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	誤 errors	正 corrections
p. 30 line 5	immediately	immediately.
p. 35 line 14	apres	après
line 14	pere	père
line 21	decapita	décapita
p. 39 line 29	may have had	may have
line 33	ilke	like
p. 41 line 37	scene	scène
p. 43 line 5	represente	représente
p. 72 line 10	ANALYSS	ANALYSIS
p. 149 line 29	"SE"	"ŠE"
p. 159 line 28	"SE"	"ŠE"
(in Remarks & References)		
p. 201 line 21	summer	Sumer

Line 27 in p.42, Pellat, Ch. and Mas'ūdi, *Les Prairies d'Or*, t.1, Paris.,
 is to be changed to: Pellat, Ch. and Mas'ūdi
 1962 *Les Prairies d'Or*, t.1, Paris..

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TELL AL-HAWA AND THE DEVELOPMENT OF URBANIZATION IN THE JAZIRA

Warwick BALL*

Introduction

Recent studies in the archaeology of the Mesopotamian-Anatolian borderlands—referred to as the Jazira in this article—have posed many new questions on early urbanization and the spread of cultures in the North [e.g., Weiss, ed., 1986 and 1990; Algaze, 1989]. This in turn poses the question of a separate regional/cultural identity for the Jazira, in particular whether the development of urbanization was a process imported from southern Mesopotamia or a purely indigenous one.

Tell al-Hawa is one of the main sites in this region. It became a town or city of up to 50 hectares in Uruk times, with remains—presumably monumental—up to 25 metres above the plain. It expanded in subsequent periods in the 3rd and 2nd millennia to a city of at least 66 hectares. Moreover, it had important Chalcolithic antecedents. It thus forms an ideal model to illustrate the process of urbanization in the Jazira.

Tell al-Hawa forms a useful model for another reason. It is one of the few large-scale urban sites in the Near East that has been the subject of intensive surface investigations to determine the various sizes of settlement through successive periods. These investigations, carried out by David Tucker, obtained accurate information on the development of the city and estimates of settlement sizes [Ball, Tucker and Wilkinson, 1989: pp.20-39] which, when checked by excavations, proved accurate [Ball, 1990]. The development of urbanization in the Jazira is, therefore, more accurately documented at Tell al-Hawa than perhaps at many other similar sized sites in the region.

Before discussing this process at Tell al-Hawa it is necessary to define the Jazira in cultural, political and geographical terms (both physical and human), in order to ask whether it can be considered a cultural region with its own identity, distinct from other regions. Such a subject is, of course, an immense one that requires far more detailed treatment than is possible here, so it is only intended to provide the briefest summary in order to highlight the main characteristics of the Jazira region, focussing on those periods when urbanization was a particular factor.

The Jazira (Fig.1)

The Jazira today sits astride the borders of three countries: Turkey, Syria and Iraq. The area—or parts of it—is usually referred to as Northern or Upper Mesopotamia or, occasionally, Northeastern Syria or even Syro-Mesopotamia or Southwestern Anatolia. Such terms seem to depend as often as not on the cultural standpoint of the person describing the region, and are indicative more of modern political boundaries than cultural realities in antiquity, obscuring the essential homogeneity of the region. In particular, the term “Northern Mesopotamia” carries with it the connotations of simply a cultural offshoot of Southern Mesopotamia (i.e., Sumer and Babylonia)¹. The name “Jazira”

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therefore, is suggested to escape from such cultural bias in an attempt to examine the region in its own terms.

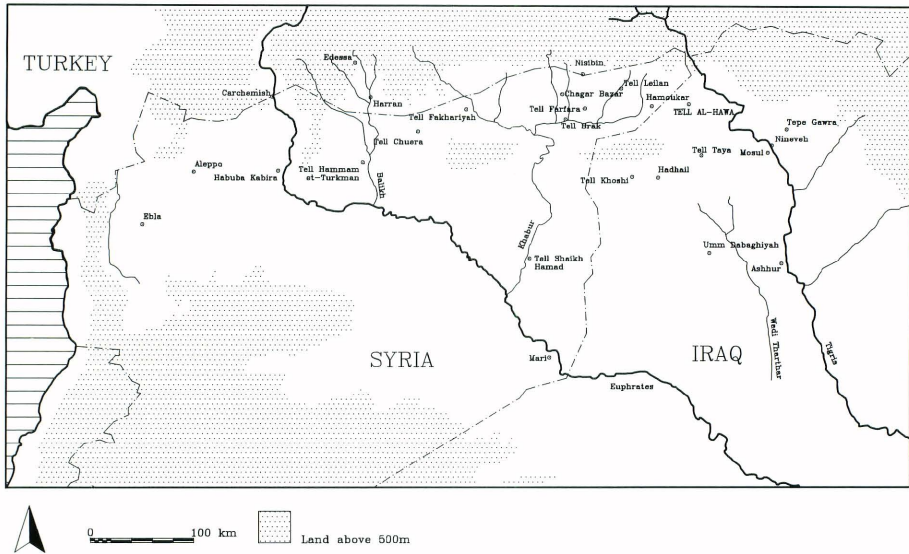


Fig.1 Map of the Jazira, showing sites mentioned in the text

Physical geography

The region gets its name, Jazira (Arabic *al-jazīra*, meaning “Island”) from the broad sweep of the upper arms of the Tigris and Euphrates Rivers which bound it. These, however, only demarkate the region’s eastern and western boundaries (and loosely so at that; the cultural and geographical features that characterise the Jazira often spread beyond these boundaries, as we shall see). The north is defined by the rise to the Anatolian plateau, while the south is marked by a more gradual merging of the steppe into the Syrian Desert. It is watered by two more rivers, the Balikh and the Khabur-Jaghjagha, both tributaries of the Euphrates. A third water system, the Wadi Tharthar, whilst now dry for much of the year, was in the past a perennial river that flowed into the Tigris at Tikrit and was linked at its headwaters with the Khabur²⁹.

Rivers and mountain ranges however, almost invariably unite rather than divide cultural and ethnological groups; the existence of minorities the world over divided by mapmakers who adhere too strictly to such geographical features demonstrate that. Hence, the Jazira is perhaps more correctly defined by the rivers that water it, the Balikh-Khabur-Tharthar systems, rather than the Tigris and Euphrates that simply mark its eastern and western boundaries.

The landscape for the most part is completely open, consisting of low undulating hills or flat plateau 200–900 m in height. The only natural barriers, albeit minor ones, are the ranges of the Jebel Abdulaziz and the Jebel Sinjar, the latter of which rises some 1500 m. It lies well within the zone of rain-fed cultivation of the fertile crescent, the 200–300 mm isohyet. This has produced extensive grasslands which supported abundant game until very recently. It allowed dry-farming agriculture to evolve and be successfully practised in the past, and the area today still forms a major cereal producing area²⁹.

It can be seen therefore that the region's most dominant geographical characteristic, that shaped and influenced settlement within its boundaries, is the steppe. Thus, it possesses a fundamentally different set of geographical circumstances that moulded the rise of civilization in adjacent regions, e.g., the Levant (moulded by the Mediterranean littoral), Anatolia (moulded by the mountains) and Mesopotamia (moulded by the two rivers).

Human geography

The physical factors of plentiful grazing, with few if any natural barriers, has made the Jazira an attractive area for nomads since the earliest times. There is archaeological evidence for nomadism in the North Arabian desert in the 7th millennium [e.g., Helms and Betts, 1987], and a comparable degree of nomadism can be inferred for the Jazira as well. The existence of hunting-based communities deep in the Jazira in the Neolithic period, such as at Umm Dabaghiya [Kirkbride, 1982], supports this.

Historical sources referring to nomadism in the area begin in the 3rd millennium, with references to the *Amurru* or Amorites, a nomadic people who inhabited the area between the Upper Tigris and Euphrates [Haldar, 1971]. Sources in the 2nd millennium contain many more references to various nomadic groups in the Jazira, such as the *Suti*, at the southern boundaries in the deserts around Tadmor, the *Ahlamu*, who probably inhabited the lower Balikh, and the Aramaeans, initially a sub-group of the Ahlamu who eventually spread over most of the Jazira from Harran in the west to the foot of the Anatolian mountains in the north and as far as Nineveh in the east [Postgate, 1976]. It is possible that the first Hurrian incursions from the north into the Jazira at the end of the 3rd millennium, characterized by a gradual movement of peoples rather than sudden invasions, were also nomadic [Saggs, 1984: pp.37-8]. The Assyrians themselves were originally a nomadic sub-tribe of the Amorites from the Jazira: their first kings are described as "seventeen kings living in tents", who eventually settled at Ashhur to found the Assyrian kingdom [Saggs, 1984: pp.23-6], an event exactly paralleled by the settling of the Shammar nomads at Qal'a-i Sherqat in modern times [Oates, 1968]. Later on, the Jazira was peopled by tribes of Arab nomads [Donner, 1986], and most of the early independent or semi-independent Arab kingdoms, such as Hatra, Sinjar, Palmyra, Homs and Edessa, tended to be located in or immediately adjacent to the Jazira. Today, the area is still peopled by Arab nomadic and sedentary tribes, with Kurds and Yazidis forming important minorities in the east.

