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-59
217	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-52
218	Kutan	Type 2	B	17.4	17.2		Forest 1987a: Fig.8
219	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-65
220	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-66
221	Kutan	Type 2	B				Bachelot in press: Type 15, KC259,77
222	Kutan	Type 2	B				Bachelot in press: Type 15, KC256,15
223	Thuwaij	Type 2	B				Numoto in press: Fig.14-94
224	Thalathat	Type 2	B	14.5	13.8		Fukai et al. 1974: Pl.48-11
225	Thuwaij	Type 2	B				Fujii et al. in press: Fig.6-5
226	Thalathat	Type 2	B				Fukai et al. 1974: Pl.30-2-15
227	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-71
228	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-72
229	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-25
230	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-26
231	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-24
232	Thuwaij	Type 2	B				Fujii et al. in press: Fig.6-4
233	Kutan	Type 2	B				Bachelot in press: Type 15, K 134,3
234	Kutan	Type 2	B				Bachelot in press: Type 15, K 134,2
235	Rijm	Type 2	B	29.0			Bielinski in press: Fig.11-1
236	Rijm	Type 2	B				identical with No.165
237	Kutan	Type 2	C				Bachelot in press: Type 15
238	Thuwaij	Type 2	C				Numoto in press: Fig.14-103
239	Mohammed Arab	Type 2	B	20.2	20.4		Roaf and Killick 1987: Fig.3
240	Kutan	Type 2	B	27.0			Bachelot in press: Type 15, KC 252,22
241	Thalathat	Type 2	B				Fukai et al. 1974: Pl.31-2-2
242	Billa	Type 2	B				Speiser 1933: Pl.69
243	Kutan	Type 2	B				Bachelot 1987: Fig.6
244	Mohammed Arab	Type 2	B				Roaf and Killick 1987: Fig.3
245	Kutan	Type 2	B				Bachelot 1987: Fig.6
246	Mohammed Arab	Type 2	C		32.0	9.0	Killick in press: Fig.4-8
247	Durdara	Type 2	C				Spanos 1988: Abb.10-8
248	Kutan	Type 2	B	30.4	31.7		Forest 1987a: Fig.8
249	Mohammed Arab	Type 2	B				Roaf and Killick 1987: Fig.3
250	Mohammed Arab	Type 2	B				Roaf and Killick 1987: Fig.3
251	Thalathat	Type 2	B				Fukai et al. 1974: Pl.30-1-5
252	Kutan	Type 2	B	18.0			Bachelot in press: Type 15, K 134,11
253	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-81
254	Thalathat	Type 2	B				Fukai et al. 1974: Pl.30-1-3
255	Kutan	Type 2	B				Forest 1987a: Fig.8
256	Kutan	Type 2	B				Forest 1987a: Fig.8
257	Mohammed Arab	Type 2	B				Roaf and Killick 1987: Fig.3
258	Kutan	Type 2	B	18.8			Bachelot in press: Type 14
259	Kutan	Type 2	B				Bachelot in press: Type 14, K 2038
260	Rijm	Type 2	B	28.0			Bielinski in press: Fig.11-3
261	Karrana 3	Type 2	B				Fales et al. 1987: Fig.10-25
262	Durdara	Type 2	B				Spanos 1988: Abb.10-3
263	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-82
264	Karrana 3	Type 2	B				Rova in press: Fig.6-9
265	Karrana 3	Type 2	B				Rova in press: Fig.6-5
266	Thalathat	Type 2	B				Fukai et al. 1974: Pl.56-85
267	Billa	Type 2	B				Speiser 1933: Pl.69
268	Thalathat	Type 2	B				Fukai et al. 1974: Pl.30-1-1

RD: Rim Diameter; MD: Maximum Diameter; SD: Stem Diameter





Nos. 237, 238, 246, 247: Zone C

Fig. 14 Painted Patterns of Footed Bowls in the Painted and Early Incised Period.



3. Rows of solid triangles fallen sideways (Nos. 156Cb, 159, 181b, 190~192, 205); sideways solid triangles and vertical lines arranged alternately (Nos. 155Cb, 197, 224a); columns of solid triangles (Nos. 165b, 165c, 231~234, 237, 238).
4. Sideways cross-hatched triangles (Nos. 152, 186).
5. Serrated solid triangles (Nos. 158B, 158Cb, 163B, 170, 174b, 177a, 207~209, 242a; and examples of feet).
6. Concave-lense motifs (Nos. 151, 157Ca, 160C, 163Ca, 163Cb, 168, 171a, 173b, 178a, 179a, 198, 199, 224c, 225a, 226b, 227, 228, 280, 282).
7. Oval motifs (concentric ovals, cross-hatched ovals or cross-hatched tear-drop motifs) (Nos. 158Ca, 162Ca, 242a, 251, 252, 256, 264).
8. Naturalistic motifs: gazelles and goats (animals with four legs) (Nos. 162Ca, 165a, 165d, 243, 245b, 246b, 248~251, 253~256), birds (Nos. 175a, 177b, 180b, 181a, 242b, 244b, 247, 257~263), plants and others (174a, 241a, 265~268).
9. Cross-like cross-hatched lozenges (Nos. 167a, 278, 279, 282).

The above-mentioned design elements are found in many specimens. Other design elements found in specimens Nos. 155B, 155Ca, 176, 193, 211, 218, 219 and 241b are also considered to be characteristic features of this period.

With regard to these design elements, the following points have been noted.

1. The triangle motifs of the Transitional Period are basically drawn in the upright position, while many of the triangles of this period are lying on their side.
2. Concave-lense motifs are combined with different design elements to form a large variety of combinations.
3. Cross-hatched ovals and cross-hatched tear-drop motifs are always combined with gazelle or goat motifs. No example of combination with bird motif is found.
4. Most of the gazelle or goat motifs are combined with cross-hatched tear-drop motifs (Nos. 246b, 251, 256) or stitch lines (Nos. 245b, 250, 255).
5. Most of the animal motifs are drawn facing right [Fukai et al. 1974], but those facing left also exist (Nos. 243, 246).
6. Lozenges are filled with various elements.
7. The outline of cross-hatched rectangles, cross-hatched triangles and cross-hatched lozenges, the outlines are always thick, while cross-hatched lines are extremely fine. As has already been mentioned in the section on the Transitional Period, this suggests that several kinds of brush were used [Fukai et al. 1974].

On the other hand, some typical design elements of the Transitional Period, such as butterfly and solid elongated triangle, are not found in this period. It seems that the butterfly motif has turned into the concave-lense motif, since the combination of butterfly and vertical lines is often found in the Transitional Period (Nos. 32, 61~64), while the combination of concave-lense motif and vertical lines prevails in the Painted and Early Incised Period (Nos. 160C, 163Ca, 163Cb, 168, 198, 282, 361); and the layout of the two patterns are identical. In this period, a lot of pattern units begin to appear where other different elements are added to the simple basic elements.

*d) Composition of painted designs (Figs. 13~15)*

A lot of the specimens of this period have painted designs in Zone C. However, the painted designs considered of importance are located in Zone B. These painted designs are classified as follows:

- P1. One element repeated successively (Nos. 144~151, 155~158, 161~164, 170, 182~196).
- P2a. One element drawn horizontally in the form of a belt (Nos. 143, 153).



- P2b. Panel designs being drawn in horizontal belt zones (No. 154).  
 P3. Zone B being divided into two small horizontal zones, and one or two different elements being drawn successively in the small zones (Nos. 168, 169, 199~202).  
 P4. A pattern assumed to comprise two or three design elements and units drawn alternately (Nos. 152, 160, 162, 197, 198).  
 P5. A pattern of panel design by the vertical division of Zone B into rectangular sections (Nos. 165~167, 171~181, 203~239, 241~246, 253, 258, 263, 266~268).

These five design patterns are basically the same as those of the Transitional and the Intermediate Periods. Specimens of P1 and P5 are particularly numerous in this period.

P3 is not found in the Transitional and the Intermediate Periods, the reason being the appearance in this period of footed bowls with a wide Zone B.

The combinations of panel design patterns of P5 are roughly classified as follows:

- P5a. Panels being divided horizontally and filled with horizontal design elements (Nos. 174b, 176, 177b, 178b, 179a, 179b, 180b, 181b, 203~205, 207~211, 224a, 242b, 246a).  
 P5b. Panels being divided vertically and filled with design elements (Nos. 165b, 173a, 180a, 229, 235b, 236, 239a).  
 P5c. Panels being divided diagonally and filled with design elements (Nos. 171c, 172a, 177a, 212~217, 239b, 242a, 243).  
 P5d. Slanting design elements (Nos. 167b, 175b, 218~222, 241a).  
 P5e. Designs consisting mainly of one single naturalistic or geometric element (Nos. 166a, 166b, 167a, 171a, 171b, 172b, 173b, 174a, 223a, 224b, 224c, 225a, 226b, 227, 228, 241b, 244a, 267, 268).  
 P5f. Designs consisting only of repeated animal motifs (Nos. 165a, 175a, 181a, 244b, 245b).

In the case of P5a, examples of panels which are divided into more than three sections horizontally are mostly found in large-size vessels or medium-size vessels with a wide Zone B (Nos. 178~181). This pattern is also found in many of the oblong panels.

P5b has only one pattern: the panel is divided into three zones vertically; the two outside zones are basically cross-hatched or filled with hatched lines, whilst the middle zone is filled with design elements drawn generally vertically, the motif being mainly one or two lines of vertical triangles. This pattern is considered to be one of the typical types of panels in this period.

P5e is found in many small-size vessels (Nos. 171~174, 224). Panels with only one concave-lense motif are found only in vessels of medium or small sizes (Nos. 171, 173, 224).

The other features of panel patterns are as follows:

1. Panels of the same type are never placed next to one another; rather, two or three different types of panels are arranged alternately around the vessel.
2. Panels with naturalistic elements are always combined with panels with geometric elements.

There are no examples of combination of panels with different naturalistic elements.

Furthermore, P5b and P5f are not found in the panel designs of the Transitional Period; P5c and P5d are also rare. Most of the panel patterns in the Transitional Period are P5a.

The painted patterns illustrated in Figure 14 are arranged as follows:

Nos. 182 to 189 belong to P1: inside of elements are filled with lines;

Nos. 190 to 196 belong to P1: solid types of elements;

Nos. 197 and 198 belong to P4;

Nos. 199 to 202 belong to P3;

Nos. 203 to 206 belong to P5a;

Nos. 207 to 211 belong to P5a: mainly contains serrated solid triangle motifs;



- Nos. 212 to 217 belong to P5c;  
 Nos. 218 to 222 belong to P5d;  
 Nos. 223 to 228 belong to P5e, and one of the panels belongs to P5e;  
 Nos. 229 to 239 belong to P5b, and one of the panels belongs to P5b;  
 Nos. 241 to 247: panels with naturalistic motifs;  
 Nos. 248 to 256: mainly gazelle or goat motifs;  
 Nos. 257 to 263: bird motifs;  
 Nos. 264 to 268: plant motifs.

It is not clear whether the compositions of designs on the fragments with naturalistic motifs and the painted fragments of large-size vessels are horizontal designs or panel designs (Nos. 188, 189, 240, 248~252, 254~256, 259).

**Painted designs in Zone C** Painted designs of Zone C can roughly be classified into horizontal belt designs, panel designs and concentric semicircular lines. The horizontal belt designs are identical with those of Zone B described above (Nos. 143, 164). Specimens with panel designs (Nos. 165~167, 246, 247) are few but they are thought to be also identical with those of Zone B mentioned above. There are many examples of the designs in Zone B being repeated in the horizontal belt and panel designs of Zone C. As a rule, concentric semicircular lines are drawn in sets of three around the vessels of this period. The lines are thicker than that of the Transitional Period. There are also examples of designs where design elements are drawn into the middle space or in the space between two concentric semicircular lines (Nos. 168, 171, 178, 347~349). Since such designs of concentric semicircular lines are not found in the Transitional and the Intermediate Periods, it is assumed that they first appeared in this period.

**Painted designs in Zone D (Fig. 15)** There are no examples which have painted designs in Zone D in the Transitional Period. However, in this period, painted designs are found even in this zone. One of the reasons for this is that the feet of the vessels had become longer as well as bigger than those of the footed bowls of the Transitional Period. This allowed adequate space for painting. Stem-like long feet (Types 2m, 2n) began to appear in this period. They are divided into skirt and stem. The designs on the foot in this period differ in shape and size. Complete examples of Zones B and C are found in specimens Nos. 144, 146, 158, 161, 165, 167, 178 and 180; specimens Nos. 246 and 272 to 278 are fragments of the stem. The designs are roughly classified as follows:

1. Designs for small to medium sizes (Types 2f~2i, 2k), which are mainly horizontal lines (Nos. 144, 146, 158, 161, 176, 180, 269).
2. Designs for medium size (Type 2j), which have saw-tooth band motifs arranged on top of one another (Nos. 178, 270, 271).
3. Designs for large size (Types 2l~2n), which have mainly panel designs arranged on part of stem (Nos. 165, 167, 246, 272~274, 278~282).

The most characteristic design found in the foot is the saw-tooth motif. Where this motif is found on the stem, the cross-sections of the stem is always ridged or ribbed (Nos. 167, 178, 270, 271, 276~280, 282). This is also thought to be one of the rules governing colouring. Other motifs are also often found in Zones B and C.

There are many examples of two to four vertical openings being found in the stem of large feet (Nos. 165, 167, 246, 272~274, 276, 279~282). Shorter stems have horizontal oblong design panels (Nos. 167, 277~280), while longer stems have vertical oblong design panels (Nos. 165, 246, 272~274, 281). The stem of specimen No. 282 is horizontally divided into two sections, and a different horizontal oblong panel is painted in each section. These three types of panels are identical with panels found in specimens Nos. 167 and 278 to 280. All of the surfaces which have been painted with design panels are flat. The stems of



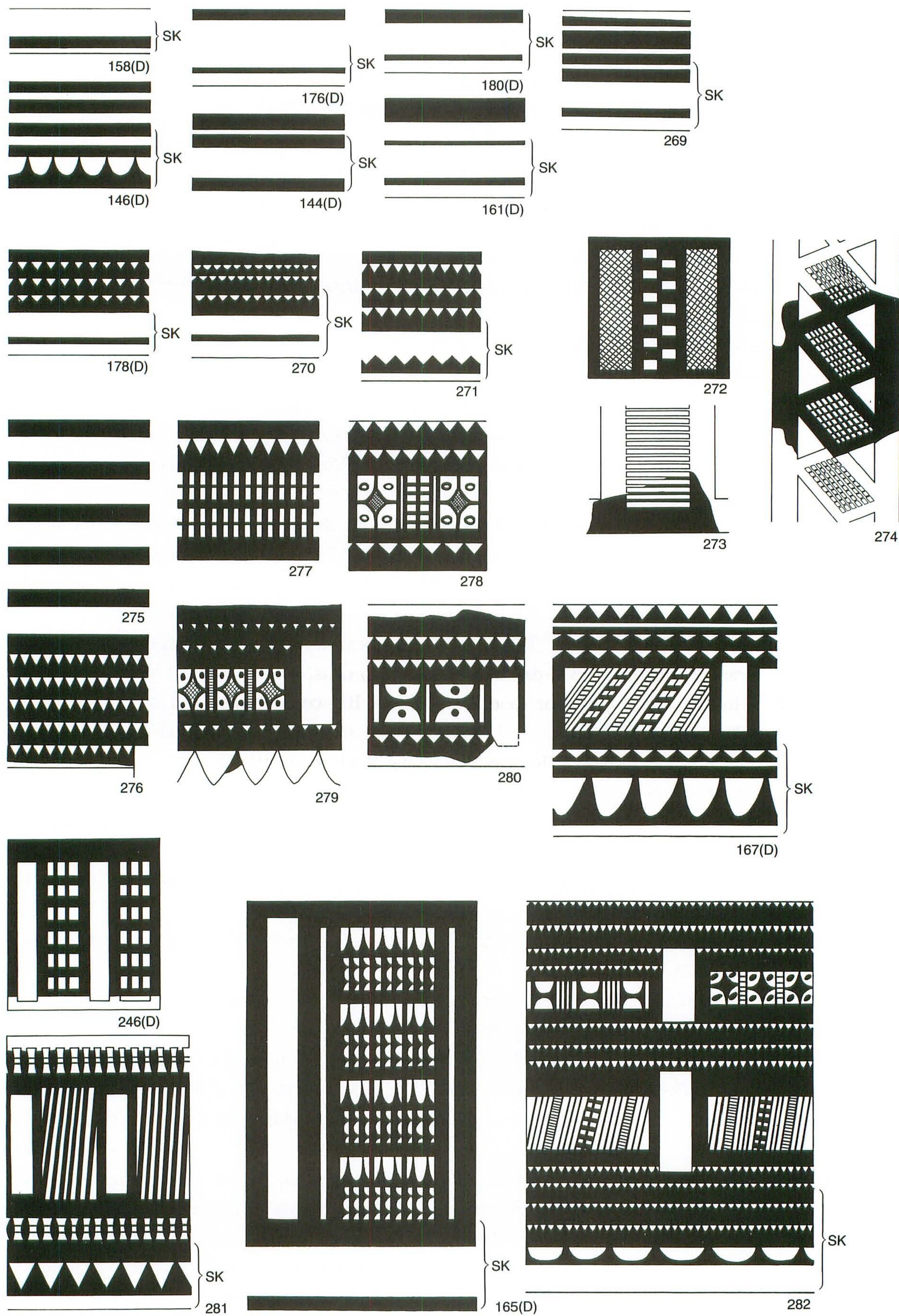


Fig. 15 Painted Patterns of Feet of Footed Bowls in the Painted and Early Incised Period.  
 SK: Skirt; (D): Zone D



Table 9. List of Fig. 15

No	Site	Type	Zone	RD(cm)	MD(cm)	SD(cm)	FD(cm)	Literature
269	Thalathat	Type 2	D			6.0	13.5	Fukai et al. 1974: Pl.48-17
270	Rijm	Type 2	D			7.5	16.0	Bielinski in press: Fig.12-2
271	Thalathat	Type 2	D			6.0	14.0	Fukai et al. 1974: Pl.48-15
272	Thuwajj	Type 2	stem			10.0		Numoto in press: Fig.14-104
273	Fisna	Type 2	stem					Numoto 1988: Fig.18-92
274	Fisna	Type 2	stem					Numoto 1988: Fig.18-94
275	Kutan	Type 2	stem			7.4		Forest 1987a: Fig.8
276	Thalathat	Type 2	stem			9.0		Fukai et al. 1974: Pl.48-14
277	Thalathat	Type 2	stem					Fukai et al. 1974: Pl.31-13
278	Thalathat	Type 2	stem					Fukai et al. 1974: Pl.31-11
279	Rijm	Type 2	stem			12.0		Bielinski in press: Fig.12-5
280	Thalathat	Type 2	D			8.0		Fukai et al. 1974: Pl.48-14
281	Kutan	Type 2	D			9.2	19.3	Forest 1987a: Fig.8
282	Nineveh	Type 2	D			11.0	24.0	Thompson and Hamilton 1932: Pl.56-5

RD: Rim Diameter; MD: Maximum Diameter; SD: Stem Diameter; FD: Foot Diameter

vessels larger than medium size from Tell Thalathat are always ribbed.

Paint is always found on the border of the skirts. There are two ways of painting the borders: one where paint is applied to the upper part of the border only; the other where the entire border is painted. The motif of the former way of painting is either bands of horizontal lines (Nos. 158, 161, 176, 178, 180, 269, 270) or saw-tooth lines (Nos. 146, 167, 271, 281, 282).

e) *Layout of painted designs* (Fig. 16)

There are relatively many of specimens showing whole painted designs. The designs are densely drawn over the whole surface of Zones B, C and D. First of all, the combinations of painted designs found in Zones B and C are examined. These combinations are illustrated in Fig. 16. The combinations can roughly be classified into three types:

Combination 1. Horizontal belt design (Zone B)+horizontal belt design (Zone C) (Nos. 143~164).

Combination 2. Panel design (Zone B)+panel design (Zone C) (Nos. 165~167).

Combination 3. Horizontal belt design or panel design (Zone B)+concentric semicircular lines (Zone C) (Nos. 168~181).

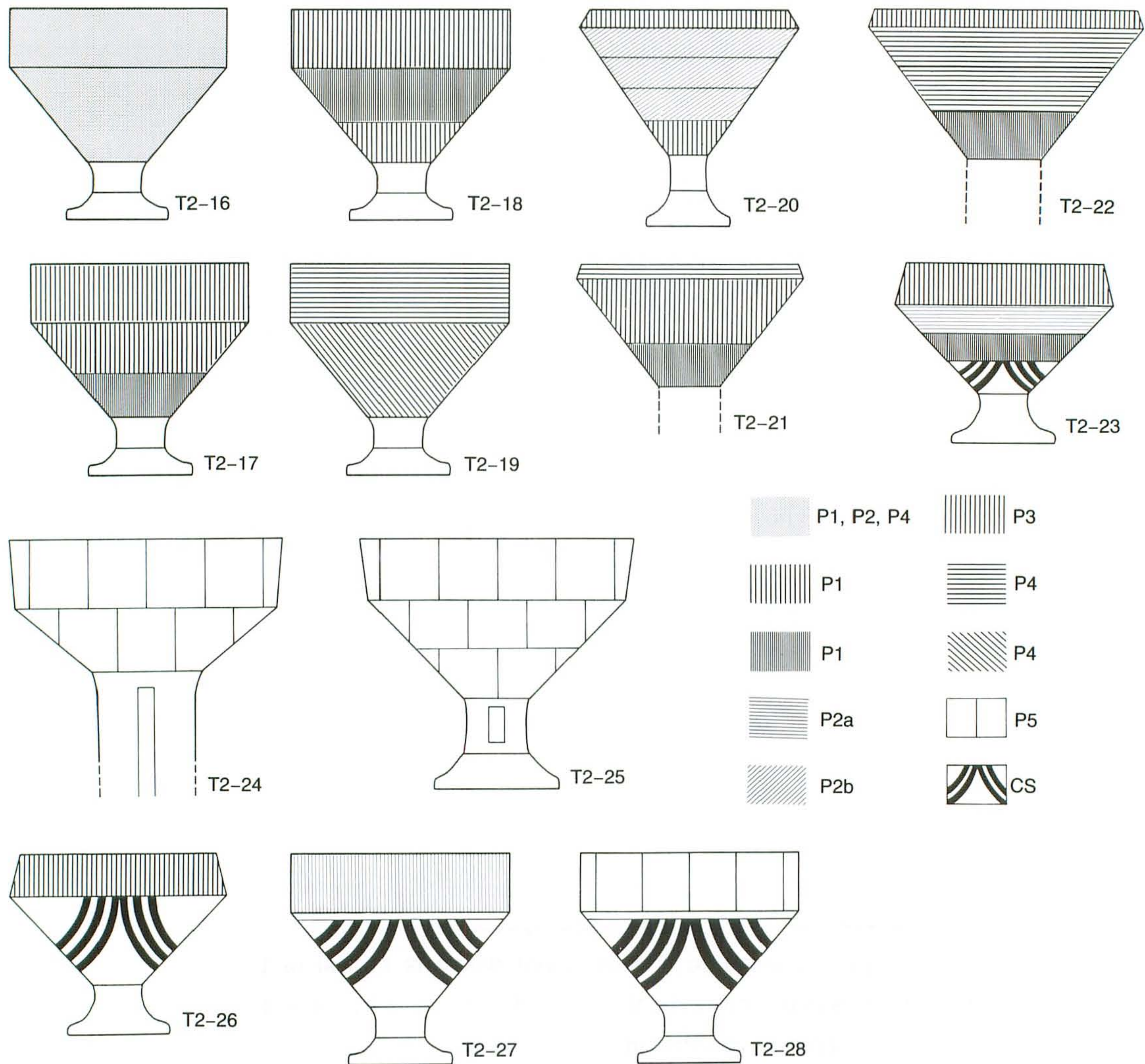
**Combination 1** In the case where the designs of Zone B which are P1, P2a, P2b and P4, there are many examples where of the same designs being repeated in Zone C(Nos. 143~164). There is almost no example which has panel designs or concentric semicircular lines in Zone C. These combinations are subdivided into the following four types:

1. Designs of Zones B and C being completely identical (designs of Zone B repeated in zone C) (T2-16). There are four types in this category:
  - A. P1 (Zone B)+P1 (Zone C) (Nos. 144~151).
  - B. P2a (Zone B)+P2a (Zone C) (Nos. 143, 153).
  - C. P2b (Zone B)+P2b (Zone C) (No. 154).
  - D. P4 (Zone B)+P4 (Zone C) (No. 152).

Many examples of Type A have only one belt pattern in Zone C but examples with two or three belt designs in Zone C are also found (Nos. 147, 148). Presumably, this arose because of the difference in shape. The width of Zone B of these two examples (Type 2i) is narrow relative to the height of the vessels. Designs of this group are found in all medium and small sizes except No. 151.

2. The design of Zone B being repeated in Zone Ca, while a pattern different from that of Zone B is drawn on Zone Cb (Nos. 155, 156) (T2-17).
3. The design of Zone B being repeated in Zone Cb, while a pattern different from that of Zone B is drawn on Zone Ca (Nos. 157, 158) (T2-18).
4. Zone B and Zone C having altogether different design patterns. These compositions of patterns





**Fig. 16** Variety of Layout of Painted Designs of Zones B and C of Footed Bowls in the Painted and Early Incised Period.

of Zone C are divided into five types (T2-19~23) (Nos. 159~164). Most of these specimens were taken from Nineveh and Tell Billa, and their shapes belong to Types 2i, 2k and 2m. It is not clear whether these types of shapes belong to the same period as the other types. It is clearly, however, that Type 2i is similar to Type 2 of the Transitional and the Intermediate Periods (Types 2d, 2e). Moreover, the design elements of No. 164 has the characteristics of the Intermediate Period. Based on this, Type 2i is assumed to belong to the earliest part of the Painted and Early Incised Period. The remaining main characteristic features of this group is that, because Zone B of some vessels is extremely narrow (Nos. 158, 162, 163) (Types 2i, 2k, 2m), only simple patterns are drawn in this zone; the main designs are arranged in Zone C.

In the Transitional Period, most of the horizontal lines which divided Zone B from Zone C are drawn above the carination, while they are mostly found below the carination in this period (Nos. 144, 146, 151, 155, 161). Within the design groups of this type, there are many examples of a horizontal line being drawn between two pattern belts. This suggests that horizontal lines were used as a design elements, which is the simplest way of filling a blank space.

The main characteristics of combination 1 are summarized as follows:

1. Combination of this type does not exist in the Transitional Period. Most of the designs of Zone C



of Type 2 in the Transitional Period are basically vertical, which is obviously an easier way to draw. This may indicate a lack of skills in that period.

2. Combination 1 is commonly found in vessels of medium to small sizes, or vessels with a narrow Zone B.

**Combination 2** There are very few complete specimens found of this group (T2-24, 25) (Nos. 165~167). In the case of specimens Nos. 165 and 166, two types of panels are repeated alternately. Zone B of No. 167 is horizontally divided into two equal zones, and two types of panels are repeated alternately in those zones, top to bottom, left to right. These same panels are repeated in Zone C. The rule governing the arrangement of the panels is that two types of panels are placed alternately right and left, and up and down.

Nos. 165 and 167 are large-size vessels (Types 2l, 2n). Zones B and C of No. 165 are each divided into eight equal panels. Also, each zone on No. 167 is divided into eight equal sections around its body. The way of dividing painted zones has been discussed in detail in the report on Tell Thalathat [Fukai et al. 1974]. The Zone C panel designs of the Transitional and the Intermediate Periods have no horizontal panel designs. As it stands, there is no example of Zone C having completely different designs from those of Zone B, or combinations of horizontal belt designs.

**Combination 3** This group has a design of concentric semicircular lines in Zone C. Design combinations of Zones B and C are roughly divided into three types:

- A. Zone B is P1 (No. 170) (T2-26).
- B. Zone B is P3 (Nos. 168, 169) (T2-27).
- C. Zone B is P5 (Nos. 171~181) (T2-28).

There is only one example of Type A, which came from Tell Thalathat. The concentric semicircular lines in this specimen closely resemble those of the specimens of the Transitional Period. The only difference is that this design has serrated triangle motif which is typical of this period. As no other examples of Type A exists, this is therefore a unique design pattern even within this period, but this type of design is very common in the Transitional Period.

Two examples of Type B are found. This type of design is not found in the Transitional Period.

Examples of Type C are most numerous. It is found in vessels of all sizes. In the main, Zone B consists of two different types of panels (P5a~P5f) repeated alternately. One type has a ratio of one to one (Nos. 173, 177), the other has a ratio of two or three to one (Nos. 172, 178, 180). This type of design is considered to be most typical of this period. The most characteristic point common to both Types B and C is that one or two horizontal lines are always drawn in the space between the border of Zone B and the concentric semicircular lines. Examples of this are not found in the Transitional Period. As it stands, there are only types of designs in this group (Types A (T2-26), B (T2-27) and C (T2-28)).

The foregoing summarizes the design patterns of Zones B and C in Type 2. Other features which have been noted are as follows:

1. Combinations 1 and 2 are thought to be new design patterns which first appeared in this period.
2. Most of the design patterns of the Transitional and the Intermediate Periods are not found in this period.
3. Amongst the specimens of Tell Thalathat, Combination 1 is hardly found, whilst Combinations 2 and 3 is abundant. This may be an indication of the characteristics peculiar to this period.

f) *Characteristics of painted designs of footed bowls*

The foregoing is a brief description of the characteristics of the painted designs of footed bowls. Other notable features are as follows.

1. Most examples of patterns P1 (one element being repeated horizontally) are found on specimens



- from smaller vessels or Zone B of narrow width.
2. Panels designs are not found on specimens of extremely narrow Zone B (Types 2f, 2k, 2m).
  3. Since the width of Zone B in this period is greater than that of the footed bowls of the Transitional Period, there are many examples of two or three horizontal lines being drawn beneath the rim, or broad horizontal bands being drawn on the rim and carination. The horizontal lines on the rim and carination are thicker than those of the footed bowls of the Transitional Period.
  4. The most common design combination for Zone B is the panel design, and that of Zone C is concentric semicircular lines (Combination 3, Type C).
  5. Where two or three horizontal lines are drawn beneath the carination, the designs of Zone C are horizontal belt patterns or concentric semicircular lines.

Thus, within the same type of vessels, painted designs differ according to the differences in shape and size.

**Painted designs of carinated bowls (Figs. 17, 18)**

There are very few specimens of painted carinated bowls of this period. The specimens examined here are from Nineveh, Tells Talathat and Mohammed Arab. In a previous report, the present author stated that most of the painted carinated bowls from Nineveh were thought to have belonged to the Transitional Period [Numoto 1988]. However, among those specimens, shapes and designs are found which are different from those of the carinated bowls of the Transitional Period. Consequently, these specimens are now assumed to have appeared after the Transitional Period, and are included in the Painted and Early Incised Period (Nos. 292~294).

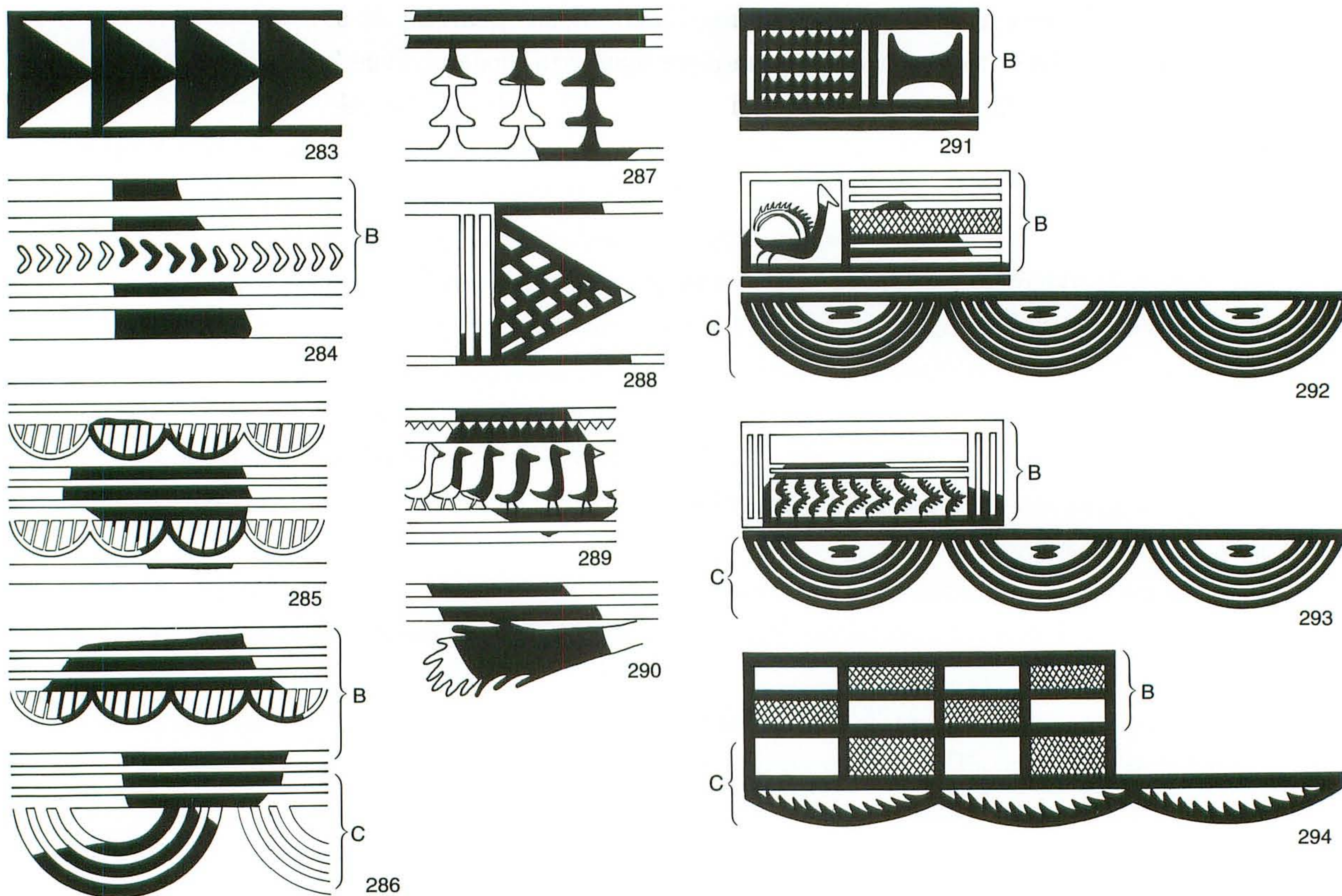


Fig. 17 Painted Patterns of Carinated Bowls in the Painted and Early Incised Period.



Table 10. List of Fig. 17

No	Site	Type	Zone	RD(cm)	MD(cm)	Literature
283	Mohammed Arab	Type 1	B	4.0	5.4	Killick in press: Fig.4-13
284	Mohammed Arab	Type 1g	B,C	7.2	8.8	Killick in press: Fig.4-12
285	Thalathat	Type 1g	B			Fukai et al. 1974: Pl.29-22
286	Thalathat	Type 1g	B,C		11.5	Fukai et al. 1974: Pl.47-1
287	Mohammed Arab	Type 1g	B	9.4	11.2	Killick in press: Fig.4-11
288	Mohammed Arab	Type 1g	B	7.3	10.0	Killick in press: Fig.4-9
289	Nineveh	Type 1g	B	8.1	9.5	Thompson and Hamilton 1932: Pl.70-2
290	Mohammed Arab	Type 1	B	8.8		Killick in press: Fig.4-10
291	Nineveh	Type 1g	B,C	7.7	9.4	Thompson and Hamilton 1932: Pl.53-14
292	Nineveh	Type 1h	B,C		13.9	Thompson and Hamilton 1932: Pl.53-8
293	Nineveh	Type 1h	B,C		10.4	Thompson and Hamilton 1932: Pl.53-12
294	Nineveh	Type 1h	B,C	6.9	10.7	Thompson and Hamilton 1932: Pl.53-2

RD: Rim Diameter; MD: Maximum Diameter

a) *Types of painted carinated bowls* (Fig. 1)

The shapes of carinated bowls are roughly divided into two types (Types 1g and 1h). These are not very different from Types 1e and 1f of the Intermediate Period. Type 1g is more common than Type 1h (Nos. 284~291), and its shape is similar to that of the grey or incised carinated bowls of the same period. Type 1h has its carination in mid-height of the vessel, with inward-inclined rim. Similar shapes to this type are found in the Transitional and the Intermediate Periods. All specimens of this type were taken from Nineveh (Nos. 292~294). Specimen No. 283 is a miniature.

b) *Positions of painted designs*

There are two types of distribution of painted designs: one with painted designs in Zone B only (Nos. 283, 284, 291); the other with painted designs in both Zones B and C (Nos. 286, 292~294).

c) *Composition of painted designs* (Fig. 17)

The design elements in each specimen are the same as those of Type 2. Typical design elements of this period are found in each specimen.

**Painted designs in Zone B** Design patterns of Zone B are generally classified into horizontal belt designs and panel designs. The combinations here are similar to those of Type 2. They are divided into P1 (Nos. 283, 284, 286), P3 (Nos. 285, 289) and P5 (Nos. 291~294). The rules governing the drawing and arrangement of panel designs are identical with those of Type 2. Specimens Nos. 287, 288 and 290 are only fragments and, therefore, their complete design features are not known. There is a possibility that the design compositions of these specimens are different from the types mentioned above.

**Painted designs in Zone C** Types of design compositions of Zone C are as follows:

1. Presumed horizontal belt design (No. 284).
2. Concentric semicircular lines (CS) (Nos. 286, 292, 293).
3. Combination of panel and semicircular lines (No. 294).

The number of concentric semicircular lines and their method of painting are identical with those of Type 2. As for specimen No. 291, one horizontal line has been drawn in the upper part of Zone C. This feature is similar to a characteristic of Type 1 of the Intermediate Period.

d) *Layout of painted designs* (Fig. 18)

Specimens Nos. 283, 284, 286 and 291 to 294 show complete painted designs. There are two specimens which have designs only in Zone B; their patterns are P1 (No. 283) (T1-13) and P5 (No. 291) (T1-16). Combinations of design patterns in Zones B and C are classified as follows:

1. P1 (Zone B)+P1? (Zone C) (No. 284) (T1-14);
2. P1 (Zone B)+CS (Zone C) (No. 286) (T1-15);
3. P5 (Zone B)+CS (Zone C) (Nos. 292, 293) (T1-17);
4. P5 (Zone B)+(P5+semicircular lines) (Zone C) (T1-18).

Combinations 1, 3 and 4 are common in Type 2. Combinations 3 and 4 are presumed to be new



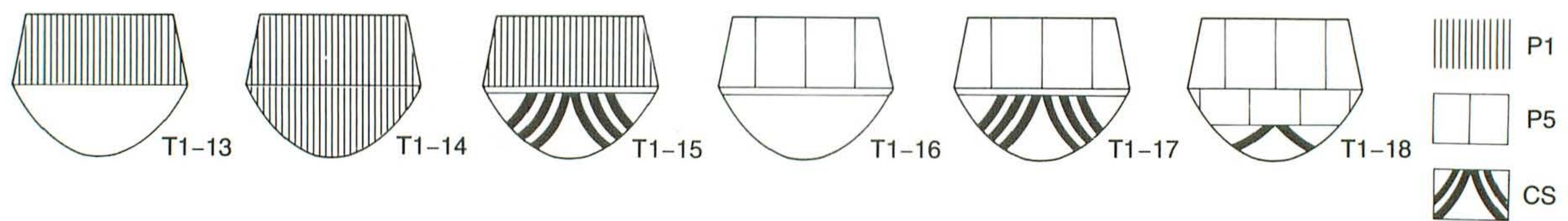


Fig. 18 Variety of Layout of Painted Designs of Carinated Bowls in the Painted and Early Incised Period.

designs first appearing this period. Combination P5 (Zone B)+P1 or P2 (Zone C) is not found in carinated bowls.

e) *Characteristics of painted designs of carinated bowls.*

Design elements and compositions of carinated bowls (Type 1) closely resemble those of the footed bowls (Type 2). However, the most obvious difference is the existence of painted designs in Zone B only of Type 1, while no such examples exist in Type 2. This indicates that the painted designs of Type 1 of the Transitional Period continued into this period.

**Painted designs of jars (Figs. 19~23)**

Complete specimens of jars are rare. The specimens examined are mainly taken from Nineveh, Tells Thalathat, Mohammed Arab, Kutan and Rijm. Among them, the specimens from Nineveh are particularly abundant. The exact period of these specimens are not known, but they have been included in this period based on their design features and characteristics.

a) *Types of painted jars (Fig. 1)*

All of the jars have a foot or pedestal at their base. They are roughly classified into small or medium lugged jars (Types 3f~3i) and large jars (Types 4d~4f). Some of these jars have a carinated body, others have a rounded body. Apart from these, many other types are thought to have existed, but it is not known what other types existed, as complete specimens of large jar are rare. Almost all of the jars have a rim that flares outwards.

b) *Positions of painted designs*

Most of the complete specimens have painted designs in Zones A to D. However, specimens which have no painted design in Zones B and C are also found (Nos. 321, 323).

c) *Painted design elements and composition of designs (Figs. 19, 20)*

All of the design elements are in common with those of Types 1 and 2 mentioned above. Moreover, compositions and combinations of panel designs are identical with those of Type 2. The design compositions of Zones B and C are basically the same as those of Type 2 (P1~P5). The main difference between

Table 11. List of Fig. 19

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
295	Kutan	Type 3f	B, C		10.1		Bachelot in press: Type 15
296	Kutan	Type 3f	B, C		11.1		Bachelot 1987: Fig.7
297	Mohammed Arab	Type 3f	A, B	10.6	16.0		Roaf and Killick 1987: Fig.3
298	Mohammed Arab	Type 3f	B, C, D		14.8	6.7	Roaf and Killick 1987: Fig.3
299	Mohammed Arab	Type 3f	B, C, D		10.0	5.0	Roaf 1983: Fig.3-7
300	Nineveh	Type 3f	B, C, D		18.4	8.4	Thompson and Mallowan 1933: Pl.54-3
301	Nineveh	Type 3g	A, B, C, D	5.4	7.2	4.9	Thompson and Hamilton 1932: Pl.55-8
302	Nineveh	Type 3g	A, B, C, D	4.5	6.9	4.4	Thompson and Hamilton 1932: Pl.55-1
303	Nineveh	Type 3g	A, B, C, D	6.3	8.1	4.9	Thompson and Hamilton 1932: Pl.55-7
304	Nineveh	Type 3g	B, C, D		5.2	3.1	Thompson and Hamilton 1932: Pl.55-2
305	Kutan	Type 3i	A, B, C, D	7.6	11.5	5.0	Forest 1987a: Fig.8
306	Nineveh	Type 3j	B, C		18.6		Thompson and Hamilton 1932: Pl.57-3
307	Nineveh	Type 3j	B, C		20.0		Thompson and Hamilton 1932: Pl.57-9
308	Kutan	Type 3j	A, B, C, D	10.0	14.3	6.0	Bachelot in press: Type 14
309	Kutan	Type 3h	B, C, D		17.5	8.4	Forest 1987b: Fig.114

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter



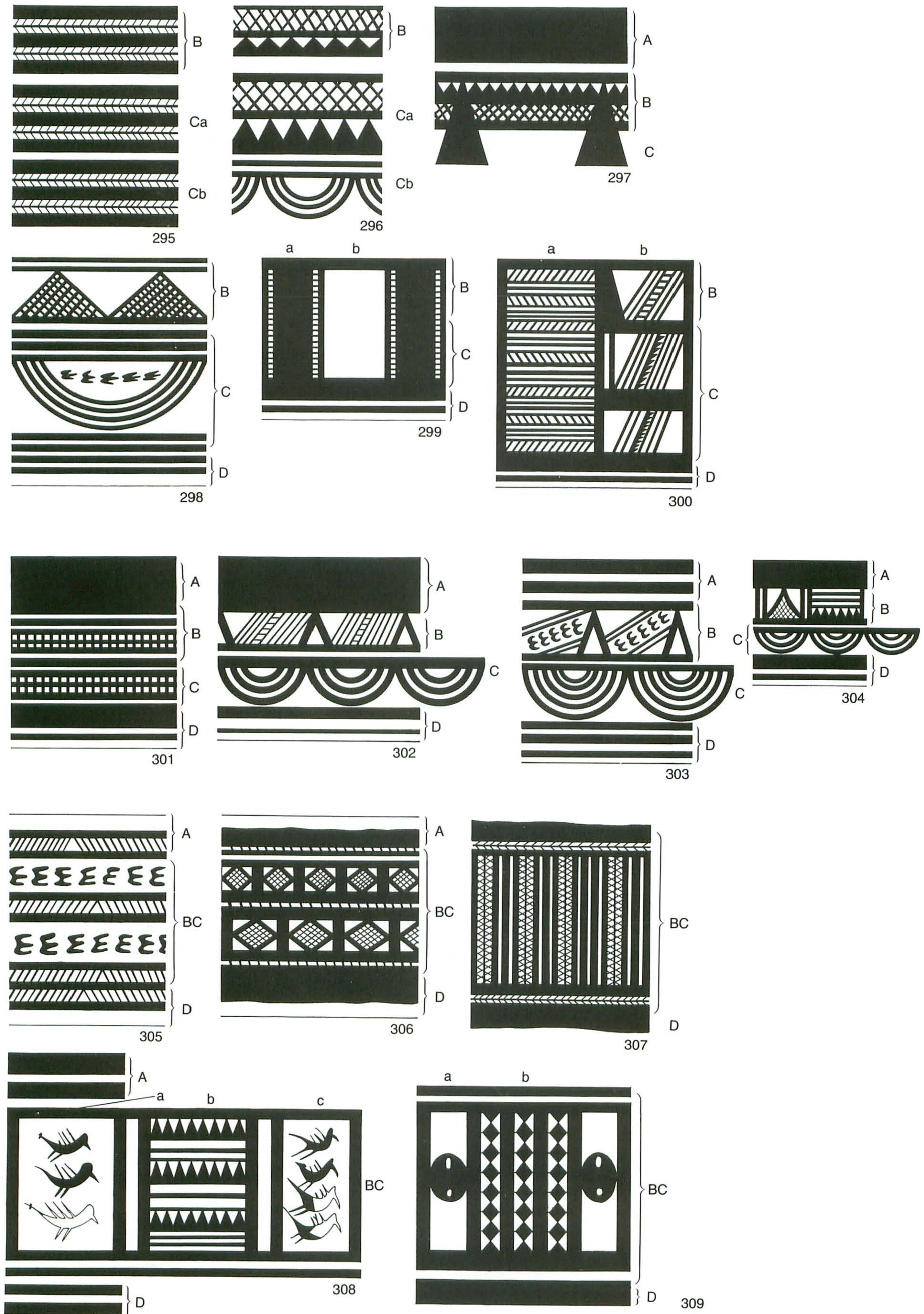


Fig. 19 Painted Patterns of Jars in the Painted and Early Incised Period.

Nos. 295~300: Type 3f; Nos. 301~304: Type 3g; No. 305: Type 3i; Nos. 306~308: Type 3j; No. 309: Type 3h



these jars and Types 1 and 2 is that these jars have vertical belt designs, as will be discussed later.

d) *Layout of painted designs* (Figs. 21, 22)

Most of the painted designs of Zones A and D in complete specimens are horizontal lines, or else the whole zone is covered by paint, and so they are not discussed further. The discussion here mainly concerns the design layouts of Zones B and C, each of which is listed and described in turn.

**Type 3f** (Nos. 295~300) (T3-8~11) This type is characterized by a sharp carination on the body, which clearly divides Zone B from Zones. Its shape is similar to Type 3d, but it is thought that this type may have a longer foot than Type 3d. Types of design combinations are as follows:

1. P3 (Zone B)+repetition of P3 designs of Zone B (Zone C) (No. 295) (T3-8).
2. P3 (Zone B)+same P3 design as Zone B (Zone Ca)+concentric semicircular lines (CS) (Zone Cb) (No. 296) (T3-9).

In specimen No. 297, the pattern of Zone B is also P3 but it seems that Zone C was not painted. Parts of the lugs are painted with a triangular motif.

3. P1 (Zone B)+CS (Zone C) (No. 298) (T3-10).
4. Vertical panel designs arranged from Zone B through to Zone C (Nos. 299, 300) (T3-11).

The panel designs are a combination of two types of panels, alternately placed. Panel b of specimen No. 300 is horizontally divided into three sections.

**Type 3g** (Nos. 301~304) (T3-12~14) This type is basically identical with Type 3f. All of the specimens are from Nineveh. The combinations of designs are as follows:

5. P2a (Zone B)+the same P2a of Zone B (Zone C) (No. 301) (T3-12).
6. P4 (Zone B)+CS (Zone C) (Nos. 302, 303) (T3-13).
7. P5 (Zone B)+CS (Zone C) (No. 304) (T3-14).

Zone B of specimens Nos. 302 and 303 has triangle motifs drawn on the lug. Combination 6 is most common in this type.

**Types 3h to 3j** (Nos. 305~309) (T3-15~19) This type is small to medium-size jars with rounded body. The designs are roughly divided into horizontal belt designs (Nos. 305, 306) and a vertical belt design (No. 307) and panel designs (Nos. 308, 309).

8. P3 (Zone B)+the same P3 of Zone B (Zone C) (No. 305) (T3-15).

This design is similar to that of Zone B of No. 138.

9. P2b (Zone B)+the same P2b of Zone B (Zone C) (No. 306) (T3-16).
10. Parallel vertical belt designs and lines are drawn alternately from Zones B to C (No. 307) (T3-17).
11. Panel designs are arranged continuously from Zones B to C (Nos. 308, 309) (T3-18, 19).

The design of panel b in No. 308 is similar to that of panel d of No. 137; panel b of No. 309 is vertically divided into three sections (T3-19); and panel a has circular lug motifs painted on it. In this period, there are many examples of using lug shape as a design element (Nos. 297, 300, 302, 303).

Table 12. List of Fig. 20

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
310	Rijm	Type 4d	A, B, C, D	14.0	30.5	13.0	Bielinski in press: Figs.4, 5-A
311	Nineveh	Type 4d	B, C, D		34.3	12.8	Thompson and Hamilton 1932: Pl.57-1
312	Nineveh	Type 4d	B, C, D		29.2	16.5	Thompson and Hamilton 1932: Pl.57-2
313	Thalathat	Type 4d	C				Fukai et al. 1974: Pl.29-1
314	Thalathat	Type 4d	B, C		31.0		Fukai et al. 1974: Pl.50-3
315	Kutan	Type 4d	B, C, D		25.5	11.4	Forest 1987b: Fig.114
316	Nineveh	Type 4d	A, B, C	13.3	25.7		Thompson and Hamilton 1932: Pl.57-6
317	Thalathat	Type 4d	A, B, C, D	12.6	35.3	16.5	Fukai et al. 1974: Pl.50-1
318	Kutan	Type 4d	C, D		45.2	19.0	Forest 1987a: Fig.8
319	Mohammed Arab	Type 4d	B, C, D		16.6	8.0	Roaf 1983: Fig.3-8
320	Nineveh	Type 4d	A, B, C		30.5		Thompson and Hamilton 1932: Pl.57-5

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter



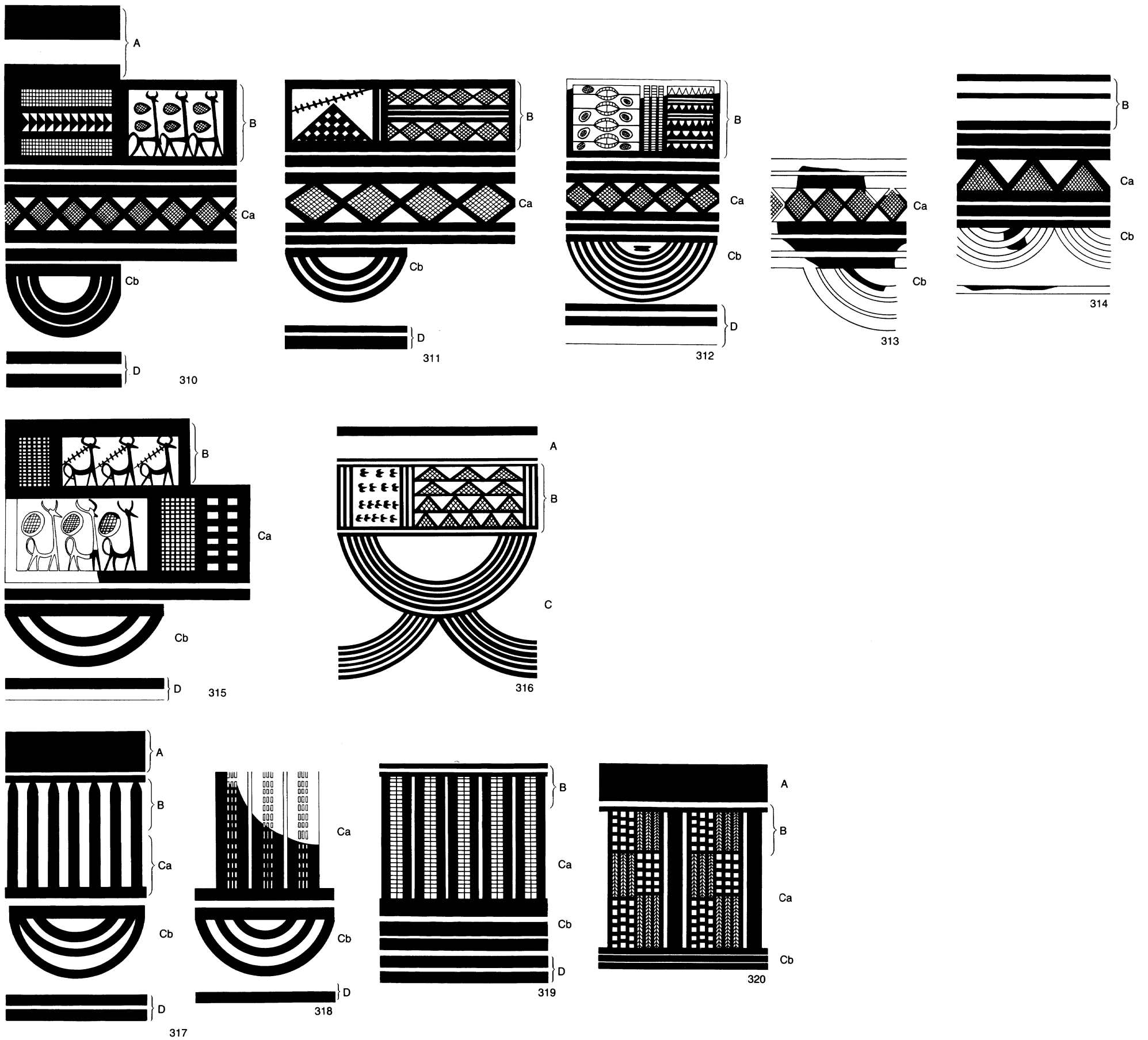
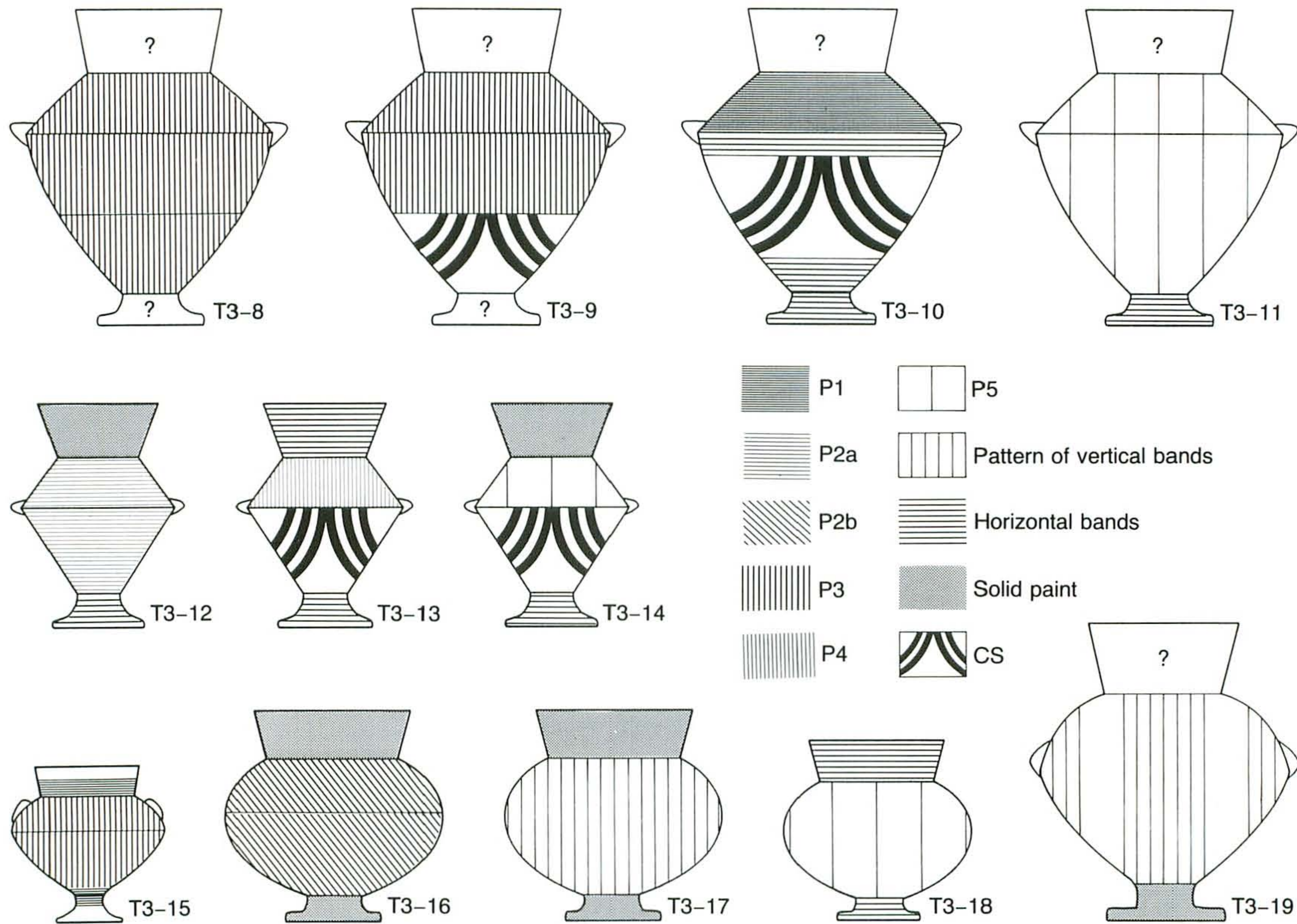


Fig. 20 Painted Patterns of Jars in the Painted and Early Incised Period.





**Fig. 21** Variety of Layout of Painted Designs of Small to Medium Jars in the Painted and Early Incised Period.

**Type 4d** (Nos. 310~320) (T4-5~11) (Figs. 20, 22) This type is large jars with carination on the upper part of the body. Most of the designs of Zone C are horizontally divided into two sections (Zones Ca and Cb) (Nos. 310~315, 317~319). The composition of designs are roughly divided into two types: one is basically a horizontal design (Nos. 310~316) (T4-5~8), the other is basically a vertical design (Nos. 317~320) (T4-9~11). The details are as follows:

12. P5 (Zone B)+P1 (Zone Ca)+CS (Zone Cb) (Nos. 310~312) (T4-5).  
P1 has cross-hatched lozenge motifs; as a rule, concentric semicircular lines come in a set of three.
13. Horizontal lines (Zone B)+P1 (Zone Ca)+CS (Zone Cb) (No. 314) (T4-6).  
Unfinished hatched motifs are found in Zone B.
14. P5 (Zone B)+P5 (Zone Ca)+CS (Zone Cb) (No. 315) (T4-7).  
P5 of Zone C is similar to P5 of Zone B.
15. P5 (Zone B)+CS (Zone C) (No. 316) (T4-8).
16. One type of vertical belt designs being repeated parallel to one another (Zones B and Ca)+CS (Zone Cb) (Nos. 317, 318) (T4-9).
17. One type of vertical belt designs being repeated parallel to one another (Zones B and Ca)+horizontal lines (Zone Cb) (No. 319) (T4-10).
18. Vertical panels and thick vertical lines alternately arranged from Zone B through to Zone Ca+horizontal lines (Zone Cb) (No. 320) (T4-11).

Combination 12 seems to be the most common design in this group. Specimens Nos. 314 and 317 are from Tell Thalathat and their design features are simplified relative to those of other specimens. The features of specimen No. 316 (T4-8) are different from those of other specimens: its shape, painting



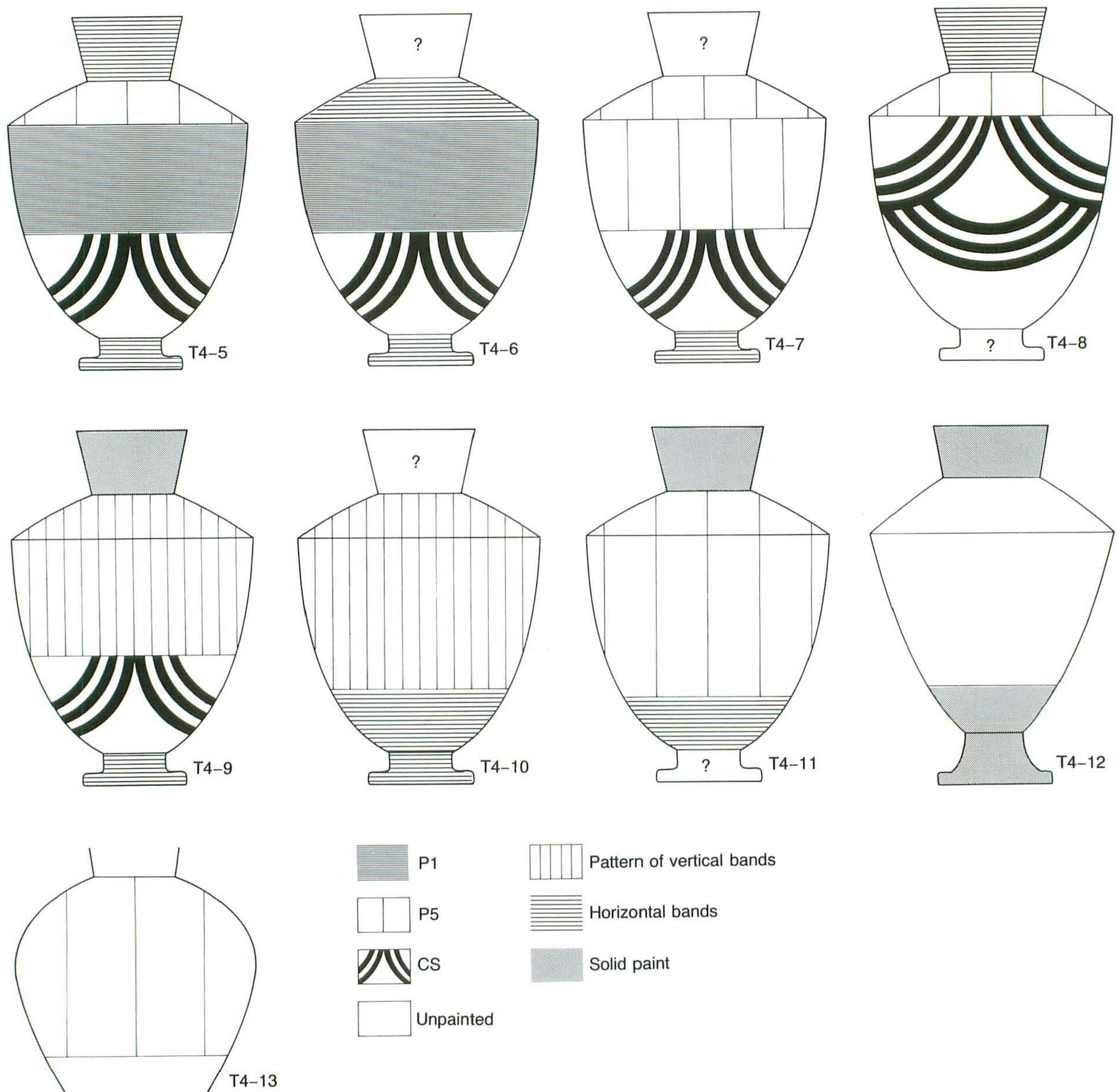


Fig. 22 Variety of Layout of Painted Designs of Large Jars in the Painted and Early Incised Period.

method and design composition are similar to those of the Intermediate Period.

**Type 4e** (Nos. 321, 323) (T4-12) (Figs. 22, 23) The shape of this type is almost identical with Type 4d, but it has a long foot on its bottom. There are very few specimens available.

19. Paint is applied to Zone A and from the lower part of Zone C to Zone D (No. 323).

P1 is discernible in Zone A of specimen No. 321, whilst Zone A of specimen No. 323 is entirely covered with paint.

**Type 4f** (Nos. 335, 336) (T4-13) (Figs. 22, 23) This type is characterized by a rounded body. There is no complete specimen available. It is supposed to be an enlargement of Types 3h and 3j.

20. Two different types of panels are arranged alternately on the whole of Zones B and C (No. 335).

Thus, it can be seen that there is a great deal of variation in the general layout of painted designs on jars, and each type of jars has different design layout. This suggests that painted designs were always arranged according to the shape of the jar. In other words, the shape was a deciding factor in the choice of



design. There are very few examples of horizontal belt designs being painted in Zone B of large jars. The types of layouts absent from footed bowls (Type 2) are: combinations 4, 10, 11, 14 and 16 to 18 (T3-11, 17-19, T4-7, 9-11). The combination of P5 (Zone B)+horizontal belt design (Zone C) is not found in Types 1 and 2. However, this combination is found in combination 12. The designs of Zone C in the jars of this period are more densely painted than those of Zone C in the jars of the Transitional and the Intermediate Periods. Besides, although horizontal belt designs are not found in Zone C of jars of the Transitional and the Intermediate periods, it is found in Zone C of jars in this period (Combinations 12,13).

Apart from these, the only other jar design layout comes from a specimen unearthed in Tell Jigan. This is only a fragment of the lower part of the body (Zone C), which is densely covered all over by a motif of countless small birds [Ii and Kawamata 1984/85: pl. 23-54].

Amongst the many specimens with paint all over their body, Type 4e has no painted design in Zones B and C. Although this feature is considered to be one of the variation of painted jars in this period, it may also have resulted from the fading of the paint. The surface of Zone B of specimen No. 321 is ribbed, and this is considered to be a design element of the incised style.

### Painted designs of fragments of Jars (Fig. 23)

The specimens illustrated in Fig. 23 are thought to be fragments of jars, most of which came from Tell Thalathat. These fragments are classified into Zone A (Nos. 321-323), Zone B (Nos. 324-334), Zones B and C (Nos. 335-337), Zone C or Zones B and C (Nos. 338-346). Specimens of Zone A belong to Combination 19, as already mentioned above. The designs of Zone B are divided into two types: one seems to be composed of horizontal belt designs (P1, P3 and P4) (Nos. 324, 330, 331, 334); the other is composed of panel designs (P5a-P5f) (Nos. 325-329, 332, 333).

The most notable items among these specimens are specimens Nos. 324 and 325 from Tell Thalathat. The designs of these two specimens are composed of both painted and incised elements. The upper part of Zone B of specimen No. 324 has a horizontal belt design (P1) consisting of a row of abstract animal motifs, whilst the surface of the lower part of Zone B is ribbed. Specimen No. 325 is a lugged jar with a horizontal belt design (P4) in the upper part of Zone B, and a panel design in the lower part of Zone B. There is also a horizontal feather band incision in the space between these two designs. The composition of Zone B of these jars and that of No. 331 are different from Combinations 1 to 20 discussed above. It is therefore concluded that jars with other types of compositions clearly existed, but examples of them have so far not been found.

The designs of Zones B and C are divided into two types: one is specimens Nos. 335 and 336, which belong to Combination 20; the other is specimen No. 337, which has a horizontal belt design (P1) consisting of a row of concentric circular lines.

All of the designs of Zone C or Zones B and C seem to be panel designs except for specimens No. 338. Animal motifs are found in specimens Nos. 339 to 343. The composition of the panel design in specimen No. 344 is assumed to be similar to that of No. 320.

### Unidentified fragments of painted patterns (Fig. 24)

Most of these specimens are thought to be fragments of Zone B or Zone C of Types 2, 3 and 4. The painted designs of these fragments are classified as follows:

1. Concentric semicircular lines (Nos. 347-352).
2. Horizontal belt designs (P1-P4) (Nos. 353-363).
3. Panel designs (P5a-P5f) (Nos. 364-373).
4. Naturalistic motifs (Nos. 376-384).



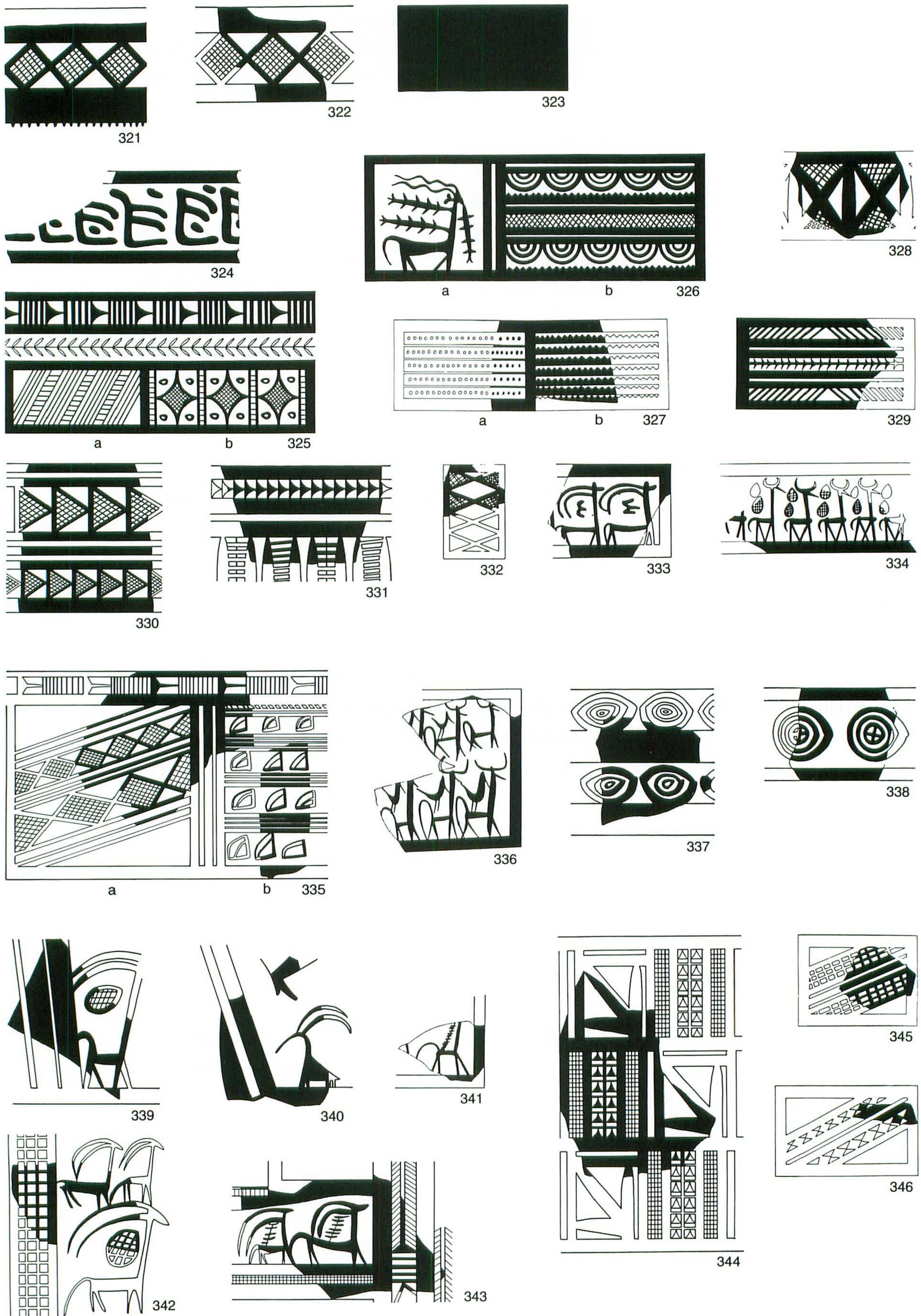


Fig. 23 Painted Patterns of Fragments of Jars in the Painted and Early Incised Period.

Nos. 321~323: Zone A; Nos. 324~334: Zone B; Nos. 335~337: Zone BC; Nos. 338~346: Zone C



Table 13. List of Fig. 23

No	Site	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
321	Thalathat	Type 4d	A		30.5		Fukai et al. 1974: Pl.50-4
322	Thalathat	Type 4	A				Fukai et al. 1974: Pl.29-1-2
323	Mohammed Arab	Type 4e	A, B, C, D	13.0	28.0	13.3	Killick in press: Fig.4-1
324	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-21
325	Thalathat	Type 3	B		21.2		Fukai et al. 1974: Pl.51-7
326	Thalathat	Type 4d	B		27.0		Fukai et al. 1974: Pl.50-2
327	Thalathat	Type 3	B				Fukai et al. 1974: Pl.31-3-3
328	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-32
329	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-34
330	Thalathat	Type 4	B				Fukai et al. 1974: Pl.29-1-7
331	Thalathat	Type 4	B				Fukai et al. 1974: Pl.31-3-2
332	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-84
333	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-83
334	Thalathat	Type 4	B				Fukai et al. 1974: Pl.56-22
335	Thalathat	Type 4f	B, C				Fukai et al. 1974: Pl.51-2
336	Thalathat	Type 4f	B, C				Fukai et al. 1974: Pl.56-78
337	Thuwajj	Type 3	B, C				Fuji et al. in press: Fig.6-7
338	Thalathat		C				Fukai et al. 1974: Pl.56-19
339	Thalathat	Type 4	C				Fukai et al. 1974: Pl.30-2-9
340	Karrana 3	Type 4	C				Fales et al. 1987: Fig.11-34
341	Thalathat	Type 4	C				Fukai et al. 1974: Pl.56-79
342	Mohammed Arab	Type 4	C				Roaf and Killick 1987: Fig.3
343	Mohammed Arab	Type 4	C				Roaf 1983: Fig.3-3
344	Thalathat	Type 4	C				Fukai et al. 1974: Pl.29-2-22
345	Thalathat		C				Fukai et al. 1974: Pl.56-58
346	Thalathat		C				Fukai et al. 1974: Pl.56-57

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter

##### 5. Other motifs (Nos. 374, 375).

The elements amongst these designs are almost identical with those of Types 1, 2 and 3 discussed above. Here, only those points which deserve a special mention are discussed. The design of concentric semicircular lines in specimens Nos. 347 to 349 is located in Zone C of Type 2. It is highly likely that specimen No. 361 is a part of Zone C of Type 2. The horizontal belt designs of specimens Nos. 353 to 356 (P1, P4) are usually arranged in the lower part of Zone C of Type 2, or in the upper part of Zone B of Type 4. Similar examples of these designs are found in specimens Nos. 155, 156, 325, 331 and 335. The fish-scale motif in specimens Nos. 374 and 375 is assumed to have been drawn all over the surface. No. 374 is from Tell Thalathat and No. 375 is from Tell Kutan. Similar examples have been excavated from Nineveh [Thompson and Mallowan 1933: pl. 60-12]. It is therefore concluded that this must have been the most common motif of this period.

#### Characteristics of painted designs in the Painted and Early Incised Period

The features common to Types 1 to 4 are summarized as follows.

1. Painted designs are more densely drawn all over the vessel surface than in the Transitional and the Intermediate Periods.
2. As mentioned above, there are many examples from the Transitional Period where the division of zones and the distribution of panels are irregular. In this period, however, they are systematically arranged according to fixed rules. For example, the repetition of horizontal belt motifs and the right-and-left and up-and-down alternation of repetitious panels are all regular, standardized design patterns governed by strict rules.
3. There are many examples of the design patterns of Zone B being repeated in Zone C.
4. The number of design elements had greatly increased. Design units are made up of many combinations of design elements. There are many examples of one basic design element being elaborated by the addition of other elements. For example, the variation of concave-lense motifs, concentric semicircular lines and gazelle and goat motifs, etc.
5. The painting techniques are more advanced than those of the Transitional and the Intermediate



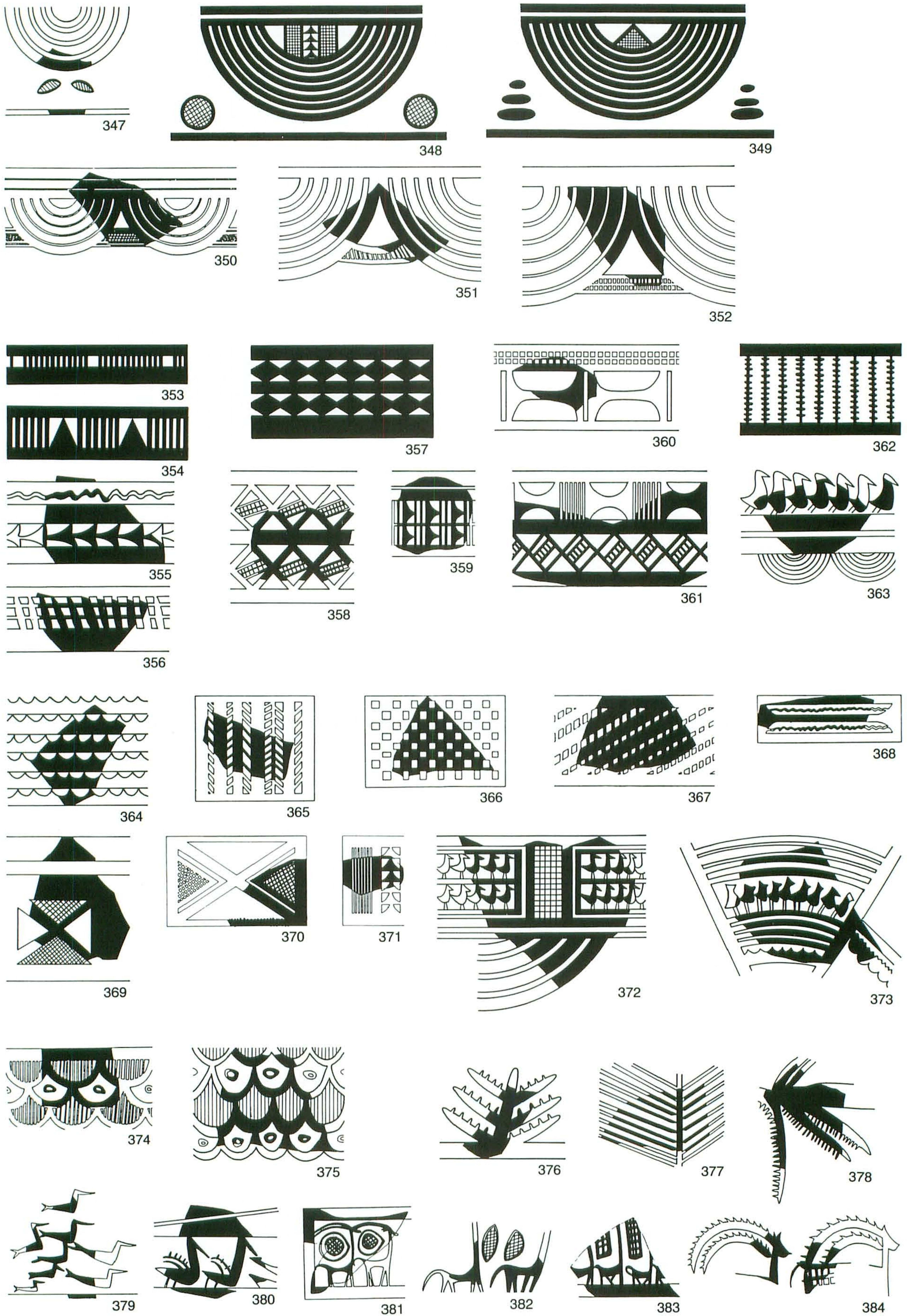


Fig. 24 Unidentified Fragments of Painted Patterns in the Painted and Early Incised Period.



Table 14. List of Fig. 24

No	Site	Type	Zone	MD(cm)	Literature
347	Thalathat	Type 2	C		Fukai et al. 1974: Pl.31-2-4
348	Kutan	Type 2	C	24.4	Bachelot in press: Type 15, K122
349	Kutan	Type 2	C	26.9	Bachelot in press: Type 15, K154
350	Thalathat	Types 2 or 3	C		Fukai et al. 1974: Pl.56-86
351	Thuwaij	Types 2 or 3	C		unpublished material
352	Thuwaij	Types 2 or 3	C		unpublished material
353	Thalathat	Type 2	C		Fukai et al. 1974: Pl.48-9
354	Thalathat	Type 2	C		Fukai et al. 1974: Pl.31-1-9
355	Kutan	Type 2	C		Bachelot 1987: Fig.6
356	Thuwaij	Types 2 or 3	C		unpublished material
357	Thalathat	Type 2	B or C		Fukai et al. 1974: Pl.29-1-10
358	Thalathat	Type 4	C		Fukai et al. 1974: Pl.29-1-11
359	Billa		B or C		Speiser 1933: Pl.69
360	Fisna	Type 2	B or C		Numoto 1988: Fig.18-79
361	Thalathat	Type 2	C		Fukai et al. 1974: Pl.29-1-12
362	Thalathat	Type 2	C		Fukai et al. 1974: Pl.56-7
363	Billa		C		Speiser 1933: Pl.69
364	Thuwaij		C		Numoto in press: Fig.14-98
365	Thalathat		C		Fukai et al. 1974: Pl.56-31
366	Thalathat		B or C		Fukai et al. 1974: Pl.56-76
367	Thalathat		C		Fukai et al. 1974: Pl.56-68
368	Thalathat		B or C		Fukai et al. 1974: Pl.56-73
369	Kutan	Type 2	C		Forest 1987a: Fig.8
370	Thalathat	Type 3	C		Fukai et al. 1974: Pl.56-62
371	Thalathat		B or C		Fukai et al. 1974: Pl.56-27
372	Thalathat	Types 2 or 4	C		Fukai et al. 1974: Pl.31-3-6
373	Thuwaij	Types 2 or 3	C		Fujii et al. in press: Fig.6-10
374	Thalathat		C		Fukai et al. 1974: Pl.56-10
375	Kutan		C		Forest 1987a: Fig.8
376	Thuwaij	Type 3	B		unpublished material
377	Kutan		C		Bachelot in press: Type 15
378	Thuwaij	Type 3	B		unpublished material
379	Mohammed Arab		B or C		Roaf and Killick 1987: Fig.3
380	Mohammed Arab		B or C		Roaf and Killick 1987: Fig.3
381	Thalathat		C		Fukai et al. 1974: Pl.56-80
382	Thalathat		C		Fukai et al. 1974: Pl.30-2-7
383	Thalathat		C		Fukai et al. 1974: Pl.56-20
384	Thuwaij		C		Fujii et al. in press: Fig.6-6

MD: Maximum Diameter

Periods. Both the geometric and naturalistic motifs are more refined and stylish than those of previous periods.

- Most of the specimens have multiple horizontal lines between Zones B and C, and between Zones C and D.
- The designs on large vessels, such as footed bowls and jars, are rich in variety, delicate and elegant in design, and artistically pleasing. Furthermore, as each zone has ample space for drawing, potters were able to display their painting skills to the full.

#### IV. Regional Variation of Painted Designs (Fig. 25)

The main sites of Ninevite 5 pottery are roughly classified into four areas: 1. Mosul Area (Nineveh, Tell Billa); 2. Eski-Mosul Area (Tells Mohammed Arab, Kutan, Fisna, Karrana 3, Jigan, Thuwaij); 3. Singer Area (Tell Thalathat); 4. Khabur Area (Tells Leilan, Brak, Chagar Bazar).

As has already been mentioned before, features common to both the Transitional and the Painted and Early Incised Periods are found in the Mosul and Eski-Mosul Areas. There is little regional variation between them. Moreover, there is not much difference between the specimens of the Painted and Early Incised Period of Tell Talathat and those of the Mosul and Eski-Mosul Areas. It is therefore assumed that there is no regional difference between these three areas. The differences between the specimens of these three areas and those of the Khabur Area seem to pose a bigger problem.

First of all, specimens from Levels III-a, b at Tell Leilan [Schwartz 1988; Weiss and Mayo in press], which constitute the only pottery collection of the Khabur Area, are examined and compared with



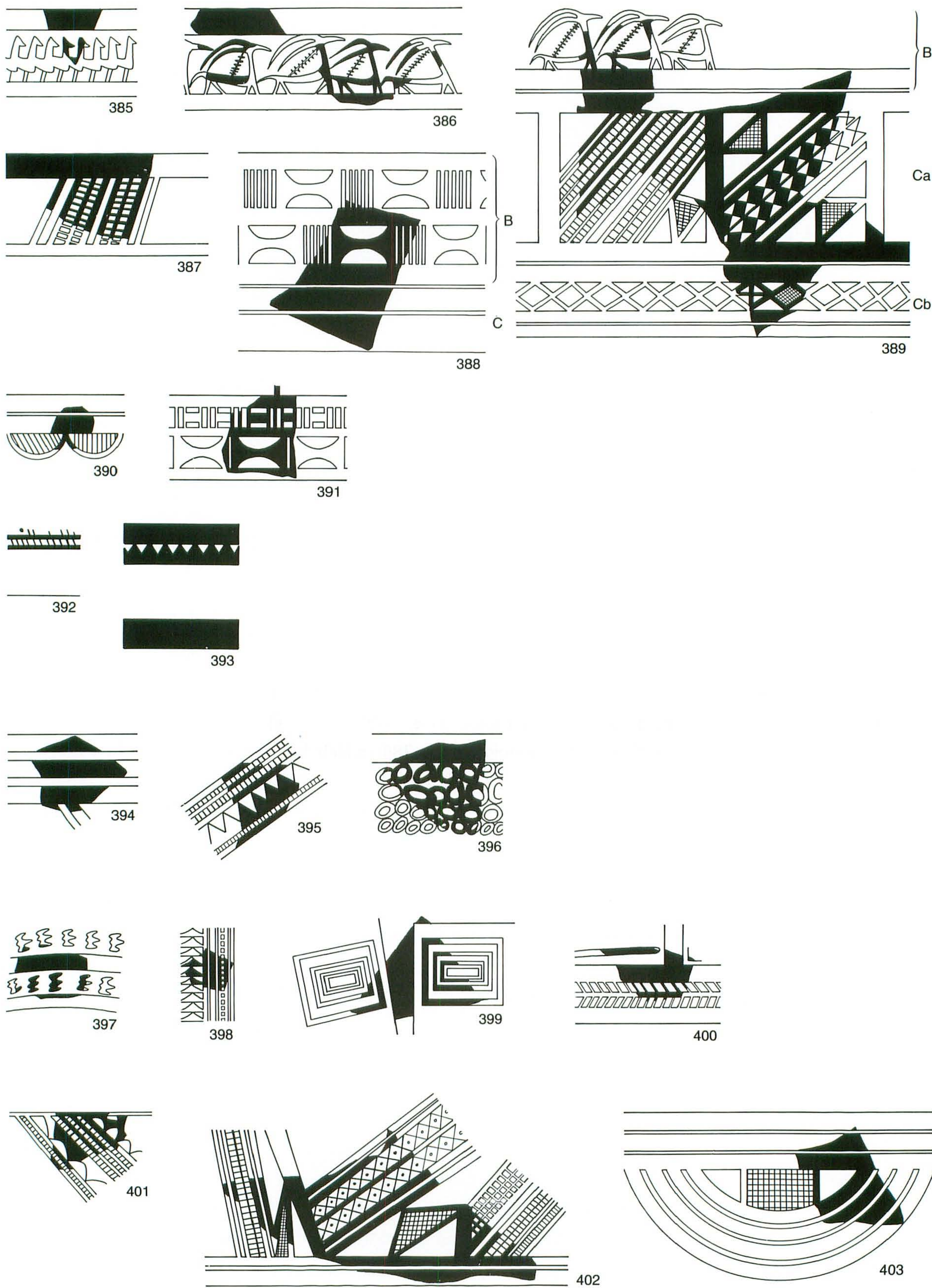


Fig. 25 Painted Patterns of Pottery from Tell Leilan.

Nos. 385~387, Type 2: Zone B; Nos. 388, 389, Type 2: Zones B, C; Nos. 390, 391, Type 2: Body sherds; Nos. 392, 393, Type 2: Zone D; Nos. 394~396, Types 3 or 4: Zone B; Nos. 397~403, Types 3 or 4: Zone C



Table 15. List of Fig. 25

No	Type	Zone	RD(cm)	MD(cm)	FD(cm)	Literature
385	Type 2	B	17.3			Schwartz 1988: Fig.49-13
386	Type 2	B	37.7	40.0		Weiss and Mayo in press: Fig.7-4
387	Type 2	B	22.8			Schwartz 1988: Fig.49-3
388	Type 2	B, C				Schwartz 1988: Fig.49-5
389	Type 2	B, C		40.2		Weiss and Mayo in press: Fig.7-5
390	Type 2	B				Schwartz 1988: Fig.49-7
391	Type 2	B				Schwartz 1988: Fig.49-6
392	Type 2	D			6.5	Schwartz 1988: Fig.49-2
393	Type 2	D			12.6	Schwartz 1988: Fig.49-4
394	Type 2 ?	B, C				Weiss and Mayo in press: Fig.7-3
395	Types 3 or 4	B				Weiss and Mayo in press: Fig.7-1
396	Types 3 or 4	B				Schwartz 1988: Fig.49-11
397	Types 2 or 3	B				Schwartz 1988: Fig.49-10
398		B or C				Schwartz 1988: Fig.46-8
399	Type 4	C				Schwartz 1988: Fig.49-8
400	Type 4	C				Schwartz 1988: Fig.49-9
401	Types 2 or 4	C				Weiss and Mayo in press: Fig.7-2
402	Type 4	C				Schwartz 1988: Fig.49-1
403	Types 2 or 4	C				Schwartz 1988: Fig.46-7

RD: Rim Diameter; MD: Maximum Diameter; FD: Foot Diameter

specimens from other areas. Only a small amount of painted pottery has been reported and these are illustrated in Fig. 25. These specimens are all fragments, and are roughly classified into footed bowls (Nos. 385~393) and jars (Nos. 394~403). These shapes are further divided into Zones A, B and C in the illustration. The majority of the design elements found in these specimens have similar characteristics as design elements of the Painted and Early Incised Period from other Iraqi areas, for example, animal motifs (Nos. 385, 386), concave-lense motifs (Nos. 388, 391), saw-tooth motifs (Nos. 393, 395, 401), flying birds motifs (No. 397), concentric semicircular lines (No. 403), etc. On the other hand, distinctive design elements which are not found in other Iraqi areas also exist, such as densely drawn small circles (No. 396) and concentric rectangle motifs (No. 399). Examples of panel designs are rare but those which are available show diagonal lines as a basic design theme (Nos. 389, 402). This may constitute one of the characteristic features of this region. Only specimen No. 389, which is a large footed bowl, shows the entire general layout of painted designs. Its combination is P1 (Zone B)+P5 (Zone Ca)+P4 (Zone Cb). Similar examples to this combination of design are not found in other footed bowls and jars of the Painted and Early Incised Period (Figs. 16, 21, 22). This design is also thought to be one of the characteristic features of this site and region.

Judging from the foregoing, the painted pottery from Tell Leilan has basically the same characteristics of the Painted and Early Incised Period as do other Iraqi regions. However, their details are different which, presumably, indicates a regional variation. Roaf and Killick place the pottery collections of these levels in the latter half of the Painted and Early Incised Period [1987].

There is no major difference between the Khabur Area and other Iraqi areas in the Painted and Early Incised Period. However, the painted pottery which appeared in Khabur after the Painted and Early Incised Period has peculiar regional features. Painted designs of four small jars excavated from Graves 60, 70 and 71 at Tell Chagar Bazar are completely different [Mallowan 1936: fig. 19-5~8]. They have nothing in common with Ninevite 5 painted designs. Similarly, where the shape is concerned, there are no examples in the Transitional and the Painted and Early Incised Periods of painted jars with a rounded bottom. However, since these jars were excavated at the same level as the pottery, it is supposed that these painted jars can be placed in the latter half of the Ninevite 5 Period, *i.e.* the Late Incised and Late Excised Period in which painted pottery did not exist, or even later than that.

The same phenomenon occurred with footed bowls and jars from a pit at Tell Lailan [Schwartz 1988]. These painted vessels are thought to have been specially made as grave offerings [Weiss and Calderon in press]. They are thought to belong to a later period than the Painted and Early Incised Period [ibid].



Painted pottery with the above features have not been discovered in other northern Iraqi regions.

Specimens of Ninevite 5 pottery from the sites in the North Jazira Area, centred at Tell al-Hawa, are few [Ball et al. 1989]. Therefore, their whole features are not known. As this area is situated between the Eski-Mosul Area and the Khabur Area, there is a possibility that the Ninevite 5 pottery has the characteristics of both of these two areas.

## V. Conclusions

**Chronology** It is evident that painted designs shifted smoothly from the Late Uruk Period to the Transitional Period [Roaf and Killick 1987]. On the other hand, changes of the painted ware from the Transitional to the Painted and Early Incised Periods are not so clear. The present author has established a new period, the Intermediate Period, between the two periods based on the existence of painted pottery which has designs features common to both of these two periods. However, as no adequate material and information has yet been collected from stratigraphically-confirmed levels corresponding to this, this hypothesis has yet to be proved.

Are there any chronological changes in the painted designs of the Painted and Early Incised Period? Are there really any clear chronological differences? According to Killick, it is not known how painted designs of this period changed chronologically [in press]. Because the painted designs from each site have their own characteristics, it is difficult to establish a chronological order by studying the painted designs only, and it is necessary to examine all the shapes and other types of pottery.

We examine here whether there are any chronological difference in the painted designs of the Painted and Early Incised Period pottery from Tells Mohammed Arab, Kután, Rijm and Thalathat. In any case, these specimens share common features of designs and shapes. This period seems to have lasted relatively longer at Tells Mohammed Arab and Kután<sup>5)</sup>. It is supposed, therefore, that changes in the designs and shapes are inevitable. However, their differences are not obvious.

Specimens from Tell Kután are regarded to be of the same period as those of Tell Thalathat [Bachelot in press] but, as has been discussed above, specimens with features considered to belong to the Transitional Period or the Intermediate Period are mixed up amongst them. Roaf and Killick proposed to place the Ninevite 5 specimens from Tell Thalathat at a slightly later period than those from Tell Mohammed Arab [1987; Killick in press]. They compared pottery from these two sites and suggested the following reasons for their proposal: the footed bowls have longer feet; the proportion of incised ware is relatively higher; and new patterns are found in the incised motifs.

Even if we accept that period moved from Mohammed Arab Period 2 to period of Tell Thalathat, as suggested by Killick and Roaf, and that the evidence put forward is adequate, and take this as the reason for regional variation among the same types of shapes and designs, it does not follow that the variation had anything to do with chronology. Almost all of the design compositions found in the specimens from Tell Thalathat are similar to those of specimens from other sites. However, patterns of zigzag spaces filled with slanting lines and rows of flying birds motifs, which are common in other sites, are not found amongst them; and the existence of these two motifs may prove to indicate a chronological difference.

The present author suggests the following with regard to footed bowls of this period: medium-size vessels should be divided into Types 2i and 2j (Fig. 1). It is questionable that these two types really appeared concurrently. According to the characteristics of their shapes, Type 2i is similar to Type 2 of the Transitional and the Intermediate Periods (Types 2d, 2e). It is therefore assumed that Type 2i is earlier than Type 2j. Besides, the Type 2j designs are denser and more complex than those of Type 2i. Moreover, most of the densely painted surfaces are found in Type 2j. These factors suggest that Type 2j



has more features typical to the Ninevite 5 Period than Type 2i. Moreover, most of the specimens from Tell Thalathat belong to Type 2j and almost none belongs to Type 2i. This may also be one of the justifications for placing the Tell Thalathat pottery in the latter half of the Painted and Early Incised Period.

Thus, the question of chronological difference in painted designs within this period remains a topic for future investigation.

**Decline of painted pottery** The evolution of the Ninevite 5 painted designs can be briefly summarized as follows: it started with the Late Uruk Period; the Transitional Period saw a development based on the Late Uruk Period (simple style); the designs became firmly established in the Painted and Early Incised Period (complex and dense style); and then they suddenly vanished.

Killick suggests that the reason for the decline of painted pottery was the appearance of grey ware and incised ware, the production of which was made possible by the development of fast-wheel throwing techniques and the control of firing temperatures. High firing temperatures are not suitable for painted designs [in press]. The number of painted carinated bowls decreased in the Painted and Early Incised Period compared with the Transitional Period. The reason for this presumed to be the appearance of mass-produced grey carinated bowls [ibid].

Amongst the specimens of Tell Thalathat are found examples of a jar with both paint and incision on the same body (No. 325), jars with paint in Zone A and the lower part of Zone C to Zone D only (Nos. 321, 323), as well as small footed jars with one or two horizontal bands in the neck or body only [Fukai et al. 1974: pl. 51-3, 4], which are thought to reflect the simplification and subsequent decline of painted designs. Another supporting theory is that even in the pottery of the Transitional and the Intermediate Periods, where the space for painting is limited, the shoulder of the jar is always painted, and there are no examples of jars with painted designs located in the neck and the lower part of the body.

Painted pottery from Tell Thalathat has a great variety of design motifs and compositions. They are regarded as belonging to the same period. The fact that specimens with paint all over their surface were accompanied by those only partially painted seems to suggest the simplification and popularity of painted designs in this period. Besides, the tendency of applying both paint and incision to the same vessel, and of simplifying designs, is a clear indication that pottery with painted designs all over its surface had lost its appeal. After that, painted pottery disappeared, and incision became extremely popular as ornamentation.

The pottery statistics of Tell Kutan, Levels 1 and 2, indicate a diminishing trend in painted ware [Bachelot in press]. According to the same statistics, painted ware accounts for 63% of the whole collection of Level 1. By contrast, at Level 2, painted ware only accounts for 33%, which is about half of that of Level 1. On the other hand, plain and incised grey ware had increased; in particular, plain grey carinated bowls had doubled. This confirms Killick's view that the production systems had undergone a great change in the Painted and Early Incised Period.

The final to be made in this paper is that research carried out so far on the design elements and compositions of painted designs has not been exhaustive. More work has to be done. Existing material and information are too limited to enable a detailed analysis of the painted designs of the Ninevite 5 Period. It is difficult to make comparison between different sites because the quantity excavated at each site is different. It is necessary to collect a suitable number of specimens from each site in order to carry out statistical comparisons. Not all of the Ninevite 5 pottery from the Mosul and Khabur regions have yet been published, and absolute chronology cannot be established because of the lack of information. During comparison, when a different design is found amongst the same type of pottery, it is always necessary to speculate whether it is a regional or chronological variation.



### Acknowledgements

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### Notes

- 1) Specimens of painted ware from Tell Fisna, which are examined here, were found on Floors C and B of the platform (Grids II-2, 3, III-3, 4, IV-3, 4, V-3, 4). These specimens show the typical features of painted ware in the Transitional Period. Pottery, which were found from dum of the excavated Grids are also examined here, though it is not known in which level these specimens were found. The excavation report of Tell Fisna is re-examined here [Numot 1988]. The present author mentioned in the report that there was no clear difference between shapes of carinated bowls taken from Floors C and B, but remarkable difference between those from Floor C [Numoto 1988: fig. 16-21, 24-26, 28, 37] and those from Floor B [Numoto 1988: fig. 15-1-7, 9-11, fig. 16-22, 23, 27]. Especially, the nearly complete specimens (fig. 16-21, 22) show clear difference between the shapes of painted carinated bowls taken from these two floors as follows:

1. The carination of carinated bowls taken from Floor C is located on the lower part of the body, while the carination of those taken from Floor B is located on the upper part of the body.
2. The rims of carinated bowls taken from Floor B is the typical beaded rims, while those rims taken from Floor C is mainly the out-truned rims, and the beaded rim is rare.
3. The upper part of the section of carinated bowls taken from Floor C is uneven, while the upper section of bowls taken from Floor B is even.

These features suggest a chronological difference between Floors C and B. The shape of carinated bowls taken from Floor C is related to that of the Late Uruk Period and, moreover, is similar to that of typical carinated bowls from Tell Karrana 3, which are thought to be the typical ones in the Transitional Period. The carinated bowls in Floor B belong to a slightly later period than that of Floor C. The painted designs taken from Floor B are different from the typical designs of the Transitional Period. The difference between painted designs from these two floors will be discussed in chapter of the Intermediate Period. The chronological difference between Floors C and B is recognized through stratigraphical observation. The remains of the natural soil surface of Floor C were cut into three steps at Grids II-2 and 3. The gap of the height between Floors C and B is about 1.2m, which is deposited naturally and horizontally.

Tells Fisna and Karrana 3 are situated on the same narrow basin formed by branches of River Tigris. Tell Karrana 3 is located about 2 km up-stream from Tell Fisna. Thus, as these two tells are close to one another, it is surmised that their economy was based on crops in the basin, and they were in close and constant interaction with one another. The Late Uruk occupation level exists in Tell Karrana 3, but not in Tell Fisna. Judging from the foregoing observation, it is boldly assumed that people who lived in Tell Karrana 3 in the Late Uruk Period constructed platform and occupied Tell Fisna at beginning of the Transitional Period.

- 2) Specimens were taken, from levels 9 and 10 at Grid 4 and levels 3a and 3b at Grid, 10 in the 1984 second season of excavation at Tell Jigan Area C headed by Hideo Fujii [Fujii 1987: 62-67]. These levels comprise typical pottery of the Transitional Period [Figs. 26-28]. Measuring, drawing and observation of the samples reported in the present paper were undertaken by Kazumi Oguchi of the expedition. Detailed excavation report is going to be submitted to the next volume of *al-Rāfidān*.
- 3) Levels 15 to 18 in Mallowan's prehistoric pit are considered to belong to the Transitional Period [Rova in press].
- 4) One example of a row of flying birds motif is found in the Late Uruk carinated bowl from Tepe Gawra [Speiser 1935: CXLI-339].
- 5) Tell Mohammed Arab Period 2 consists of five phases while Tell Kutun consists of three levels [Roaf and Killick 1987; Bachelot in press].

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### List of Figures (Ninevite 5 Pottery from Tell Jigan Area C)

in Fig. 26 (Pottery from levels 9 and 10 at G 4)

1. Painted rim sherd; level 9/10; reddish purple paint; pinkish buff slip all over; sand and fine vegetable temper.
2. Rim of carinated bowl; level 9/10; buff surface; pinkish buff inner surface and core; sand temper.
3. Painted carinated bowl; level 9/10; reddish purple paint; light greenish buff; fine sand and fine vegetable temper; incomplete.
4. Painted carinated bowl; level 10; reddish purple paint; pinkish buff slip outer surface; fine vegetable and much fine sand temper.
5. Rim of painted footed bowl; level 10; dark brown paint; pinkish buff slip all over; reddish pink core; sand and fine vegetable temper.
6. Rim of painted footed bowl; level 10; orange purple paint; pinkish buff slip all over; reddish pink core; vegetable and much fine sand temper.
7. Rim of footed bowl; level 9/10; pinkish buff slip all over; reddish pink core; sand and vegetable temper.
8. Rim of footed bowl; level 10; light greenish buff; fine sand and fine vegetable temper.
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29. Painted sherd; level 3b; reddish orange paint; creamy slip outer surface; reddish pink inner surface and core; sand temper.
30. Painted sherd; level 3b; reddish orange paint; cream slip outer surface; reddish pink inner surface and core; fine sand and fine vegetable temper.
31. Painted sherd; level 3b; orange-red paint; cream slip outer surface; reddish pink inner surface and core; sand and fine vegetable temper.
32. Painted sherd; level 3b; dark reddish purple-brown paint; creamy slip outer surface; reddish pink inner surface and core; fine sand temper.
33. Painted sherd; level 3a; reddish orange paint; cream slip outer surface; reddish pink inner surface and core; fine sand, chalky sand and much vegetable temper.



in Fig. 28 (Plain pottery from levels 3a, 3b and below the level 3b at G 10)

34. Rim of bowl; level 3b; creamy slip all over; reddish pink core; sand and vegetable temper.
35. Rim of bowl; level 3a; light creamy brown outer surface; greyish brown inner surface and core; sand and vegetable temper.
36. Rim of bowl; level 3b; creamy slip all over; reddish pink core; fine sand and fine vegetable temper.
37. Rim of bowl; level 3b; creamy slip all over; red to reddish pink core; sand and vegetable temper.
38. Rim of coarse ware; level 3a; reddish pink to light brownish grey outer surface; light brown inner surface; grey core; coarse sand and small stone temper; hand made.
39. Rim of coarse ware; level 3b; greyish red outer surface; reddish inner surface; grey core; sand and vegetable temper; hand made.
40. Rim of coarse ware; level 3b; light brown to reddish pink brown surface; greyish brown core; sand and small stone and fine vegetable temper; hand made.
41. Carinated bowl; below the level 3b; pinkish buff surface; light grey core; fine sand temper.
42. Rim of bowl; below the level 3b; creamy slip all over; reddish pink core; sand, chalky sand and vegetable temper.
43. Rim of bowl; below the level 3b; reddish pink; fine sand temper; probably painted on outer surface.
44. Rim of bowl; below the level 3b; pinkish buff; sand temper; hard; Late Uruk.
45. Rim of bowl; below the level 3b; grey surface; greyish black-brown core; much coarse sand, sand and vegetable temper; Late Uruk.
46. Ring-base sherd; below the level 3b; reddish pink; sand and mica temper; Late Uruk.
47. Ring-base sherd; below the level 3b; creamy slip all over; reddish pink core; sand, small stones and vegetable temper; Late Uruk.



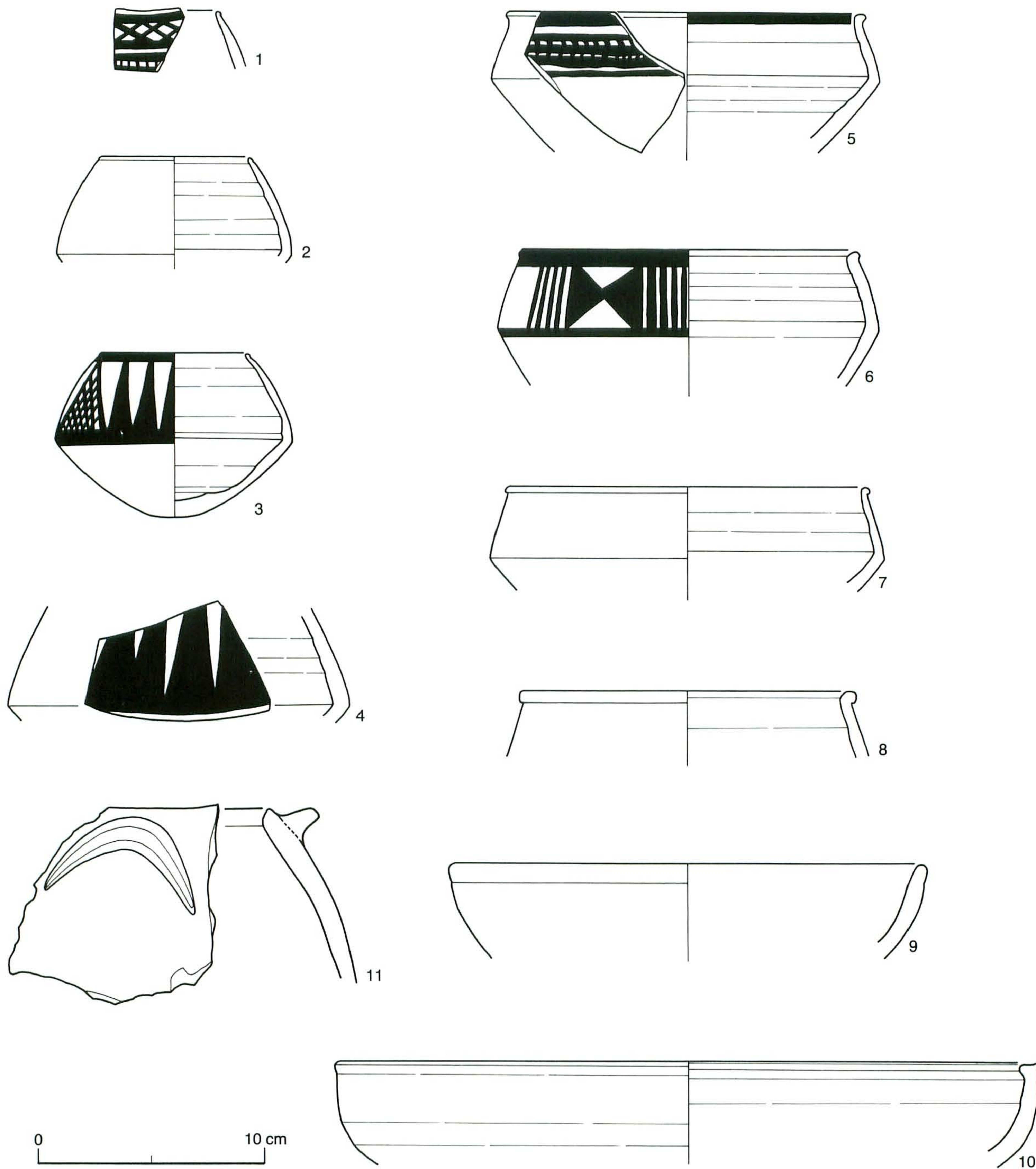


Fig. 26 Ninevite 5 Pottery from Levels 9 and 10 at Grid 4, Tell Jigan Area C.



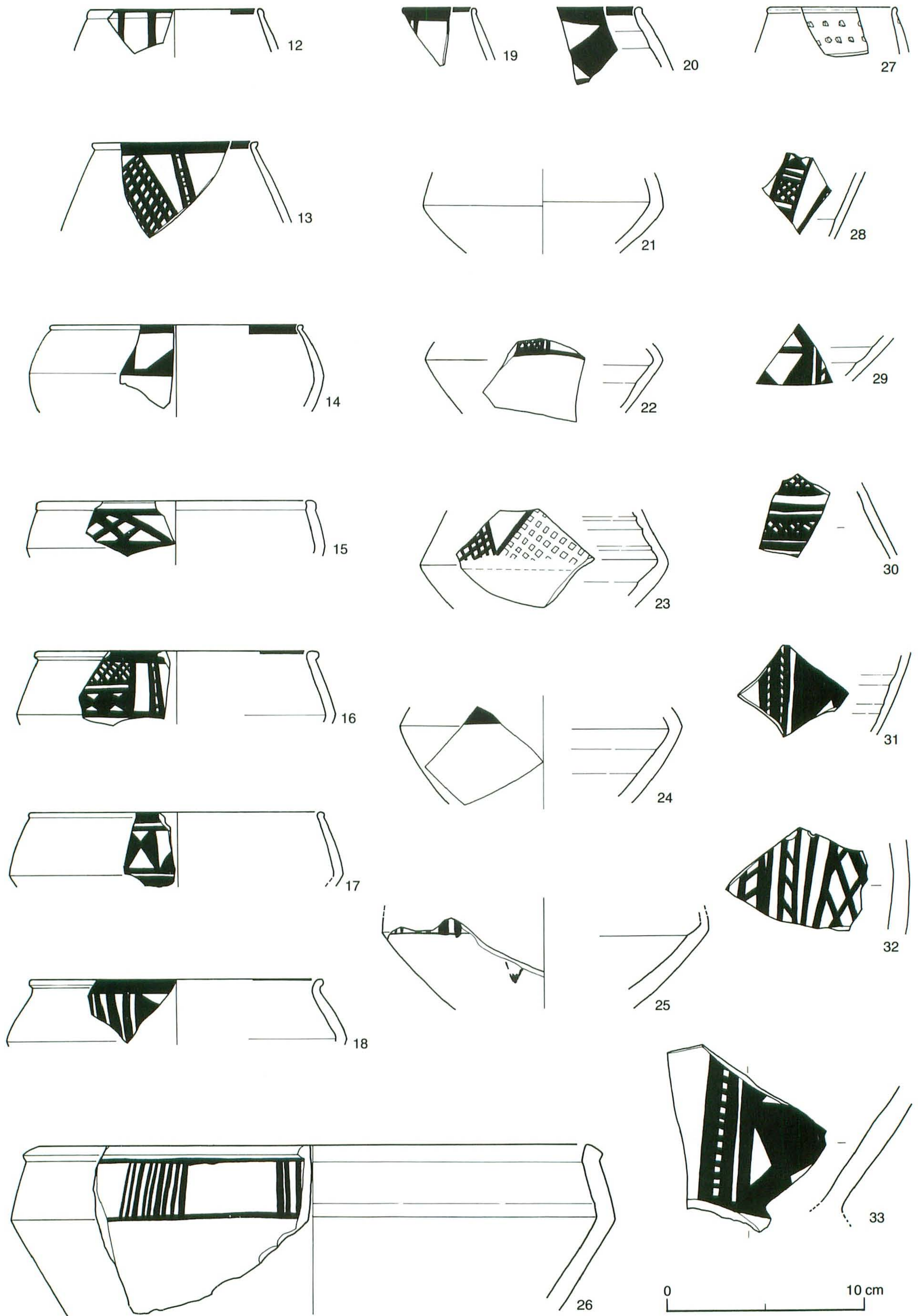


Fig. 27 Ninevite 5 Pottery from Levels 3a and 3b at Grid 10, Tell Jigan Area C.



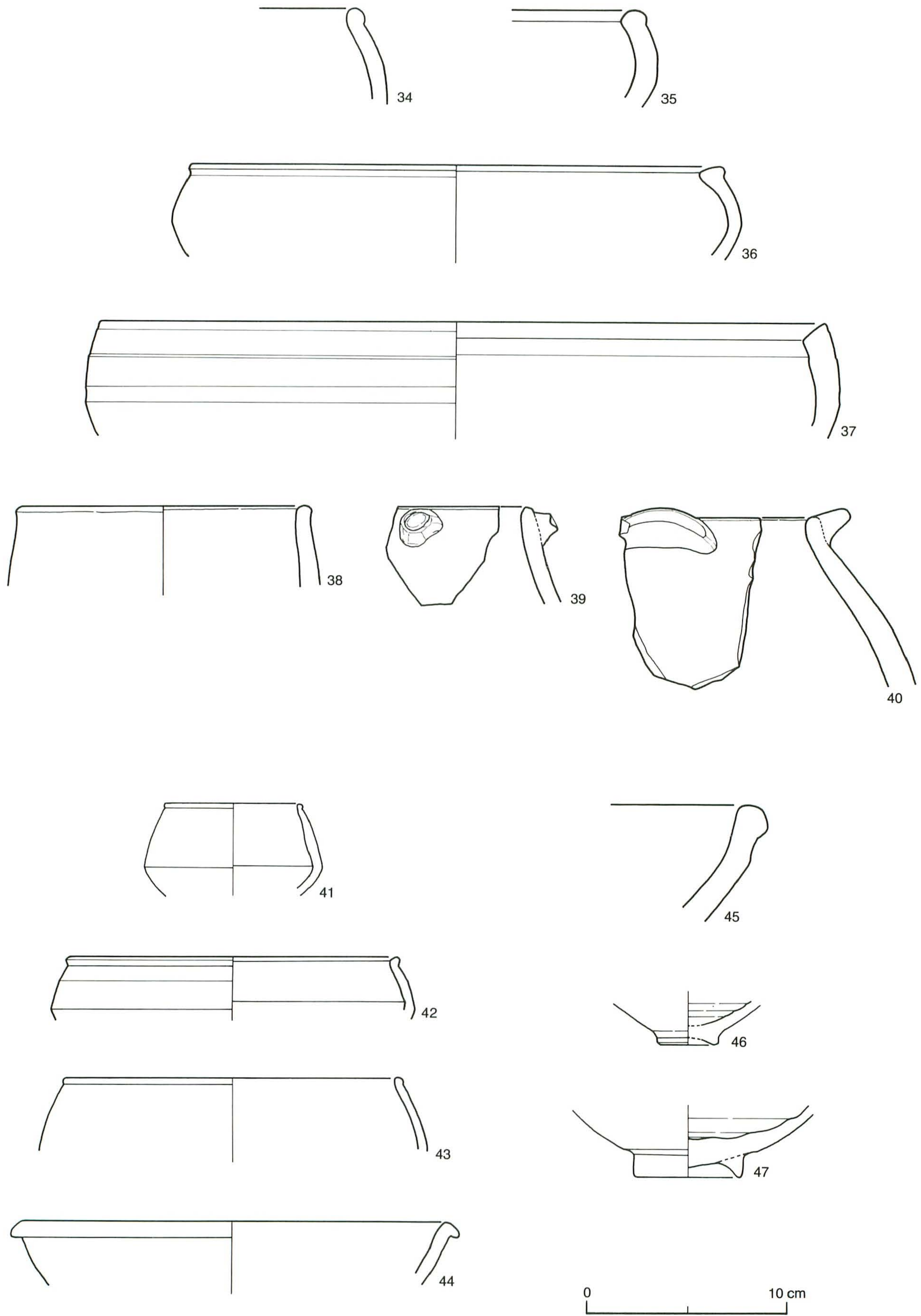


Fig. 28 Plain Pottery from Levels 3a, 3b and Below the Level 3b at Grid 10, Tell Jigan Area C.







## TEXTILES FROM AT-TAR CAVES: PART II-(2): CAVE 16, HILL C

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### Foreword

This is to report on a rush mat which has been uncovered at Cave 16, Hill C, following the report on the eight pile textiles from Cave 16, Hill C which was printed in the preceding volume of this journal, *al-Rāfidān* Vol. XI, 1990: pp. 45–65, Pls. 1–3, and also the report on their representative colors and materials which were analyzed by Fibers & Textiles Laboratories, Toray Industries, Inc. [*al-Rāfidān* Vol. XI 1990: pp. 69–79, Pls. 1–13].

The location of Cave 16, Hill C, structure, deposits, excavated situation of the textiles and other archaeological goods uncovered there have already been treated by Mr. Ii in his report “Excavations at at-Tar Caves, The Fifth Working Season: Cave 16, Part 1” in Japanese [Ii 1986: pp. 1–21, Pls. 1–8]. Moreover, the excavated situation of the rush mat, which is the main subject of this article, has been detailed in the above report [p. 11; p. 9, Fig. 7; p. 10, Fig. 8].

As you see in the report and the figures, Textile 51, the rush mat, (Representative Specimen No. V-134-1 and the other twelve specimens which are observed to come from an identical origin) was unearthed in the double-folded state at the place close to the south opening in Room 2, where the rush mat was discovered on the rock body whose rugged surface had been horizontally leveled with small size of rock body gravel. Furthermore, a pile textile was found laid out on top of the rush mat, and still directly on top of the pile textile, some other textiles, archaeological relics stemming from the buried and some human remains were seen scattered at random (Pl. 1a).

In addition, there are some other examples, such as the ones from Room 2, Cave 17, Hill C and Room 2, Cave F6, Hill A, which can be identified as the ones containing the relation of the excavated location between the rush mat and the pile textile so clearly as this example. The specimen No. F6-C-37-4 (Pl. 1c, Fig. 3), which was uncovered at Room 2, Cave F6, Hill A, is almost similar to Textile 51 in material, weave structure and design of the rush mat. The top and bottom of its chequer design are symmetrically arranged with stripe patterns.

By the way, in making some remarks about the usage relation between the rush mat and the pile textile seen among the Iraqi private houses at the present day, it is customary for the people to put the rush mat first on the floor, and then spread the pile textile on top of the rush mat when they use both at the same time in their daily life. Such being the situation, is it impossible for us to presume that the usage relation of the pile textile top and the rush mat bottom at at-Tar Caves affords a proof to back up the buried’s daily practice while alive?

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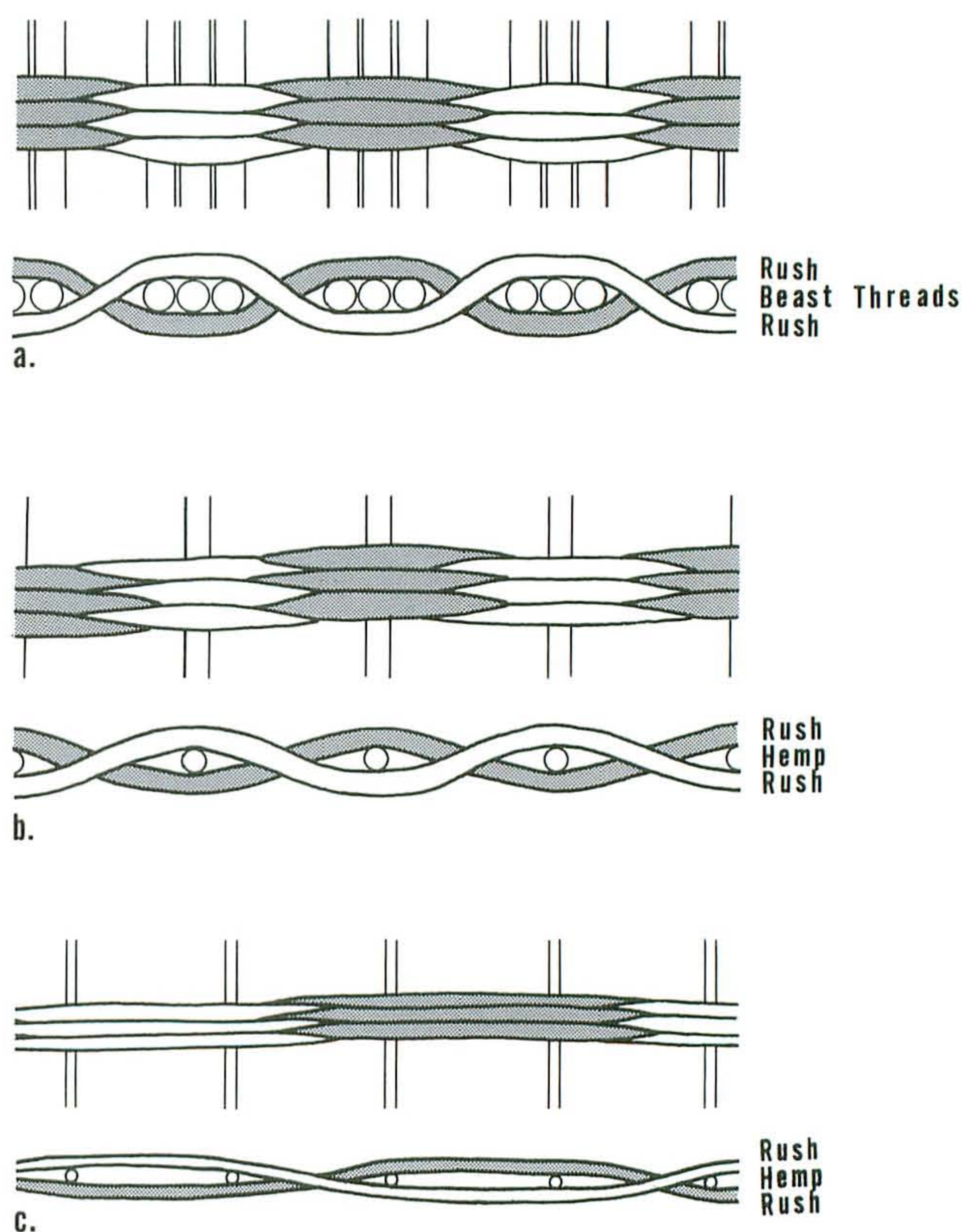
**Textile 51** Rush mat with chequer design:

Representative Specimen No. V-134-1 (Pl. 1b, Fig. 2)

This is a mat which has been woven with the use of rush for the weft. In the meantime, a set of relatively thick warps is used for the warp, by making either a single grandrelle thread [Fujii and Sakamoto 1990: p. 59], which is plied with sheep yarn and cashmere yarn together, or a single cashmere thread, which is plied with cashmere yarns only and is nearly as thick as a single grandrelle thread, into triple warp threads placed in parallel. And the set of the rather thick warps is interworked with a single rush weft by turns.

The use of the technique that a set of triple warp threads is arranged in parallel for the warp is probably because the weaver must have sought for toughness to be secured on the rush mat of one's own making in order to use it as a rug or the like. Moreover, one may have paid attention to the following things: If a plain weave is done by putting the rush weft in high density into a single warp, it will make the mat face liable to damage with the rush refracting angle getting sharper. Hence, to avoid this, the method of triple warp threads placed in parallel will lead to the decrease in repetition of the warp-and-weft crossings, thereby resulting in the decrease in the rush refracting angle. And the mat face will get smoother (Fig. 1a).

As already stated in the examples of pile textiles—sheep fiber and camel fiber: Textile 17, Cave 12, Hill C [Fujii, Sakamoto and Ichihashi 1989: p. 137, p. 164]; sheep fiber and cashmere fiber: Textile 5, Cave 16, Hill C; sheep fiber and alpaca fiber: Textile 8, Cave 16, Hill C [Fujii and Sakamoto 1990: p. 63, p. 65; Fibers & Textiles Laboratories, Toray Industries, Inc. 1990: p.70.]—, they have used the grandrelle threads of different materials for the warp. In this connection, there are some differences in properties between sheep fiber and the other beast fibers, characterizing that sheep fiber is more elastic and larger in milling than the others, while the other beast fibers are less elastic and smaller in milling than sheep fiber [Fujii and Sakamoto 1990: p. 48]. It is, therefore, figured out that the grandrelle thread in which sheep yarn and cashmere yarn are plied together just as in Textile 51 will help to minimize the change in size. For the above



**Fig. 1** a. Textile 51: Specimen No. V-134-1, Cave 16, Hill C  
 b. *MESEKIORI*: Rush Mat, Matting in Japan  
 c. *MOROMEORI*: *Tatami*-facing in Japan



reason, this kind of grandrelle thread is thought to have been used for most of the warp threads with a view to preventing the rush from going out of shape.

Owing to the bad damage, we failed to identify the weave start and weave finish of this large mat. However, we were very happy to confirm a warp knot (of the grandrelle thread) by means of the fringe type [Fujii, Sakamoto, and Ichihashi 1989: p. 115], which is often seen in the warp finish, surviving sewn inside the cloth for selvage protection. This is the place of starting border or finishing border of warp threads, and there is a chequer design band of 2.65 cm in width running about 15 cm inside from there. The design band consists of the horizontal stripes of dark grayish brown and pale reddish yellow on top and bottom each, between which dark grayish brown and pale reddish yellow chequers are arranged in three rows (Pl. 1b, Fig. 2).

As for its selvage, the rush weft is seen making a U-turn with the use of the selvage-making method Type 1 [Fujii, Sakamoto and Ichihashi 1989: p. 116] around a core of a single cord which is composed of a bundle of forty cashmere z-twisted threads. Furthermore, we see the sheep thread plain weave cloth (V-134-1-a) of 6.0 cm in width and 1.4–1.6 mm in thickness folded over 3 cm each on both surfaces of the

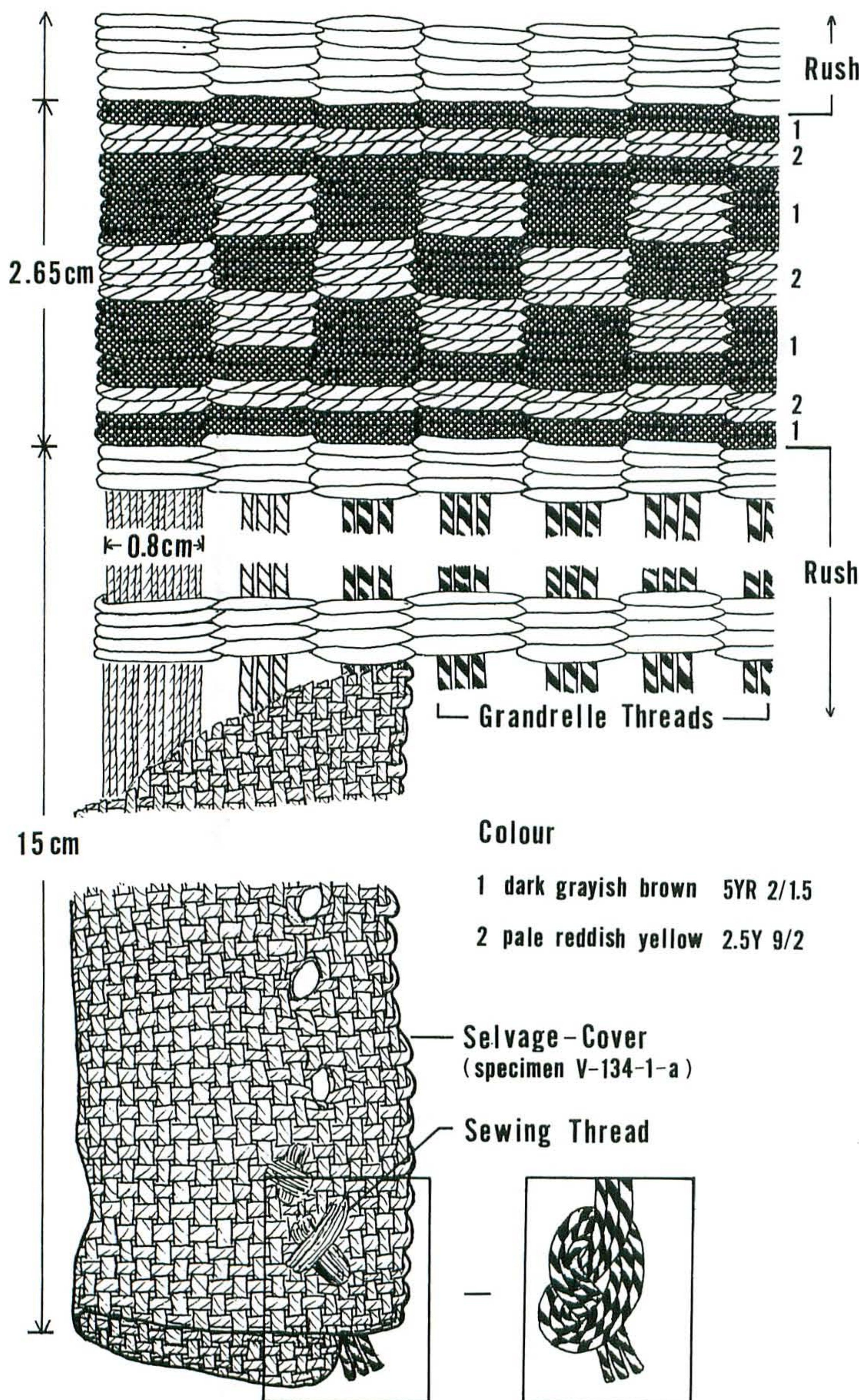


Fig. 2 Design Part, Specimen No. V-134-1 and Selvage-Cover, Specimen No. V-134-1-a, Cave 16, Hill C

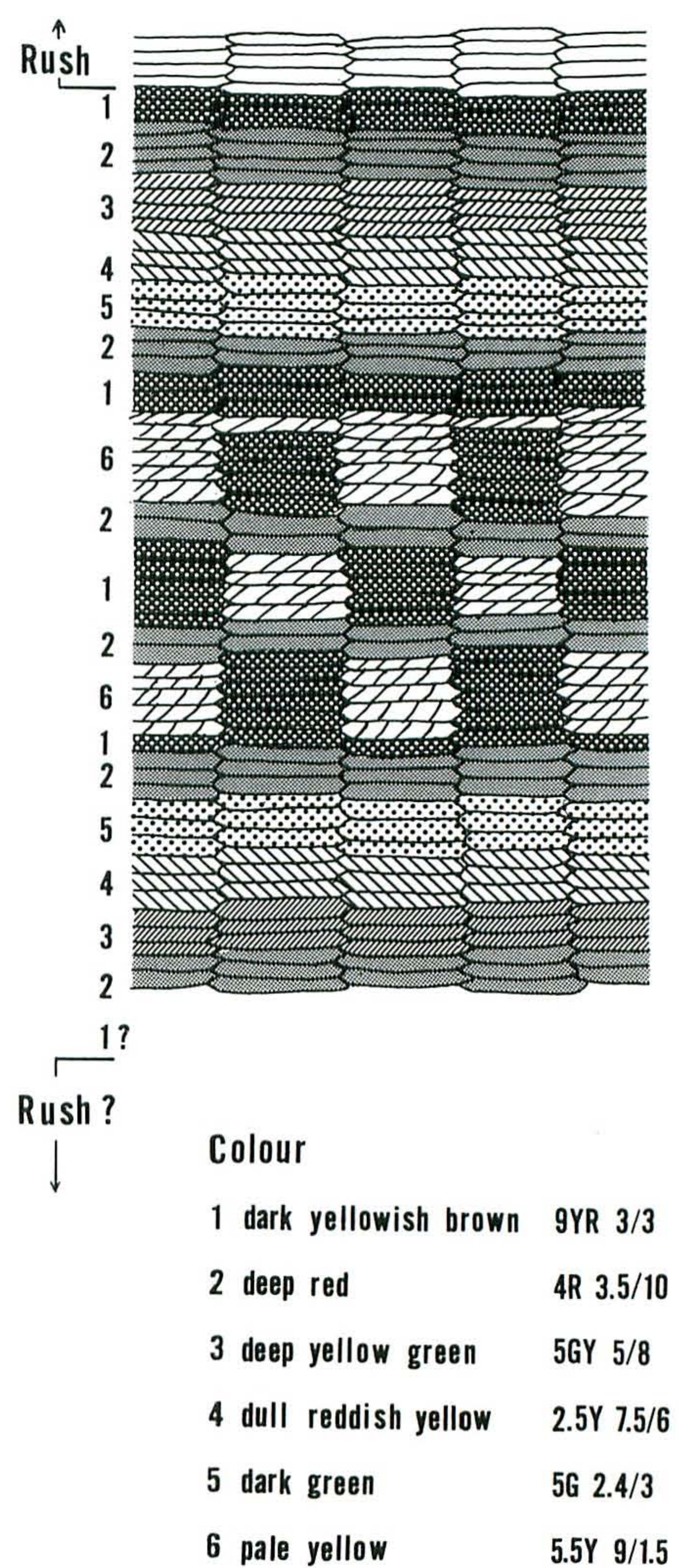


Fig. 3 Design Part of Rush Mat, Specimen No. C-37-4, Cave F6, Hill A



cloth, just like covering the vertical direction of the very selvage. And the cloth is noticed to have been stitched up along the inside of the selvage at an interval of 3–5 mm between seams by using the dark grayish brown goat fiber sewing thread of 2.0 mm in diameter.

Another specimen comparable with the above has been uncovered at Cave F6, Hill A (F-6, C-37-4). In comparing this with Textile 51, it is observed that grandrelle thread is used for the warp more frequently than in Textile 51. Moreover, in the case of C-37-4, triple warp threads placed in parallel have been interlaced with a single, slightly slender rush weft in high density here. To our regret, however, we were unable to identify the selvage, weave start or weave finish of the specimen C-37-4 due to the bad damage. But, roughly speaking, its weave structure was noticed to be similar to that of Textile 51. With regard to the design band of C-37-4, in spite of its having a chequer design, six-colored stripe patterns are arranged symmetrically on top and bottom of the chequer design unlike Textile 51 which has two-colored stripe patterns in it, as shown in the illustration (Pls. 1b, 1c, Figs. 2, 3).

### List of the Data on Rush Mat 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 51) indicates an identified series of fragmentary specimens, of which the representative one is best-preserved and most characteristic. 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 length of weft direction".
3. 'Thickness' is given by "Peacock dial thickness gauge, H 0.01–10 mm (OZAKI MFG. Co., Ltd.)".
4. The color of all the textiles is chiefly given to its representative specimen in accordance with 'Jacal color cards 220', following the signs 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 magnifier (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 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.



**Textile 51: Rush mat with chequer design**

Representative specimen: Registered No.: V-134-1

Size (cm): 43.0×28.0

 Structure: Ground Variation of plain weave, warp 3, weft 1, weft-faced  
 Design Variation of plain weave, warp 3, weft 1, weft-faced

Design: Chequer

 Thickness (mm): Ground 3.72  
 Design 5.00–5.30

	Warp (1)	Warp (2)	Warp (3)
	Triple warp threads	Triple grandrelle threads	Selvage cord
	in parallel	in parallel	

Raw material:	Cashmere	Cashmere	Sheep	Cashmere
Color:	Pale yellow	Pale yellow	Dark brown	Pale yellow
	5.5Y 9/3	5.5Y 9/3	5YR 2.4/4	5.5Y 9/3
Diameter (mm):	0.90–1.50		0.80–1.40	0.70–0.90

Twist, Twist No. (/cm):	$\begin{matrix} Z \\ \diagdown \end{matrix} \text{—} S(2.0)$	$\begin{matrix} Z \\ \diagdown \end{matrix} \text{—} S(2.0)$	—Z(5.0)
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Density (/cm): 1.1×3

Density (/cm): 1.1×3

Selvage: Type 1, Cord 1 (40 threads)

	Weft	Weft (1) Chequer	Weft (2) Chequer
Raw material:	Rush	Common goat	Sheep
Color:	Dull reddish yellow	Dark grayish brown	Pale reddish yellow
	2.5Y 7.5/6	5YR 2/1.5	2.5Y 9/2
Diameter (mm):	1.30–2.00	0.90–1.10	0.80–1.00
Twist, Twist No. (/cm):	—	—S(2.0)	—S(2.0)
Density (/cm):	9.0–10.0	14.0	14.0

**Remarks**

The ground has a composition of a set of three warp threads with a single rush weft. Such a selvage making method as putting forty cashmere threads together into a core, seen here, results in facilitating the smooth U-turn of the rush weft around the selvage. The single cashmere thread is 0.70–0.90 mm in diameter, while a bundle of the forty cashmere threads totaling 7.0–8.0 mm in diameter.

**Fragmentary specimens**

V-134-1	V-134-1-a	V-29-2	V-47-22	V-51-9	V-58-10	V-73-16
V-90-11	V-95-12	V-101-7	V-103-8	V-106-5	V-107-10	

**Selvage-cover**

Representative specimen: Registered No.: V-134-1-a

Size (cm): 30×6

Structure: Plain weave, balanced

Thickness (mm): 1.40–1.60

	Warp	Weft	Sewing thread
Raw material:	Sheep	Sheep	Common goat
Color:	Dull reddish yellow	Dull reddish yellow	Dark grayish brown
	2.5Y 7.5/6	2.5Y 7.5/6	5YR 2/1.5
Diameter (mm):	0.90–1.20	1.00–1.20	2.00
Twist, Twist No. (/cm):	$\begin{matrix} Z \\ \diagdown \end{matrix} \text{—} S(2.0-3.0)$	$\begin{matrix} Z \\ \diagdown \end{matrix} \text{—} S(2.0-3.0)$	$\begin{matrix} Z \\ \diagdown \end{matrix} \text{—} S(1.0-2.0)$
Density (/cm):	6.5–7.0	6.0–6.5	
Selvage:	Type 1		



### Acknowledgements

We highly appreciate Mr. Tomitake Higuchi, Director of the Fibers & Textiles Laboratories, Toray Industries, Inc., and his colleagues for their cooperation in completing this report with fundamental material analyses of textile fibers presented in a following part of this report, as well as the Toray Science Foundation.

Our thanks are also herewith extended to Mr. Masayoshi Sadahira, Ex-Director of the Mat Rush Branch of Hiroshima Prefectural Agricultural Experiment Station, for his analysis of rush and helpful pieces of advice.

In addition, we are grateful for the helpful cooperation we obtained from Mrs. Kazumi Oguchi, Research Associate of the ICSAI, who worked with us for the drawings, and Mr. Kohji Watanabe, photographer of the Photo Service Co. Ltd., who kindly took the photographs of Pl. 1b and 1c.

We also thank Mrs. Maya Ikuma who kindly participated in the discussion for the completion of the English manuscript.

(Hideo Fujii, Kazuko Sakamoto & Mikizo Ichihashi)

### Study on the Mats Discovered at at-TAR Caves in IRAQ

This rush mat (Specimen No. V-134-1, Fig. 1a) is woven with the variation of plain weave (warp 3, weft 1). Since three warps are in the state of parallel arrangement, they can be taken as a single thick warp in its weave composition. This weave method is called 'MESEKIORI' (plain weave) in Japan (Figs. 1b, 4), as the texture layer alternates with each other, with each square made by interlacing a single weft with the single warp set at regular intervals, while using the warp and the weft of different materials. This is the weave commonly seen in 'NEGOZA' (sleeping-rush mat) or some miscellaneous goods (notion) in Japan. Moreover, the at-Tar mat is also common to the 'MOROMEORI' weave (rib weave, tatami-facing) in Japan, where rush wefts are densely interworked with the two warps arranged at an equal interval, in that the warps are invisible to the naked eye on the mat surface hampered by the wefts of high density (Fig. 1c).

The plant for weft thread was identified as belonging to the genus *Juncus* due to the following characteristics observed at the Mat Rush Branch of Hiroshima Prefectural Agricultural Experiment Station:

1. The vallecule on the epidermis of the stem coming from the sclerenchyma shows the characteristics peculiar to the genus *Juncus*, viewed from the sclerenchyma among the parenchyma in the cross section of the stem, the arrangement of the vascular bundle and the asterisciform cells in the medulla.
2. The species cannot be identified.
3. As for the rush in the sample, it was supposed that

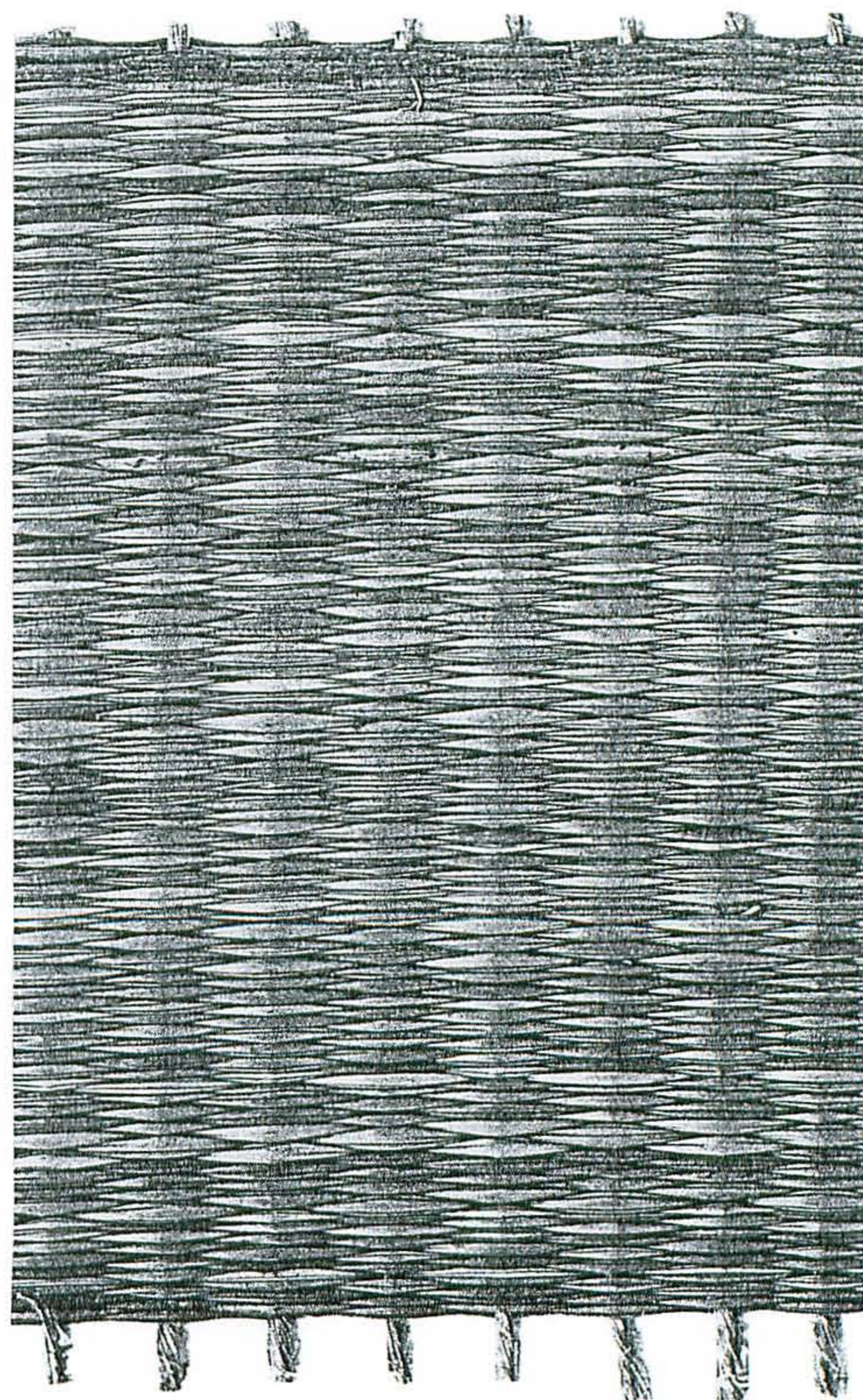


Fig. 4 MESEKIORI



the thick stems were divided into two and dried, because it was comparatively thin and the vertical tear was observed. The further observation, however, suggests that the tear was made when it was pressed.

4. Many wild rush species usually have thick stems. But this sample mat may have been woven with selected thin stems.
5. Many volunteer plants in the genus *Juncus* can be found even now in Iraq. The single inflorescence sample that was obtained from among them is regarded as either *Juncus maritimus* L. or *Juncus acutus* L., judging from the shape of the inflorescence, the vallicula on the epidermis of the stem and the arrangement of the tissue in the cross section of the stem. Neither of these species can be found in Japan.

I express my heartfelt thanks to Mr. Shinji Tagami, Researcher of the Fiber Chemistry Section of the Eastern Hiroshima Prefecture Industrial Research Institute, who kindly furnished me the microscope photographs of Pl. 2.

(Masayoshi Sadahira)

### Report on the Analyses of Fibers of Rush Mats at at-Tar Caves

Given below are the results of morphological analysis 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:

In view of the fiber surface structure and the cross sectional structure, it has been proved that all the samples are composed of beast fibers which belong to animal fibers. Of all the beast fibers, sheep fiber, cashmere goat fiber, common goat fiber, alpaca fiber and camel fiber are in common use. 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].

#### 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 light microscope observation was carried out on a section of 6  $\mu\text{m}$  in thickness each into which the samples were cut by Minot's microtome after they had been embedded in paraffin.
- D. Elementary analysis: Each sample was left to the analysis by means of scanning electron microscope and X-ray microanalyzer after its carbon shadowing.



## Observations and consideration

### Material analyses:

Pls. 3–4. show the results of photo-observation of the samples' fiber surface structures and cross sectional structures.

- a. Sample Nos. 25 (pale reddish yellow), 26'' (triple grandrelle warp threads in parallel, dark brown) and 27 (triple grandrelle warp threads in parallel, pale reddish yellow) are judged to be of sheep fiber from surface scale, cross sectional structure and thickness, irrespective of colour.
- b. Sample No. 25' (dark grayish brown) seems to be of common goat because of 1) its fiber diameter distinctly larger than those of the other beasts; 2) the dense existence of its scales in the fiber; 3) the existence of medullas in the fiber in cross sectional view.
- c. Sample Nos. 26 (triple warp threads in parallel, pale yellow), 26' (triple grandrelle threads in parallel, pale yellow) and 26''' (selvage cord, pale yellow) are composed of very fine fibers, in which there are no medullas. And they seem to be of cashmere fibers because of their more flattened scale shapes in longitudinal view compared with sheep fibers which have more crenated scale shapes.
- d. Sample No. 27' (triple grandrelle warp threads in parallel, dark brown) is regarded as the one of alpaca fiber from the irregular thickness of cross sectional view and the existence of medullas.

**Table 1** Analytical Results of Beast Fibers of Rush Mats

Sample No.	Description				Material	Fiber width ( $\mu\text{m}$ )
	Textile No.	Specimen No.	Kind	Color of outward appearance	Beast fiber	
25	T-51	V-101-7	Weft (2), chequer	Pale reddish yellow	Sheep	18–45
25'	T-51	V-101-7	Weft (3), chequer	Dark grayish brown	Common goat	65–85
26	T-51	V-101-7	Warp (1), triple warp threads in parallel	Pale yellow	Cashmere	15–30
26'	T-51	V-101-7	Warp (2), triple grandrelle warp threads in parallel	Pale yellow	Cashmere	20–25
26''	T-51	V-101-7	Warp (2), triple grandrelle warp threads in parallel	Dark brown	Sheep	15–41
26'''	T-51	V-134-1	Warp (3), selvage cord	Pale yellow	Cashmere	20–35
27		C-37-4 F6 Cave	Warp, triple grandrelle warp threads in parallel	Pale reddish yellow	Sheep	15–30
27'		C-37-4 F6 Cave	Warp, triple grandrelle warp threads in parallel	Dark brown	Alpaca	13–30

(Fibers & Textiles Laboratories, Toray Industries, Inc.)

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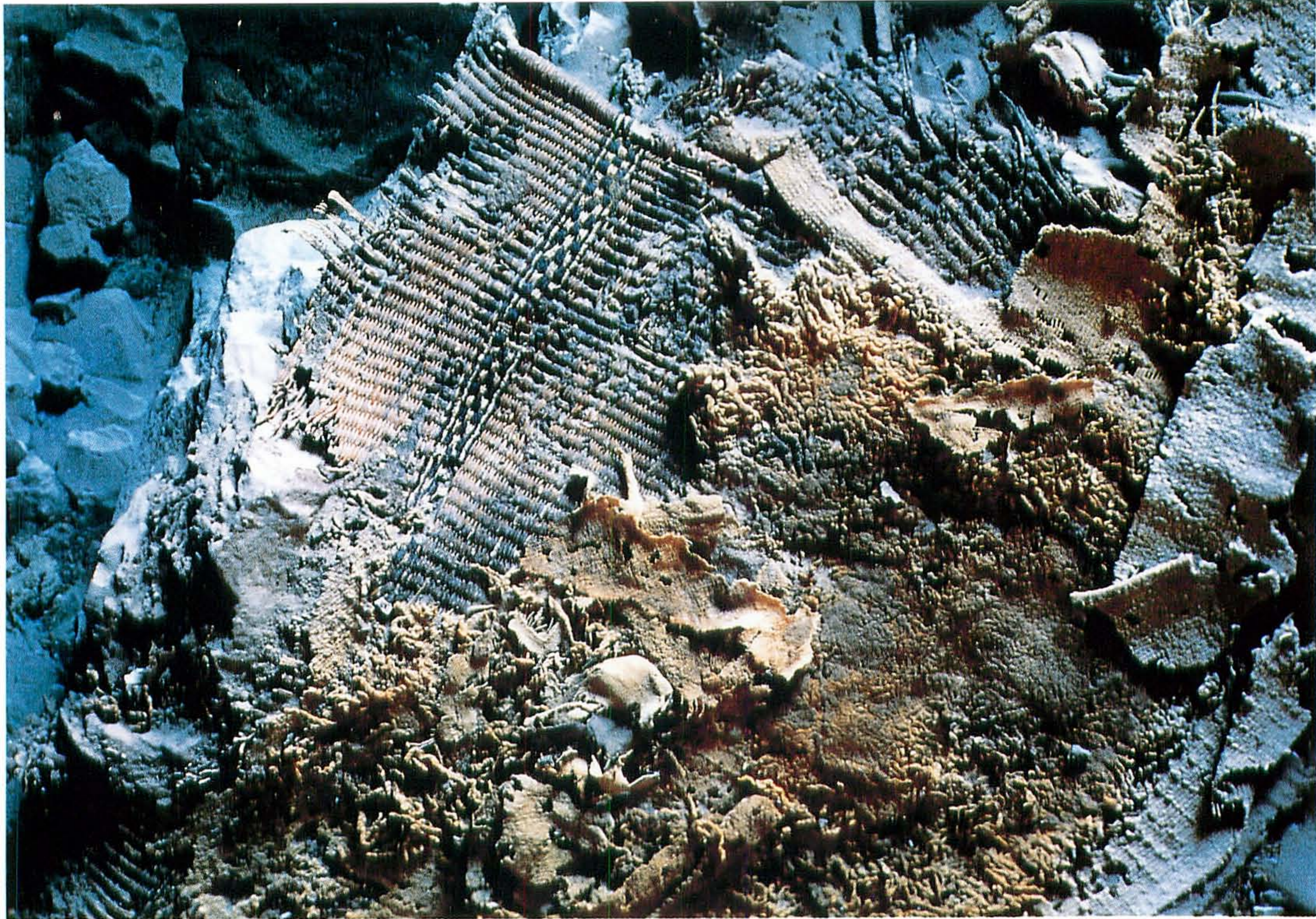
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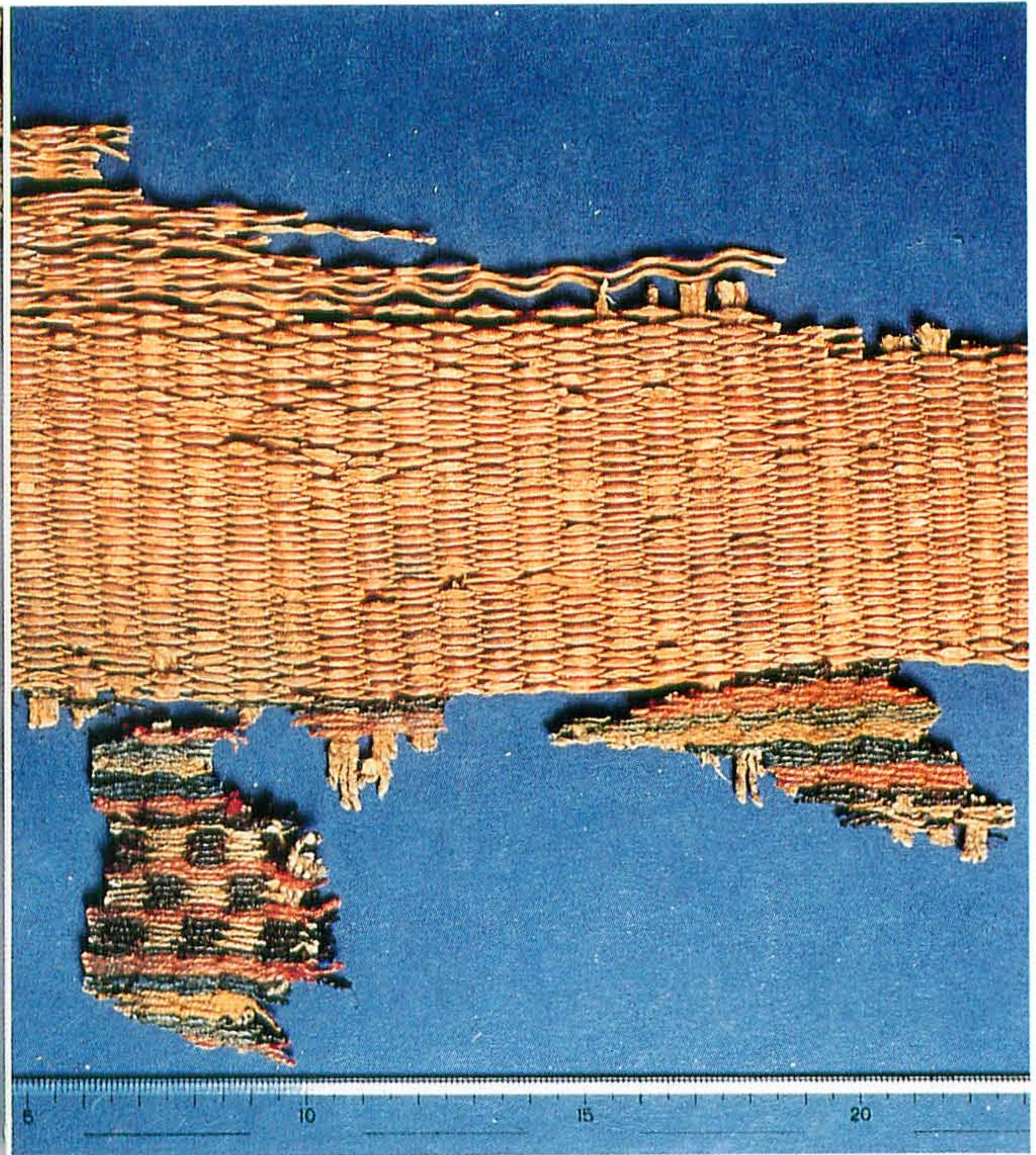




*a.* Unearthed Example of the Rush Mat (Specimen No. V-134-1) Placed Under the Pile Textile.  
The photo taken by Mr. Hiroyuki Ii.



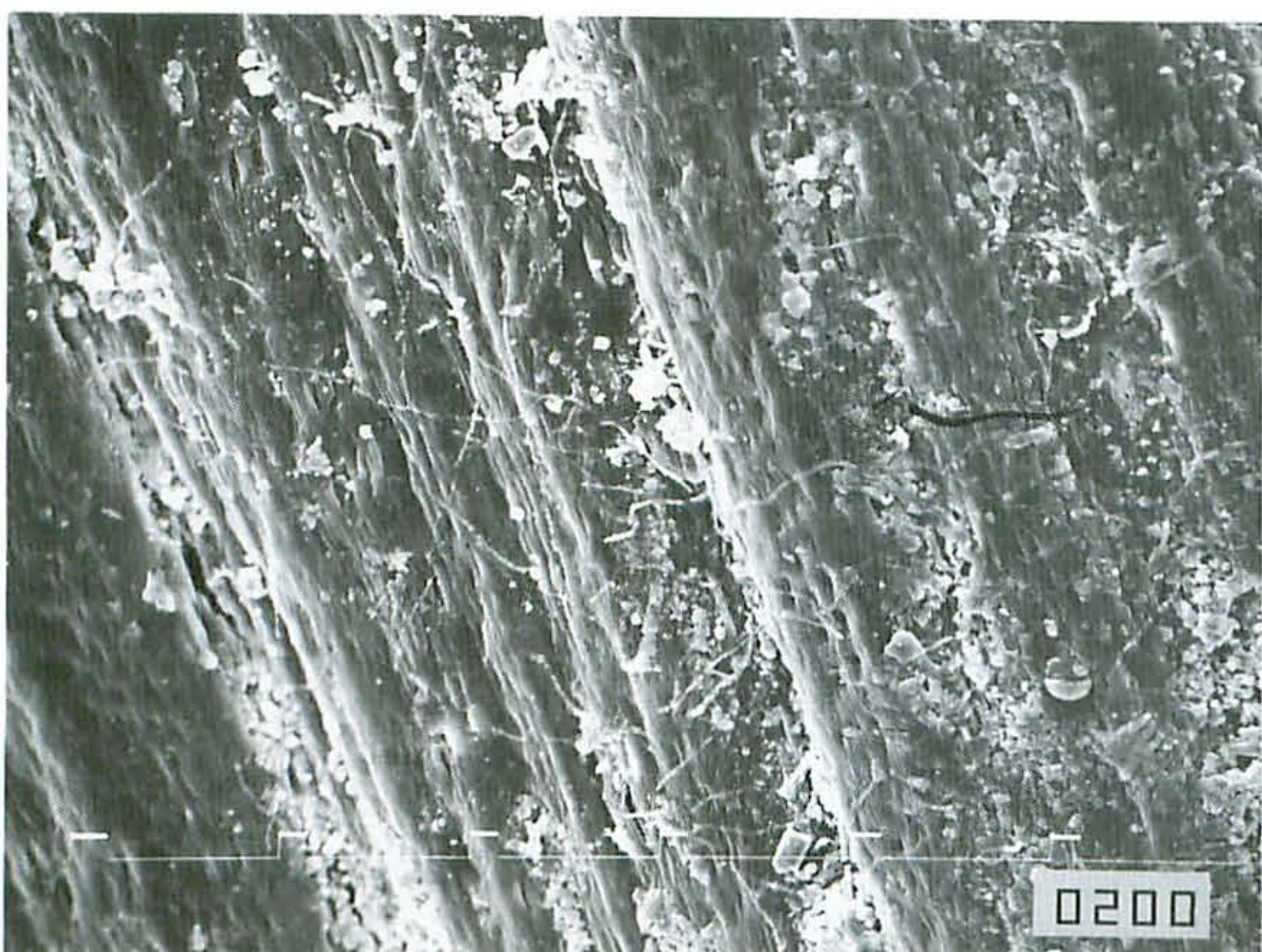
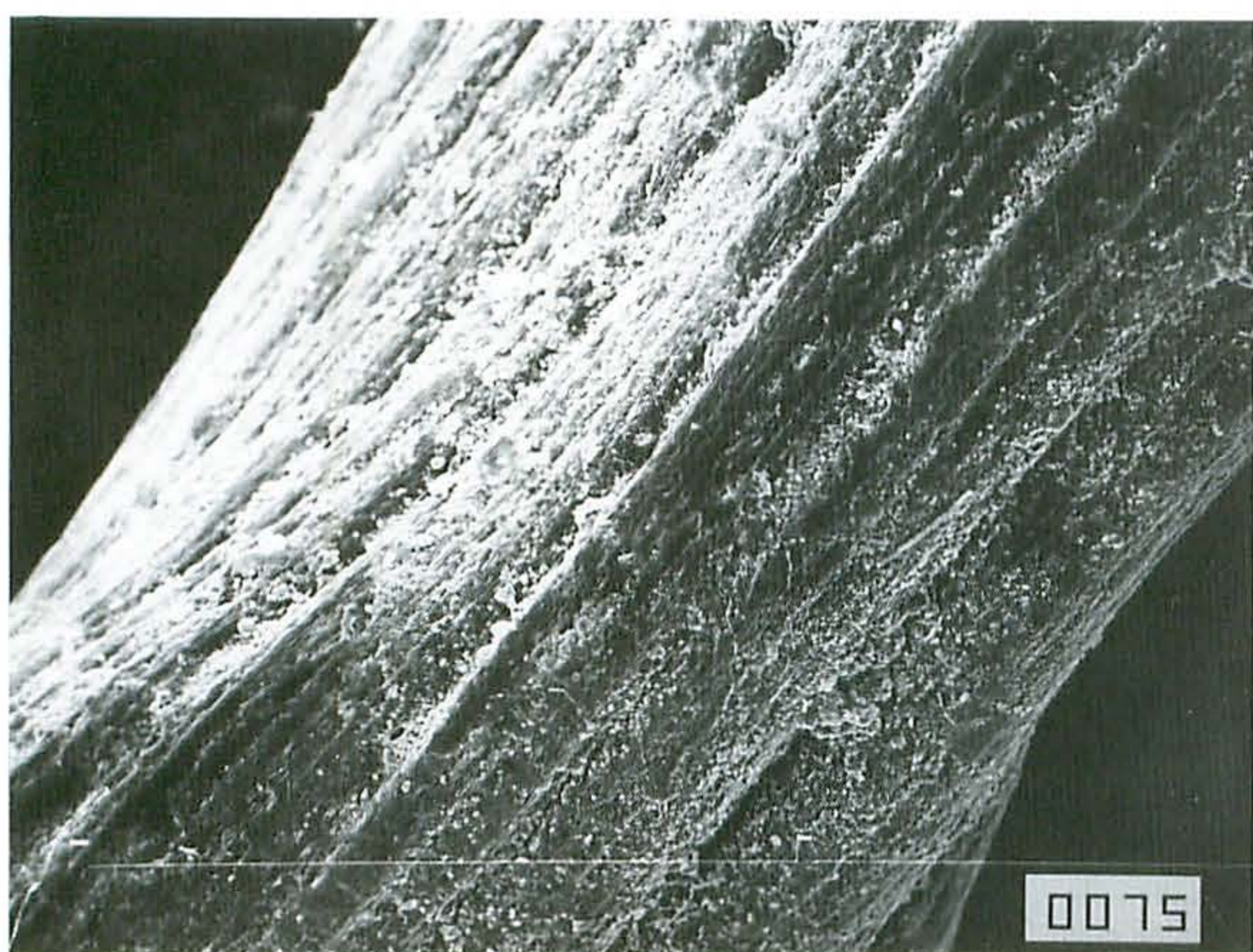
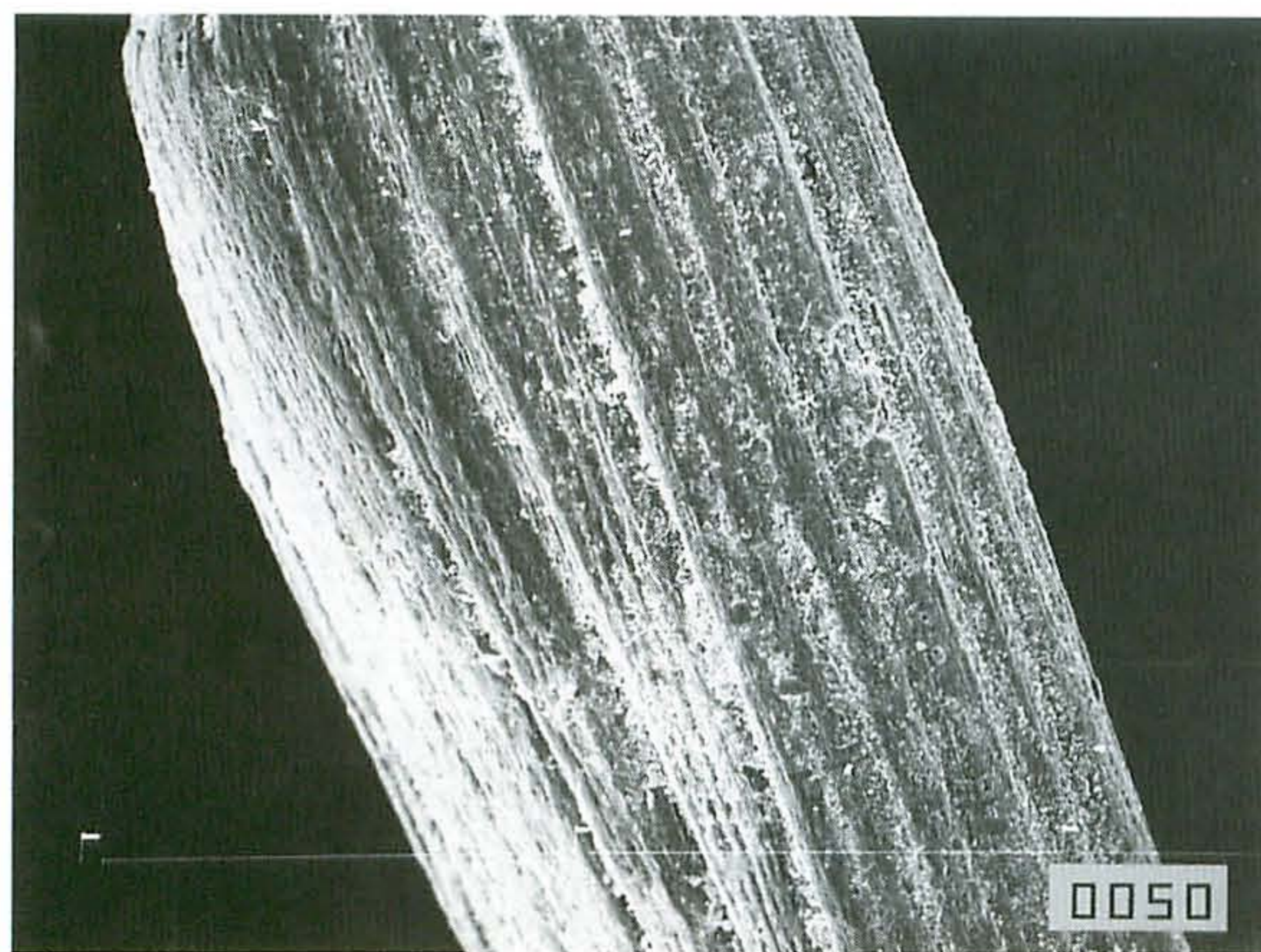
*b.* Specimen No. V-134-1, Cave 16, Hill C.



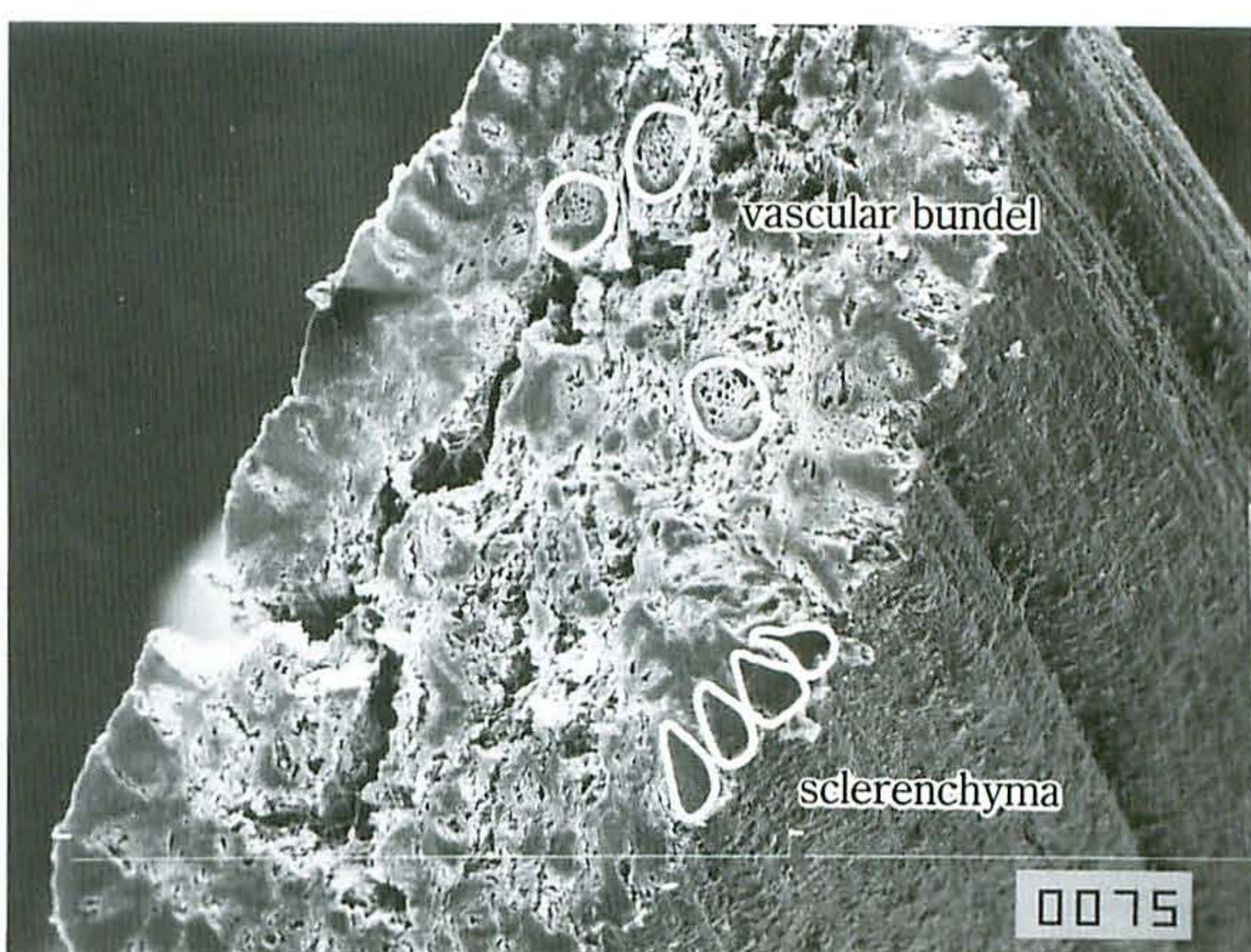
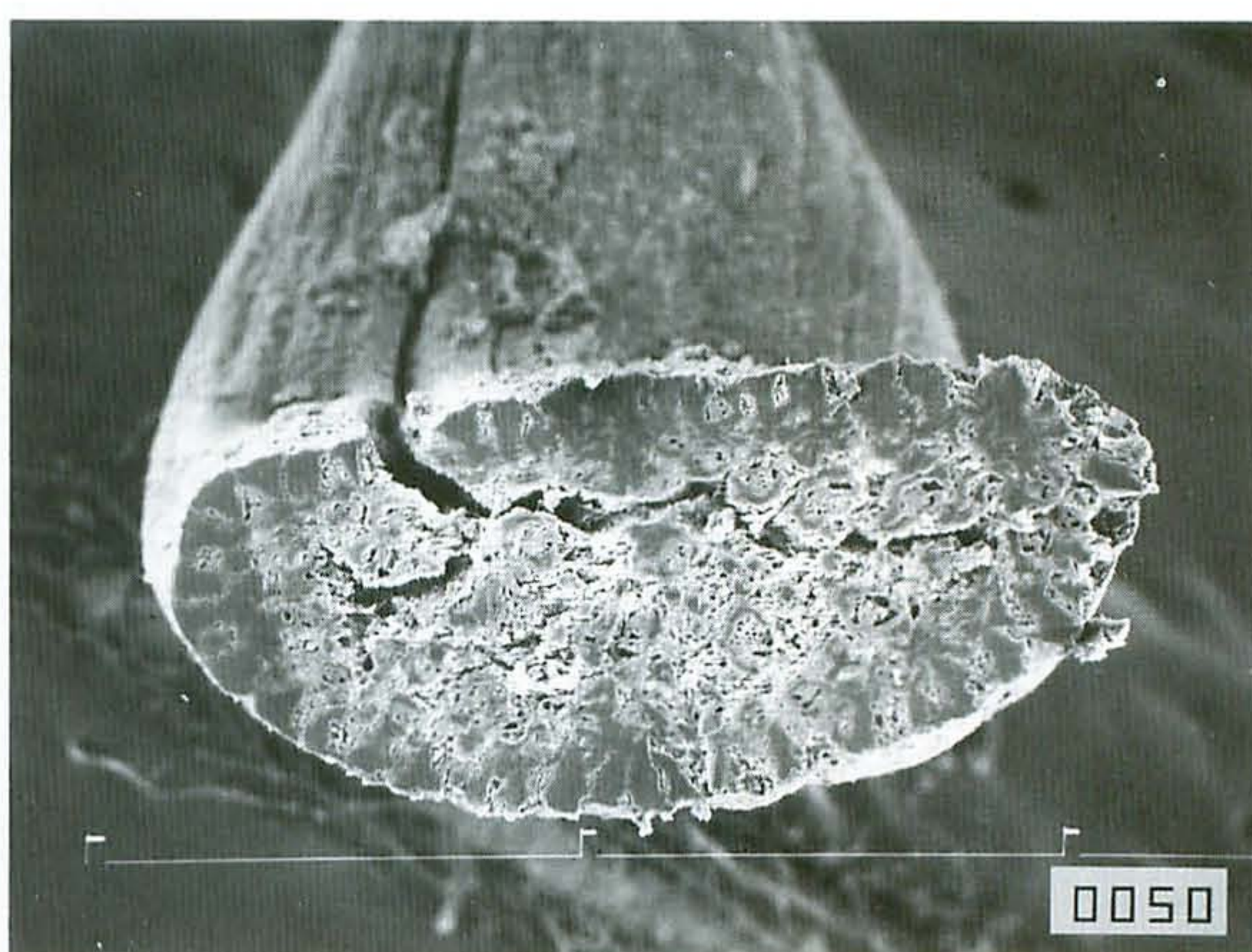
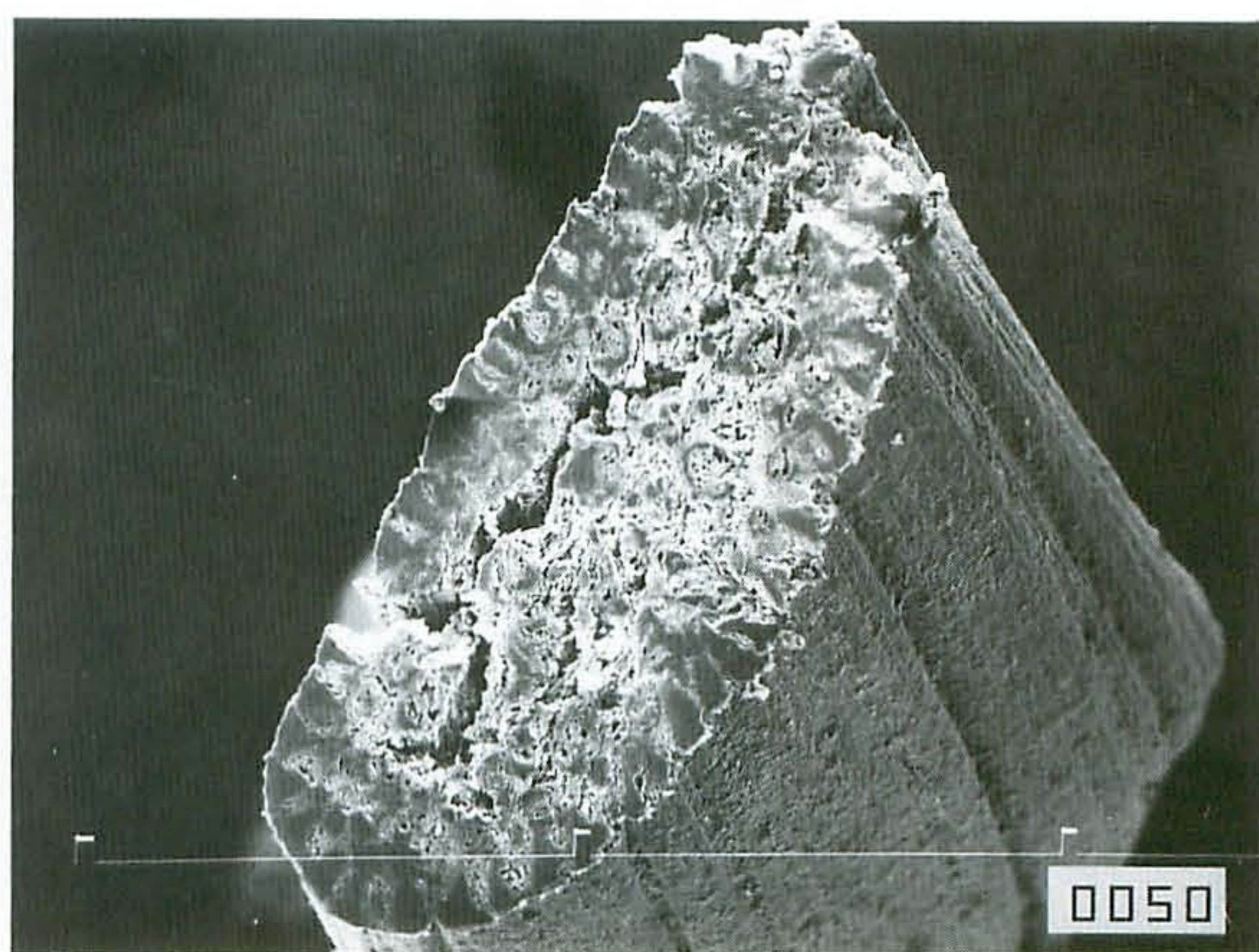
*c.* Specimen No. C-37-4, Cave F6, Hill A.



Surface view



Cross section



Observation Results by the Scanning Electron Microscope, Specimen No. V-134-1.