The interaction between nomadic and sedentary peoples has been a constant theme of Near Eastern history. In this, the Jazira can be compared to Central Asia: an area on the peripheries of older centres of civilization but at the same time an essential source and inspiration for them, as nomads constantly over-ran and re-energized the more traditional centres on *their* peripheries. In the case of Central Asia, it was the incursions of originally nomadic Aryans, Scythians, Huns, Turks and Mongols outwards into China, India and Iran that initially destroyed, but ultimately built, great new civilizations in those areas. The Jazira was similar on a smaller scale: it formed the nomadic heartland that saw the formative early years of some of the most important peoples to affect Near Eastern history: Amorites, Aramaeans, Assyrians and, to a lesser extent, Hurrians and Arabs. Hence, the Jazira can be described as both a centre and a periphery at the same time: peripheral, perhaps, to some of the more important cultural processes elsewhere, but also a source where, throughout most of its history, there were immense flows of peoples across its plains. Such movements channelled peoples and ideas that constantly

fertilised the more established centres of civilization to the north, south and west, fundamentally affecting civilization in the ancient Near East.

Communications

The Jazira is one of the Near East's main cross-roads. Major lines of communication crossed its expanse, providing immediate links between the Levant, Mesopotamia and Anatolia as well as more distant links with Iran, Egypt, southeastern Europe and the Mediterranean [Hitti, 1957: pp.59-61]. Many of these lines of communication are well documented as organized routes. The first is probably that followed by the Assyrian merchants into Cappadocia and recorded in the Old Babylonian itinerary [Hallo, 1964; Larsen, 1976; Saggs, 1984: pp.27-34]. The Middle and Late Assyrian Empires developed a highly sophisticated system of routes (if not exactly roads) that traversed the Jazira for administrative and military purposes [Saggs, 1984: pp.195-7; Russell, 1985], a system that reached its ultimate refinement under the Achaemenids, though the precise location of the routes differed [Olmstead, 1960: pp.299-301]. The Romans too, established a network of routes across the Jazira as a part of their organization of the eastern defenses of the Empire [Oates, 1968], while the establishment of the "Abbasid Road" and other subsidiary routes all over the Jazira is evidence of the continuing importance of the region for communications well into the Islamic period [Le Strange, 1905: pp.86-114; Fiey, 1964].

The Jazira thus formed an essential part of Near Eastern civilization's infrastructure, for economic, administrative and military purposes, since at least the early 2nd millennium. The archaeological evidence of "hollow ways" across many parts of the Jazira suggest that some at least of these routes date from the 3rd millenium [Ball, Tucker and Wilkinson, 1989: pp.15-16; Wilkinson, 1989: pp.36-7]. Identifying such physical remains with the routes documented in historical sources however, is fraught with difficulties, as are attempts in identifying the precise locations of such routes. It must be remembered that before the advent of large-scale wheeled transport in the 19th century, anywhere (except for impenetrable barriers) would qualify as a "route". With no such barriers to traffic in the Jazira⁴¹, the entire area would have been traversible at all times, as the constant movements of nomads through every corner of the Jazira until relatively recently demonstrate. The dotted lines that are so confidently plotted onto maps today to illustrate ancient routes therefore, mean very little. The Jazira as a whole in antiquity can be described as one single route—an "international highway"—with, at most, broad channels of ideas, peoples and goods in certain places at certain times rather than specific lines on a map.

Cultural

To give a complete cultural sequence of the Jazira is beyond the scope of the present article. Only some of the highlights of this sequence are discussed, to emphasize the cultural homogeneity and distinctiveness of the Jazira and draw attention to the more important features of the urbanization process in it.

One of the most characteristic features of the landscape today is the immense number of artificial mounds in all directions, attesting to the very high level of settlement in the past. Indeed, in terms of site density, the Jazira is archaeologically amongst the richest areas in the Near East⁴². Whilst many of these mounds are rather small—probably no more than village communities—some are large urban areas of sizes that are comparable to those in the better known centres of urbanization in the South. Some, such as Habuba Kabira, Tell Hammam et-Turkmen, Tell Chuera, Tell Fakhariya, Chaghar Bazar, Tell Brak, Tell Leilan, and Tell

Shaikh Hamad are well-known⁹. Others, however, such as Tell Farfara (106 hectares), Tell Hoshi, Tell Hadhail (both 100 hectares), Hamoukar (90 hectares), or Tell al-Hawa (80 hectares), are less familiar, and reflect the past cultural and material wealth as much as the future archaeological potential of the region⁷. In addition, some of the most important urban centres of antiquity were established on the immediate boundaries of the Jazira: Carchemish, Ebla, Mari and Nineveh. Clearly, the concept of urbanization was not a foreign one that lagged behind other regions, but a highly developed indigenous one, firmly rooted in the Jazira.

The Jazira began to acquire its own identity in the earliest periods. It has been postulated that the process which culminated in the foundation of the first cities in Mesopotamia begun with the establishment of the first farming communities on the "hilly flanks" of the Fertile Crescent [Braidwood and Howe, 1960: p.1]. If one accepts this hypothesis, then it can be seen that the process, by reason of geography, would have reached the Jazira before Southern Mesopotamia. As yet, there is inadequate evidence for the earliest phases of this process in the Neolithic period to be able to say whether a homogeneous culture for the Jazira was beginning to form, unless one can take the Hassuna as the first glimmerings of such a culture. At the present stage of our research however, the Hassuna culture is too localized a phenomenon in the Mosul region to be able to apply it to the Jazira as a whole⁸, though recent fieldwork has been able to extend the spread of the Hassuna culture further northwest into the Jazira and even perhaps as far west as the great bend in the Euphrates⁹.

But whatever the nature of the Hassuna culture in terms of a "Jaziran identity", by the early Chalcolithic period in the 6th millennium we have a well established pattern of village settlement with the spread of the Halaf culture. The distribution of Halaf sites also provides the Jazira, broadly, with its first "cultural boundaries"¹⁰. Whilst such cultural groupings in general can be argued to be false, and the Halaf grouping in particular might be subject to important geographical subdivisions¹¹, there can be no doubt of the broad homogeneity of the Halaf culture, providing the Jazira with its first distinct identity within a well defined, local cultural tradition—the first real "Jaziran culture"?

The spread of the Ubaid into the Jazira and elsewhere is often seen as a diaspora of southern Mesopotamian culture [e.g., Roux, 1980: pp.73-4]. While the links with the South are undeniable however, the roots of "Northern Ubaid" are now well documented as being a part of a long established process evolving out of a local environment with its roots in the Jazira, albeit not perhaps as strongly as the Halaf¹². The Ubaid period also sees incipient urbanization in terms both of the beginnings of monumental architecture, such as at Tepe Gawra [Tobler, 1950: pp.30-7] and of the first large-sized settlements, such as at Tell Hammam et-Turkmen [Akkermans, 1988: p.109] and Tell al-Hawa (see below). Again, whilst not denying the connections of such phenomena with the South, the links within the region are far stronger, and the various ramifications of Ubaid culture in the Jazira can only be fully understood in local terms.

In the Uruk period the concept of urbanization becomes established in the Jazira, though it is a mistake to refer to a single "Uruk" period in the North. There are rather two distinct periods, an Earlier and a Later Uruk, as different from each other as Earlier Uruk is from Ubaid or Later Uruk from Ninevite 5. The Later Uruk however, is for the moment by far the better documented, with substantial Earlier Uruk material only from a small number of sites¹³. At present therefore, it may be easier to refer to the Uruk period broadly, even though the evidence from Tell al-Hawa suggests that the period of urbanization belonged to the Earlier part, with a decline in the Later period (see below).

Like the Ubaid period before it, the Uruk is often seen as the spread of Southern Mesopotamian culture into the Jazira. The discoveries of Southern Mesopotamian implants into the North in the Uruk period, such as Habuba Kabira, Jebel Aruda and Hassek Höyük [Strommenger, 1980; Behm-Blanche, 1986], have been taken as confirmation of this Southern Mesopotamian “takeover” [Algaze, 1989], with the origins of urbanization being seen as southern implants.

Such assumptions however, must be treated with caution [cf. Lebeau, 1990]. To begin with, the number of pure, southern Uruk implants is probably nowhere near as numerous as often supposed [Algaze, 1989: pp.577-80]; our over-obsession with bevelled-rim bowls has often led us to extrapolate a southern presence wherever they are found, when in reality native conditions and pottery styles predominate¹⁰. Such pottery styles characterize the Later Uruk period as a whole in the Jazira, and are firmly embedded in local traditions. This might suggest two “Later Uruk” peoples existing side by side rather than a single Uruk “empire”: native and foreign. Indeed, Brentjes [in Algaze, 1989: pp.591-3] sees the evidence more as supporting a number of different centres of approximately equal development, rather than a single Uruk “civilization”.

In addition, the very real, deservedly spectacular discoveries of places such as Habuba Kabira has often tended to blind us to the very fact that such sites are exceptions rather than rules. To imply by their existence that the whole area of the Jazira was culturally a part of southern Mesopotamia makes as little sense as seeing India as culturally British by the mere existence of Bombay and Simla. Or, to take a parallel from antiquity, the existence of Harappan implants as far spaced as Ras al-Junais in Oman [Tosi, 1988] and Shortughai on the Oxus [Francfort, 1989] in no way makes those areas culturally a part of a “Greater Harappa”.

Concerning the possible introduction of urban concepts into the north by such southern implants, the investigations at Tell al-Hawa (see below) suggest that the period of greater urban expansion was in the Earlier part of the Uruk period, while the Southern Mesopotamian colonies are from the Later part. Furthermore, the colonies generally have few if any antecedents—indeed, the shallowness of deposit on such sites contrasts markedly with the depth of deposit on “local” Uruk sites [Lebeau, 1990]. Whilst not implying that the tradition of urbanization spread from the North to the South, or even denying the existence of deeply intertwined links and constant interaction between two parallel movements, the tradition in the north is a specifically indigenous one, with long local antecedents possessing features peculiar to the Jazira. The existence in Anatolia as far back as the Neolithic period of an extensive settlement such as Çatal Höyük—regardless as to whether such settlements could be described as truly “urban” or not—in any case demonstrates that such movements were never one-way.