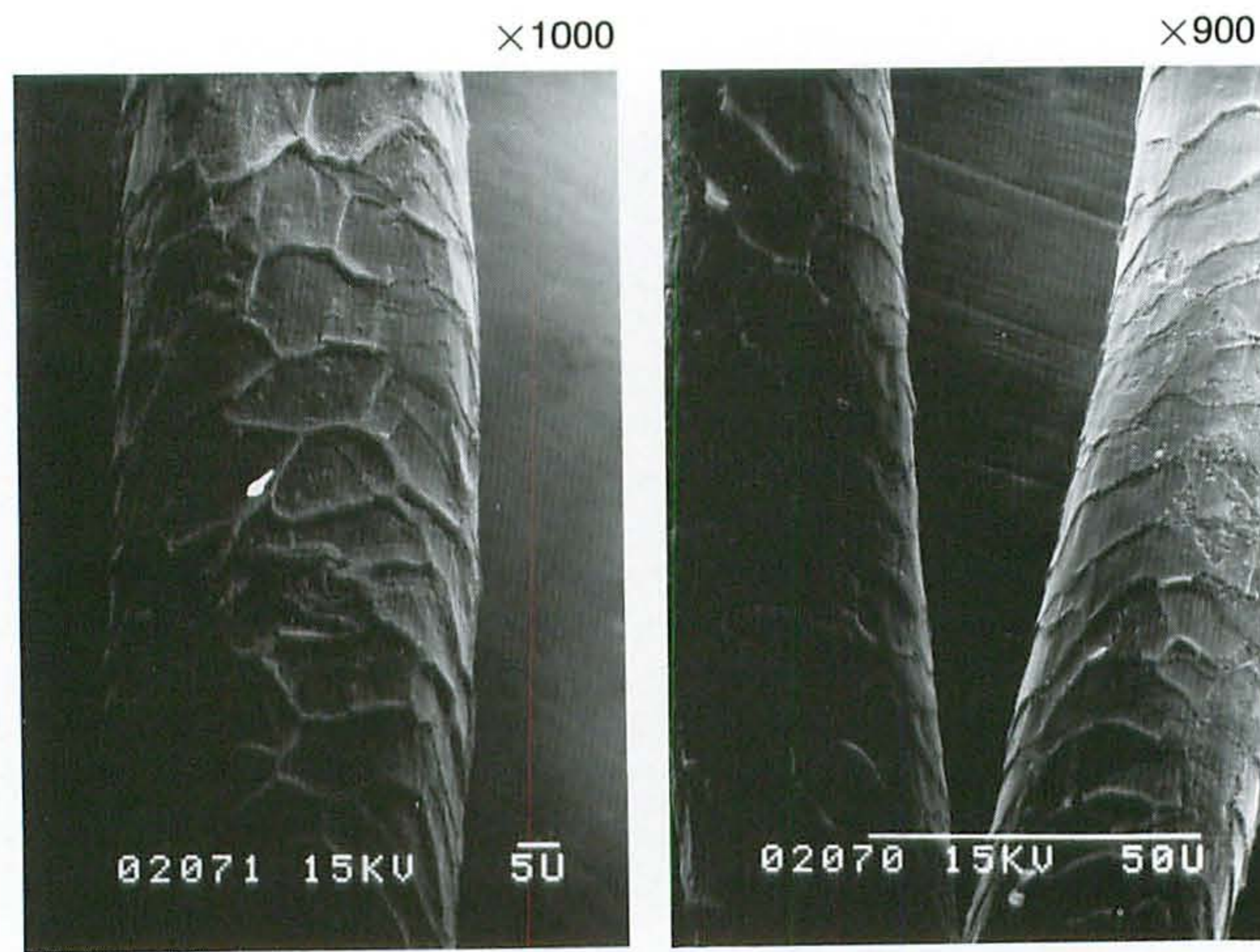


Pl. 3

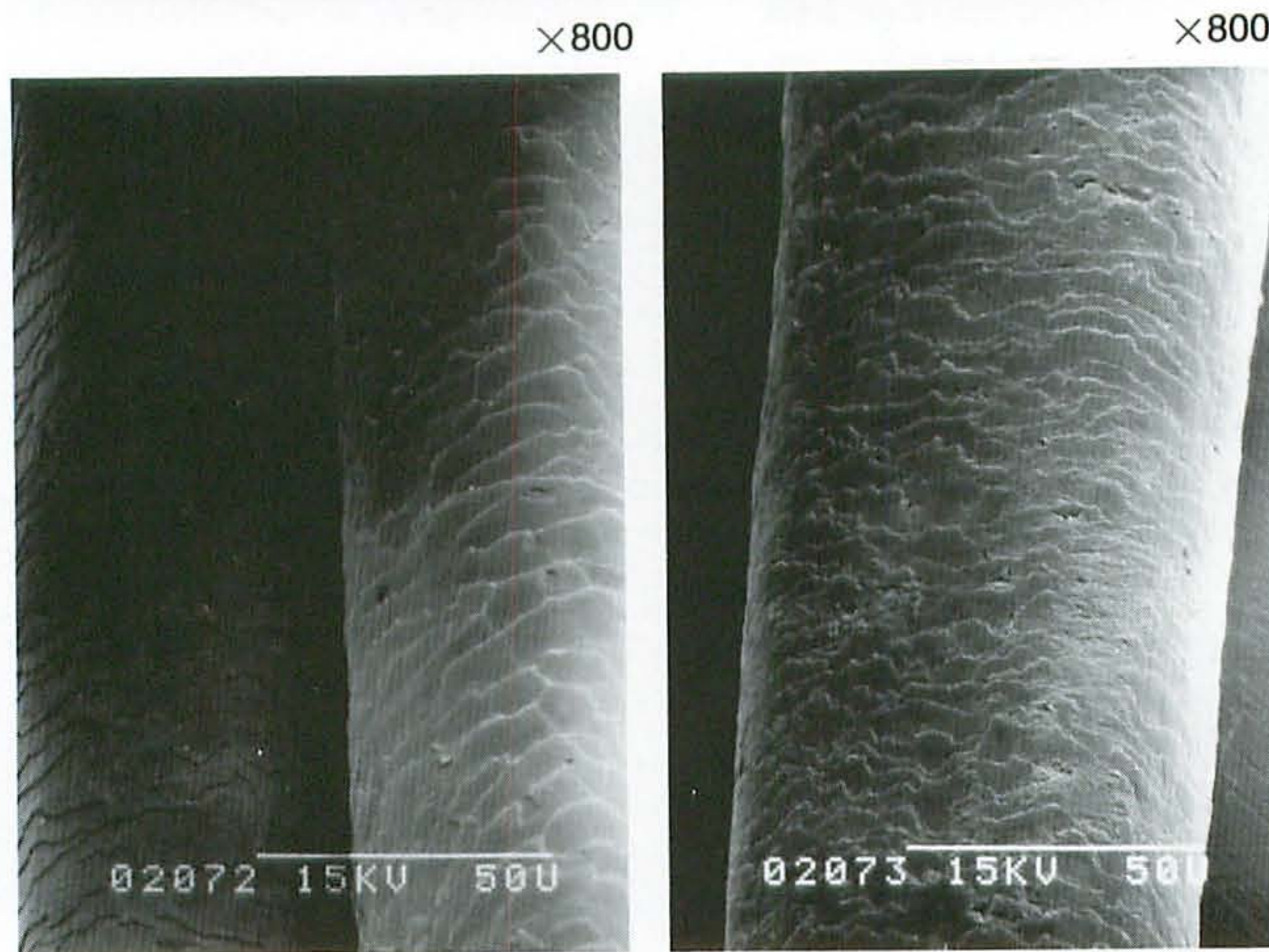
Longitudinal view

Cross section

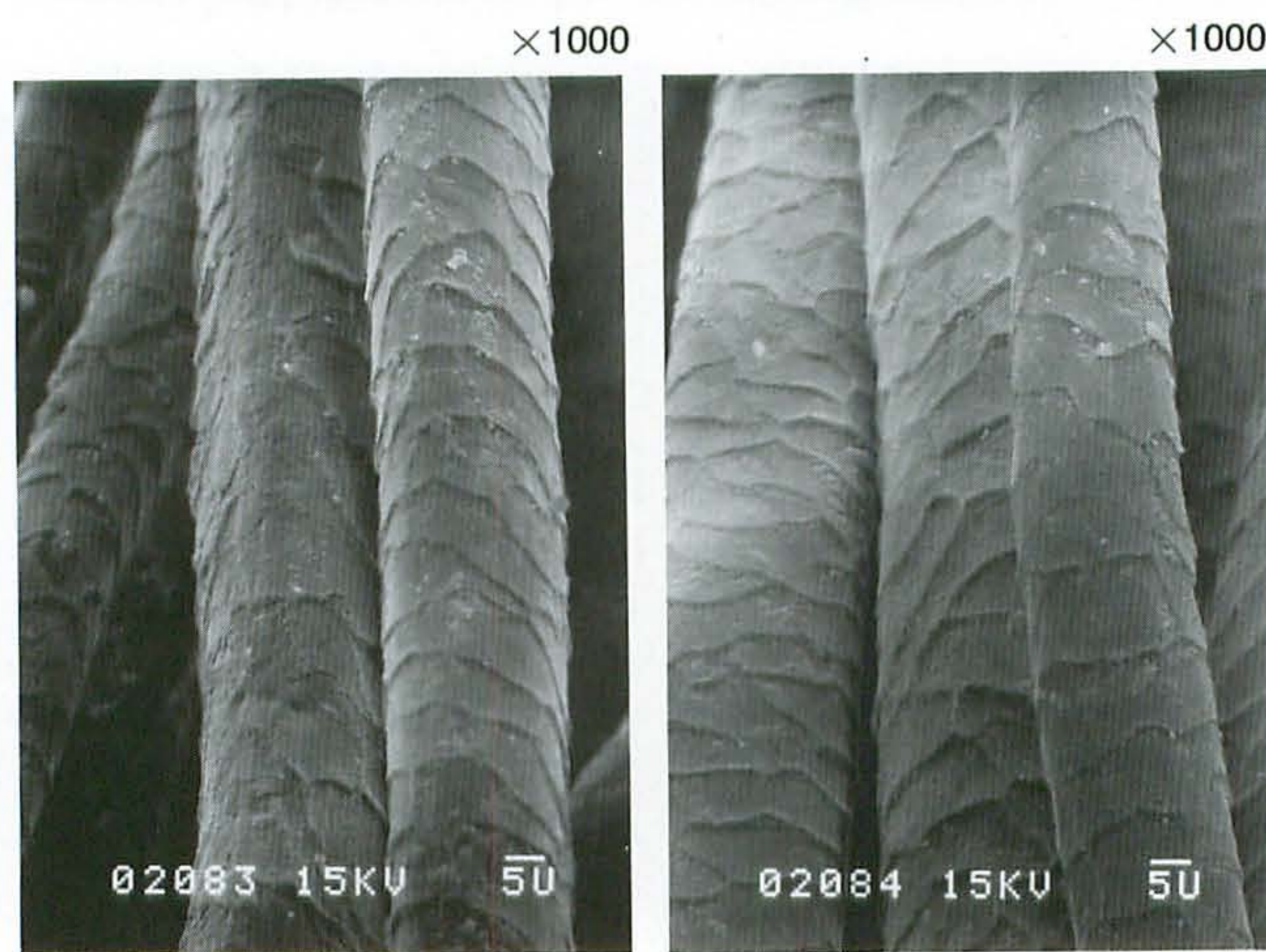
Sample 25  
(Pale reddish yellow)  
Sheep fiber, chequer.



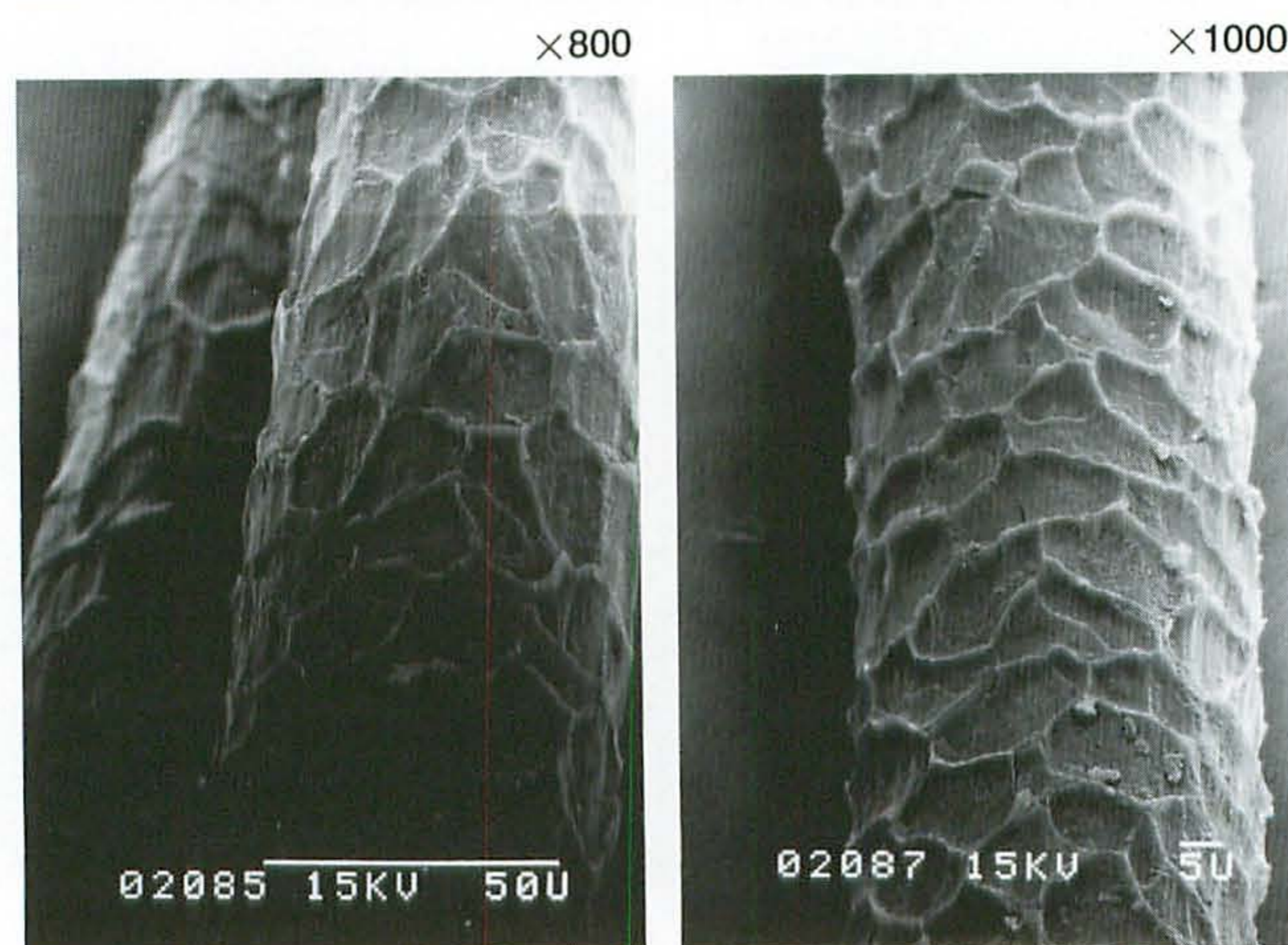
Sample 25'  
(Dark grayish brown)  
Common goat fiber, chequer.



Sample 26  
(Pale yellow)  
Cashmere fiber, triple  
warp threads in parallel.



Sample 26'  
(Pale yellow)  
Cashmere fiber, triple grandrelle  
warp threads in parallel.



Samples 25, 25', 26 and 26'.











## HARAPPAN PAINTED POTTERY FROM KOT DIJI, PAKISTAN

Hiroko KAMADA\*

### 1. Preface

Kot Diji is the type site of the Kot Diji culture and most scholars have been putting its importance on the Pre-Harappan layers and objects, but originally it was chosen and excavated as a Harappan settlement. In this paper, I aim to extract forms of the Harappan painted pottery from Kot Diji, showing my drawings.

Study of the Harappan pottery has not advanced after Mackay's general work [Marshall 1931; Mackay 1938] and he did not definite proper forms of painted pottery. Only Dales and Kenoyer's recent work on the pottery from Moenjo-daro is noticeable, but their materials do not contain many pieces of painted pottery [Dales and Kenoyer 1986]. I wrote on the painted designs from a chronological standpoint and concluded that Kot Diji shows the early phases of the Harappan culture [Kamada 1990]. Now I proceed to pottery forms. I hope this presentation will be helpful for better understanding of the Harappan pottery and further comparative work, although this is an initial work with limited materials.

### 2. Site

Kot Diji is located in Khairpur District, Pakistan. This is a rare site in Sind, where excavation reached virgin soil. Situation of the site is also marked, because it is on the left side of the Indus River and on the outskirts of the Rohri hill. H. T. Lambrick discussed this location. He thought that people came down from the western hilly area and chose their settlement in a place away from the floody place [Lambrick 1973: pp. 1-3]. Considering the wide distribution of the Kot Dijian sites east of the Indus, and the different traditions of pottery making techniques in between the Indus Plain and Balochistan [Kamada 1986], we must make different interpretations for the choice of place. Nonetheless Lambrick's view in relation with water is an important one to understand Kot Diji. The site was excavated by the Exploration Branch of the Department of Archaeology, Government of Pakistan in 1955 and 57. The area uncovered is 160×180 ft. (48×54 m), but the site spreads more than an area of 600×400 ft. (180×120 m). The Kot Dijian settlement begins on the rock bed and Kot Dijian materials were found in layers 16 to 4, the Harappan from 3A to 1 inside the fortification. Stratification is different between the "citadel" and the "outer city," but the excavators certified the association of the Kot Dijian and the Harappan pottery in both areas. The Harappan pottery was found in the layers under one or more mixed layers with the Kot Dijian [Khan 1965]. We must examine this observation in future, because the division between the Kot Dijian and the Harappan is also a problem to solve. Dr. M. R. Mughal pointed out that more than six pottery types and other materials from the Kot Dijian levels are the same with the Harappan [Mughal 1980: pp. 5-6]. Kot Diji is a key site for the origin of the Harappa culture.

### 3. Materials

I show here 48 drawings. All the pottery is from the above mentioned excavations and was preserved in

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the Exploration Branch, Department of Archaeology and Museums, Government of Pakistan, Karachi. Some pieces of them were published with drawings in F. A. Khan's report; *Excavations at Kot Diji, Pakistan Archaeology* 2 1965, but mostly only photographs were published and we could not study their forms. I will mention Figure and/or Plate number in the report when the piece was published. As for the materials, I myself did not choose them in the Exploration Branch. For this paper I received permission for publication from Department of Archaeology, Government of Pakistan. I thank to the Director, Dr. A. N. Khan and all the Pakistani archaeologists for their help.

#### 4. Division of the painted pottery

Mackay described in the first report of Moenjo-daro; *Mohenjodaro and the Indus Civilization*, that "No particular shapes were reserved exclusively for painted ware" [Marshall 1931: p. 292]. He only mentioned the types which were never painted. Perhaps he did not identify forms because the pottery pieces were mostly fragments. However, the pottery that we meet in fields is mostly fragmentary and we must get information from fragments. Now we can reconstruct pottery shapes with some knowledge. In case a fragment is very small, reconstructed diameter is not exact, but I dare describe it for better understanding. Mackay's second work on the pottery from Moenjo-daro in *Further Excavations at Mohenjo-daro* is not useful for the forms of the painted pottery, either [Mackay 1938].

Dales and Kenoyer discussed the painted pottery with eight "headings." They are:

- (a) Jars, Pots, Bowls and Dishes with Simple Horizontal Bands
- (b) Jars: Tall, Convex Bottomed
- (c) Very Large Jars and Pots
- (d) Pedestalled Dishes and Bowls
- (e) Small Pots and Bowls
- (f) Various Medium and Small Sized jars and Pots
- (g) Specials and Unique Examples
- (h) Late Phase B or Jhukar-like, and Other Non-Mature Harappan Pottery.

Their division is made for only 68 pieces, which is too small to make a typology. I do not treat (a) here, and (h) is not found among the Kot Diji materials. Among others, only (b) and (d) can be called definite forms. Headings (c), (e) and (f) are set according to size and shape, that may need further analyses. Division by size itself is useful when materials are fragmentary. I severe bowls from jars and pots because the former is painted inside and the latter outside.

The attributes for division are; wall thickness, diameter, inclination of wall, shape and part of piece of pottery. As for painted designs, I describe them under headings of parts where they are arranged; rim border, Zone A, B and C from top. Fig. 1 presents elemental structures of painted designs on a piece of pottery. Rim border is not always arranged. Representational designs are at the top, in Zone A, and other designs below [see Kamada 1990: pp. 28–32]. I extract 15 forms of painted pottery and divide fragments without rim or characteristic part into 4 groups (Fig. 2).

##### Forms

- (1) Nos. 1 to 6. Large Jar with short and straight neck, a sharp ledge at the border between neck and body, and almost straight or slightly bulging body.
- (2) Nos. 7, 8. Large Jar with short and straight neck, a sharp ledge at the shoulder, and concave upper body. This form looks like (1) in section, but the angle made by neck and body is acute in contrast to the dull angle of (1). Its body shape is concave.
- (3) No. 9. Large jar with beaked rim, a slight ledge at the shoulder, and convex body.



- (4) No. 10. Large jar with wide, open mouth. This form has a projection inside of the rim. The body may have S-shaped wall.
- (5) No. 22. Large- and medium-sized jar with convex body. The wall is not so thick as Forms (1) to (4).
- (6) Nos. 42, 43. Dish of dish-with-stand with simple rim.
- (7) Nos. 44, 45. Dish of dish-with-stand with turned out rim.
- (8) Nos. 46, 47. Stand of dish-with-stand.
- (9) No. 48. Bowl with flat base. Its side has a bent at the lower portion.
- (10) No. 26. Small jar with upright neck, ledged shoulder and slightly convex, tall body.
- (11) No. 28. Small jar with upright neck and convex body.
- (12) No. 27. Small jar with everted rim. The neck continues from the body with a gentle curve.
- (13) No. 39. Small, deep bowl with slightly S-curved body.
- (14) No. 38. Small jar?
- (15) Nos. 40, 41. Small jar with slightly concave body.

**Groups**

- (16) Nos. 11 to 16. Large jars. The wall is convex or straight.
- (17) Nos. 17, 18. Medium sized jars with concave body.
- (18) Nos. 19 to 21, 23 to 25. Large- and medium-sized jars with convex body and thinner wall.
- (19) Nos. 29 to 37. Small jar with convex or straight body.

**5. Painted pottery**

No. 1 BIII-7<sup>1</sup>), layer 2.

Form (1). Rim to upper part of body. Rim diameter: 33 cm.

Design: (A) two combs with a pipal on their horizontal line and a row of suns below it.

No. 2 Surface.

Form (1). Rim to upper part of body. Rim diameter: 30 cm.

Rough treatment at the juncture of neck and body.

Design: (A) three peacocks and a plant.

No. 3 AIII-21, layer 2.

Form (1). Rim to upper part of body. Ledge diameter: 25 cm.

Design: (A) a rayed sun and two lens-like leaves.

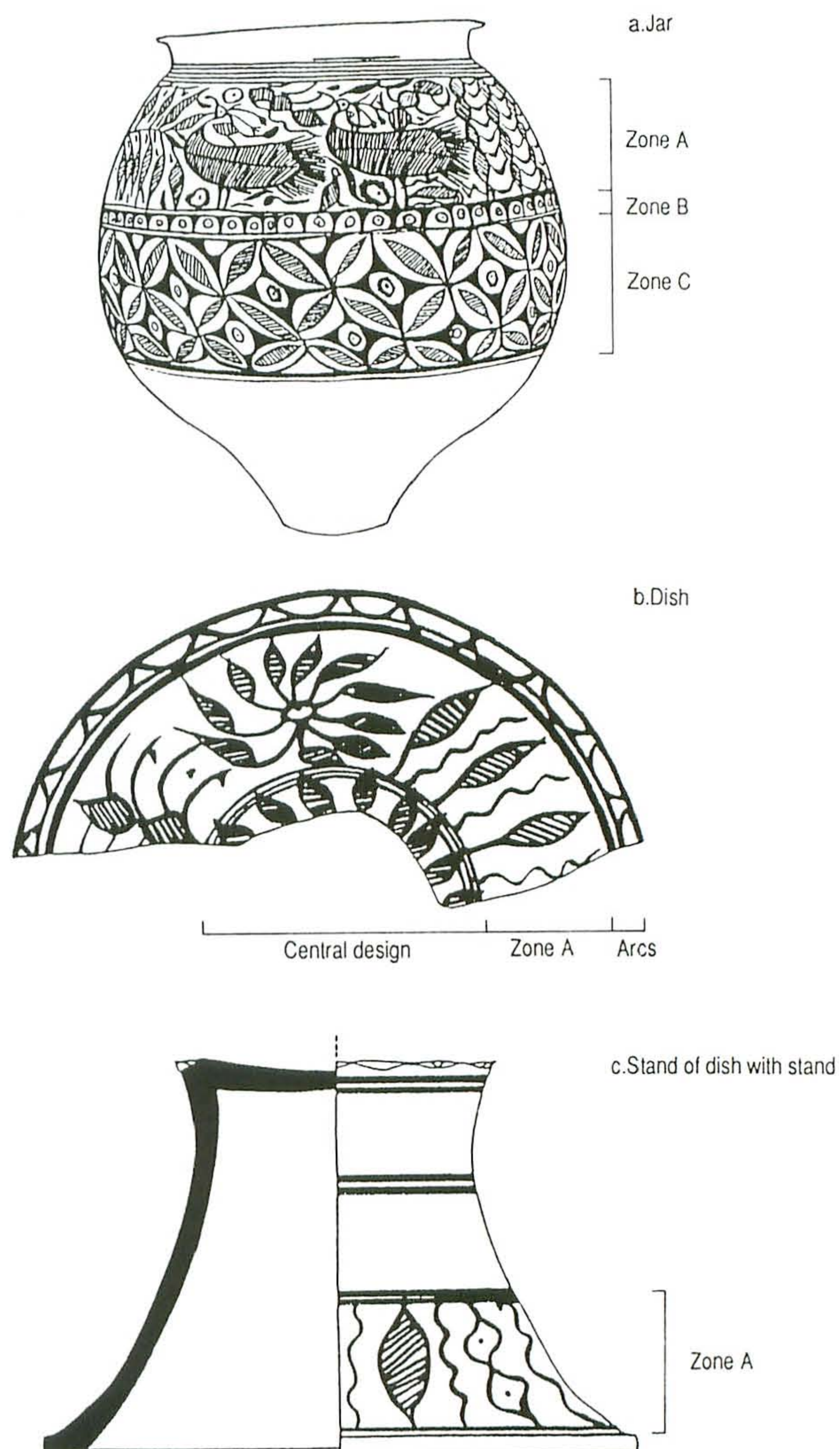


Fig. 1 Design structures in Phases 2 to 4 (a-c). (After Kamada 1990)



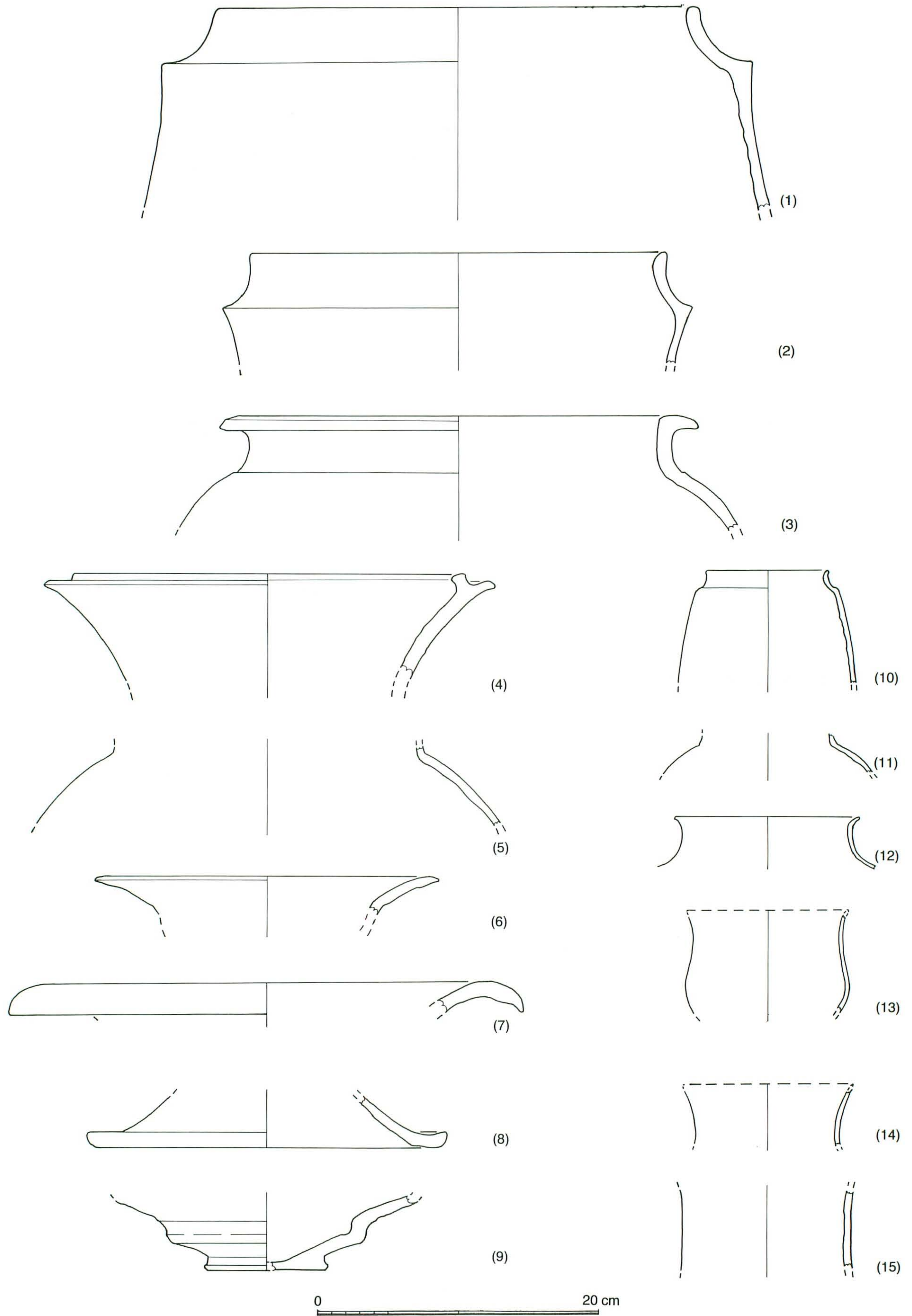


Fig. 2 Forms of Painted Pottery from Kot Diji.



No. 4 BIII-10, layer 2B.

Form (1). Large jar, ledged, with convex sided body wall. Rim to upper part of body. Ledge diameter: over 20 cm.

Design: (A) lens-like leaves, a sun and a comb.

No. 5 BIII-11, layer 1C.

Form (1). Neck to upper part of body. Lower body diameter: 37 cm.

Inside: rough smoothing on wheel. Outside: some polishing.

Design: (A) oblique crosses with suns; (C) fish scales.

KD: PL. XVI.

No. 6 BIII-4, layer 2B.

Form (1). Neck to upper part of body. Body diameter<sup>2)</sup>: over 20 cm.

Design: (A) an antelope and suns.

KD: PL. XVI, Fig. 50-18.

No. 7

Form (2). Rim to upper part of body. Ledge diameter: 35 cm.

Design: (A) a pipal.

KD: PL. XV-10, Fig. 47-8.

No. 8 B, layer 3A.

Form (2). Rim diameter: 29 cm.

Design: (A) two water plants and a peacock.

No. 9

Form (3). Medium size jar with upright neck. Inside rim diameter: 28 cm.

Design: (A) a peacock with a snake at the beak.

KD: PL. XIV-1, Fig. 50-5.

No. 10 BIII-6, layer 1B.

Form (4). Medium size jar with wide open mouth. The projection on the inner surface may receive lid. Rim to upper part of body. Rim diameter: 32 cm.

Design: (Rim border) a row of semi-circles with a solid circle in each; (A) a half-pipal.

No. 11 BIII-3, layer 2.

Group (16). Jar with straight sided wall. Upper to middle part of body.

Rough smoothing inside.

Design: (A) a pipal and a peacock.

No. 12 BIII-11, layer 1B.

Group (16). Upper to middle part of body.

Rough smoothing inside. Slip: above the horizontal lines.

Design: (A) a plant; (C) linked balls.

No. 13 BIII-4.

Group (16). Upper to middle part of body. Body diameter: 37 cm.

Inside: rough smoothing.

Design: (A) an oblique cross and water plants; (B) a row of suns. The sun is in a reserved oval.

No. 14 BIII-3, layer 2.

Group (16). Middle to lower part of body.

Rough smoothing inside.

Design: (B) a row of oblique crosses; (C) interlacing leaves.

No. 15 BIII-11, layer 2.

Group (16). Middle or lower part of body. Body diameter: over 40 cm.



Rough smoothing inside.

Design: (C) interlacing leaves.

No. 16 BIII-11, layer 2.

Group (16). Middle or lower part of body. Rough smoothing inside.

Design: (C) Interlacing leaves.

No. 17 BIII-11, layer 2.

Group (17). Medium size jar with concave sided wall. Body diameter: 22 cm.

Design: (A) a peacock.

No. 18 BIII-3, layer 2.

Group (17). Upper to middle part of body. Body diameter: 17 cm.

Design: (A) not certain; (B) cross-hatched bands and a row of oblique crosses and suns.

KD: PL. XVI.

No. 19 BIII-8, layer 1B.

Group (18). Medium size jar with convex sided wall. Upper part of body.

Rough smoothing inside.

Design: (A) two peacocks set one on the other.

No. 20 BIII-2, layer 2.

Group (18). Upper part of body. Body diameter: over 20 cm.

Rough smoothing inside.

Design: (A) a nim?

KD: PL. XVI.

No. 21 BIII-11, layer 1A.

Group (18). Body diameter: over 38 cm.

Slip coating above the horizontal line.

Design: (A) two peacocks; (C) linked balls.

No. 22 BIII-8, layer 1B.

Form (5). Jar with convex sided wall. Neck to upper part of body. Body diameter: 28 cm.

Design: (A) two peacocks holding a snake in the beak, set one on the other and a plant.

No. 23 AIII-23, layer 9.

Group (18). Though the layer 9 is reported to be Kot Dijian, all the characteristics of this piece are pure Harappan. Middle to lower portion of body. Body diameter: over 34 cm.

Rough smoothing in the lower portion of the inner surface. Slight polishing outside.

Design: (C) intersecting circles.

No. 24 BIII-3, layer 2.

Group (18). Upper part of body.

Design: (A) a peacock.

No. 25 BIII-3, layer 2.

Group (18). Middle part of body. Body diameter: 35 cm.

Design: (A) part of a cross-hatched design; (B) a row of leaves or semi-circles.

KD: PL. XVI, Fig. 50-14.

No. 26 AIII-24, layer 2A.

Form (10). Rim to middle part of body. Rim diameter: 8.4 cm.

Design: (A) a pipal, a peacock and a plant which looks like a bush; (C) fish scales.

KD: PL. XIV-(a), Fig. 50-11,

No. 27 BIII-9, layer 2.

Form (12). Small size jar with convex sided wall. Rim to neck. Rim diameter: 13 cm.



Polishing outside.

Design: (A) a sun and a peacock.

No. 28 BIII-11, layer 2.

Form (11). Neck to upper part of body. Neck diameter: 10 cm.

Very fine texture. Tempering material is not seen. Horizontal polishing outside. Each polishing is 0.6 cm in width.

Design: (A) two peacocks.

No. 29

Group (19). Upper part of body. Body diameter: 19 cm.

Design: (A) a pipal.

No. 30 BIII-11, layer 2.

Group (19). Upper part of body. Body diameter (lowest part): 20 cm.

Design: (A) a pipal; (C) linked balls.

No. 31 AIII-21, layer 2.

Group (19). Upper part of body.

Design: a peacock at a pipal branch.

No. 32 BIII-6, layer 1B.

Group (19). Upper part of body. Body diameter: 14 cm.

Very fine texture. Rough smoothing inside. Polishing outside.

Design: two water plants.

No. 33 BIII-8, layer 2.

Group (19). Upper part of body. Body diameter: 21 cm.

Design: (A) a half-pipal.

KD: XV-11, Fig. 47-25.

No. 34 AIII-22, layer 2A.

Group (19). Small size jar with straight sided wall. Body diameter: 15 cm.

Very fine texture. polishing outside.

Design: (A) a pipal.

No. 35 BIII-11, layer 1C.

Group (19). Body diameter: 12 cm.

Design: (B) a row of oblique crosses.

No. 36 BIII-2, layer 1.

Group (19). Body diameter: 18 cm.

Design: (C) interlacing leaves.

No. 37 BIII-1, layer 2.

Group (19). Lower part of small size jar. Body diameter: 14 cm.

Very fine texture.

Design: (C) fish scales.

KD: PL. XVI.

No. 38 BIII-11, layer 2.

Form (14). Small size vessel with concave or S-shaped side. Upper part of body. Body diameter: 11 cm.

Design: (A) a water plant.

No. 39 BIII-1, layer 2.

Form (13). Upper part of body. Body diameter: 10 cm.

Very fine texture, rough smoothing inside, polishing outside.

Design: (A) a peacock and a water plant.



No. 40 BIII-10, layer 2B.

Form (15). Upper part of body. Body diameter: 11 cm.

Design: (A) a pipal and peacocks.

KD: PL. XVI, Fig. 50-12.

No. 41 BIII-6, layer 1B.

Form (15). Upper to middle part of body. Body diameter: 12 cm.

Polishing outside.

Design: (A) a peacock and water plants; (B) a row of "hide" patterns. A sun is placed between the hides.

KD: PL. XVI.

No. 42 BIII-11, layer 1B.

Form (6). Dish of dish-with-stand. Rim to middle part of body. Rim diameter: 24 cm.

Red slip both inside and outside.

Design: (A) a rayed sun and a peacock with rather waving zigzags as back designs.

KD: PL. XVI, Fig. 50-20.

No. 43 AIII-21, layer 1B.

Form (6). Rim end is lost.

Red slip both inside and outside.

Design: (Rim border) a row of semi-circles; (A) a plant with short lines as back designs.

No. 44 Surface.

Form (7). Dish of dish-with-stand. Rim top diameter: 36 cm.

Red slip inside and upper part of outer surface.

Design: (A) a water plant and a pipal.

No. 45 Surface.

Form (7). Dish of dish-with-stand.

Design: (Rim border) a row of semi-circles; (A) interlacing leaves.

No. 46 BIII-8, layer 2.

Form (8). Lower end of stand of dish-with-stand. Lower rim diameter: 25 cm.

Rough paring inside. Red slip outside.

Design: (A) a pipal with dots back designs; (Rim border) a row of semi-circles.

KD: PL. XV-6.

No. 47 BIII, layer 2.

Form (8). Lower rim end diameter: 24 cm.

Rough paring inside. Red slip outside.

Design: (A) plants; (Rim border) a row of semi-circles.

KD: PL. XV-4.

No. 48 BIII-2, layer 1.

Form (9). Bowl. Base diameter: 8 cm.

Red slip inside, paring in the lower part and rough smoothing upper part on the outer surface.

Design: (A) a peacock with wavy lines as back lines; (B) two rows of straight lines, "hide" patterns and suns.

Central design is not well reserved.

## 6. Discussion

Dr. F. A. Khan, who excavated Kot Diji, made new and keen observations on the Harappan pottery from the site. He considered the Harappan pottery from the lower layers in the outer city to show "the early phases," and pointed out: "though the normal Harappan forms of pottery were developed, decoration remained still uncommon. No complex designs such as the 'intersecting' circles, plain-forms or 'pipal leaf'



motif of the typical matured Harappan phases are found" [Khan 1965: pp. 41]. I could not study those objects that I cannot examine Dr. Khan's observation. Anyhow, because the materials from the upper layers show the early phases of the Harappan culture, I suppose that the lower layers include the earliest Harappan pottery.

Because of the good condition of preservation under the ground, we can watch painted designs clearly on the pottery from Kot Diji. There seem no particular or fixed designs for a particular form, but the design structures are quite regular. For example, there are six pieces of Form (1) and they have nine kinds of representational designs in Zone A. Pipal design is found on Nos. 1, 7, 10, 11, 26, 29, 30, 31, 33, 34, 40, 44 and 46. They include more than six forms. Peacock design is found on Nos. 2, 8, 9, 11, 17, 19, 21, 22, 24, 39, 40, 41 and 42. They include more than six forms. Pipal, peacock, sun and water plant are quite popular designs. All the pieces with rim, except No. 45, have representational designs in Zone A. Because I wrote about kinds of designs in each zone already, I omit the explanation here, but these materials are the actual evidence for the design structures and kinds.

Lastly, I make some comparison of these forms with other materials. Form (1) is characteristic painted pottery at Kot Diji. This is comparable with Alcock's Context B, 52 [Alcock 1986: pp. 522-3]. Form (2) is UM Jars, Large, Round Bottomed [Dales and Kenoyer 1986: pp. 74-7]. We can differentiate Form (1) from (2) by the angle made by neck and body. Form (3) is comparable with Alcock's Context B, 34a [Alcock 1986: pp. 516-7], Form (4) with Wheeler's 38, Fig. 10 and Type XLI [Wheeler 1947], Form (7) with Khan's 2, Fig. 11 [Khan 1965: pp. 46-7], and Form (8) with Alcock's Context A, 1 p [Alcock 1986: pp. 504-5]. It is difficult to find the same forms of small vessels, but there are some small pottery with S-curved wall in Khan's report, for example, 11, 14 and 16 in Fig. 11. Form (13) is comparable with Type XV at Gumla [Dani 1971].

Those comparable examples include Kot Dijian pottery; Dani's Type XV, and much later products such as the pottery from the Cemetery 37. We need examine ever more materials for typology. Morphological changes of each form is the next theme to be pursued.

### Acknowledgement

I would like to offer my thanks to Dr. A. N. Khan, Prof. Konishi Masatoshi, Dr. M. R. Mughal, Dr. M. A. Halim and Yoshikawa Yoshihiko for their warmest help.

### Notes

- 1) Square.
- 2) Middle portion of fragment.

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0 10 cm

Fig. 3 Painted Pottery.



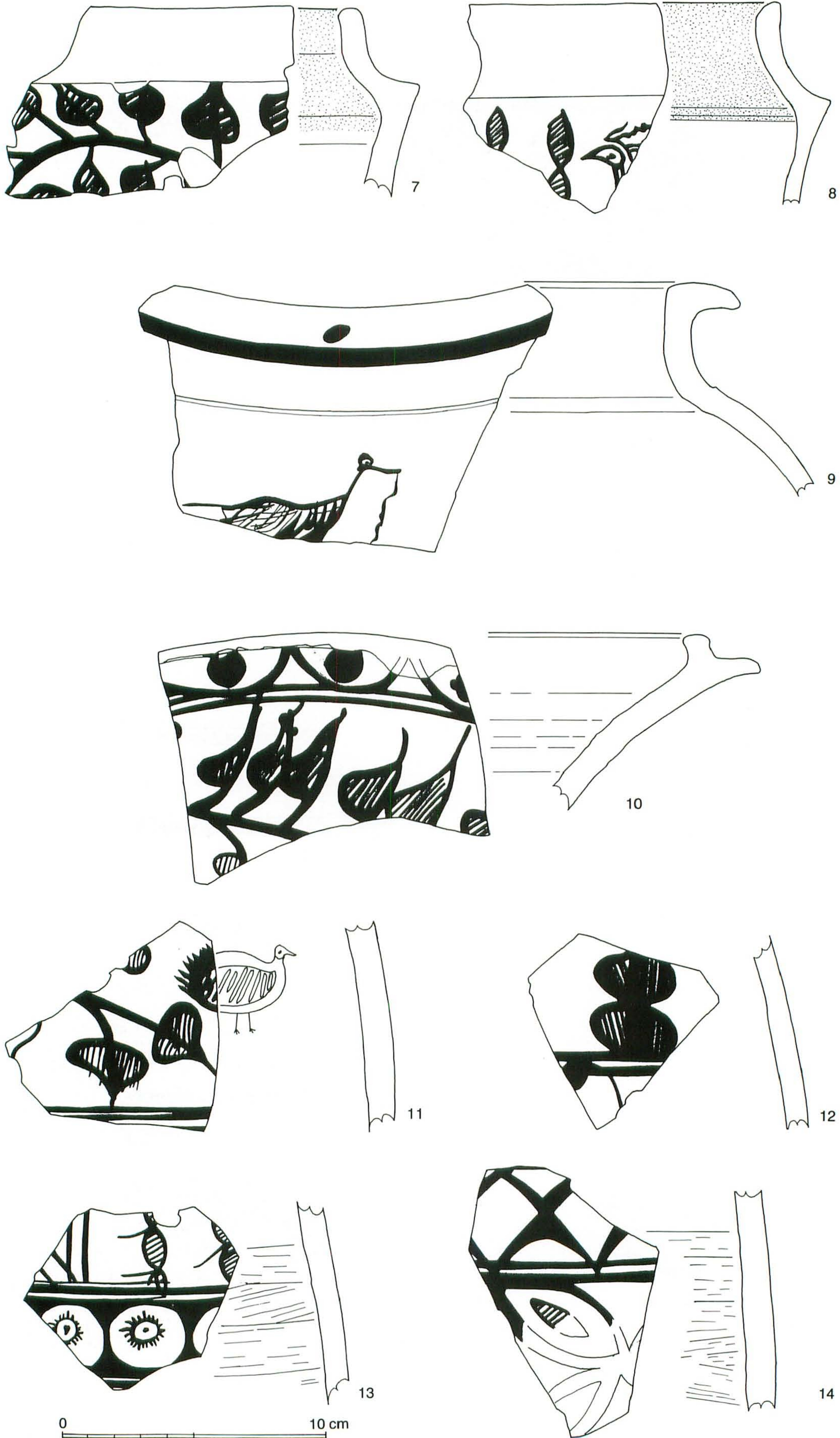


Fig. 4 Painted Pottery.



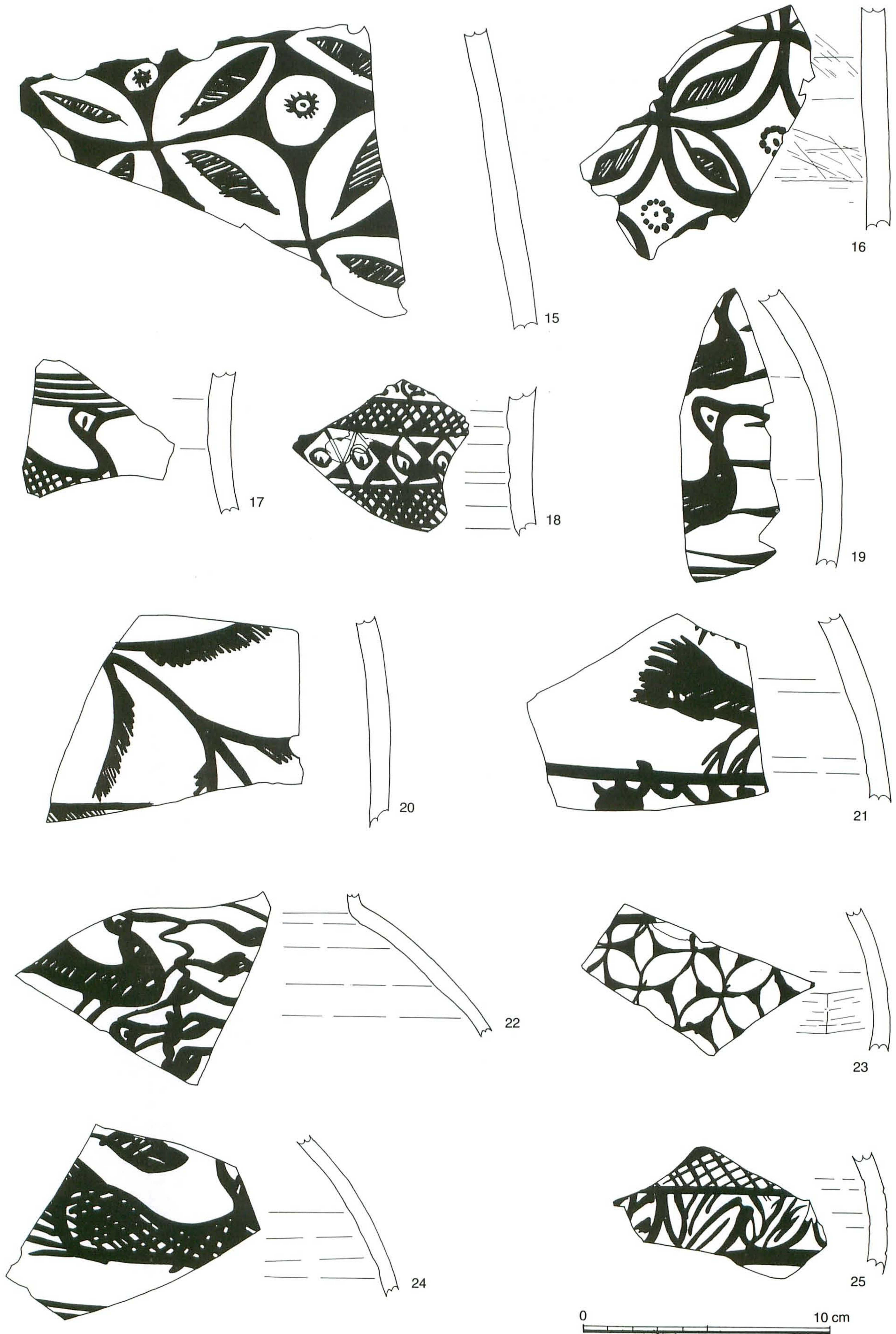


Fig. 5 Painted Pottery.



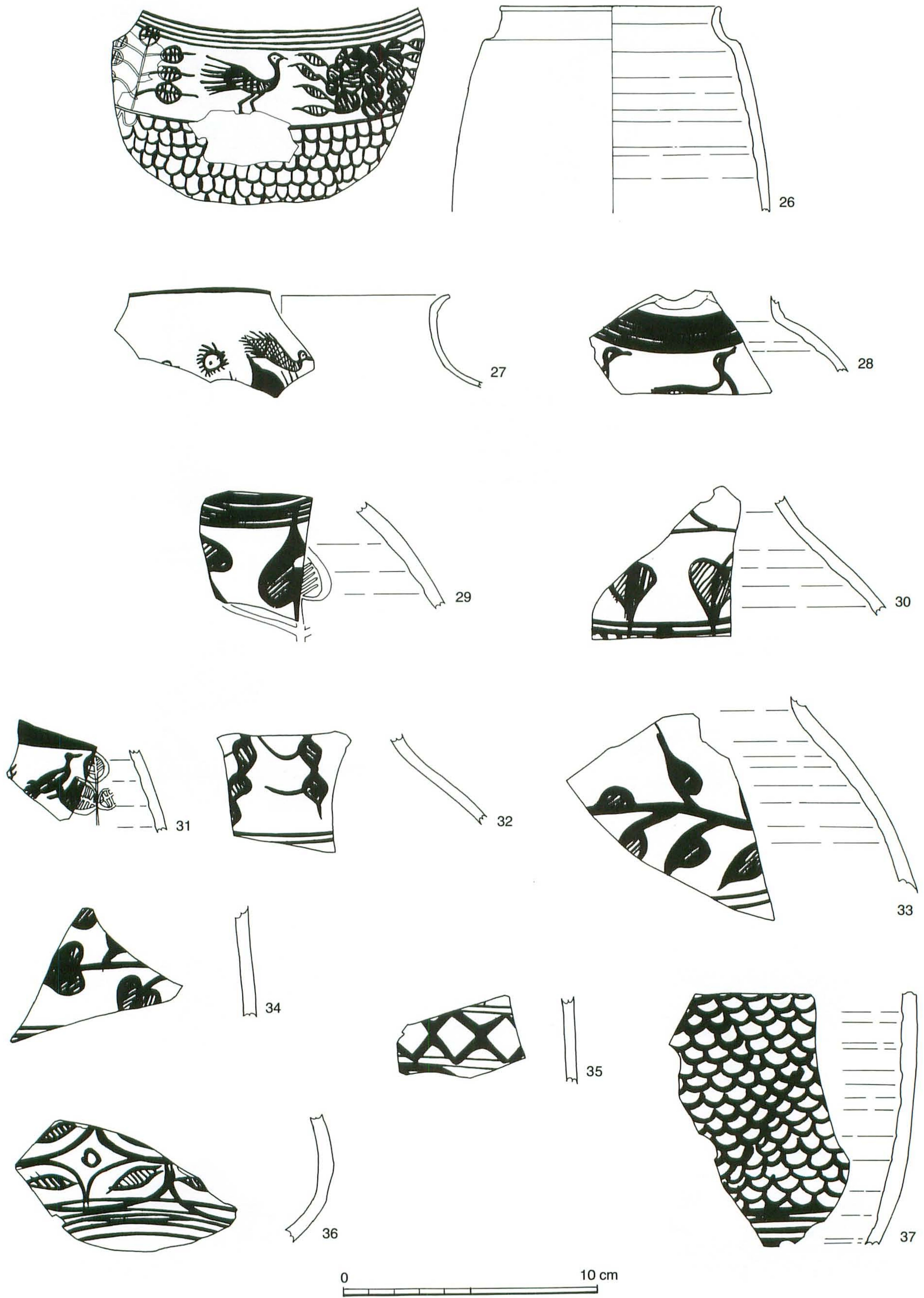
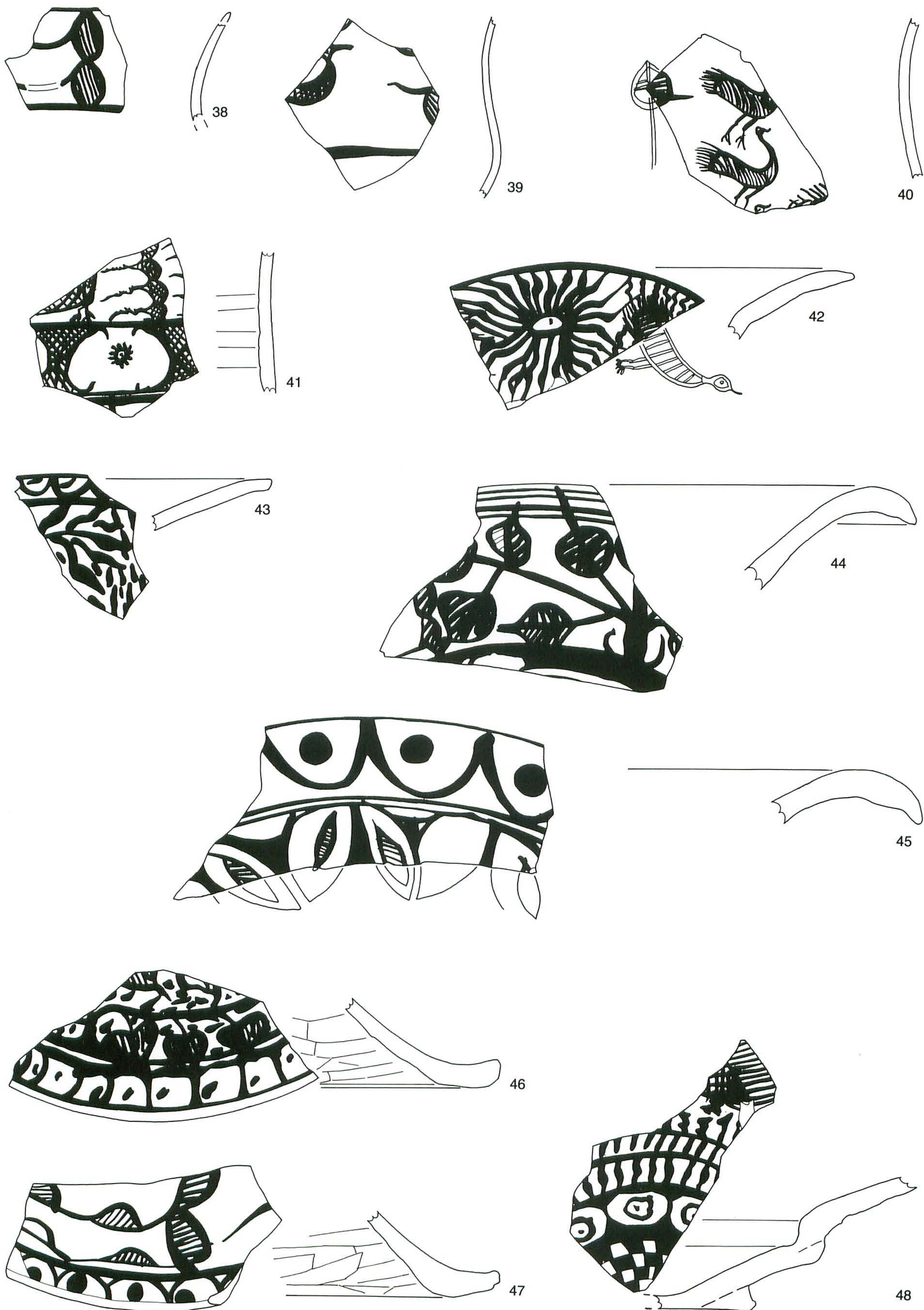


Fig. 6 Painted Pottery.





0 10 cm

Fig. 7 Painted Pottery.







## A 1988 TEST EXCAVATION AT JULFAR, RAS AL-KHAIMAH

Burkhard VOGT\*

In preparation for the International Julfar Project the Department of Antiquities and Museums of Ras al-Khaimah carried out a test excavation at Julfar within the town district of al-Mataf.

The presence of this very large site was always known from the traditions of the indigenous population and the knowledge about its very identity, location and its former splendour has continuously been kept at high appreciation. The first conclusive identification of the sites of al-Mataf and al-Nudud was offered by B. de Cardi and B. Doe [de Cardi 1971]. In 1973/74 the first archaeological investigation of the site was carried out by an Iraqi Mission under the direction of M.Y. Taha and its results were published in the *Journal Sumer* 31 [Taha 1975]. The second approach was done in 1976 and 1977 by an expedition led by J. Hansman, who carried out 3 small-size soundings in the respective areas [Hansman 1985]. These two operations were equally limited both in time and in size and general knowledge about the site and its material heritage was and still is relatively scarce.

With the formation of a department of antiquities in Ras al-Khaimah the equal importance of Islamic archaeology versus already established pre-Islamic researches at sites like Shimal, Ghalilah or those in the Wadi al-Qawr was easily recognized: the idea of an international research project at Julfar as the Islamic key-site in the Lower Gulf was born with the intension to devote a period of at least 5 years to the investigation of this particular site.

Such a project could not reasonably be approached without detailed information about the approximate extension of the site, of the depth of its cultural deposits, the nature of possible structures, and—and to some extent—the preservation of its material inventory.

Meeting the needs of the latter, the installation of a restoration laboratory inside the compound of the National Museum was envisaged. After nearly two years of joint efforts by the Government of Ras al-Khaimah, the Federal German Foreign Office and the expertise of Mr. J. Kunkel from the German Mining Museum Bochum, the laboratory was accomplished and inaugurated.

The 1988 test sounding was aimed at a mere feasibility study; there was no intention to conduct a proper excavation or to publish any results. With reference to Hansman the occurrence of structural remains (i.e. mud brick architecture and the like) was taken for granted. Therefore it was envisaged to dig a trench of a given size with a given number of workmen in a limited period of time irrespectively of architectural remains from the surface down to the bottom of the cultural deposits which was then assumed on sea level.

That strategy was to be changed slightly in the course of the excavation when it became apparent that structural remains were indeed difficult to trace and highly disintegrated by mere air contact and that this had to be taken into account in the future framework of exposing larger portions of the site. The aspect of site preservation turned out to be more important than with the case of much older sites like the Bronze Age cemetery and settlement of Shimal. The pursuit of the above strategy was soon surpassed by the pursuit events, when eventually architectural remains were exposed and an afternoon rain was sufficient to turn brick architecture into pure mud and made the trench sections collapse. That happened at a time

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when a proper documentation of the sounding could not be accomplished and thus the consideration of publishing material and findings was harshly abandoned.

Strangely enough, judged by the succeeding soundings of our Japanese, French, British and German colleagues, the 1988 findings appear unparalleled (so far) and thus rather worth mentioning and it was finally the instigation of Prof. Tatsuo Sasaki of Kanazawa University to attach a short report of his own [Sasaki 1991]. This contribution cannot—for the above reasons—give more than a meager account on the proceedings and very general results of the 1988 sounding and I do not intend to conceal that some of the conclusions are well influenced by the later—sometimes contradictive—findings of the Japanese colleagues whom I had the opportunity to visit briefly during their field season in winter 1989.

### **Trench location and excavation procedure**

Selected for test sounding was an area in al-Mataf approximately 400 ms. south of the present Julfar site office. It is this the central and most elevated part of the entire site (Pl. 1). As already recognized by Hansman [1985: cf. Fig. 2: A–C], the area consists of three major sections which are separated from the others by two linear depressions leading from east to west: a northern section with the mosque foundation (British concession), the central section with a stone-built water cistern and the remains of a modern tower (French concession) and the southern section (Japanese concession). Already Hansman used the term “moat” to denominate those two morphological anomalies. It was then a rather easy step to suggest right here the locale of the so-called Portuguese fort. In fact, there is no authentic textual evidence for such an assumption but it is rather a conceptional transposition of pictorial Portuguese fortification groundplans from the Indian Ocean Batina to the lower Gulf coast. Although Julfar is mentioned to have been under (Hormuzian or direct?) Portuguese sovereignty, there is virtually no reference to a fort built by the Portuguese or according to their architectural needs. However the presence of a fort is well recorded in the atlas of Lazaro Luis from 1563, whereas the better known inspection account “El Livro do Estado da India Oriental” by Pedro Barreto de Resende was compiled in 1632 or immediately afterwards and published in 1646 [cf. de Cardi and Doe 1971: 232], i.e. 13 years after the Portuguese finally withdrew from Julfar in 1633 (kind pers. comm. by R. Gulbenkian).

Size and shape of Julfar’s central section left little doubt that at least this part was somehow more dominant or even fortified during the period of Portuguese dominance in the Gulf (as indirectly suggested by the surface finds of Far Eastern ceramics in that particular area). Respective evidences—be it positive or negative—were thus wanted by-product of the sounding and for this very reason a trench of 40 ms. length and 2 ms. width (oriented N–S) was laid out across the linear E–W depression between the southern (i.e. “Japanese”) and the central part (i.e. “French”) (Fig. 1: squares C13 and 14, corresponding with Hansman’s areas A and B). In that area (Pl. 1–2) the surface of the deposits is estimated 4.5 to 5.0 ms. above mean sea level. One of Hansman’s 1977 soundings is nearby, i.e. roughly 200 ms. to the north, but little more than a shallow depression is all that is left and no positive hint to a fort construction can be quoted from his publication.

While digging both the dimensions of the trench and its depth proved to be of disadvantage. The composition of the deposits in their upper part as well as of the building material turned out extremely inconsistent clearly fostering the collapse of the sections which was caused eventually by a short but heavy afternoon rain. For the lower reaches of the exposed section (i.e. in the very centre of the depression), a rather unexpected agent contributed to the destruction of the trench: despite a distance of more than 50 ms. between the excavation and the mean high water mark, small tidal waves created some permanent movement within the bottom of the trench hollowing out the sections from below and thus leading to a



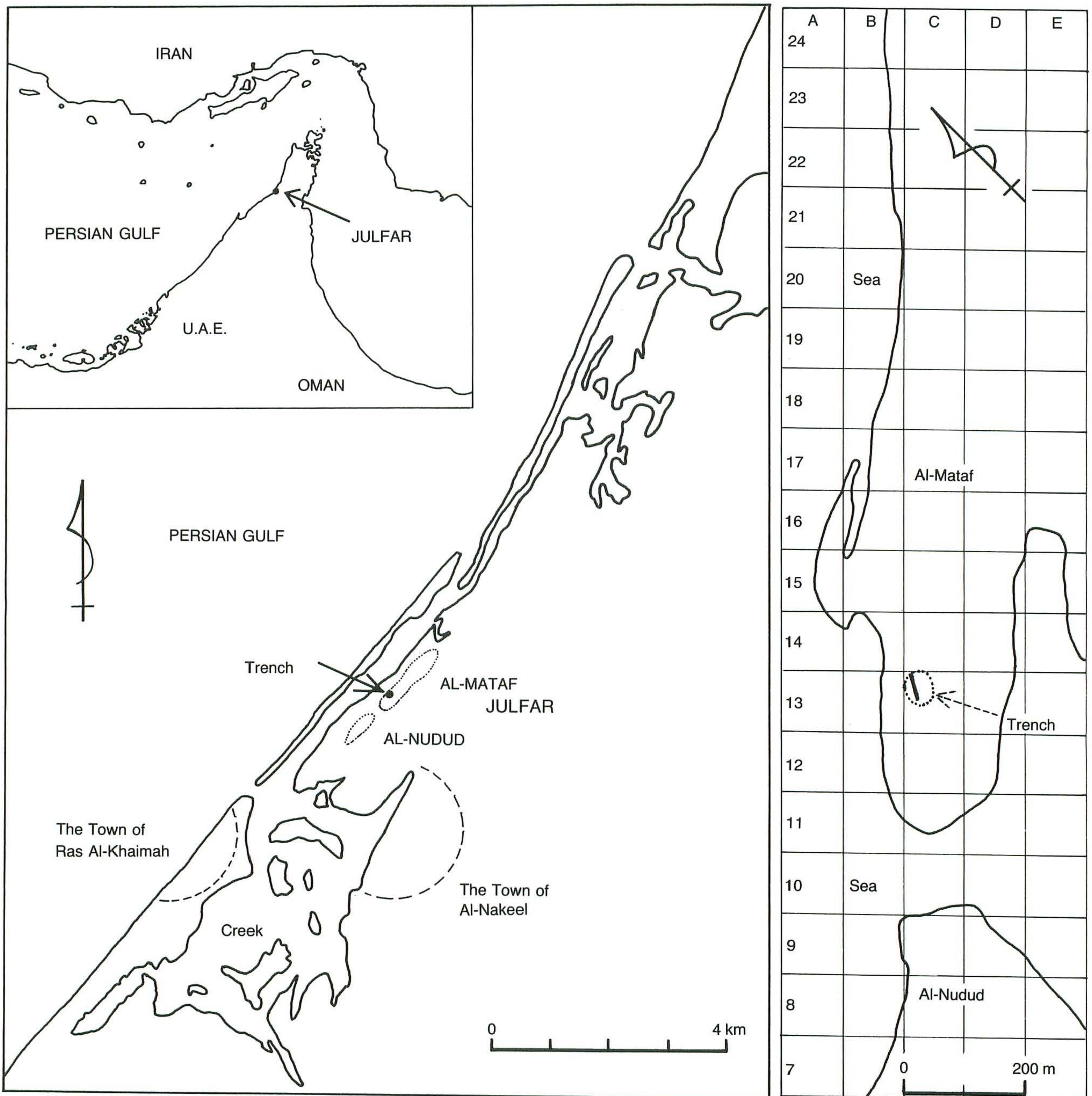


Fig. 1 The Map of JULFAR, showing the excavated point.

further collapse of the central part of the sounding. Since the linear E-W depression equally serves as a drain for natural run-off water, further collapse and silting-up of the trench was quickly recognized after the following rainy season.

The sounding was divided into two sub-trenches of roughly equal size—a northern and a southern one (abbreviated TTN and TTS). A balk was left in the centre along the longitudinal axis of the linear depression. The two sub-trenches were then lowered purely in artificial horizons of roughly 20 cms. thickness. Thus artificially created find assemblages were then numbered I, II and following consciously ignoring possible contextual associations. The same method of artifact sampling was followed on the lateral slopes of the trench, i.e. inside the studied portions of the linear depression. A consecutive mix-up of



artifacts was deliberately put up with, since there was no clear intension for a proper stratigraphic probe. This particular proceeding is, admittedly, rather crude but had also to meet the general strategy of the "feasibility sounding". However, it was later realized that in spite of what appears a methodologically problematic strategy, the sampling somehow coincided with a sequence of roughly horizontal cultural deposits in the upper reaches of the trench (particularly in the northern sub-trench). Finds from such 20 cms. layers may thus easily contain artifacts of one or more successive occupational horizons but still and very generally reflect the chronological evolution of the sequence. (A very similar general finding was recorded from the "Japanese" trench some 150 ms. to the south). This is true only to a certain degree in areas where major, later disturbances and intrusions can positively be excluded (unlike for instance in TTS where large and deep pits could be located).

Incipient strategies were modified into a less radical procedure especially when in the northern sub-trench clear architectural remains became evident. Proper contextual assemblages could be defined more specifically by means of constructional/architectural boundaries such as floors, rooms, out-door contexts, etc.

Architectural remains are composed of brick walls and remains of stone/brecchia foundations. Floors consist of a strongly concreted mud surface or less frequently of gypsum or lime plastering. As already noted by Hansman [1985:8], the bricks are made of pure mud (which possibly originated from the silts of nearby *sabkha* areas, thus explaining the high salt content) or more often from beach sand strongly "tempered" with osteological remains, ashes and mollusc fragments of different size. During exposure, mud (silt) bricks proved to be of a very strong consistence, whereas sand bricks were extremely "soft" in texture and thus difficult to trace. With the impact of sun, daylight and fresh air, both of those construction materials started to soak brackish water from underneath and to disintegrate. Unfortunately enough, no minimum consolidation measure (as a re-plastering of brickwalls, for example) will probably prove sufficient on a reasonable expenditure except for re-filling the trenches. A detailed study of the composition of the different building materials may eventually verify this very personal impression, but admittedly there is little reason for enthusiasm.

In the final stage, i.e. after 4 weeks of work, the two areas were left as stepped trenches displaying archaeological and structural assemblages of different stages and occupational phases (see below). The deepest level ever reached is in the central portion (north of the balk) reaching the brackish sea water level at low tide.

Work was carried out by 7 workmen for a period of exactly four weeks, the excavation and cleaning of brick architecture was done by the author. Not only since the trench was already affected by the impact of post-excavation erosion, protective measures were deliberately not taken at all save for the lay-out of superficial drains to divert run-off waters.

All finds (pottery, stonewares, glass, metal, bones, etc.) were collected, but very soon their overwhelming quantity enforced a representative selection. That collection was—in agreement with the Department of Antiquities—passed to the Japanese team for further study.

### **Texture and composition of the cultural deposits**

The surface of the area displayed a number of features (apart from morphological ones) which affected the choice of the excavation area. Most outstanding was a concentration of surface finds with a high percentage of coins and Far Eastern wares. Far Eastern porcelains and celadon are more abundant compared to the more distant and more peripheral sections of the site *in toto*.

The topsoil of 10 to 15 cms. is extremely soft and is easily exposed to fluvial and aeolian erosion.



Larger or even medium-sized stones (primarily wadi pebbles) are rare and the underlying matrix, mainly consisting of silt, carbonate sands and burnt organic material is permanently imbibed by moisture. Irregularly spread white patches document a high salt content permeating from below the brackish ground water table. High salination became later evident also inside the trenches where mud and sand bricks rapidly began to effloresce on air contact and crumble.

The high salt content raises the major preservation problem at Julfar concerning both the architectural remains as well as any category of artifacts. Salt extraction through vacuum chambers will eventually restrict any measures to objects of reasonable size and preservation.

There is little doubt that the salt content is not only due to brackish ground water but also due to the used building material which was collected from nearby resources of breccia-like beach-rock (concreted conglomerate and corals) or from the silty substratum of the former *sabkha* area immediately east of Julfar.

Roughly within the next depth of 1 m. in the southern and deposits of 1.4 m. in the northern trench the consistence of the accumulated remains did hardly change except for an increasing compactness, a higher content of ashes and bones as well as an increase of moisture. The stronger showing of ashes and animal bones can easily be related to a large number of pits and *tannoor* constructions which were equally noticed and cleared throughout the entire trench.

Pl. 3 depicts such a typical situation which was repeatedly cut through also in the roughly horizontal upper deposits of the test trench north (cf. N and E section in Pl. 3–8): particularly in the foreground (Pl. 1–3) three larger pits are visible dug into a relatively even floor of concreted mud/silt and once containing ashes, shells, a high number of animal bones and potsherds, for instance as those from pit 2 similar to the glazed container [cf. Sasaki 1991: Fig. 3–38]. The general finding is identical to that of the Japanese operation. The stage reached in the test trench south (i.e. about 1 m. below the topmost surface) comprises several occupational horizons. The pottery vessels [ibid.: Fig. 3–35, 38, Fig. 4–40] come from the southern third of the trench from a level of approximately 20–25 cms. above the finally exposed floor(s). From the same area, but from slightly above floor level originate the celadon plate [ibid.: Fig. 1–6] and the (possibly) Vietnamese porcelain vessel [ibid.: Fig. 1–1] giving the date to the layer around the 15th century AD.

The apparent absence of structures in the proper sense in the upper deposits is the most common and equally striking feature. Especially for the period of Portuguese sovereignty and the respective references to a town of considerable wealth and prosperity during that period in which we would have expected the presence of more prestigious buildings particularly in this section of the site. Whatever it was, from the archaeological point of view and the not necessarily representative impression from the test trench, we cannot record any structures but the postholes of simple *barasti* or *arish* constructions. This impression is somehow confirmed by the findings of the Japanese team; since their excavation has been carried out on larger scale, patterns of postholes are clearly visible, helping to recognize the plans of complete huts and shelters of perishable organic material. As for the later periods, a rescue excavation just in front of the entrance of the Ras al-Khaimah fort (now located the Ras al-Khaimah National Museum) in late 1987 proved the existence of very small, rectangular dwellings for a mixed archaeological context hardly antedating the 18th century or even more likely the 19th century (cf. paintings of the British attack on Ras al-Khaimah in 1809).

Quite certainly there is a radical change in the development of structural remains probably during the 15th, possibly the 14th century AD. That change is marked by the emergence of scanty remains of mud brick architecture as can be seen in the central third of the test trench south (Pl. 1–3). Here more coherent structures did not become apparent because work was ceased just on top of it.

In the test trench north the situation is totally different. Regarding the exposed final stage, at least



four chronologically (or constructionwise) distinguishable phases can be described. Due to the lack of a proper documentation their precise and absolute chronological interrelation cannot be stated with certainty: the area is neatly packed with building remains and possibly related floors. Walls are easily recognizable but sometimes preserved only in their lowermost course.

First of all the thing to be mentioned is a small (and uppermost preserved) portion of a floor with a medium-sized grinding stone and two *in situ* elements of a stone mill (Pl. 2–6). One of them forming the upper part of a mill is made of a reddish brown sandstone with a central hole and three additional ones at its perimeter. The central hole was used for inserting a wooden (?) handle in it. The second stone-“disc” forming the bottom piece is made of a bright bluish chist-like stone with a single perforation in the centre.

The whole assemblage was once possibly the furnishing of a courtyard extending to the south and being related to a northerly adjoining building (see below). To the same context an internally dark green glazed bowl [Sasaki 1991: Fig. 3–37] can be attributed (cf. Pl. 2–6, in the centre on a column of spared debris). The bowl shows three imprints originating from a tripod-shaped firing device (pot spacer).

The above mentioned floor which was concreted by a possible lime plaster solution may have covered an enclosed courtyard which was exposed further to the south (central third of TTN; cf. Pl. 2–6 centre). The brick wall of a possible courtyard enclosure can be seen on Pl. 8 (centre); it is obviously built against the exterior of a northerly building. It was preserved at least another three courses of mud-bricks (visible only in the eastern section of TTN).

Of the courtyard a large portion of what now appears to be a brick pavement has been uncovered. As a matter of fact the completely excavated section carries the regular pattern of laterally visible or vertically laid mud-bricks. Since this area has not been studied any further, it cannot be decided whether it represents an intentionally laid pavement or, more simply, a collapsed wall. The installation of a *tannoor* which was partially dug into it does not give any hint since two further one just next to it were built on the same level but in a different matrix.

Using the term *tannoor* is slightly misleading. In fact those installations are the re-used bottom parts of larger, previously broken applique pottery vessels of the well-known Julfar fabric [cf. Hansman 1985: 60ff.] set upon a bed of crushed shells (to retain the heat) and still containing a filling of ashes and animal bones. Their attribution to the aforementioned floor is in fact rather doubtful: assuming that they were once dug and sunk into older deposits, they more reasonably belong to a later period than the stone mill and the related floor.

Adjoining to the north is a highly interesting area with the remains of a mud-brick building (Pl. 2–5). It consists of at least two (rectangular) rooms (Pls. 2–7 and 3–8). Room 1 is marked by a strong and neat gypsum floor. Its eastern limit is a wall of square standardized mud-bricks roughly 35 cms. in length with a similarly paved doorway right at its northern end. Next to it is a section of another room with an odd installation: a platform 40 cms. in maximum height, made of clay and several random stones. On its top it is plastered and furnished with at least four interconnected grooves which are tilted from N to S. Those grooves show a greyish tint coming from the use of the installation. Their inclination is presumably intentional, causing some fluid to flow and to collect in the U-shaped lower joints (or knees) of the grooves. The process itself has led to a remarkable concretion of the grooves, and with reference to similar construction known from the Islamic fortresses of Qala’at al-Bahrain [Kervran 1982] and Sohar, one might suggest a similar function, i.e. that of a date juice production unit.

Once completely excavated the underneath of its southern end, a large globular earthenware pot [Sasaki 1991: Fig. 5–41] was found apparently still *in situ* (cf. Pl. 3–8). At the beginning it was considered a receptacle to collect the molasses from the top; but due to its permanently fixed position and the lack of any means to remove the syrup from the vessel, this interpretation can now be ruled out.



More likely is the vessel to be a relic of a former and different use of the room.

Stratigraphical predecessor of the above building with the attached courtyard is a structure exposed further to the south on the lower slope of the depression (Pl. 3–9). Its southern edges are partly destroyed probably by erosion. Maximally, only two courses of mud-bricks of its external wall have survived (further courses have been cut in the section at the southern edge of the upper courtyard); the bricks are rectangular, standardized and regularly laid. The internal division of the building is made of smaller sand bricks enclosing a section of a small room with a gypsum floor (with another one on top which had been removed) and a posthole as well as one or perhaps two oblong compartments. Within this context (from the upper edge of the preserved walls down to their bottom), there is a change in the material inventory: the Far Eastern wares disappear almost completely as does the so-called Khunj ware (see below).

Below the foundations and floors of this building, a destruction layer of some 50 to 60 cms. could be traced; it contained several ash layers of different depth (west of the external wall; see Pl. 3–10 section) and domestic refuse as well as tumbled stones and mud-bricks (Pls. 3–10 and 4–11). Inside the eastern compartment of the upper building and clearly underneath its bottom end, another kind of glazed pottery turned up in rather high concentration; it is made of a porous light yellowish paste with a whitish-opaque glaze and geometric designs of splashed colours (radiating strokes). Based on pure stylistic comparisons, an unexpected date during the 10th–11th centuries can be suggested (see below).

Further down in the stratigraphic sequence is a wall which was sealed by the above destruction layer (Pl. 3–9 bottom). As a matter of fact it is a wall that might have run right all along the E–W depression. The eastern section of TTN leaves little doubt that it rests on more than 1 m of what appears to be sterile sand just on the edge of a ditch: following a corresponding contour line in the longitudinal section further to the south, the V-shaped cross-section becomes even more evident, and with some degree of certainty it can be stated that the test trench has been laid across a deep moat thus confirming a former functional distinction of Hansman's areas A and B.

The evidence of the moat does unfortunately not coincide with a positive proof for the location of a fortification. However, there is still some hope that respective remains have survived further inside the artificial mound. The moat itself must have had a particular function, that is to say a fortification one: its width was clearly less than 5 ms. at sea level, and regarding the much wider inlet stretching some 200 ms. to the south, there is hardly any reasonable explanation of the moat as a passage to a not yet located harbour area. It is notwithstanding obvious from the bearing of the just mentioned mud-brick wall (Pl. 3–9) that the moat existed during the 10th/11th century AD (or even earlier). The filling of the moat from top to bottom (sea level) consists of many regular horizontal but relatively thin layers of mud, silt, gravel, and artificial material. This filling accumulated rather late because its composition appears fairly homogeneous with late material even in its bottom layers. Interestingly enough, there were singular fragments which (with a big question mark) might be considered as Sasanian, some Iron Age and Wadi Suq sherds as well as a fragment tentatively named Umm an-Nar.

It is not the first time that pre-Islamic material is recovered from Julfar. Already during surface reconnaissance, some supposedly Wadi Suq potsherds and a softstone fragment were discovered. It cannot be ruled out that such material is somehow non-indigenous (e.g. intruded with mud-brick material) but the slowly growing number of such finds could also be related to a pre-Islamic occupation starting as early as the mid 3rd millennium BC.

The assumption of a pre-Islamic occupation at Julfar is in contradiction to any previous reconstruction of the coastal morphology: Schmidt [1988] has convincingly located the Iron Age (and earlier) coastline further inland. With that in mind and disregarding an anthropogenic transport of pre-Islamic artifacts, we can only



induce a location of Julfar's predecessor on a sand bar as it applies to other proto-historic sites such as Ghanadha or Umm an-Nar. Hansman [1985:8] gives a similar explanation for his pre-Level I layer of undisturbed deposits of sand (in MA-1) preceding his (earliest) mid 14th century occupation.

To sum up the findings in the test trench, we can outline at least 4 occupational "periods":

(from top to bottom)

- IV: an unknown number of occupation levels connected with perishable hut constructions dated between the 15th century and the abandonment of this part of the site in 1633.
- III: a layer with mud brick architecture dating to a period prior to the 15th century and posterior to the 10th/11th century AD. But in comparison with Hansman's Level II square brick measurements, a date during the latter half of the 14th or the early 15th century AD can be defined [Hansman 1985: 8].
- II: a destruction layer and the thus superimposed mud-brick wall along the moat associated with pottery of the 10th/11th century AD.
- I: a pre-Islamic occupation evidenced only by stray finds of a presumably Sasanian, Iron Age, Wadi Suq and Umm an-Nar date.

In respect of previous studies, it deems most important (but not at all unexpected) that there is more than just an occupation during the Portuguese heydays. The above chronology is not without substantial gaps, but by incorporating the greater Julfar area with sites such as Jazirat al-Hulaylah and a mediaeval mound in the Shimal palm groves, adds late Sasanian/early Islamic and possibly the 12th to 13th century evidence to the better recorded late mediaveal periods. Reliable chronological markers for an early Islamic material, reoccurring also from the Julfar 1988 test trench (albeit from an upper and mixed context in TT S), are glazed Abbassid pottery and the fragment of an imported stoneware vessel of the Chinese Tang period (kindly identified by T. Sasaki from the TT material). Despite its occurrence in general it is rather evident that proper layers earlier than the 10th century AD have not yet been cut: insinuating a classical tell-like build-up of Julfar's accumulated cultural deposits, early Islamic assemblages and older ones can be reasonably expected further inside the mound.

### The finds

Finds from the test trench comprise animal bones, a few personal ornaments, unworked raw materials (such as sulphur and chalcedony), copper coins, iron artifacts, stone vessels and implements (mills, quern fragments, grinding stones and the like), glass, glass bangles, pottery, porcelains, and celadon.

#### Animal bones

Animal bones have been collected systematically but not yet studied. The layman's may make out predominantly fish vertebrae and sheep or goat bones and a few bird bones. Osteological remains of larger terrestrial mammals are subjectively rare.

#### Personal ornaments

Personal ornaments with the exception of glass bangles (see below) are equally scarce. Altogether, perhaps five absolutely unsuspecting beads or bead fragments without any chronological significance (made of yellow glass, carnelian and clay) have been recovered. More interesting, however, is a fragment of a well-made polished carnelian finger ring from the test trench's upper layers ("IV") identical to those published by Hansman [1985: Fig. 18: a+b] said to have been manufactured in India during the 16th–17th centuries.



Another, rather enigmatic surface find is a very thin circular corroded sheet of copper with a single perforation at its perimeter. Although not yet cleaned, it seems to be a coin of possible European (Portuguese?) origin, used as part of a necklace.

### Unworked raw materials

Among the finds from the upper deposits were repeatedly small irregular yellowish fragments which by their smell could be identified as sulphur. Its function (or meaning as a residue) in any kind of industrial process cannot yet be elucidated but might relate to the wider context of metal working or even the production of ammunition for fire arms. Its precise provenance is obscure but most certainly available from the region (the Oman mountains or even the *sabkha* areas west of Abu Dhabi; personal observation). The discovery of unworked lumps of chalcedony gave some reason for speculation. Already Hansman had previously made a similar find, and with the much larger corpus of chalcedony objects from protohistoric sites in mind, a local source was taken into closer consideration. It is now mentioned elsewhere (Vogt n.d.) that a chalcedony openpit mining of considerable size was in use near al-Ghail some 50 kms south of Ras al-Khaimah town at least during the late Mediaeval period (Julfar type surface pottery) but perhaps as early as the 2nd millennium BC. For the qualitatively modest local demands was the import of chalcedony from India as commonly assumed [Hansman 1985:76] an unnecessarily high expenditure.

### Copper coins

During previous visits of the site, coins have always been a conspicuous surface find. This was also true for the trench with most of the coins (15 or so) from the surface and the uppermost layers. The earliest context yielding coins was that of III, and two or three were collected from the upper filling of the moat. The coins are exclusively cast of copper or bronze. The corrosive layer is always very strong, and the minting is never distinguishable. Cleaning is still pending, and thus the coins cannot be used for dating the assemblages.

### Iron artifacts

Objects made of iron have been recovered frequently throughout the sequence. They are badly corroded, and their salt content makes them crack only after minutes of air contact. Judging by their shapes most of those probably served as mountings; wooden remains are sometimes recognizable but for the above reasons do not survive for long.

### Stone vessels and implements

The stone implements (mill stones, querns) from the bottom of assemblage II have been described above. In addition to that, only few stone artifacts have been found. Among those is a fragment of a chlorite stone vessels probably of cylindrical shape similar to that found by Hansman [1985:Pl. 6e] and dated to the 15th century. The fragment shows traces of antique mending by means of copper rivets still inserted into three perforations. With chlorite sources in the Oman Mountains nearby, a local provenance can be claimed. Pre-Islmic chlorite fragments as once encountered on the surface in Julfar North (a Wadi Suq suspension vessel) were not found during excavation.

### Glass bangles

Glass bangles, always fragmentary and most common of the multi-coloured variety, have been found only in the upper layers of the trench and in the filling of the moat. They belong to the well-known group already presented by Hansman [1985:80ff.] and postdated by stylistic comparisons the mid 14th/15th



century. The parallels quoted are from controlled excavations in Egypt (Qusair al-Qadim: 14th/15th cent.) and India (Bombay: 16th/17th cent.; Nevasa: 14th to 18th cent.; Brahmapuri: 1435–1700 AD; cf. Hansman 1985:80). This very crude dating is generally confirmed by Whitcomb [1988:202] who locates another production centre at Kawd am-Saila some 15 kms. NW of Aden which was abandoned during the 16th century and before the manufacture of glass bangles was taken over by Indian producers.

### Glass

Vessels of glass from Julfar are—independent of their final stratigraphic association—in a piteous state of preservation, and little can be done for their survival. Iridescence is extreme as is their fragmentation. Shapes, if distinguishable at all, show only little variation and add very little to the catalogue already published by Hansman [1985: Fig. 20a–e; 16th cent. and later], although a slightly earlier date (15th cent.) cannot be disregarded on the basis of artifact association particularly in TTS.

One body fragment (not depicted), however, is particularly worth mentioning: it was found within the mixed context of the moat filling and it was covered all over with a regular pattern of convex circular dents strongly recalling late Roman or Sasanian productions.

### Pottery

Most obvious is the occurrence of pottery (which was not studied in detail) throughout the cultural layers, although vertical distributive changes are evident in tendency. We can make out local wares, Persian imports and a number of different Far Eastern ceramics. The latter is supplemented by an equally wide repertoire of Far Eastern porcelains and celadon. These wares are dealt with separately by the Japanese colleagues.

**Julfar ware** The identification of local “Julfar” wares raises no problems at all, especially since it is a ware which was manufactured locally by the Bani Shumayli in Wadi Haqil till about 1960 [cf. Dostal 1983:141]. This very recent production, which procures us with clear criteria for provenance studies, gives us notwithstanding some headaches on a lack of an intrinsic evolution of shapes, decoration and manufacturing techniques. On first sight, taking Hansman’s earliest dating during the 14th century for granted, one feels insecure about the obvious absence of stronger morphological changes of the production—here virtually an inconceivable case of cultural stagnation. However, these uncertainties are, with some goodwill, the result of a lack of well-defined classification markers which, I am sure, will be better outlined by those more directly concerned with Julfar’s ceramic assemblage.

Late Islamic pottery has unfortunately been, unless being of some artistic and aesthetic value, of little concern to archaeologists. That is difficult to understand especially since this kind of pottery is subjectively very much akin to certain fabrics of Iron Age and even 2nd millennium BC coarse ware pottery [cf. e.g. Vogt, Franke-Vogt 1987], thus making any evaluation of surface material fairly hazardous. On the other hand, as we know now, the dating of Julfar pottery might be disputed, and furthermore its distributive pattern is surprisingly extremely diversified: finds from 16th to 17th century Kilwa in East Africa [Chittick 1974: Fig. 143a], coastal South Yemen or from 12th century Bahrain [Bibby 1977: Fig. 22] give an approximate spatial frame of Julfar’s commercial transactions.

The locally made Julfar pottery is exclusively handmade. The paste is usually brownish to brick red, sometimes dark grey. Mineral grits and shell fragments of different sizes were preferred for temper, giving the pottery a rather crude appearance. The surface is sometimes coated with a cream slip, but more frequent was the maroon painting of geometric designs applied directly on the surface.

The most common shapes are cooking pots, pots, bowls, ewers, and big storage jars with applique cordons. Pottery lids like those from the Persian camp sites were not found.



Julfar pottery was collected throughout the stratigraphic sequence, but there is a clear decrease in quantity towards the earlier contexts. With the assemblage of "Period II", painting is almost absent (no figures available), certain shapes as the most typical ewers are rare, and the finishing of the vessels is definitely more elaborate than in the later periods.

**Unglazed incised and moulded ware (gudulia)** The top layers ("Periods IV and III") of TTN and TTS, as well as the filling of the moat, contained the fragments of a thinly potted unglazed and wheel-made ware bearing incised or moulded geometric and floral motifs. Either decorative variety is made of a cream-coloured to light buff, occasionally grey sandy porous and well-fired paste. The predominant shapes are bottles, jugs, and what appeared first to be pipeheads but later turned out to be water flasks. From own observations it is evident that they are widely spread in the Gulf. Chittick [1974:330] acknowledges that "wares of this sort were and are manufactured widely in the Islamic world"; but he also suggests that the specimens he collected mainly from his Period IIIb/IV occupation at Kilwa were imported probably from the Gulf region.

Superficially similar material was recently published by Morgan and Leatherby [1987:83ff., Figs. 36–48] as "Sirjan Unglazed Ware" from the site of Sirjan in Iranian Fars. Right there the plain ware mostly represented by stamped, pressed and incised ewers and jugs, and the better datable glazed wares were produced at the same kilns and thus a date in the 11th/12th century AD was suggested [ibid.: 52].

Adding further to the problem is the occurrence of a basically identical ware, however with a more restricted repertoire on rim variations and decorative ornaments as it is recorded for the later Islamic contexts on Bahrain [cf. Larsen 1983:Fig. 70c, g–j]. The respective finds from Julfar are most certainly closer to the those from Bahrain and Kilwa, although even at the latter site incised and moulded pottery was collected from archaeological contexts earlier than Period IIIb (i.e. c. 1400 to 1500 AD).

**Persian glazed wares** Hansman [1985:52ff.] records from Julfar three different wares said to be imported from Persia: celadon imitations, Persian blue and white frit ware, and the so-called Khunj wares. All of these are recorded from the top layers ("Period IV") of our trench, although the Persian blue and white imitation is extremely rare.

Celadon imitations are not unexpectedly represented almost exclusively by bowls and basins copying and modifying (for instance by adding ringbases) Far Eastern originals [Sasaki:Fig. 3–35, 37]. Their paste is usually light red to yellow, and the glaze is most commonly applied to the interior only. The colour of the glaze ranges from light to dark green, although dark blue glazed vessels (such as our four lugged jar, cf. ibid.: Fig. 3–38) are likewise attributed by Hansman [1985:52] to the corpus of celadon imitations and dated to the 16th century AD.

The term Khunj ware (deriving from the site of Khunj in Fars) was introduced by Williamson (unpublished) denominating a ware "thinly potted and light grey in colour" [cf. Hansman, 1985:52f.] with bowls and basins as the main shapes. The glaze is commonly from medium green to dark brown. At our Julfar test trench they were less frequently registered—mainly in the topmost layers ("Period IV")—and may thus confirm Hansman's dating of this ware to the 18th century. Their appearance is somehow contradictory to the proposed date of abandonment of Julfar's central section.

**Abbasid pottery** Only two fragments of clearly identifiable Abbasid pottery have been collected from the trench. Both of these originate from the disturbed toplayers of "Period IV" in TTS—by the way in association with the only recorded piece of glazed Tang pottery (see above). The two sherds are made of a very pale yellowish to cream sandy paste with a dark black and dark blue glaze.

**White opaque glazed pottery** When excavating particularly the assemblage of the above described "Period II" at Julfar, a considerable amount of the so-called "tin-glazed" white opaque pottery were found. Their clay is extremely powdery and porous, white to cream in colour, and the glaze conceals almost



completely the designs of radiating splashes. As a matter of fact, this ware has not been previously recorded from Julfar.

A nice collection of similar bowls was published by Rosen-Ayalon as “ceramic emaille polychrome” from Susa [Rosen-Ayalon 1974:174ff., Pls. 42–47:Group 15] and attributed roughly to the 10th–13th centuries [ibid.: 208].

This kind of glazed pottery spreads widely indeed all over the Near East. Several production sites have been traced among those that of Nishapur. Fayyum in Egypt was another one. Philon, who worked on the Benaki Islamic Pottery Collection, incorporated those pieces within the group of “wares decorated with different coloured glazes” ranging from the 10th to the 12th century [Philon 1980:35ff.].

From the Oman Peninsula very similar material, i.e. bowls with ring bases and simple or outcurved rims have previously been published by Costa and Wilkinson from Arja in the Sohar hinterland [1987:Fig. 95a–c and Fig. 96a,c,d,g], said to be related to the Abbassid/Samarran glazed pottery production and dated approximately to the 9th/10th century [ibid.:186f.].

Without anticipating a detailed analysis on porcelains, celadons and other Far Eastern stone wares, it is worth mentioning that Far Eastern wares are well documented from the upper levels of the 1988 test trench (“Periods IV and III”) and from the moat. They have not been collected from the underlying stratigraphical context of “Period II”.

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1. Julfar, central section from south.

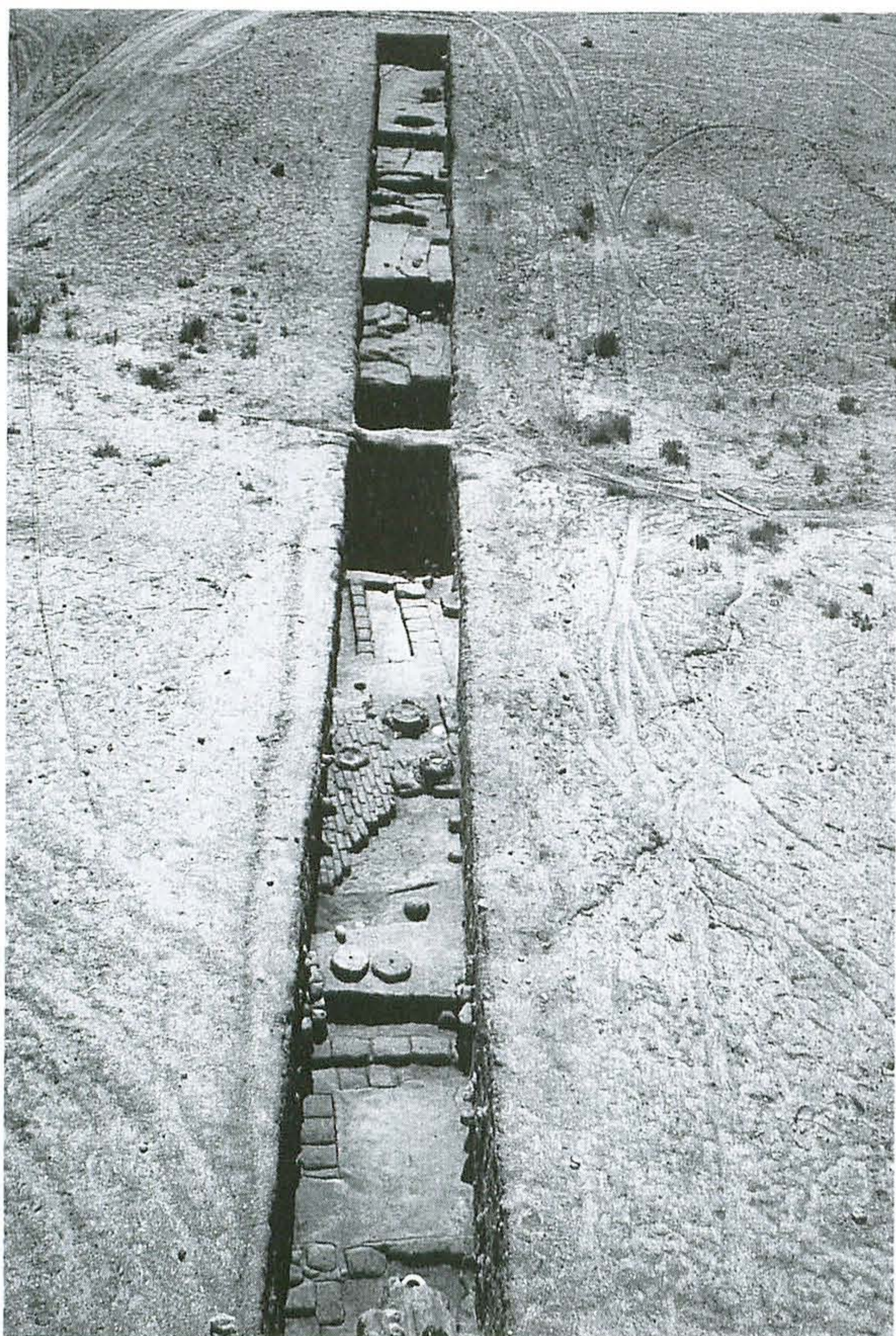


2. Julfar, central section plus test trench from north; at the top of the inlet.



3. Test trench TTS from south.





4. Test trench from north.



5. Test trench TTN from north, detail.



6. Same, in front "Period III" levels.



7. TTN from north, "Period III" building and "molasses production installation".





8. Same, from south.



9. TTN from south, lower section with "Period II" remains (front).



10. TTN lower section from south.





11. TTN lower section from west, "Period II" remains.







## VIETNAMESE, THAI, CHINESE, IRAQI AND IRANIAN CERAMICS FROM THE 1988 SOUNDING AT JULFAR

Tatsuo SASAKI

The purpose of this paper is to report the excavated ceramics from a trench of Julfar in a 1988 sounding. Julfar is an Islamic port site in Ras al-Khaimah, United Arab Emirates. The excavation, directed by Dr. Burkhard Vogt, was carried out in the western part of the archaeological site of al-Mataf area. He reports the result of sounding in this journal, *al-Rāfidān* XII [Vogt 1991].