Despite possible appearances therefore, Uruk Jazira retained its cultural homogeneity and distinctiveness from Southern Mesopotamia as much as in former periods. Since urbanization appears to have become established in the Jazira by the end of the Uruk period, we will pass over subsequent periods more quickly, except to highlight those periods when the Jazira appeared most to form a chronological and cultural unit. The still not fully understood Ninevite 5 period [Roaf and Killick, 1987; Weiss, ed., 1990] appears as a highly distinctive culture unique to the Jazira. But whilst the distinctiveness and sophistication of the ceramics makes the Ninevite 5 perhaps our most “Jaziran” culture to date [Forest, 1990], it appears to be confined only to the eastern half comprising the Middle and Upper Khabur and the Mosul Region [Weiss, ed., 1990, various papers] so cannot be used to characterize the culture of the Jazira as a whole for the 3rd millennium.

The question of the development of urbanization in the Jazira in the Ninevite 5 period is

still a moot point¹⁹), but whatever the level of Ninevite 5 urbanization there can be little doubt that by the Akkadian period, large scale urban areas had definitely arrived in the Jazira, with the establishment of such cities as Tell al-Hawa, Tell Leilan, Tell Taya, Tell Chuera, Tell Hadhail and Tell Khoshi²⁰. This has often been seen as the “sudden” arrival of walled cities in the Jazira [e.g., Weiss, 1983: p.49], with all the ramifications of dramatically changed circumstances, insecurity, political control and military campaigns that such walled cities imply. Whilst this may be true, it must be pointed out that Tell Taya could hardly be described as walled (only the inner town, and not the more extensive outer town was walled; see Reade, 1973), Tell Hadhail has not been definitely established as having walls at this period [Lloyd, 1938: p.139], and Tell al-Hawa has been definitely established as not possessing ramparts [Ball, 1990; see also below]. Such city walls, when they exist, are probably more a response to purely local conditions rather than any dramatic change in the Jazira as a whole, where the evidence tends more towards continuing urban evolution and/or renewal from the Uruk and Ninevite 5.

Once again one can become embroiled in the same question of Southern Mesopotamian expansion that clouds the Later Uruk period, with the establishment of definite Akkadian outposts such as Brak [Mallowan, 1947; Oates, 1987]. Again, however, one can only reiterate that describing the Jazira as “Mesopotamian” is like describing Scotland as “English” (at least from the Jaziran’s point of view!). The undoubted links with the South contrast with the great differences in the material culture for this period, both between the eastern (characterized by “pseudo-Akkadian” and “Taya” wares [Reade, 1968 and 1982b]) and western (characterized by “metallic” ware [Kühne, 1976]) halves of the Jazira and between the Jazira and southern Mesopotamia. To call the late 3rd millennium culture from the Jazira “Akkadian” is a misnomer that serves only to obscure the cultural traditions in the area (though “Metallic ware Culture” and “Taya ware Culture” admittedly have drawbacks).

In describing the period following the Northern Akkadian in the early 2nd millennium, terminology is again a problem. The period is characterised by Khabur pottery, but strictly speaking this term refers only to a very specific pottery style, not a period. On the other hand, calling the period “Old Assyrian” or “Hurrian” implies evidence that we do not yet have for political control of the area, so is equally unsatisfactory. Until such evidence comes to light however, the term “Khabur” will have to suffice: it does at least have the value of being a regional name.

In the Khabur period one sees the Jazira’s most “positive statement”, in terms of both artifact distribution and cultural distinctiveness. Not since the spread of Halaf material has the Jazira been culturally defined quite so graphically by an artifact distribution, as the very distinctive Khabur ceramics spread over the full area of the Jazira and beyond [Hamlin, 1974]. Whether this distribution of Khabur ceramics can be tied to the arrival of ethnological or political groups, such as the Hurrians from the north or the Old Assyrian Empire from the south, such as is implied by the establishment of Shamshi Adad’s residence at Shubat Enlil [Weiss, 1984], cannot be certain without considerably more epigraphic evidence than exists at the moment²¹. What does seem certain, is that the distribution is an expression of a homogeneous identity for the Jazira, that has its roots in the region’s strong painted pottery traditions.

The political implications of Khabur pottery distribution still await further clarification, but there can be little doubt that in the succeeding period the Jazira achieved very definite political expression with the establishment of the Mitannian Empire. If the Halaf can be called the first “Jaziran culture”, the Mitanni perhaps can be called the first “Jaziran empire”? For despite their possible Indo-European origins outside the region, the borders comprised approximately the

borders of the Jazira, and their capital, Washshukanni, lay in the Jazira heartland probably in the Khabur headwaters [Hitti, 1957: pp.50–54]. As yet, the spread of Mitanni culture cannot be confidently plotted by the distribution of artifacts, in the same way that the Khabur could, as material culture for the Mitannians is still tantalizingly elusive. The excavations of a Mitannian palace at Tell Brak [Oates, 1985 and 1987] and further excavations of Mitannian levels at Tell al-Hawa [Ball, 1990] will hopefully answer many of these questions.

The subsequent history of the Assyrians is a further illustration of the coherence of the Jazira in cultural terms. We have already noted above the possible roots of the Assyrians in Jaziran nomadism, and it comes as no surprise that the first outward expansion of the Middle Assyrian Empire generally tended to be to the north and west into the Jazira, rather than to the south into Mesopotamia. This pattern was repeated in the growth of the Neo-Assyrian Empire, though greater emphasis was put onto securing the eastern borders as well. The final attempt to re-establish an Assyrian kingdom at Harran after the collapse of the empire emphasizes the strong links the Assyrians had with the Jazira [Saggs, 1984: pp.43–57, 70–79, 120; Russell, 1985]. The civilization of the Assyrians is often seen as a quintessentially “Mesopotamian” civilization, and the deep cultural links with the South in the art, religion and literature are undeniable. But such links existed—with differences largely of degree only—with the Achaemenids who succeeded them or the various Semitic cultures of the Levant that existed earlier (Ugarit, Ebla), cultures that are not normally described as “Mesopotamian”. The Assyrians belong to Mesopotamian culture only up to a point, for certain well-defined aspects of their civilization. Beyond that point the term only serves to obscure their civilization, a civilization that is characterized as much by its differences from those of Sumer and Babylonia as by its similarities.

Following the collapse of the Assyrian Empire and the establishment of Persian and Hellenistic hegemonies in the Near East, the Jazira—ironically—displays almost its strongest similarities ever to southern Mesopotamia: both areas became backwaters. It was not until the late Roman Empire and the subsequent Byzantine and Sasanian domination of the Near East that the central location of the Jazira, between the Graeco-Byzantine civilization on the one hand and the Perso-Sasanian civilization on the other, was ideal for the establishment of some of the most important centres of intellectual activity in the world of late antiquity in the Near East: Edessa, Nisibis and, to a lesser extent, Harran. The importance of these Jaziran centres for the dissemination of both Hellenistic and Near Eastern ideas cannot be underestimated [O’Leary, 1949; Hitti, 1957: pp.369–70, 548–9], particularly to the renaissance of Near Eastern civilization under Islam. With the establishment of the main Islamic dynasties in the Middle East, hegemony moved from Syria to Iraq and eventually to Turkey, but minor dynasties such as the Hamdanids in the 10th and 11th centuries, and the Zengids in the 12th and 13th centuries, both centred on Aleppo and Mosul [Bosworth, 1967: pp.49–51, 121–3] saw a resurgence of cultures native to the Jazira. Finally, the distinct, separate identity of the Jazira was recognized in the 20th century with the proposals, first suggested in the Sykes-Picot Agreement, for a separate Jaziran state centred on Mosul after the collapse of the Ottoman Empire. The over-riding interests of oil politics however, resulted in its eventual incorporation into the British mandate of Iraq, though the French Mandate in Syria continued to administer the Jazira separately right up until independence.

The Jazira therefore, has had its own identity throughout its history. Various cultural traits have been continuous threads: agriculture, painted pottery traditions, a receptiveness to outside influences, and immensely long traditions of settlement continuity are just some of the themes that characterized its culture. Concerning the latter point, continuity, it is worth observing that

the very high mounds that are features of the archaeological sites of the Jazira are made up of many thousands of years of occupation spanning many periods; the continuous occupation from the Hassuna to the end of the Assyrian period at Tell al-Hawa for example, is more the rule in the Jazira rather than the exception. Few regions in antiquity have such a conspicuously high occurrence of continuously occupied sites.

The cultural borders of the Jazira often spread beyond its geographical borders. Thus, the Van-Urmiya basins, the plains of the Greater and Lesser Zab Rivers, Cappadocia, the Amuq Region and Cilicia, and Babylonia often came within the orbit of Jazira-based cultures to form a "greater Jazira" region. Conversely, within the Jazira itself these cultural patterns were subject to constant regional fluctuations, so that at other times a recognizable regional culture did not extend much beyond the headwaters of the Khabur—the "Khabur triangle"—which in many ways could be considered as the "cultural heartland" of the Jazira.

Tell al-Hawa¹⁹ (Fig.2; Pl.1)

Tell al-Hawa and its hinterland has been the subject of a large-scale programme of archaeological investigations since 1985¹⁹. Tell al-Hawa is a large urban site on the Jazira Plain in northern Iraq, comprising an Acropolis mound, standing over 30 metres in height, surrounded by lower mounds forming a Lower Town Area that, together with the Acropolis, make up a total area of about 80 hectares of occupation. The work has fallen into three main operations: 1) an intensive

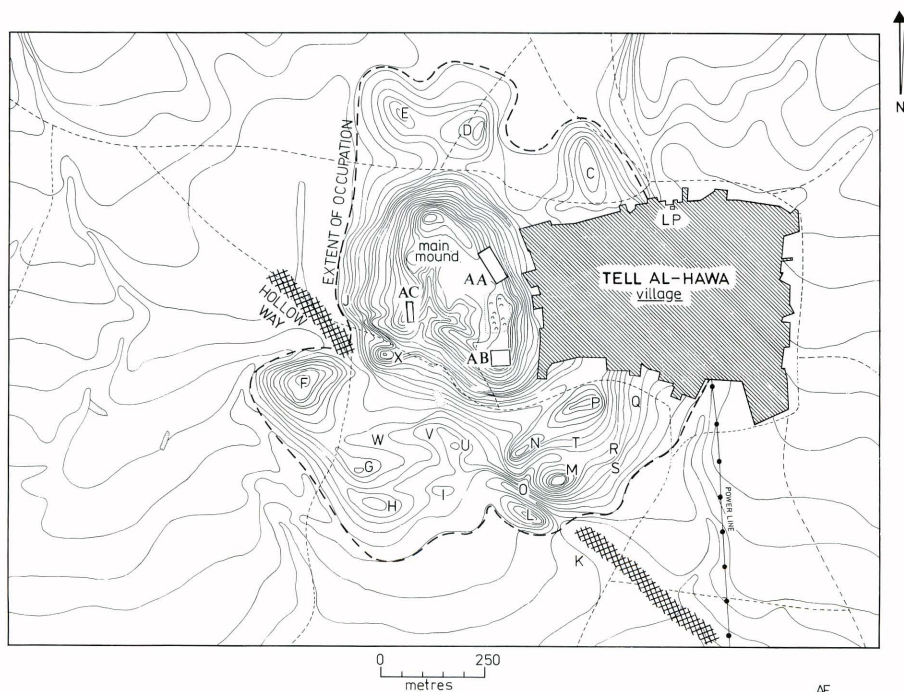


Fig.2 Plan of Tell al-Hawa, showing areas excavated



a. View of the Acropolis of Tell al-Hawa from the west (Photo by S.M. Coliton)



b. Remains of the Assyrian ziggurat on the Acropolis at Tell al-Hawa. The deposit of Later Uruk pottery was found in the baulk to the left of the mudbricks. Note modern canals in background. (Photo by T.J. Wilkinson)

Tell al-Hawa

field survey of the area surrounding Tell al-Hawa (carried out by T.J. Wilkinson); 2) another intensive survey and analysis of the 80 hectare surface of the site itself (carried out by David Tucker); and 3) excavations in selected areas of Tell al-Hawa²⁰⁰.

The development of urbanization and dependant settlement systems has been one of the main themes of the Project. It has traced the evolution of the site of Tell al-Hawa and surrounding area, from its Neolithic origins and its eventual growth into one of the first cities in the north in the Uruk period. Tell al-Hawa reached its greatest height, however, in the Akkadian period and the centuries following, when it became a major urban centre. After this, the city came under the domination of the Mitannian and Middle Assyrian empires. It then probably became the Assyrian provincial capital of Tillule, a position it maintained until its final collapse at the fall of the Assyrian Empire. Excavations so far have uncovered parts of a temple-ziggurat complex on top of the Acropolis, dedicated to Adad by Shalmaneser III. Elsewhere, portions of other monumental buildings have been excavated, as well as parts of earlier residential areas in the Lower Town Area.

It is not intended that the pattern of cultural sequence, urban evolution, monumental development, associated settlement systems, or political domination by outside forces thus documented at Tell al-Hawa can in any way be taken as typical or even standard for the Jazira as a whole. The Jazira, as with any other region in the ancient Near East, has been far too subject to local variations within micro-regions for any specific site or area to be taken as typical. The pattern documented at Tell al-Hawa however, does form an ideal model upon which to illustrate a discussion of urbanization in the Jazira.

Neolithic and Chalcolithic origins

The Jazira plain around Tell al-Hawa has supported a dense scatter of settlements for the last eight or nine thousand years. The earliest period recorded in surveys carried out by T.J. Wilkinson [in Ball, Tucker and Wilkinson, 1989: pp.6-19] so far is the Early Ceramic Neolithic site of Ginnig, excavated by Stuart Campbell [Campbell, forthcoming]. No aceramic sites have yet been found. For the 7th millennium, at least 6 sites with significant Hassuna occupation were discovered in the small 75 sq km area immediately surrounding Tell al-Hawa.

At Tell al-Hawa a single "festoon painted" Hassuna sherd was found on the surface. This suggests a Hassuna foundation for the site, and the presence of a Hassuna mound blanketed beneath later overburden seems very likely. Indeed, the overburden factor makes the count of 6 or 7 Hassuna sites in the area a conservative estimate.

The settlement pattern appeared to expand in subsequent periods, with Halaf and Ubaid material being recorded at 8 sites. By the end of the 5th millennium the area must have assumed much of the character that appears today: a surprisingly developed pattern consisting of a relatively densely settled area of scattered, presumably farming, communities. No Early Neolithic or Epi-Palaeolithic antecedents to the pattern have been recorded. The area, it is true, is far away from the "hilly flanks" of earlier settlements documented previously [Braidwood and Howe, 1960: pp.1-17], but more recent investigations have revealed important aceramic sites closer to the Tell al-Hawa plain: Maghzaliya and Qermez Dere near Tel'afar [Bader, 1989; Watkins, 1990], Raf-fan on the right bank of the Tigris at the edge of the Tell al-Hawa area [Mazurowski, 1987] and Nemrik on the left bank of the Tigris near Faida [Kozłowski and Szymczak, 1987]. The lack of Early Neolithic and Epi-Palaeolithic antecedents in the Tell al-Hawa area therefore, seems all the more surprising in view of the apparently mature pattern of settlement by the end of the 5th

millennium. Since it is unlikely that such material has been obscured by later sedimentation²¹, it can be stated with considerable certainty that the plain was not settled at this early date.

The reason for this apparent anomaly was probably water supply: although with adequate rainfall and situated on major wadis (now partially infilled with sediment), there is no evidence that these ever had perennial flow. Whilst there is abundant permanent water not far below the surface, this would not have been accessible in the earliest periods until the advent of well-digging technology. Indeed, recent major discoveries by Stuart Campbell at Garsour, a Hassuna site near Tell al-Hawa, has lent weight to the possibility that the "sudden" spread of settlement into the region in the Hassuna period was made possible by the advent of well technology²².

From apparent and deduced origins, the area continued as a fertile agricultural region supporting settlement for thousands of years. It is in these earliest times that the right combination of circumstances begin to converge to allow Tell al-Hawa emerge as an important centre: it is in the middle of a fertile plain, it is astride major channels of communications with the rest of the Near East, and it had the necessary technology to reach water, as there was almost certainly sufficient water at an accessible depth for abundant wells to support the requirements of a large town. In this context, it is significant that our evidence for Halaf settlement at Tell al-Hawa was found just north of a modern pump-house at the western foot of the Acropolis, where presumably the water table is closer to the surface.

No area of occupation for the Halaf however, could be estimated due to later overburden. Whilst the Halaf period at Tell al-Hawa is only attested by a relatively small number of sherds, by the Ubaid period, the sherd distribution extends over the entire area of the base of the Acropolis, some 15 hectares. A small amount of Ubaid pottery was also excavated in Area D, extending this estimate to at least 18 hectares (Fig.3). This is very large indeed for the Ubaid period: Adams, 1981, suggests 10 hectares as the minimum size for a town in southern Mesopotamia, so by the 5th millennium BC Tell al-Hawa was already a substantial settlement, and in the subsequent Uruk period we see a remarkable expansion.

Uruk expansion (Figs.4 and 5)

In the Earlier Uruk period we see the beginnings of urbanisation in the area. At Tell al-Hawa a significant proportion of all pottery collected on the surface (18% of all sherds diagnosed) was Uruk, most of it belonging to the Earlier phase. It is reasonable from the evidence that the Earlier Uruk settlement occupied some 50 hectares extending to Trench LP (Figs.2 and 4). This would certainly suggest a large town of considerable size—or even a small city—with a citadel or acropolis at its northwestern corner where the main mound is. The tradition of urbanization in the northwest of Iraq therefore, was established by Earlier Uruk times.

Numerous smaller Uruk settlements were established all over the region, but it seems more likely that they were of Later Uruk foundation rather than Earlier. The little Later Uruk material that was found at Tell al-Hawa was restricted largely to the Acropolis. More stratified Later Uruk material was found in the Area D soundings in the Lower Town Area, though little of it was associated with any occupation or architecture. Although this confirmed Later Uruk occupation in this part of the site, it suggests that the Earlier Uruk town had shrunk to perhaps 37 hectares by Later Uruk times (Fig.5).