Dr. Vogt showed us the excavated sherds at the National Museum of Ras al-Khaimah during our second excavation at Julfar. We took photographs and drew some of the excavated ceramics in a few days. These ceramics are typical export ware from Vietnam, Thai, China, Iran and Iraq. Earthenware of the Arabian Peninsula also exists.

### Vietnamese, Thai and Chinese ceramics (Fig. 1, Pls. 1, 2)

Piece No. 1 is a medium-sized Vietnamese blue-and-white jar of the late 15th–early 16th centuries, made in northern Vietnam. This is the only Vietnamese item discovered in the 1988 sounding, and excavated in connection with No. 6, a large celadon Thai dish from the south trench. Several pieces of Thai celadon were found, probably fired in the vicinity of Si-Satchanalai (known as Sawankhalok ware), some 50 km to the north of Sukhothai. No. 6 has some mending holes with copper string.

Fragments of Chinese ceramics are common. The greatest number are blue-and-white. No. 4 is a celadon bowl body fragment of Yue ware, dated around the 10th century. This piece is the oldest Chinese ceramic sherd found at the site. This was discovered in one of the upper layers, with a Chinese blue-and-white vase (Pl. 2, No. 47) from the 15th century, a small Chinese celadon jar (Pl. 2–45) and a celadon bowl (Pl. 2–46) from the 14th century, Thai celadon dishes (Pl. 2–50) from the 15th–16th centuries, Persian fritware dishes (Pl. 2–48 and 49) decorated blue on white glaze from the 15th–16th centuries, and a variety of earthenware.

Piece No. 3 was excavated with Iraqi blue-green glazed pottery sherd (No. 32) of the 9th–10th centuries and a Chinese blue-and-white bowl (Pl. 2–51) of the 16th century. A Chinese white porcelain bowl (No. 2) and Chinese celadon dishes (No. 5 and No. 44 in Pl. 2) were excavated in the same sand layer between a wall and a trench section together with a lot of white glazed ware and several fritware sherds. These Chinese white porcelain and celadon seem to be dated to the 14th century. A number of white glazed Iranian ware sherds were also discovered in this sand layer.

<in Fig. 1 >

1. Blue-and-white, Jar; pale greyish white fabric; decorated in underglaze cobalt blue with a band of continuous classic scroll on the neck, chrysanthemum scrolls on the shoulder, lotus-petal lappets on the body, and a double lotus-petal band above the base; base unglazed and flat; mending holes with copper string; diameter 12 cm, height 14.3 cm, base 12 cm; late 15th–early 16th centuries; Vietnam. Found at south trench in the same layer with No. 6.
2. White porcelain, Bowl; pale greyish white fabric; decorated with moulding, interior probably a lotus-petal band on the rounded side and a continuous scroll band around the centre; exterior without decoration; diameter 16

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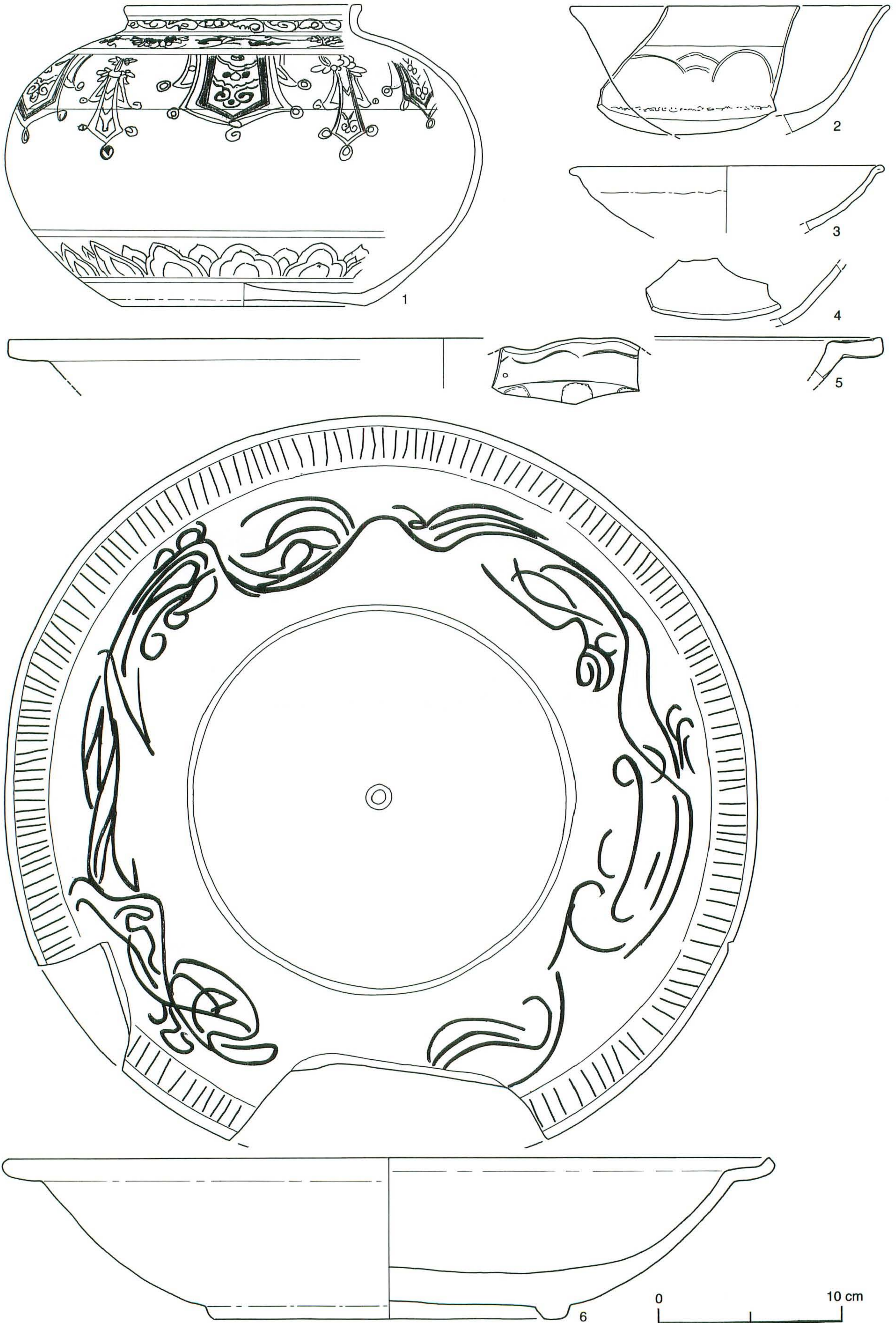


Fig. 1 Ceramics from East and Southeast Asia.



- cm; 14th century; China. Found at north trench, in sand layer between a wall and a section.
3. Whitish grey stoneware, Bowl; thin body with traces of a wheel, interior glazed, exterior unglazed below rim; transparent dark grey glaze; scrolled rim; diameter 16 cm; 13th–14th centuries; South China. Found at south trench with Nos. 32 and 51.
  4. Celadon, Bowl; olive green glaze; greyish black fabric; 10th–11th centuries; Yue ware, China. Found at north trench.
  5. Celadon, Dish; blue-green glaze, pale grey coarse fabric; foliated edge, flattened rim; interior incised lines on the rim and carved lotus decoration on the body, exterior carved lotus decoration on the body; one mending hole; diameter 44 cm; 14th century; China. Found at north trench, in sand layer between a wall and a section.
  6. Celadon, Dish; pale grey coarse fabric; transparent pale green glaze, base unglazed with iron-brown or chocolate bottom and trace of a tubular pontil; interior incised scroll decoration on the side wall, a incised line band on the flattened rim, exterior without decoration; mending holes with copper string; diameter 39 cm, height 8.2 cm, base 18 cm; late 15th–early 16th centuries; Thai. Found at south trench.

### Iranian white glazed pottery (Fig. 2, Pl. 3)

Nos. 7–31 and 52 are opaque white glazed pottery fragments with creamy yellow and soft powdered fabric. Some pieces of bowls were painted with a black underglaze decoration in the interior and exterior, though often this is not visible because of opaque and powdery white glaze. This ware can be categorized in three shapes; bowls, dishes and jars, the most common of which is bowls. Rim forms show several types. A slightly out-curved, an in-curved and an everted rim are the three major types. There is a everted lip type in dishes, which may be divided into two forms. One is seen in Nos. 19 and 20. Another is evident in Nos. 21–24, with slightly flattened rim and everted lip. A Lipped rim is also seen, but flaring and flattened rims are rare.

We can see clearly the influence of Chinese celadon dishes of the 14th century on the shape and technique of the decoration through No. 24. The panel patterns (radiating lines) painted with a black underglaze decoration have resemblance with white glazed ware (Nos. 26–28) and blue glazed ware (No. 34). Both of their panel patterns derive from a band of lotus-petal lappets of Chinese blue-and-white, produced in the middle of the 14th–15th centuries. Though a band of lotus-petal lappets decorated underglaze cobalt blue was a sub-pattern in China, it changed to the main pattern in Iran. An additional decoration pattern, cross-painting with a black underglaze decoration is also given on Iranian white ware.

White glazed ware seems to have been made in Fars or Kirman in the 14th century. Those pottery, Nos. 7–31 and 52 in Pl. 3, were found, together with Nos. 2, 5, 34, 36 and 44, in the same sand layer, between a wall and a trench section, which is called “Period II” by Dr. Vogt.

<in Fig. 2>

7. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze, foot ring unglazed but centre of the base glazed; three spur marks on the interior bottom, using same clay as body; interior decorated in underglaze black; two holes at the foot ring, not mending holes, 4 mm in diameter; diameter 21.4 cm, height 10.2 cm, base 6.7 cm; 14th century; Iran. Found at north trench, in sand layer between a wall and a section.
8. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 22 cm; Iran. Found at north trench, in sand layer between a wall and a section.
9. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 20 cm; Iran. Found at north trench, in sand layer between a wall and a section.
10. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 20.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
11. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 18.5 cm; Iran.



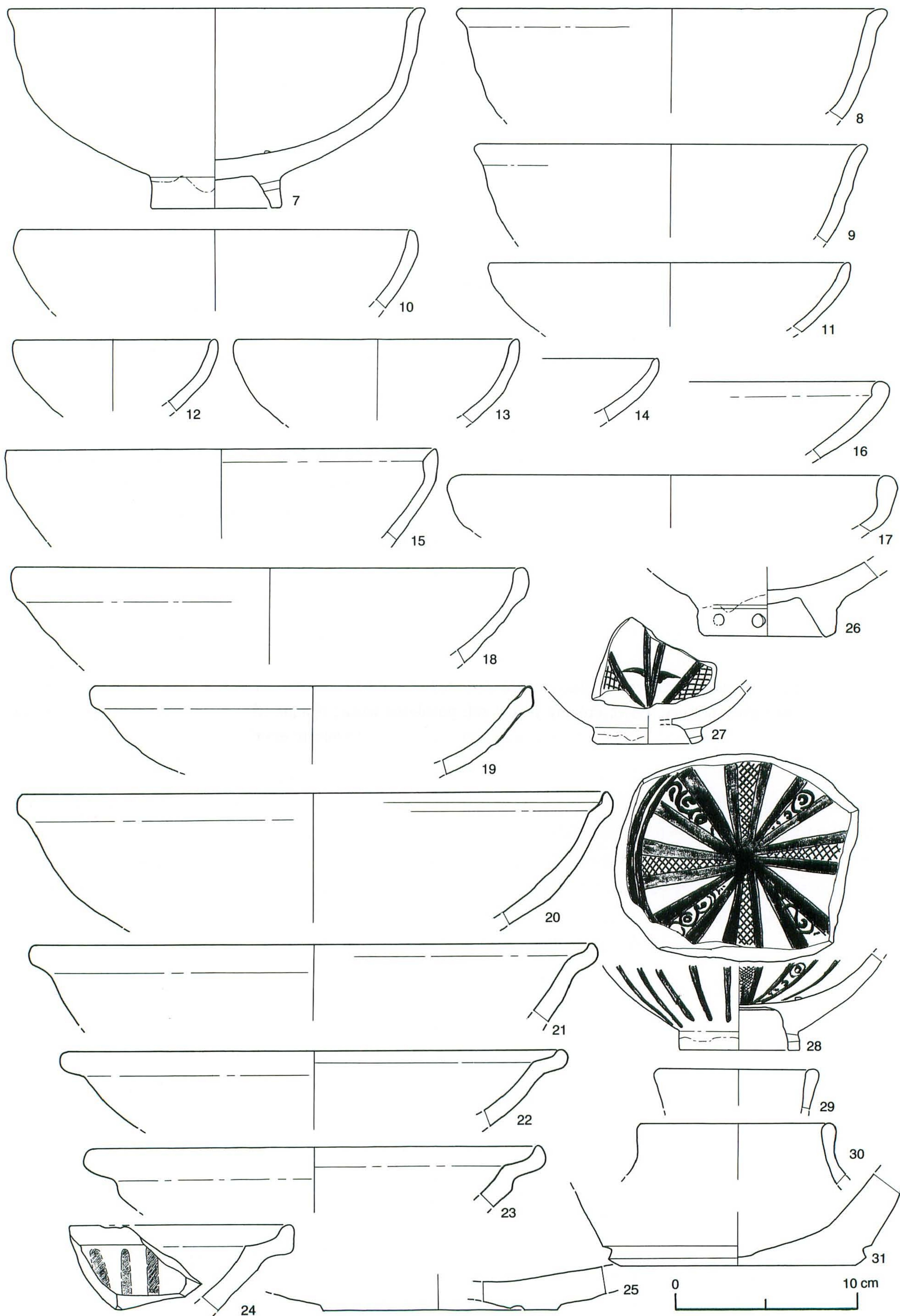


Fig. 2 Ceramics from Iran.



- Found at north trench, in sand layer between a wall and a section.
12. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 10.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  13. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 14.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  14. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; Iran.
  15. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze; diameter 22 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  16. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; Iran.
  17. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 23 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  18. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 26.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  19. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; interior underglaze black decoration; diameter 22.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  20. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 30.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  21. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 29 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  22. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 26 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  23. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; diameter 23.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  24. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze; interior carved lines; Iran. Found at north trench, in sand layer between a wall and a section.
  25. White glaze pottery, Dish; creamy yellow soft powdered fabric; opaque white glaze, glaze peeled off, base unglazed; base 12 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  26. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze, base unglazed; interior and exterior underglaze black decoration, hardly to see the design; interior spur mark; two holes at the foot ring, not mending holes; base 7 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  27. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze, base unglazed; interior underglaze black decoration with panel lines; interior spur mark; one hole at the foot ring, not mending holes; base 5.4 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  28. White glaze pottery, Bowl; creamy yellow soft powdered fabric; opaque white glaze, foot ring unglazed, interior base glazed; interior underglaze black decoration with eight panels or sixteen vertical lines, exterior underglaze black decoration with nineteen vertical lines; interior three spur marks; two holes at the foot ring, not mending holes; interior three spur marks; base 6.1 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  29. White glaze pottery, Jar; creamy yellow soft powdered fabric; opaque white glaze; diameter 8.5 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  30. White glaze pottery, Jar; creamy yellow soft powdered fabric; opaque white glaze; diameter 10 cm; Iran. Found at north trench, in sand layer between a wall and a section.
  31. White glaze pottery, Jar; creamy yellow soft powdered fabric; opaque white glaze, interior glazed, exterior unglazed; base 12 cm; Iran. Found at north trench, in sand layer between a wall and a section.

**Iraqi blue-green glazed pottery, Iranian blue and green glazed pottery (Fig. 3, Pls. 2, 3)**

A small fragment of No. 32 is of blue-green glazed Iraqi pottery jar of the 9th century, found in upper layer, with many sherds of earthenware and sherds of Chinese blue-and-white bowls from the 16th century. The fabric is similar to the Iranian white glazed ware of Nos. 7–31 and 52. But the fabric of the blue-green glazed ware has a slightly lighter or pale colour and more powdery than white glazed ware of Nos. 7–31 and



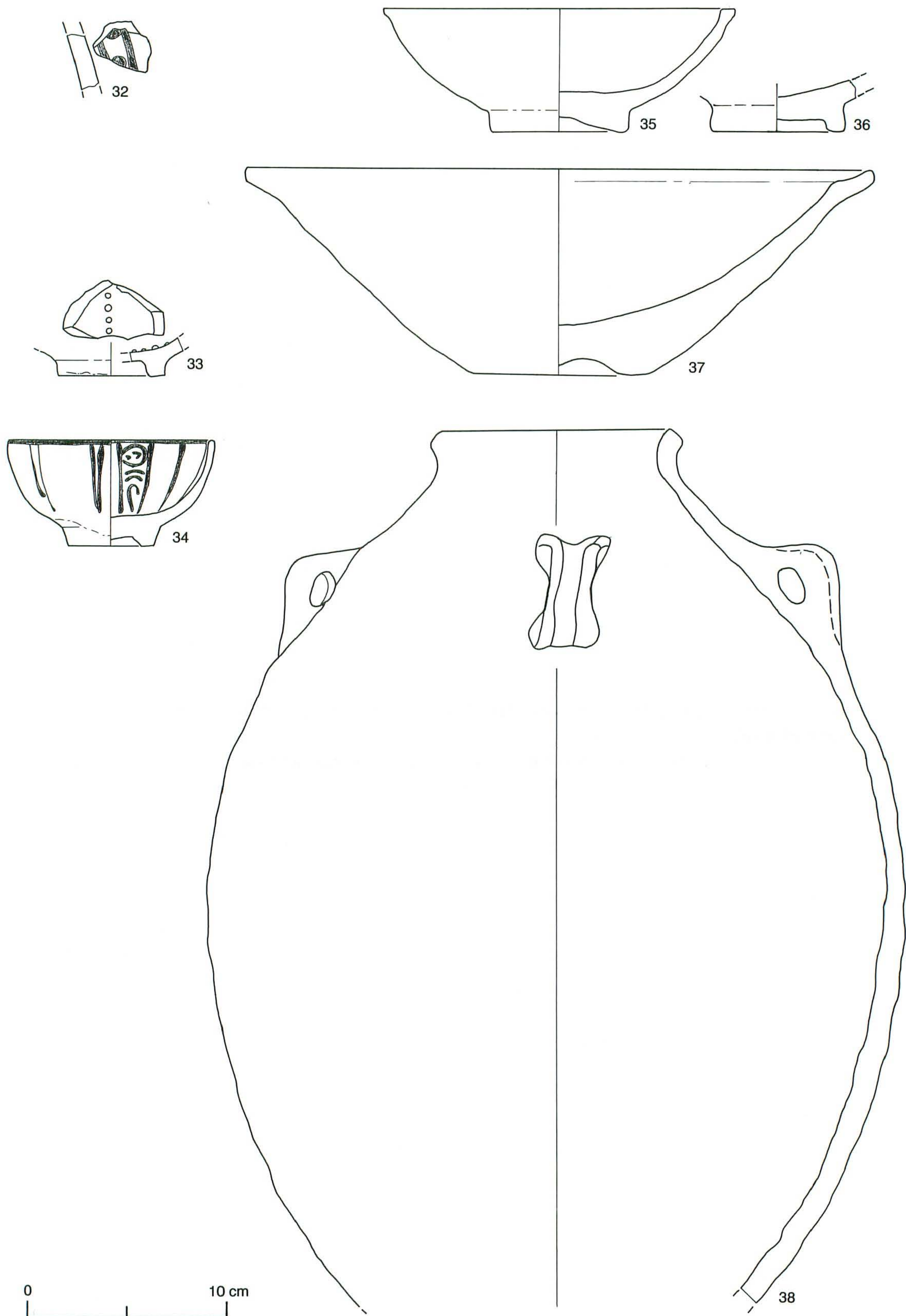


Fig. 3 Ceramics from Iran and Iraq.



52. They are actually completely different. Moreover shapes of white ware between the 9th–10th centuries and the 14th century are quite different.

Blue glazed pottery with frit fabric, fritware, is found in small quantities. Its provenance is not certain. Nos. 33 and 34 were found in the same layer with the white glaze pottery of Nos. 7–31 and 52. Therefore, they seem to be of the same period of production.

Green glazed pottery is common in upper layers of the 15th–16th centuries. But there is a possibility that No. 36 dates from the 14th century.

<in Fig. 3>

32. Blue-green glaze pottery, Jar; creamy yellow powdered fabric; exterior blue-green glaze, interior whitish blue glaze; exterior applied decoration, small applied circles between two applied lines; 9th century; Iraq. Found at south trench together with No. 3.
33. Blue glaze pottery, Bowl; pale greyish white fabric, frit; blue glaze; interior underglazed applied decoration, lined small applied circles; base 5 cm; 14th century; Iran. Found at north trench, in sand layer between a wall and a section.
34. Blue glaze pottery, Bowl; white fabric, frit; blue glaze, base unglazed; interior and exterior underglazed black decoration, interior decoration divided into 18 by one line and exterior divided into 8 by two lines; diameter 9.6 cm, height 4.9 cm, base 4 cm; 14th century; Iran. Found at north trench, in sand layer between a wall and a section.
35. Green glaze pottery, Bowl; brownish red fabric; green glaze, exterior unglazed; diameter 16.2 cm, height 5.7 cm, base 6.2 cm; 15–16th centuries; Iran. Found at south trench in the same layer with Nos. 38 and 40.
36. Green glaze pottery, Bowl; brownish red fabric, probably fired later and turned red from yellow fabric; green glaze, exterior unglazed; base 6.4 cm; 14th–15th centuries; Iran. Found at north trench, in sand layer between a wall and a section.
37. Green glaze pottery, Large bowl; Yellowish red fabric; green glaze, exterior unglazed; interior three spur marks; diameter 29 cm, height 9.5 cm, base 8.7 cm; 16th century; Iran. Found at north trench, on a courtyard floor.
38. Green glaze pottery, Jar; Brownish red fabric; green glaze, exterior and interior glazed; four handles (now two

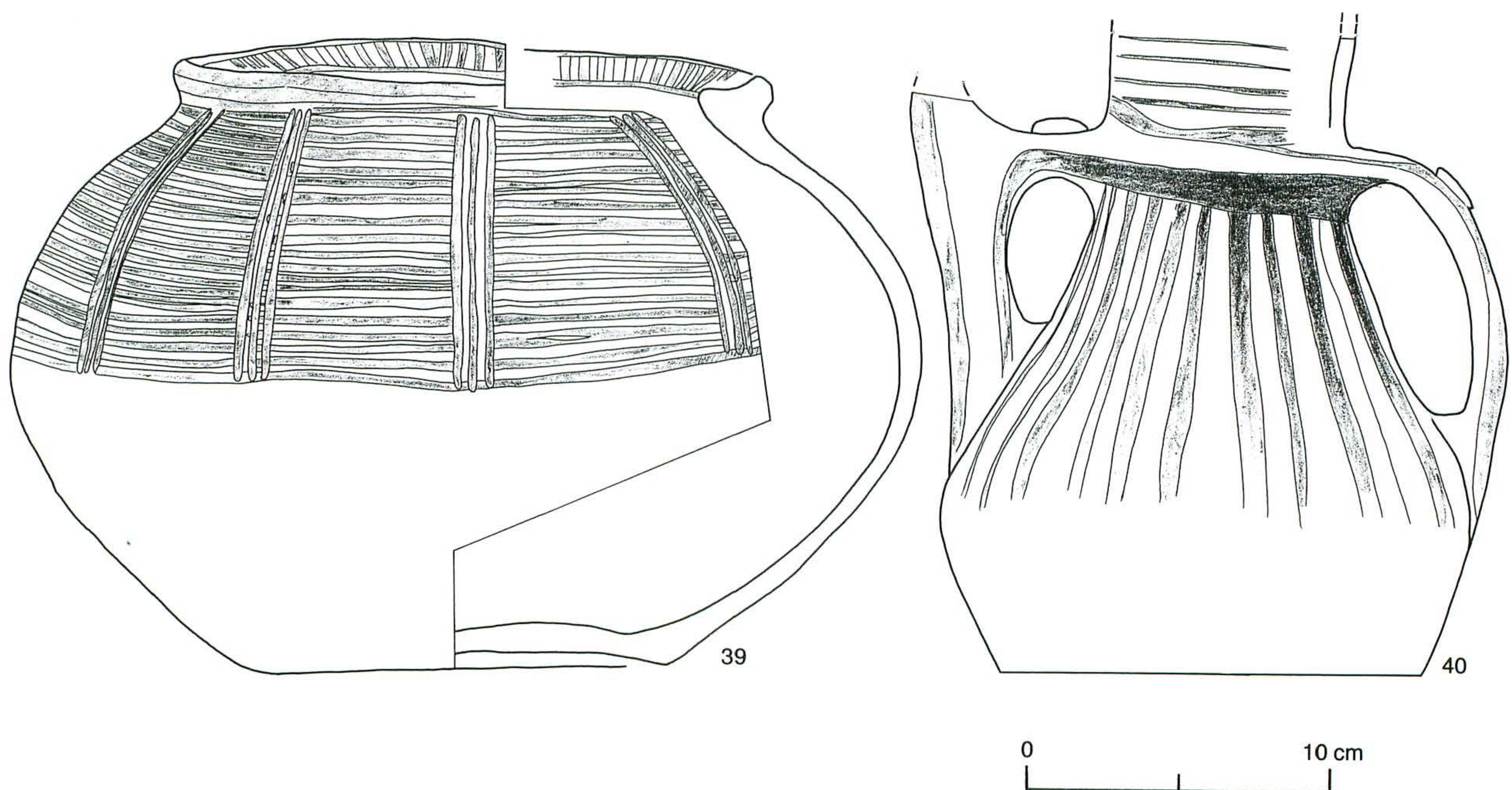


Fig. 4 Painted Earthenware.



of them remained) on the shoulder; diameter 10.5 cm, width 32 cm, remaining height 40 cm; 16th century; Iran. Found at south trench.

### **Painted earthenware** (Fig. 4, Pl. 4)

Painted earthenware is common and next in quantity to earthenware. Bowls, cooking pot, jars and ewers are the major shapes. This painted earthenware seems to have been produced in Ras al-Khaimah near mountains.

<in Fig. 4>

39. Painted earthenware, Jar; brownish red fabric; exterior and inside of rim painted, exterior divided into eleven by three vertical lines and painted eighteen horizontal lines; base received fire and turned hard and grey; diameter 16.5 cm, height 18–19.5 cm, base 12.2 cm; 15th–16th centuries; Ras al-Khaimah, U.A.E. Found at north trench.
40. Painted earthenware, Ewer; brownish red fabric; exterior painted, horizontal lines on the neck and vertical lines on the body; one spout, one handle; base 12.9 cm; 16th century; Ras al-Khaimah, U.A.E. Found at south trench.

### **Earthenware** (Fig. 5, Pl. 4)

The majority of pieces are earthenware, and these take a variety of shapes. Many pieces have neither decoration nor glaze. Several types of fabric may be seen. Provenance is not certain but the items seem to have been made in Ras al-Khaimah.

<in Fig. 5>

41. Earthenware, Jar; pale pinkish fabric; scrolled rim, flat base; diameter 16.9 cm, height 30.3 cm, base 11.2 cm; 15th–16th centuries; Ras al-Khaimah, U.A.E. Found at north trench, underneath a molasses installation (a receptacle of a date juice production unit or a date press).
42. Earthenware, Jar; pale pinkish fabric; diameter 17.1 cm; 15th–16th centuries; Ras al-Khaimah, U.A.E. Found at south trench.
43. Earthenware, Large-sized bowl; brownish red coarse fabric; diameter 34.6 cm; 15th–16th centuries; Ras al-Khaimah, U.A.E. Found at north trench, on a brick pavement.

The site of Julfar offers a wealth of material, with ceramics being the most common archaeological find. Miss de Cardi and Mr. D. B. Doe first turned archaeological attention to the site more than twenty years ago [de Cardi 1970; 71]. Dr. Hansman has already reported on the significance of the East and Southeast Asian ceramics found at the site [Hansman 1985]. Pioneering works have been done on the site. Dr. King reported 1989 and 1990 British excavations at Julfar [King 1990; 91]. Dr. Hardy-Guilbert and Sasaki are also excavating the allocated site now [Sasaki 1989b; 1990a, b]. I am discussing the distribution of ceramics by seaborne trade and imitation using the excavated sherds from Julfar [Sasaki 1989c; 90d; 91a]. But several sherds from the 1988 sounding conducted by Dr. Vogt, remain important for their combination and rarity.

Two pieces of ceramic sherd are particularly rare. No. 4, Chinese celadon and No. 32, Iraqi blue-green glazed ware, may be dated to the 9th–10th centuries. A piece of celadon bowl of Yue ware, dated to approximately the 10th century, is the oldest Chinese ceramic sherd found at the site. These types of ceramics were not found in our excavated area, though we reached the bottom of the habitable layers in 1990. These rare sherds are particularly interesting to consider the period and limitation of the site.

The same type of Iraqi blue-green glazed ware was found at Jazirat al-Hulaylah, on the coast of the



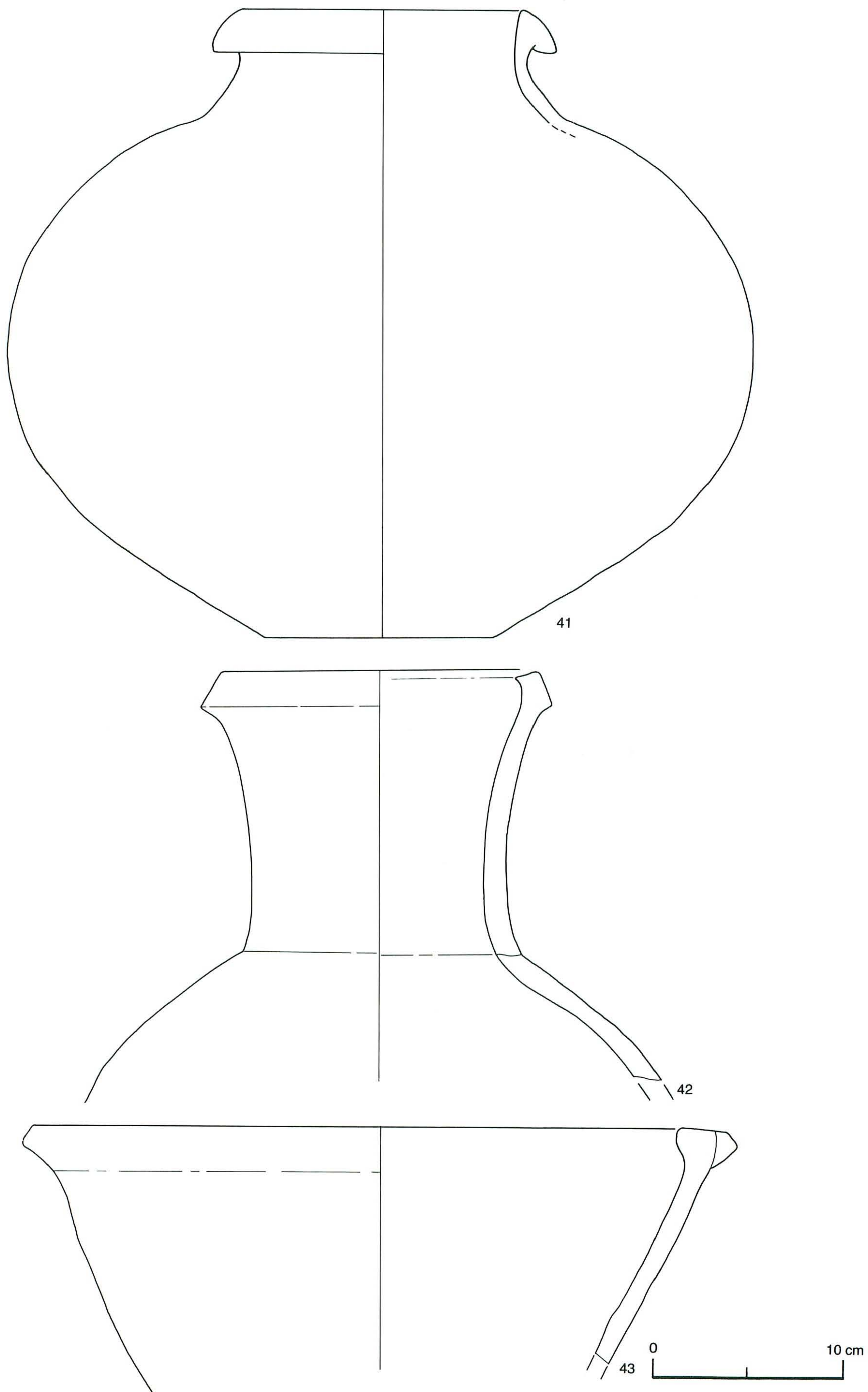


Fig. 5 Earthenware without decoration.



Arabian (Persian) Gulf at Rams, 10 km north of Julfar, and at al-Khat, near the mountains of Ras al-Khaimah. Fragments of both finds are now stored in the Ras al-Khaimah museum. Miss de Cardi already found a sherd of green-glazed ware at Salihyah near Ras al-Khaimah [de Cardi, 1971] and green-glazed and tin-glazed ware at several coastal sites in the Musandam peninsula [de Cardi, 1975]. Blue-green glazed pottery was also discovered at Jumeirah near Dubai, and is now stored in the Dubai museum [Sasaki 1989a]. Dr. Hardy-Guilbert and Sasaki reported the same type of pottery at Murwab, Qatar [Hardy-Guilbert 1984] and A'Ali, Bahrain [Sasaki 1990c]. The excavations of this Iraqi blue-green glazed pottery were reported at many other countries, Syria, Iraq, Kuwait, Iran, Saudi Arabia, Oman, Yemen and etc. These finds seem to indicate that early Iraqi ware was distributed by trade over sea and land route, which might have passed through Julfar. Dr. Whitehouse [Whitehouse 1977; 79] and Sasaki [Sasaki 1980; 82; 85; 87; 90c; 91b] referred to the provenance, dating and trade of this type of pottery. In the 9th–10th centuries, blue-green glazed ware seem to have been produced mainly in Mesopotamia, together with white glazed ware. Williamson pointed out that there were several production centres for white ware in West Asia [Williamson 1987]. The results of the petrographic analysis of the excavated sherds from West Asia are a great help in considering the provenance of this type of pottery [Mason and Keall 1988].

This paper concentrates mainly on the assemblage of the 14th century. Nos. 7–31 and 52 of Iranian white glazed ware, No. 2 of Chinese white porcelain, No. 5 of Chinese celadon, No. 34 of Iranian blue glazed ware and No. 36 of Iranian green glazed ware were found at a single location, a sand layer between walls and a trench section at the bottom end of the western wall in the north trench. This layer is called "Period II" by Dr. Vogt in his article [Vogt 1991]. Following the sounding which occurred in the spring of 1988, the Japanese team conducted three seasons of excavations in the winter of 1988, '89 and '90. All the ceramic sherds were collected by layers in our excavations. My hypothesis is that Period II of the 1988 sounding corresponds to level 6, or Phase 2 of the Japanese excavations and may be dated to the middle or late 14th century, given the combination of finds.

White glazed ware seems to have been produced in Fars or Kirman provinces, the Lower Arabian (Persian) Gulf area in Iran, in the 14th century. Bowls are often painted with a black underglaze decoration in both the interior and exterior. There is a close relationship between white glazed ware and Chinese ceramics. The influence of Chinese celadon on white ware can be seen in shape, decorative technique and patterns of the design. The panel patterns of underglazed black decoration bear a resemblance to white glazed ware and blue glazed ware. Both their panel patterns derive from a band of lotus-petal lappets of Chinese blue-and-white, though formerly these designs came to China from Iran. Decorations occasionally reflect similarities in ware produced in both western and eastern Asia during the same period, suggesting the influence of public taste by trade.

Blue glazed fritware is found in small quantities and its provenance is not certain. Nos. 33 and 34 were found in the same layer dated to the 14th century. They seem to have originated in the same production area in Iran.

Fragments of Chinese ceramics are common. Among them, the greatest number are blue-and-white of the 15th–16th centuries in the upper layers. Celadon is also found in the lower layers. Those pieces, Nos. 1, 6, 35 and 37–43 are dated to the 15th–16th centuries. A Vietnamese blue-and-white jar of the late 15th–early 16th centuries may have been produced in northern Vietnam. Though Vietnamese ware is very rare, Thai celadon, probably produced in the vicinity of Si-Satchanalai, is common in the upper layers. Green glazed ware, probably produced in Kirman province, is common in the upper layers of the 15th–16th centuries. But there is a possibility that No. 36 dates from the 14th century. A large number of fragments, and variety of types, shapes and forms of ceramics of this period were found. But illustrated



samples are few in this paper; for example, Iranian unglazed incised ware of the 15th–16th centuries is not shown.

Classification and analysis of all the excavated ceramics from Japanese excavations will be discussed in the near future. All the dating and provenance I have assigned to the finds in this paper are still presumptive. I expect to be able to add more precise data to them, in comparison with the results of Japanese excavations.

I would like to express my gratitude to the Ras al-Khaimah National Museum especially H. H. Sheikh Sultan bin Saqr al-Qasimi, Deputy Ruler and Director of Department of Antiquities & Museum of Ras al-Khaimah, and Mr. Jay Laxman for the generous support and willing assistance given during our work. This report was made possible by the grants from Monbusho International Scientific Research Program, Government of Japan.

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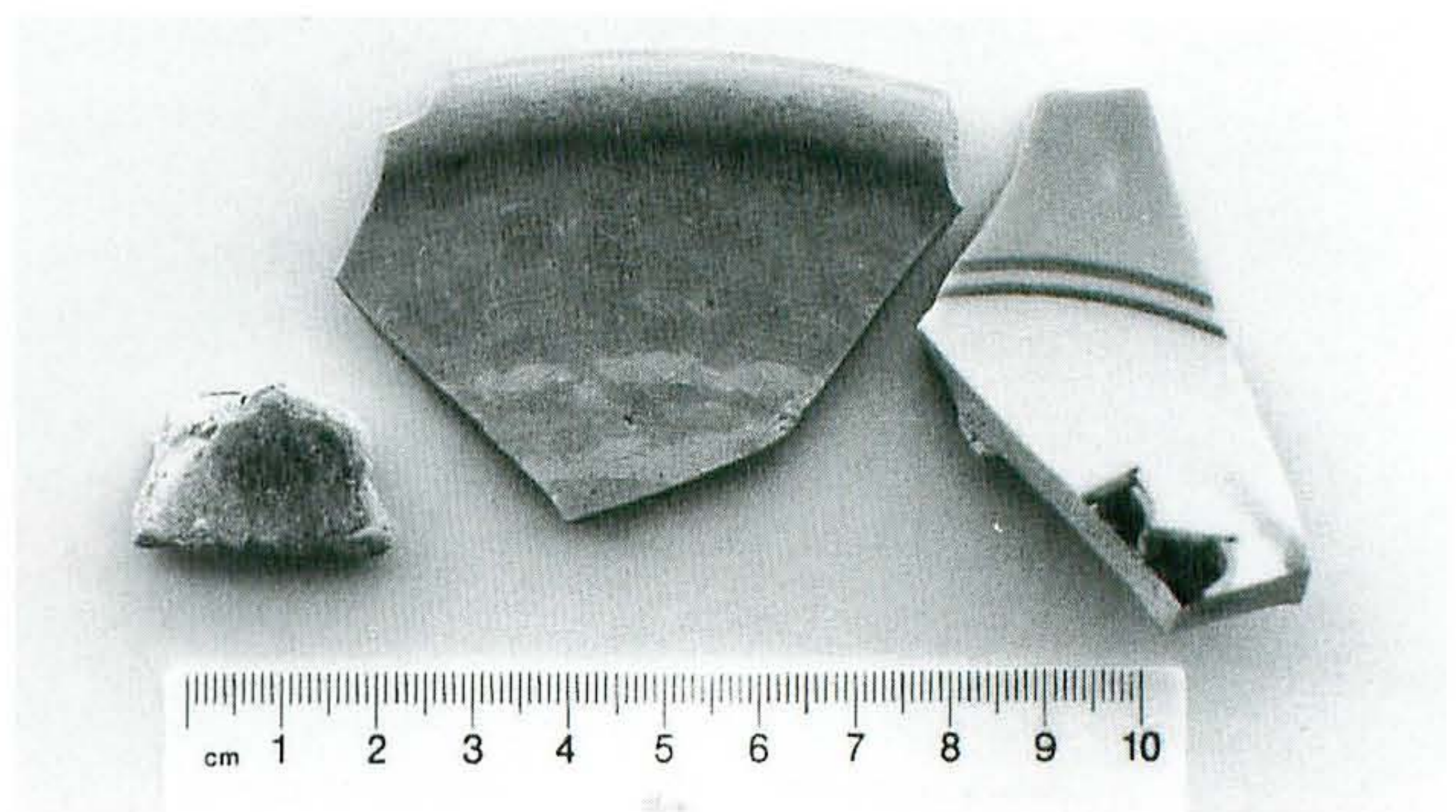
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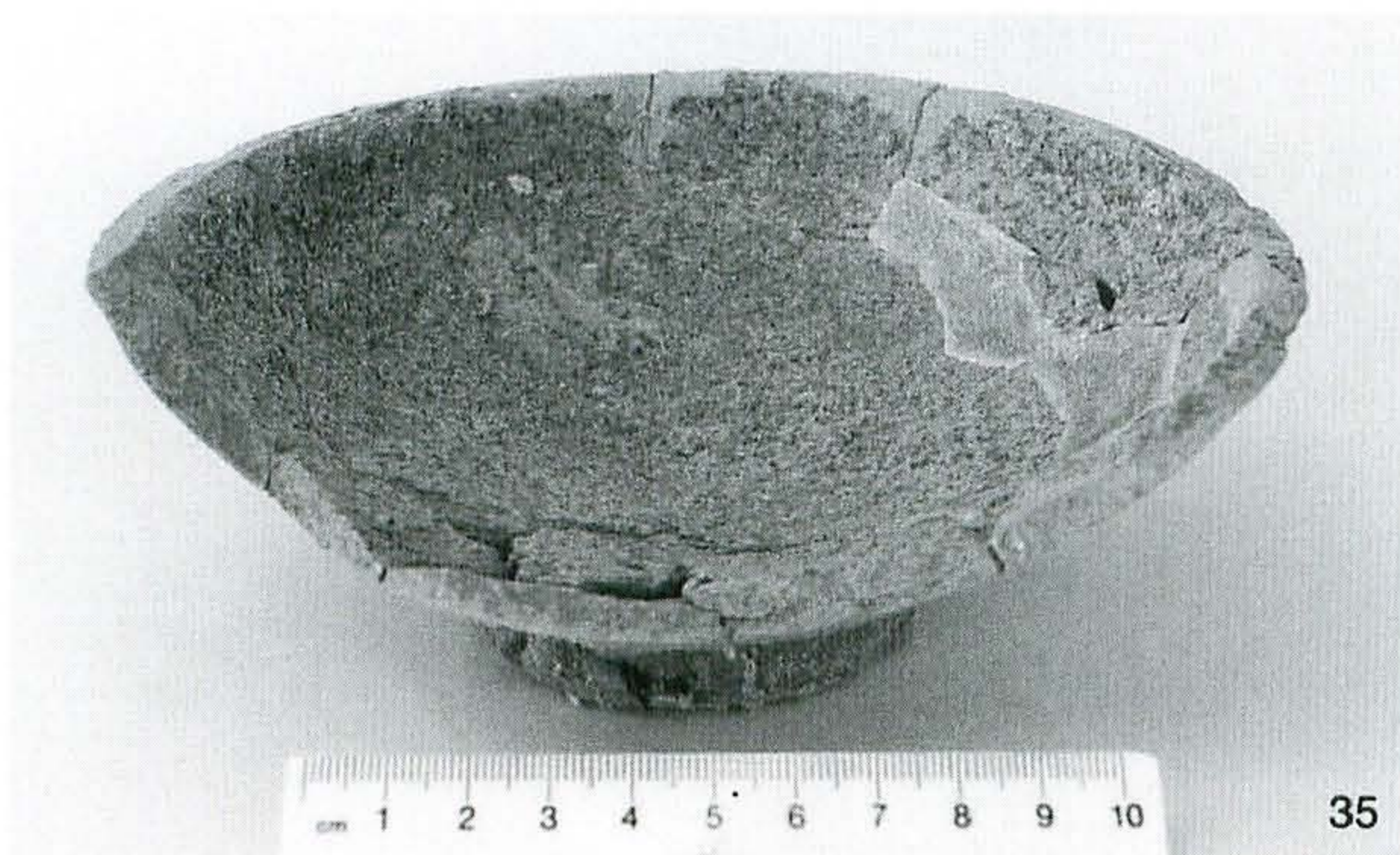
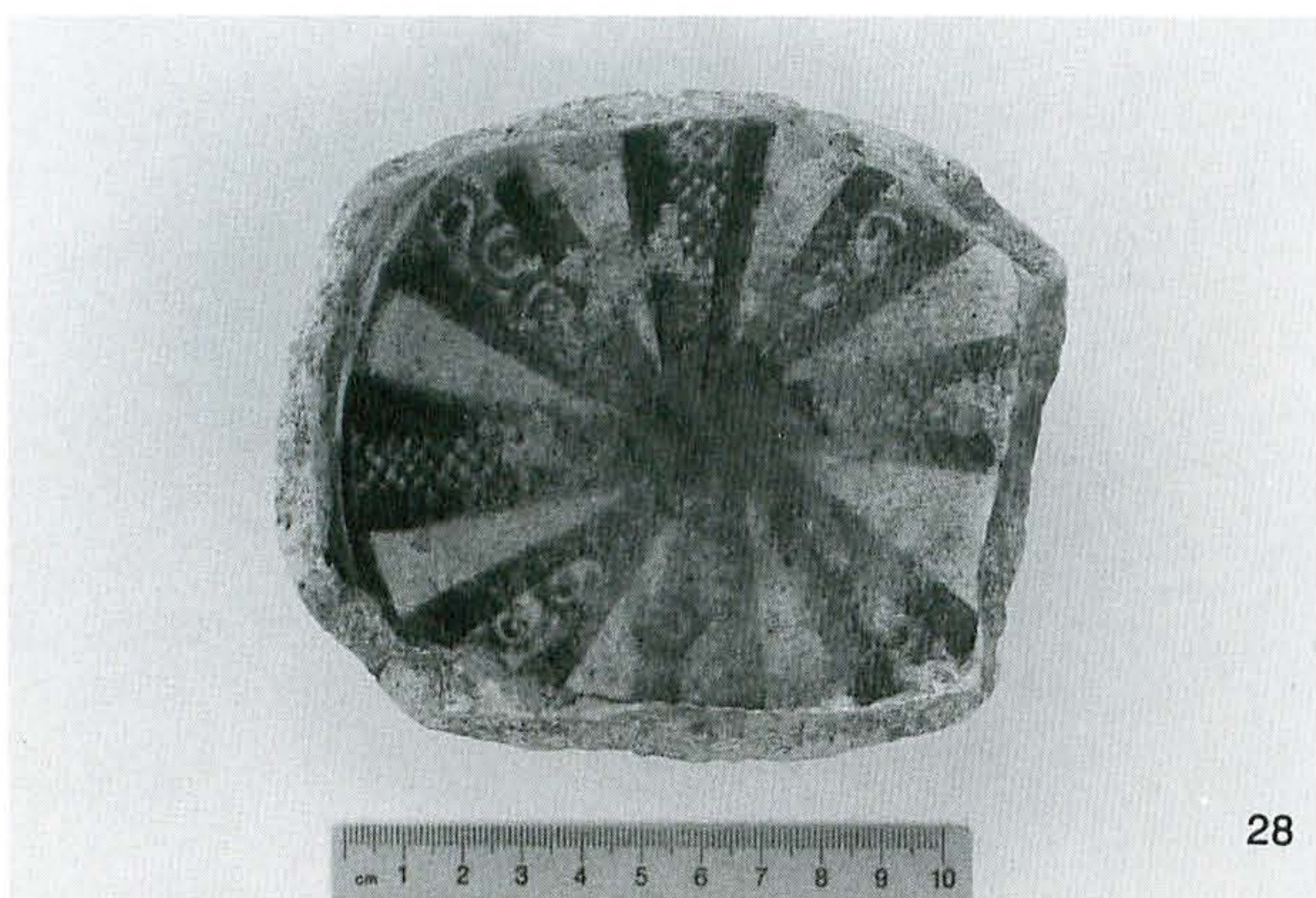


















## SECOND REPORT ON THE EXCAVATIONS AT SONGOR A —UBAID GRAVES—

Hiroko KAMADA\* and Tadahiko OHTSU\*\*

### 1. Introduction

We already wrote on the Ubaid graves at Songor A in *al-Rāfidān* Vol. II [Kamada and Ohtsu 1982], where all the pottery were shown with drawings. This report, therefore, includes many things which are the same with the previous report. This situation was brought about because we scarcely had contacts with the Institute for Cultural Studies of Ancient Iraq. Anyhow, It is our happy duty to publish the reports on Songor A in a better condition and form. We thank to Prof. Fujii and Mr. Matsumoto for their generous help for the publishment.

The graves which clearly belong to the Ubaid Period concentrate in the Southern Area. Seven graves were discovered within an area of 50 m<sup>2</sup>, Grid XXVIII-20~22 (Fig. 1), though one grave in the Northern Area could possibly belong to that period. All are pit graves dug out into the debris made of fallen mud bricks or the floors of the Samarra Period. We could observe a stratigraphical order among some of the graves in the baulk between Grid XXVIII-21 and 22 (Fig. 2). Grave 1 (Gr. 1) precedes other graves here, whose bottom level was 0.4–0.9 m lower than the others. But the chronological difference among the graves is not obvious when seen from the grave goods.

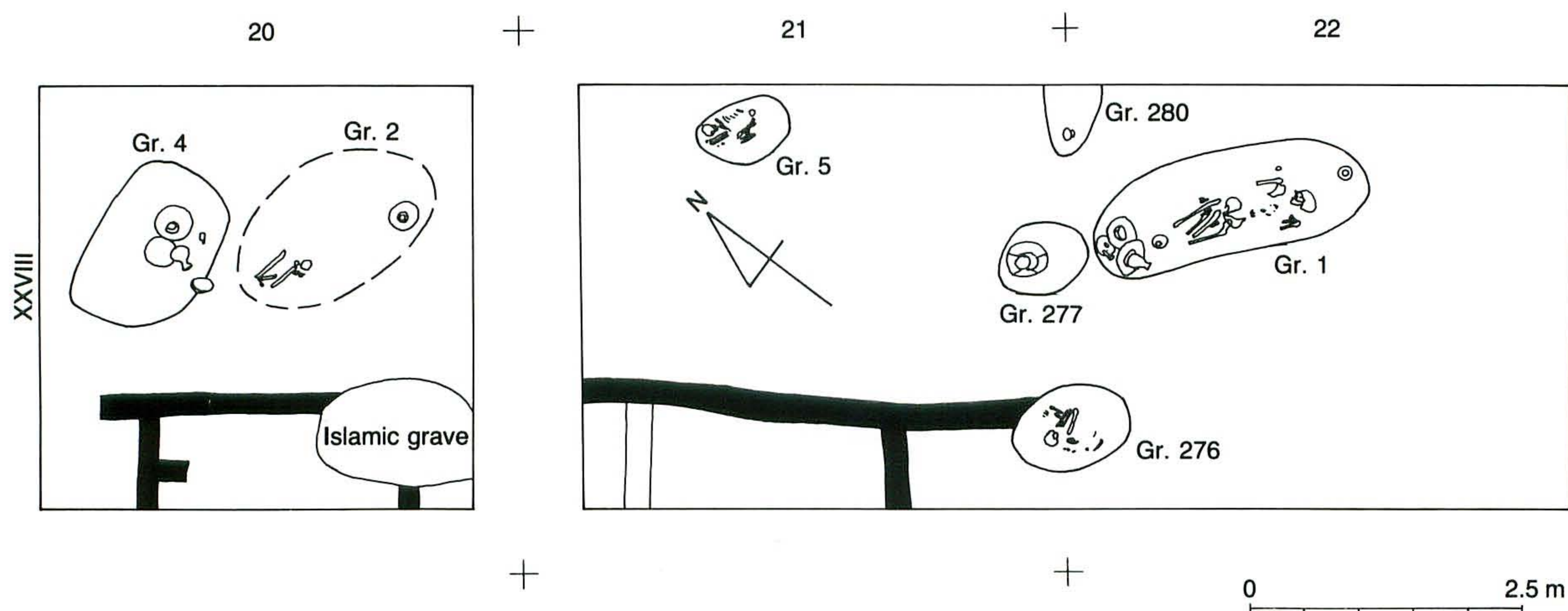


Fig. 1 Distribution of Ubaid Graves in the Southern Area.

### 2. Graves (Fig. 3)

**Grave 1:** Grid XXVIII-22. As shown in Fig. 2, the burial pit is dug slantwise from the north, then dug vertically near the bottom level. Its basal plan is oblong with round ends, but the whole shape is not regular. The axis is in the northwest-southeast direction, and the pit is widened toward the bottom in the

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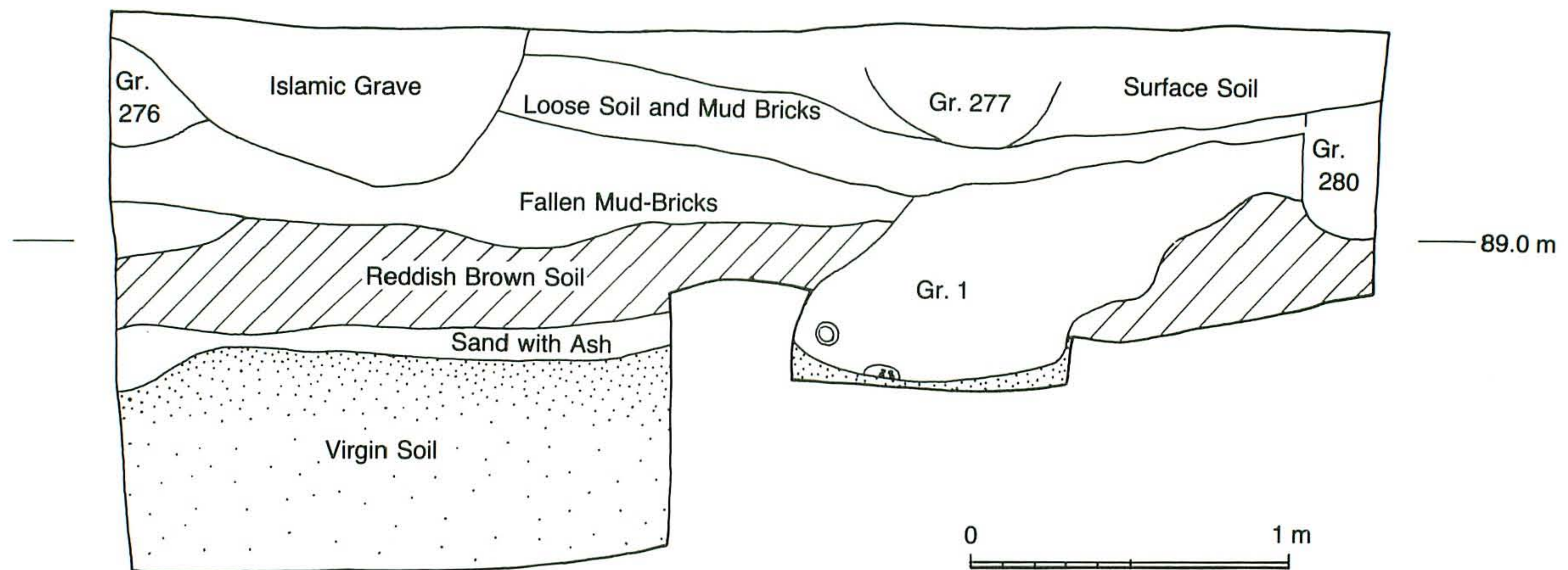


Fig. 2 Section of Northern Baulk, Grid XXVIII-22.

northwest end. It measures 2.87 m long and has a maximum basal width of 1.02 m. Its deepest part is 0.58 m from the remaining upper end. The body was found on the axis of the pit, lying on the face, facing slightly towards the east. The left side of the body was in the north and the right side in the south. The shoulders were found touching on the earth and the arms were slightly away from the body. Although bones of the upper body were badly preserved, the backbone was in the centre. The legs might have been bent backward when the body was buried, because the right fibula and tibia were found between the femurs, the left tibia was on the left femur, and small foot bones were near the pelvis. A jar (P. 3) was found near the knees, having been placed less than 0.2 m away from the bones. This corroborates the fact that the legs were bent in the burial time. Such a burial style is quite rare, as no other comparable example is seen in Songor A, and is also peculiar when compared with examples from other Ubaid sites. Grave goods were most abundant in this grave. Two pieces of painted pottery were placed near the body, one outside of the head (P. 5) and the other, mentioned above, near the knees (P. 3). One pierced chalk ball was placed near the left shoulder (M. 1). Seven pieces of pottery were placed collectively in the northwest end of the pit. Stone beads which measure about 1 cm long were unearthed near the right ear (Be. 6–10), abundant stone and wooden beads of about 0.4 cm in diameter (Be. 1–5) in the parts of breast, hip and knees. As for the pottery discovered outside the legs, they had been all laid with their mouths upside: P. 2, P. 12, P. 17 and P. 14 had been piled one on the other, P. 2 at the top; P. 9 had been laid on the mouth of P. 15; P. 13 between P. 15 and the wall of the pit somewhat obliquely with its spout upside. Some bones of a small animal have been found under P. 13 within the range of  $0.7 \times 0.15$  m. Considering the situation in which they were unearthed, these piled pottery vessels themselves may have been offered as grave goods. P. 12 is the stand for P. 2.

The human skeletal remain of Gr. 1 was numbered IR81 and reported as an appendix in this report by Yo Wada (pp. 231–232).

**Grave 2:** Grid XXVIII-20. The human bones were preserved in extremely poor condition. Most part of the grave had been badly broken by later remains. Some fragments of bones and P. 4 were found, but we cannot conclude whether the bones and the pottery vessel had originated from a grave or not in a strict sense.

**Grave 4:** Grid XXVIII-20. The burial pit is oblong with round corners, measuring  $1.4 \times 1.1$  m. Grave goods and human skeleton were found on different levels in this grave. First, a bell shaped bowl (P. 10) was unearthed 0.5 m under the ground surface. At this stage of our research, however, the plan of the burial pit was not clear. Then, further 0.20 m deeper than that, the plan of the burial pit, four pottery vessels (P. 16, 1, 8 and 7) and a marble palette (S. 3) were discovered. Next, having removed the above



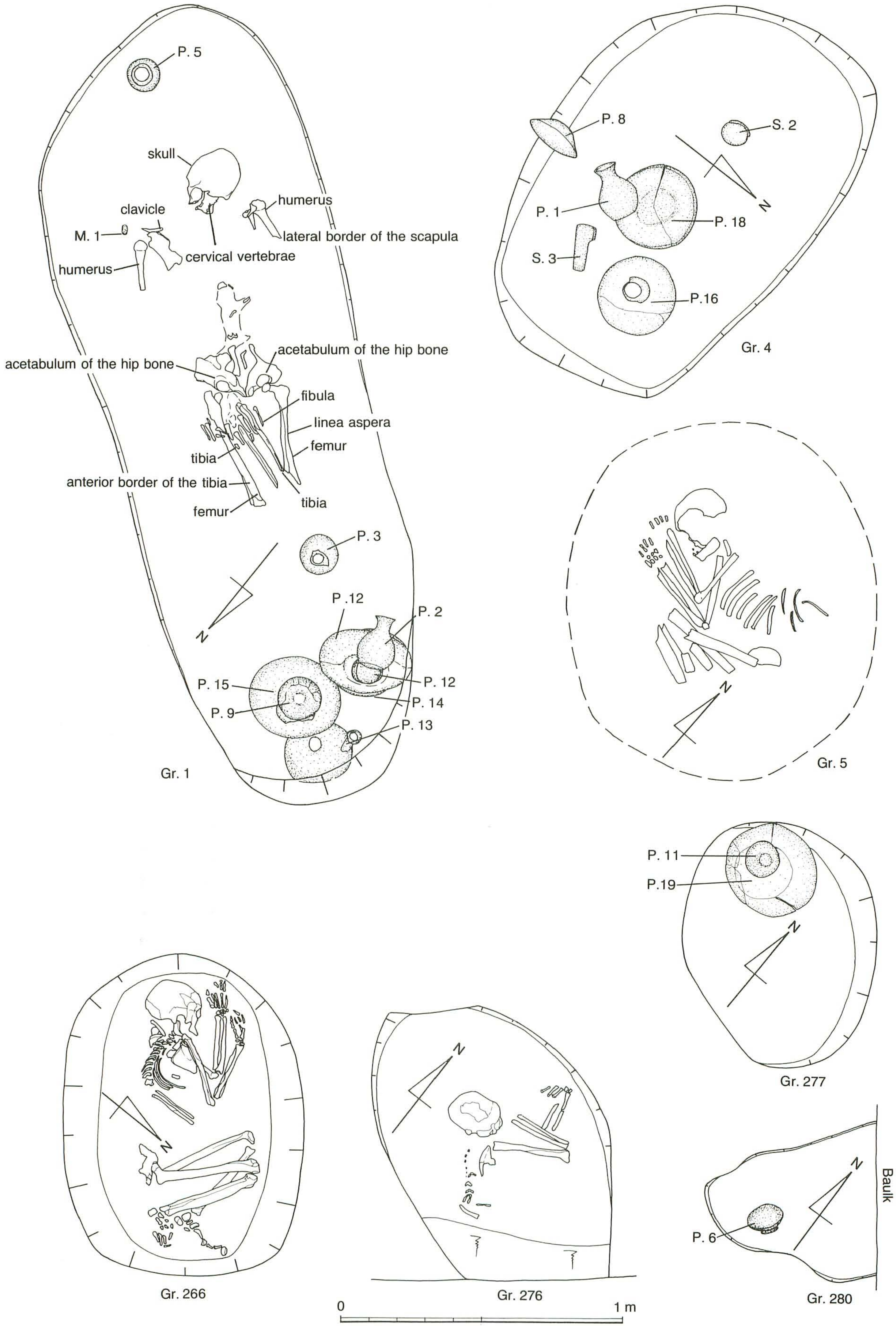


Fig. 3 Plan of Graves.



four pottery, we found a large pottery bowl (P. 18). After all, there were six pottery in the grave, whose setting was that P. 18 had been first placed and buried with mud or some perishable material, and then, P. 8 and P. 16 had been set side by side. Lastly, P. 1, P. 10 and P. 7 had been laid on top of each of them. Human bones were uncovered 0.30 to 0.40 m deeper than the above-mentioned objects. The body was found lying on its right with its head directed toward the northeast, facing the west. This is a bending burial with its hands in front of the face and the legs strongly bent forward. A stone vessel (S. 2) was in the mid portion of femurs and some animal bones were beside the back of the body's head.

**Grave 5:** Grid XXVIII-21. Close to the ground surface, its burial pit was not clear. The human bones did not remain in good condition. The body had been buried on its right with its head pointing to the northwest, facing south. This is a bending burial with its arms and legs strongly bent to be close to the trunk. No grave goods were found with the bones.

**Grave 276:** Grid XXVIII-21 and 22. This grave is also close to the ground surface. It has been destroyed by an Islamic grave. The plan of the burial pit is oval, which is longer in the east-west direction, measuring  $1.18 \times 0.75$  m. The original plan may have been larger with its axis at least 1.3 m. The buried has its body in the NNW-SSE direction, lying on its left. It faces toward the east. The arms are strongly bent, so that the right upper arm is projecting outside and the left hand is crossing with the right hand, while the fingers are bent inside. There are scarcely any remains of lower half of the body, but in view of the small dimension of the pit left today, the legs must have been bent strongly. A stone vessel (S. 1) was found at the end of the pit near the head.

**Grave 277:** Grid XXVIII-21. The plan of burial pit was not clear. Two pottery vessels were uncovered at the same level with that of Gr. 276, and human bones somewhat lower than that. P. 11 was found laid on the bottom of P. 19 with its mouth down. We could identify the bones of right shoulder, arm, and fingers but all were fragmentary. The dead may have been buried on its left with its head directed toward the northwest.

**Grave 280:** Grid XXVIII-21 and 22. The larger part of the burial pit is out of the range of our excavation area. Only a range of  $0.54 \times 0.6$  m was identified. A painted jar (P. 6) was unearthed with its upside down at the south west corner. Part of a bone was found near it.

**Grave 266:** Grid IX-22. This is the only grave that we can regard as a Ubaid grave in the Northern Area. The burial pit had cut a part of Samarra building. A number of small fragments of pottery were found in the pit. We think that they had been used for the purpose of filling. The plan of the burial pit is rather angular, longer in the northwest-southeast, measuring  $1.14 \times 0.87$  m at the top level. The body had been buried on its left in bending position with its body along the major axis, arms and legs being strongly bent. The hands were found near the forehead, the face looking toward the northwest.

### 3. Pottery (Figs. 4–7)

**i. Forms** Ubaid pottery from Songor A is all from graves and complete. They are good samples for morphological study, but there are not many forms because they are grave goods. The ratio of painted pottery is high. Among twelve forms eight are painted. The forms are as follows;

Form a: Small vase-like jar. Pottery 1 and 2. Pottery 1 is painted but Pottery 2 is not.

Form b: Small, squat vase-like jar. Pottery 3. Painted.

Form c: Squat, carinated jar. Pottery 4. Painted.

Form d: Small carinated jar. Pottery 5 and 6. Painted. Pottery 6 has high neck, while that of Pottery 5 is short and everted.

Form e: Large jar with globular body. Pottery 15 and 16. Plain.



Form f: Flattish jar with a spout, usually called tortoise jar. Pottery 13. Painted.

Form g: This form is divided into three classes according to size. Form g1 is medium sized, with its mouth diameter 20.5 cm. Pottery 7. Painted. Form g2 is smaller and shallower than Form g1 with its mouth diameter 18.5 cm. Pottery 8. Plain. Form g3 is small sized and deep with its mouth diameter around 14 cm. Pottery 9 and 10. Painted.

Form h: Small bowl with flat base and semi-spherical body. Pottery 11. Plain.

Form i: Large bowl with roundish body. Pottery 14. Painted.

Form j: Large open bowl with flattish base and straight sides. Pottery 17 and 18. Plain.

Form k: Large open bowl with flattish base and slightly out-turned sides. Pottery 19. Painted.

Form l: Small stand for jar. Pottery 12. Plain.

## ii. Pottery making techniques

**Texture:** The pottery can be divided into three kinds according to texture. They are: 1) very fine, 2) fine, 3) coarse. Pottery with very fine texture are Forms c, g and f. Their paste is well levigated and rarely contains sand. The texture is very fine and compact. Those with fine texture are Forms a, b, d, e, h, i, j and k. They contain fine sand, 0.2–1.0 mm in diameter a little. The proportion of sand varies, but it is not different so much. Vegetable material is seen in some of them, but is seen in the shape of fine traces of fiber. Their presence is, therefore, evidenced as a negative shape and its recognition by bare eyes is not a certain one. With fine surface finishing work, the fine pottery is not much porous in spite of vegetable material. Form l, Pottery 12 is the only coarse pottery. It contains much chaff and sand, and is roughly made. It is not baked or baked very lightly.

**Building and surface treatment:** True wheel was not known to the Songor A potters, but they used a kind of rotating device. We can guess it from horizontal marks of scraping on the inner surface of Pottery 15 best. To build the body of pottery, potters used coil/ring building method. The joint part is seen in Pottery 16 best. Sudden change of wall thickness and finger pressing marks evidence that method. Paring is a common method to complete pottery shape. It is usually erased by wet-smoothing. Pottery 7, 11 and 17–19 show paring marks. In case it is done when the paste is dried and hard, it yields “chattering marks”, which are parallel depressive lines and ridges as are seen on Pottery 19. Scraping makes even surface. Its marks are not so sharp as paring. It is observed on Pottery 15, both the inner and outer surface of the upper half. Wet-smoothing is seen at the rim part on most of the pottery, inside of bowls and upper part of jars. Wet-smoothing or slip is done on most of pottery, but Pottery 7 is finished by polishing and it lacks slip.

## iii. Painted designs

Both the ground and design colours vary according to the firing condition. The paste is grayish green and the surface is lighter in many vessels. Some have buff paste and cream surface. The designs are mostly dark brown or dark green. Some are vitrified. The surface of Pottery 6 is cream and the designs are reddish brown. Geometric designs are arranged in horizontal zones, divided by horizontal lines. In one zone one kind of design element is drawn repeatedly. The designs on Pottery 13 and 14 are exceptional. Pottery 13 shows older, reserved-design tradition and further, it has vertical division. Three fish is drawn inside of Pottery 14, whose arrangement shows clockwise dynamism recalling Samarra designs. Fish is the only naturalistic design at Songor A.

## 4. Other objects (Figs. 8, 9)

We found a chalk ball (M. 1), a stone palette (S. 3), two stone vessels (S1, 2), beads (Be. 1–10) and animal bones in graves other than pottery vessels.



The chalk ball and beads were found only in Gr. 1. The beads are obviously personal ornaments judging from their place. Most of them are made of stone, but some look like wood. The chalk ball is pierced like a macehead. It could be attached to the body or cloth by cord. Its function is not clear. The other objects are offering things.

The palette is interesting because it was buried in broken state. Probably stone and stone objects were precious or the palette itself had a special meaning for the dead. This palette and a stone vessel (S. 2) were found in Gr. 4. They are made of gray stone, seemingly the same material. Another stone vessel, S.1, is made of different stone.

## 5. Summary of research

Strictly speaking, we are not all sure whether the graves should show their original ways of burials because of the bad condition of remains except for Gr. 1 and Gr. 4. We cannot easily say, above all, the difference of grave goods' number and variety. However, it is necessary for us to mention some remarkable points of Songor A graves.

- 1) All are in excessive bending burials except for Gr. 1. The body of Gr. 1 is also bended, but only at the knees.
- 2) There is no infant burial at Songor A cemetery. One infant grave was found in Songor C, which is an urn burial.
- 3) No regularity can be found as to the head position, though one reason for it is that only a small number of graves have been found.
- 4) As for the spatial relation of the grave goods, there are two types: a) grave goods and the dead are on the same level (Gr. 1, Gr. 276 and Gr. 280); b) grave goods are above the dead (Gr. 4 and Gr. 277).
- 5) The pottery assemblages of Gr. 1 and Gr. 4 suggest to us a basic set of grave goods because they have four forms in common. They are bell-shaped small bowls (P. 9 and P. 10), large bowls (P. 17 and P. 18), small jars (P. 2 and P. 1), and large globular jars (P. 15 and P. 16). The set could mean a drinking and/or eating vessel, a pouring vessel, a preparing or storing vessel for solid food, and a water reserving vessel. Besides, there are small squat jars in pottery or stone near the heads of bodies in Gr. 1 (P. 5), Gr. 4 (S. 2) and Gr. 277 (S. 1). They may have had an important function adding to the above four pottery forms (Fig. 10).
- 6) Gr. 1 is really unique in its large grave size and posture of the dead. As shown in Fig. 3, the other graves are generally small, reduced to a minimum size for the dead enough to be kept there just in the bending position. Gr. 1's richest grave goods and its unique burial reflect a special position of the dead in his community.
- 7) Those graves are the only Ubaid remains in Songor A. Considering the dense distribution of graves in the Southern Area and the existence of buildings and pottery kilns in Songor B and C, we assume that Songor A was used as the cemetery for the people who lived in Songor B and C. The pottery shows general similarity with those from Ras al-Amiya. As for the Ubaid graves, there are not many published Ubaid cemeteries from Iraq and we wait for new reports on other sites for further study.

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### Catalogue of Objects

#### Pottery

Pottery 1 (Fig. 4): Small vase-like jar, painted. Height: 20.2 cm. Maximum diameter: 14.6 cm. Gr. 4. Extremely fine sand is mixed a little in the paste. The base is flattish and the maximum body diameter is at somewhat low position. From the body, the shoulder narrows gently toward the neck, then the wall flares out and tapers toward the rim. The outer surface is wet-smoothed. Well-fired. The paste is yellowish green and the designs are dark brown. Two bold lines are drawn at the rim with a row of semi-circles between them and one line both at the neck and the belly.

Pottery 2 (Fig. 4): Small vase-like jar, plain. Height: 19.6 cm. Maximum diameter: 13.9 cm. Gr. 1. Fine sand about 0.6 mm is mixed moderately in the paste. Well fired and hard. The whole of its outer surface is scraped, and its lower body seems to have been finished on a rotating disc. Only the upper portion is finished by wet-smoothing. Surface colour is yellowish gray. It is not clear whether this jar is slipped or not. Some weathering is visible.

Pottery 3 (Fig. 4): Small, squat vase-like jar, painted. Height: 13.8 cm. Maximum diameter: 14.5 cm. Fine sand particles in the paste. Well fired and hard. It is very plumpy in the lower part and has a flattish base. The rim is tapering toward the end. Dark green coloured designs are drawn on the upper half. The neck is painted all over. Designs are two rows of chevrons, a hatched band and two courses of wavy lines. It is noted that two pairs of two rhombic designs are placed in the hatched band. One of the pairs contains a dot each, while the other has a single slant line and two slant lines in each rhombus. This band may represent two snakes.

Pottery 4 (Fig. 4): Squat carinated jar, painted. Height: 15 cm. Maximum diameter: 25.9 cm. Sand particles are hardly noticed in the paste. The jar has a round base and its maximum body diameter makes a sharp carination. The thickness of the wall is almost uniform except for that of the carinated part. The neck is largely flared out. The base is lightly polished. Well-fired and some part of the black paint is vitrified. The neck is all painted out and the designs below it are from the top; two rows of vertical zigzags, a row of solid rhombes and a row of vertical zigzags, thick band, a row of vertical zigzags, a row of painted rhombes.

Pottery 5 (Fig. 4): Small carinated jar, painted. Height: 8.3 cm. Maximum diameter: 11.8 cm. The paste contains extremely fine sand and chaff a little. Well fired. There is a sharp carination around the maximum body diameter. The neck is short and is sharply everted. There remain traces of finger-pressing at the shoulder. The whole outer face is finished with wet-smoothing. Marron brown designs are drawn on the grayish green ground.



The neck is painted all over. The designs are six rows of dots in irregular sizes. Among them, the uppermost dots look like pending down from the horizontal line.

Pottery 6 (Fig. 4): Small carinated jar, painted. Height: 9.6 cm. Maximum diameter: 12.3 cm. The paste is rather coarse for a painted jar, containing fine vegetable material and fine sand. The neck, which is longer and almost vertically standing, is different from that of Pottery 5. Paring traces are visible at the lower half of its outside. The paste is buff and grayish cream slip is applied. The paint is reddish brown. The inner rim and the outer neck is painted out, one band is drawn in the mid body. There are ten three-petalled leaf-like designs between the bands at the neck and at the belly. They are set inverted by turns.

Pottery 7 (Fig. 4): Bell-shaped bowl, painted. Height: 10.4 cm. Mouth diameter: 20.5 cm. The paste is well levigated and sand is rare. It is pared and polished outside. There are "chattering marks" caused by paring. The inner surface is wet-smoothed. The paste is yellowish brown and the outer surface is greenish gray. There are horizontal lines painted in dark brown; one at the rim and another above the base. Three large hatched rhombes are arranged on the side. They are long in vertical direction.

Pottery 8 (Fig. 4): Bell-shaped bowl, plain. Height: 6.7 cm. Mouth diameter: 18.5 cm. Sand is rare. This bowl was first made by coil/ring building because there are finger-pressed depressions at the border portion between the base and the body. Then it was pared and wet-smoothed. A horizontal wet-smoothing is clearly seen at the rim part. Both the paste and the surface is pale yellowish green. Well-fired.

Pottery 9 (Fig. 4): Small bell-shaped bowl, painted. Height: 7.3 cm. Mouth diameter: 14.4 cm. Fine texture. Sand is scarcely seen. The body widens gently from the thin, roundish base. The wall becomes gradually thinner toward the rim end and finally turns out to be slightly directed upward. The inner surface is finished with wet-smoothing, while the outer surface is finished with polishing. The paste colour is buff. Cream coloured slip is recognizable. The designs are dark green to black, somewhat vitrified. There are two decorative bands on the outer surface of the rim. The designs are, from the top, a row of triangles and a hatched band, inside which are two distorted circles arranged symmetrically.

Pottery 10 (Fig. 4): Small bell-shaped bowl, painted. Height: 7.4 cm. Mouth diameter: 13.5 cm. The paste is well levigated and sand is rare in the texture. This bowl has the same form with P. 9. The inner side is wet-smoothed and slipped, the outer side is wet-smoothed and some polishing is observed. The paste and the surface are greenish gray and the paint is greenish black with some vitrified part. Bordered by horizontal lines, a row of solid triangles with their points downward are arranged at the rim part. A fine line is drawn around the base.

Pottery 11 (Fig. 4): Small bowl with flat base, plain. Height: 6.7 cm. Mouth diameter: 13.2 cm. The texture contains a considerable amount of sand of about 0.3 mm in diameter, some nearly 1 mm. The body is roundish, the rim end is flat, and there is a groove right below the rim. Its outer surface is pared off and only the rim portion is wet-smoothed. The inner surface is all wet-smoothed. Both surfaces are worn out. The texture colour is buff but it turns to grayish green close to the surface.

Pottery 12 (Fig. 4): Stand, plain. Height: 3.2 cm. Mouth diameter: 11.2 cm. The colour is reddish brown. Chaff and sand mixed. This has a flat base and short, vertical side wall. There remain pressed marks in the inner surface. It is, as a whole, roughly made. From its soft texture, we guess it was just sun-dried.

Pottery 13 (Fig. 5): Spouted jar, painted. Height: 5.9 cm. Maximum diameter: 25.3 cm. Spout height: 9.2 cm. Sand is rare in texture. This jar has a very flattish body with a sharp carination in the middle portion so as to make its body section a lens shape. A separately made big spout is fixed on the upper side of the carination. Although the bottom of the body is carefully finished, the upper inner surface shows the finger-pressed marks made in the course of pottery building. The rim of the body is tapering off and its end is slightly everted. Besides, the rim of the spout is flattish and developed outward. As for the designs drawn on the body, they are made of two parts. One-third of the upper body is ornamented by the designs arranged symmetrically on both sides of the spout. Firstly, the portion around the spout is painted, reserving four triangles and two panels filled with hatched rhombic patterns. Bordered with vertical lines, other two-thirds of the upper body is painted out with four reserved bands. One in the middle portion has short lines in it and one in the lowest has a row of painted triangles. The spout itself is all painted. The vessel is made with excellent skill and hardly shows weathering from repeated use.



Pottery 14 (Fig. 5): Large roundish bowl, painted. Height: 7.8 cm. Mouth diameter: 28.4 cm. The texture contains sand a little. This bowl has a gentle curve from the round base. The outer surface is treated with wet-smoothing after scraping. The texture is cream in colour. Dark brown designs are drawn on a slip-like cream ground. While only the upper portion is painted in a band outside, the inside wall is all painted except for the bottom. Divided by a reserved fine line and a row of semi-circles from the side wall, three fish is drawn in the centre of the bottom. The arrangement of the fish yields the clockwise dynamism. They are drawn in lines with different fillings in their body; two of them are cross-hatched and the rest is filled with oblique lines. The dorsal, pectoral and ventral fins are also expressed in lines. As a whole, the designs show potter's artistic skills. The semi-circles seem to express waves.

Pottery 15 (Fig. 6): Large globular jar, plain. Height: 30 cm. Maximum diameter: 32.1 cm. Fine sand of about 0.3–1.0 mm in diameter is mixed in the texture. The base is round, and the body is globular with its maximum diameter in the middle portion. The neck opens widely to the rim end. The rim has a shallow groove on the inner surface. There remain clear traces of pressing in the time when the neck and the body were jointed. The traces of scraping on the inner surface are nearly horizontal and they evidence the use of a rotating device. Their maximum width is 3 cm. The outer surface is finished with wet-smoothing. The treatment is regular in the upper portion, but is rough in the lower portion. The texture is grayish cream in colour and the surface is greenish.

Pottery 16 (Fig. 6): Large globular jar, plain. Height: 30 cm. Maximum diameter: 28.3 cm. Fine sand, about 0.2 mm in diameter, is mixed a little. This has a round base and a globular body. The part between the body and the base is extremely thin. Wet-smoothing is done on both inner and outer surface, mostly in horizontal direction. The paste is grayish red-brown and the slip on the outer surface is yellowish gray.

Pottery 17 (Fig. 7): Large open bowl, plain. Height: 12 cm. Mouth diameter: 34.4 cm. Fine sand is moderately mixed. The vessel opens with a carination from the flattish base. The wall is uneven in thickness. There is a narrow groove on the rim end. Because of its large size, it was warped when fired, and is oval seen from above. Wet-smoothing is observed inside and at the rim. The outer surface is just pared. The paste is grayish buff and the surface is yellowish cream in colour.

Pottery 18 (Fig. 7): Large open bowl, plain. Height: 12.3 cm. Mouth diameter: 30 cm. The form is the same with P. 17. The texture contains a small quantity of sand. The rim end has a step-like shape inside. The inner side is all wet-smoothed, while the base is just pared and not wet-smoothed outside. The paste is buff and the surface is cream in colour.

Pottery 19 (Fig. 7): Large open bowl, painted. Height: 11.2 cm. Mouth diameter: 35.3 cm. It is somewhat warped owing to firing. There is a sharp carination between the base and the body. This is a considerably large vessel with a thick wall. The outer surface is pared. A cream coloured slip is applied to the inner surface after careful smoothing. Very well fired. The paste colour is pale reddish brown and the paint is dark marron brown. Some part of the paint is vitrified. The outer face of the rim and all the inner face are painted. A twenty-three petaled rosette design is drawn in the bottom divided from the side by a fine reserved line.

#### Stone vessels and other objects

Stone vessel, S. 1 (Fig. 8): It is made of alabaster. Height: 11.6 cm. Maximum diameter: 12.6 cm. It has a slightly roundish base and the upper part of the body is swelling. The rim wall is projecting out a little, and the upper face is flat. Due to the salt adhesion, we could not see how the inner side is finished. Its outer surface is shaped by rough paring.

Stone vessel, S. 2 (Fig. 8): Made of gray marble with some semitransparent part. Height: 5.7 cm. Mouth diameter: 7.5 cm. The body wall is rather thick, 1–1.3 cm, but the rim wall is 0.6 cm thick. The base is round and the body shows gentle curve. The neck part is made by deep cutting. The outer surface is well polished. The base has been worn out. Its inner work must have been done by rotating a tool with the axis in the centre, because fine horizontal grooves are seen inside and a conic projection is left at the centre of the bottom.

Stone Palette, S. 3 (Fig. 8): Made of gray marble. It is rectangle, measuring 14.5×7.6 cm, and has two standing sides, which are 1 cm high and incline inward a little. Maximum thickness: 1 cm. Both ends are scraped and diminishing outward. Weight: 179.5 g. The surface is polished after cutting and scraping.



Pierced ball, M. 1 (Fig. 8): Made of white material. Height: 3.2 cm. Major axis: 4.3 cm. Minor axis: 3.7 cm. Weight: 68 g. This is pierced vertically. Because the surface is powdery, it might be larger originally.

#### **Beads (Fig. 9)**

Beads 1–3: Flat cylindrical shape with round section, but rather irregular in shape; their sectional views are various such as triangle, trapezoid, rectangle and so on. They are all very small with diameter of 0.3–0.4 cm and length of 0.8–1.6 cm. Made of white or grayish stone. Total 100 pieces were found.

Bead 4: This is the same type with Beads 1–3. Diameter: 0.4 cm. Length: 0.2 cm. There are other 73 stone beads with similar shape. They are white, gray and black in colour. Only the one shown here is black.

Bead 5: Rather long cylindrical shape with round section. Black stone. Diameter: 0.4 cm. Length: 0.4 cm. Besides, four more black stone beads with similar shape, thirteen pinky orange ones, eight white ones, one gray piece, and five possibly made of wood were found. There are other nine beads similar to Beads 1 to 5, but they were found disconnected with those mentioned above.

Bead 6: Flat cylindrical shape with round section. Diameter: 0.8 cm. Length: 0.2 cm. Pinky red, glossy stone. Pierced from both ends.

Bead 7: Flat cylindrical shape with round section. White to gray agate, partially reddish brown. Diameter: 0.9 cm. Length: 0.4 cm. Pierced from both ends.

Bead 8: Trapezoid shape with elliptical section. Agate. Most part is milky white while its inner part is vermilion. Upper diameter: 0.6 cm. Lower diameter: 1.3 cm. Length: 1.8 cm.

Bead 9: Oblong shape with irregular quadrilateral section. Pale gray obsidian with good transparency. Maximum width: 0.8 cm. Length: 1.4 cm.

Bead 10: Pale gray obsidian similar to Bead 9. Maximum diameter: 0.8 cm. Length: 1.6 cm.



## Appendix

### Human Skeletal Remain of IR81 from the Himrin Basin: Osteological Comment on An Ubaid Burial Rite

Yo WADA\*

The following description is a part of the physical anthropological reports on the human skeletal remains from the Himrin Basin. It also includes the comment on an Ubaid burial rite from an Osteological point of view. The Ubaid tomb is referred to as Gr. 1 of Fig. 3 and as Pl. 1. The physical anthropological reports themselves are in preparation for publication, simultaneously with reconstruction and repair of the Himrin human skeletal remains.

#### IR81 of Himrin Human Skeletal Remains

It is concluded by the archaeologists that the sample is an Ubaid human skeletal remain. The Ubaid human skeleton is labeled as IR81 of Himrin human skeletal remains. The following documents are compiled in my filebox volume IX.

The tomb originated from an archaeological grid of Tell Songor-A. The label is the first tomb of the site. The archaeological grid was located at the crossing area of the twenty-eighth horizontal line and twenty-second vertical column of the site, and lay on the slope of the southeast side of a southern mound of the site. The opening of the tomb was encountered on the first level under the surface soil of the southern mound, and the level was soil deposits during the Ubaid period. The contour was long, narrow and elliptical, and its long axis lay on a line connecting the northwest and southeast. In the tomb a plenty of beads and 9 pieces of pottery were existent.

The skeleton lay on the abdominal side with flexed legs. The head was located at the southeast side in the tomb, and the knees at the northwest side. The trunk on its abdomen was placed down on the ground. The knee joints on both sides were flexed.

In the tomb 4 groups of the bones were existent apart from one another. The first group contained the skull in the axial skeleton. The skull lay at the most southeast side of the tomb. The right temporal fossa of the skull faced toward the ground, while the cranial base fronted toward the northwest direction.

The second and third groups contained the scapulae and humeri on both sides in the upper limb skeleton. The two groups were placed apart from one another at the northwest and lateral sides of the skull. The subscapular fossa of the scapula on each side faced toward the ground, while the spine stood upward. Also, the acromion fronted toward the lateral wall of the tomb, and the inferior angle toward the northwest direction. The humeri lay at the lateral sides of the scapulae. The head of each humerus was placed near the skull. The distal halves of the humeri and the bones of the forearms and hands were not existent.

The fourth group contained the lumbar vertebrae and sacrum of the axial skeleton and the bones of the lower limb skeleton. The large masses of the bones were placed at the most northwest side of the tomb. The pelvis including the hip bones and sacrum lay between the lumbar vertebrae and the femurs, and the sacrum between the hip bones. The body of each vertebra faced toward the ground, while the spinous

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process stood upward. Also, the iliac fossa of each hip bone faced toward the ground, while the acetabulum looked upward.

The bones of the thighs, crura and feet were placed at the northwest side of the pelvis. The head of each femur lay near the hip bone, and the greater trochanter on the lateral side. The anterior surface of the femur fronted toward the ground, while the linea aspera stood upward. One of the tibiae lay between the femurs, and another on the femur. The distal extremities of the tibiae were situated near the pelvis. The posterior surfaces of the tibiae fronted toward the femur or the ground, while the tibial tuberosities looked upward. The bones of the feet lay on the femur, and they were situated near the pelvis.

The distribution of the bones on the bottom of the tomb coincided completely with the frame work of a skeleton. Those Osteological descriptions showed that the skeleton lay on its abdomen with flexed legs. Three types of postures were usually adopted in earth burials, including the lying down on the lateral side in a stretched or flexed position and the lying down on the back side in a stretched position. Another posture of the lying down on the abdominal side in a stretched position was anatomically possible, but the posture was unusual. The prone posture with flexed legs in the Ubaid case is truly unnatural. The prone posture with flexed legs was possible, only when a burial was undertaken on the condition that the crura and feet were vertically erected.

The skeleton was a male in the age category of young adult, probably an age in the former half of the thirties. The hip bone was narrow and high. The greater sciatic notch of the hip bone was broad but V-shaped. The shafts of the humeri, femurs and tibiae were thick and massive. The skull was heavily deformed by earth pressure from its back and left side, but it was massive. The occipital region of the skull was not existent. The frontal squama retreated backward remarkably. The superciliary arches and the glabellar region between them, they bulged forward prominently. The supraorbital margins were thick and rounded. The tuberes frontalia and tuberes parietalia on both sides were indefinite in eminence. In the nuchal plane the inferior nuchal line and median external occipital crest were definitely palpable. The mastoid processes were long and thick. The supramastoid crests overhung conspicuously. Between the mastoid processes and the supramastoid crests the surfaces were broadly and shallowly grooved.

The sphenoccipital synostosis of the skull was completely terminated. Regarding obliteration of the cranial sutures the partes temporales of both the coronal suture and the sphenofrontal sutures were partly obliterated. The other cranial sutures could not be recognized. The 4 third molars of the upper and lower jaws were already erupted. The fourth molar of the left upper jaw was also visible in the alveolar process. Concerning attrition of the molars the third molar of the left upper jaw exposed the small portion of dentine. The other three third molars polished enamel slightly.