Later Uruk material did, however, come from levels as high as 25 m high above the plain, suggesting a considerable depth of occupation—such as monumental buildings?—but given the greater area of the Earlier Uruk spread and greater quantities of material found, it seems more likely

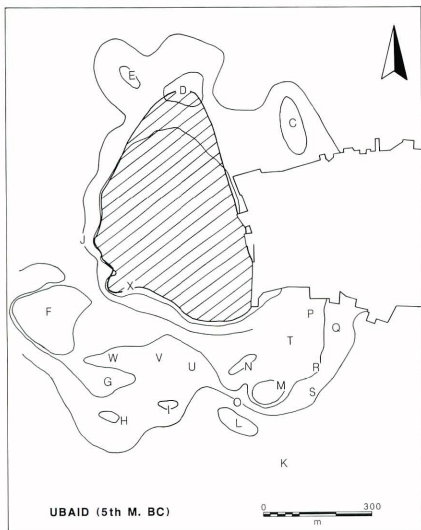


Fig.3 Extent of Ubaid settlement at Tell al-Hawa

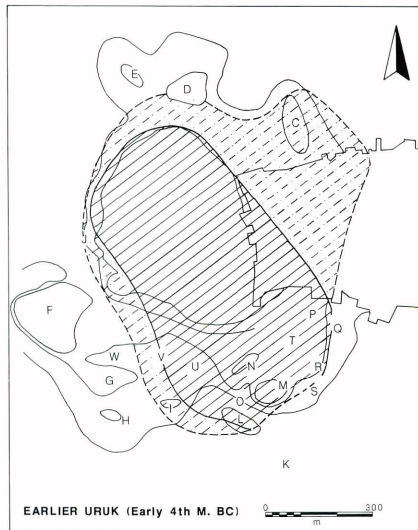


Fig.4 Extent of Earlier Uruk settlement at Tell al-Hawa

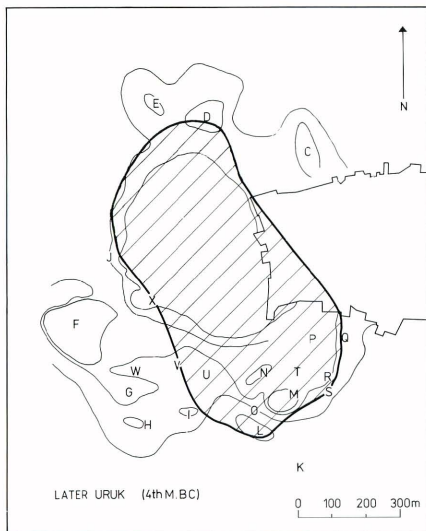


Fig.5 Extent of Later Uruk settlement at Tell al-Hawa

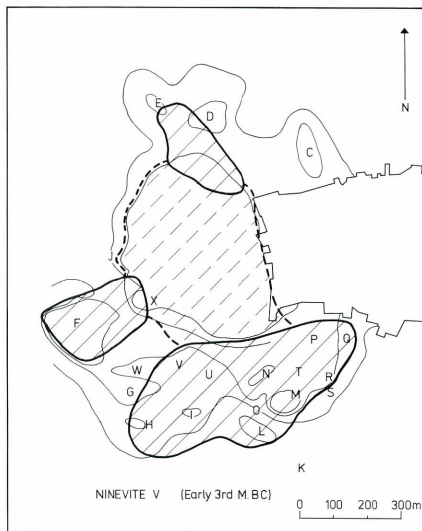


Fig.6 Extent of Ninevite 5 settlement at Tell al-Hawa

that this Later Uruk material merely formed a “skim” over Earlier Uruk buildings, rather than massive building operations in a diminished Later Uruk settlement.

This assumed height of the Uruk mound must be tempered with a cautionary note. In the 1988 excavations at the Assyrian ziggurat at the top of the Acropolis, a deposit of Later Uruk pottery, consisting of large fragments with many complete profiles, was found. It was the richest and most homogeneous corpus of Later Uruk pottery yet found at Tell al-Hawa, that included nearly a hundred bevelled-rim bowl fragments and hundreds of coarse cheff-tempered vessels. This corpus was all concentrated in a single midden heap against and partly on the southwestern edge of the ziggurat, so must have represented a redeposition well after the (Middle Assyrian) construction of the ziggurat—one of the clearest instances of inverse stratigraphy the present author has ever seen!

Whilst this deposit and a certain amount of other Later Uruk pottery from such a height could be explained by the movement of earth containing Uruk material to construct monumental terracing at a later date, the sample from such heights was large, and it was consistent all the way around the slopes. Without excavation, it is impossible to say for certain whether the Uruk period at Tell al-Hawa was characterized by monumental building. But only an Uruk period of monumental architecture would account for the larger size of the Acropolis at this time.

The question of whether large Uruk sites such as this were single large settlements—“cities” in the true sense—or a number of small individual settlements clustering together has always been a difficult one²⁹. By Uruk times however, Tell al-Hawa covered an extensive area, and was the centre of a local region of small satellite settlements, a position it maintained right down to the end of the Assyrian empire. Furthermore, one can suggest it was monumental. In other words, it had all the marks not only of a city, but of a minor city-state.

Ninevite 5 growth (Fig.6)

In the subsequent Ninevite 5 period this general picture appears at first sight to remain static: a main centre at Tell al-Hawa, surrounded by a ring of satellite settlements. The details however, vary importantly. In apparent contrast to the preceding Later Uruk periods, the main area of occupation probably shifted away from the suggested “monumental” area of the Acropolis to the Lower Town in this period, as Ninevite 5 sherds were extremely scarce on the Acropolis. Over a metre of stratified deposits, resting directly on Uruk material, were found in three sondages in Mound D in the Lower Town to the north of the Acropolis. A figure of 42 hectares as a maximum total area for the Ninevite 5 town therefore (Fig.6), is probably a fairly accurate one.

This confirms that Tell al-Hawa by the Ninevite 5 period had reached urban proportions once more. The sparseness of occupation on the Acropolis remains unclear: possibly the Acropolis was getting too high for convenient domestic dwelling [*cf* Oates, 1968: p.30] or perhaps the function of the settlement changed. The siting of the lower settlement adjacent to the main hollow way route suggests that it may have been involved with trade. Alternatively, perhaps there was a decreased need for defensive positions. Certainly the larger number of settlements in the countryside—about 27 in the Tell al-Hawa region, a number only exceeded by Hellenistic times—suggests that there was less external threats and a greater measure of rural prosperity and stability in the Ninevite 5 period.

The precise implications of such an increase in urbanization are questions that cannot yet be answered. Already, urban centres were beginning to emerge that was to culminate in the urban agglomerations of the Akkadian period: Tell Leilan in the Ninevite 5 period was 20 hectares, Tell

Jigan too was 20 hectares²⁴⁾, and Quyunjiq, though we have very little data on the distribution of Ninevite 5 material there²⁵⁾, was probably also a settlement covering at least that area. Tell al-Hawa at 42 hectares is the largest Ninevite 5 site at present we know about.

Akkadian nucleation (Fig.7)

The expansion of occupation at Tell al-Hawa that began in the Ninevite 5 period continued during the Akkadian period. The already massive bulk of the Uruk mound would have provided a ready-made acropolis dominating a strategic area, so the site would have been an attractive one. Accordingly, the Uruk mound was probably built up to form a base for monumental structures, achieving the approximate form we see today, and Tell al-Hawa rapidly regained and eventually overtook the size it enjoyed in Uruk times, covering the Acropolis, most of the Lower town Area and even beyond—some 66 hectares (Fig.7).

A drainage canal that cut through Mound C exposed a large stone revetment wall, revetting massive earthworks. At first it was thought that this might form a part of city walls, but after comparison with a similar occurrence at Mound E it seems more likely that this revetted earthworks might have been a part of the construction of a massive artificial earthen mound or platform, perhaps forming the base of a building. City walls appear to be entirely absent from Tell al-Hawa: a very careful examination of the sections of the long drainage canal cut across the site was conclusive on this point. In Area D, a *tannur*, considerable burning and slag, and a hoard of globular pots, suggests industrial activity, presumably pottery kilns. In an adjacent trench, a very considerable amount of Akkadian material, including several hundred clay sling-pellets, was washed or redeposited from a higher level over Khabur structures (yet another cautionary case of inverse stratigraphy!). In Area E, several substantial structures of fired brick were built on a high, artificial packed earth mound or platform, similar to that found in Mound C. This platform, together with the fired bricks—an expensive building material—suggests that it is a monumental building, the exact nature and extent of which would require more excavation.

Other remains around Tell al-Hawa fill out the picture of the area. The surveys of T.J. Wilkinson have shown that the expansion of the main urban centre of Tell al-Hawa corresponded to similar urban growths at the sites of Abu Kula, Kharaba Tibn and Tell as-Samir in the Hawa region. This expansion contrasted however, with the virtual disappearance of smaller sites around Tell al-Hawa, where of the 16 Ninevite 5 satellites only one or two appeared to remain in occupation into the Akkadian period. Such a rural abandonment around Tell al-Hawa might simply be explained by the presence of the large growth centre at Tell al-Hawa, and to a lesser extent of the smaller towns in the region, which appeared to grow at the expense of their satellite communities. Evidence also suggests that the fields immediately surrounding the city were subject to more intense cultivation than had been necessary in the past, requiring additional fertilization by means of waste material from the city, and that the very complex system of primary and secondary routes crossing the plain around Tell al-Hawa also came into being in the Akkadian period.

The urban nucleation around the obviously well defended position of the Tell al-Hawa Acropolis might seem to support the need for greater security in the Akkadian period. But no evidence for city walls have been found at Tell al-Hawa, so there were probably no more external threats in the Akkadian period than in the Ninevite 5 period preceding. As has been noted, this urban growth was almost certainly accompanied by rural decline, a situation that was apparently reversed during the subsequent Khabur period when the satellite ring was re-occupied.

Such a pattern has been observed before in the Near East [e.g., Adams, 1981]. This pattern contrasts very noticeably with the situation recorded around Tell Leilan [Stein and Wattenmaker, 1990], a site and area that is otherwise Tell al-Hawa's "first cousin". Without a considerable amount of excavation it is impossible to suggest reasons (or indeed other factors) which might account for alternating phases of urban growth and decline at Tell al-Hawa. Although insecurity within the countryside remains a possibility, there is no trace of an outer defensive wall at Tell al-Hawa. Wilkinson [Ball and Wilkinson, 1990] suggests the increased civic, administrative and market function that a larger centre might require; in other words that the larger a settlement becomes the more functions it acquires, which in turn makes it even larger. If this is the case it appears that complex explanations for the growth of urbanization might be largely superfluous, as after a certain point is reached, the growth of a city is to a large extent simply self-perpetuating.