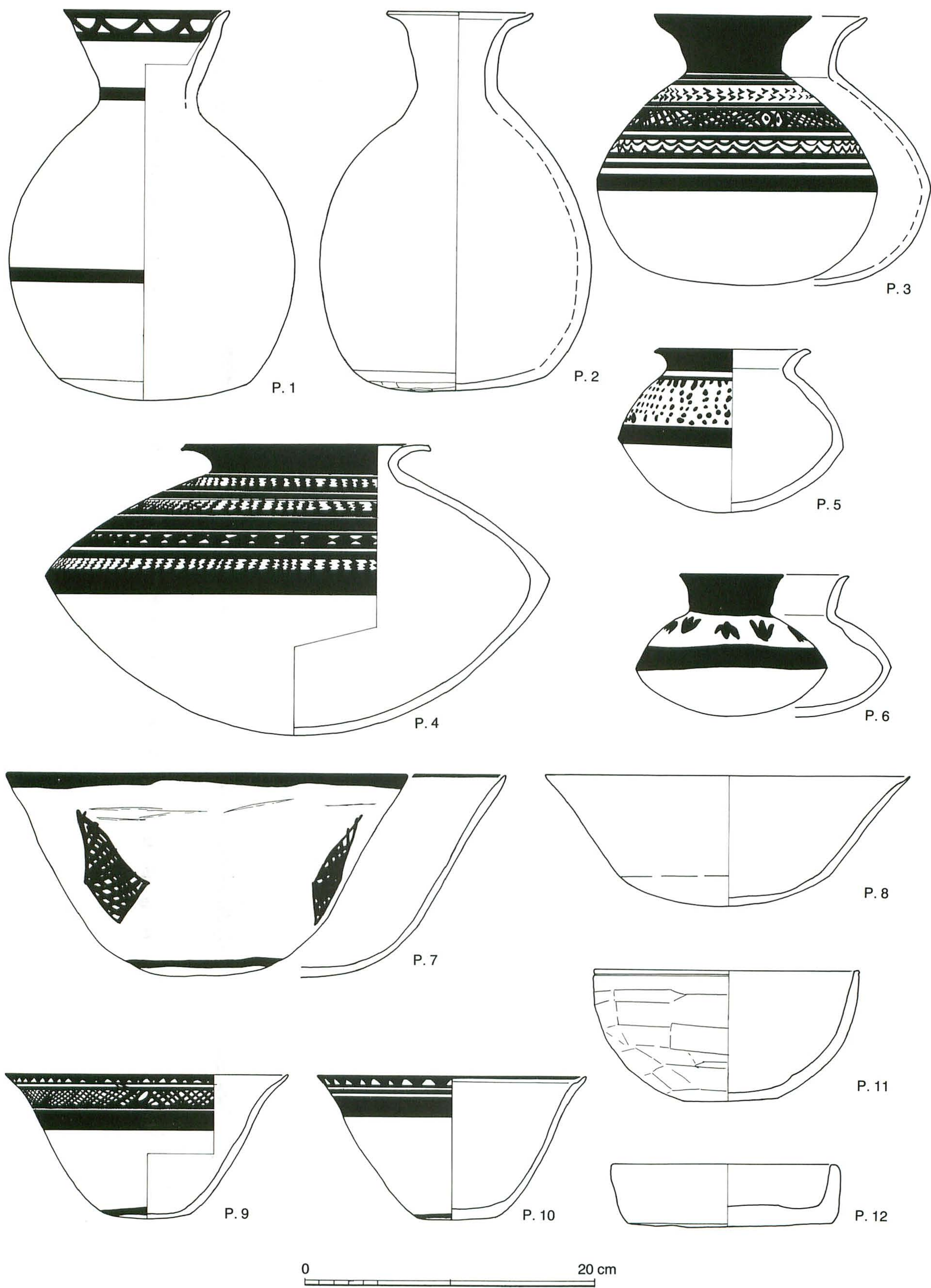


Fig. 4 Ubaid Pottery, Forms a-d, g, h, l.



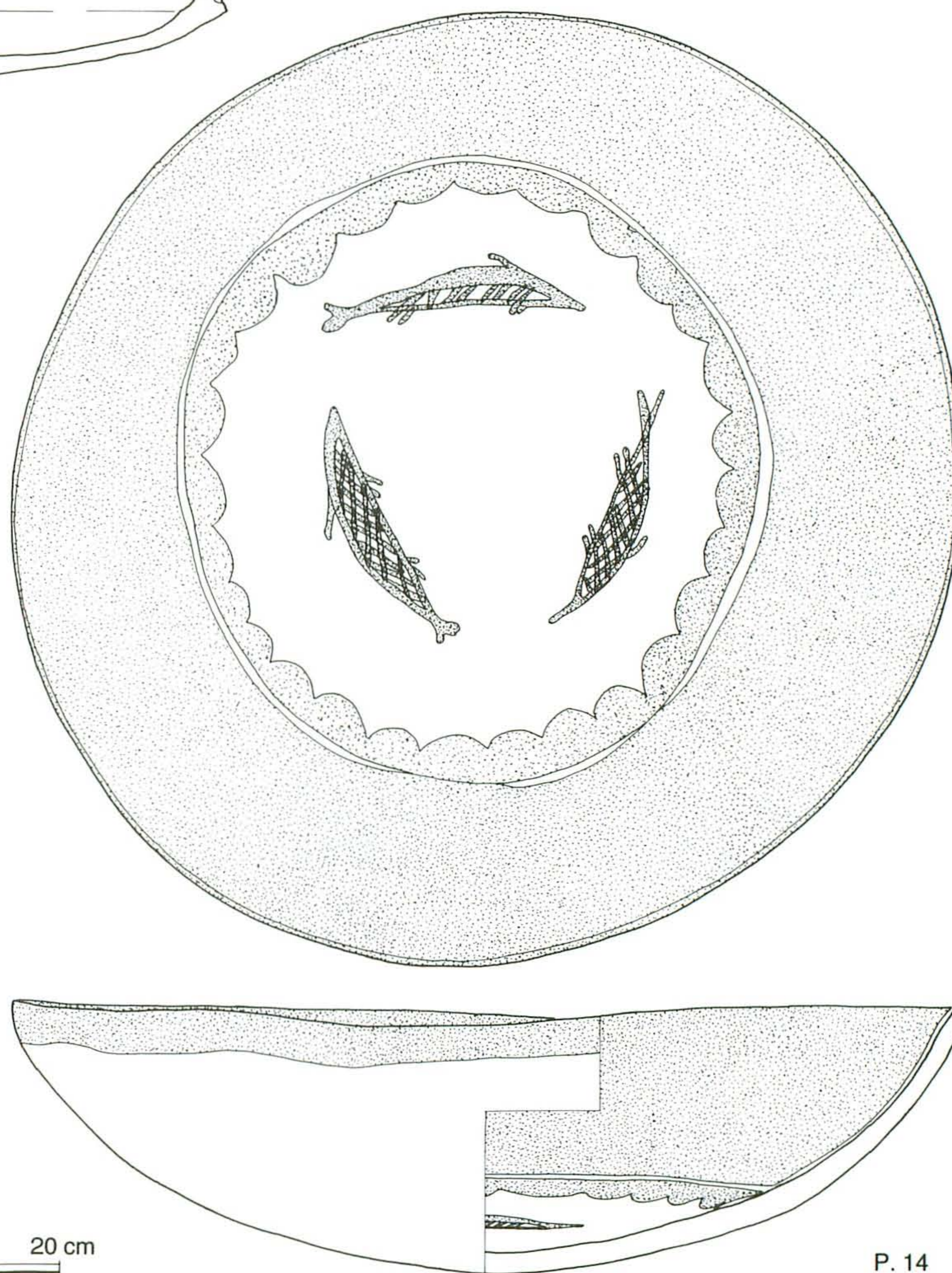
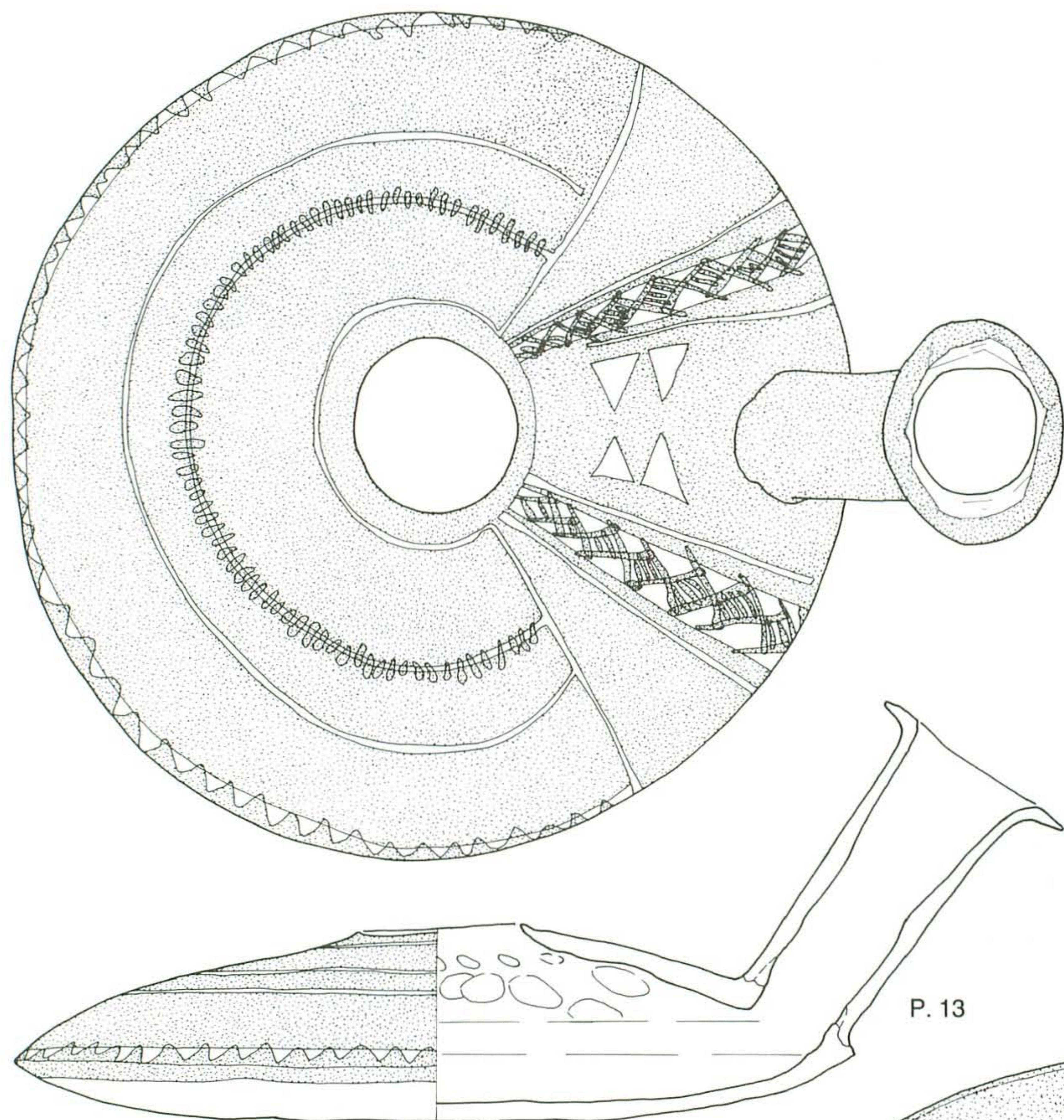
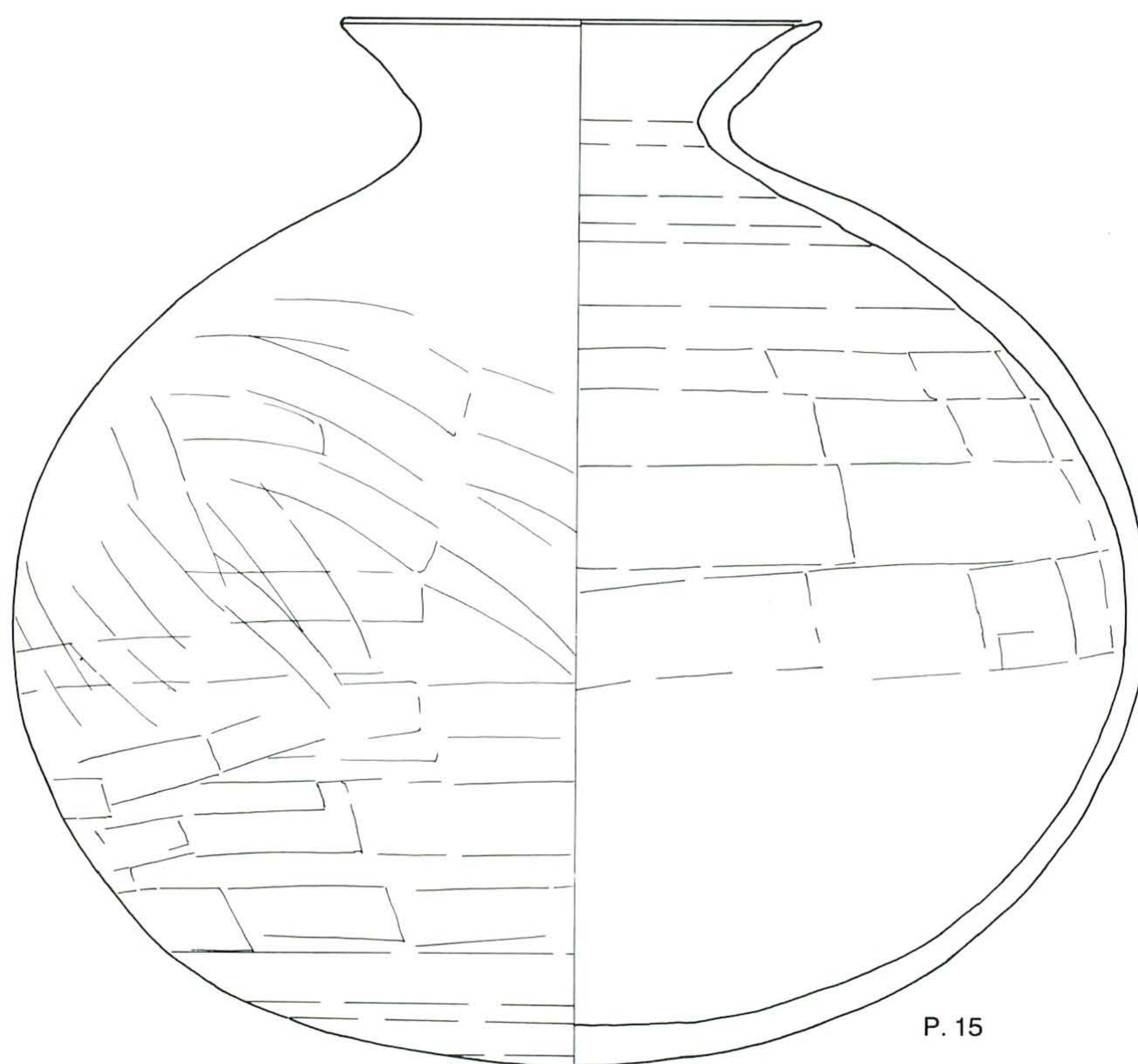
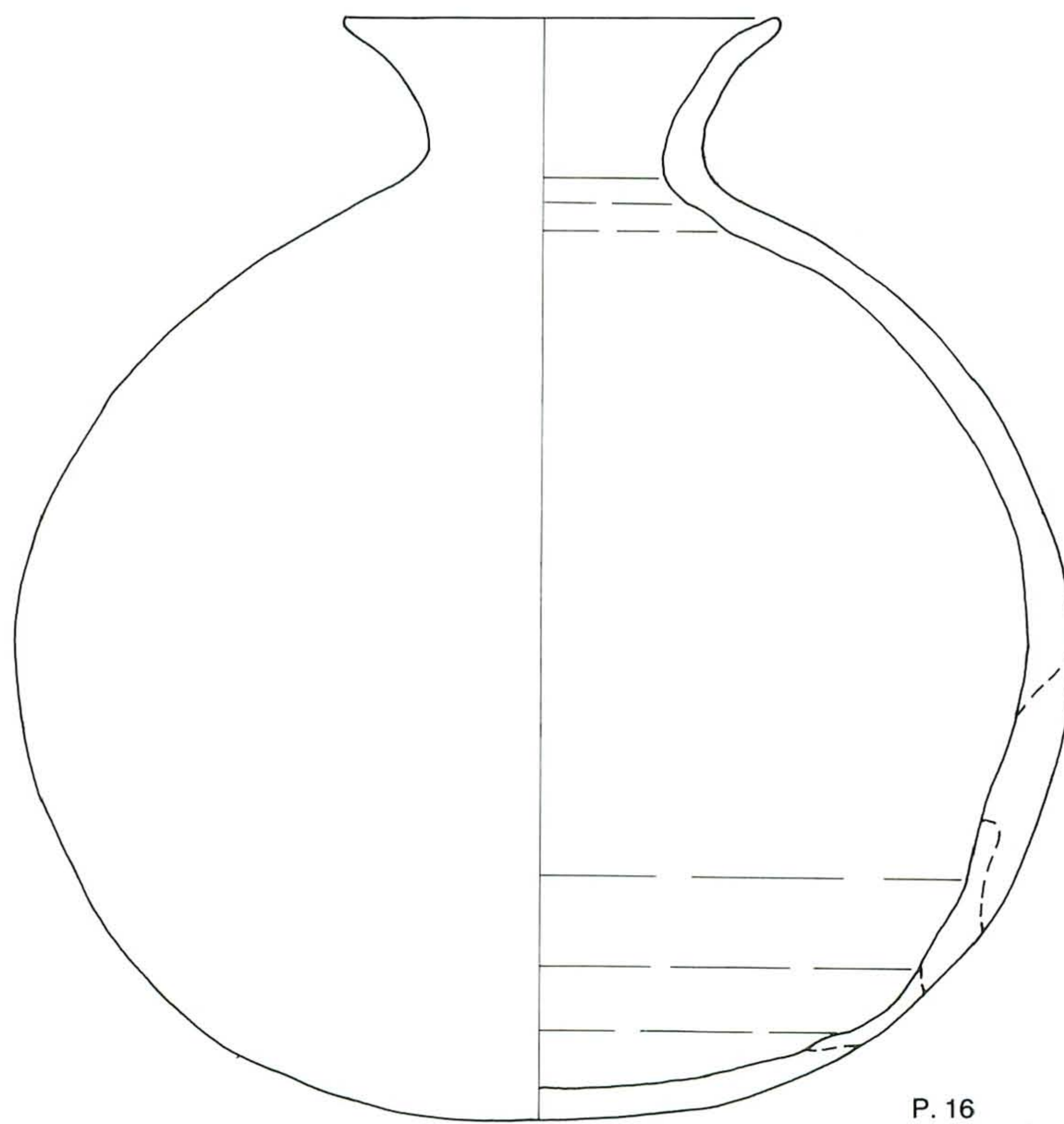


Fig. 5 Ubaid Pottery, Forms f and i.





P. 15

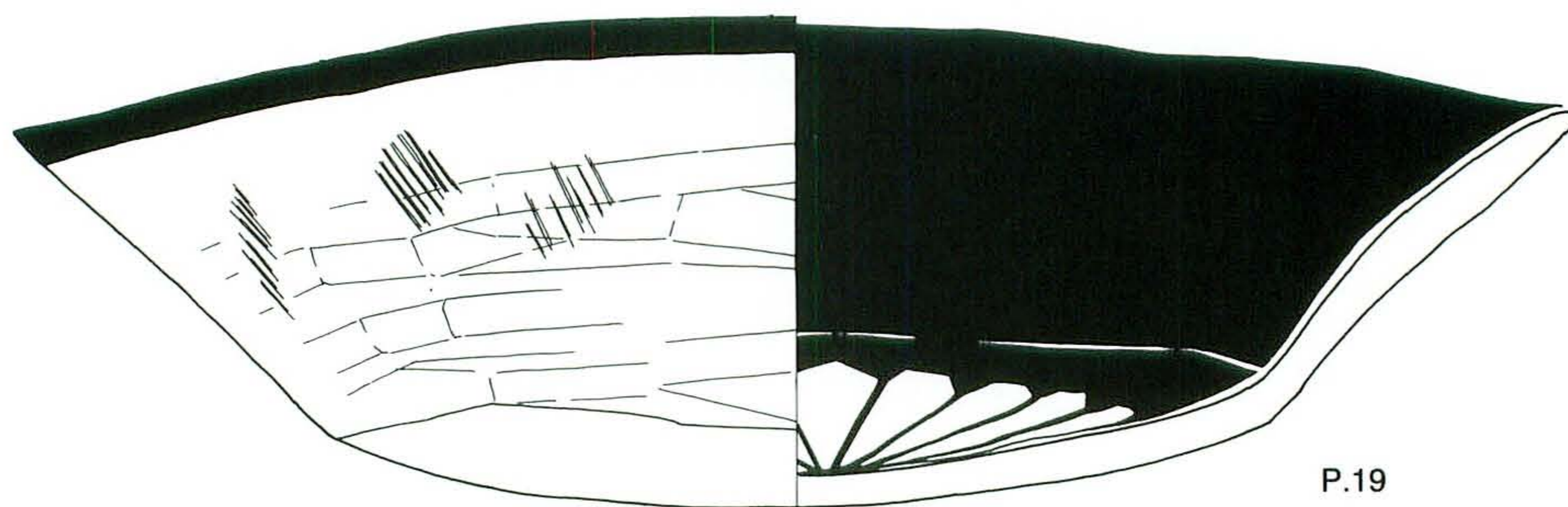
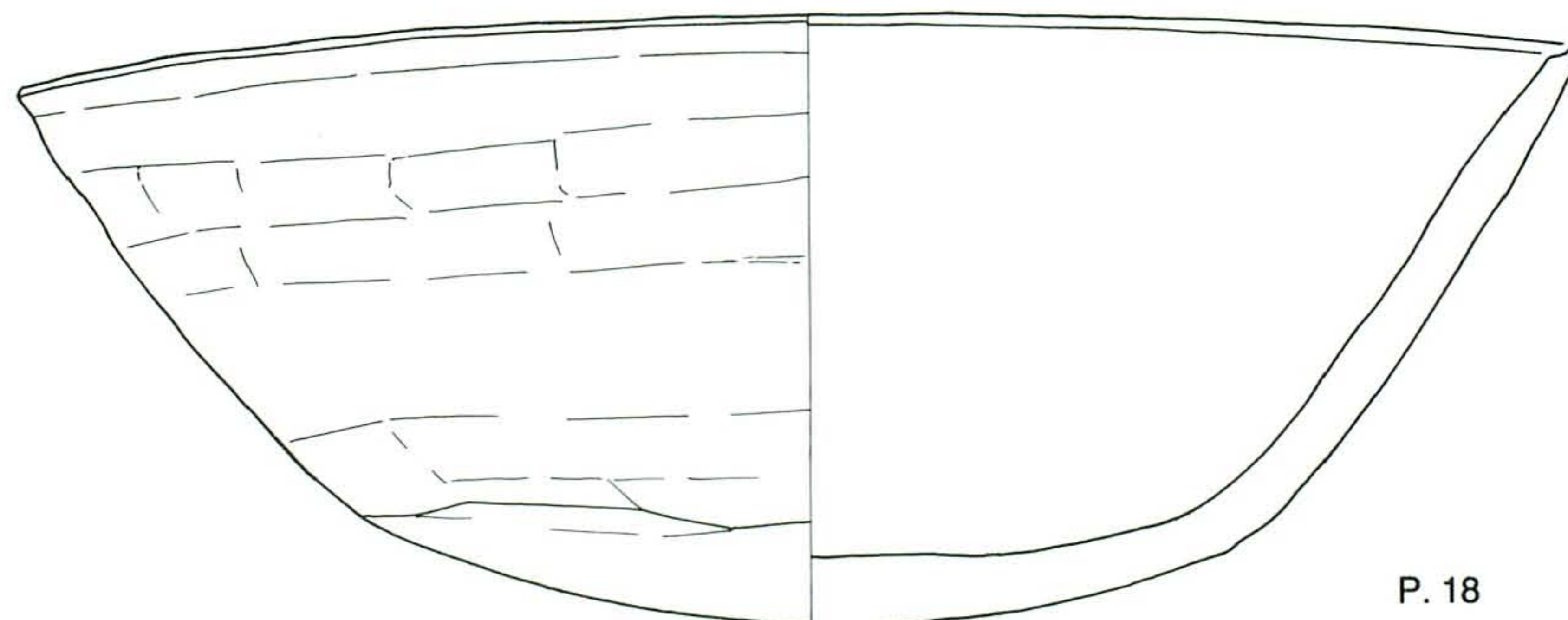
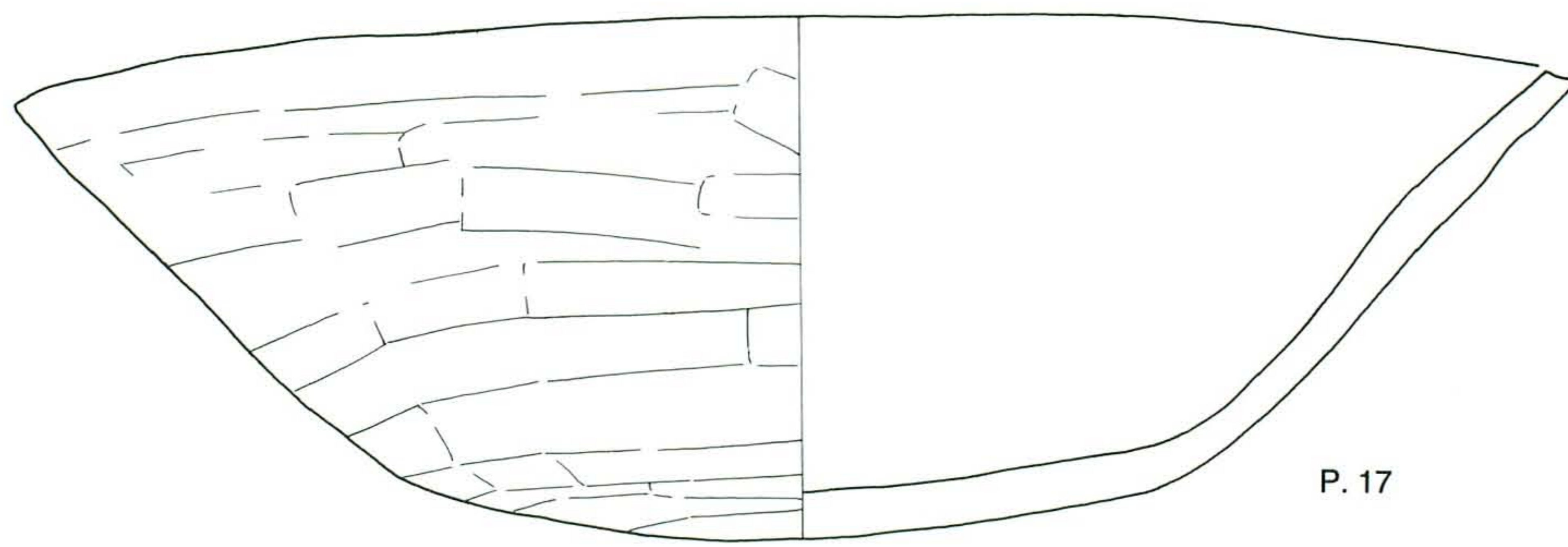


P. 16



Fig. 6 Ubaid Pottery, Form e.





0 20 cm

Fig. 7 Ubaid Pottery, Forms j and k.



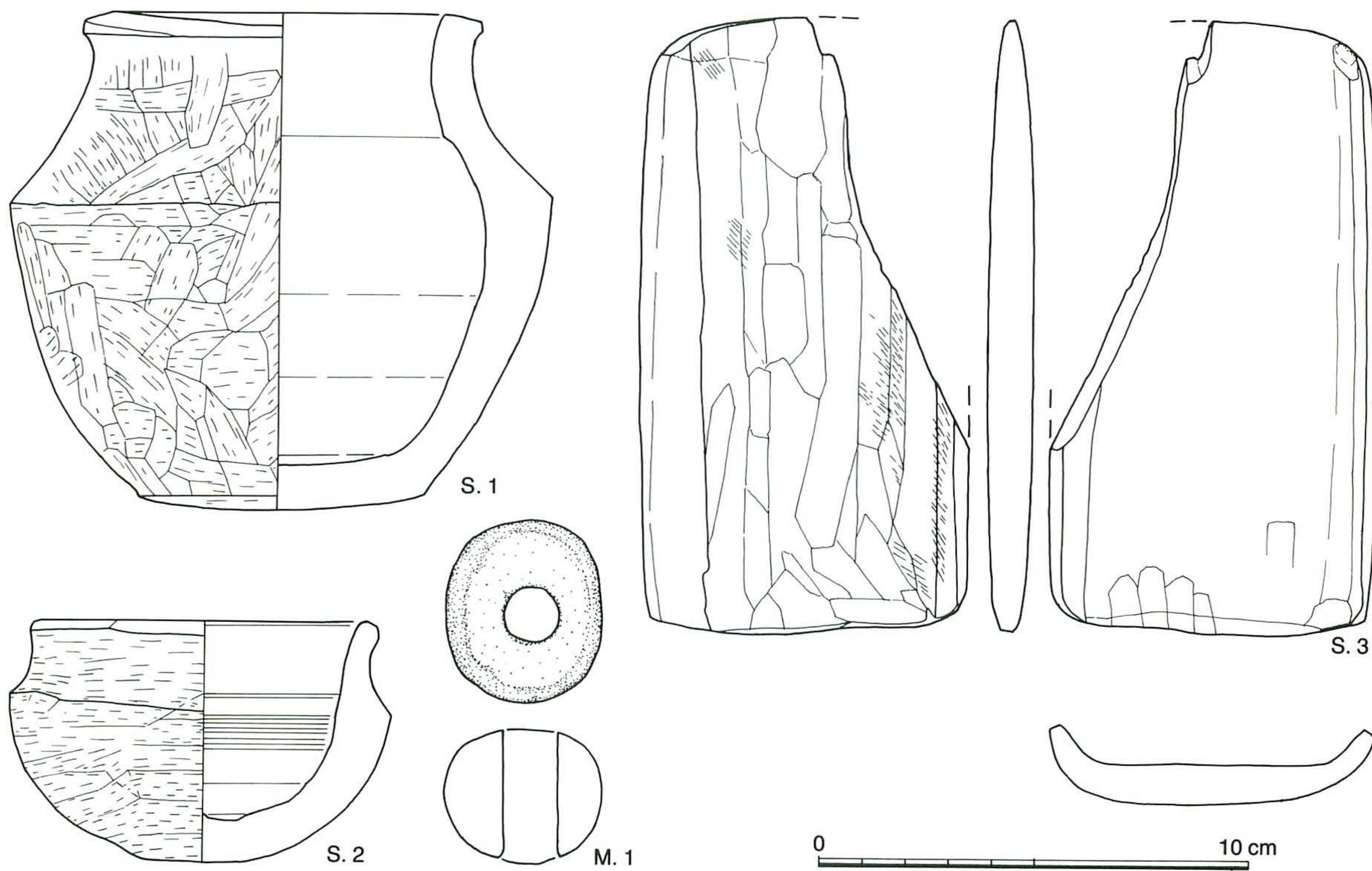


Fig. 8 Stone Objects.

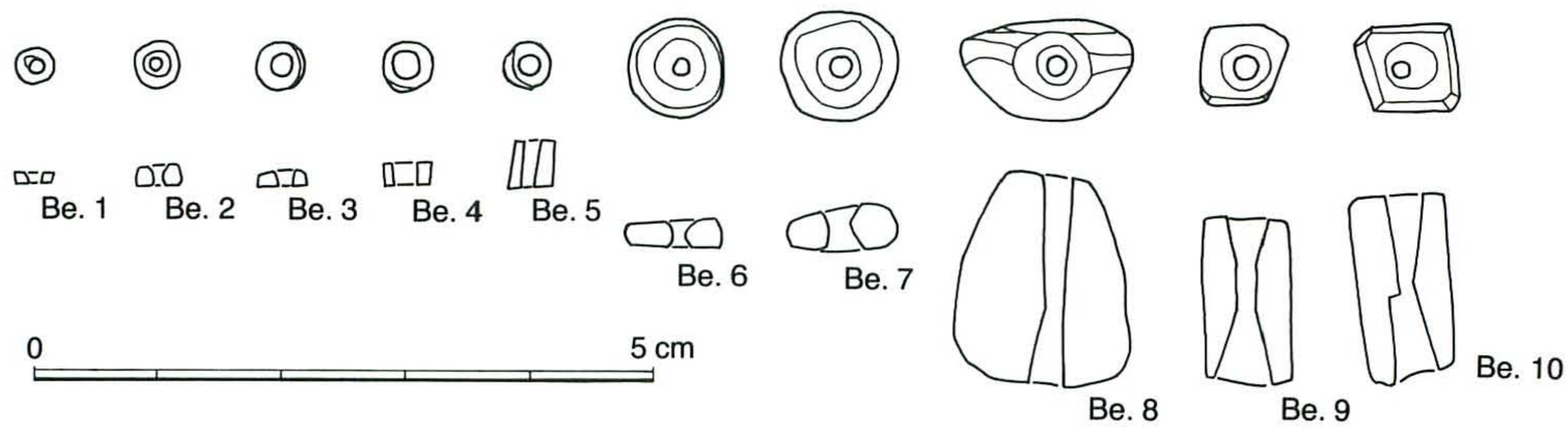


Fig. 9 Beads.



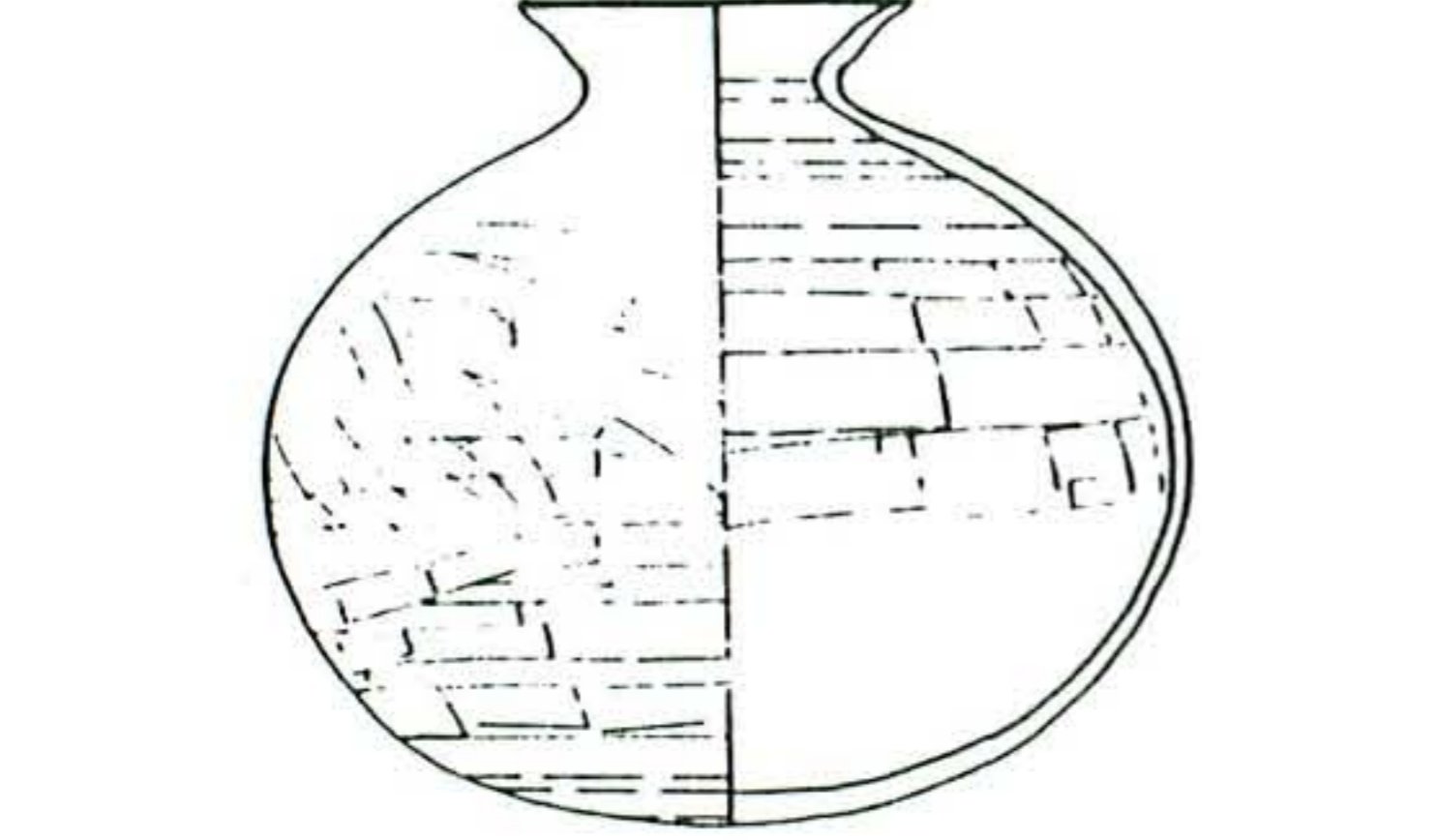


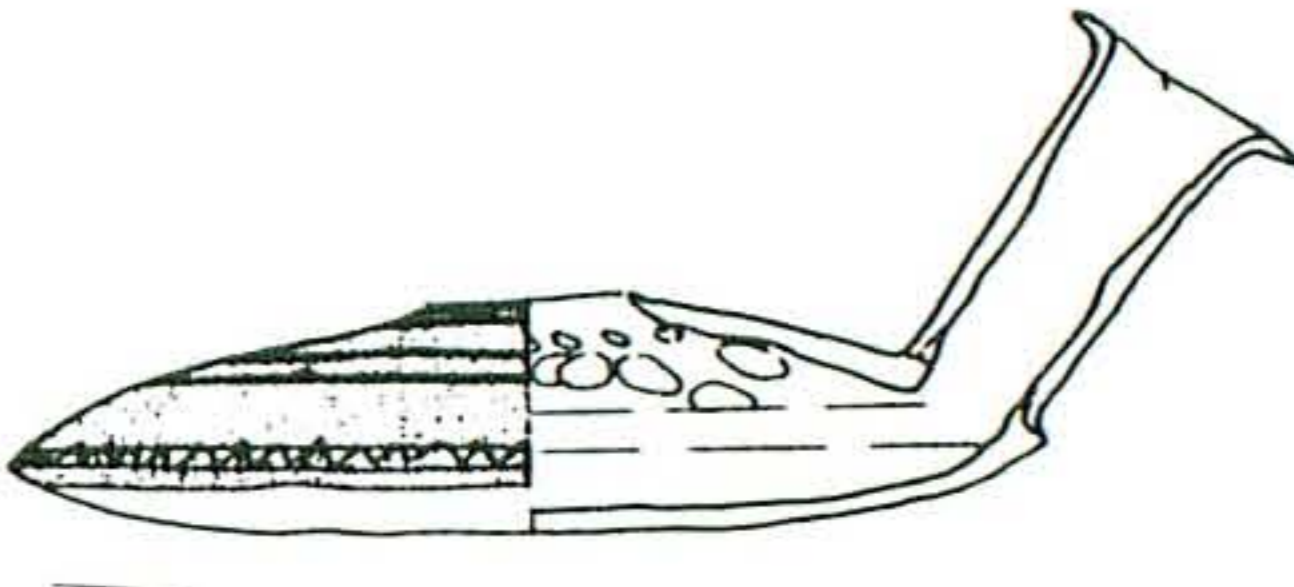
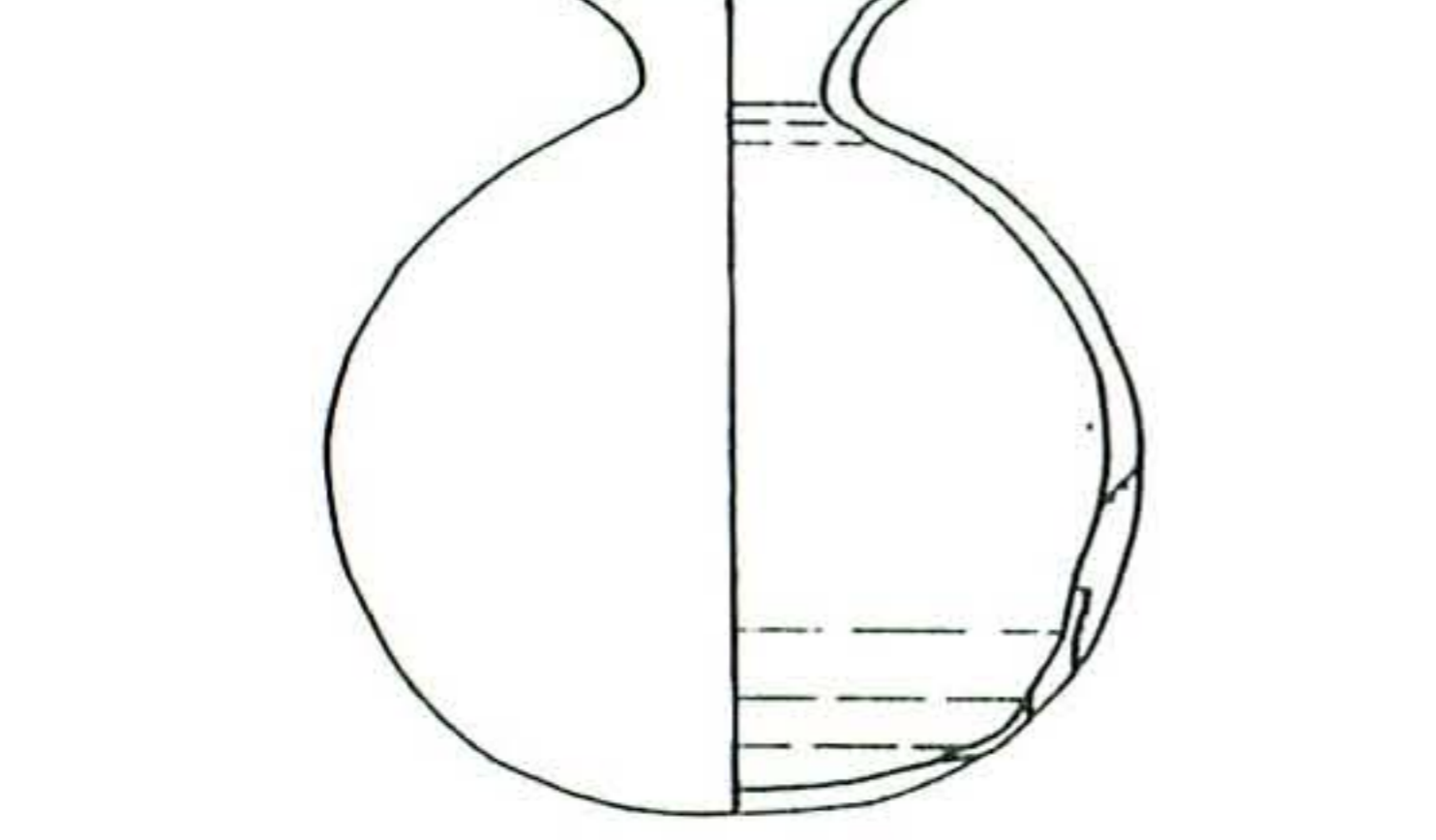

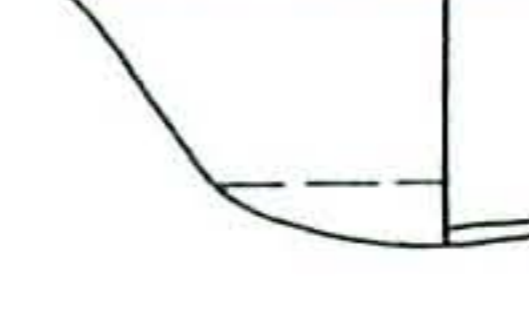

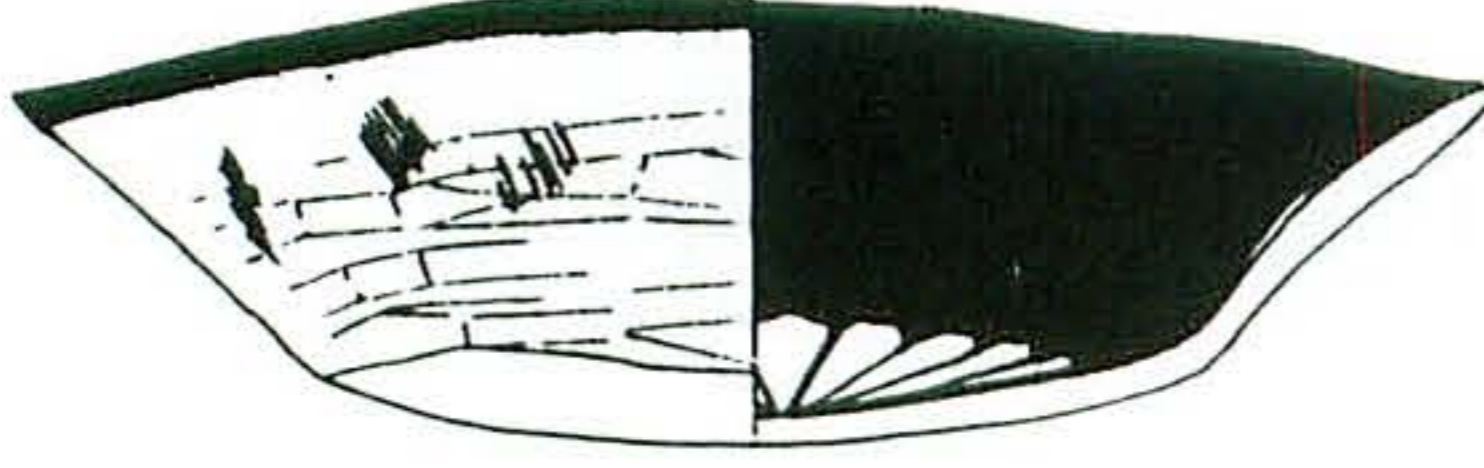

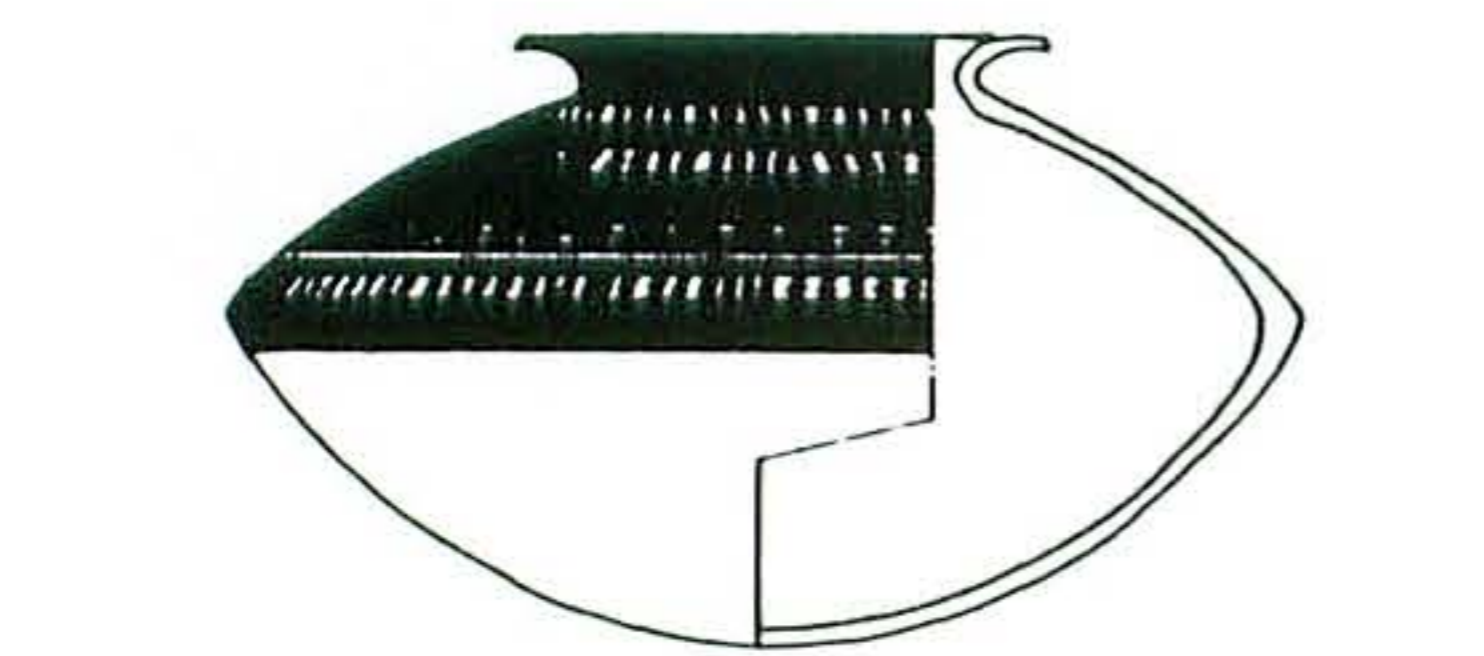

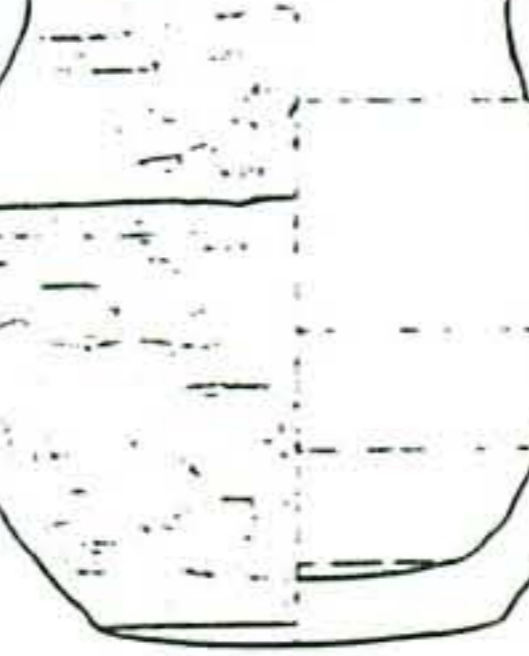
Grave	Grave Goods			
Gr. 1				
Gr. 4				
Gr. 277				
Different Graves: Gr. 2, 280, 276				

Fig. 10 Sets of Grave Goods. (Scale: Pottery ca. 1/10; Stone Artifacts ca. 1/5)





*a.* Gr. 1  
(The baulk in foreground).



*b.* Beads on the cranium of Gr. 1 skelton.





*a.* Pottery in the baulk, Gr. 1.



*b.* Two painted pottery at the bottom, Gr. 1.



*a.* Grid XXVIII-20:  
Gr. 2 left  
Gr. 4 right  
(Samanran wall  
and a new grave  
in back ground).



*b.* Gr. 4 after removing the  
grave goods.







*a.* Gr. 277.

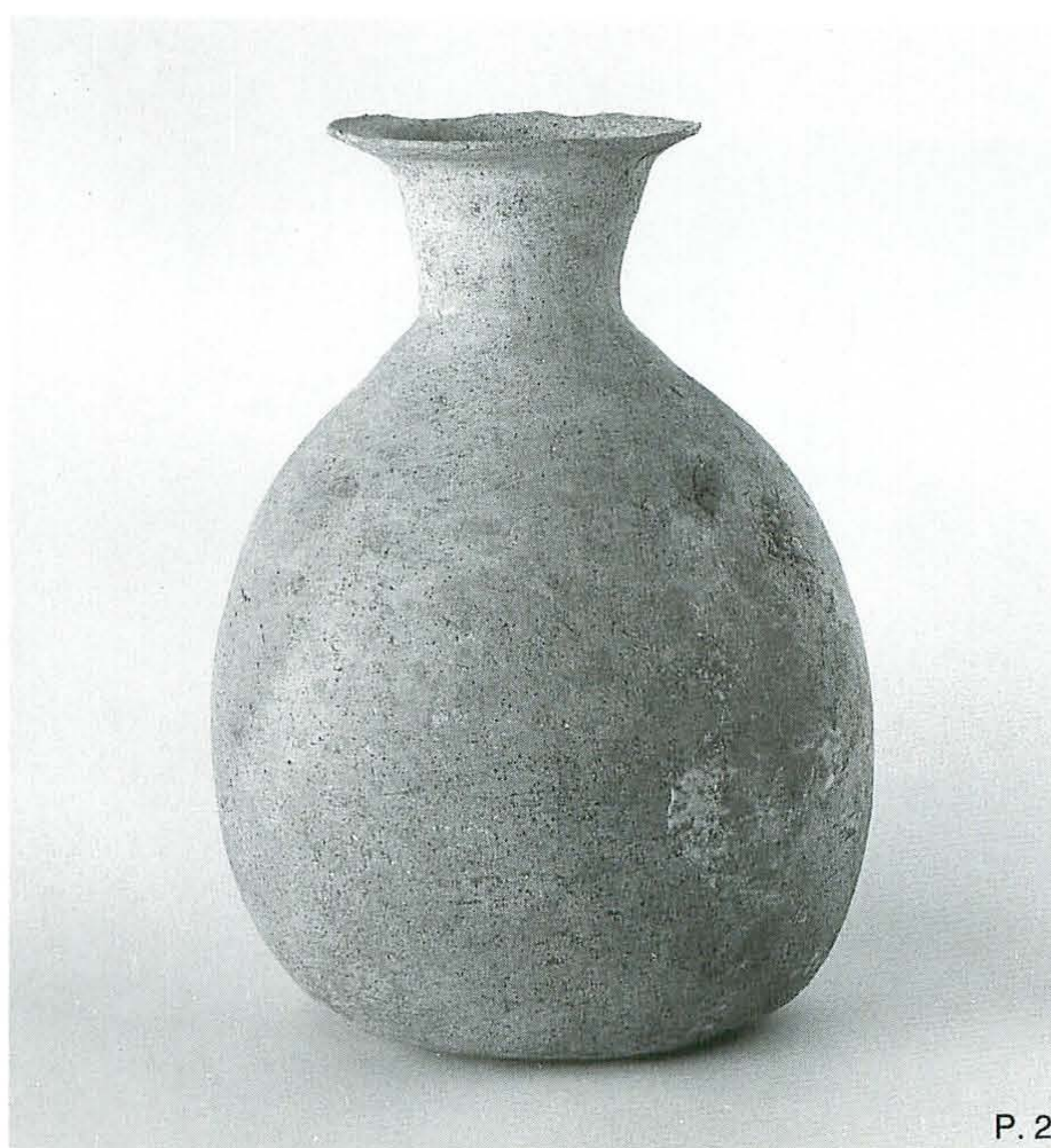


*b.* Gr. 266.

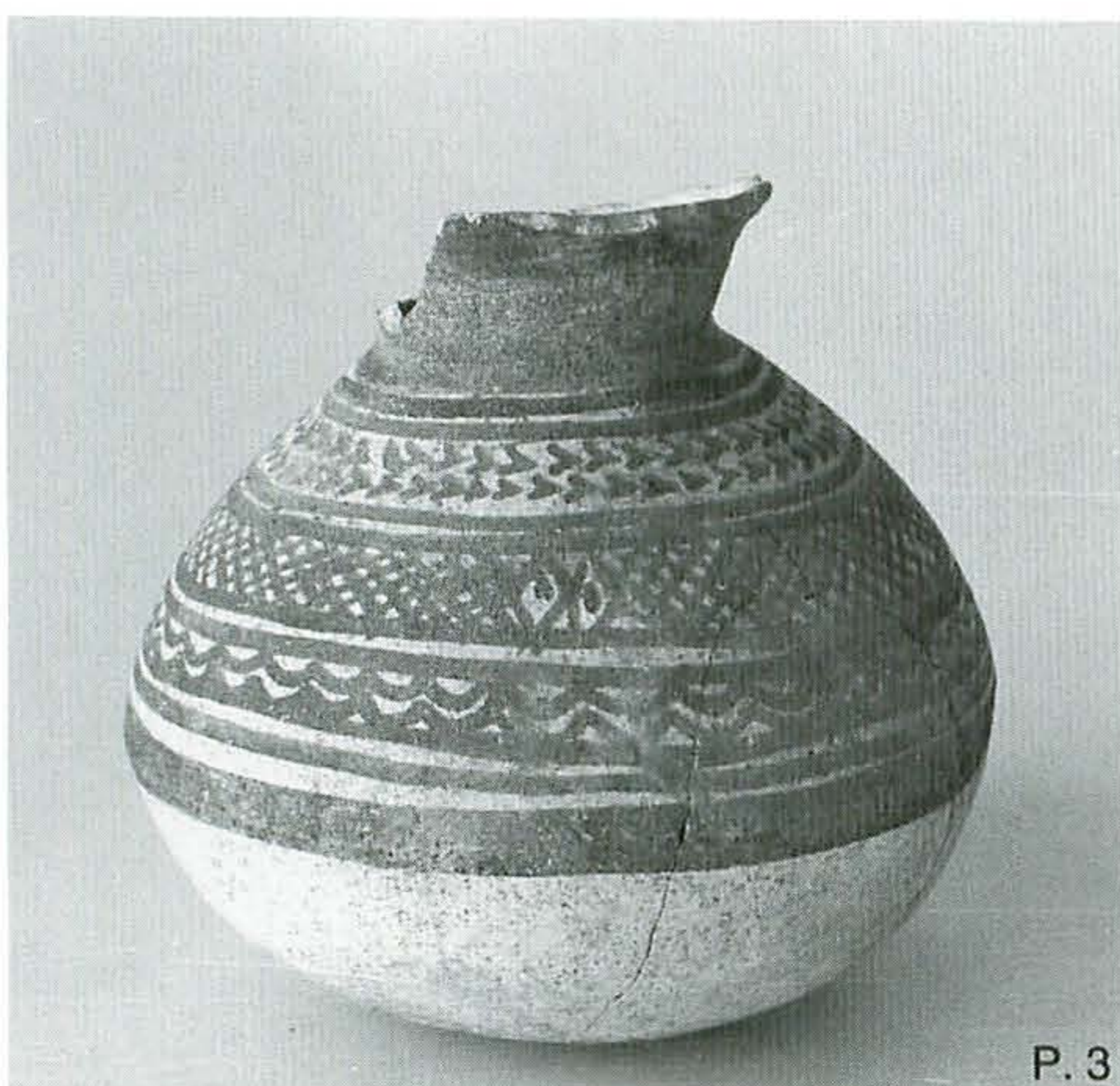




P. 1



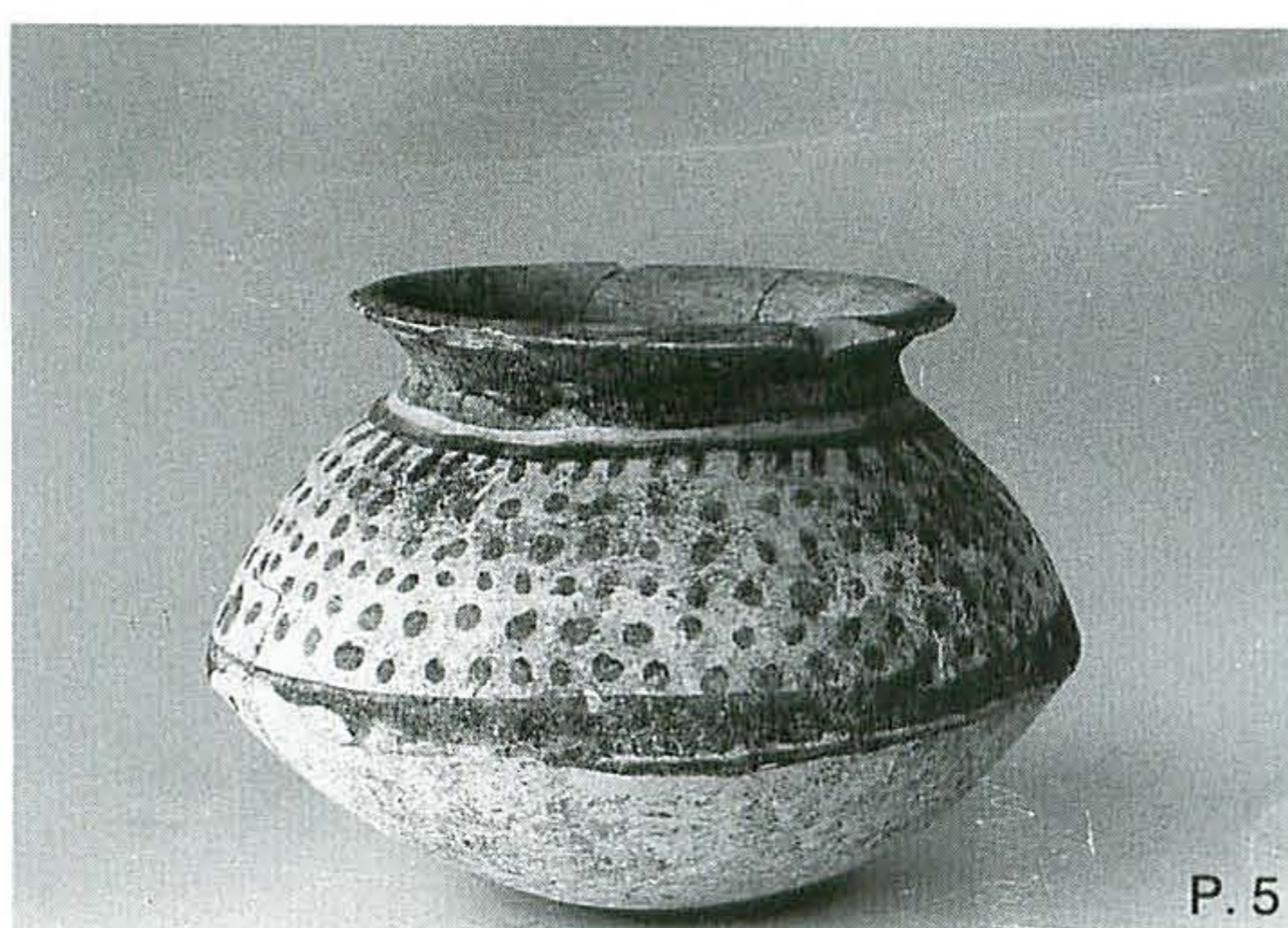
P. 2



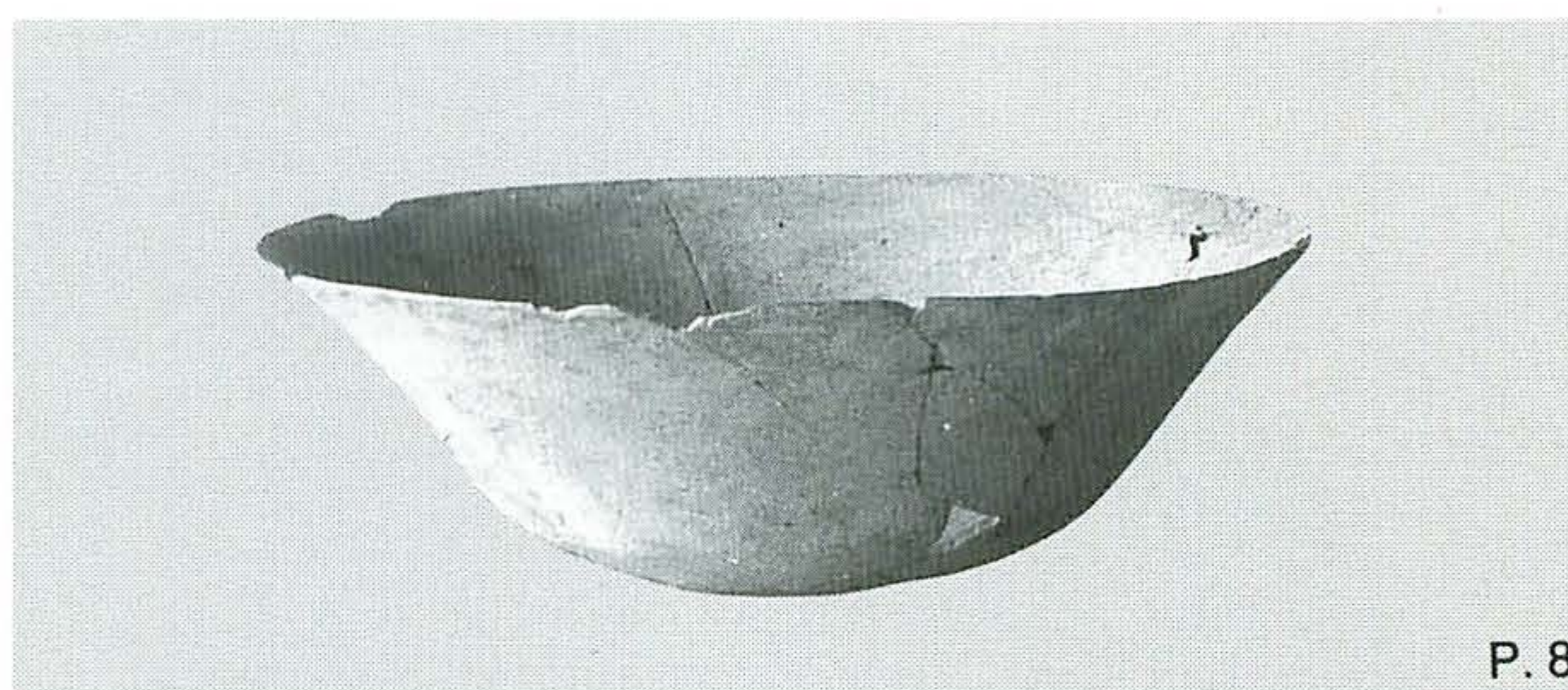
P. 3



P. 7



P. 5



P. 8



P. 6



P. 4

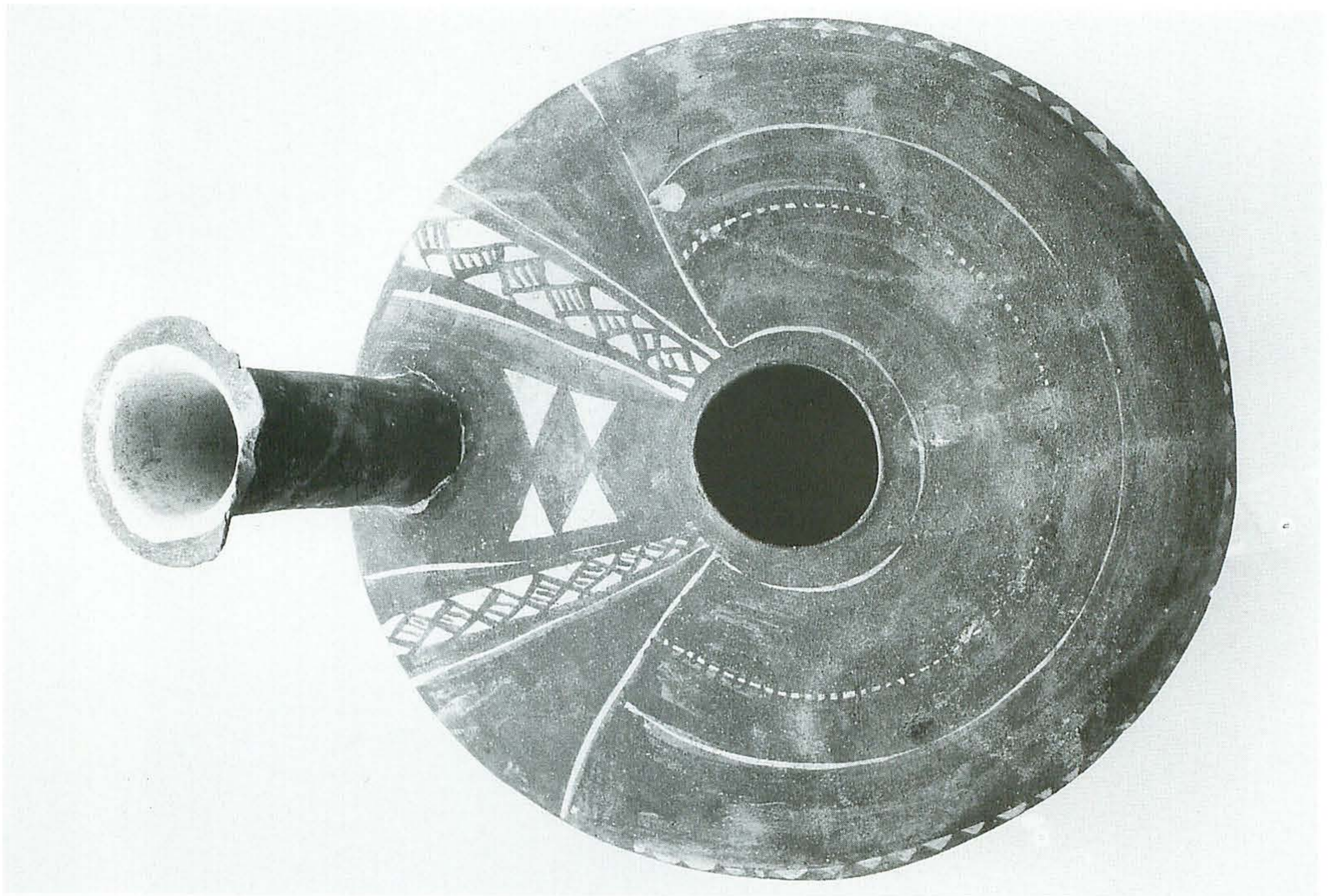
Pottery 1-8



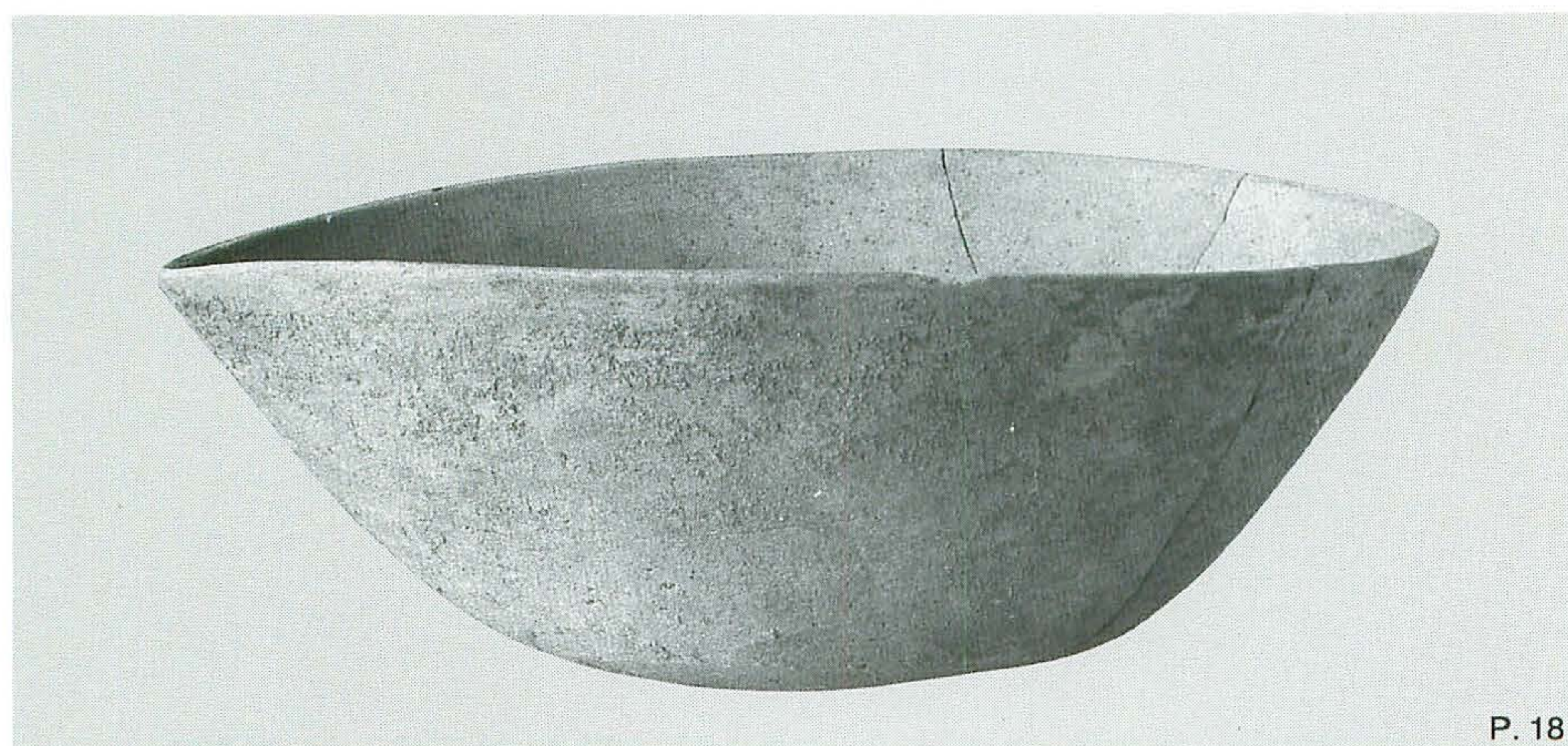


Pottery 9-11, 14









Pottery 16-18

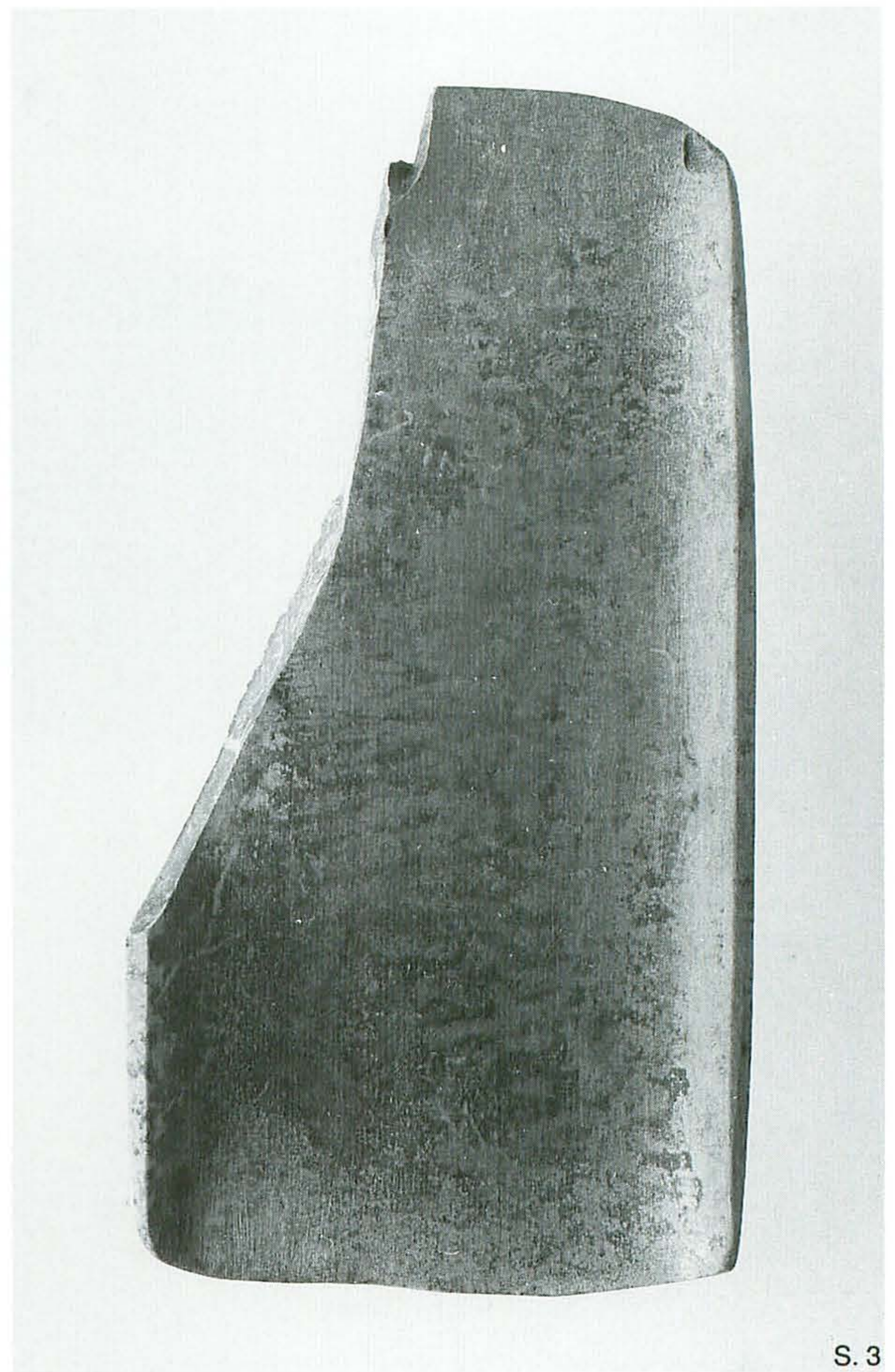
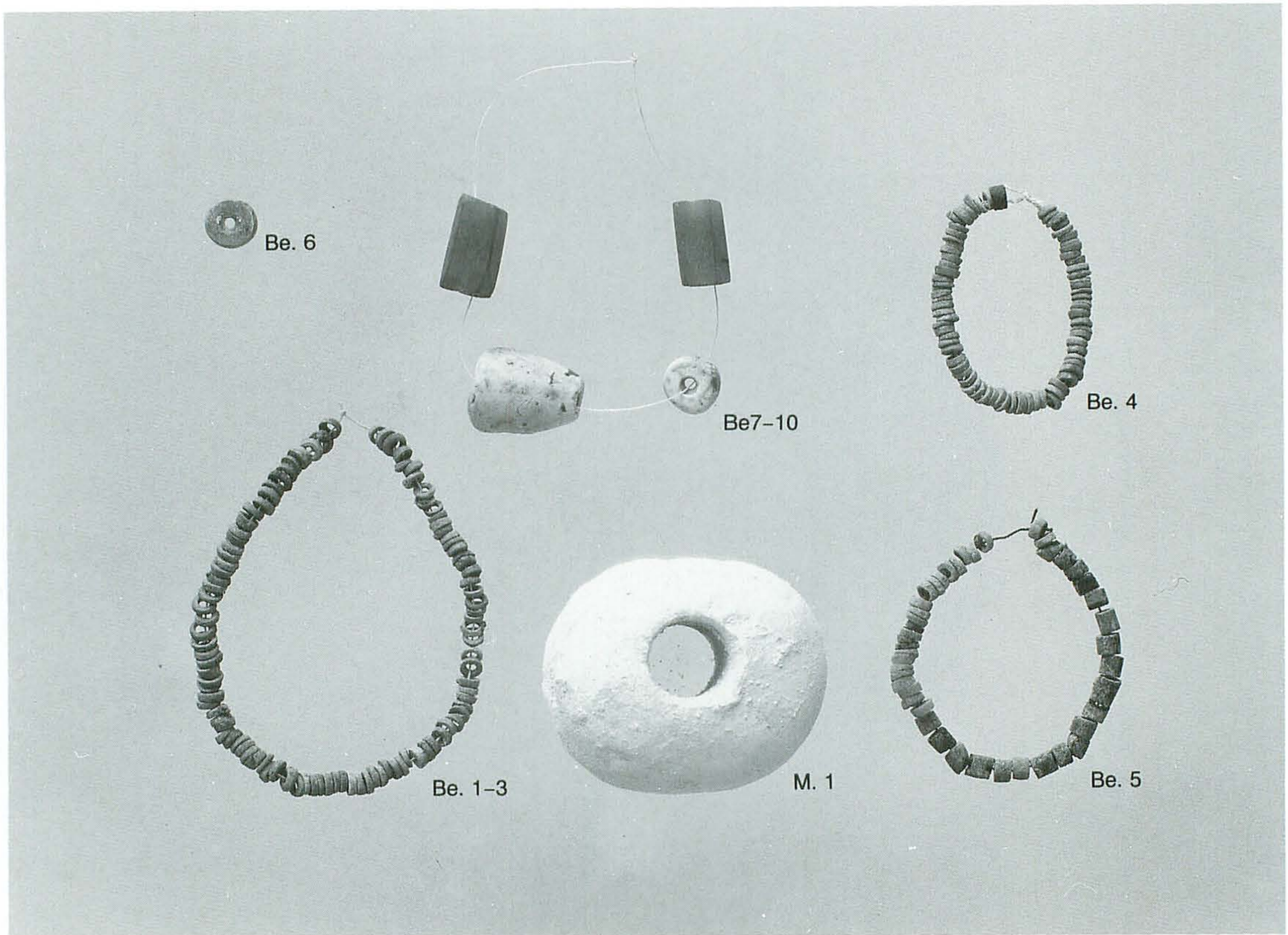




P. 19

Pottery 19





Beads and Stone Objects



## テル・ハメディヤート—そのⅢ

Telūl Hamediyāt near Tells Gubba and Songor: part III

川又 正智\* (編)

Masanori KAWAMATA (ed.)

本稿は、そのⅠ〔藤井・井共編 1981 第Ⅴ章、本誌巻Ⅱ〕・そのⅡ〔川又 1990、本誌Ⅺ〕、のつづきである。文中 Fig. 58 と Pl. 23 とあるのはそのⅠに、図1～15はそのⅡにある。

## 4 窯

テル東斜面の頂部付近にある(図1-F)。方形平面の昇焰式(垂直焰式)窯跡である。

## 4-1 遺構(図16～図19)(Fig. 58-1は平面図左方が北; Pl. 23-1は北から)

地下を掘りこんで、南・北壁は上方がひろがり、東・西壁はほぼ垂直な燃焼室をつくっている。底面で1.5m×0.9mの北燃焼室が、おそらく基底厚1mの隔壁で南燃焼室とならんでいる。隔壁上半部には径0.3～0.4mの両室をつなぐ孔がある(図17中央)。燃焼室のたかさは2.7mで、その上に厚0.3mの燃焼室天井つまり焼成室有孔床がある。この有孔床は北半がおおきくこわれていた。

焼成室は方形で、4.1m×2.0mのが南北に2室、基底厚0.35mの壁をはさんでならぶ。外壁は基底厚1m前後であつたらしい。床は東と北がわずかにひくい。

外壁のほとんどと上方窯蓋(焼成室天井)は残存せず、窯全体としての形状・寸法はわからない。平面全体としては約6m×6mであろう。

燃焼室は、0.5m厚のアーチを0.1mの空隙でならべて、有孔床の支持柱(燃焼室にとってはボルト天井)とし、その空隙は8本の東西方向分焰路として(図19)、焼成室床全面にもうけた通焰孔(径約0.2m)に焰が行きわたるようになっている。焼成室床面は全体で約16m<sup>2</sup>であり、そこに推定64孔(8孔8列)があつた。通焰孔といりまじって、径約0.4mのかすかな円凹が観察できたが、これは被焼成物を置いたのであろう。43(7×6+1)あつたものと推定する。煉瓦のおおきさは、確認したものでは、43～44cm×44cm×10cmである。

燃焼室北壁には昇降のための足がかりがのこり、対称の南端中央には煙道かともみえた孔がある(図18)。しかし、燃焼室隔壁の孔のちいささとかを考慮すると、北が焚口、南が煙道、とみるのは成立しがたいであろう。むしろ、これは南北対称の2基接続の窯ではあるまいか。

昇焰式の窯、またその燃焼室がボルトであるのは、ふるくからある〔Delcloix et Huot 1972〕。しかし、このように燃焼室のボルト方向に燃焼室も焼成室もそれぞれ2室ならび、平面が方形で、これだけ大型のは、管見では類例のないものである。

北端に地下への掘りこみがみえている。この分は調査できなかつたが、もう1基別の、よりふるい窯であろう(遺物は図27)。

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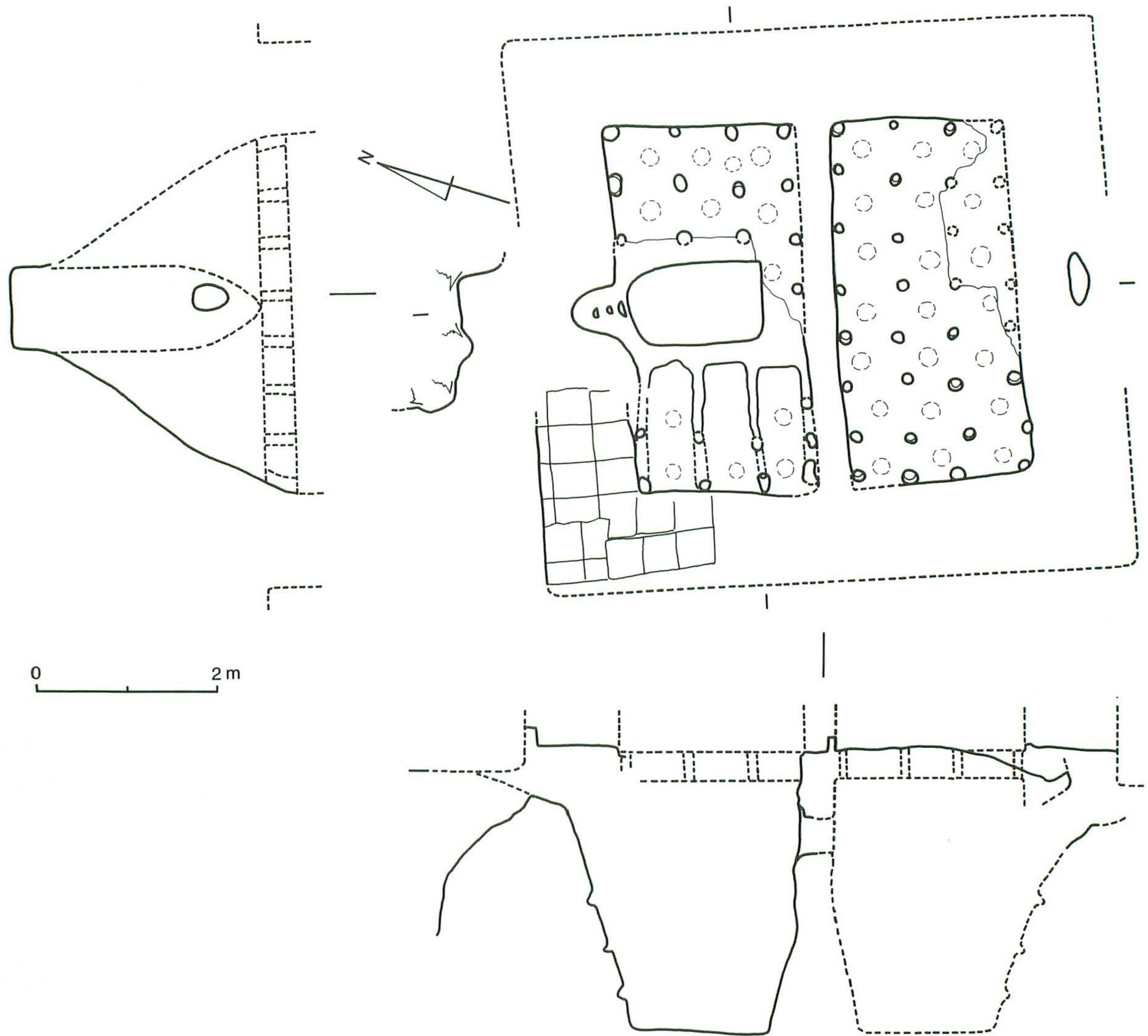


図16 テル・ハメディヤート窯跡F Fig. 16 Kiln F at Telul Hamediyat



図17 窯 北から Fig. 17 Kiln, from the north



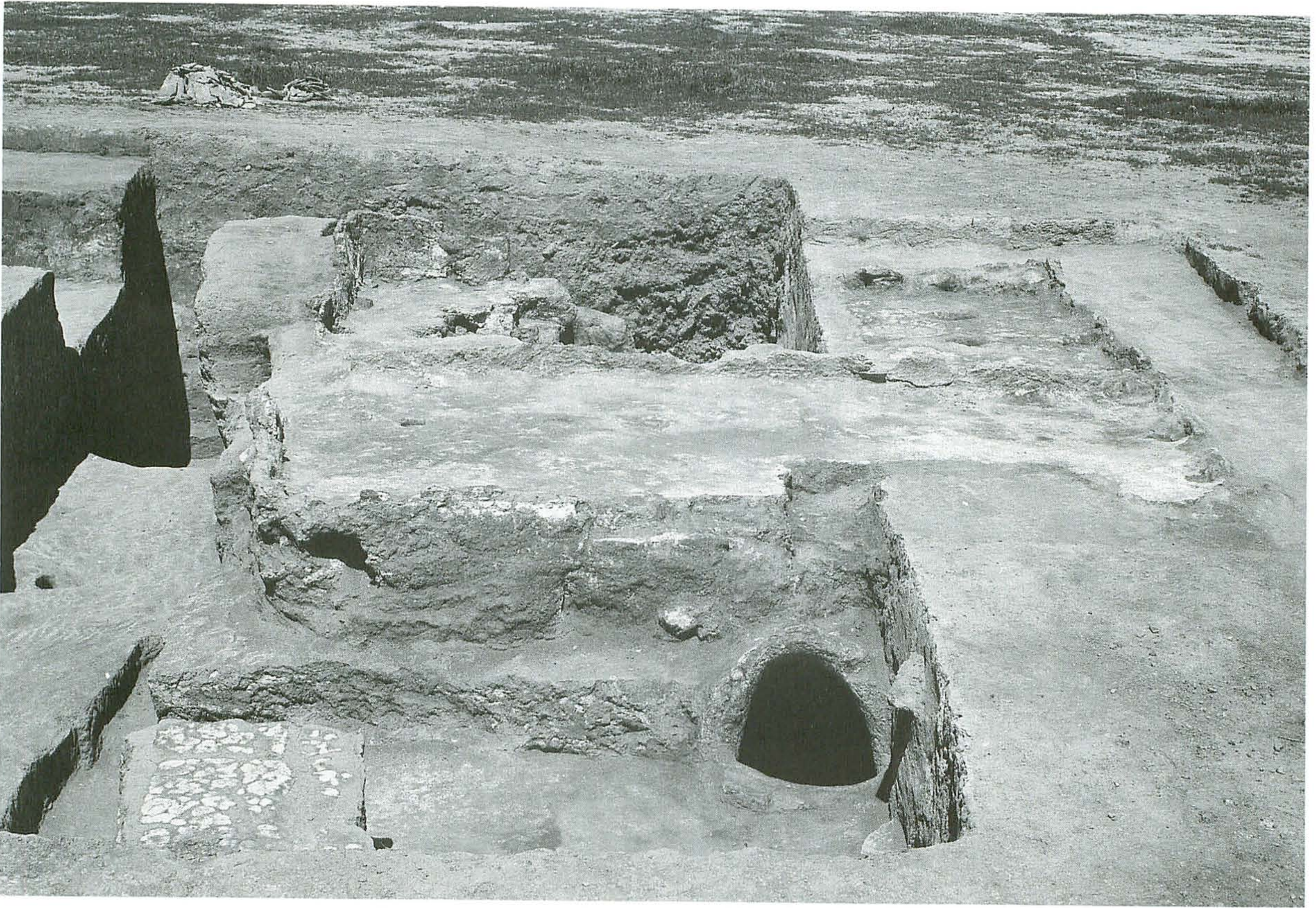


図18 窯 南から Fig. 18 Kiln, from the south



図19 窯 東から Fig. 19 Kiln, from the east



## 4-2 遺物 (図20～図27)

## 4-2-1 土器

いずれの土器も焼成は良好である。

- 図20-44： 口縁部片。口縁外径 20.4 cm。砂のおおい胎土で、淡緑白色、轆轤造。焼かたく均一。セルフ・スリップ。
- 図20-45： 口縁部片。口縁外径 24.1 cm。微細砂のおおい胎土で、緑白色、轆轤造。焼かたく均一。口縁下に沈線1本。
- 図20-46： 口縁部片。口縁外径 17.6 cm。微細砂をふくむ胎土で、淡緑灰白色、轆轤造。
- 図20-47： 口縁部片。口縁外径 24.3 cm。細砂のおおい胎土で、淡緑白色(黄褐色部分あり)、轆轤造。焼硬質。
- 図20-48： 口縁部片。口縁外径 16.8 cm。細砂をふくむ胎土で、白黄色、轆轤造。外面に黒色物。
- 図20-49： 口縁部片。口縁外径 24.0 cm。砂のおおい胎土で、白っぽいウォッシュ(一部赤味)。轆轤造。沈線3本。
- 図20-50： 口縁部片。口縁外径 20.0 cm。細砂まじりの胎土で、淡緑白黄色、轆轤造。
- 図20-51： 口縁部片。口縁外径 20.3 cm。細砂のおおい胎土で、淡緑白色、轆轤造。硬質。内外全面に炭化物。
- 図20-52： 口縁部片。口縁外径 11.0 cm。細砂のおおい胎土で、淡緑白色、轆轤造。内外撫。硬質。
- 図20-53： 壺頸胴部。最大径 12.5 cm。高 13 cm 以上。砂をふくむ胎土で淡茶褐色。轆轤造。腹下篋削。
- 図20-54： 口縁部片。口縁外径 10.0 cm。
- 図20-55： 口縁部片。口縁外径 27.0 cm。細砂を少量ふくむ良質な胎土で、明赤色、表面は白っぽい。轆轤造。セルフ・スリップ。硬質。平折口縁上に5本の浅沈線とそれに直交する沈線がある。
- 図20-56；図22： 碗，ほぼ完形。口縁外径 14.7 cm，高 6.5 cm。砂のすくない胎土で，轆轤造。内外水引，底篋削。内外全面に紺色釉をほどこすが，風化により淡水色にかわっている。口縁部は銀化。焼台の釉着が内外両面に3か所ずつある。貫入が少々あり緑色斑点にみえる。
- 図20-57；図23： 碗片。口縁外径 19.8 cm，高約 8 cm。きわめて良質な胎土で，砂少，白色。轆轤造，内外水引のみ。釉は，若草色～白色にちかい淡水色で，全面にかけてある。
- 図20-58： 漉器片。厚 0.7 cm。大粒の砂をふくむ胎土で，白黄色。轆轤造，外撫。焼成前に外から内へ径 2～3 mm の孔をあける。約 2 cm<sup>2</sup> ごとに1孔か。
- 図20-59： 底部片。高台外径 5.9 cm。黒色砂のおおい胎土で，緑味白黄色。轆轤造。内外撫。高台はけずりだし。内面に多量の石膏が付着。重量大。
- 図20-60： 底部片。高台外径 11.9 cm。細砂のおおい胎土で，淡褐色，轆轤造。硬質。内側全面に炭化物(厚 0.5 mm)。
- 図21は図20よりも下方から出土したものである。特に図21-68・69などは窯の使用時代をしめすのではないかとかんがえる。
- 図21-61： 蓋片。外径 12.0 cm。砂のおおい胎土で，淡緑白色，轆轤造。硬質であるが，もろい感。
- 図21-62： 蓋片，器受付。外径 25 cm。精良な胎土で，緑味色，轆轤造。内水引。外撫。
- 図21-63： 口縁部片。口縁外径 30 cm。砂を中程度ふくむ胎土で，淡赤色，轆轤造。ひくい隆線文があり，白っぽいスリップがある。



- 図21-64： 口縁部片。口縁外径 31.8 cm, 端径 29.2 cm。砂をふくむ胎土で、黒味色、轆轤造。スリップあり。
- 図21-65： 口縁部片。口縁外径 14.9 cm。砂のややおい胎土で、淡緑味色、轆轤造。内外ともスリップがある。
- 図21-66： 口縁部片。口縁外径 13.2 cm。石英らしい大粒砂と雲母もしくは黄鉄鉱をふくむ胎土で、粗製、黒褐色、手捏。内外とも撫、とくに外面は平滑。
- 図21-67： 口縁部片。口縁部外径 14.5 cm。砂のおおい胎土で、赤褐色、轆轤造。内外に緑味のスリップ。風化がいちじるしい、特に内面肩部。
- 図21-68；図24： 胴底部片。胴径 24.0 cm, 残高 35.5 cm。砂すくなく、良好な胎土で、淡緑味色。轆轤造、撫と篋削混用、下半は幅 3~4 cm のあらい篋削。高台貼付。青黄色のスリップ。内外にアスファルト。
- 図21-69；図25： 口頸部片。口縁外幅 5.7 cm。砂のすくないやや精選した胎土で、褐色、轆轤造。把手貼付。サーサーン朝風といわれるものである。この類似品は北北東約 6 km のテル・オウェイサトから出土〔Wartke 1984：Abb. 11〕している。
- 図21-70： 把手付壺胴部片。径 11.8 cm。砂をふくむ胎土で、淡緑味色、轆轤造。白っぽいスリップ。
- 図21-71： 口縁部片。口縁外径 11.5 cm。砂をふくむ胎土で粗製。外は黒褐色で研磨され黒光、内面は淡茶褐色。内面口縁部もよくなでられている。手捏。
- 図21-72： 口縁部片。口縁外径 11.3 cm。砂のややおい胎土で、緑味黄色、轆轤造。把手付であろう。
- 図21-73： 肩部片。下段凸帯部外径 14.8 cm。砂のややおい胎土で、緑味黄色、轆轤造、内外とも撫。凸帯は轆轤引きだして、その下面は篋を使用。
- 図21-74： 厚 0.5~0.6 cm。微細砂のおおい胎土で、緑味色、轆轤造。外面はうすいスリップがあるようにみえる。内面にはアスファルト付着。
- 図21-75： 底部片。底径 5.1 cm。細砂のおおい胎土で、緑味色、轆轤造。内外撫、底部は篋の後に撫か。外面は特に平滑。
- 図21-76： 底部片。高台外径 11.4 cm。淡赤褐色、轆轤造、硬質。外下部は篋削。高台貼付。
- 図21-77： 底部片。底端径 10.0 cm。細砂のおおい胎土で、淡赤味色、轆轤造。重量大。外面はなめらか。底部削出。
- 図21-78： 吊手部。口縁径は 31 cm くらいであろう。砂をふくむ胎土で、淡赤褐色。吊手は貼付であろう。

#### 4-2-2 ガラス器

- 図26-5；Fig. 58-2： 切子装飾碗片。口縁径約 10 cm, 現存最大厚 0.6 cm。銀白色に風化。カットは互に接している。
- 図26-6： 釧片。断面は隅丸三角形で、幅 0.6 cm, 高 0.6 cm, 推定全体径 8~9 cm。黒緑色で、内側はよく擦れて平滑。2条のあさい凹線がある。

#### 4-2-3 北側隣接窯(?)の土器

- 図27-79： 口縁部片。口縁頂部径 27.0 cm。白緑灰色。轆轤造。
- 図27-80： 口縁部片。口縁外径 13.0 cm。淡白褐色。轆轤造。
- 図27-81： 口縁部片。白黄灰色。轆轤造。凸帯 2 条。



## 5 表面採集品

発掘点付近で採集した土器の一部を参考のため紹介しておく。

図28-82： 口縁部片。口縁外径 8.3 cm。砂をふくむ胎土で、黒っぽい。轆轤造。スリップあり。

図28-83；図29： 把手付口縁部片。口縁外径 4.9 cm。微細砂を少量ふくむ胎土で、精製品。淡灰黄緑色。轆轤造。帯状で縦位置の2把手がある。

図28-84： 胴底部片。胴径 14.2 cm。砂をふくむ胎土で、緑味色。轆轤造。

図28-85： 頸肩部片。頸沈線部径 5.8 cm。砂をふくむ胎土で、茶褐色。轆轤造。

図28-86： 胴底部片。胴径 9.8 cm。2把手が付く。

図28-87： 胴底部片。胴径 13.4 cm。砂のおおい胎土で、黄味茶褐色。轆轤造。胴下方と底は篋削。把手欠失。

図28-88；図30： 胴部片。胴径 23.0 cm。砂をふくむ胎土で、淡茶褐色。轆轤造。櫛描文様。内面に黒色物付着。外面にスリップ。

図28-89： 底部片。高台外径 8.4 cm。砂をふくむ胎土で、轆轤造。

図28-90： 口縁部片。口縁外径 25.9 cm。細砂のおおい胎土で、淡褐色。轆轤造。

図28-91： 口縁部片。口縁外径 36.8 cm。細砂をややおおくふくむ胎土で、赤褐色、軟質。手捏であろう。沈線・押圧とも繊維痕がみえるから植物らしい棒状原体を押しあててほどこしたのでであろう。その下は幅 5 cm くらいにけずる。内外とも、クリーム色のスリップをほどこす。

図28-92： 口縁部片。口縁外径 39.6 cm。砂を多量にふくむ胎土で、黄褐色。手捏。スリップ。

図28-93： スタンプ文土器片。

図31： スタンプ文土器片2点。左は三日月状のものがみえる。右はガゼルであろうか。

図示しないが、蜂巢状装飾の土器片があった。

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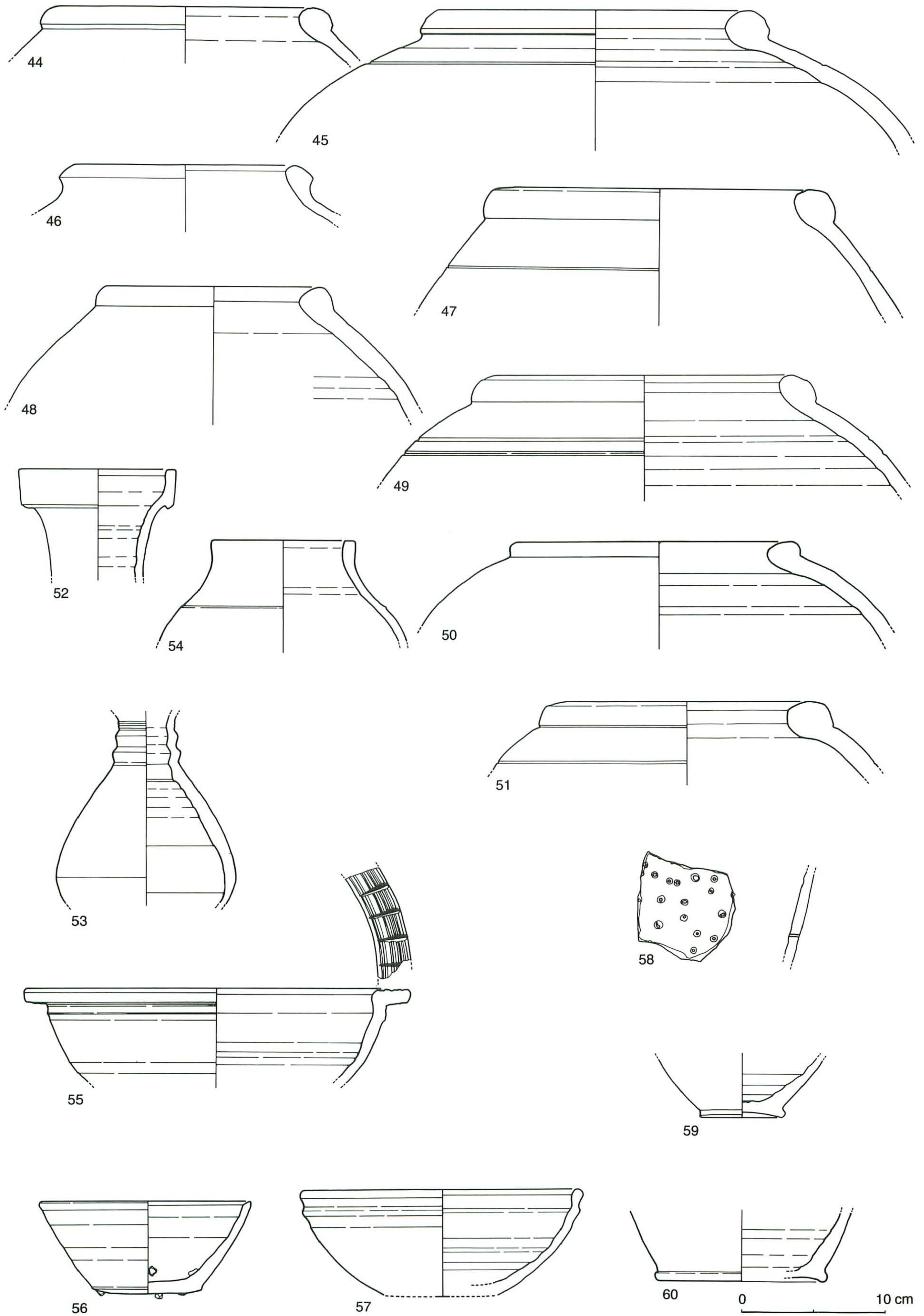


図20 窯内堆積出土土器 Fig. 20 Pottery, from the kiln



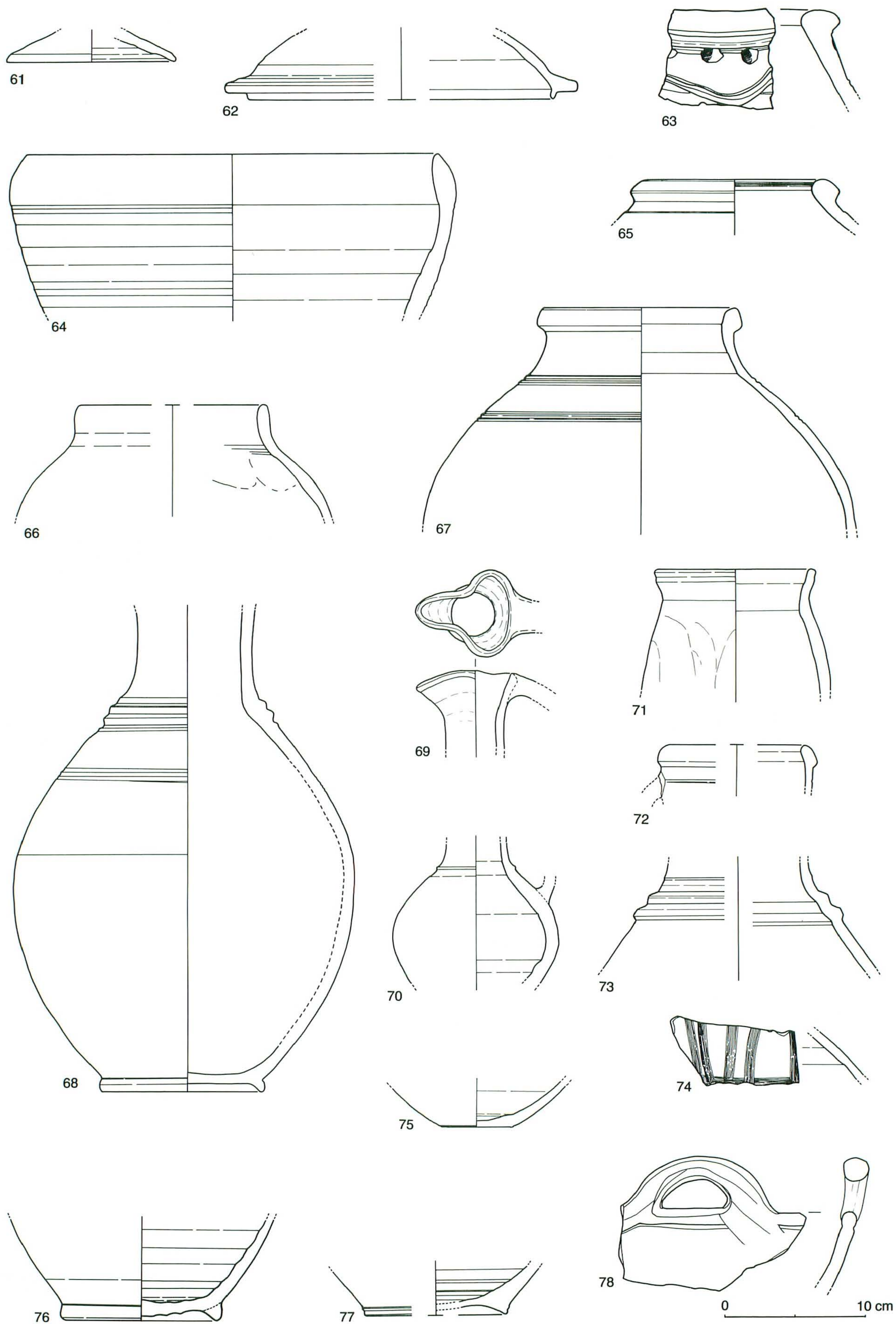


图21 窯内堆積下層出土土器 Fig. 21 Pottery, from the lower accumulation in the kiln





図22 土器 56 Fig. 22 Pottery 56



図23 土器 57 Fig. 23 Pottery 57



図24 土器 68 Fig. 24 Pottery 68



図25 土器 69 Fig. 25 Pottery 69

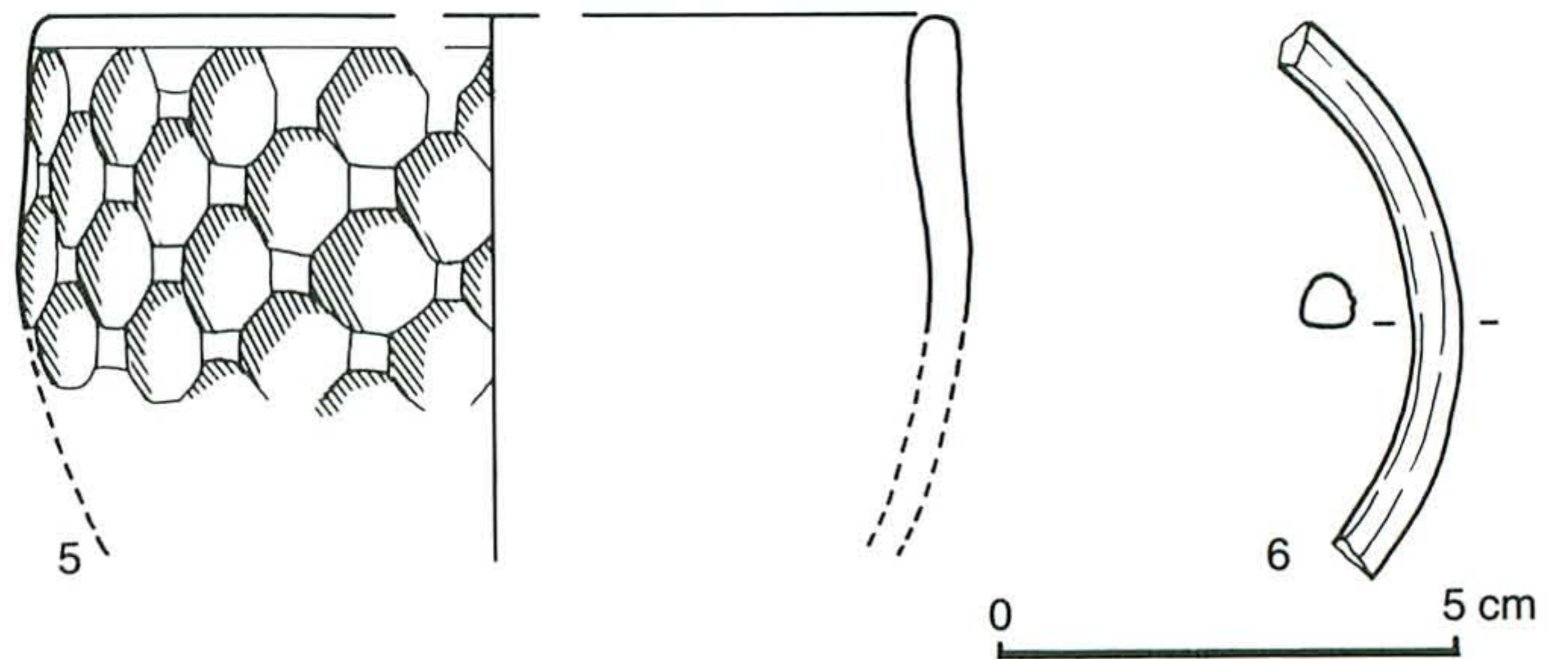


図26 窯内堆積出土ガラス器  
Fig. 26 Glass, from the kiln



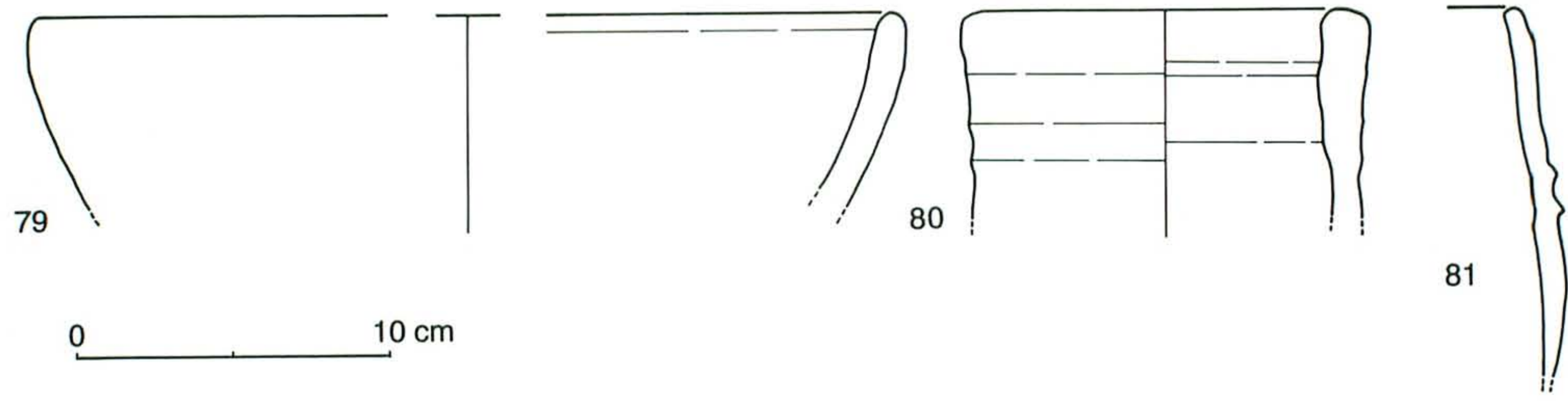


图27 土器 (隣接窯?)

Fig. 27 Pottery, from the next kiln(?) on the north

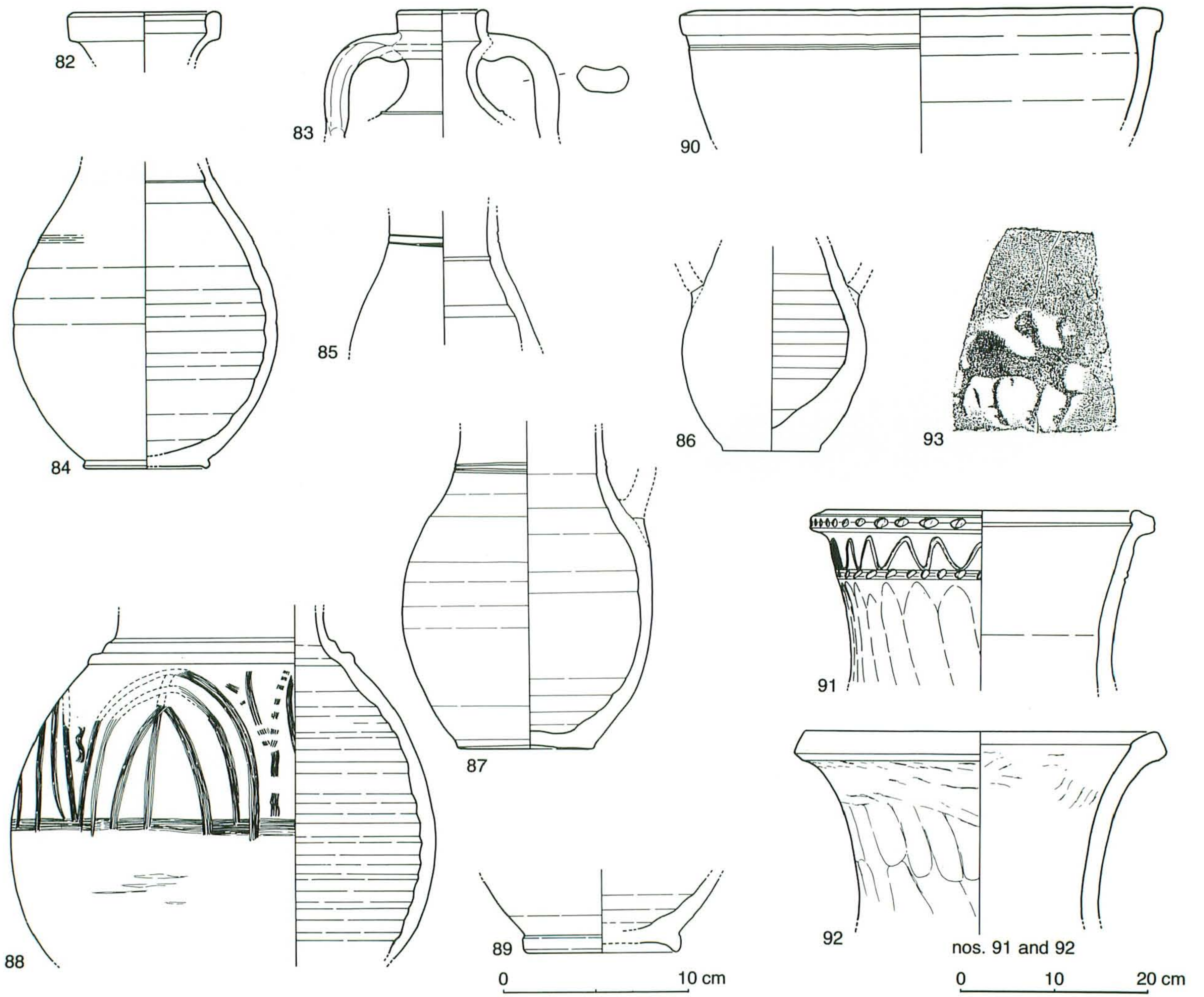


图28 土器 (表面採集)

Fig. 28 Pottery, from surface



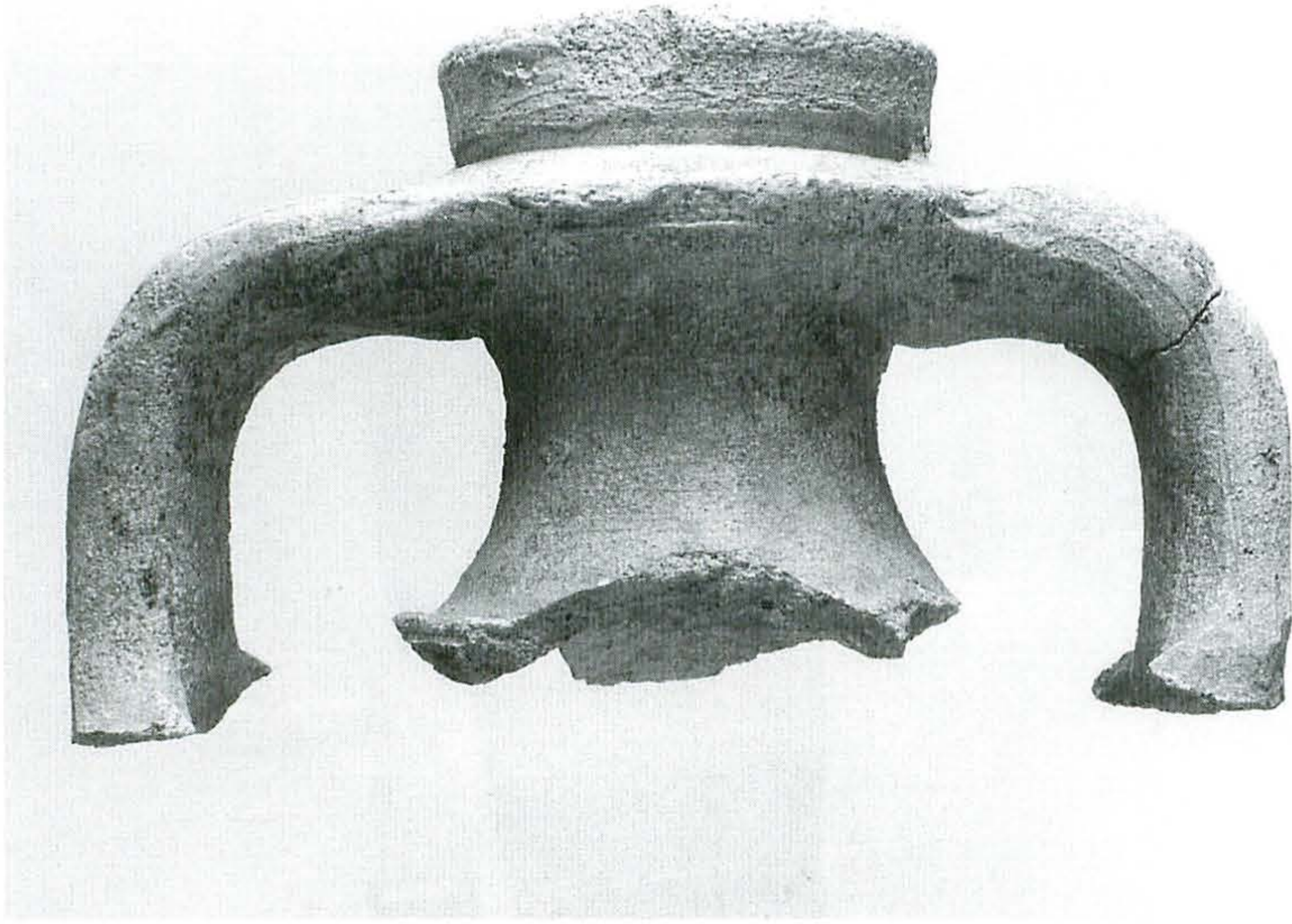


図29 土器 83  
Fig. 29 Pottery 83



図30 土器 88  
Fig. 30 Pottery 88

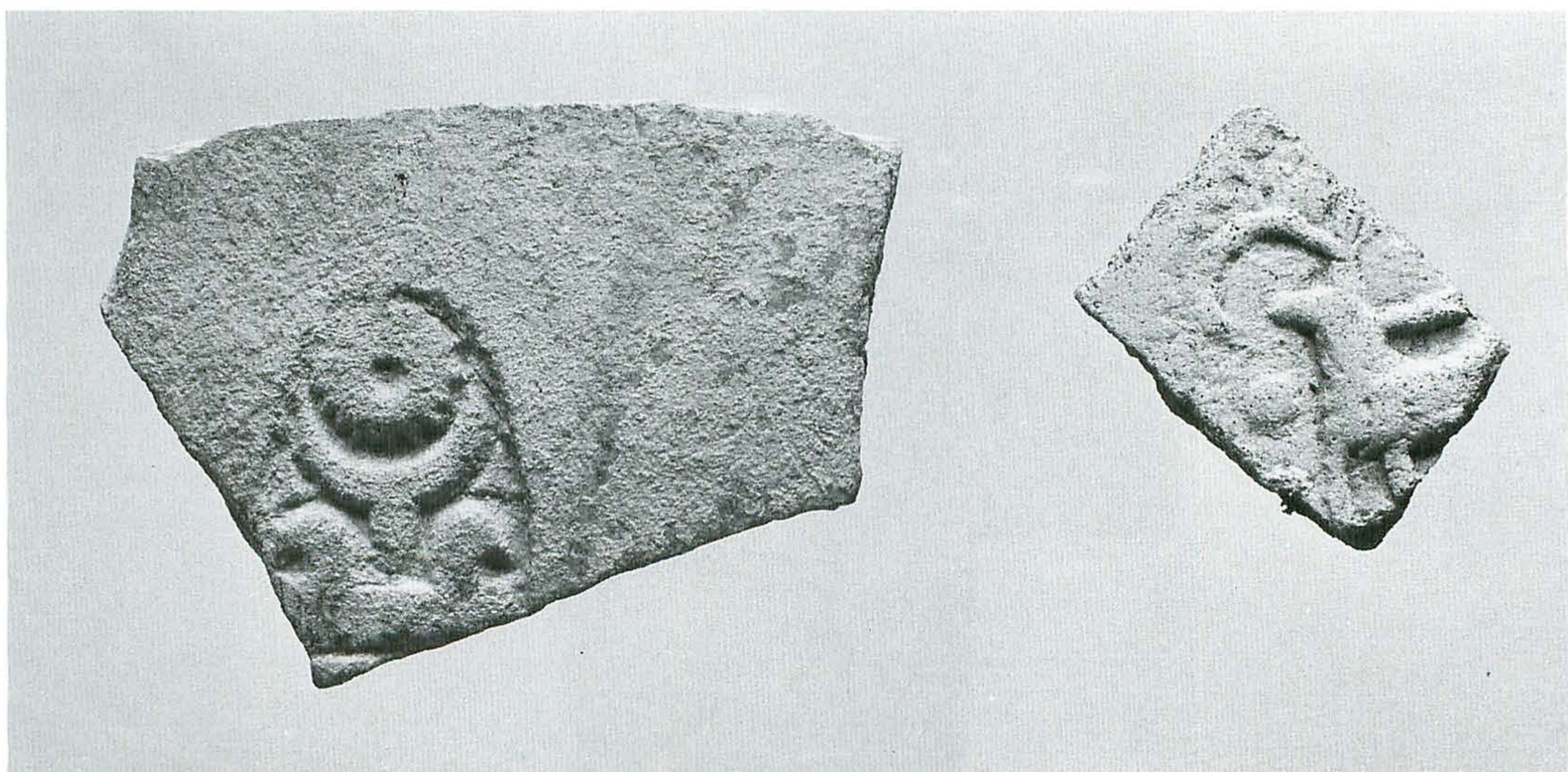


図31 土器 (表面採集)  
Fig. 31 Pottery, from surface







## PRELIMINARY REPORT ON THE EXCAVATIONS AT KISH/HURSAGKALAMA, 1988-1989

Ken MATSUMOTO\*

### Foreword

Ever since 1969, the Kokushikan University Archaeological Expedition to Iraq (directed by Prof. Hideo Fujii), has carried on excavation researches in the Iraqi Southwestern Desert Sites, the Hamrin Basin Sites, the Haditha Sites and Eski Mosul Sites<sup>1)</sup>. They include almost all the periods from the Paleolithic age up to the Islamic period in sequence. After our general researches and excavations into the Southwestern Desert Sites were finished with the 9th work of February 1989, our new target was to do excavations at Sumerian and Akkadian regions. This is because we have already investigated, what is called, peripheral areas such as the desert area in the southwest of Iraq, the area along the Euphrates River in the west, the area along the Diyala River in the east and the area along the Tigris River in the north. Thus, we found it essential to start excavation work at Sumer and Akkad, which are the important places in Mesopotamia, in order to understand the aforementioned sites much more clearly. In sympathy with our intention, Dr. Muayad S. Damerji, President of the Iraqi State Organization of Antiquities and Heritage, kindly gave us permission to excavate Kish/Hursagkalama in 1988. And Dr. Taha Munir, Director of Research Bureau of the said office, offered us good advice on various matters. At the start of our excavation work, Dr. MacGuire Gibson and Dr. P. R. S. Moorey sent us letters of understanding and encouragement. Besides, Prof. Dr. Barthel Hrouda gave us helpful advice on our choice of site. We wish to extend our sincere thanks for their cooperation and advice.

The excavations at Kish/Hursagkalama were actually conducted by us from November 16, 1988 to February 17, 1989 under the support of the Grants-in Aid for the Characteristic Studies on the Japan Private School Promotion Foundation and Kokushikan University. The members who took part in the excavations there are shown below:

Research Director:	Hideo Fujii	Kokushikan University Institute of Cultural Studies for Ancient Iraq (ICSAI) (Director)
Field Director:	Ken Matsumoto	Kokushikan University, ICSAI (Archaeology)
Research members:	Katsuhiko Ohnuma	Kokushikan University, ICSAI (Archaeology)
	Yasuyoshi Okada	Kokushikan University, ICSAI (Architectural history)
	Hiromichi Oguchi	Kokushikan University, ICSAI (Archaeology)
	Kazumi Oguchi	Kokushikan University, ICSAI (Archaeology)

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



	Mamoru Yoshikawa	Hiroshima University (Philology)
Co-researchers:	Izumi Yoda	Postgraduate student of Yale University (Philology)
	Hirokatsu Watanabe	Tele-information Engineering (Probing by underground radar)
Iraqi co-researchers:	Ali-Hussain Al-Taie	State Organization of Antiquities & Heritage
	Muhammad Mahmoud al-Zahwi	State Organization of Antiquities & Heritage

We thank Mrs. Maya Ikuma for her kind help in improving the English and Mrs. Junko Matsumoto for her tracing work of the drawings.

### Excavation

The Kish/Hursagkalama located some 100 km south of Baghdad and some 17 km east of Babylon was earlier investigated on a full scale by the Oxford-Chicago expedition from 1923 to 1933, as all of you have already known<sup>2)</sup>. And Then, in association with the superhighway construction, small scales of investigations were made on Mound X and Mound I by the Iraqi State Organization of Antiquities & Heritage quite recently. Also Dr. MacGuire Gibson examined the layers in Trench Y<sup>3)</sup>. We would like to follow the mound names adopted by the preceding excavators<sup>4)</sup>.

The current target of our survey was to identify Ingharra layers, which means the survey on the Early Dynastic period. In order to investigate Ingharra area, it is necessary for us to make adequate preparations including minute checking of the past research as well as mud excluding work. Thus, we decided to excavate Area JA, which was tentatively named by us (Fig. 1 and Pl. 1a). This is an unexcavated area located west of Palace A which was uncovered at Mound A (Pl. 1b). As a matter of course, it was expected that the remains and objects relating to Palace A were to be unearthed at the very spot (Pl. 1).

Area JA takes the dimensions of 80 m in the east-west, 110 m in the north-south and about 1.5 m in relative height. It is adjacent to Palace A with a narrow wadi between its east side and Palace A. Its north side is a lowland with no direct contact with Ingharra. To its west side, a canal construction between Area JA and Mound W is now under way, where we see a road running in parallel. To its south side, the road running farther west is stretching as if it surrounds Area JA. Well ahead south, no more mounds are in sight.

There are two small mounds on the south side of Area JA. And its north side is a little lower than the south, developing a gentle slope. The place of our excavation was set up at its northeastern part, closer to Palace A.

A datum point was created at Area JA, the place of our excavation. Based on the bench mark (977-26) set on the top of the large ziggurat at Ingharra, Area JA is in the direction of 129°47'00" from the north axis at a distance of 200.951 m and its relative height of -15.019 m. Then, Grids JA1, JA2, JA3, JA4 and JA5 in the size of 10 m in the east-west and 10 m in the north-south each were fixed with the above datum point as their core.



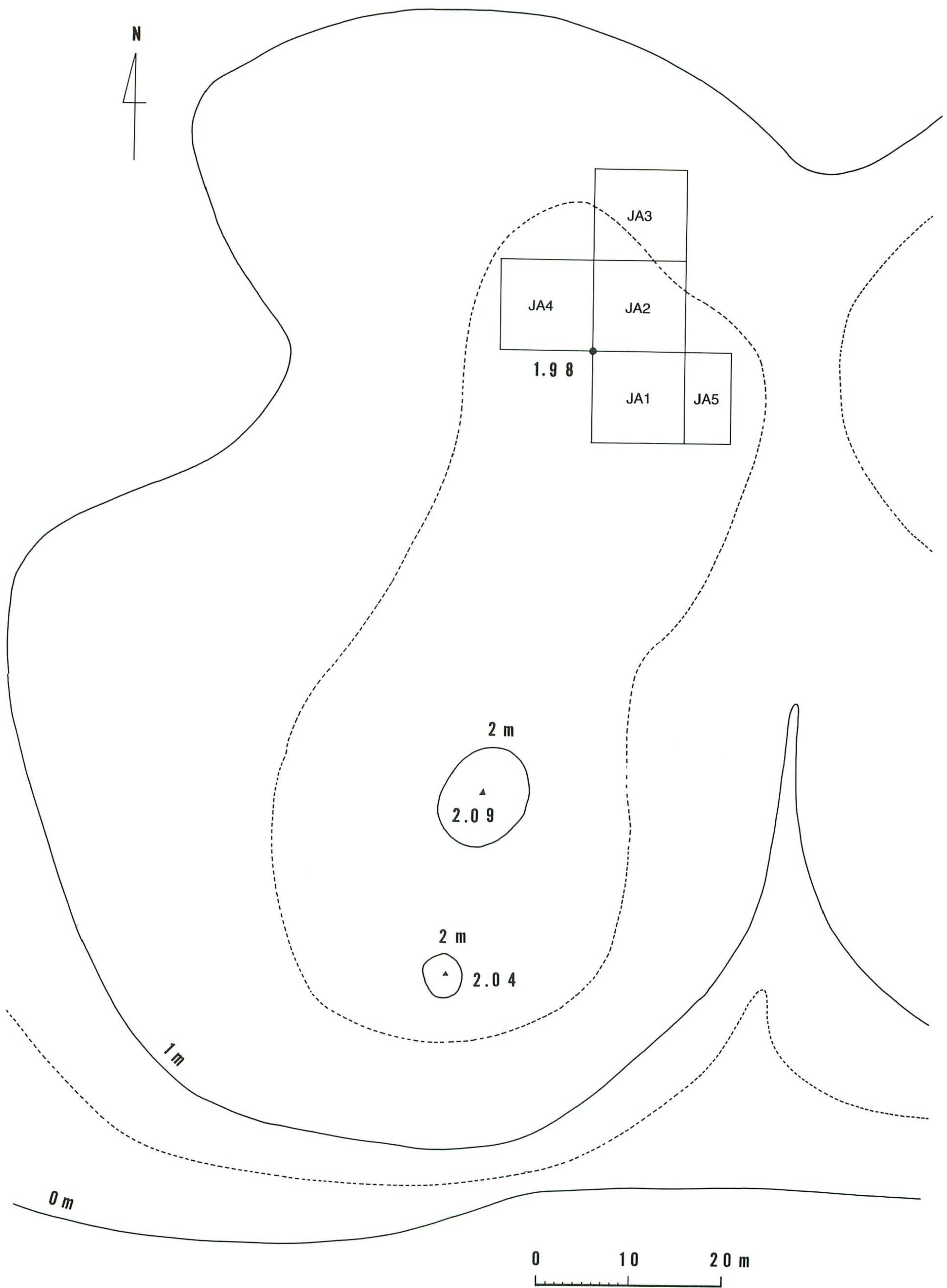


Fig. 1 The contour map of Area JA at Mound A.





Fig. 2 The distribution of the graves.

### Graves

Today, the ground surface of Kish/Hursagkalama is too salty to allow trees and plants to grow. We often see the surface covered with white salt all over. By scraping the top surface a little, we were able to unearth some oval tub burials and brick burials easily. Thus, it is made known that this was used as a graveyard for some time in the past. As the result of our current research, 17 graves in all have been investigated by us (Fig. 2).



**G.1:** Jar burial (Fig. 3)

An infant buried in a slender jar has come uncovered about 10 cm below the ground surface, directly after the surface level was swept clean. The jar was found lying on its side with its rim slightly northward away from the east-west axis. It appears that the human body was placed in one of the vertically halved jars, and then buried with the other half covered on top. Potsherds and baked brick fragments were lying here and there at random around the rim. They seem to have once been used for plugging up the rim of the jar. But we were not able to find the second half of the jar which is thought to have been covered over the body, because the burial was discovered at the surface level. It may be partly due to its weathering or its having been scattered and lost. Few of the human bones survive to our time, with only the upper half of them having been identified. The head portion, which is swollen, is oriented toward the east (S77E). Besides, few of the ribs and phalanges are left behind. There are no grave goods. Deduced from the type of this jar which was used as a coffin, the grave is estimated at the Parthian/Sassanian period.

## Grave goods

Jar: The jar, once restored, will have a pointed bottom with the maximum body diameter of 33 cm, the short, round rim inner diameter of 15.5 cm and the height of 85 cm. The whole vessel is colored reddish brown, and is rather fragile. Its inside is coated with black bitumen(?), while its outside, with pinkish slip.

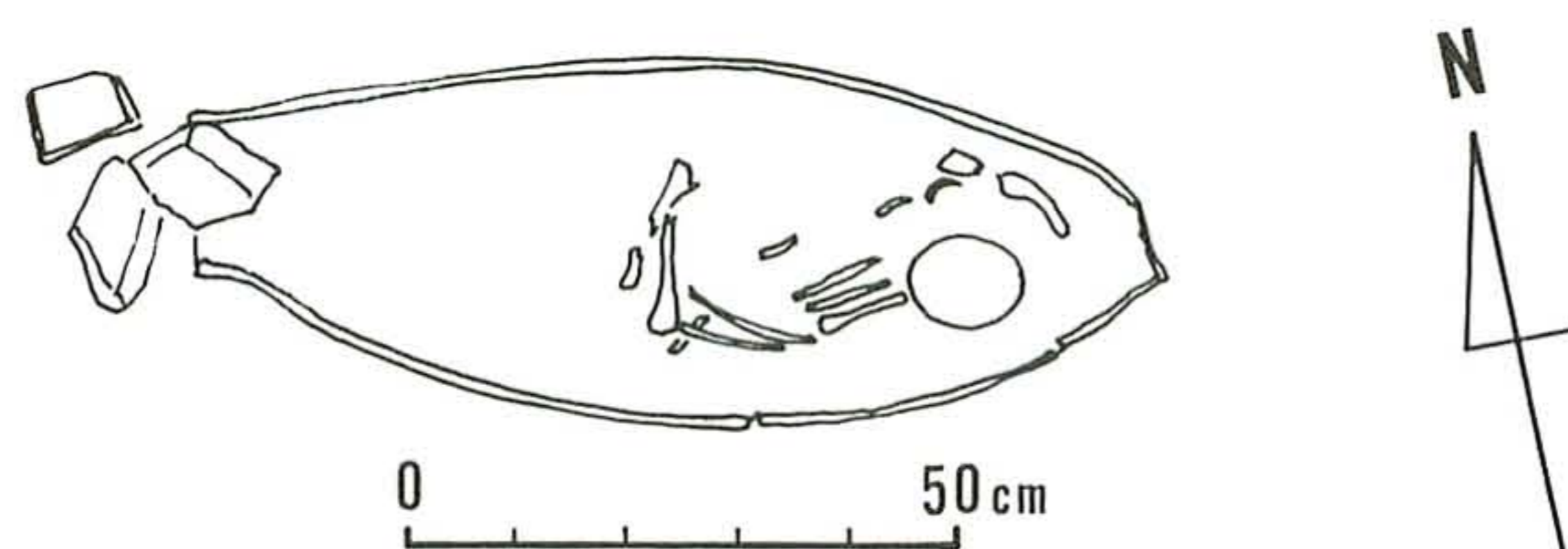


Fig. 3 The plan of Grave 1 (G.1).

**G.2:** Earth burial (Fig. 4)

An adult-like human body in stretched burial has been found at the depth of 10 cm below the ground surface of grid JA1 with its head orientation of N45E. We cannot confirm its grave pit, but the body seems to have been lying on its back. No grave goods. The grave age is unknown.

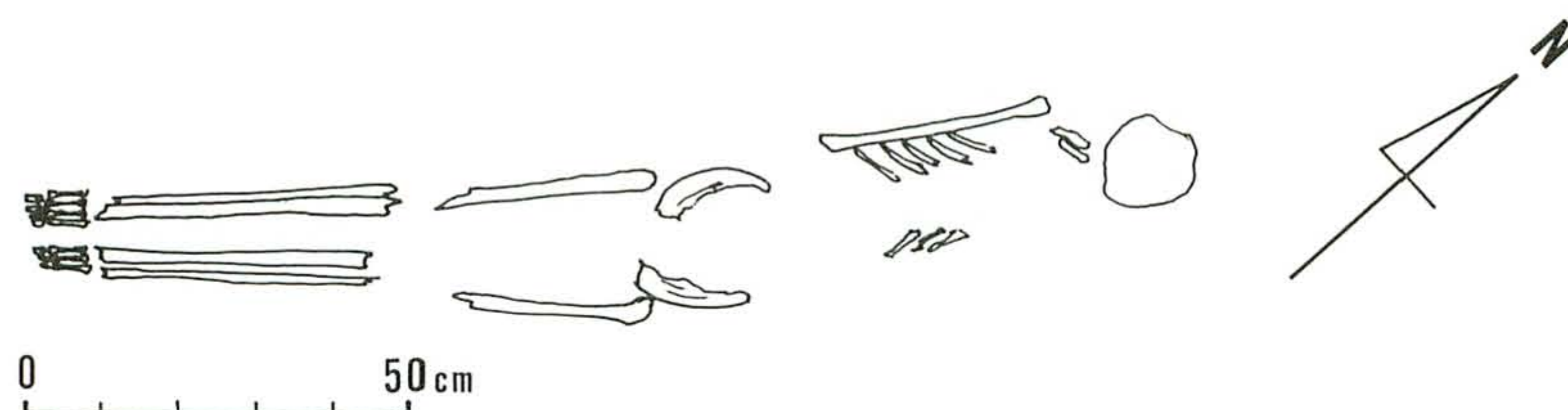


Fig. 4 The plan of Grave 2 (G.2).

**G.3:** Baked-brick "box" burial (Fig. 5)

At the depth of 15 cm below the ground surface at the south of JA1, a coffin built of baked bricks has been discovered in the direction of NE-SE major axis. The coffin is so made that a floor of the baked square brick of 31.5 cm a side and 8 cm in thickness each has been laid flat in a single row, and then it is finished up into a slender box type by setting upright the brick both along the longer sides and the shorter sides where the body head and feet are positioned. We have noticed that



the dead body was placed inside first, and covered with the baked brick by putting it over one by one in the same way. It is probable that the coffin was once in the dimensions of 45 cm in width, 30 cm in height and 195 cm or so in length. As one end of the grave happened to be on a foot-path, however, we failed to confirm the total length no more than 130 cm. We have not found the cover portion which seems to have covered the coffin on top. So, the human bones are found ill-preserved, and its skull bones are scattered about in confusion. This is a stretched burial with its head orientation of N44E. Its age is estimated at the Parthian/Sassanian period, based on the other example (G.9) which is similar to G.3.

Grave goods

Bead (KJA-20): Diameter: 2 mm; length: 2 mm; material: flint?

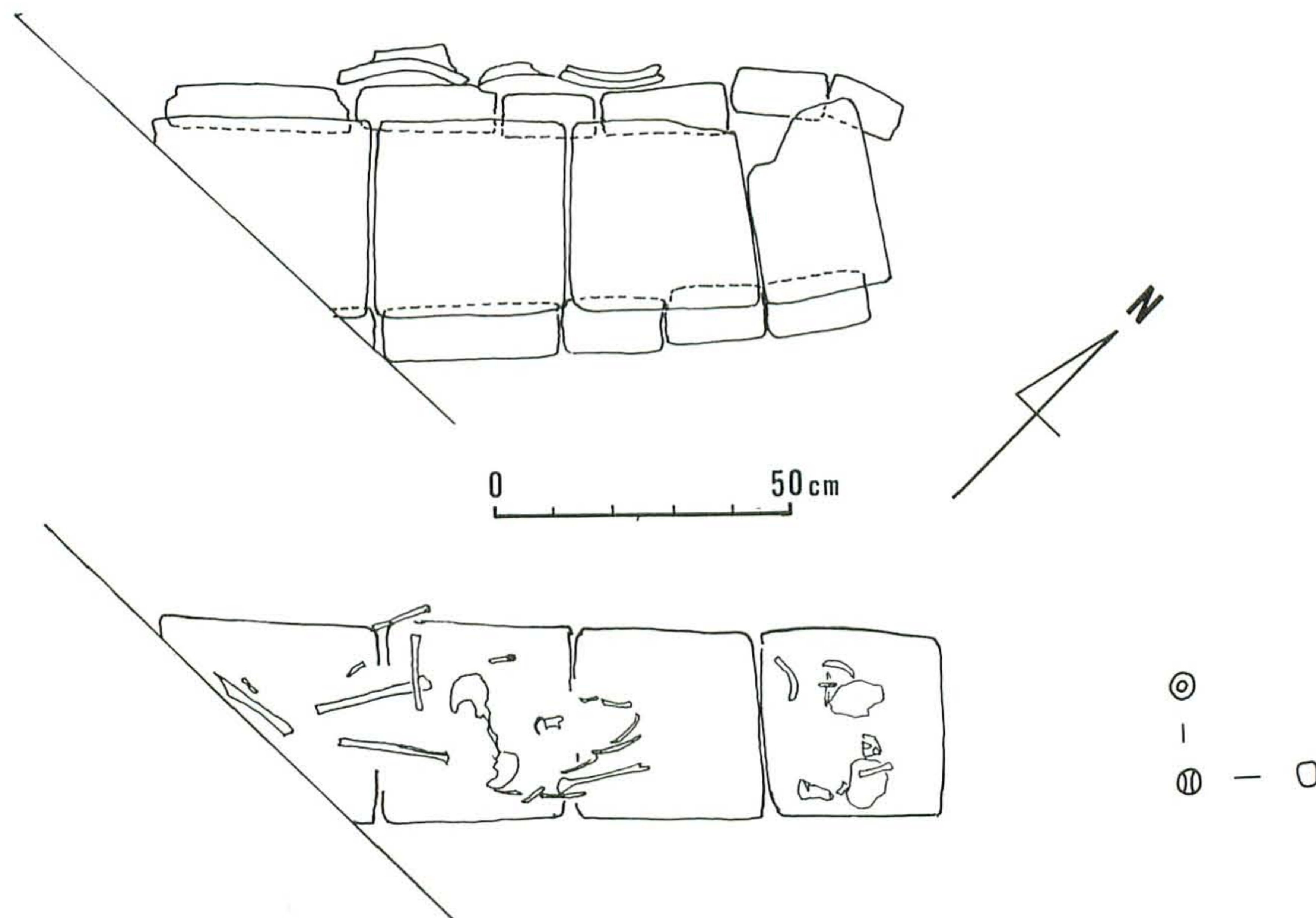


Fig. 5 The plan and grave goods of Grave 3 (G.3).

G.4: Earth burial (Fig. 6)

Limbs of an infant, teeth of an adult and a few animal bones have been uncovered at the depth of 23 cm below the ground surface of JA2, but it seems to have been disturbed. Besides, the survivals of these bones were ill-preserved.

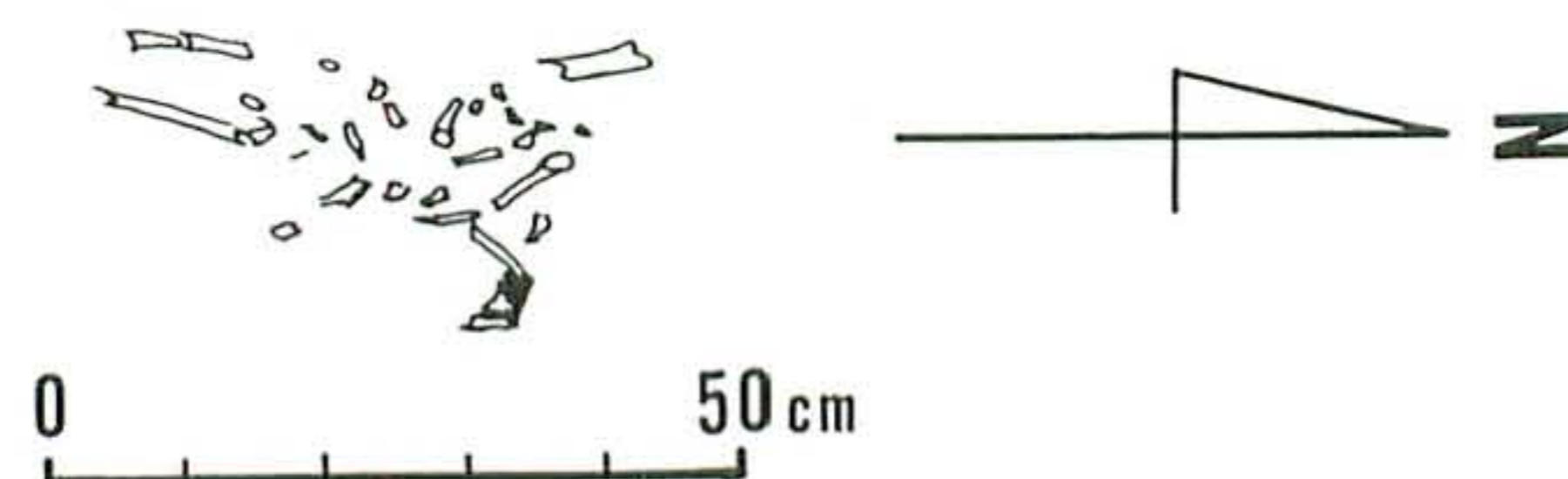


Fig. 6 The plan of Grave 4 (G.4).

G.5: Earth burial (Fig. 7)

An adult body in poor preservation has been uncovered at the depth of 22.5 cm below the ground surface at the northwest corner of JA1. The body was found in bending burial with its head northward, the body trunk directed further right side, and both of the lower limbs extremely bent.



We are not sure about the grave pit, which was a simple earth burial. No burial goods have been found. And its age is unknown, either. Seeing that part of the grave is just over the vertical drain (which is found to go through the wall of the building on level 1), it is younger than the drain.

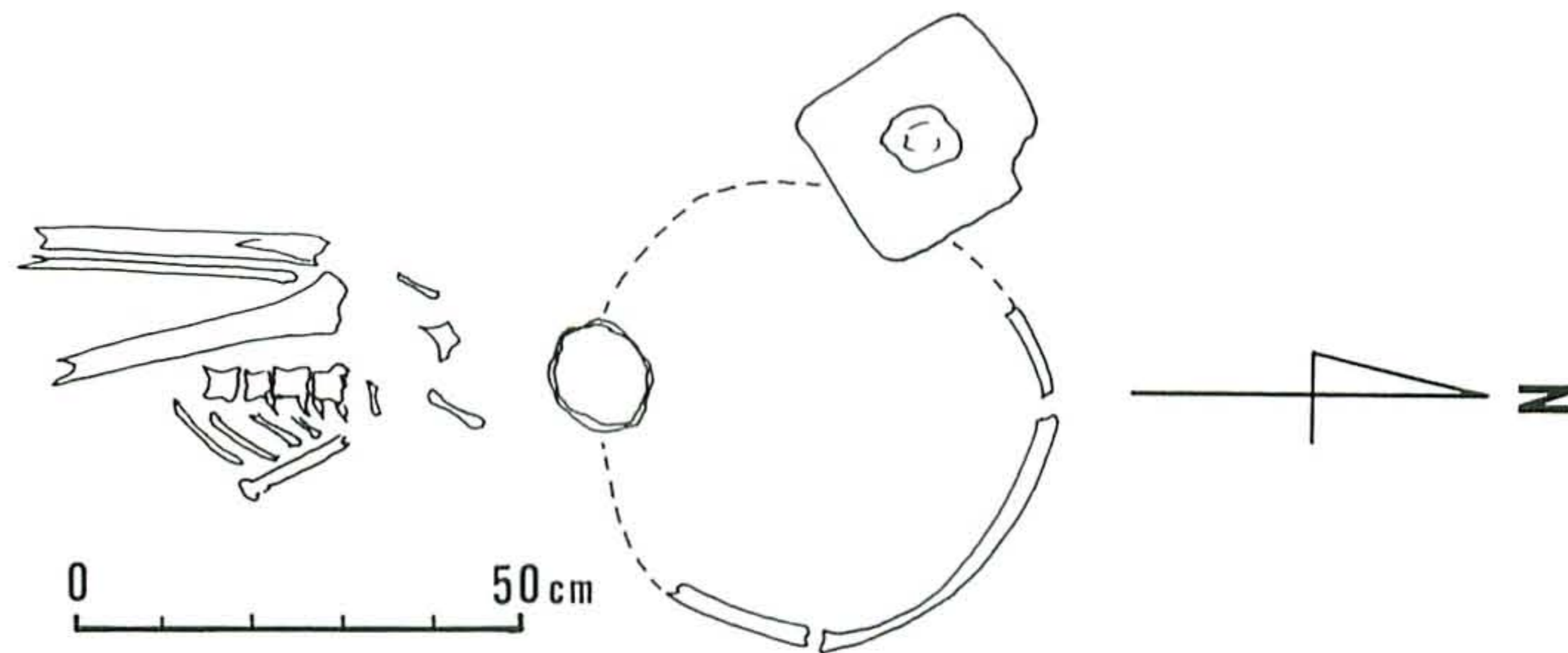


Fig. 7 The plan of Grave 5 (G.5).

**G.6:** Earth burial (Fig. 8 and Pls. 3d)

The human body unearthed on the surface layer of JA2 was in poor state of preservation with its lower limbs scarcely identified. It seems likely that the body was of a bending burial, with its head oriented eastward and the body trunk rightward. As grave goods, there are some bronze pins with lapislazuli on at the upper part of the chest, cylinder seal and necklace beads beside them. Some shells are about 25 cm ahead of the abdomen. A bowl type vessel in perfect shape has come uncovered at 20 cm away from the head. By the side of the vessel, we see a place (10 cm in diameter) slightly colored vermilion. In addition, some potsherds have been discovered. We are not sure about how large the grave pit was. It is presumed from these grave goods that the grave age belongs to the Early Dynastic period which is later than level 2, the Early Dynastic period, because the floor here is a little higher than that of level 2.

Grave goods

1. Deep bowl (KJA-12=Rn KJA-4)<sup>5)</sup> (Pl. 9g): Rim diameter: 10 cm; height: 9.5 cm; exterior: buff slip; interior and core color: pinkish brown; fabric: clay. There are some spatula-scraped adjustment traces both on the interior and exterior of the base. (cf. Mackay, 1925 Pl. XV type H7)
2. Conical ball (KJA-13, fragment) (Pl. 9h): Rim diameter: 12.5 cm; height: 5 cm; interior, exterior and core color: pinkish brown; fabric: clay. String-cut traces are observable on the outer base. The interior base has partly come off. (cf. Mackay, 1925, Pl. XVI type O35)
3. Cylinder seal (KJA-10=Rn KJA-42) (Pl. 10h): Length: 2.1 cm; diameter: 0.7 cm; material: plaster. It contains geometrical patterns carved in double-step arrangement. The fundamental pattern, herringbone, is running horizontally in two rows in the top step, and in one row in the bottom step. There are two parallel lines arranged between the top step and the bottom step. (cf. Langdon, 1924, Pl. 22-3; Mackay, 1929, Pl. XLI-12)
4. Pin (KJA-9) (Pl. 10i): Length: 12 cm; diameter: 1 cm; material: bronze. Its top is decorated with a pierced lapislazuli ball of about 1 cm in diameter. Its top edge is broken. (cf. Mackay, 1929, Pl. XL-5)
5. Necklace (KJA-11=Rn KJA-11b) (Pl. 10k):
  - (1) Double conoid-type bead: Length: 1.4 cm; maximum diameter: 0.8 cm; material: carnelian.
  - (2) Double conoid-type bead: Length: 0.4 cm; maximum diameter: 0.5 cm; material: carnelian.
  - (3) Ring-shaped bead: length: 0.3 cm; maximum diameter: 0.6 cm; material: carnelian.
  - (4) Rectangular bead: length: 0.8 cm; diameter: 0.5 cm; material: lapislazuli.
  - (5) Rhomboid bead: length: 0.6 cm; maximum diameter: 0.5 cm; material: lapislazuli.
  - (6) Ovoid bead: length: 0.4 cm; maximum diameter: 0.4 cm; material: lapislazuli.
6. Pigment shell (KJA-11=Rn KJA-11a) (Pl. 10f): size: 4.5 cm×3.7 cm; Material: *Cardium reeveanum* DUNKER, which was analyzed by Dr. Katsutomo Mano who is working at Tsukuba University in Tokyo. A black pigment (antimon?) is inside, which was probably intended for makeup. There are two holes open on



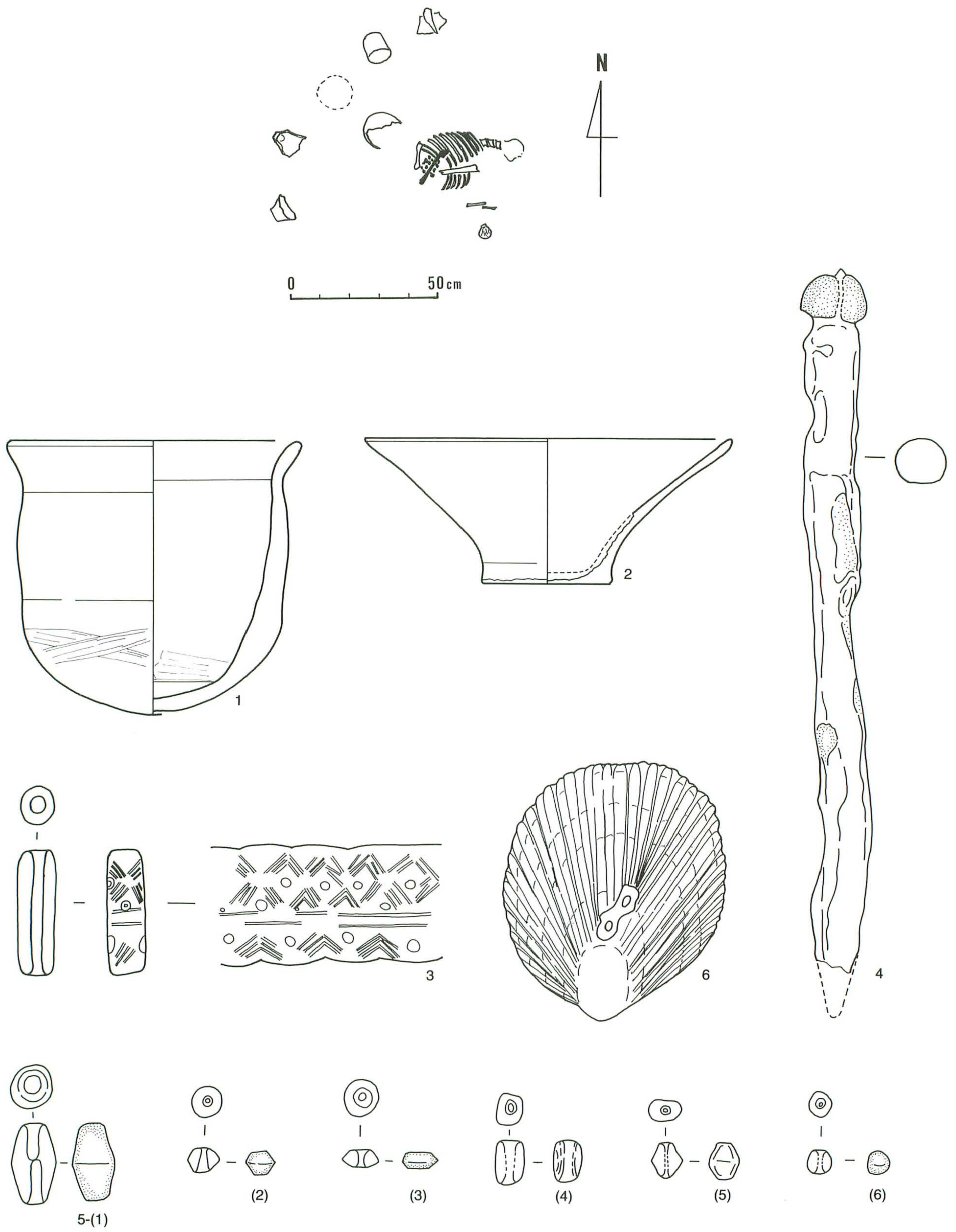


Fig. 8 The plan and grave goods of Grave 6 (G.6).



the highest worn-out outside portion. (cf. Mackay, 1925, Pl. III-8)

**G.7:** Jar burial (Fig. 9 and Pl. 3b)

A jar of about 80 cm in height, about 75 cm in major axis, about 50 cm in minor axis has been uncovered just on the ground surface of JA1. This is a lidless jar lying on its side with its rim westward. A small quantity of infant bones are scattered about its rim and base. It has a wide mouth with its flat rim, and has a thick vessel wall. The base is fitted with a ring (about 5 cm in height) of no special decoration. No grave goods. Its age is uncertain. Judging from the situation that this is higher than the floor of the remains on level 1, however, it is the grave belonging to some time later than the New Babylonian period.

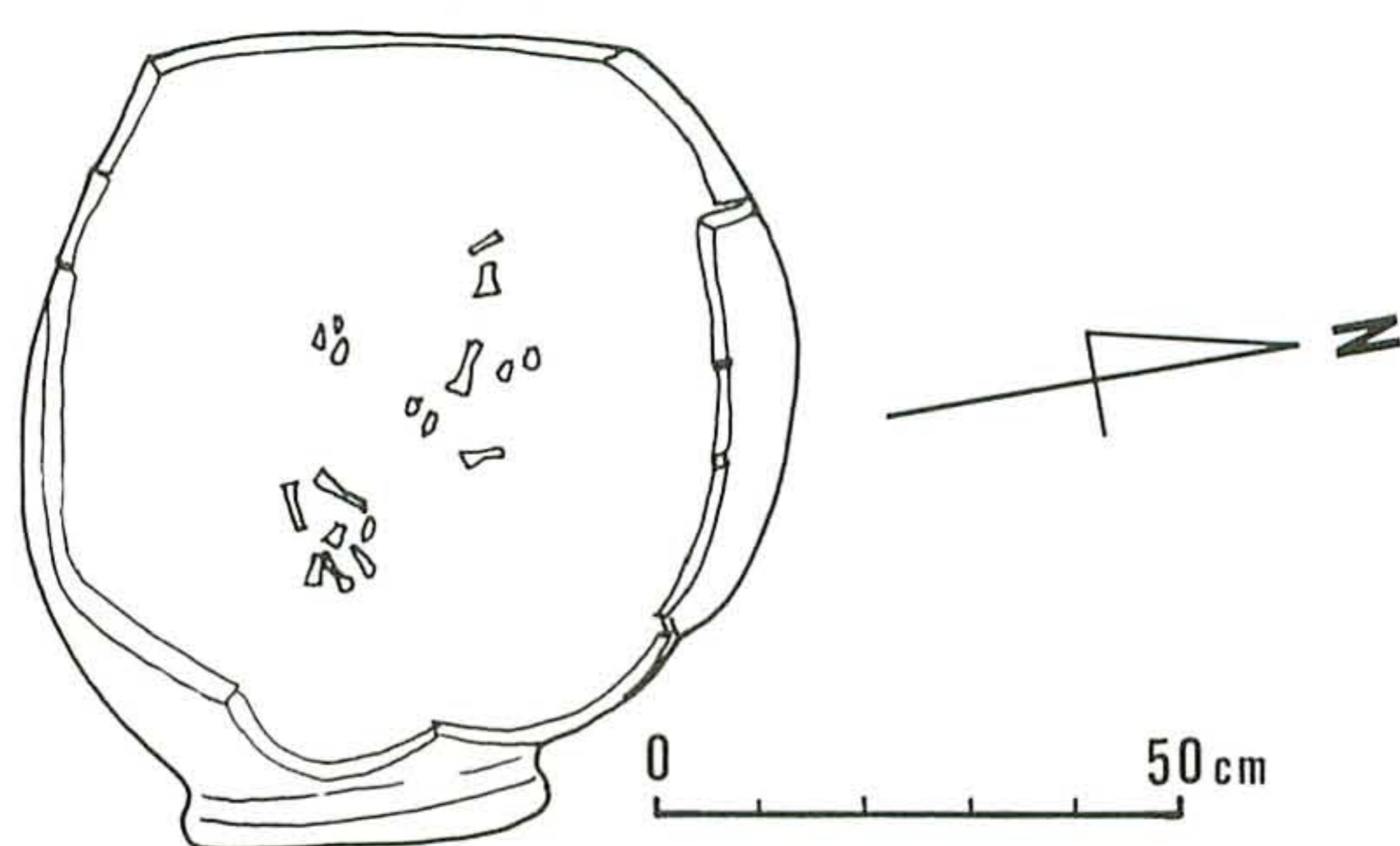


Fig. 9 The plan of Grave 7 (G.7).

**G.8:** Bathtub burial (Fig. 10 and Pl. 2c)

A bathtub burial has been unearthed at the depth of 10 cm below the ground surface of JA1. This is the so-called "boat-type" bathtub coffin with an end of the shorter sides in an arc, taking the dimensions of about 115 cm in length, about 60 cm in maximum width, 35 cm in minimum width and about 25 cm in height. But the top to cover the coffin is missing. One side of the coffin is somewhat sloping inward, while the slant coffin wall on the other side which is placed over has been found crushed. The head of the adult body is oriented toward the arc shorter side, that is, in the direction of N52E, with its trunk toward the left. It is of the bending burial with its upper and lower limbs extremely turned up. No grave goods, with its unknown age.

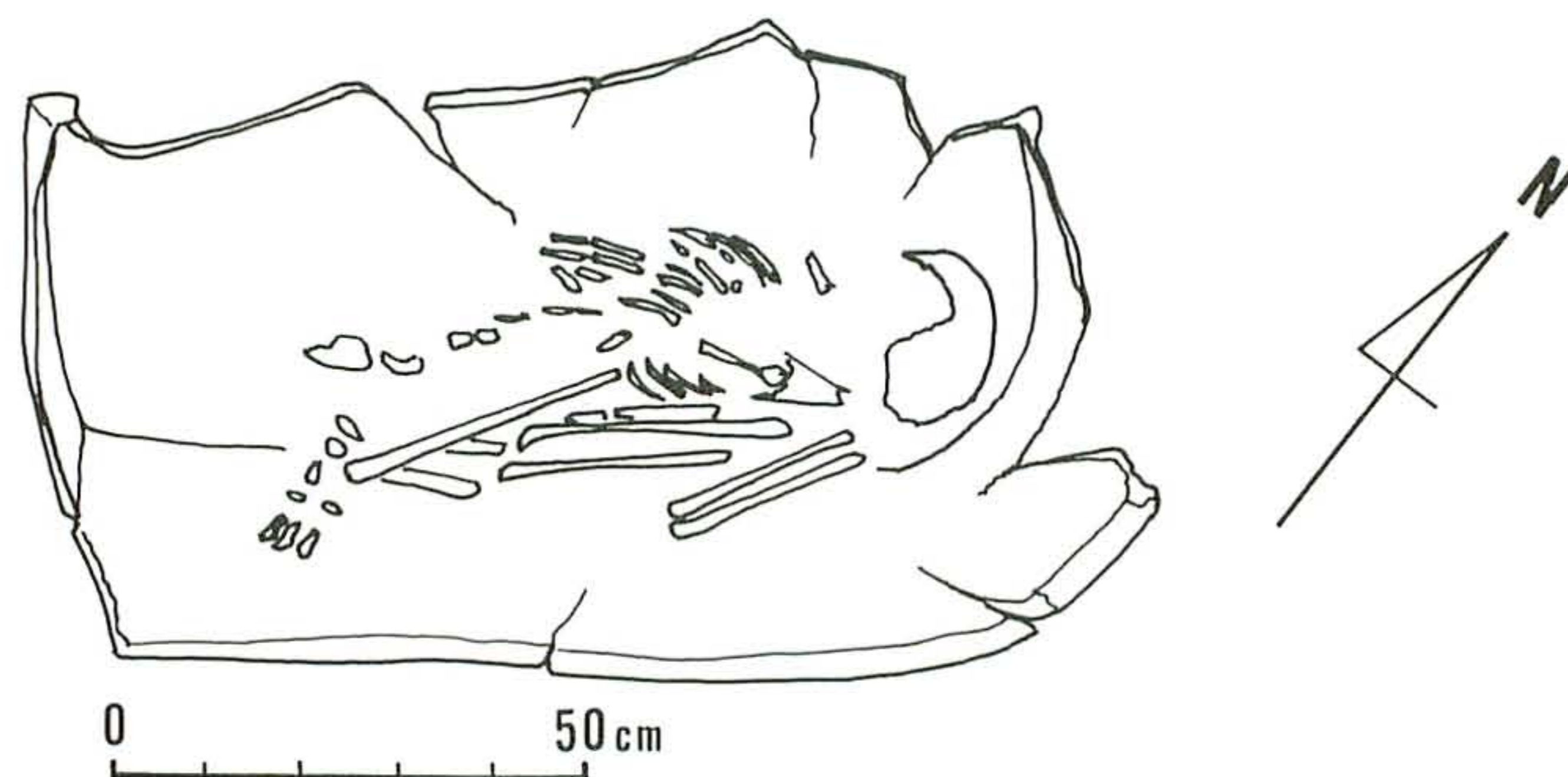


Fig. 10 The plan of Grave 8 (G.8).

**G.9:** Baked-brick "box" burial (Fig. 11 and Pl. 2a-b)

A long box-type coffin built of baked brick has been excavated at the depth of 15 cm below the ground surface at the southwest corner of JA1. It is 50 cm wide, 55 cm high and 190 cm long. It



is observed that a floor has been made by laying five baked bricks of nearly a square size of 35.5 cm ~37.5 cm in length and 10.5 cm~11.0 cm in thickness each in order, and then putting the halved brick of this kind one by one by the side of the five bricks. Next, both of the longer sides are arranged with the bricks upright, while the shorter sides are placed with each baked brick upright. The baked bricks used here vary in size such as: 33.5~34.0×33.0×34.0×11.0 cm; 36.5×37.5×11.0 cm; 35.0×14.0×11.0 cm; 35.0×14.0×11.0 cm; 33.0×16.0×10.5 cm; 34.5×35.0×10.5 cm. In this way, a dead body was placed inside, which was covered over with baked bricks by laying them flatways. To our surprise, here are two human bodies buried lying in double. Both of their heads are oriented toward N52E, with bent arms and stretched legs. But the head of the underlying body is placed upside down on the legs of the upperlying body. It appears that it was moved there when the funeral ceremony of the second burial was made. It is probable that the underlying body had originally been lying on its back, just as the upperlying body. As one of the grave goods, a hand-made miniature jar has been uncovered by the side of the right abdomen of the underlying body. This is identical with G.3 in orientation and burial method.

#### Grave goods

Miniature jar (KJA-68=Rn KJA-15) (Pl. 8l): Height: 7 cm; maximum diameter: 3.8 cm; rim diameter: 1.5 cm; core color: brown; fabric: clay; hand-made.

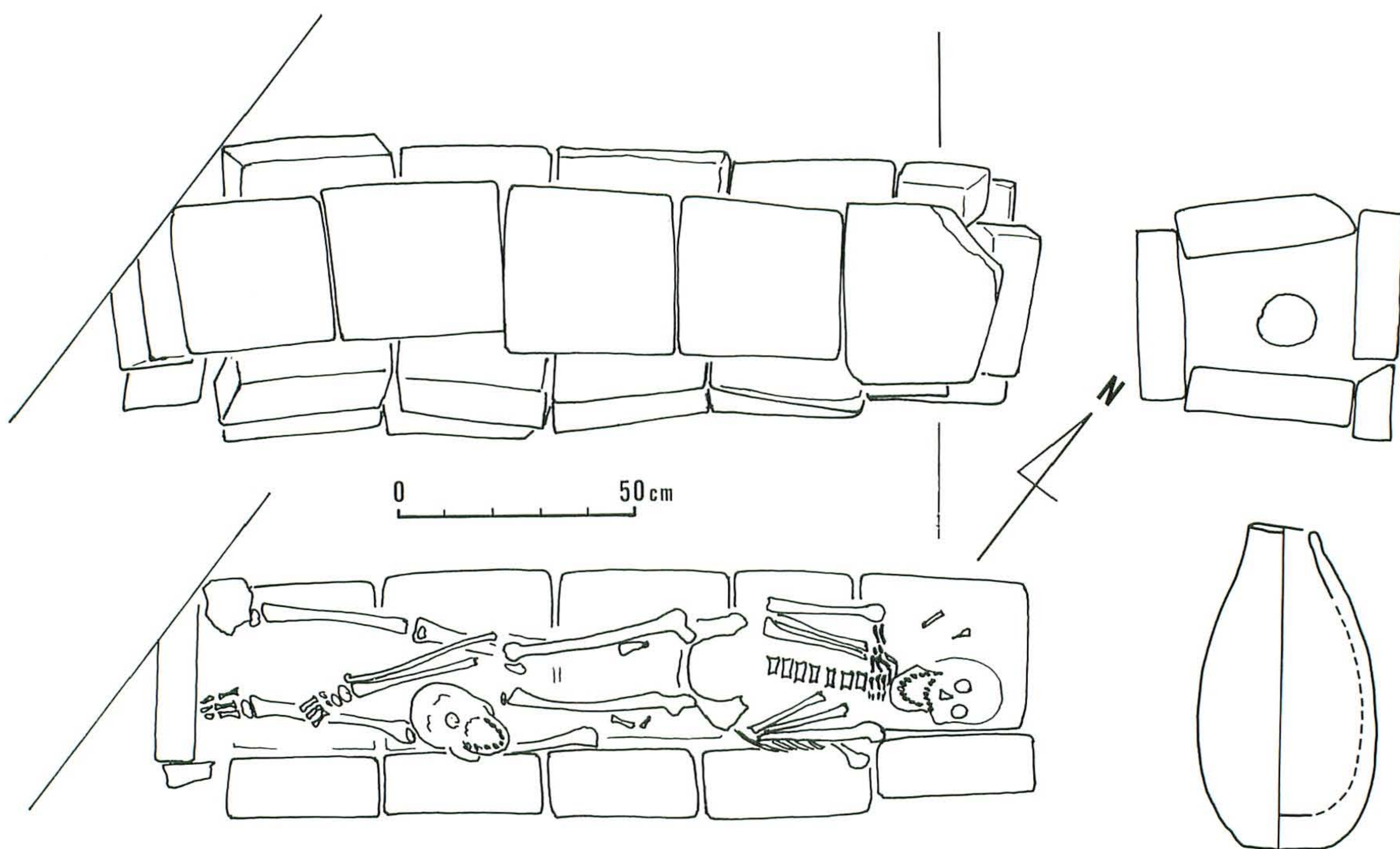


Fig. 11 The plan and grave goods of Grave 9 (G.9).

#### G.10: Earth burial (Fig. 12 and Pl. 3c)

At the depth of about 50 cm below the ground surface at almost the center of JA1, a middle-sized jar as one of the grave goods has been unearthed in the way in which a bowl type vessel is put on top of the jar. In a simple pit, the body has been buried in bending burial with its upper and lower limbs folded back, and its trunk toward the right. Its head position is N65E. We see a jar with a lid near the back of the head, where there are a large quantity of flint beads. On its palms, we see a small jar. Beside the jar, there are a number of shell rings, necklace-like beads, a lot of shells, and a bronze fibula. A bronze ring is worn on the third finger of the left hand. There are eight shells



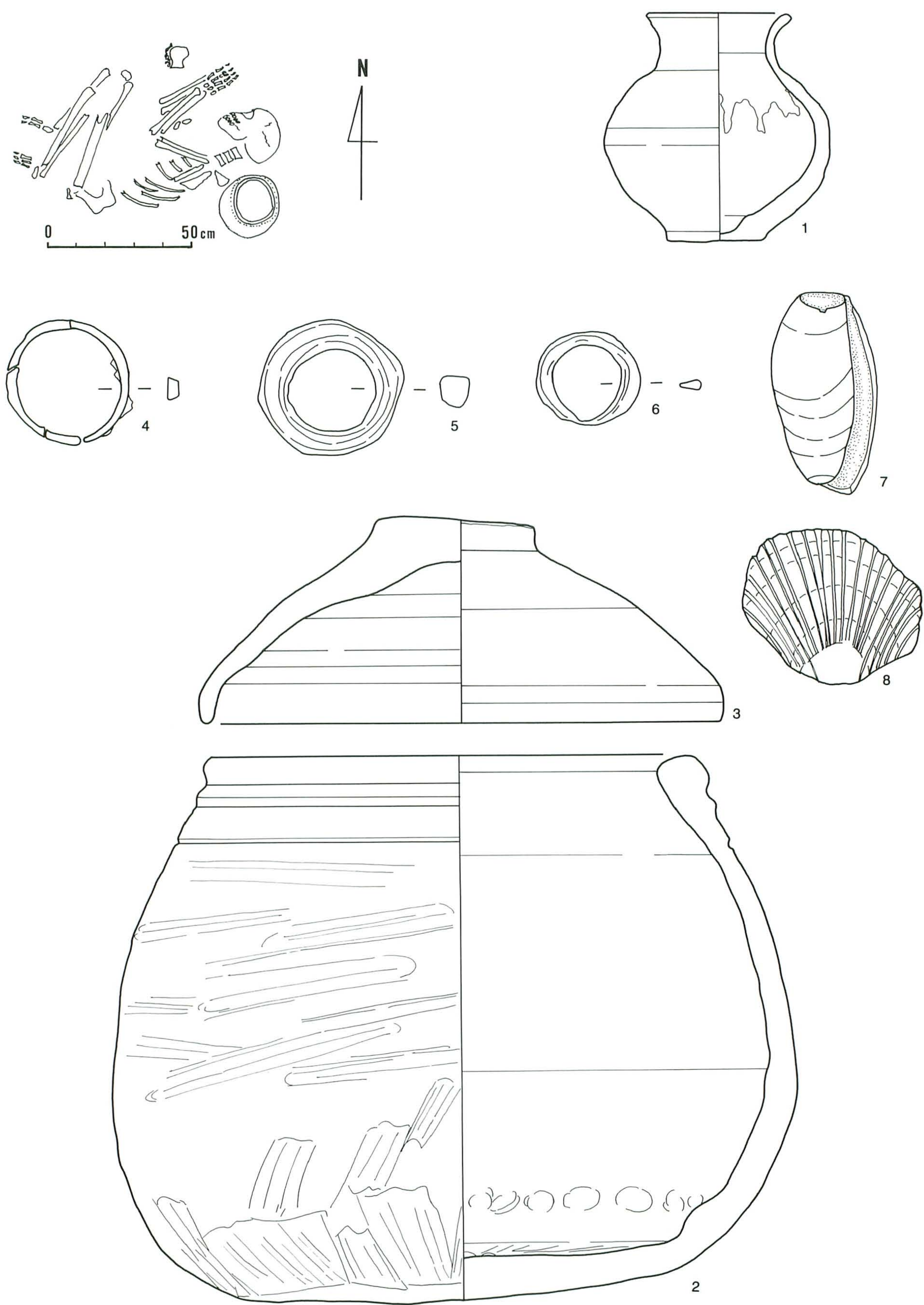


Fig. 12 The plan and grave goods of Grave 10 (G.10).



by the side of the folded lower arms. They may have been used as bracelet materials. Its age probably dates back to the New Babylonian/Achaemenid Persian period.

#### Grave goods

1. Jar (KJA-42=Rn KJA-10) (Pl. 8d): Rim diameter: 5.0 cm; maximum diameter: 7.8 cm; height: 8.0 cm; base diameter: 3.0 cm. Pale milky white glaze is thinly applied to the whole exterior of the jar and the upper part of its interior. The glaze is not stable in quality. Some parts have been spongy, and others coming off. All over the interior and the exterior base, we see verdigris-like matter separate out, which seems to have been kept in. The core, colored light brown, is made of clay. (cf. Moorey, 1978, Fig. 5 1927.3299)
2. Pot (KJA-44=Rn KJA-12) (Pl. 7b): Rim diameter: 16.5 cm; height: 19.0 cm; base diameter: 18.0 cm. Buff color all over, clay core with chaff. The inside jar has many traces of finger impressions. The scraped traces by spatula can be seen on the outside of the pot.
3. Bowl (used as a lid) (KJA-43=Rn KJA-11): Rim diameter: 18.0 cm; height: 7.5 cm; base diameter: 5.8 cm. Buff surface color, pinkish brown core color, clay core with little chaff. This is the vessel of bowl type, but has been used for covering a pot as a lid.
4. Ring (KJA-51) (Pl. 10d): Diameter: about 2 cm; width: 4 mm; thickness: 2 mm. This is a bronze ring of no decoration.
5. Shell ring (KJA-46): Outside diameter: 2.4 cm; inside diameter: 1.5 cm; width: 0.5 cm; material: gastropod?
6. Shell ring (KJA-47): Outside diameter: 1.8 cm; inside diameter: 1.1 cm; width: 2 mm; material: gastropod?
7. Shell bracelet (KJA-50) (Pl. 10e): Length: 3.6 cm; maximum diameter: 1.8 cm; material: *Oliva bulbosa* ROEDING (analyzed by Dr. K. Mano). The shell has a vertical hole through which to be connected to the other. Eight shells of this kind have been excavated in all. The other small shells are *Ancilla castenea* SOWERBY (analyzed by Dr. K. Mano).
8. Pigment shell (KJA-48): *Anadara uropigimelana* BORY de ST. VINCENT (analyzed by Dr. K. Mano) 3 cm×2.8 cm. (cf. Mackay, 1925, Pl. III-8)
9. Fibula? (KJA-49): Length: 3.5 cm; material: bronze.
10. Shell bracelet? (KJA-49): *Natica vitellus* LINNAEUS (analyzed by Dr. K. Mano); diameter: 0.5~1.0 cm; total number: 10.
11. Shell necklace? (KJA-49): Length: 0.7 cm~1.0 cm; total number: 28.
12. Necklace (KJA-45=Rn KJA-46) (Pl. 10j): Material: Carnelian etc.; total number: 21.

#### G.11: Earth burial (Fig. 13)

This is a bending burial found at 50 cm below the ground surface at the north of JA1, with its upper and lower limbs extremely bent, the head oriented toward S36W, and the trunk rightward. It is a simple earth burial with its uncertain pit. Its age is unknown without any grave goods.

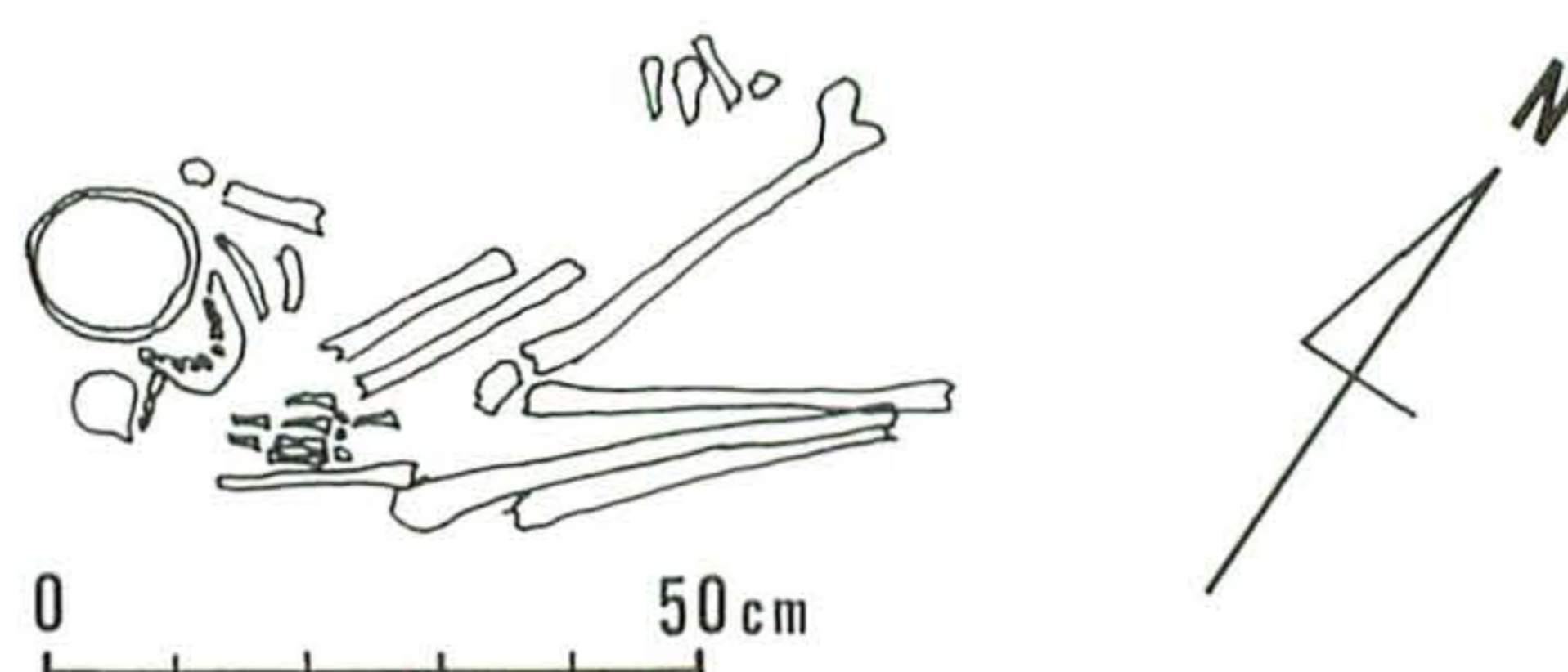


Fig. 13 The plan of Grave 11 (G.11).

#### G.12: Earth burial (Fig. 14)

This is a simple earth burial discovered at nearly the same level as the floor of level 2, JA2. The upper parts of the body have not been found. Deduced from the bent lower limbs, it seems to have been a bending burial with its head northward, the body rightward. As one of the grave



goods, a bead has been unearthed.

Grave goods

Bead (KJA-70): Diameter: 9 mm; thickness: 4 mm; material: stone.