Khabur expansion (Fig.8)

Tell al-Hawa in the Khabur period remained much the same in appearance as its Akkadian predecessor: a city covering 66 hectares (Fig.8). The settlement however, does not seem to be so evenly distributed as the preceding period, but concentrates on the Acropolis with only secondary settlement in the Lower Town Area.

In excavations at Area C, pottery was predominantly Khabur, though all traces of architecture had been completely eroded. The presence of a certain amount of Khabur pottery from the excavations of the Akkadian structures in Area E indicates some occupation in this period as well, but all Khabur structures had disappeared here too. In Area D, many domestic structures belonging to a number of different phases were excavated. An Old Babylonian cuneiform tablet was also found at Mound D.

Whilst occupation in the Lower Town Area appeared either domestic or eroded away, on the Acropolis evidence of monumental building was excavated. In Area AA, a series of massive (up to 4.80 m in width) walls were excavated, presumably parts of two adjacent buildings in a commanding position in the centre of the Acropolis. The long straight edge of the top of the Acropolis along the east side suggest that this building—or buildings on the same alignment—covered the entire top of the Acropolis. In attempting to arrive at an explanation for such massive walls, attention is drawn to the existence of the eroded gullies on opposite sides of the Acropolis, particularly the west (Fig.2). Similar gullies can be observed at the Citadel Mound at Nimrud [Mallowan, 1966], where they indicate the divisions between major palace or temple compounds, or large courtyards (e.g., of the Northwest Place) of such compounds. Certainly the size of the walls suggest monumental public building on the Acropolis for the Khabur period. Such a spate of construction might have been inspired by the confidence that resulted from newfound stability. The possible arrival of new rulers—Hurrian or Assyrian—may also have inspired this building work.

The lesser density of the sherd scatter and erosion of so much of the structures in the Lower Town Area suggest that occupation within the city was not as dense as in the preceding period, and accordingly the evidence from the survey shows that much of the population had spread out to the surrounding countryside: there is a ring of some 10 settlements surrounding Tell al-Hawa. This may be further evidence of increased stability (though as already noted there is no evidence of any lack of stability in the previous period), such as the domination of some outside political entity imposing a measure of control on the area.

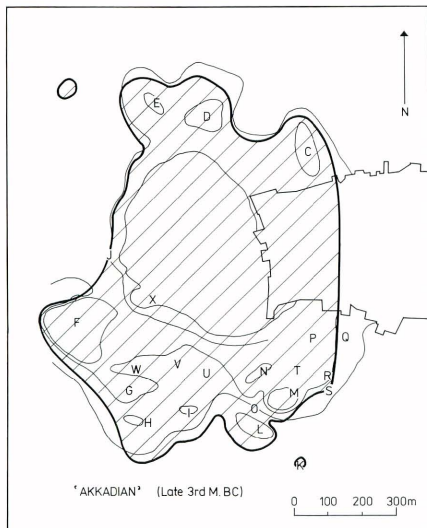


Fig.7 Extent of Akkadian settlement at Tell al-Hawa

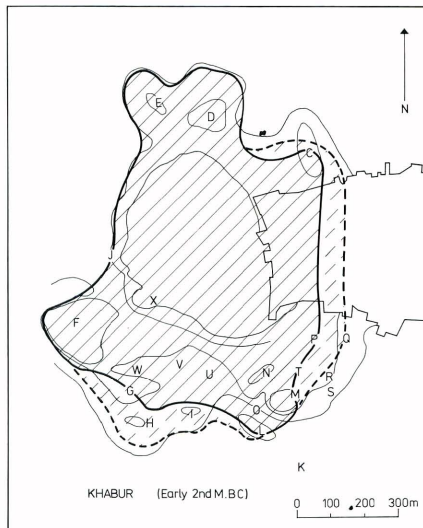


Fig.8 Extent of Khabor settlement at Tell al-Hawa

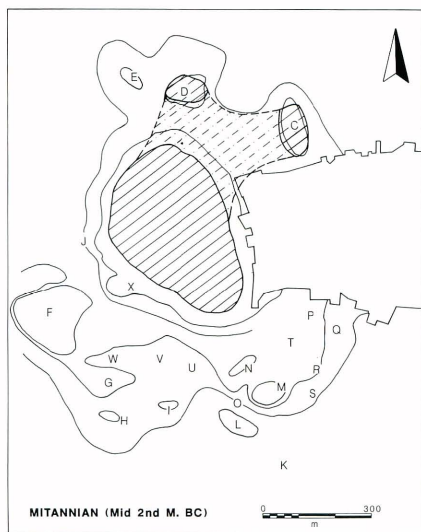


Fig.9 Extent of Mitannian settlement at Tell al-Hawa

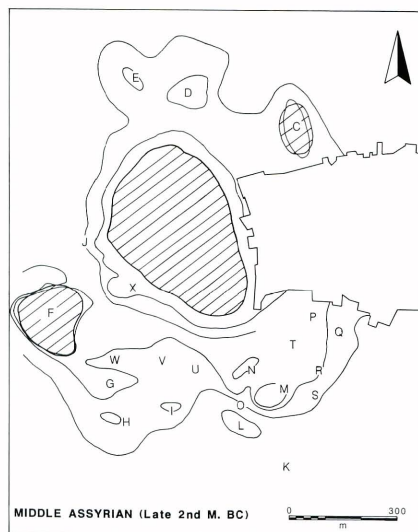


Fig.10 Extent of Middle Assyrian settlement at Tell al-Hawa

Whoever controlled Tell al-Hawa, it was obvious that the suggested stability of the area must have been a major factor in encouraging the Assyrian trade between Ashur and Anatolia. Indeed, the main Old Assyrian trade route may well have been the main southeast-northwest hollow way route that passed through Tell al-Hawa during the Khabur period. Tell al-Hawa itself may have been one of the important caravan cities along the route, hosting a community of Assyrian merchants to facilitate the trade [Saggs 1984: pp.31–33].

It is in the Khabur period that we first get place names for the Tell al-Hawa region. Hallo [1964: p.73, n.20] tentatively suggests that *Kiškiš*, listed in the Old Babylonian itinerary as lying one stage north of Apqum (Tell Abu Maria), might be identified with Tell al-Hawa. The Old Babylonian tablet found in Area D in the Lower Town Area mentions two other place names for the Khabur period: *Hadnum* and *Shuruzi*, names that also occur in the Mari and Rimah texts. The location of Hadnum is uncertain, but Shuruzi lay on the route between Shubat-Enlil (Tell Leilan) and Eshnunna (Tell Asmar) [George, 1990]. The location of either *Kiškiš*, *Shuruzi* or *Hadnum* and any possible link with Tell al-Hawa however, must await further textual evidence.

Mitannian and Middle Assyrian changes (Figs.9 and 10)

A major break occurs in the settlement continuum at Tell al-Hawa in the subsequent periods, represented by Mitannian and Middle Assyrian pottery. The occurrence of Mitannian material seems to correspond more to Middle Assyrian distribution than the more widely dispersed Khabur sherds. Hence, this break comes at the end of the Khabur period rather than the end of the Mitannian. Significantly more Mitannian pottery, mainly the highly distinctive “Nuzi” ware as well as some less familiar types, were found in the ziggurat excavations in Area AB, reinforcing the association with Middle Assyrian settlement²⁰. The Mitannian material here also suggests the possibility of a Mitannian foundation for the ziggurat (see below). Some more Mitannian material found in excavations in Areas C and D extends the area of Mitannian settlement there as well. Extensive though this might appear, the size of the city had nonetheless shrunk drastically to cover little more than some 18 hectares by the Mitannian period, confined mainly to the Acropolis (Fig. 9).

The concentrations of Middle Assyrian material and monumental remains on the summit of the Acropolis (see below) suggests a relatively small but important occupation taking advantage of the strategic position for administering the area. Only on the surface of Mound F and in the excavations at Mound C were Middle Assyrian sherds recognized in the Lower Town Area, though no architecture was found with the latter, making a total of only 17 hectares in size for the Middle Assyrian settlement (Fig.10).

Excavations in Area AA on the Acropolis revealed a Middle Assyrian restoration of the monumental Khabur buildings found there. Large quantities of pottery from both periods were found with these buildings, though in general it was found that the Middle Assyrian pottery was associated with flimsier additions and restorations than the more solid Khabur original walls—evidence perhaps of a Middle Assyrian restoration of sacred monuments destroyed under the Mitanni.

Despite the diminished size of the Middle Assyrian city, a considerable monumental Middle Assyrian presence was also found in Area AB at the top of the southern end of the Acropolis. The area is the highest point of the site, some 33 m above the level of the surrounding plain. Much of Area AB consisted of a massive mud-brick platform measuring at least 22×16 m in area, which appears to have been abandoned—or at least exposed—for some time in antiquity before secondary structures were built up around and against it in Late Assyrian times. There seems

little doubt that this “platform” was originally a small ziggurat²⁷), perhaps similar to that excavated at Tell al-Rimah [Oates, 1966]. A Neo-Assyrian text from the later levels of the ziggurat refer to a restoration of a (pre-Late Assyrian) “temple of Adad” by Shalmaneser (see below). Middle Assyrian pottery forms the bulk of the corpus from the ziggurat, so a date in this period for the construction of the ziggurat and Temple of Adad seems the most likely, though the presence of considerable Mitannian pottery means that a possible Mitannian foundation cannot be ruled out. At Area AC at the northwestern end of the Acropolis, almost all the material was also Middle Assyrian, although excavations were not continued here beyond tracing a few walls.