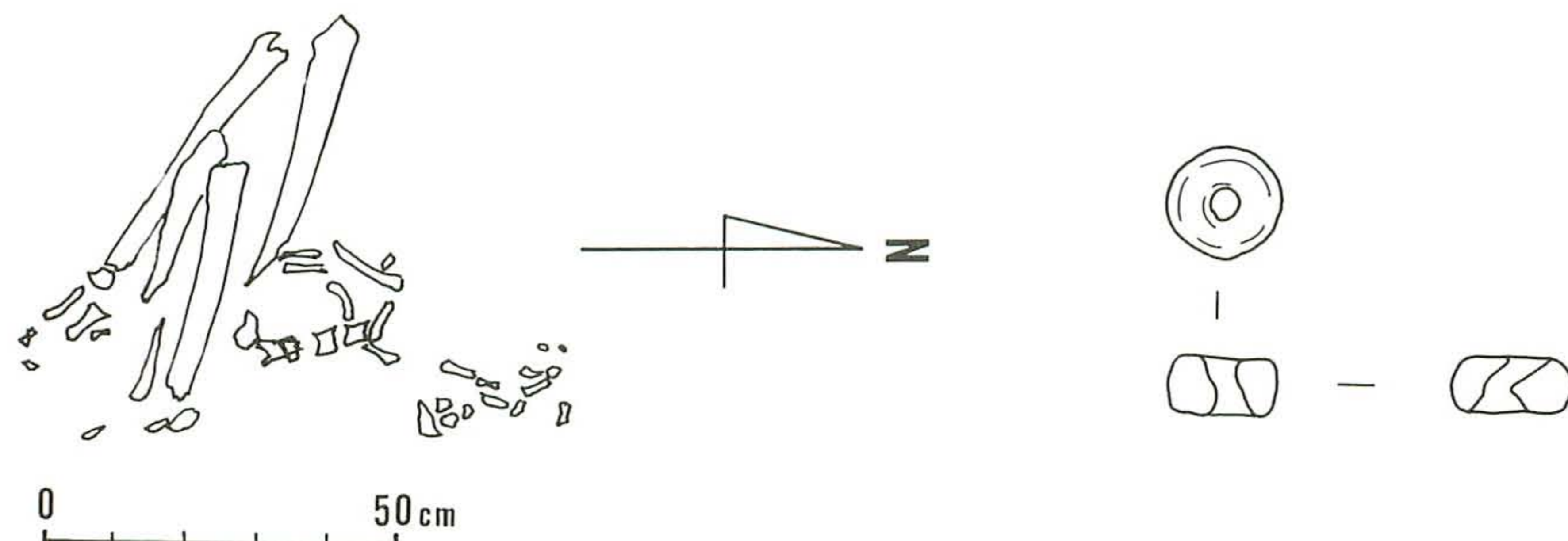


Fig. 14 The plan and grave goods of Grave 12 (G.12).

**G.13:** Baked-brick "box" burial (Fig. 15)

A box-type coffin built of the baked brick has been found near the ground surface of JA5. The structure of this coffin is fundamentally the same as that of G.9. It is 50 cm in width, about 55 cm in height and 155 cm or more in length, though imperfect. The baked brick is  $35 \times 35 \times 10$  cm apiece in size. But its head orientation is S15W, which is just contrary to the orientations of the bodies which were placed in the other similar baked-brick box coffins. As one of the grave goods, a glazed small jar is around the head at the outside of the coffin.

Grave goods

Small jar (KJA-94=Rn KJA-34) (Pl. 8c): Rim diameter: 4.0 cm; height: 6.0 cm; base diameter: 3.6 cm; Core color: yellow; fabric: sandy clay; wheel-make. Pale green glaze was applied to its outside, many parts of which have come off. (cf. MacCown et al., 1978, Pl. 51-14)

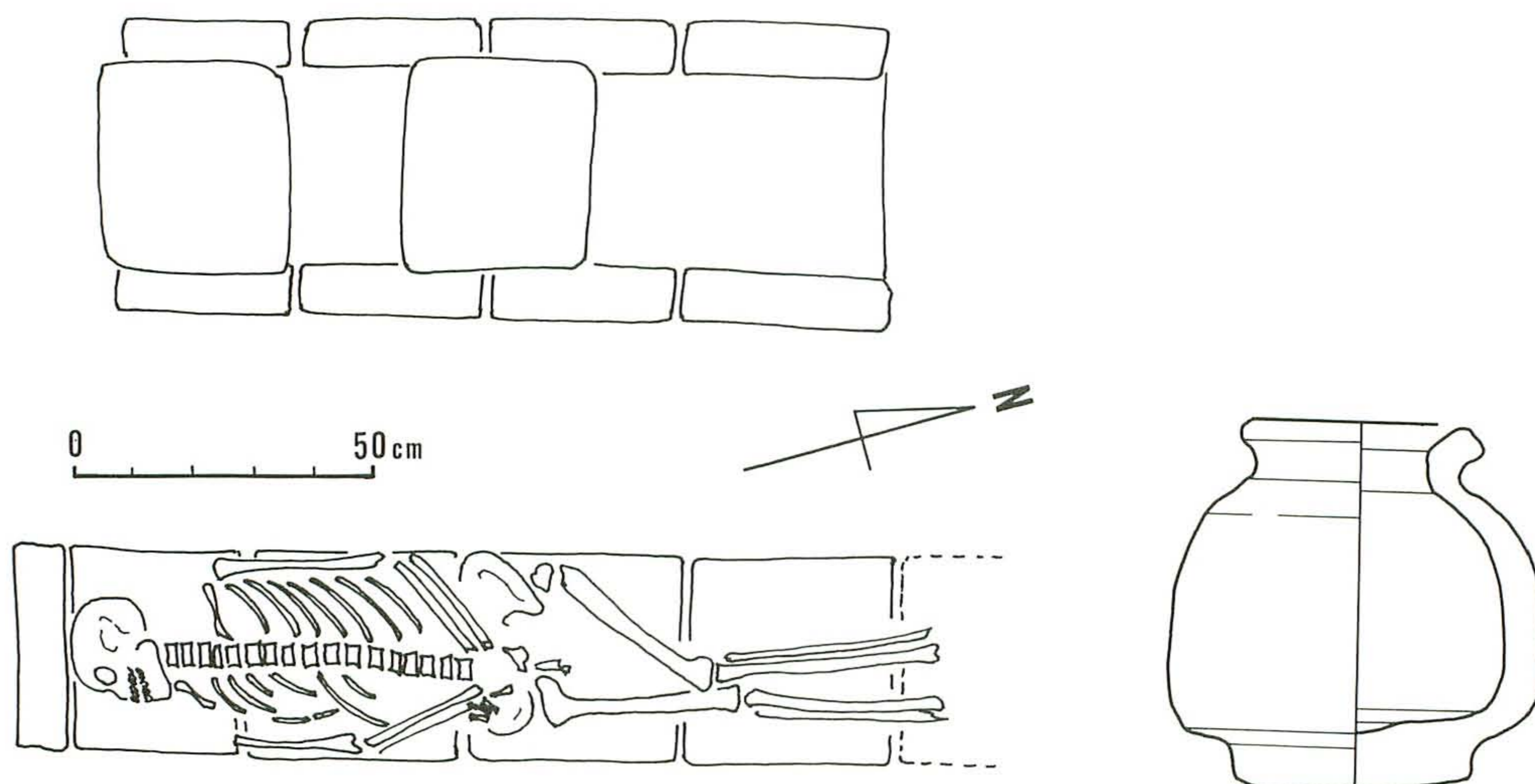


Fig. 15 The plan and grave goods of Grave 13 (G.13).

**G.14:** Baked-brick "box" burial (Fig. 16)

At the depth of some 15 cm below the ground surface of JA4, the burial has been found in an oval box which was constructed by piling up broken baked brick fragments around. In addition, it



adopts the method that the top was covered with the rhombic baked bricks set upright. The box size is roughly 210 cm×70 cm. Inside the box, two adults are placed in double layers, with their head orientation toward N46E. And an infant is laid on the chest of the top adult. It is perhaps a family burial. Its age is the Parthian/Sassanian period.

#### Grave goods

Deep bowl with a handle (KJA-103=Rn KJA-41) (Pl. 7g): Rim diameter: 6 cm; maximum diameter: 11.0 cm; height: 13.0 cm; base diameter: 3.5 cm; deep bowl with a handle; core color: buff; fabric: clay with chaff; wheel-make.

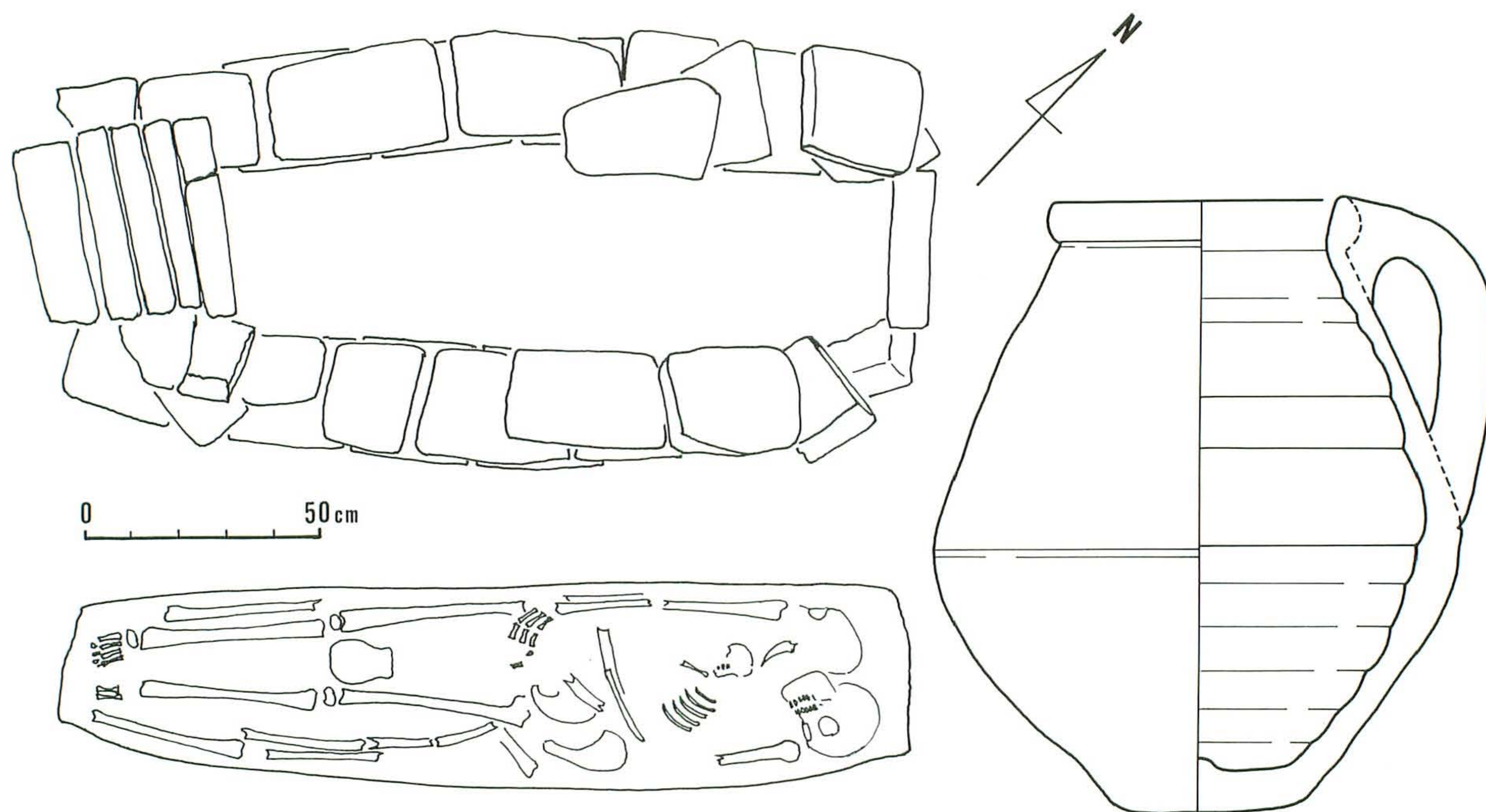


Fig. 16 The plan and grave goods of Grave 14 (G.14).

#### G.15: Jar burial (Fig. 17 and Pl. 3a)

A pot has been discovered in a pit, 70 cm×58 cm, which is of the building floor of level 1 at JA4. Inside the pot, a bowl, a jar, a beaker and a few infant bones have been found.

#### Grave goods

1. Pot (KJA-99=Rn KJA-37) (Pl. 7a): Height: 31.0 cm; rim diameter: 35.0 cm; base diameter: 20.5 cm. Greenish buff surfaces, sandy clay core with chaff.

2. Bowl (KJA-101=Rn KJA-39) (Pl. 6c): Height: 7.3 cm; rim diameter: 16.7 cm; base diameter: 5.3 cm. Pinkish brown color all over, sandy clay core with chaff.

3. Beaker (KJA-102=Rn KJA-40) (Pl. 8f): Height: 8.5 cm; rim diameter: 4.7 cm; base diameter: 3 cm. Buff color all over, clay core with a little chaff. (cf. Moorey, 1978, Fig. 5 1924.196; MacCown et al., Pl. 103–23)

4. Jar (KJA-100=Rn KJA-38) (Pl. 8a): Height: 12.8 cm; rim diameter: 6.7 cm; body diameter: 10.7 cm; base diameter: 5.5 cm. Greenish buff color all over, clay core with a little chaff.

#### G.16: Jar burial (Fig. 18 and Pl. 2d)

At the depth of 45 cm below the ground surface at JA4, an adult body has been uncovered inside a jar of some 60 cm in diameter. But the cover is missing. The situation of the human bones tells us that it was a bending burial with its upper and lower limbs turned up. No grave goods.



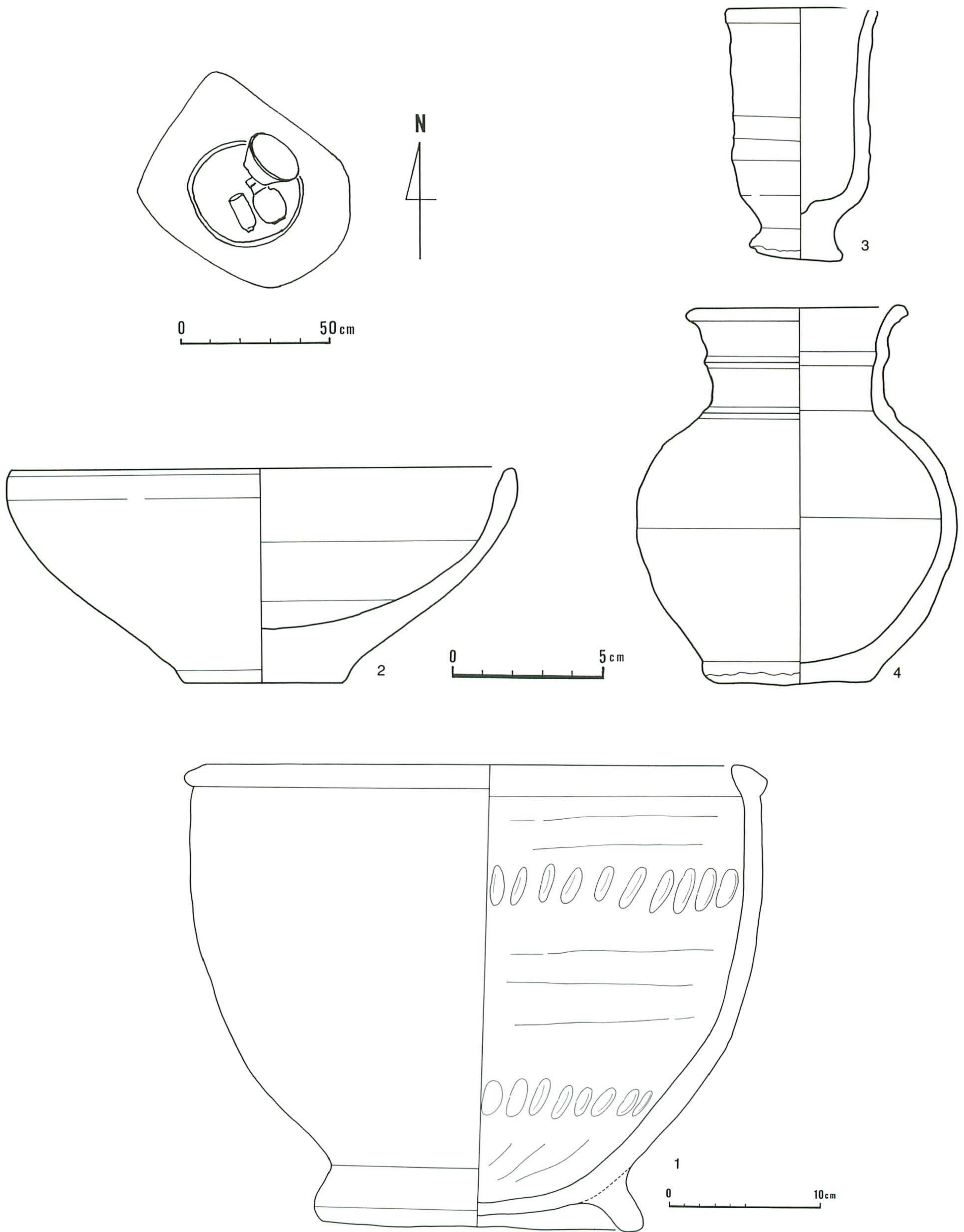


Fig. 17 The plan and grave goods of Grave 15 (G.15).



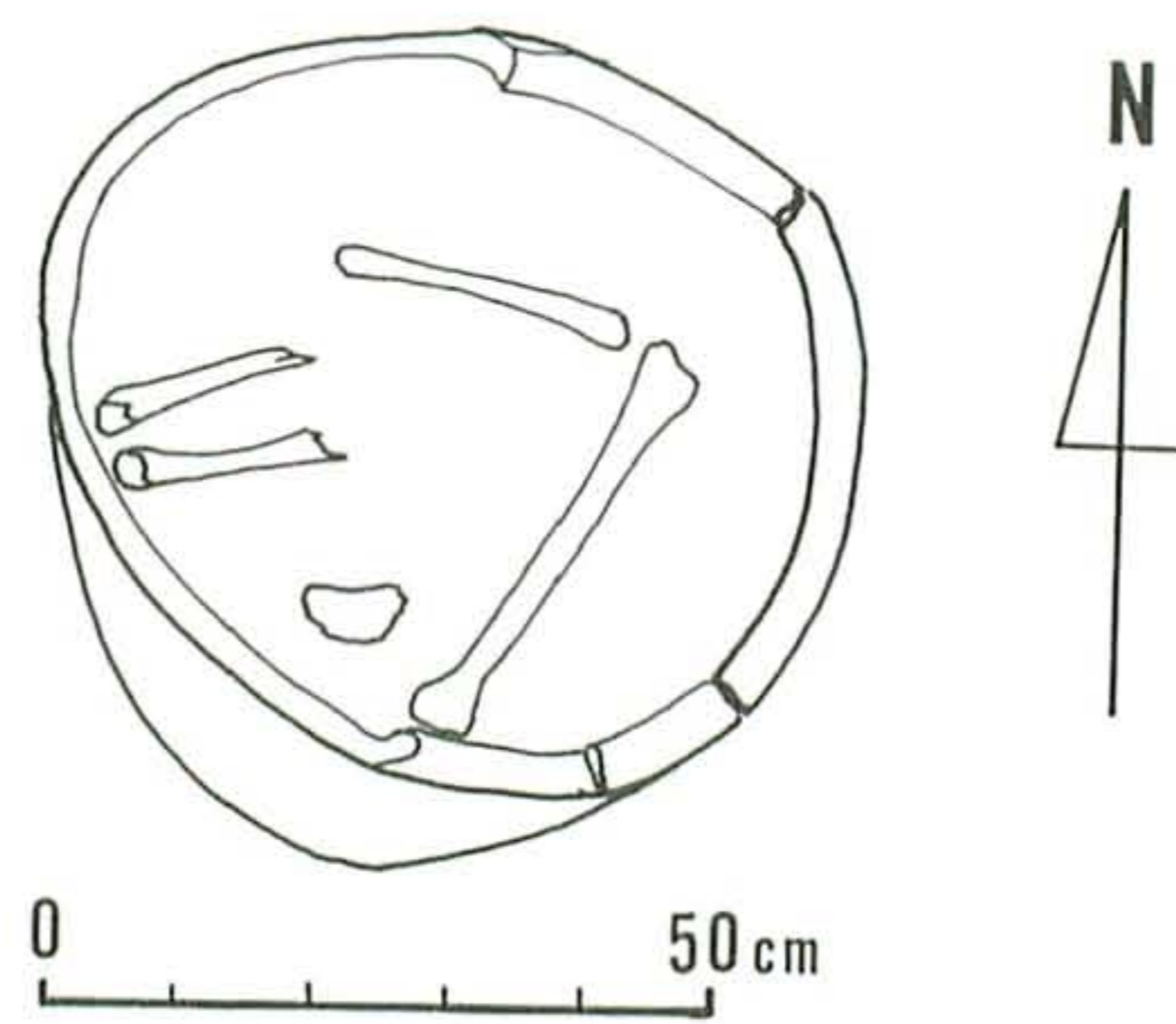


Fig. 18 The plan and grave goods of Grave 16 (G.16).

**G.17:** Baked-brick “box” burial (Fig. 19)

Only the covering of baked-brick box burial has been uncovered near the ground surface at JA5. And a miniature jar has been found beside the burial. This burial has not been excavated.

Grave goods

Miniature jar: (KJA-93=Rn KJA-33) (Pl. 8i): Rim diameter: 2.4 cm; height: 7.4 cm; base diameter: 3.6 cm; core color: brownish buff; fabric: clay; hand-made. Part of the outer face has been adjusted by spatula-scraping.

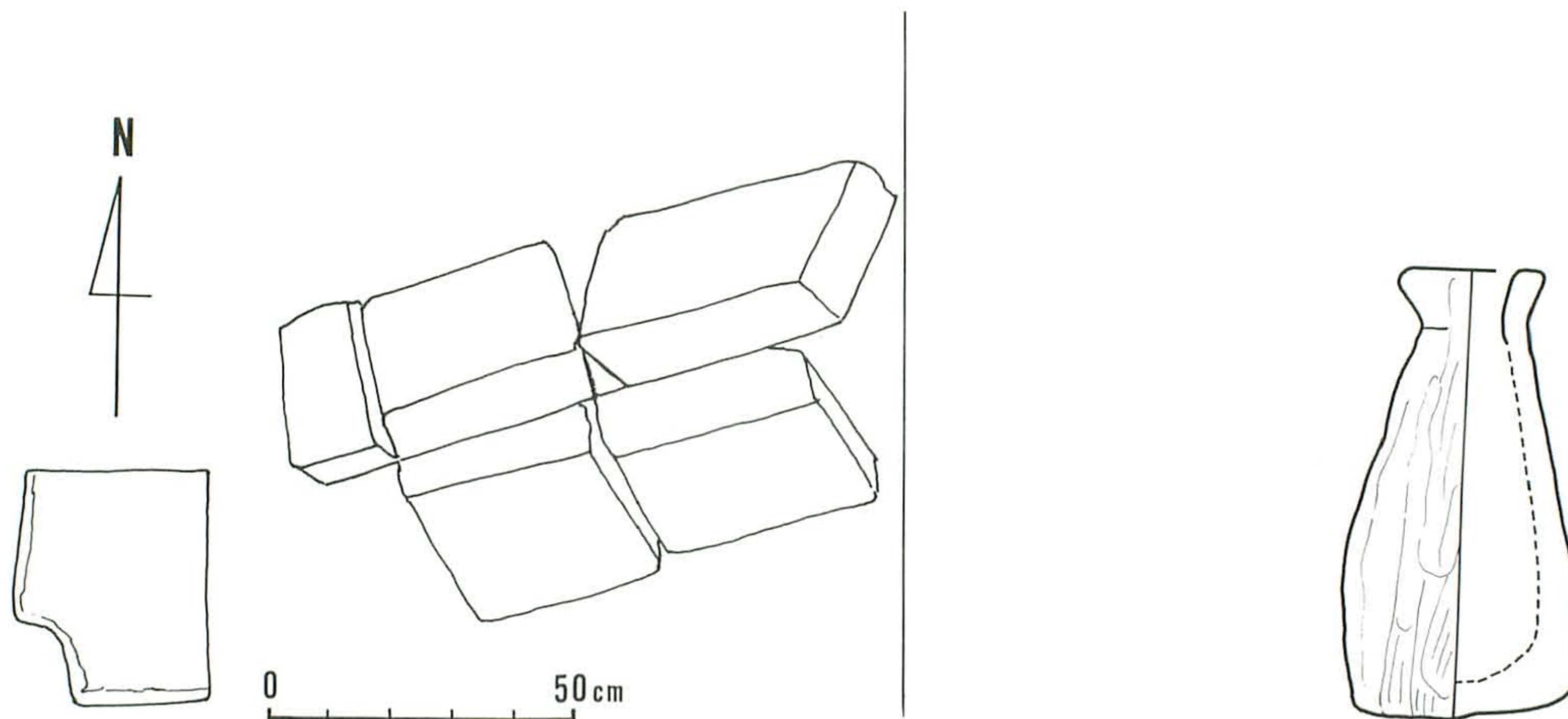


Fig. 19 The plan and grave goods of Grave 17 (G.17).

In addition to the above, we have confirmed more jar burials and bathtub burials on the ground surface, any of which have not been excavated yet. As the result of our grave excavations, even the latest graves, that is, those belonging to the Parthian/Sassanian period, were discovered at the places of 0~50 cm lower than the ground surface. It is customary, however, that the burial practice of digging a hole into the earth over 1 m has been taken up to build a grave. Thus, it is believed that this area was eaten away 1 m or so by the erosion caused later than the Parthian/Sassanian period.

**Structures**

We have discovered a structure built of sun-dried brick about 30 cm below the surface level, and have tentatively defined its accompanying level as level 1. But here, newer remains than those on level 1 may have been in existence, except for graves due to the following reasons:

- 1) This excavation-area is somewhat lower than the south of Area JA.



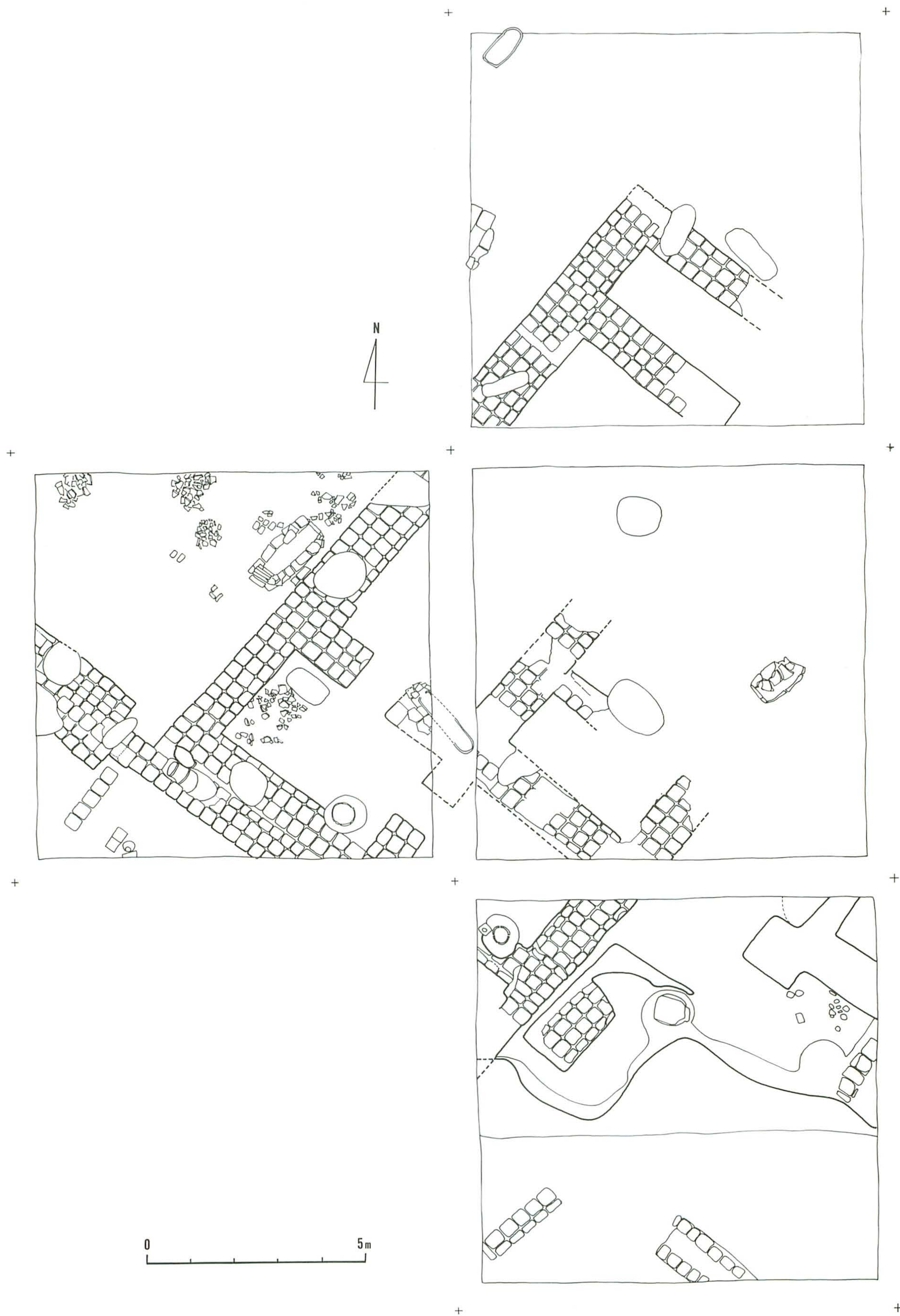


Fig. 20 The plan of structure, level 1.



- 2) This is the area of heavy erosion.
- 3) There have been uncovered two vertical drains separately which were built by digging the wall of the structure standing on level 1.

The examples are given below:

A vertical drain excavated at the northwest corner of JA1

A sun-dried brick structure at the south of JA1

Pits at JA2

Pits at JA3

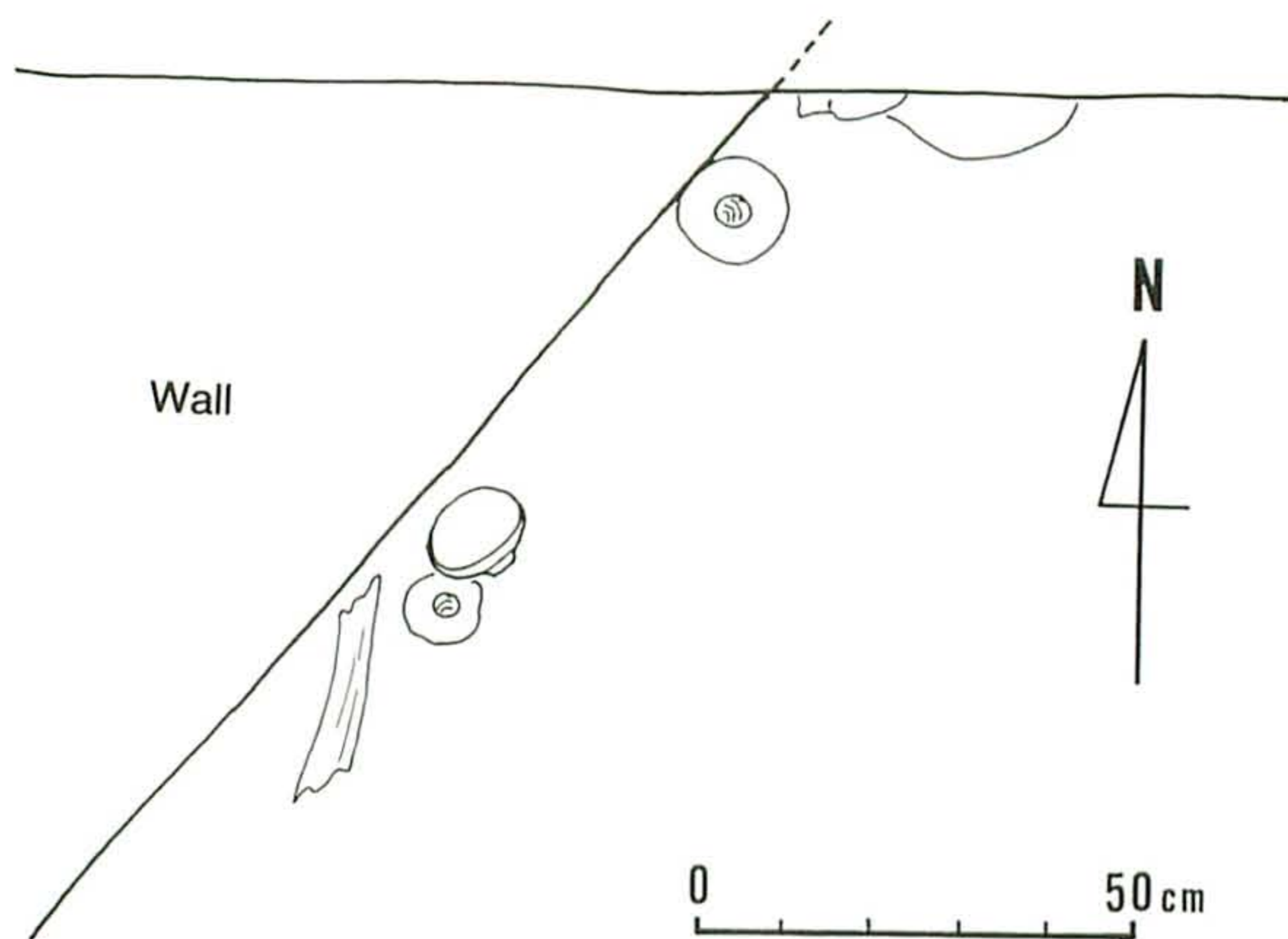
A vertical drain at the southeast of JA4

Pits at JA4

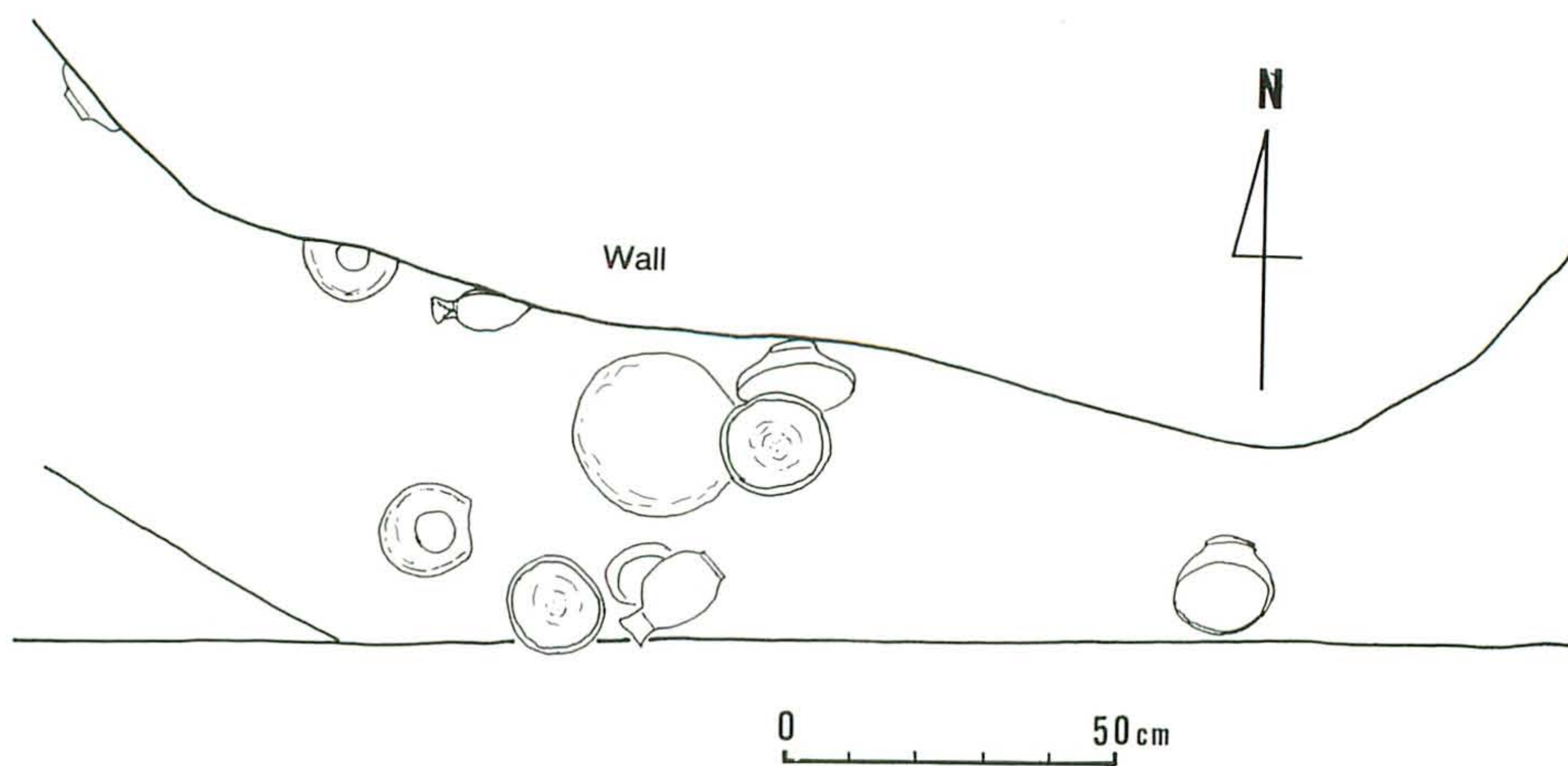
Besides, a great pit which can be observed from the center toward the south at JA1 has yielded some goods similar to those on level 1, but its age may belong to some time later than that of level 1.

**Level 1** (Figs. 20–24 and Pl. 4a–c)

The structure in the dimensions of about 10.40 m×17.20 m has the wall thickness of arranging sun-dried bricks (31~33×31~33×7 cm apiece) in two rows and a half; three rows; three rows and a half; and three rows, thus ending up with the layout of two bricks each, i.e., four in all, on both ends. In addition, we also see another sun-dried brick wall of this type along the southwest shorter side of the



**Fig. 21** The plan of northern JA1, level 1.



**Fig. 22** The plan of western JA1, level 1.



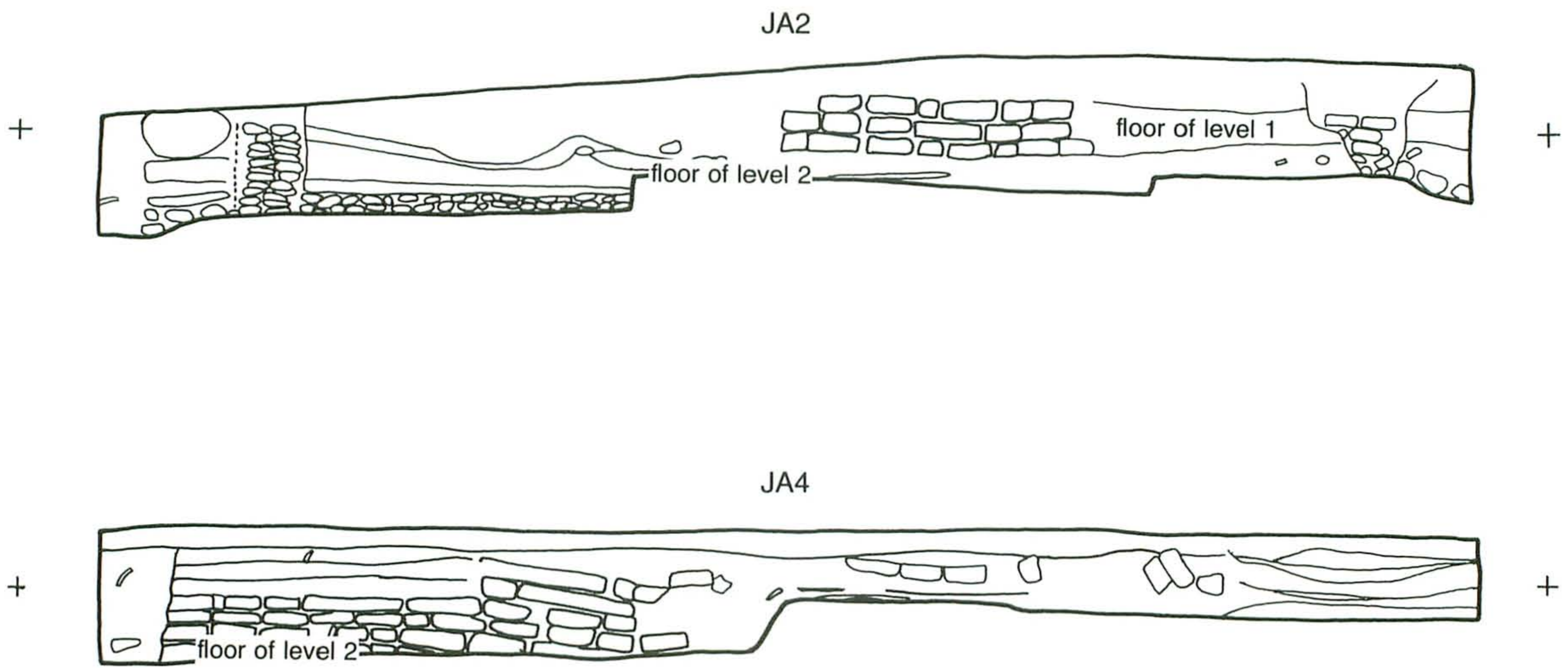


Fig. 23 The southern sections of JA2 and JA4.

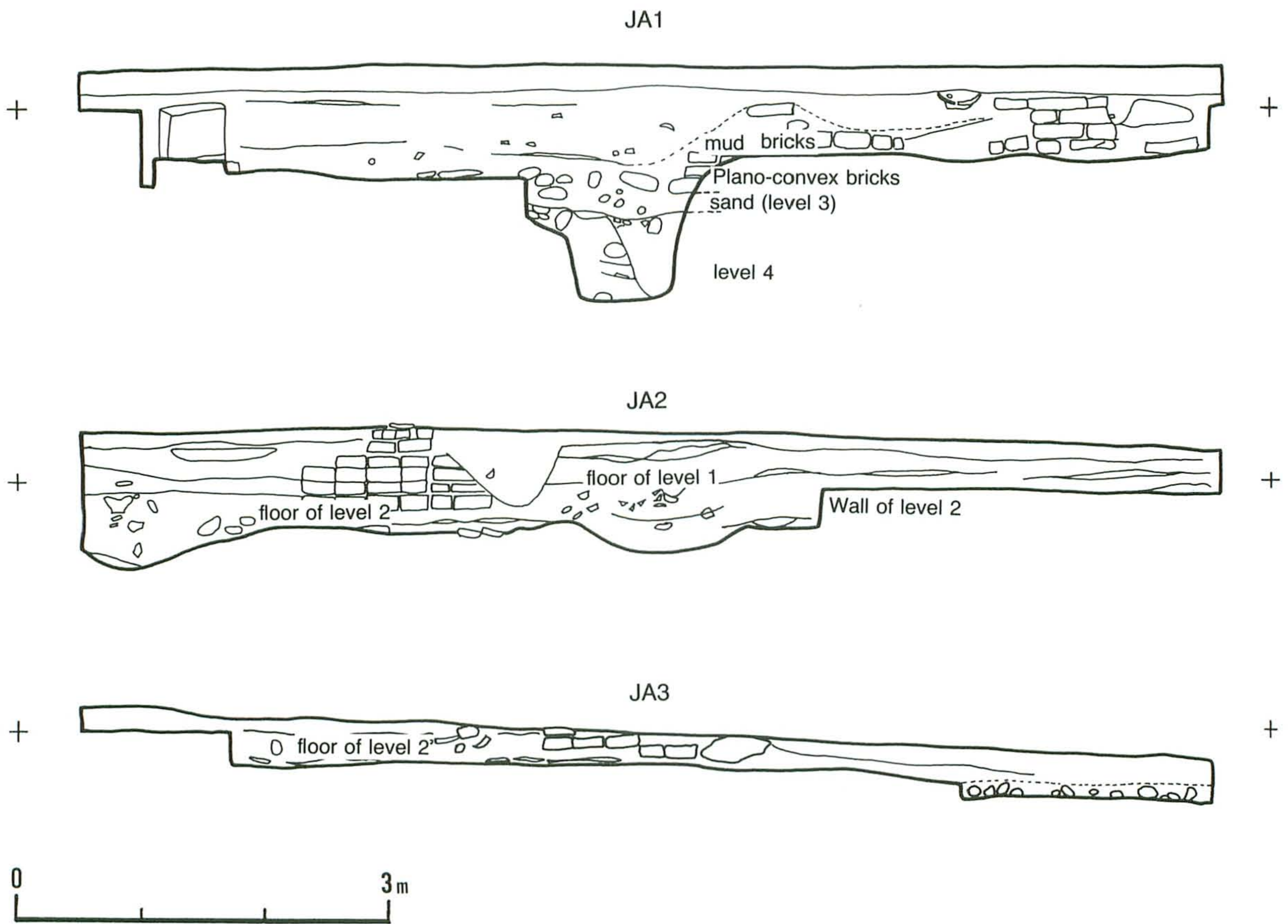


Fig. 24 The western sections of JA1, JA2 and JA3.



former structure, which is undoubtedly stretching farther southwestward. But it is still uncertain as to what kind of plane it has been formed.

The interior of the former structure is largely composed of two rows. Some small rooms are placed along both of the shorter sides, respectively. Its northeastern part is utterly unknown due to the heavy weathering (JA3 and JA2).

There is a small room of 2.6 m×3.4 m in size on its south side, where we notice a doorsocket (which seems to be not *in situ*, but may lie almost in its original position). At any rate, the doorway was probably located on the southwest of this room.

There is another room of 4.2 m×2.5 m in size at the west corner, linking to the aforementioned room which may well be called 'an entrance hall'. Its floor is burnt, where quantities of ashes have been identified. Also, broken pottery fragments have been unearthed directly upon the floor. The room may have been used for kitchen.

You will reach a rectangular room of 8.4 m×3.6 m in size, if you go ahead northeastward, leaving the above room behind.

Likewise, another similar rectangular room lies next. But it is not known as to the doorway into the room. Perhaps, it was open around the center. It is presumed that the rectangular room is connected to the northwest corner (1.6×3.8 m) of the building. The rectangular room may have been the most important of all in this building. But nothing is known about its detail because of the heavy weathering.

To the southwest side of this room, there may have been another small room of 1.6 m×3.4 m in size separately.

Only the potsherds have been excavated at a small room placed at the southwest corner. On the northwest outside of this building (JA4, north side), a burnt floor and some potsherds have been confirmed, which suggests to us that it was once used for living space or courtyard. Similarly, an open space has been uncovered also at its south side (JA4, south side).

At the southeast outside of the building composed of two rows, a bench-like structure in the size of 1.6 m×1.0 m×0.5 m (height) with an aperture (of 20 cm in width) which lies between the building and the bench-like structure has been excavated, whose use is still obscure.

We see the builders of these buildings cut the underlying remains and build the structure of their own by levelling the ground. And some parts are kept intact for their re-use. For example, the wall of the underlying structure stands up not more than 20 cm, where the wall which was levelled down flat is used for a floor. At the northeast corner of JA1, the wall of an underlying structure has been found, whose excavated level is higher than the levels of other remaining walls of underlying structures. And it is some 40 cm higher than the floor level on Level 1. It evidently indicates that the wall of level 2 building was utilized by some methods at the time of Level 1.

A large pit has been discovered stretching from the center toward the south side at JA1. There are no specific remains discovered within the range of 3~4 m on its south side. This is perhaps a place which was once included in part of the large pit. The pit is confirmed to have been dug down deep into level 2 and level 3. We have discovered lots of related pottery inside the pit located around the center closer to the west (Fig. 22 and Pl. 4c). The excavated goods are common to those discovered on level 1. It is thought, however, that the age of the very pit construction was a little later than the age of level 1.

### **Level 2** (Figs. 23–26, Pls. 4d and 5a–c)

During the excavation work of level 1 structures, it was already possible for us to identify level 2 structures at JA1. We understood that they were the structures which were built by the use of, what is called, 'plano-convex' sun-dried brick. With the advance of our work farther into JA2 and JA3, we guessed



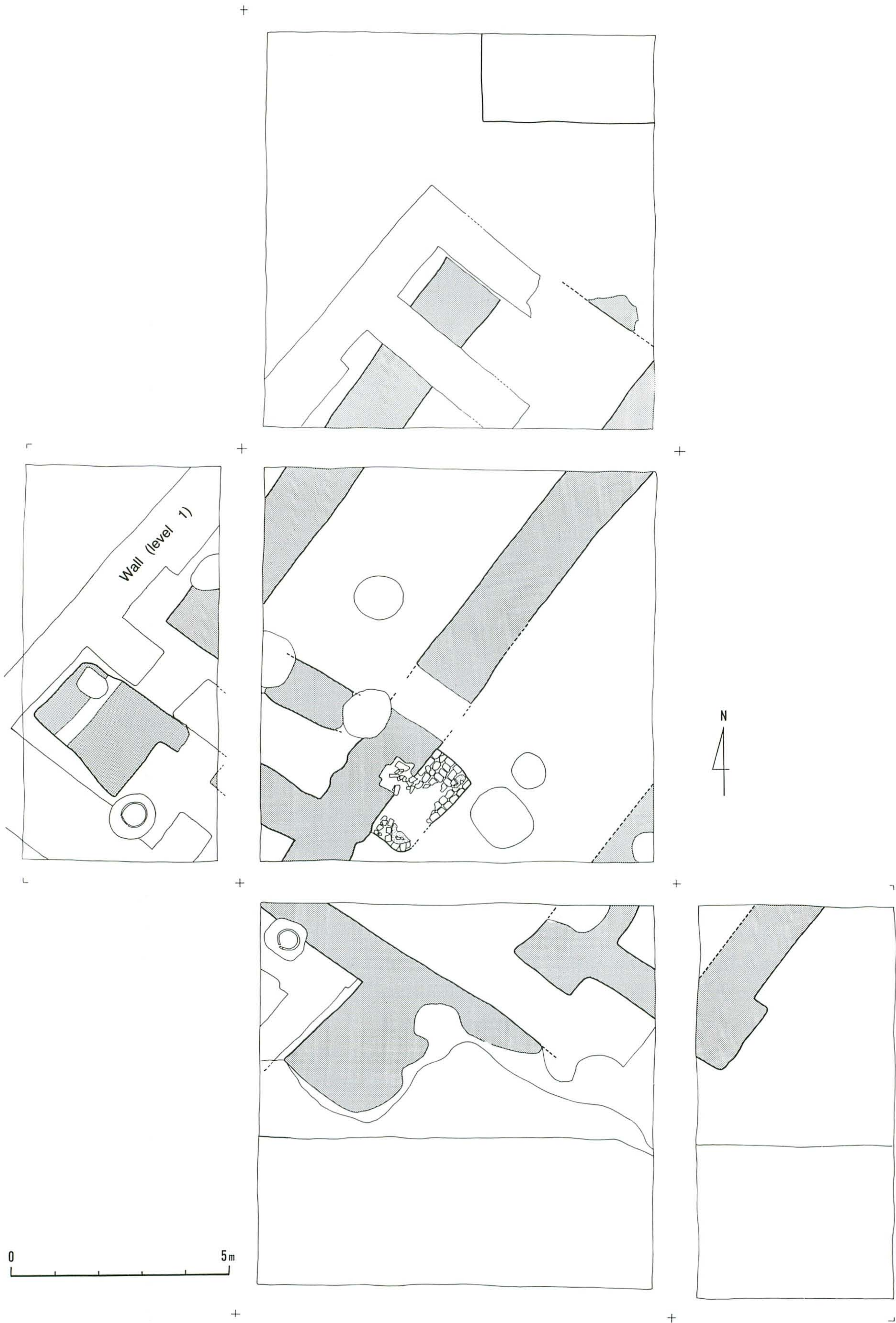


Fig. 25 The plan of structure, level 2.



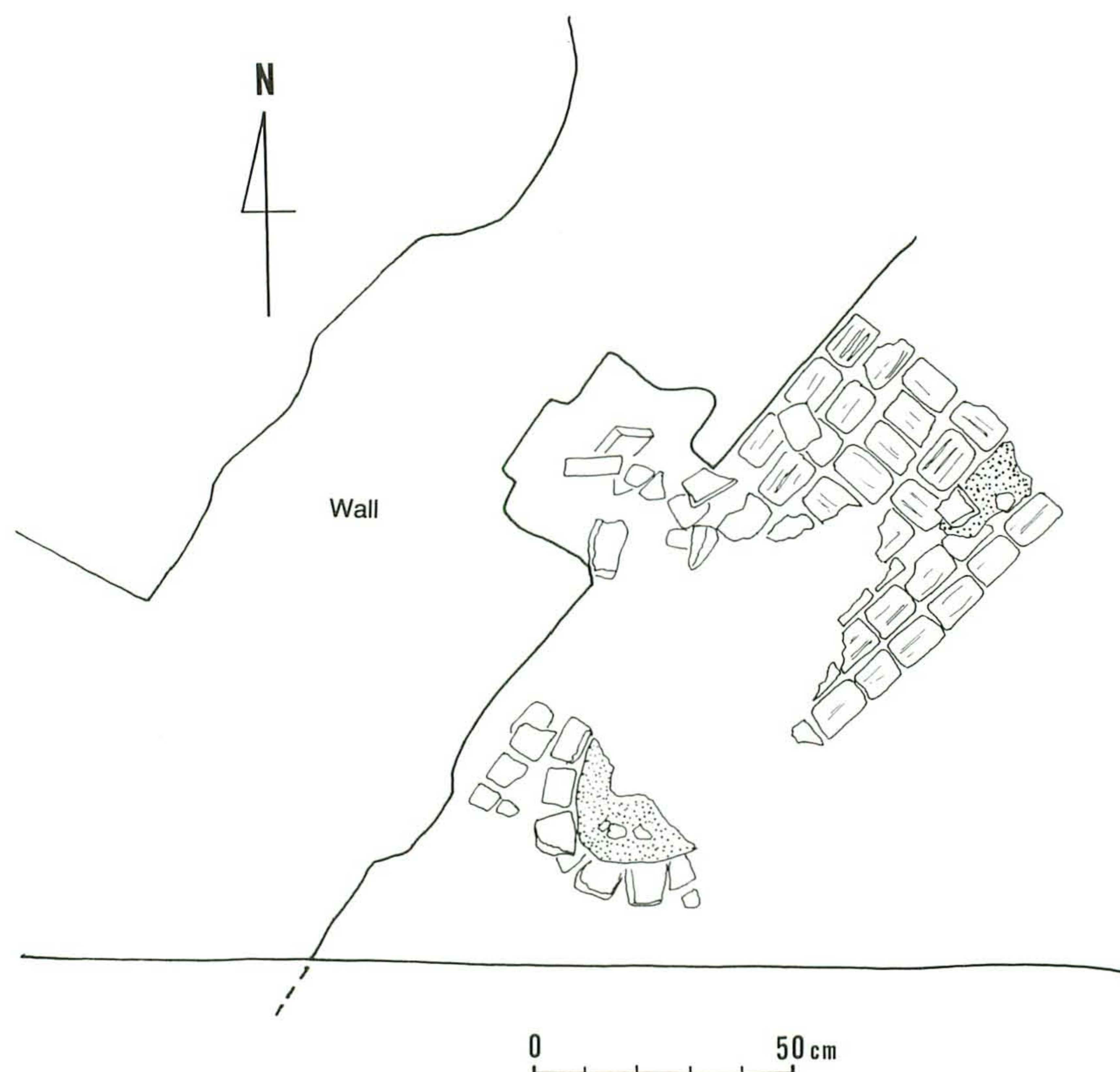


Fig. 26 The plan of southern JA2, level 2.

that they were not merely private houses.

After all, we enlarged our excavation-area still farther into JA4 and JA5 to try to grasp the structure as a whole. But JA3 and JA5 were so badly weathered that we found difficulty in identifying the wall lines. These areas happen to be at the foot of the tell with a plane level. The structures on level 1 are seen to cut into those on level 2 everywhere at random, so that there are many places from which we fail to obtain information of the whole structure. More detailed study will be necessary particularly as to JA4.

The result is that the southwestern limit of the building at JA1 has been confirmed, and, at the same time, a structure of 2.5 m × 2.5 m in size which is piled up with plano convex brick has been located at its end, whose use is unknown yet. Moreover, we have found a wall and several pieces of plano convex baked brick around there, on the east. It appears that an entrance used to be thereabouts, but the pit-breakage and weathering still prevent us from confirmation. At the northeastern corner, an end which suggests the existence of the next room has come uncovered.

At JA2, it is clear about the existence of long rooms in two rows, whose southwest end of the central hall is in the arc shape (2.4 m long and 1.1 m wide) by using the plano-convex baked brick and bitumen (Fig. 26 and Pl. 5b). It can be said that this structure is of an ablution<sup>6)</sup>. It is in a poor state of preservation, with only a pile or two of bricks left alive there. We see a lot of ashes distributed over the south side. As regards the western long room, its southwest part includes one or two small rooms inside (JA2 and JA3). On the floor of the long room, there is a slightly elevated place where the sun-dried bricks have been laid out in two rows. Directly on the floor, we have found a few broken jar fragments. There is almost none of the goods left in the building, except for the above fragments.

The northeast limit of these remains was at long last identified at the JA3 investigation. But the heavy weathering only enabled us to identify the wall line. Also, the work to identify the northwest limit was by and large finished. The west outside floor of this building at JA3 has been found burnt and hard.



Our investigation at JA4 is not yet enough, because it contains many places to intersect the remains on level 1. The structure built of plano convex has all the walls and floors laid up with plano convex sun-dried bricks. But we see no large differences in orientation and basic level between the level 1 structures and level 2 structures. So, we are not sure as to whether or not the structure is stretching farther westward or southwestward. At JA3, however, the wall toward the northwest was not discovered, so that we regard the structure roughly as a terminal of a construction unit.

In order to confirm the east limit of the structure, we conducted excavation at JA5. But the heavy weathering prevented our progress of work. Although we were able to understand the plano convex sun-dried bricks as remaining structure, we only managed to grasp the wall border with almost none of the surviving wall. Such being the situation, we will be unable to obtain another information relating to the very structure at the east JA2 or the east-and-north JA3 which show that they are on the same plane as that of this structure. It is no doubt, however, that some structures associated with Palace A will be discovered about 20 m east of our current excavation-area.

To sum up, the structure is of a tripartite composition which includes a central hall of 14.8 m in length and 4.4 m in width, and an ablution place or the like which is made of the plano convex baked bricks. And the rooms adjoining westward in parallel to the above have been divided into the small rooms of 10.5 m × 3.6 m; 1.3 m × 3.6 m; 0.8 m × 3.6 m in length and width, respectively. The room on the southeast side may have been a slender one of 11.4 m × 2.0 m in size. The small room of about 2.0 m × 2.0 m on the south side has already lost its shape, where we see plano convex baked brick fragments lying scattered, while leaving the traces of frequent use on its hard floor. This and the ablution may be the most important of all. The building leaves the traces which seem to have been square corner-buttresses at the probable corners of the buildings at JA5 and JA4. Similarly, it is presumed that such corner-buttresses once existed at both the northwest corner and the northeast corner.

The structure scarcely gives us ancient goods or the like, except for a few potsherds. The presumption is, however, that the plano convex sun-dried bricks used to be spread all over the floor and others here about 20 cm in thickness, on which a structure of tripartite composition was constructed with the wall of about 1.6 m in width, which was built with the same kind of bricks, finally ending up with the total scale of 17.2 m × 16.0 m. In addition, at a spot of the central room, we see a peculiar place like an ablution built of plano convex baked brick. It is thus concluded from the above that the structure was used as a temple in the Early Dynastic period.

Some charred samples from floor (JA2) of this structure (level 2) have been dated by the Carbon 14 measurement at University of Gakushuin, Tokyo. These dates are as follows:

GaK-14258 (JA-198) Charred material from JA2, 4120 ± 100 B.P. 2170 B.C.

GaK-14263 (JA-41) Charred material from JA2, 4350 ± 90 B.P. 2400 B.C.

### *Level 3* (Fig. 24 and Pl. 5d)

At the underlying level of the level laid up with the plano convex sun-dried brick, the clean sand layer of about 50~70 cm in thickness has been uncovered at the JA1 pit section and inside the deep trench prepared at a part of JA3, but there are no archaeological findings in its layer. This sand layer is colored pale green composed of fine sand particles of nearly the same size, whose level is almost flat, top and bottom. But we see no such sand layer at the south of JA1, probably because it was removed by the big pit on level 1. It is possible to say that there was filled up with clean sand under the holy building<sup>7)</sup>.

### *Level 4* (Pl. 5d)

We are to report here an investigation coming from the trench of 2 m × 4 m which was provided by us



at the northeast corner of JA3. Below the upperlying sand layers, there have been excavated potsherds, animal bone fragments, plano convex sun-dried bricks fragments, etc. in the thickness of over 2 m, which have been mixed with the ash-content clayish mud. It was confirmed that the accumulation of this kind continued still deeper, but its digging work was stopped on the way, interrupted by the emergence of the underground water. In spite of such thick accumulation, no detailed layers can be accounted for. Nor has it left the trace of natural formation. We, the excavators, are under the impression that the place was artificially buried up in the Early Dynastic period. Also, this sort of pile-up formation can be noticed at a part of the west section of the central pit at JA1. We guess that a wide range of accumulation may have been around there<sup>8)</sup>.

We excavated the New Babylonian structure (level 1) at area JA in this season<sup>9)</sup>. But it is necessary to understand how the structure of JA area functioned in Kish/Hursagkalama, because the lowland has divided the area into Area JA and Inghrra, with a canal running between Area JA and Mound W.

It is a very important structure together with Palace A at Mound A, as we have found a temple (level 2) at Area JA. When this area is excavated more and more in the next season, we are sure that some important structures will be found. But it is necessary to research more carefully why the structure was cut down from the structure of the upper level (level 1), the layer has a little deposit and low surviving wall (level 2), and the level of the underground water is very high.

Originally, our research subject of this season was to choose one from among some sites in south Mesopotamia for excavation. But we had not enough time for the excavation in this season. And we have done re-confirmation of the section of a part in Yw trench, but it has not been reported in this article, because a result of the adjustment has not been finished yet.

Although the 2nd season was to be carried out in 1990, we could not work in Iraq because of the Gulf war.

## Finds

Fig. 27: Pottery of level 1 (scale: 1/3) (Pl. 6)

1. Bowl (KJA-39)  
Height: 5.2 cm; rim diameter: 12.7 cm; base diameter: 5.3 cm. Buff color all over; clay core with a little chaff and sand.
2. Bowl (KJA-16=Rn KJA-7)  
Height: 5.5 cm; rim diameter: 10.7 cm; base diameter: 2.5 cm. Buff surfaces and pinkish brown core colors, clay core with chaff. There are some traces picked on the bottom (Pl. 9c-d).
3. Bowl (KJA-33)  
Height: 4.7 cm; rim diameter: 11.7 cm; base diameter: 5 cm. Greenish buff all over, sandy clay core with chaff.
4. Bowl (KJA-74=Rn KJA-20)  
Height: 5.4 cm; rim diameter: 11.6 cm; base diameter: 3.6 cm. Greenish buff color all over, clay core with chaff. There are some traces picked on the bottom.
5. Bowl (KJA-66=Rn KJA-16)  
Height: 5.2 cm; rim diameter: 13.2 cm; base diameter: 5.0 cm. Greenish buff color all over, sandy clay core with chaff. There are some traces picked on the bottom.
6. Bowl (KJA-34)  
Height: 6.0 cm; rim diameter: 12.5 cm; base diameter: 4.8 cm. Buff surfaces and pinkish brown core colors, clay core with chaff. There are some traces picked on the bottom.
7. Bowl (KJA-15=Rn KJA-6)  
Height: 5 cm; rim diameter: 13.5 cm; base diameter: 5.5 cm. Buff surfaces and pinkish brown core colors, clay



core with chaff.

8. Bowl (KJA-14=Rn KJA-5)  
Height: 5.9 cm; rim diameter: 12.5 cm; base diameter: 4.0 cm. Buff surfaces and pinkish brown core color, clay core with chaff. There are some traces picked on the bottom.
9. Bowl (KJA-55=Rn KJA-13)  
Height: 5.5 cm; rim diameter: 14.5 cm; base diameter: 4.8 cm. Greenish buff color all over, sandy clay core with chaff. There are some traces picked on the bottom.
10. Bowl (KJA-86=Rn KJA-30)  
Height: 5.6 cm; rim diameter: 12.5 cm; base diameter: 4.5 cm. Greenish buff color all over, clay core with chaff.
11. Bowl (KJA-71=Rn KJA-17)  
Height: 6.1 cm; rim diameter: 13.7 cm; base diameter: 6 cm. Greenish buff color all over, clay core with chaff. There are some traces picked on the bottom.
12. Bowl (KJA-78=Rn KJA-24)  
Height: 6.0 cm; rim diameter: 12.5 cm; base diameter: 4.5 cm. Pinkish brown color all over, clay core with a little chaff.
13. Bowl (KJA-41)  
Height: 5.5 cm; rim diameter: 13.5 cm; base diameter: 6.8 cm. The color changed to blackish brown through fire. Sandy clay core with chaff.
14. Bowl (KJA-72=Rn KJA-18)  
Height: 6.2 cm; rim diameter: 13.0 cm; base diameter: 5.2 cm. Greenish buff color on interior and core, and red brown color on exterior, clay core with chaff.
15. Bowl (KJA-59)  
Height: 7.2 cm; rim diameter: 18 cm; base diameter: 5.4 cm. Buff surfaces and pinkish brown core colors, sandy clay core with chaff.
16. Bowl (KJA-75=Rn KJA-21)  
Height: 6.4 cm; rim diameter 16.5 cm; base diameter: 5.7 cm. Buff color, sandy clay core with chaff.

Fig. 28: Pottery of level 1 (scale 1/3) (Pl. 6)

1. Bowl (KJA-96=Rn KJA-36)  
Height: 7.2 cm; rim diameter: 16.5 cm; base diameter: 6 cm. Buff surfaces and pinkish brown core colors, sandy clay core with chaff. Some traces of blackish liquid remain on the bottom.
2. Bowl (KJA-79=Rn KJA-25)  
Height: 7.8 cm; rim diameter: 15.5 cm; base diameter: 6.3 cm. Buff surfaces and pinkish brown core colors, clay core with chaff. There are some traces picked on the bottom.
3. Bowl (KJA-81=Rn KJA-26)  
Height: 7.7 cm; rim diameter: 17.0 cm; base diameter: 5.3 cm. Greenish buff all over, clay core with chaff.
4. Bowl (KJA-35)  
Height: 8.8 cm; rim diameter: 18.0 cm; base diameter: 6.3 cm. Greenish buff surfaces and reddish brown colors, sandy clay core with chaff. There are some traces picked on the bottom.
5. Bowl (KJA-76=Rn KJA-22)  
Height: 8.2 cm; rim diameter: 18.0 cm; base diameter: 6.3 cm. Greenish buff all over, clay core with chaff. There are some traces picked on the bottom.
6. Bowl (KJA-64)  
Height: 4.9 cm; rim diameter: 17.3 cm; base diameter: 6.5 cm. Buff surfaces and pinkish brown core colors, clay core with chaff. There are some traces picked on the bottom.
7. Bowl (KJA-38)  
Height: 4.4 cm; rim diameter: 24.5 cm; base diameter: 15.5 cm. Buff surfaces and pinkish brown core colors, clay core with a little chaff.
8. Bowl (KJA-2=Rn KJA-1)  
Height: 4.5 cm; rim diameter: 9 cm; base diameter: 3.7 cm. Dark brown surfaces and brown core colors, clay core with chaff.



9. Bowl (KJA-25)  
Height: 9.8 cm; rim diameter: 23.7 cm; base diameter: 7.5 cm. Greenish buff surfaces and pinkish brown core colors, sandy clay core with chaff.
10. Bowl (KJA-65)  
Height: 4.2 cm; rim diameter: 13 cm; base diameter: 5.7 cm. Greenish buff surfaces and light brown core colors, clay core with chaff. There are some traces picked on the bottom.
11. Bowl (KJA-36)  
Height: 10.3 cm; rim diameter: 24.5 cm; base diameter: 6.3 cm. Greenish buff surfaces and pinkish brown core colors, clay core with chaff.
12. Bowl (KJA-61)  
Height: 5.5 cm; rim diameter: 16.3 cm; base diameter: 6.6 cm. Greyish green all over, clay core with chaff.

Fig. 29: Pottery of level 1 (scale 1/3) (Pl. 8)

1. Jar (KJA-77=Rn KJA-23)  
Height: 12.7 cm; rim diameter: 5.2 cm; body diameter: 7.2 cm. Buff surfaces and light brown core colors, clay core with a little chaff.
2. Jar (KJA-7=Rn KJA-2)  
Height: 7 cm; rim diameter: 3.2 cm; body diameter: 4.5 cm. Buff surfaces and pinkish brown core colors, clay core. (cf. Moorey, 1978, Fig. 5 1924.200)
3. Jar (KJA-85=Rn KJA-29)  
Height: 6 cm; body diameter: 5.2 cm. Buff color all over, clay core. (cf. Moorey, 1978, Fig. 5 1924.200)
4. Glazed jar (KJA-8=Rn KJA-3)  
Height: 8.0 cm; rim diameter: 5.1 cm; body diameter: 7.4 cm; base diameter: 3.8 cm. Buff glazed surfaces all over and greenish buff core colors, clay core. (cf. Moorey, 1978, Fig. 5 1927.3299)
5. Jar (KJA-40=Rn KJA-9)  
Height: 14.5 cm; body diameter: 12.3 cm; base diameter: 5.7 cm. Buff color all over, sandy core clay with chaff.
6. Glazed jar (KJA-90)  
Height: 8.5 cm; rim diameter: 3.8 cm; body diameter: 8.7 cm; base diameter: 4.0 cm. Yellow color motif on light grey color base and greenish buff core color, clay core.
7. Glazed jar (KJA-23)  
Height: more than 5 cm; body diameter: 9 cm. Creamy color surfaces and greenish buff core color, sandy clay core.
8. Jar (KJA-31)  
Height: more than 6.5 cm; body diameter: 9.3 cm; base diameter: 4.7 cm. Greenish buff color all over, sandy clay core with chaff.
9. Jar (KJA-27)  
Height: more than 6.5 cm; body diameter: 10.8 cm; base diameter: 3 cm. Greenish buff color all over and clay with chaff core with some carbons on the interior surface.
10. Jar (KJA-98)  
Height: more than 11.5 cm; body diameter: 11.0 cm; base diameter: 4.0 cm. Dark green color all over and clay core with chaff.
11. Jar (KJA-84=Rn KJA-28)  
Height: more than 12 cm; body diameter: 9.3 cm; base diameter: 3.5 cm. Buff surfaces and light brown core colors, sandy clay core with a little chaff.
12. Polychrome glazed jar (KJA-83=Rn KJA-27)  
Height: 19.0 cm; rim diameter: 7.3 cm; body diameter: 13.8 cm. Rosette motif with dedecapetalous is designed on the shoulder of the jar, on which the painted colors of green, black, and brown are used alternately along the white line borders. The green color is painted on the neck, body, and even interior of the jar. And also, the brown color is used under the rosette motif on the upper part of the body. Greenish buff core color and clay core with chaff. (cf. Curtis, 1987, p. 204 Fig. 132)
13. Jar (KJA-73=Rn KJA-19)  
Height: 16.6 cm; rim diameter: 5.6 cm; body diameter: 11.5 cm. Greenish buff color all over and sandy clay core



with chaff. (cf. Moorey, 1978, Fig. 5 1924.733)

14. Jar (KJA-17)

Height: more than 12 cm; rim diameter: 6 cm; body diameter: 10 cm. Buff color all over and sandy clay core.

Fig. 30: Pottery of level 1 (scale 1/3) (Pl. 8)

1. Jar (KJA-19=Rn KJA-8)

Height: 9 cm; rim diameter: 5.8 cm; body diameter: 8.8 cm; base diameter: 4 cm. Greenish buff color all over and sandy clay core.

2. Jar (KJA-91=Rn KJA-31)

Height: 10.5 cm; rim diameter: 5.5 cm; body diameter: 7.8 cm. Brownish core and buff surfaces, perhaps with a handle.

3. Jar (KJA-60=Rn KJA-14)

Height: more than 12.3 cm; body diameter: 7.3 cm; base diameter: 3 cm. Greenish buff color all over and sandy clay core. (cf. Moorey, 1978, Fig. 6 1931.231)

4. Jar (KJA-67)

Height: more than 8.5 cm; body diameter: 7.5 cm; base diameter: 3.2 cm. Buff surface color and light brown core color, clay core. There are some traces picked on the bottom.

5. Jar (KJA-32)

Height: more than 7 cm; body diameter: 7.5 cm; base diameter: 3.0 cm. Buff color all over and clay core with a little chaff.

6. Jar (KJA-92=Rn KJA-32)

Height: more than 21.0 cm; body diameter: 23.5 cm; round base. Greenish buff surfaces and light brown core color, clay core with chaff. Some scraped-traces are seen on the under part of the outside jar. It can be said that these traces resulted from scraping by spatula during the jar-making. And finger impressions on the under part of the inside jar were left behind also caused by the jar-making.

7. Jar (KJA-24)

Height: more than 11.5 cm; rim diameter: 11 cm. Dark brown color all over and sandy clay core with chaff.

8. Jar (KJA-52)

Height: 18.5 cm; rim diameter: 12.5 cm. Greenish buff color all over and clay core with chaff.

9. Stand (KJA-37)

Height: 6 cm; rim diameters: 9 cm and 12 cm. Buff surfaces and pinkish brown core colors, clay core with temper.

10. Stand (KJA-95=Rn KJA-35)

Height: 7.5 cm; rim diameters: 12 cm and 14.2 cm. Light brownish buff color on the exterior surface, buff color on the interior surface and buff core color, clay core with a little temper. There are some finger impressions on the inside and outside of the upper part of the stand.

11. Base of jar (KJA-29)

Height: more than 5 cm; base diameter: 8.5 cm. Greenish buff color all over and clay core with chaff.

12. Tray (KJA-22)

Height: 12.2 cm; rim diameter: 24.0 cm; base diameter: 24.0 cm. Buff color surfaces, coarse ware of clay core with much chaff.

Fig. 31: Pottery of level 1 (scale 1/5) (Pl. 7)

1. Jar (KJA-54)

Height: more than 63 cm; rim diameter: 10.5 cm; body diameter: 37.0 cm; pointed base? Buff color on the exterior with creamy slip, pinkish brown color on the interior and core, clay core with a little chaff. Polished-traces by slender spatula are recognized on the outside of the jar.

2. Stand (KJA-88)

Height: 20.0 cm; rim diameters: 29.0 cm and 25.5 cm. Buff surface color and greenish buff core color, sandy clay core with much chaff.

3. Jar with three lugs (KJA-3)

Height: more than 37.0 cm; rim diameter: 20.5 cm; body diameter: 38.0 cm. Light green color all over, clay



core with chaff. Two lines of the nail impressions as motif are seen on above and below with two groove lines between on the neck of the jar, and also there are some short lines incised on the three lugs. The inside jar has many traces of the finger impressions.

4. Pot (KJA-28)  
Height: more than 17 cm; rim diameter: 36 cm. Pinkish brown color all over, sandy clay core with chaff and sand.
5. Jar (KJA-80)  
Height: 24.5 cm; body diameter: 25.2 cm; round base. Buff surface color and light brown core color, clay core with chaff.
6. Jar (KJA-87)  
Height: more than 32.5 cm; base diameter: 9.3 cm. Buff surface and greenish buff core colors, clay core with chaff. A small hole of 1.5 cm in diameter has been open on the base of the big jar. There are many finger impressions on the inside jar.

Fig. 32: Pottery of level 2 (scale 1/3) (Pl. 9)

1. Jar (129)  
Rim diameter: 11 cm. Cream slip surfaces, pinkish brown core color, sandy clay core with mica. (cf. Moon, 1987, 551.6G75:237, 616.51S:192)
2. Jar (105)  
Rim diameter: 12 cm. Buff slip surfaces, light brown core color and clay core. (cf. Moon 1978, 551.6G75:490)
3. Jar (104)  
Rim diameter: 21 cm. Buff slip on exterior, light brown color on interior and core, sandy clay core with mica.
4. Jar (KJA-30)  
Rim diameter: 15 cm. Pinkish brown color surfaces, buff core color, clay core.
5. Stand (176)  
Cream slip on exterior, pinkish brown on interior, brown color core, clay core. (cf. Moon 1978, 302.6G85:73)
6. Jar (176)  
Rim diameter: 13 cm. Light brown color on exterior and core, cream slip on interior, sandy clay core. Cut mark on rim. (cf. Moon 1978, 433.6G39:10)
7. Kitchen Range? (176)  
Reddish brown color all over, sandy clay core. (cf. Delougaz, 1952, Pls. 104, 168; Moon, 1987, 200.6G47:115)
8. Conical bowl (176)  
Height: 9 cm; rim diameter: 15 cm; base diameter: 4 cm. Cream slip on exterior, pinkish brown on interior and core, clay core. String-cut base.
9. Pointed base (105)  
Light brown color all over, clay core.
10. Bowl (104)  
Rim diameter: 34 cm. Cream slip surfaces, pinkish brown core color, clay core.
11. Flat base (129)  
Base diameter: 4 cm. Light brown color all over, sandy clay core with mica. String-cut base. (cf. Moon, 1987, p. 95-104)
12. Ring-base Jar (KJA-89)  
Height: more than 19 cm; base diameter: 13.8 cm. Buff color on exterior, pinkish brown color on interior and core, sandy clay core with a little sand. The scraped-traces by spatula can be seen on interior of the jar.
13. Flat base (105)  
Base diameter: 5 cm. Brown color all over, clay core. String-cut base. (cf. Moon, 1987, p. 95-104)
14. Conical base (176)  
Height: 6.7 cm; rim diameter: 12 cm; base diameter: 4 cm. String-cut base. (cf. Moon, 1987, 18.6G85:48)
15. Stand (Stemmed dish) (176)  
Base diameter: 57 cm. Greenish buff color all over, sandy clay core. (cf. Delougaz, 1952, Pl. 174; Moon, 1987, p. 46-53)



Fig. 33: Pottery of pit and level 4 (scale 1/3) (Pl. 9)

1. Spouted jar(from pit)  
Cream slip surfaces, brown core color, sandy clay. (cf. Delougaz, 1952, Pls. 179, 180; Moon, 1987, p. 128–144)
2. Jar (132) (level 4)  
Rim diameter: 10 cm. Cream slip on exterior, brown color on interior and core, sandy clay core with mica. (cf. Moon, 1987, 587.6G47: 118)
3. Jar (145) (level 4)  
Red painted ware (Diyala ware). Pinkish brown on interior and core, clay core. (cf. Delougaz, 1952, Pl. 178 c.515.3706)
4. Beaker (140) (level 4)  
Base diameter: 4.0 cm. Cream slip on exterior, light brown color on interior, pinkish brown core color, clay core with mica. (cf. Moon, 1987, p. 24–25, Tiny open vessel)
5. Bowl (KJA-4) (from pit)  
Height: 4.6 cm; rim diameter: 12 cm; base diameter: 4.3 cm. Buff surfaces, pinkish brown color and sandy clay core. It has been uncovered in the pit at the northern part of JA-2. (cf. Mackay, 1929, Pl. LIV type O)
6. Bowl (132) (level 4)  
Height: more than 4 cm, rim diameter: 13.0 cm. Cream slip on exterior, pinkish brown on interior, brown core color, clay core with mica.
7. Bowl (KJA-82) (level 4)  
Height: 12 cm; rim diameter: 24 cm; round base. Pinkish brown color, clay core. The under part of the bowl was scraped by spatula. It has been found between the depth of –70cm ~ –90 cm (level 4) below the surface in the deep trench at the northern part of JA-3. (cf. Mackay, 1929, Pl. LII type F)
8. Pointed base (132) (level 4)  
Buff color all over, sandy clay core. (cf. Delougaz, 1952, B546.640C, Pl. 159)
9. Flat base (132) (level 4)  
Base diameter: 4.5 cm. Pinkish brown color all over, clay core. String-cut base. (cf. Moon, 1987, 36.6F05: 176)
10. Bowl (132) (level 4)  
Rim diameter 40 cm. Pinkish brown color all over, sandy clay core with mica.

Fig. 34: Small findings (scale 1/1) (Pl. 10)

1. Inlay object (KJA-58)  
Material: Diorite; color: black. The object was polished except inlayed parts. Many inlay-traces drilled by borer can be seen in the shallow round hole. The fragment has been discovered on the floor of the building of the level 2 at JA1.
2. Ivory object (KJA-18)  
It has been discovered at the place of –50 cm below the ground surface at the northwest of JA1. It may belong to 1 level. Size: 3.5 cm × 3.0 cm × 1.3 cm (fragment). One side is flat; the other side is swollen and a small hole of 3 mm in diameter has been open in the center.
3. Stone object (KJA-56):  
It has been found at the place of –60 cm from the ground surface at the southern part of JA1. Size: 5.2 cm × 4.7 cm × 2.0 cm; material: white marble. It was perhaps used as a pallet for grinding down pigment, because the center of one flat side is worn out into round shape, while the other flat side is very smooth. (cf. Moorey, 1978, Fig. 3 1933.1335)
4. Pottery ring (KJA-69):  
This has been unearthed on level 2 at JA-2. Outside diameter: 5.7 cm, inside diameter: 1.7 cm, buff color all over and sandy clay core. (cf. Mackay, 1929, Pl. XLIV-2)
5. Fragment of Stone ware (KJA-57)  
It has been unearthed on the floor of the building(level 2) at JA1. Steatite, rim diameter: 20 cm, using bitumen for repair. (cf. Mackay, 1929, Pl. LV)
6. Stamp (KJA-1 = Rn KJA-45)  
It has been uncovered near the surface at the southern part of JA2 (level 1). 1.5 cm × 1.9 cm, oval shape. The



letter was written in Aramic which has been analyzed by Mr. Izumi Yoda.

l m t ' h d d  
(protected by Hadad)

7. Bead (KJA-21)

It has been found around G.7 at JA1. Material: flint?; color: sky blue; diameter: 3 mm; length: 3 mm.

### Notes

- 1) We are publishing the reports of these excavations in our journal, *al-Rāfidān*.
- 2) Langdon, 1924; Mackay, 1925 and 1929; Langdon and Watelin, 1930 and 1934; Gibson, 1972; Moorey, 1978.
- 3) *Iraq*, vol. XLIII part 2, 1981, p. 183.
- 4) Mackay, 1929, Map of Kish and Hursagkalamma.
- 5) Rn index number put by Iraqi co-researcher for registration at Iraq Museum, not IM. number.
- 6) Mackay, 1967, Pl. 42-B.
- 7) Delougaz, 1940, Pl. VI.
- 8) Mackay, 1929, p. 111.
- 9) In this case, the New Babylonian period corresponds to Spätbabylonische Zeit. Thanks to Sd. Burhan Shakir Sulayman (a member of the State Organization of Antiquities and Heritage), we could compare our pottery with that from the Southern Palace in Babylon.

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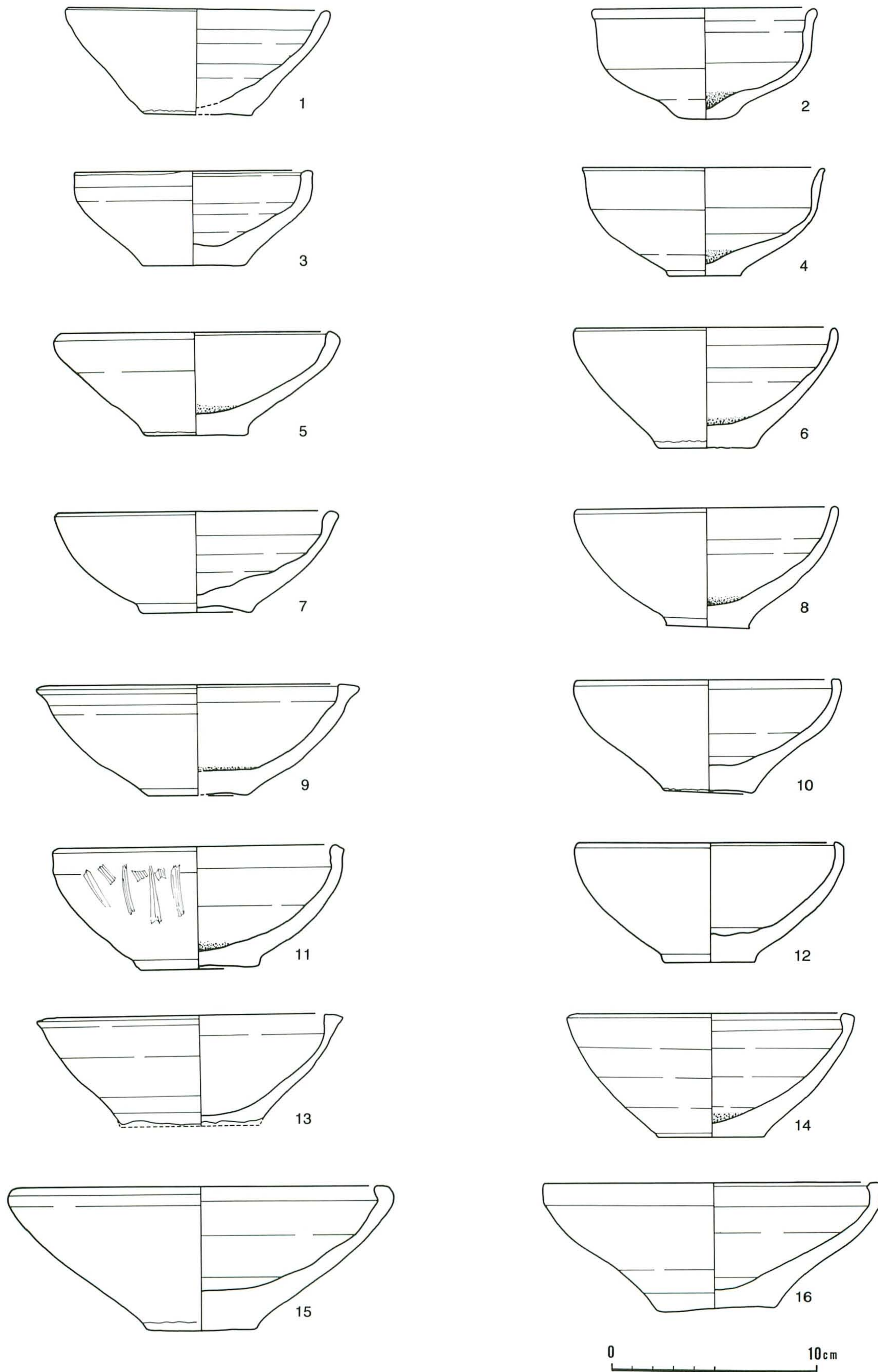


Fig. 27 The pottery of level 1.



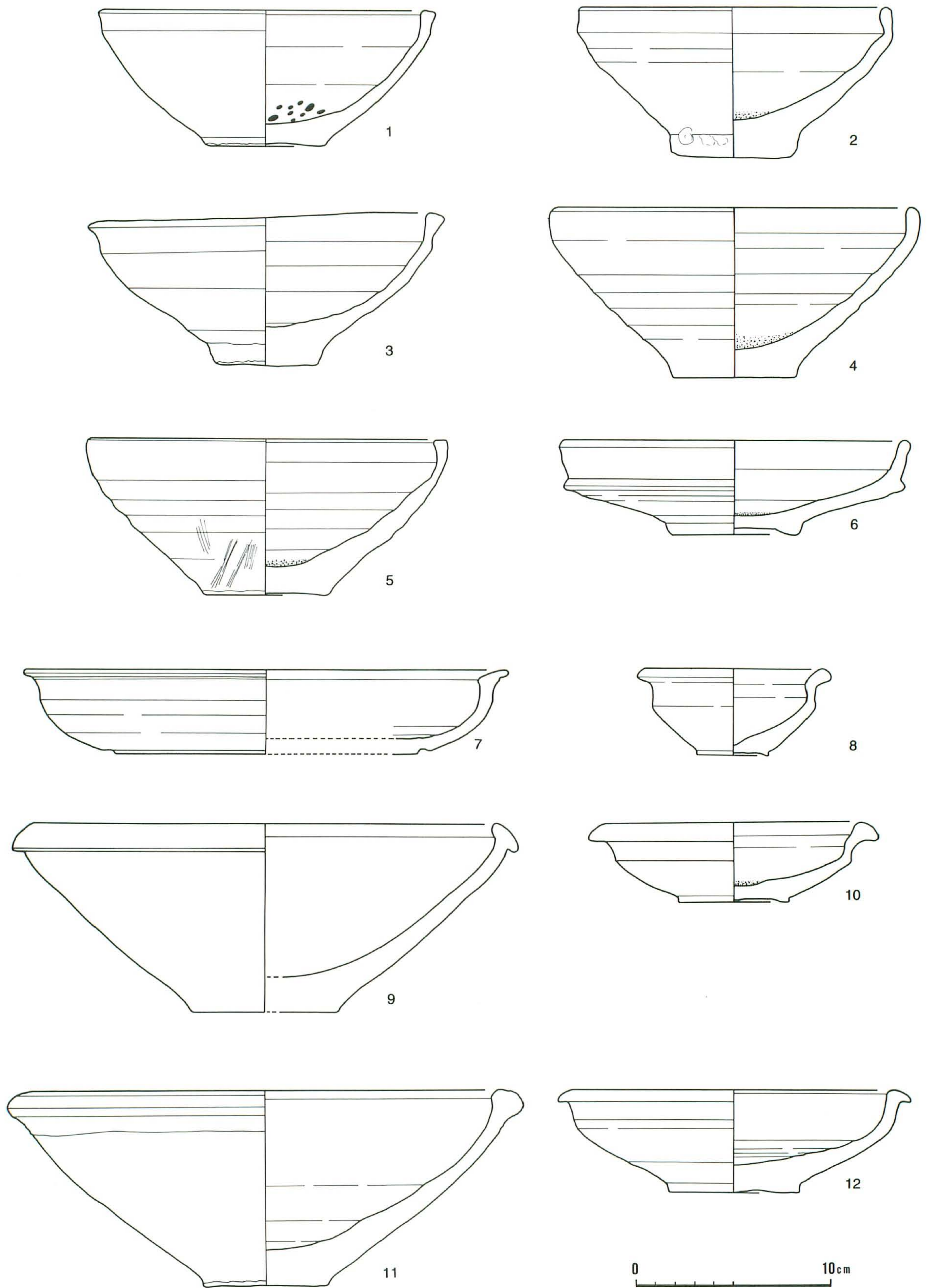


Fig. 28 The pottery of level 1.



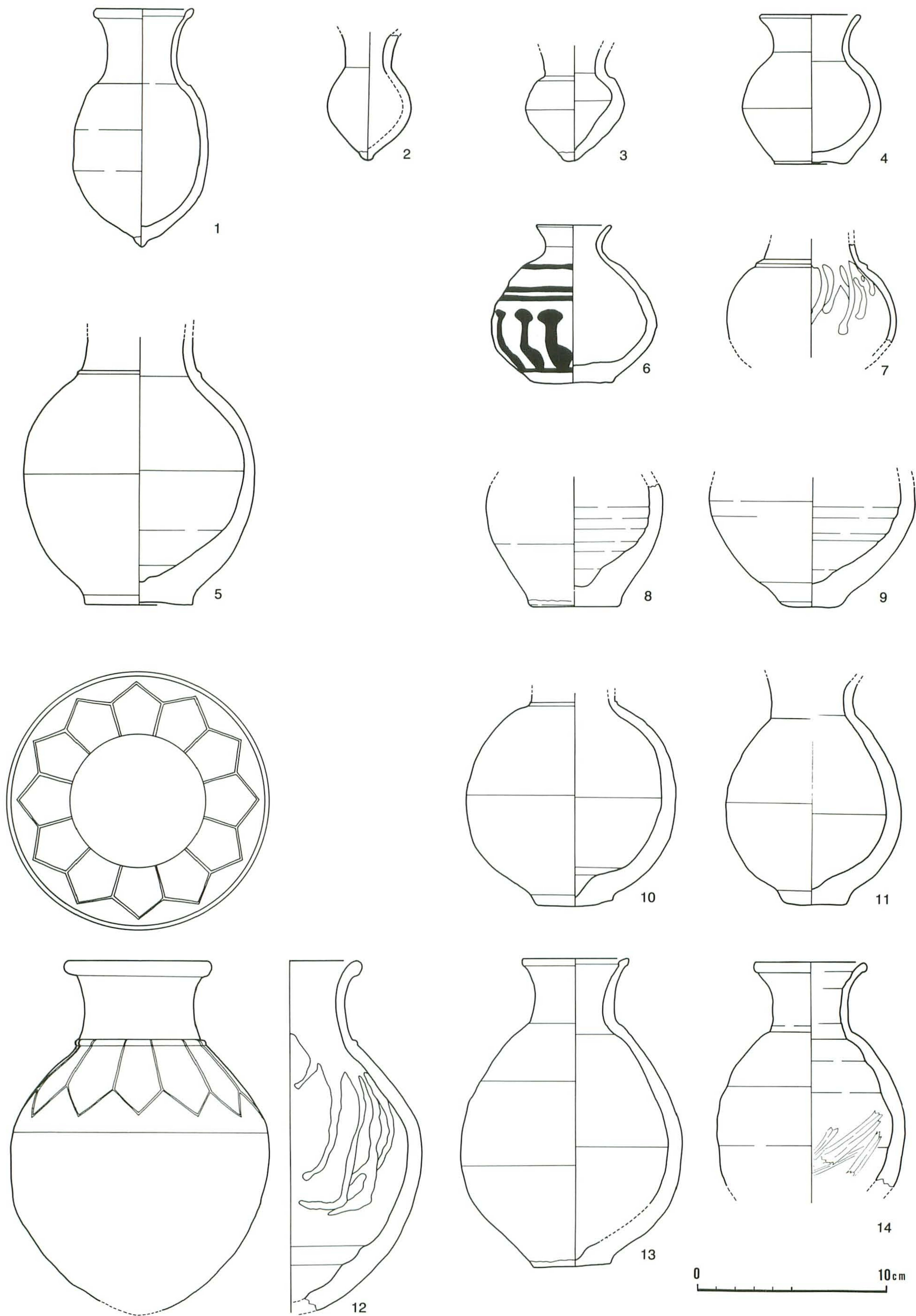


Fig. 29 The pottery of level 1.