The number of satellite villages in the surrounding plain had decreased from 10 in the Khabur period to a possible 4 by the Middle Assyrian. Further study of the admittedly poorly preserved coarse vegetable tempered Middle Assyrian pottery may indicate more village sites, but certainly not the number that there were under the Khabur period. There were no Mitannian sherds found on the area survey.

This dramatic break in the Mitannian-Middle Assyrian period obviously marks a major change in Tell al-Hawa’s status. From the large, flourishing, presumably semi-independent trade entrepot that we have postulated for the Khabur period, Tell al-Hawa now seems to have become merely an outpost, a vassal. It was presumably first reduced to this vassal status and diminished in size by the Mitannian conquest²⁸), a status that would have been reinforced by the subsequent Middle Assyrian conquest when it shrank even further. In fact it may well have been totally reduced and sacked by the Mitannian conquest, as evidence for occupation on the site during this period is admittedly scanty. Although the excavations in Area AA show that some effort was made to restore the monumental Khabur buildings on top of the Acropolis around the time when it was in turn conquered by the Middle Assyrian Empire, an era of strong, centralised government had arrived, and Tell al-Hawa did not appear to be more than a relatively small provincial centre some 17 hectares in extent—a decline indeed from former days.

It is during this period however, that we find further clues to Tell al-Hawa’s name, as textual evidence is far more abundant. The area of the North Jazira was almost certainly the area of ancient Kadmukh or Katmuhu [Saggs 1984: p.45], though the precise delimitations probably fluctuated. The chief town of Kadmukh in the second millennium was Tille or Tillule [Postgate, 1985: p.98], identified with Tell al-Hawa by Reade [1982a]. This identification is an attractive one: *tille* or *tillule* means “mound” or “mounds” (cf. *tell* and *tellūl* in modern Arabic), and we know that Tell al-Hawa was already a considerable mound by the 2nd millennium.

Late Assyrian consolidation (Fig.11)

Late Assyrian Tell al-Hawa seems to have been a period of continuation and consolidation, though the settlement size appeared to diminish considerably. In the Lower Town Area, occupation was concentrated mainly at Mound F, perhaps reflecting increased activity on the routeway. In contrast to the greatly reduced settlement size in the Lower Town, there appeared to be considerable new building activity on the Acropolis. At the northern end, Area AC, 65% of all Late Assyrian sherds were found in the surface survey and some textual evidence of monumental remains was found in excavation, while at the southern end, Area AB, Late Assyrian monumental remains and inscriptions were excavated. The Late Assyrian material found in Area AB, together with extensive secondary structures abutting the Middle Assyrian ziggurat, suggests a Late Assyrian restoration, confirmed by the Shalmaneser inscription. Both these locations at either end of the Acropolis are the highest parts of the site. No Late Assyrian occupation was recorded between these two high

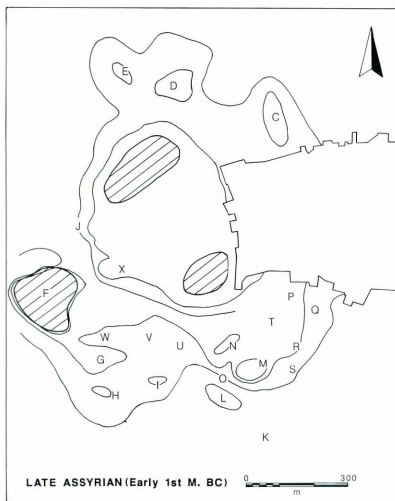


Fig.11 Extent of Late Assyrian settlement at Tell al-Hawa

points. This makes an area of no more than 6 or 7 hectares of Late Assyrian occupation (Fig.11). It seems likely therefore, with the paucity of occupation in the Lower Town, that these two separated Late Assyrian areas served an administrative and/or religious function for the surrounding countryside and route network, rather than for the much reduced town itself. In this way, Tell al-Hawa can be compared to a similar, near contemporary situation at Nush-i Jan in Iran, where considerable monuments of a religious and administrative nature, in an elevated position commanding a surrounding plain, contrasted sharply with a lack of ordinary settlement [Stronach and Roaf, 1978].

In the surrounding countryside, the number of settlements grew to 13, which seems to have been the average number of settlements the countryside supported during times of prosperity. Assyrian

records indicate that following a possible period of desertion or nomadisation during the very early 1st millennium, much of northern Mesopotamia was resettled and became re-established as a major region of cereal production [Postgate, 1974: pp.236-81]. Although the main settlement at Tell al-Hawa itself was hardly any bigger than some of these satellites, the monumental remains there and its naturally dominating position suggests that it still remained the centre for the area.

The finds from the ziggurat restoration were particularly rich. They included inscribed wall-cone fragments, several mace-heads, a fragmentary hilt or fly-whisk handle, a large basalt tripod, many fragments of "palace-ware", a fragmentary pottery ram's head rhyton, an inscribed brick, a bronze bracelet, two cylindrical seals, large numbers of beads, a stone dish with a handle in the form of a lion's head, some pierced shell "clappers", and a fragment of a unique stone lid with a lion carved in deep relief. Most are Late Assyrian, though some, such as the lion lid, might be Middle Assyrian "antiques". The inscribed wall-cone fragments form a text of Shalmaneser's, describing his clearance of an earlier Temple of Adad that had fallen into disrepair, and its consequent restoration and enlargement on a grand scale [George, 1990]. A fragment of a similar text and a very small amount of Late Assyrian pottery also came from Area AC. The situation there is probably similar therefore: a monumental structure of Middle Assyrian foundation restored in the Late Assyrian period.

Whilst none of the inscribed decorative wall-cones contained any mention of a place name, their existence at Tell al-Hawa nonetheless provides a valuable clue as to its name and status. In the Assyrian period, inscribed wall-cones have previously only been found at Ashhur, Nimrud, Nineveh and Kalzu [Donbaz and Grayson, 1985]. This seems to imply that Tell al-Hawa is the site of a major Assyrian provincial capital—the richness of the finds and the presence of a ziggurat endowed by Shalmaneser also suggest this. The identification with Tille, capital of Kadmukh, has already been discussed above, so it presumably continued as this provincial capital until the end of the Assyrian Empire. Saggs [1984: p.45] emphasizes the strategic importance to the Assyrians of Kadmukh, so after the final absorption of the area into the Assyrian Empire, it comes as no

surprise that Tille would be invested with the status of provincial capital.

In general however, we are left with an impression of a prosperous though provincial area enjoying the stability of the Neo-Assyrian Empire. With one of the main lines of communications of the Empire's network probably passing through the area, it was probably for this reason rather than the size of the town itself, that Tell al-Hawa remained an important administrative centre. It also demonstrates that a "city" need not be an urban agglomeration in the conventional sense, but only a temple.

Post-Assyrian decline

Not surprisingly, there is a major change in the settlement pattern of the area following the collapse of the Assyrian Empire in 612 BC: Tell al-Hawa ceased to exist as a settlement in the Achaemenid and Hellenistic periods. No Hellenistic types were recognized, and the only Partho/Roman presence is evidenced by a few sherds in the area of Mounds, F, V and W and in surface contexts in the excavations of the ziggurat at the top of the Acropolis. This pottery cannot be associated with any building activity, and may have been part of a Parthian cemetery that developed on the abandoned mound.

Occupation however, continued at 15 sites in the area, so the region as a whole presumably remained moderately prosperous, continuing to support a settled population. But there was presumably no longer any need to maintain any central role at Tell al-Hawa itself. This was probably a result of the re-organization of the communications system and the setting up of the Royal Road under the Achaemenid Empire, which by-passed the Tell al-Hawa area [Olmstead, 1960: pp.299-301]. With the centre of events shifting away, Tell al-Hawa simply became a backwater.

In the centuries following the Achaemenid and Hellenistic periods, international priorities shifted, and the area formed an important but unstable imperial frontier zone that was constantly changing hands, first between the Romans and Parthians, then between the Byzantines and Sasanians. Accordingly, this is reflected in the archaeological record of the area, with some decline in population and prosperity and increasingly rural nature indicated by the small amounts of rather ill-defined Partho/Roman and Sasano/Byzantine material found in the area, in addition to Tell al-Hawa itself. Here, the material sorted into the Sasanian-Early Islamic group forms a definite concentration on the lower mounded area extending 16 hectares to the west of the main hollow-way route, and is not represented on the Acropolis.

Islamic resurgence

It was not until the stability of a Mesopotamian renaissance was established with the advent of the Abbasid Empire that the area was able to flourish once more. New settlements sprung up in the area as witness to a redevelopment of agriculture, a new major route was established connecting Mosul with Nusaybin and places further north: the "Abbasid road" [Fiey, 1964], following the same route (coincidentally?) as the former main hollow way route. A new town was established to guard this road at Tell al-Hawa. This town did not appear to occupy the Acropolis at all, but remained lower down in the area adjacent to—particularly the west of—the Abbasid road.

Following the final eclipse of the Abbasid empire with the Mongol conquest in the 13th century, the centre of the Islamic Middle East shifted, eventually to Istanbul. A minor peak in settlement, apparent during Middle Islamic times, may correspond to a demographic upsurge which took place with the establishment of Atabeg dynasties in Aleppo and Mosul. The Middle and Late (Ottoman) Islamic periods at Tell al-Hawa are at present inseparable, as both occupy an area of approximately

8 hectares to the east of the Abbasid road. It is interesting that the routeway divides and acts as a boundary between the earlier and later Islamic periods. Both these settlements seem rather small and differ little in size from the small rural settlements that were dotted over the plain during Middle Islamic times. Certainly by this time the distinctive settlement pattern of the 4th, 3rd and 2nd millennia BC had totally disappeared as the later settlements gradually encroached on lands that had originally been apparently controlled by Tell al-Hawa. Late Islamic Tell al-Hawa itself was abandoned until the present village was established in the 1930s [Stein in Gregory and Kennedy, 1984: p.107], at present extending over some 26 hectares.