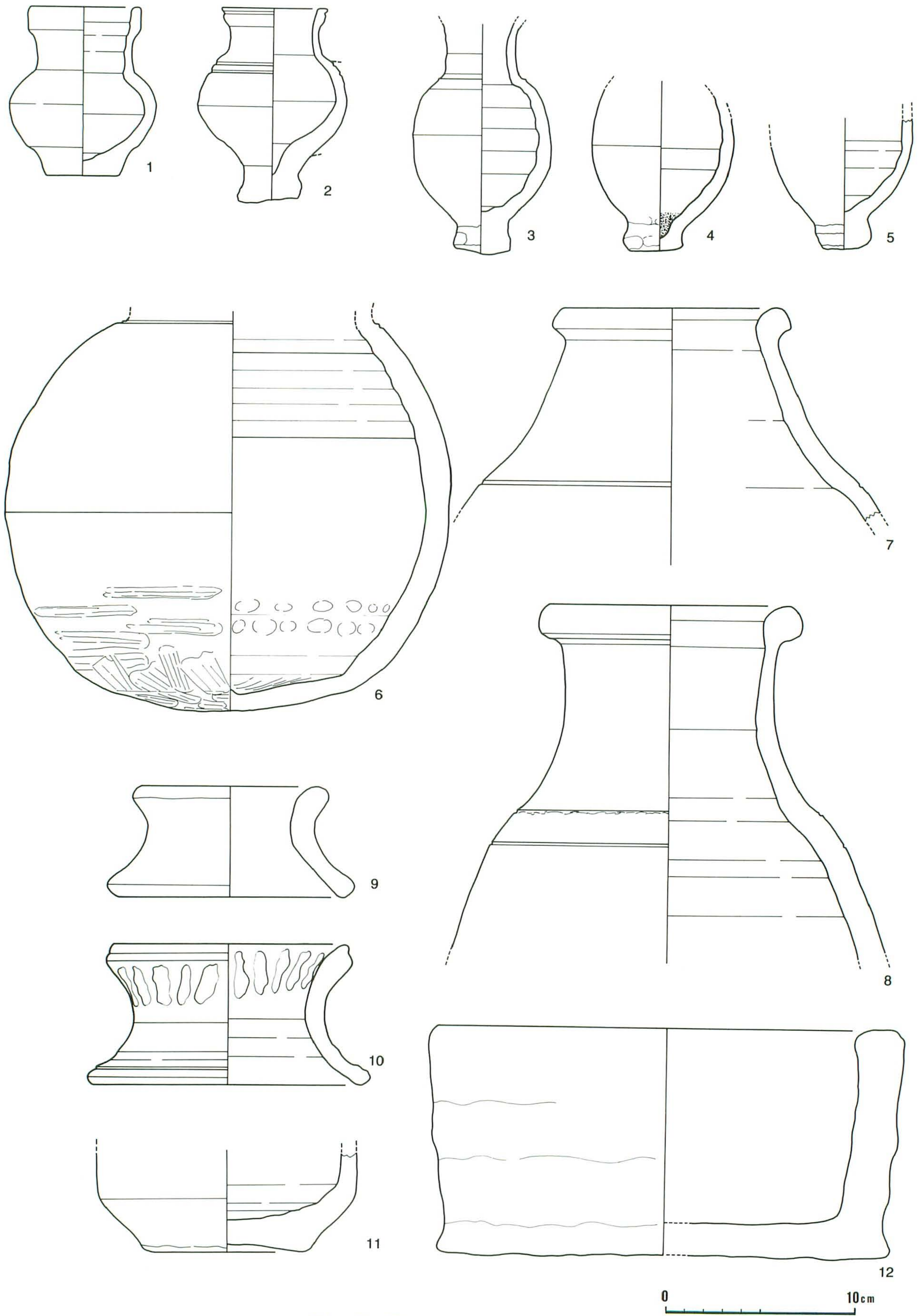


Fig. 30 The pottery of level 1.



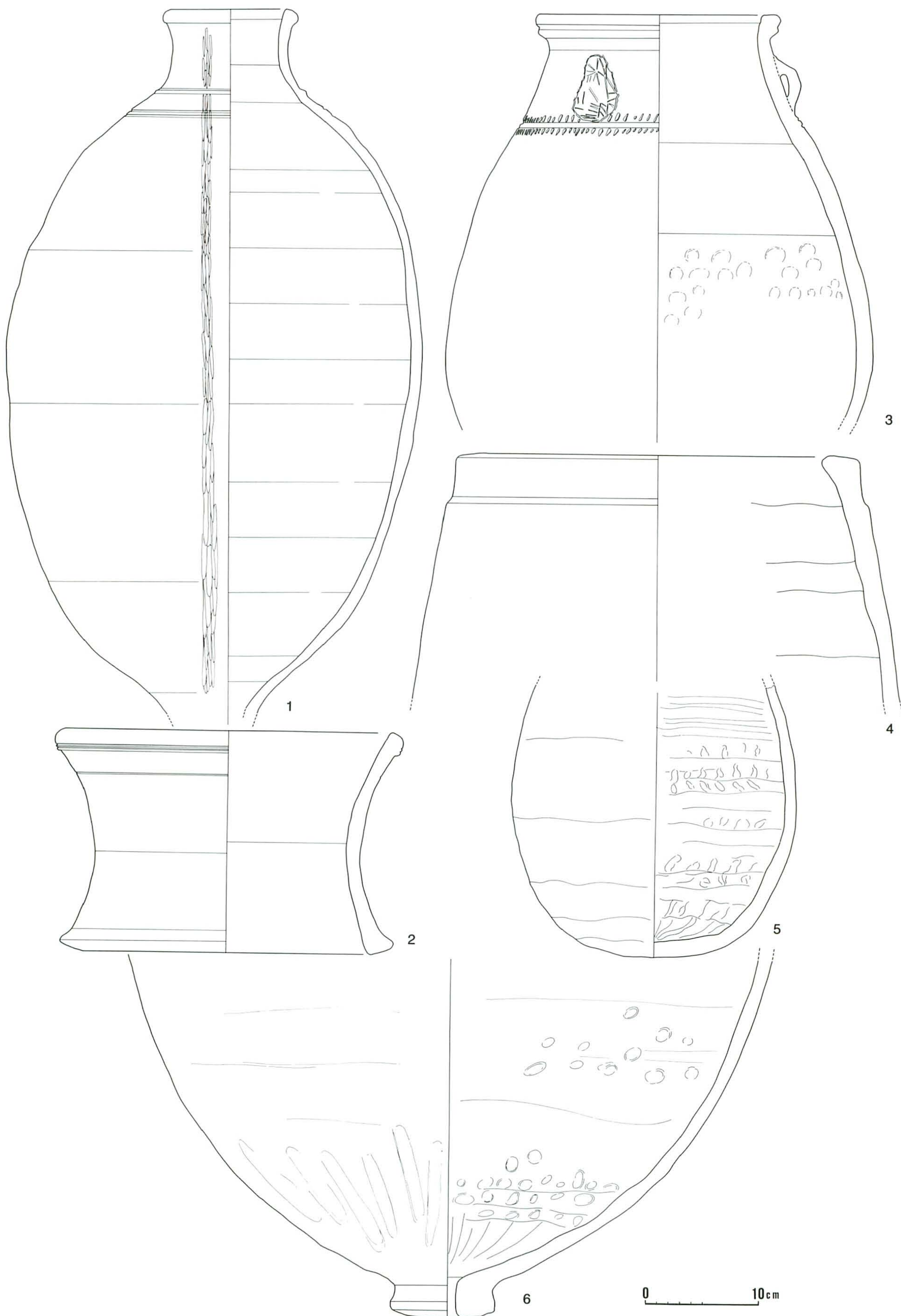


Fig. 31 The pottery of level 1.



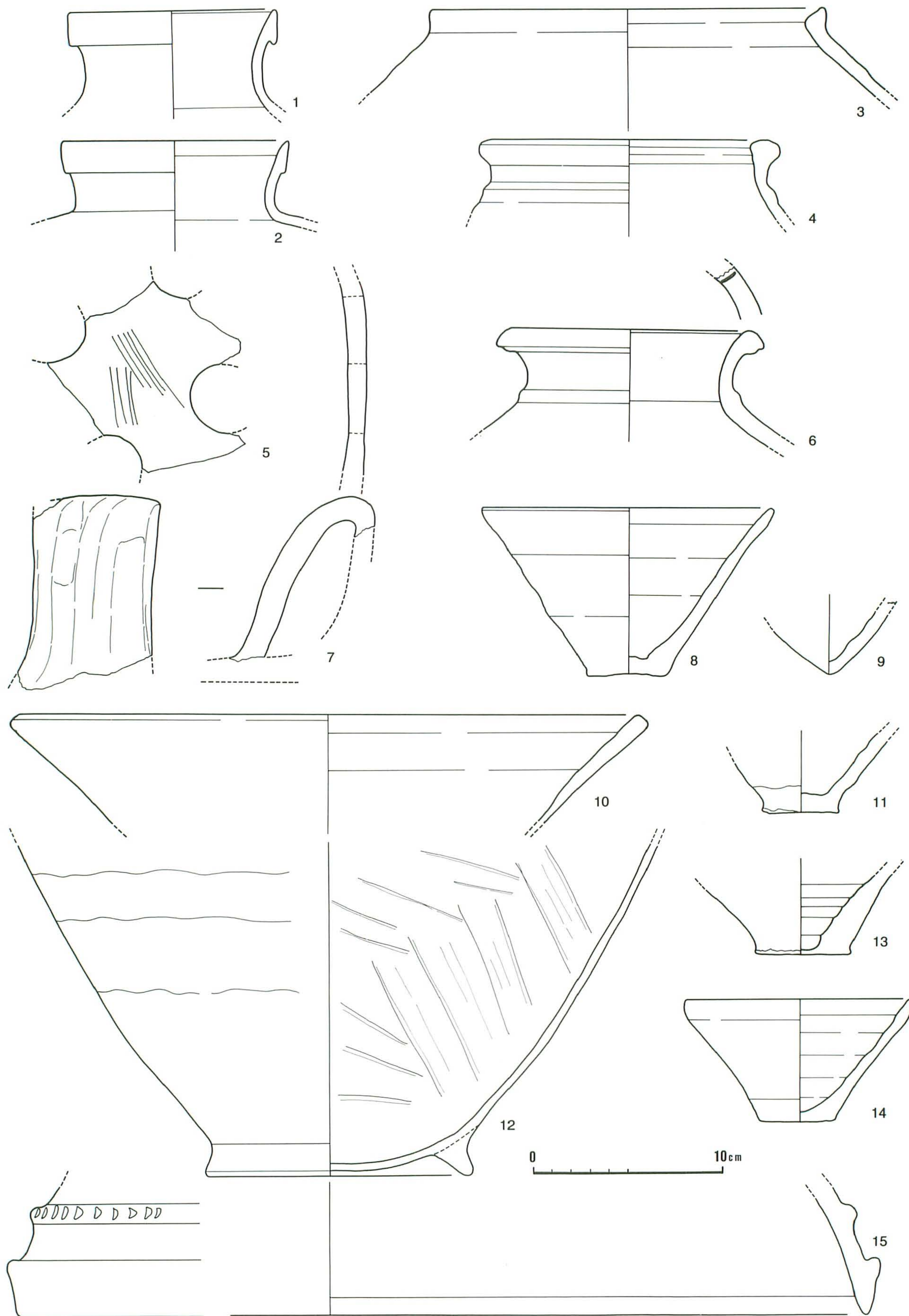


Fig. 32 The pottery of level 2.



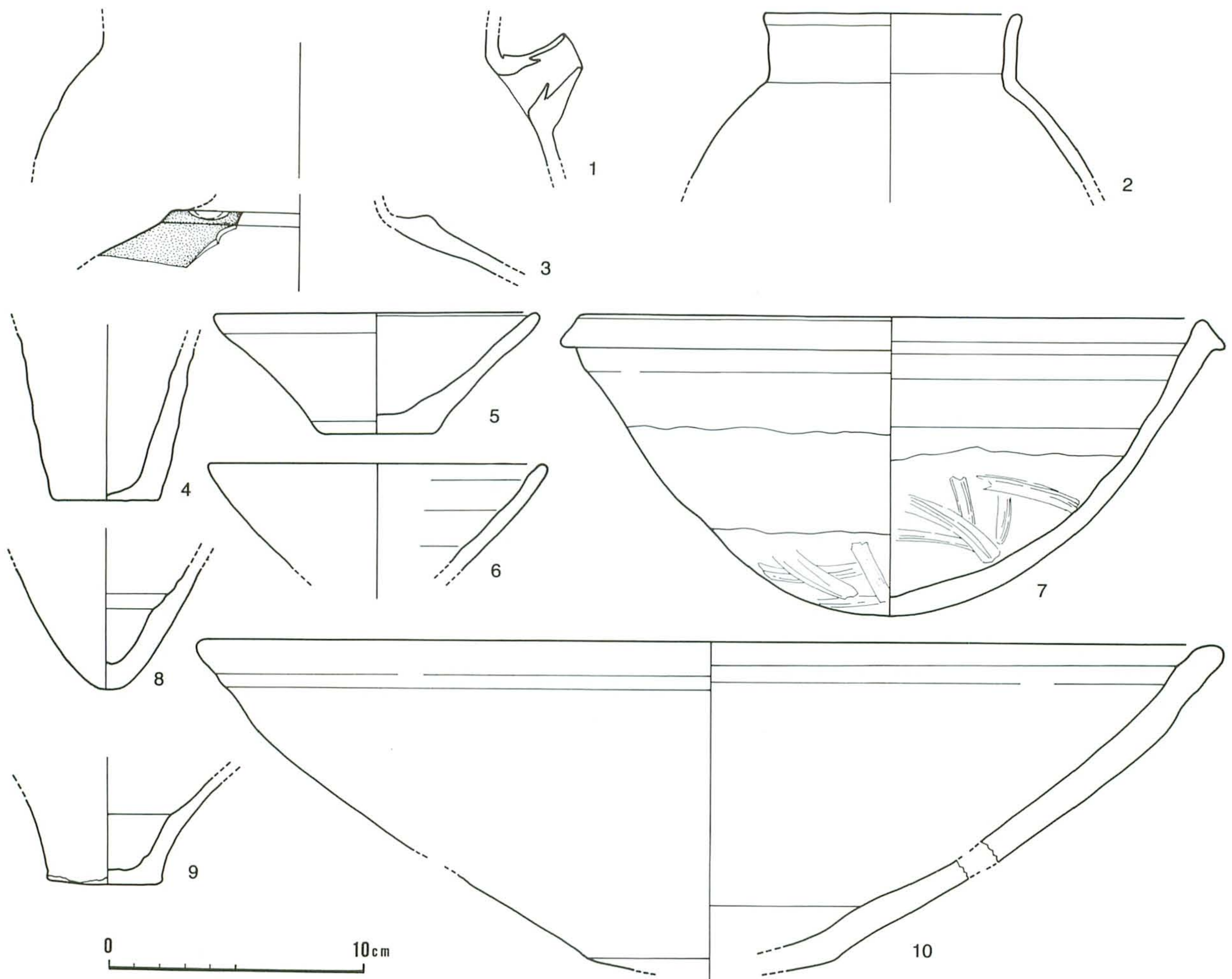


Fig. 33 The pottery of pit and level 4.

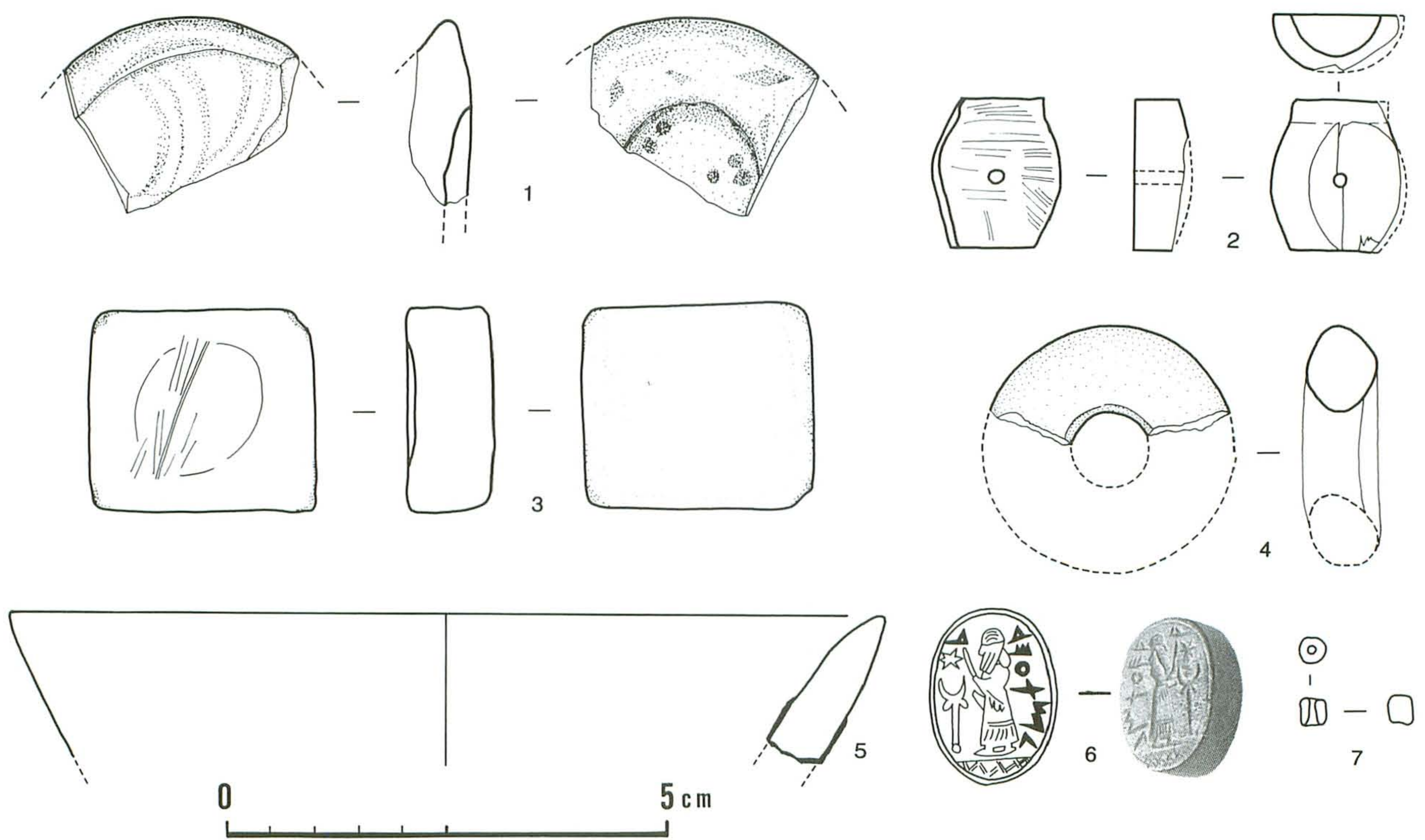


Fig. 34 The small findings.





*a.* Area JA (mound A) from Ziggurat of Ingharra.

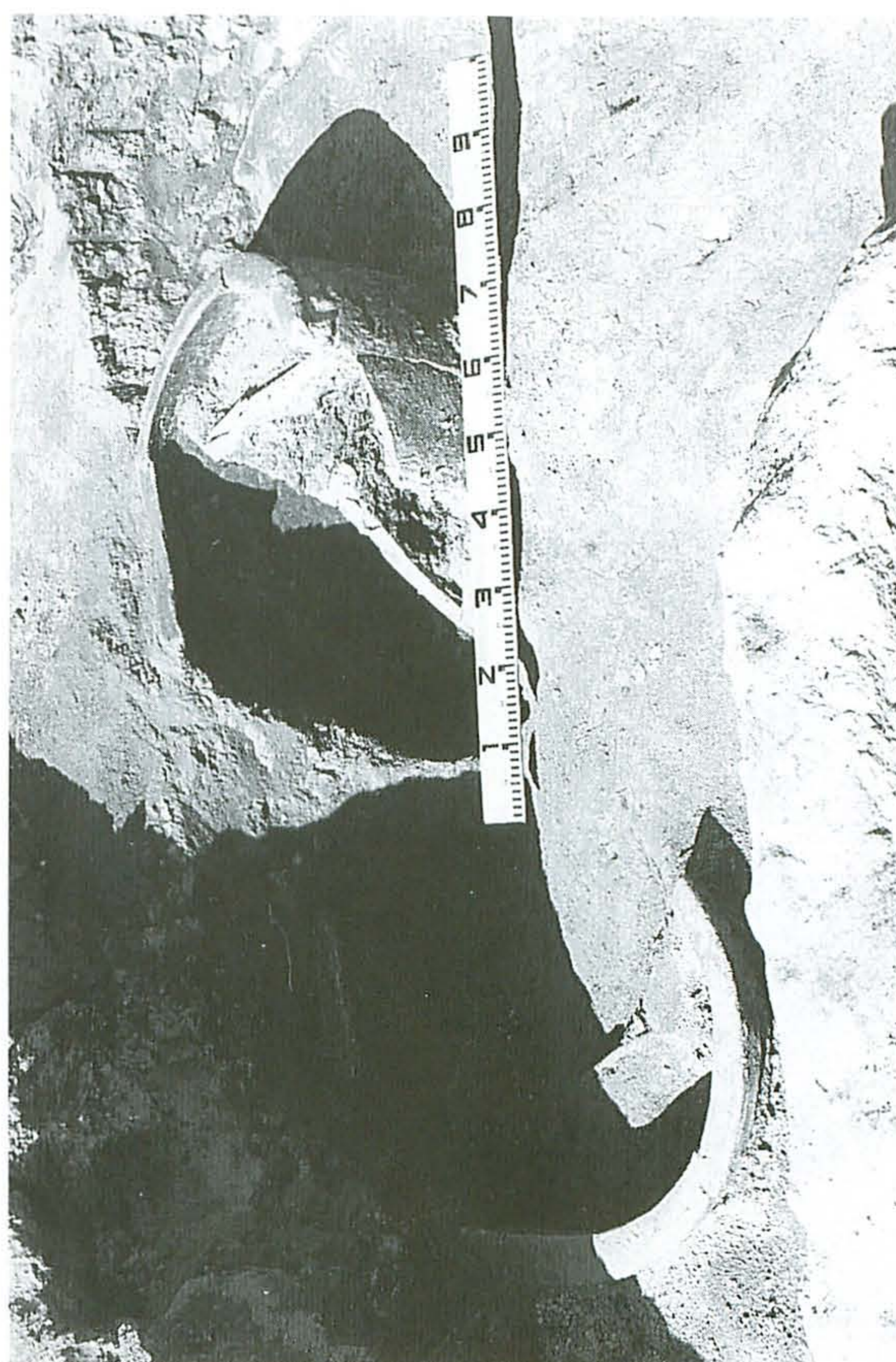


*b.* Ingharra from Area JA.





b. Grave 9.



d. Grave 16 (Jar burial) and Bathtub burial.



a. Grave 9 (Baked-brick "box" burial).



c. Grave 8 (Bathtub burial).





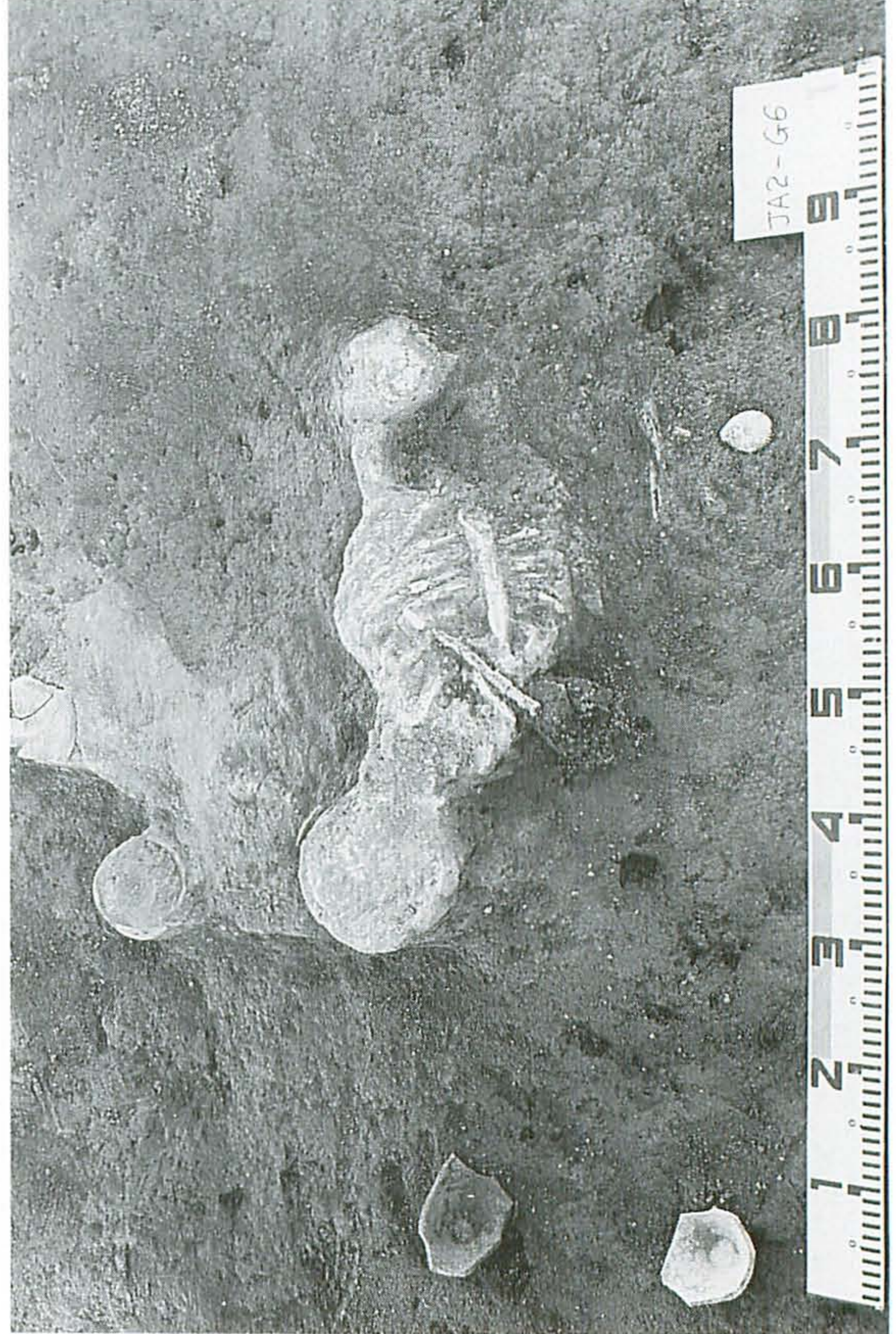
a. Grave 15 (Jar burial).



b. Grave 7 (Jar Burial).

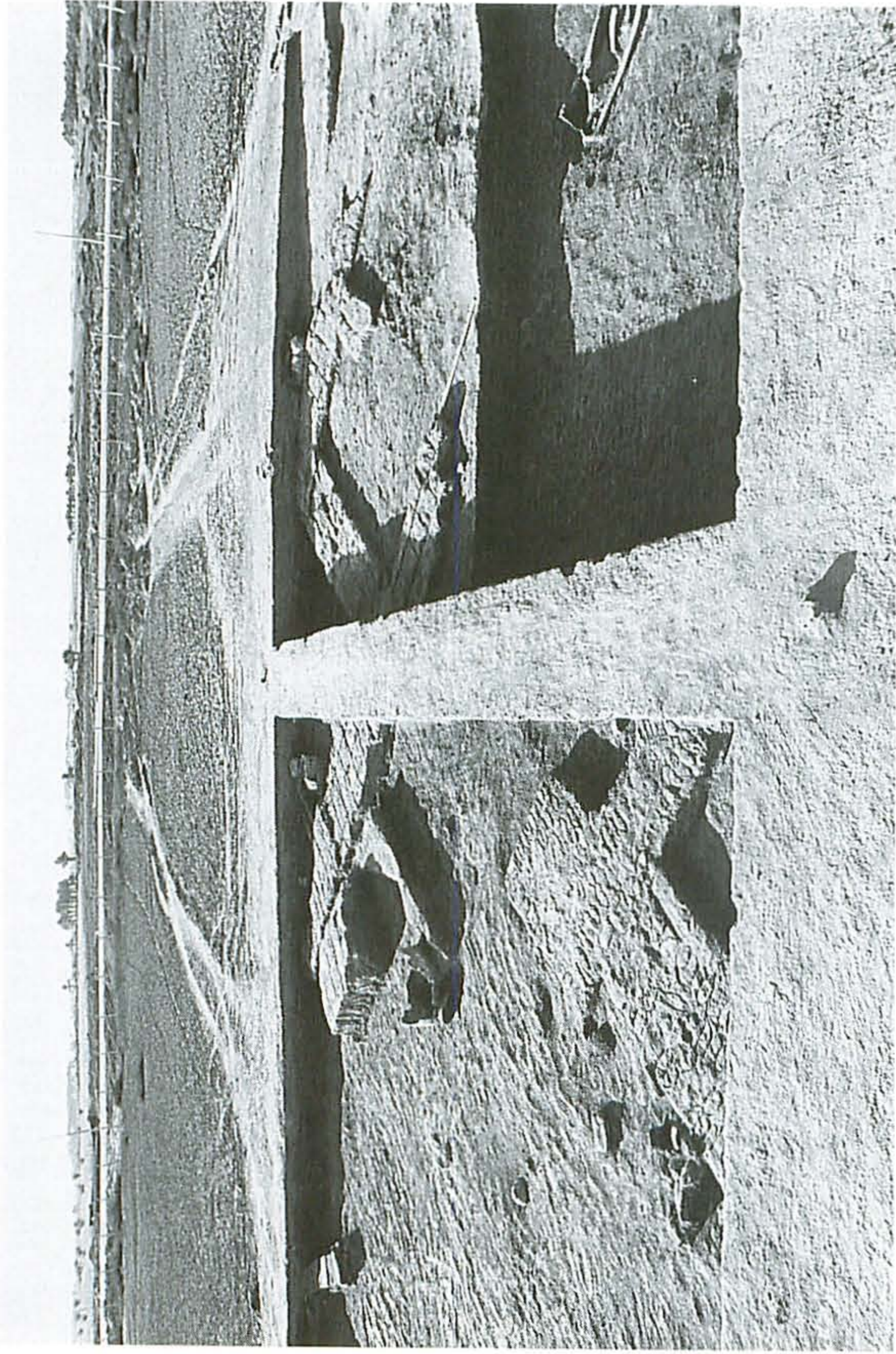


c. Grave 10 (Earth burial).



d. Grave 6 (Earth Burial).





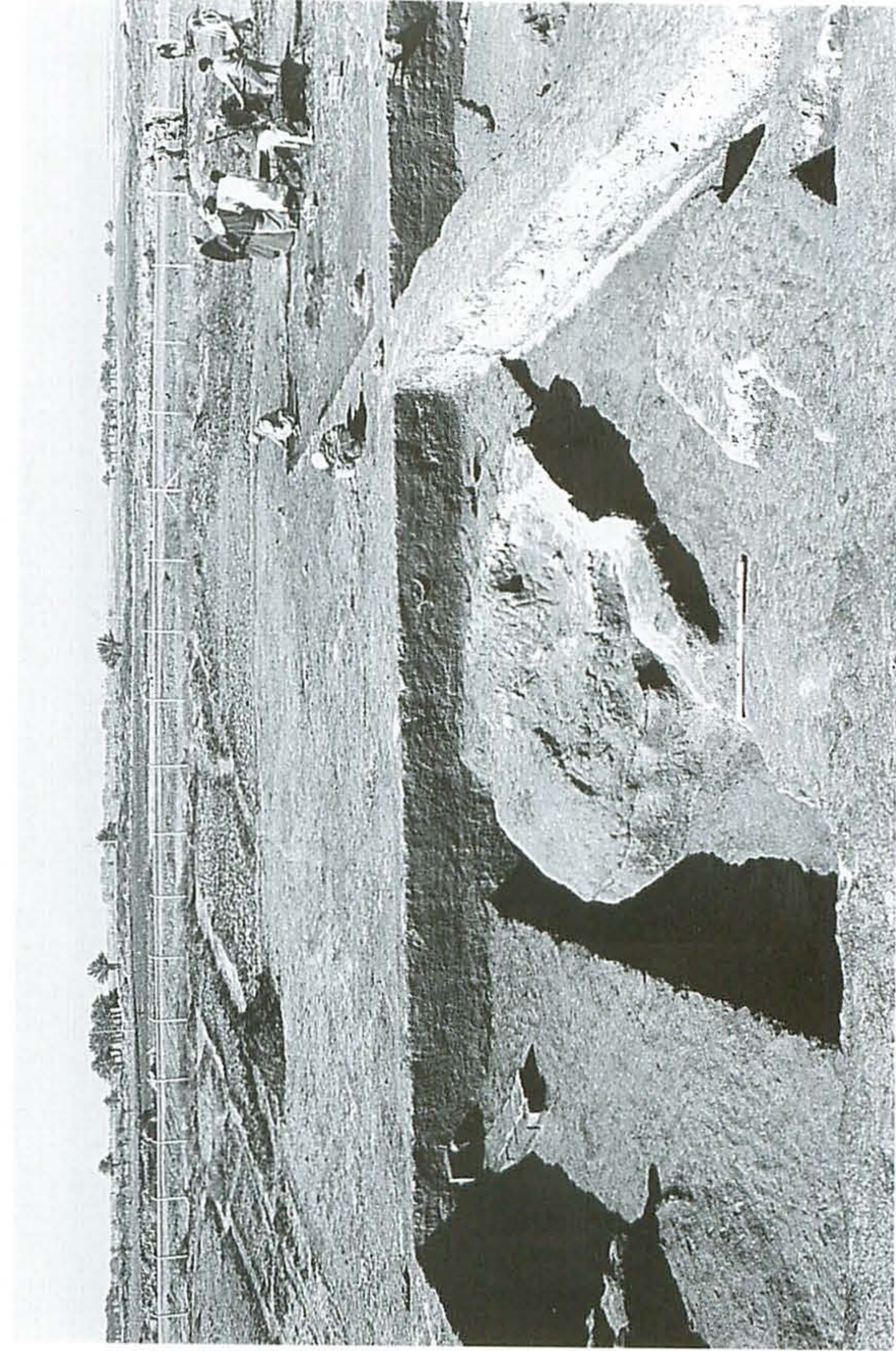
a. JA1 and JA2 of level I.



b. JA4 of level I.

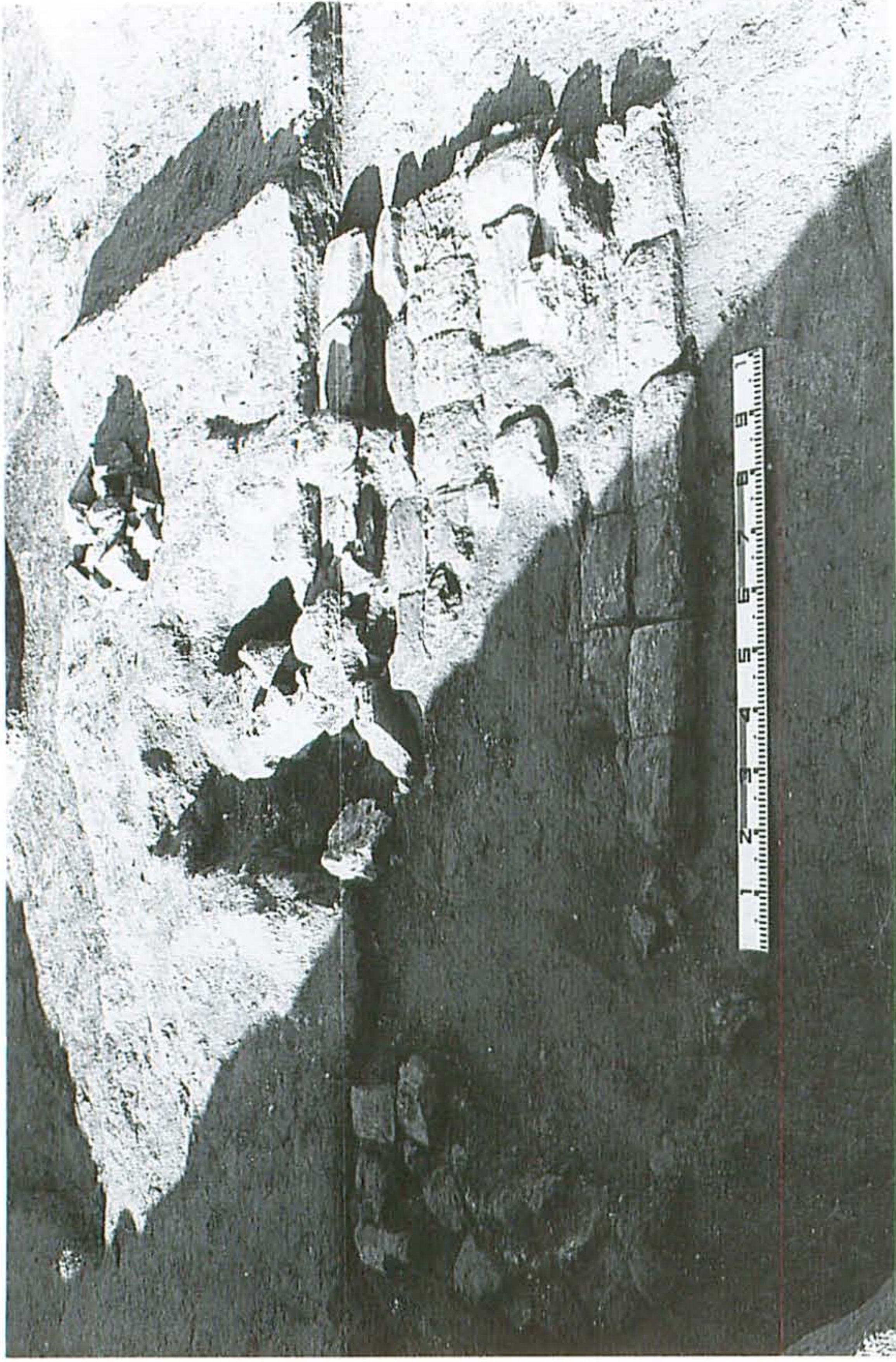


c. Pit (JA1) of level I.

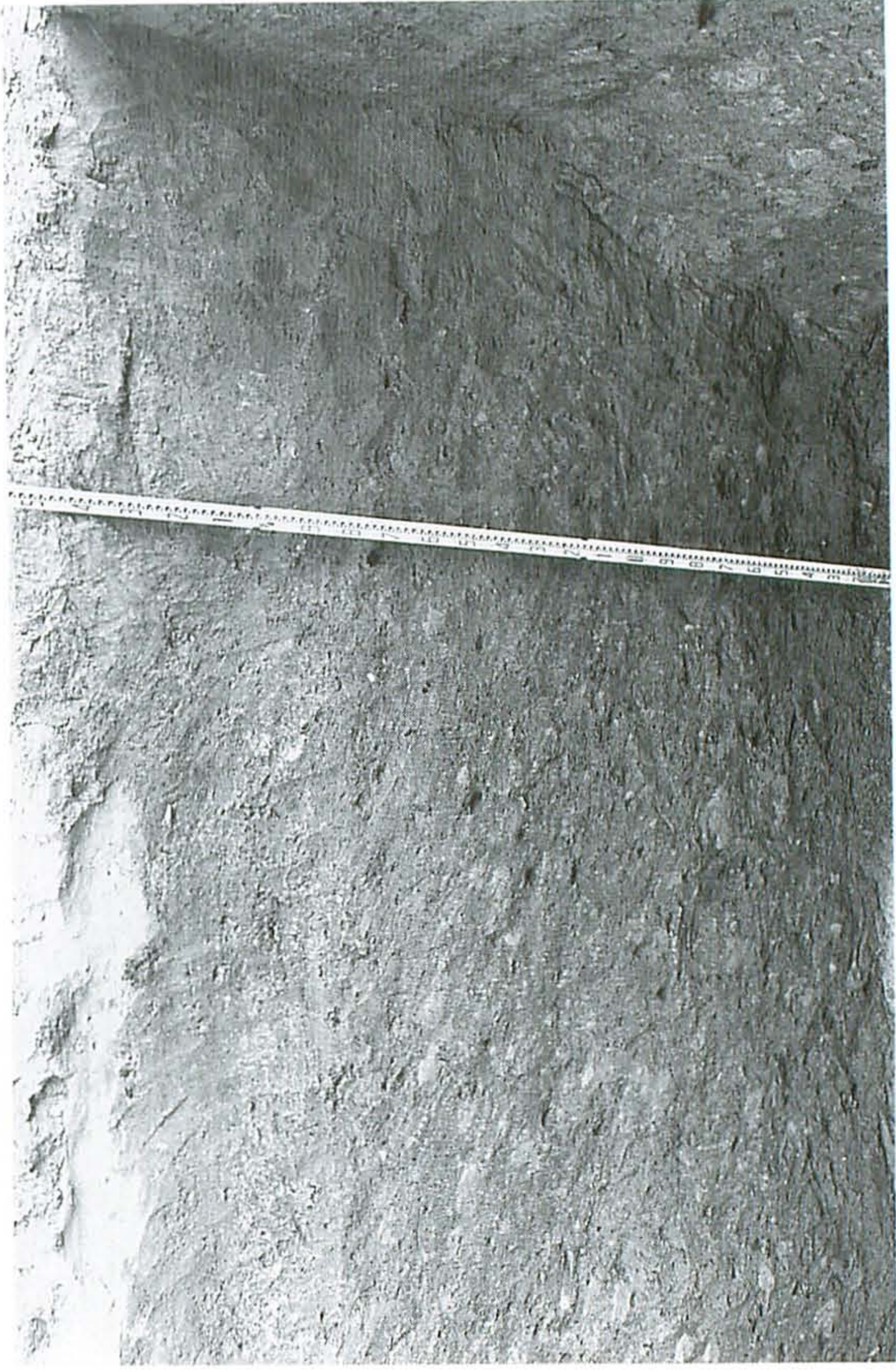


d. JA1 of level 2.





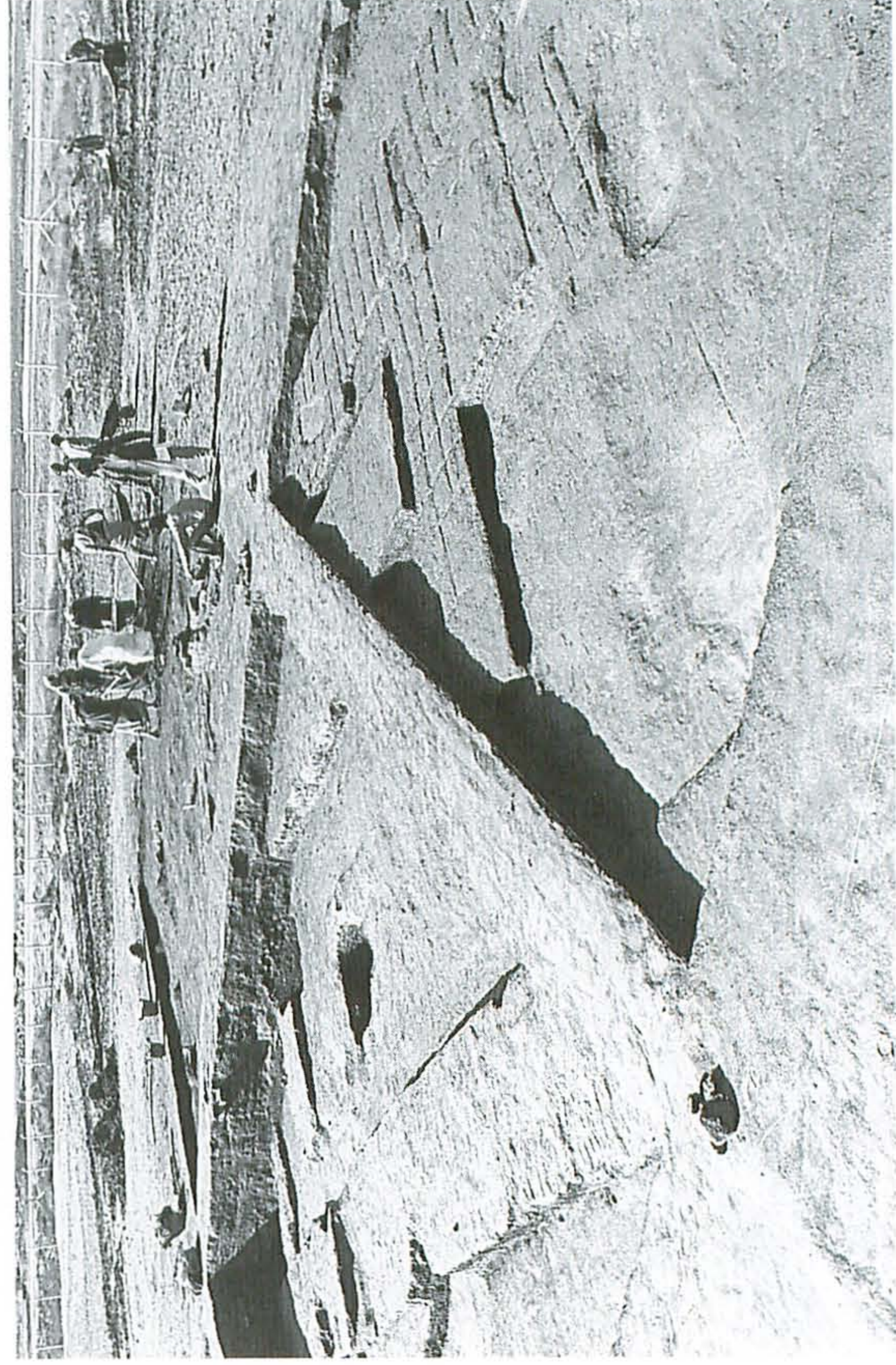
b. The abluion (JA2) in Plano-convex building, level 2.



d. Section of the deep sounding at northern JA3.



a. JA2 of level 2.



c. JA2 and JA3 of level 2.





a. Bowl (KJA-72)



b. Bowl (KJA-2)



c. Bowl (KJA-101)



d. Bowl (KJA-16)



e. Bowl (KJA-75)



f. Bowl (KJA-65)



g. Bowl (KJA-86)



h. Bowl (KJA-79)





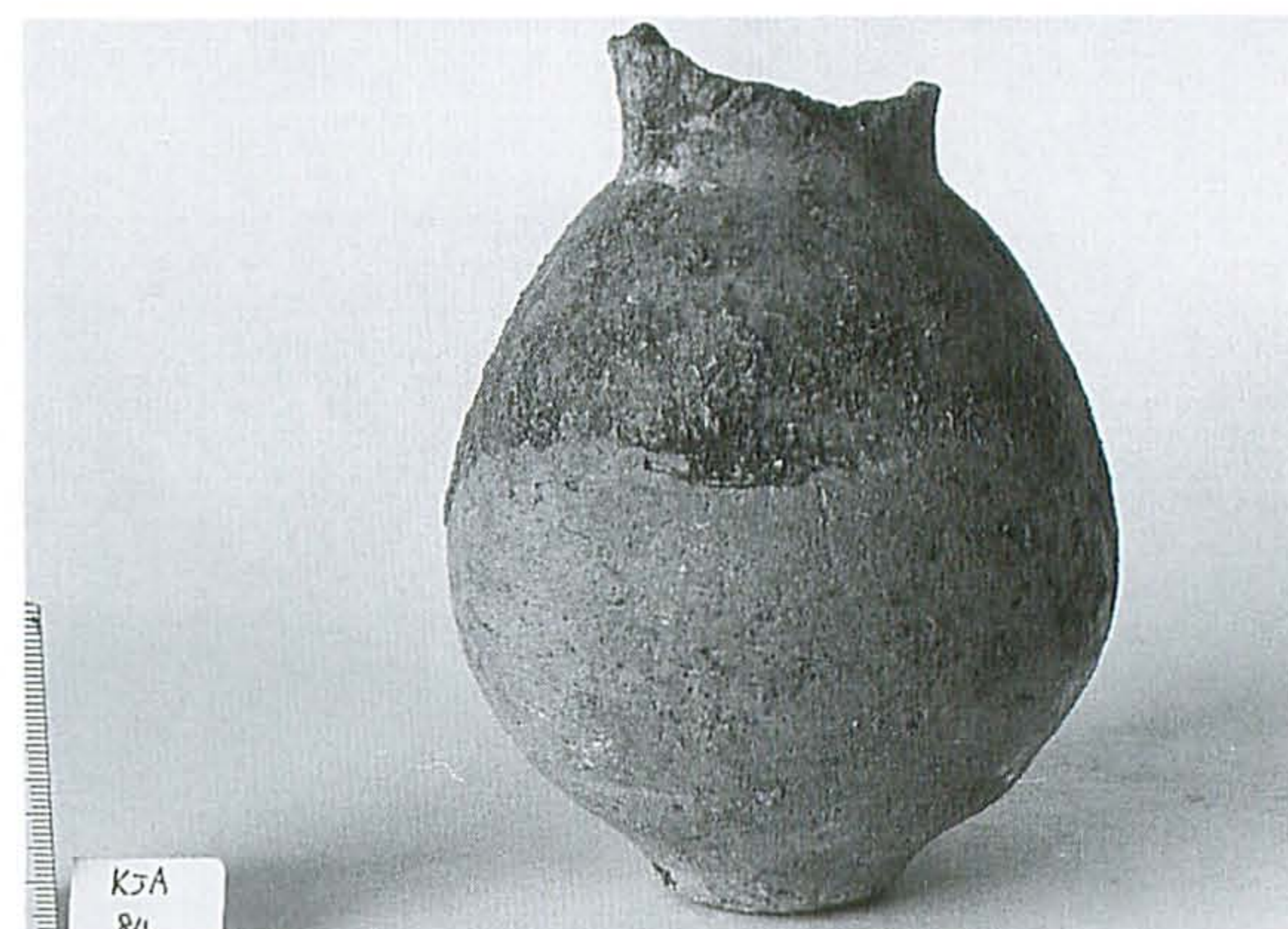
a. Jar (KJA-99)



b. Jar (KJA-44)



c. Jar (KJA-54)



d. Jar (KJA-84)



e. Stand (KJA-95)



g. Jar with a handle (KJA-103)



f. Stand (KJA-37)



h. Glazed jar (KJA-83)





a. Jar (KJA-100)



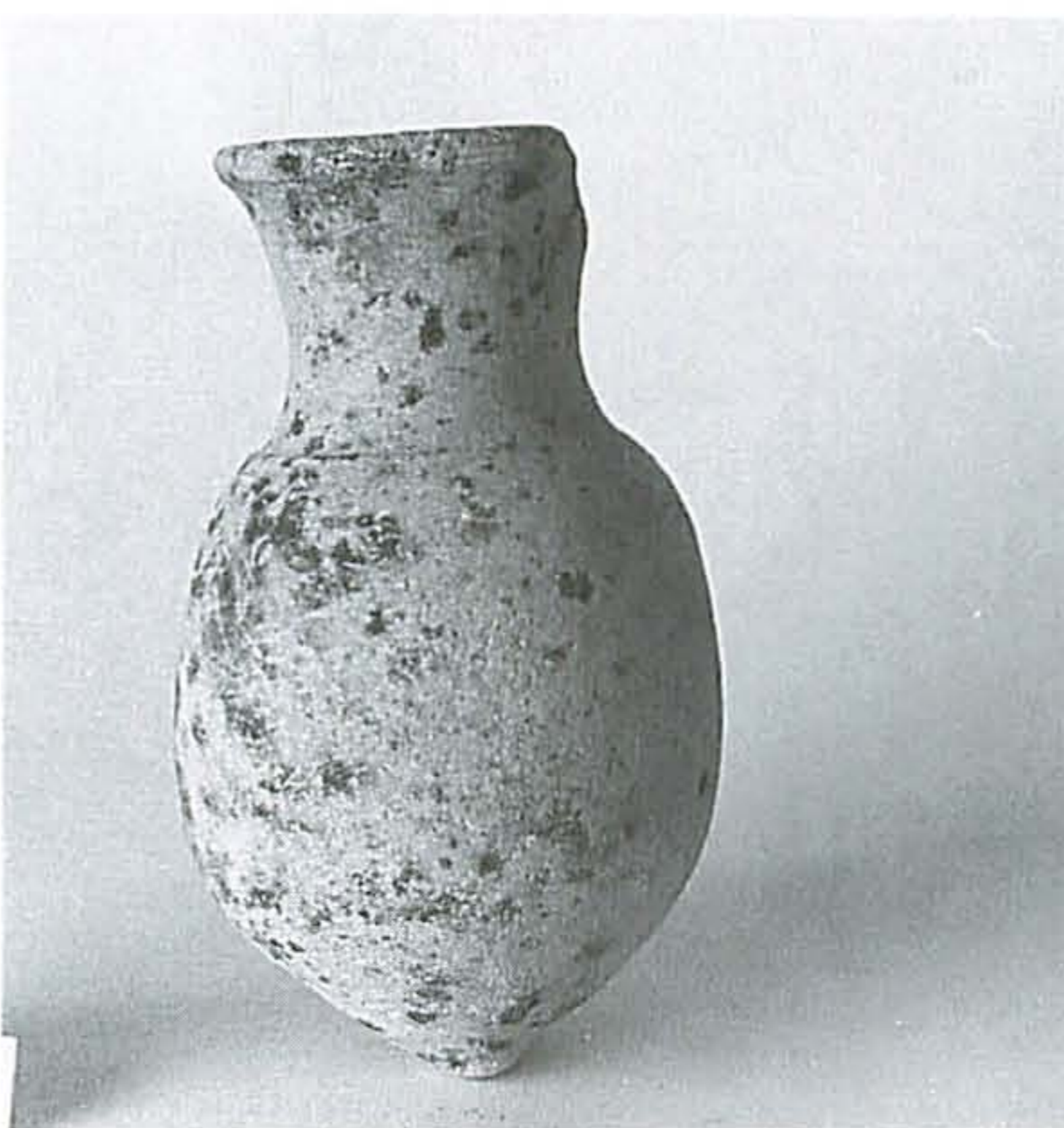
b. Jar (KJA-73)



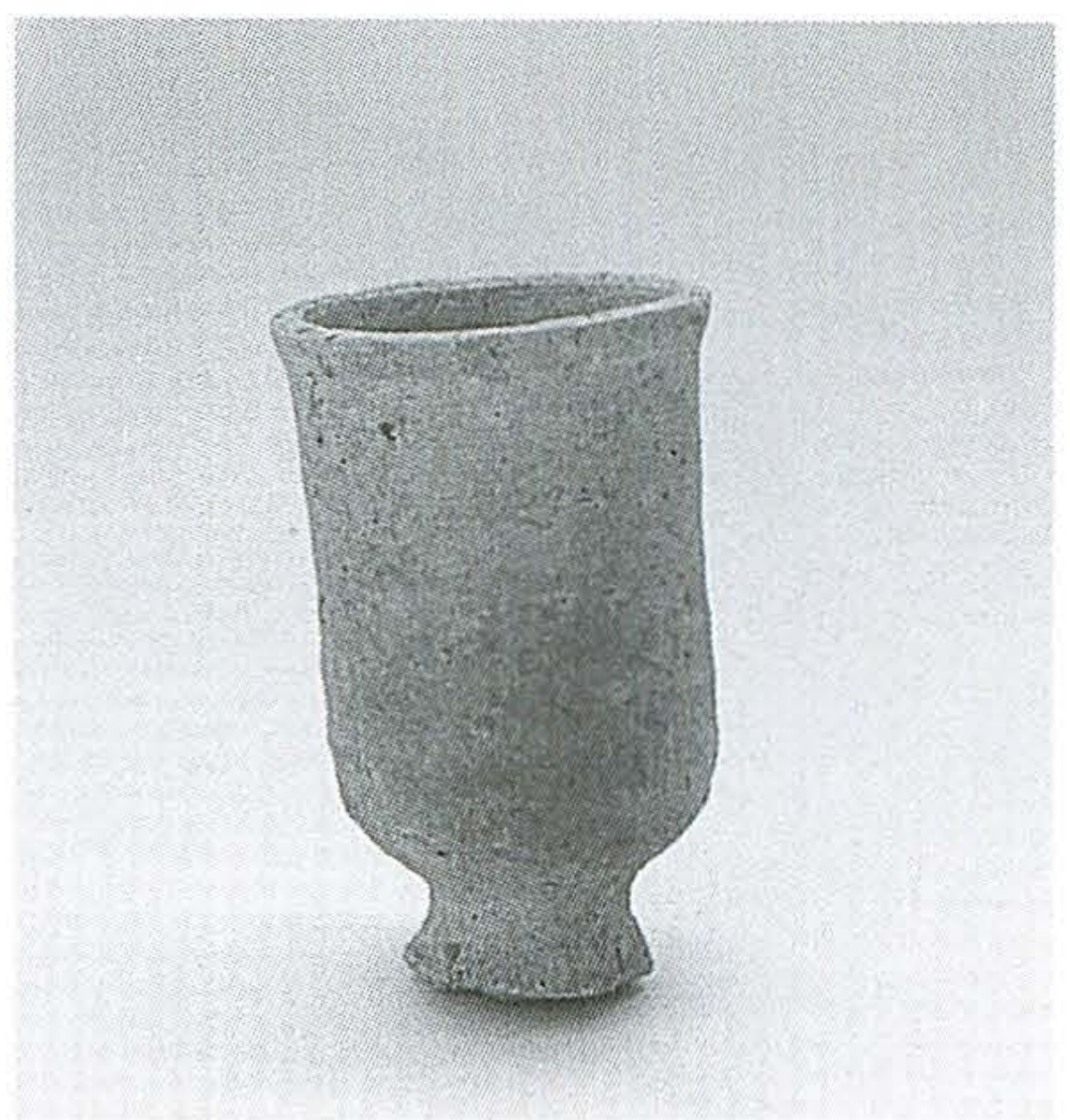
c. Glazed jar (KJA-94)



d. Glazed jar (KJA-42)



e. Jar (KJA-77)



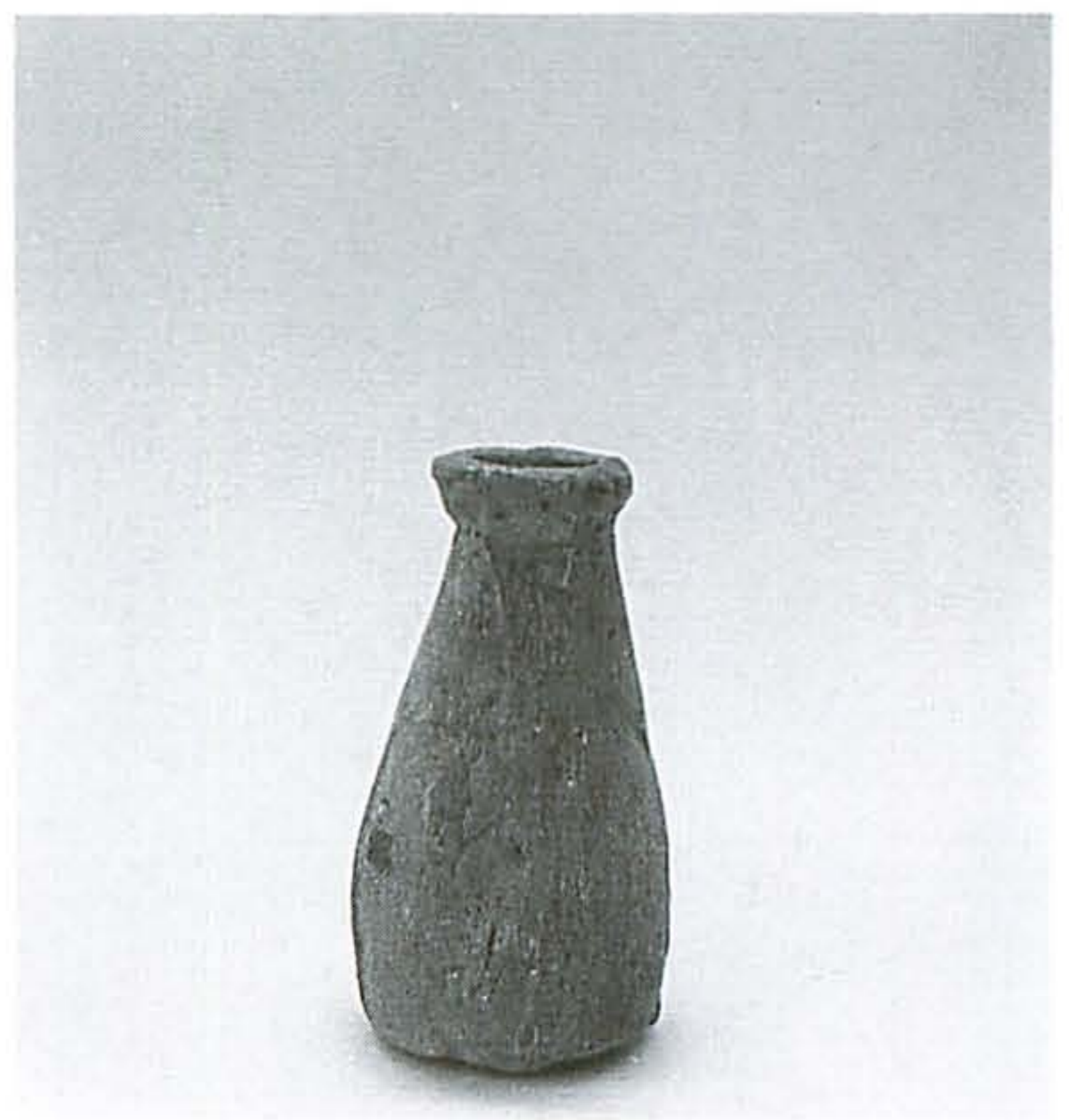
f. Beaker (KJA-102)



g. Glazed jar (KJA-90)



h. Jar (KJA-19)



i. Miniature jar (KJA-93)



j. Jar (KJA-60)



k. Jar (KJA-91)



l. Miniature jar (KJA-68)





a. Spatula-scraped adjustment traces.



b. Spatula-scraped adjustment traces.



c. Picked traces on the bottom of bowl.



d. Picked traces on the bottom of bowl.



e. Ring base of the jar (KJA-89)



f. Bowl (KJA-82)



g. Deep bowl (KJA-12)

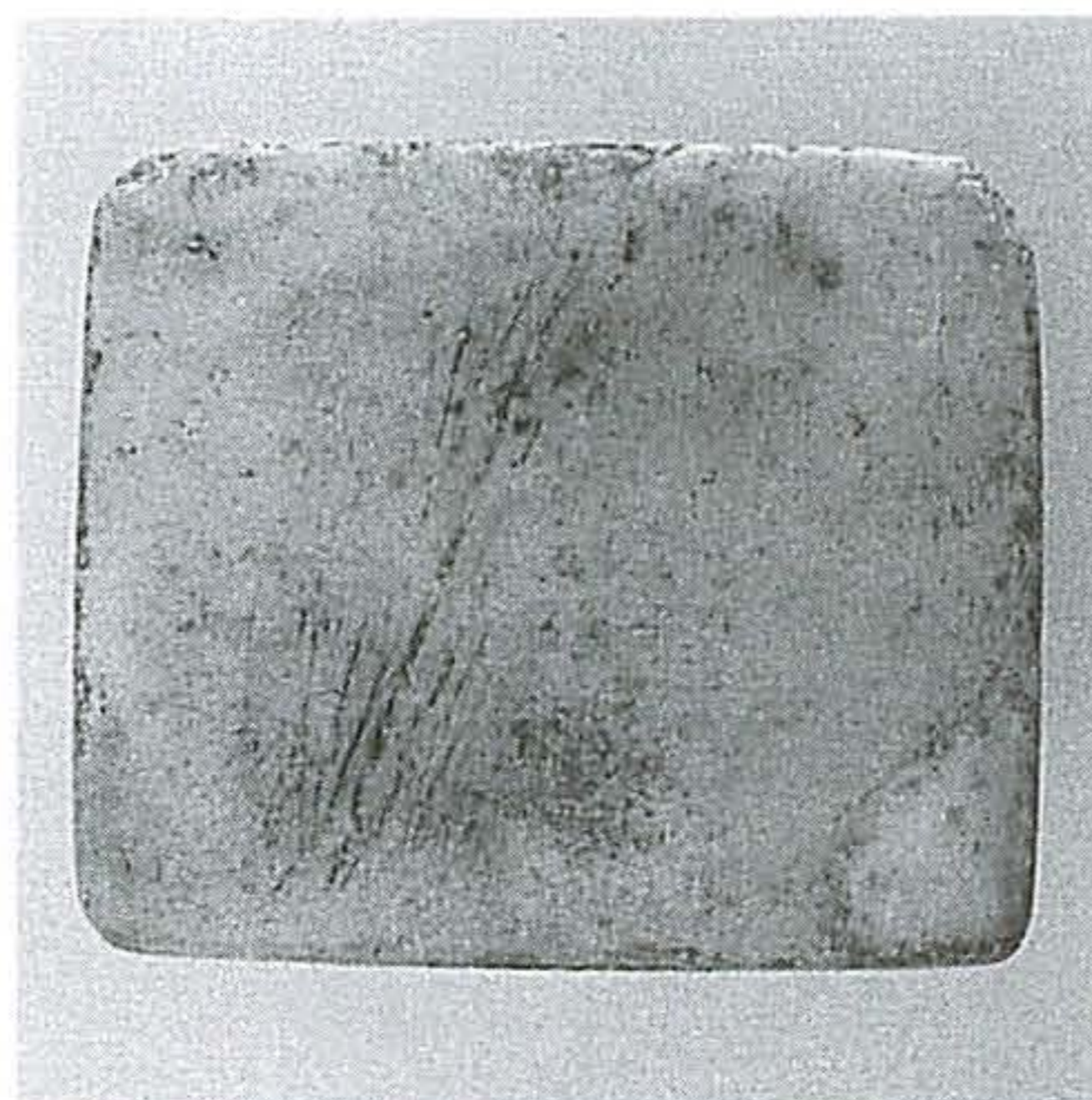


h. Conical bowl (KJA-13)





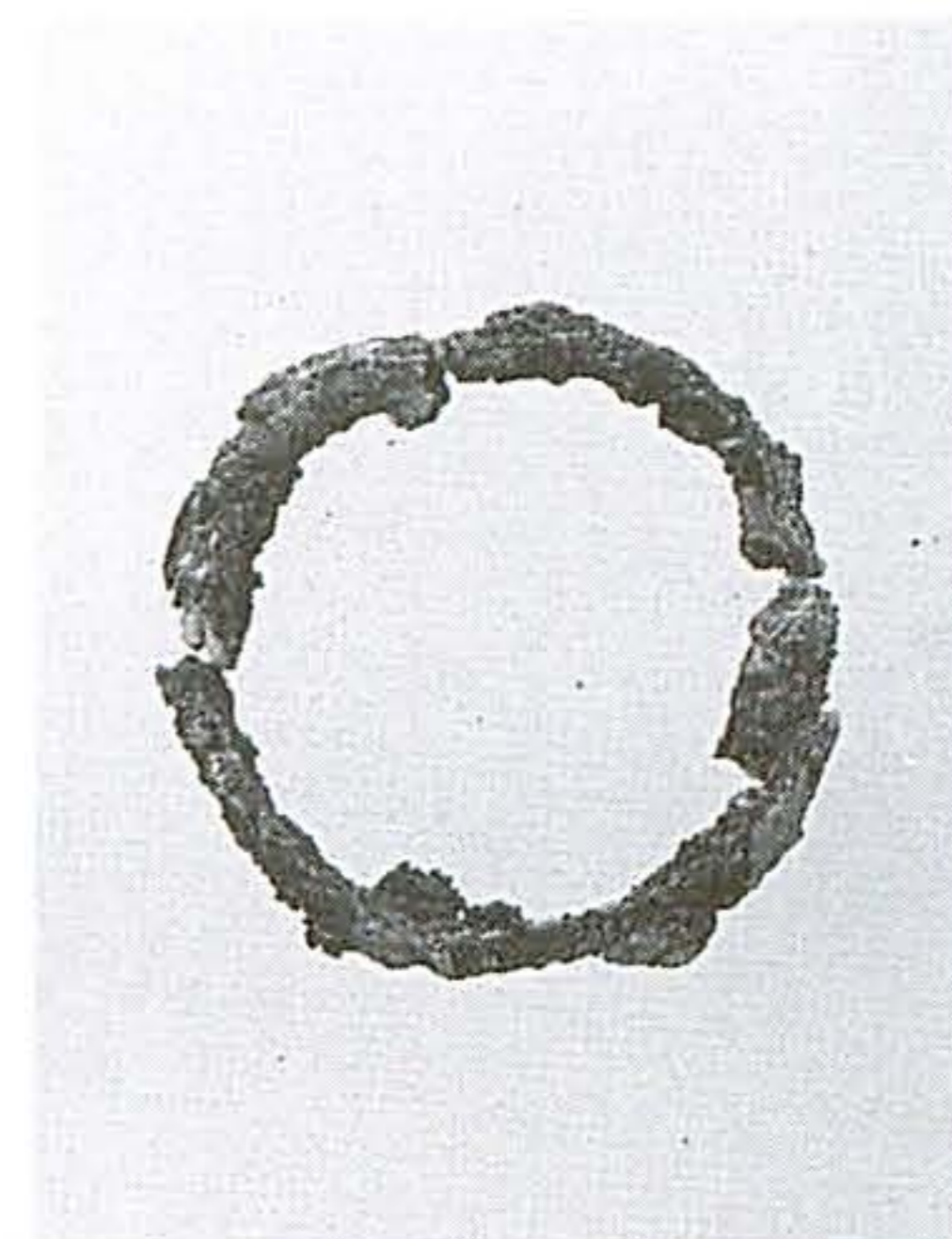
a. Stamp (KJA-1)



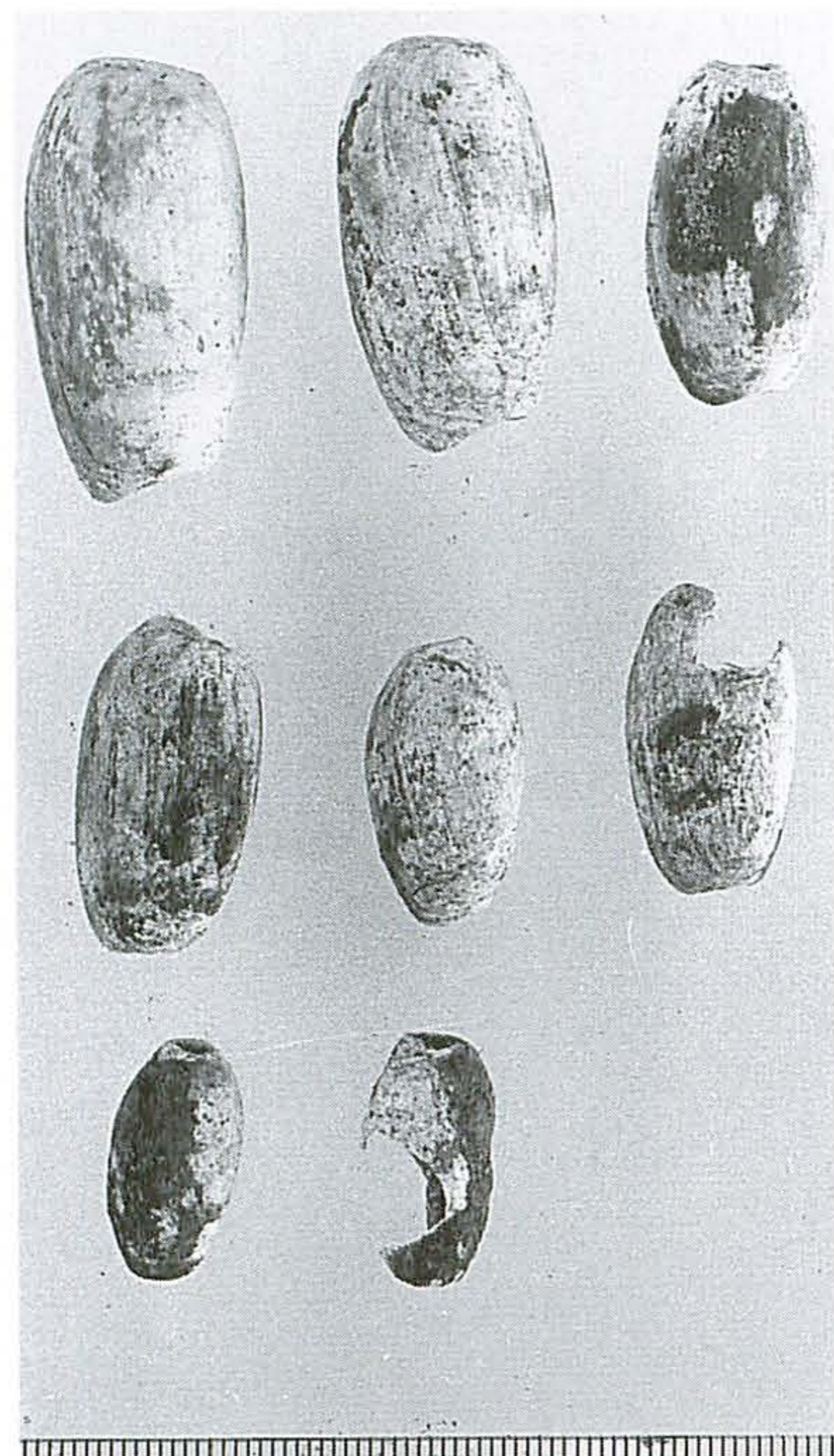
b. Stone object (KJA-56)



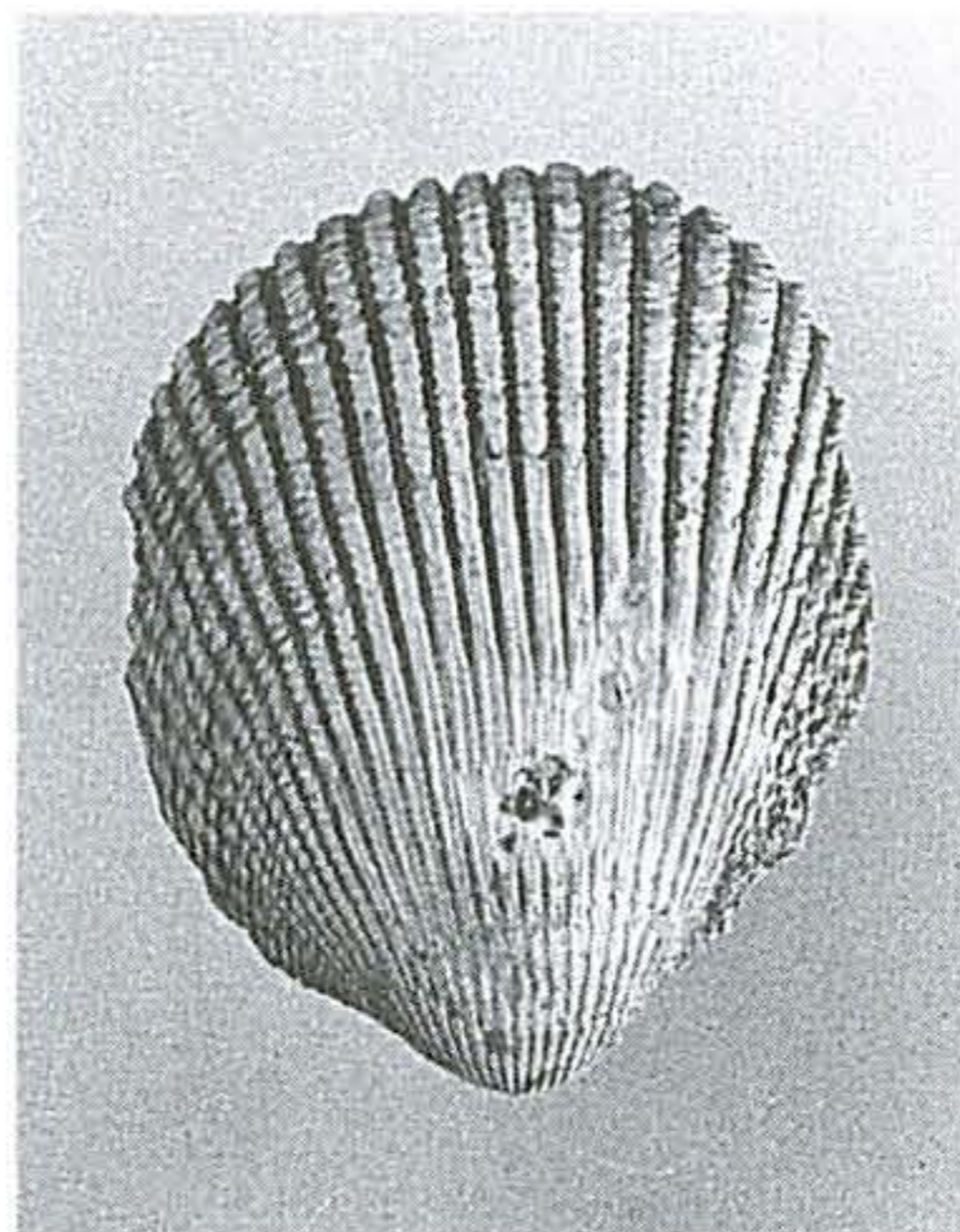
c. Ivory object (KJA-18)



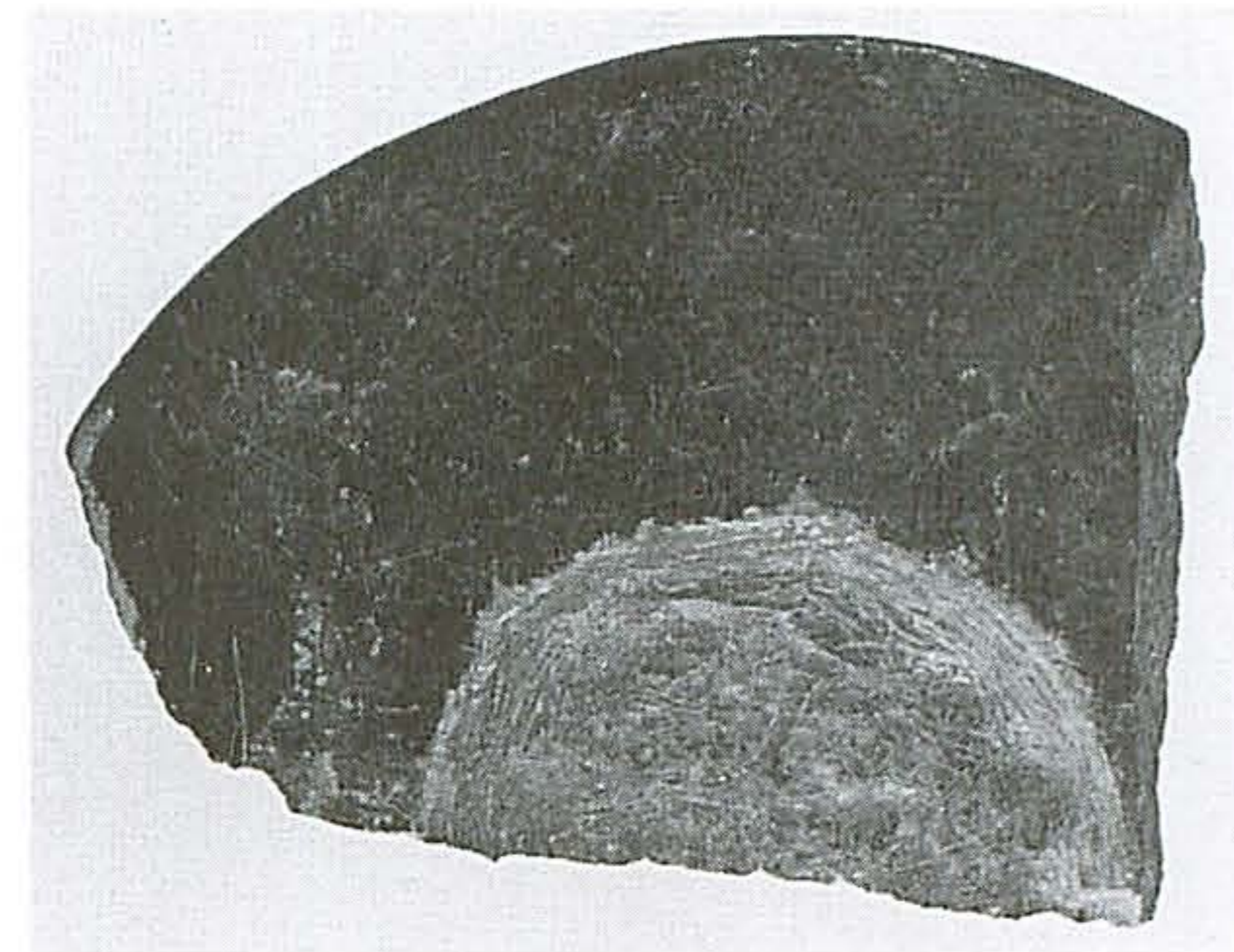
d. Bronze ring (KJA-51)



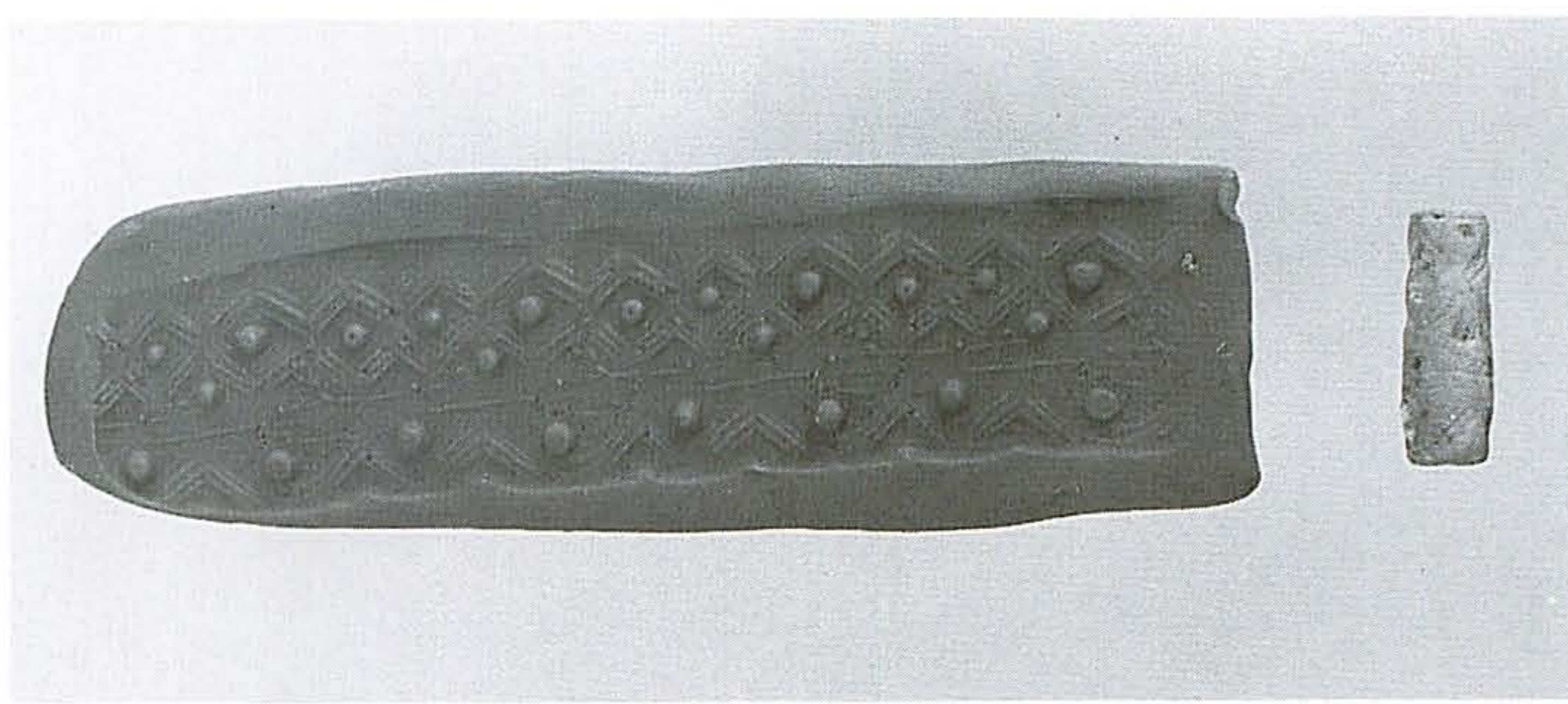
e. Shell (KJA-50)



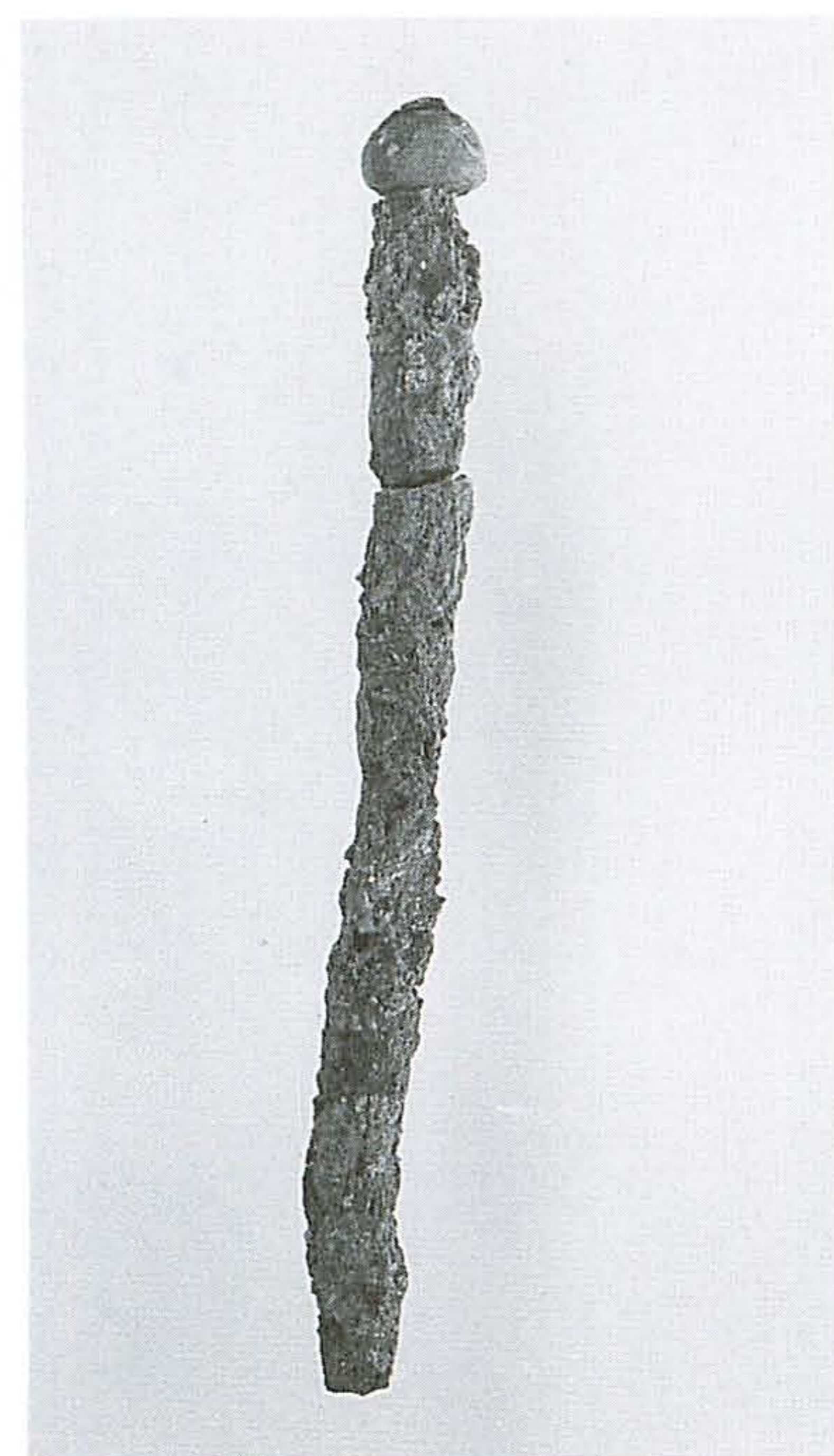
f. Pigment shell (KJA-11)



g. Inlay object (KJA-58)



h. Cylinder seal (KJA-10)



i. Bronze pin (KJA-9)



j. Necklace (KJA-45)



k. Necklace (KJA-11)



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  8. 本文中に引用文献を指示するときは、大括弧の中に、著者名、刊行年次、引用ページの順序で記載する。  
例) [松井 1960: 30~135]  
 [大岡 1987: fig. 12; Naharagha 1981: 45ff]  
ただし同一著者による同年刊行物が複数ある場合は、年次にアルファベットを付して区別すること。
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2. 原稿の第1ページ（表紙）には、論題（タイトル）および著者の住所、氏名、所属だけを記し、論題の英訳を



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[Childe 1956: 30–32]  
[Annahar 1943: 123; Agha 1946: pl. 15]

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1. The manuscript should be typed on one side only of



正 誤 表 CORRIGENDA

(Vol. XI)

	誤 errors	正 corrections
p. 10 Pl. 1: b	(Photo by T. J. Wilkinson)	(Photo by J. Wilkinson)
p. 30 l. 5	immediately	immediately.
p. 35 l. 14	<i>apres</i>	<i>après</i>
l. 14	<i>pere</i>	<i>père</i>
l. 21	<i>decapita</i>	<i>décapita</i>
p. 39 l. 29	may have had	may have
l. 33	ilke	like
p. 41 l. 37	scene	scène
p. 43 l. 5	represente	représente
p. 72 l. 10	ANALYSS	ANALYSIS
p. 108 l. 7	St. Goerge	St. George
p. 110 l. 32	[Stillhell et al.	[Stillwell et al.
p. 149 l. 29	“SE”	“ŠE”
p. 159 l. 28	“SE”	“ŠE”
(in Remarks & References)		
p. 189 l. 19	that the a dead body's	that a dead body's
p. 197 Fig. 5: b	(leve II)	(level II)
p. 201 l. 21	<i>summer</i>	<i>Sumer</i>
p. 222 l. 33	fıom	from

Line 27 in p. 42, Pellat, Ch. and Mas'ūdī, *Les Prairies d'Or*, t. 1, Paris, is to be changed to:  
Pellat, Ch. and Mas'ūdī  
1962 *Les Prairies d'Or*, t. 1, Paris.

On pp. 103–112, the publication year of *al-Rāfidān* 10, described as 1990 in brackets for citation and in the Bibliography, is to be changed to 1989.



### 編集後記

今回の編集作業は、小口和美助手の実質的な協力なくしては完遂されなかったであろう。  
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