Conclusion

In reviewing the cultural patterns and development of urbanization in the Jazira, it is important to remember that one cannot really discuss events, but only *evidence*, which is a very different thing altogether. After all, most of the facts are missing—we are dealing with perhaps no more than one percent of one percent of the facts of antiquity. Similarly, one is hardly discussing ancient causes, but rather modern perceptions—one rarely asks (because one cannot) “how would Uruk (or Ubaid or Khabur) Man be perceiving these processes?”. For in trying to determine the causes for the spread of cultures and ideas, the rise and development of urbanization, etc, it is perhaps a mistake to postulate purely 20th concepts: market forces, needs for security, demands for resources, pressures of population, and so forth. Such concepts are based upon many thousands of years of retrospection and upon how we, in 20th century terms, perceive the causes of why cities grow or cultures spread. In the days when the very idea of a city or a cultural group was entirely new—or nonexistent—with virtually no antecedents with which to recognize it, such precepts may have been completely irrelevant. Late Assyrian Tell al-Hawa, for example, demonstrates that a “city” need be nothing more than a modest-sized temple. The growth of the first cities in a given region may have been due to little more than, say, an attraction to the novelty of the idea, or the natural gregariousness of Man, or his continuing restlessness and search for change, or other such intangibles. Or it may have been largely a self-perpetuating process requiring little outside stimulus, as suggested in discussing Akkadian Tell al-Hawa. The decline of a city or collapse of a pattern might be based on similar intangibles. In addition, it is important to remember that our criteria upon which we base our perceptions of the patterns, cultures and processes are based almost solely upon pottery, which in no way can be taken as fully representative of a culture or a process. With cultures and patterns so far back in time, and with so little evidence today upon which to judge them, there may simply be factors that we have not even dreamt of, factors that are completely alien to today’s concepts and ways of life. After all, if contemporary politics and movements can completely upset our notions and confound our perceptions—as they constantly do—events of a very alien culture, a very long time ago, about which we know very little, would even more so.

In the Jazira we have a picture of a key area, rich in archaeological remains, with distinctive and important cultural traditions of its own, that lay across the main routes of communication between the great centres of the ancient Near East. It was hardly the backwater that has often been thought: this area witnessed some of Man’s first experiments with agriculture, some of his first efforts at settled life, and the world’s first truly multi-national empire: the Assyrians. From the above very brief survey it can be seen that the main character of the Jazira is that of a central area rather than a periphery: open to influences, borrowing elements from all three main

cultural "blocs" of the Near East (Levant, Anatolia and Southern Mesopotamia), yet at the same time remaining sharply distinct, with high levels of indigenous traditions of its own, and contributing important cultural elements to areas outside.

This poses the question of whether one can talk about a "Jaziran culture", a fourth cultural region in other words, in the same way that one can talk about Levantine, Anatolian and Mesopotamian cultures. It is of course, a nonsense to talk of an all embracing "Jaziran culture". But the terms Levantine, Anatolian or Mesopotamian culture are similarly dangerous. Such all embracing, generalized regional terms tend to cloud the issue. Near Eastern civilization, which appears so cohesive when looked at as a whole, is characterized more than anything else by diversity when looked at in detail. The Near East consisted of a very complex succession of different cultures that existed right across the region with complex and ever-changing links between them. The almost byzantine political and ethnic complexities of modern Middle Eastern states and ethnic groups alone demonstrate that. There were certainly cultural groupings, which allow us to talk of a Halaf culture, an Assyrian culture, Neolithic culture, an Eblaite culture, and so forth, but all groups were subject both to very strong, localized variations and to supra-cultural themes that cut across cultural boundaries, constantly influencing each other. To account for and recount the history of the Near East in terms of one separate region after another ignores the trends and themes that bind it all together. The imposition of all-embracing regional terms, be they Jaziran, Mesopotamian, Anatolian or Syrian, probably has more in common with 19th century European concepts of nationalism than the realities of the cultures in question.

The term "Jazira" however, does have one, albeit temporary, value which the other broad terms do not. It serves to underline one of the main problems of the archaeology in this part of the Near East: attempts to explain it have often been in terms of better-known cultures to the west, north or south, rather than in terms of the area itself.

Notes

- 1) The use of Southern Mesopotamian terms ("Ubaid", "Uruk", "Akkadian", etc.) in the following discussion are for convenience only, and are not meant in the cultural sense that such terms imply.
- 2) Le Strange, 1905: p.98, though this has been recently questioned—see Ibrahim, 1986: pp.26-7.
- 3) For additional information on the geography, see: Oates, 1968; Weiss, 1983: pp.39-41; Beaumont, Blake and Wagstaff, 1988: various references.
- 4) Even a low range of hills such as the Jebel Sinjar would not have acted as a barrier to traffic, when one considers the extent that far higher mountain ranges, such as the Karakorums or Himalayas, were penetrated by trade routes at all times.
- 5) Layard's famous view of some 200 mounds from the citadel at Tel'afar was the first to bring the potential archaeological wealth of this region to notice. See Layard 1849: p.315 and 1853: pp.245-6. Without giving a complete bibliography of surveys carried out since, the following are some of the main works that give an impression of the number of sites in the region: Mallowan, 1936 and 1946; Kühne, 1980; Gregory and Kennedy (eds.), 1985; Ibrahim, 1986; Meijer, 1986; Ball, Tucker and Wilkinson, 1989; Stein and Wattenmaker, 1990.
- 6) Strommenger, 1980; Akkermans, 1988; Moortgat and Moortgat-Correns, 1978; McEwan *et al.*, 1958; Curtis, 1982; Oates, 1982b; Weiss, 1983; Kühne, 1986.
- 7) Lloyd 1938: pp.139 and 141; Lloyd, 1940; Meijer 1986: 24; Weiss, 1983.
- 8) Lloyd and Safar, 1945; Mortenson, 1970; Mellaart, 1975: pp.141-9; Merpert and Munchaev, 1987.
- 9) Ball, Tucker and Wilkinson, 1988: p.16; Campbell, forthcoming; A. and C. Sagona, 1988: pp.117-8,137.
- 10) Frankel, 1979; Watkins and Campbell, 1987: pp.427-30; for further evidence on the "western boundary" see A. and C. Sagona, 1988.
- 11) Davidson and McKerrell, 1976: pp.52-3; Campbell in Watkins and Campbell, 1986: p.56.

- 12) E.g., see Davidson and Watkins, 1981: p.12; Weiss, 1983: p.42; Marfoe *et. al.*, 1986: pp.48-9,55-6; Akkermans, 1989: p.109.
- 13) E.g. Gawra, Brak, Tell Shelgiyya and Tell al-Hawa. See Tobler, 1950; J. Oates, 1985; Ball and Wilkinson, 1990; Ball and Watkins, forthcoming; see also discussion on Tell al-Hawa below.
- 14) E.g., at Tell Brak, which Algaze [1989: p.578] interprets as a "southern enclave" even though the excavator [J. Oates, 1985: pp.178-9], whilst recognizing strong southern connections, emphasises the indigenous nature of the culture. See also Schwartz in Algaze, 1989: pp.596-7, and Kohl in Algaze, 1989: pp.593-4.
- 15) See Schwartz, 1987 and 1990 and Ball and Wilkinson, 1990, for two different views on this problem.
- 16) Weiss, 1983; Moortgat and Moortgat-Correns, 1978; Lloyd, 1938 and 1940; Reade, 1982b.
- 17) Though it is important to note that Khabur ceramics are conspicuous by their absence from the surface of Ashur itself.
- 18) In the ensuing discussion I owe a considerable debt to David Tucker and Tony Wilkinson. Indeed, many of the interpretations and ideas expressed are as much theirs as my own, although all errors and misinterpretations of the evidence are solely mine!
- 19) It has been carried out by the British Archaeological Expedition to Iraq with the support of the Iraq Department of Antiquities and Heritage. The Project has been supported by the following: Binnie and Partners, the British Academy, British Airways, British Petroleum, the British School of Archaeology in Iraq, International Computers Ltd, Netherlands Engineering Consultants, Societe Grenobloise d'Etudes et d'Applications Hydrauliques, the Society of Antiquaries of London, the Stein-Arnold Fund, and the G.A. Wainwright Near Eastern Archaeological Fund.
- 20) See Ball, Tucker and Wilkinson, 1989 for reports on the first season; Ball, 1990 for a report on the second season. Some of the results are also discussed in Wilkinson, 1989, Ball and Wilkinson, 1990 and in George, 1990.
- 21) The area has not only been subject to sophisticated intensive surveys by Wilkinson, but it has also been very extensively cut by canal digging operations in a massive new irrigation project covering this area, which would have revealed any sites obscured by sedimentation. Such cuts have, furthermore, been investigated by Wilkinson.
- 22) I am grateful to Stuart Campbell for this information. See Campbell [forthcoming].
- 23) Cf. Roberts, 1980: p.61; Oates, 1982: p.14; Weiss, 1983: p.42.
- 24) I am grateful to Hiroyuki Ii, for this information; see also Ii and Kawamata, 1984-5: p.151.
- 25) A state of affairs currently being rectified by the excavations in progress there by the University of California under David Stronach. See also Algaze, 1986.
- 26) The association of Mitannian with Middle Assyrian material is not uncommon, e.g., at Tell Mohammed Arab; see Roaf, 1984: p.147, pl.XIIB.
- 27) This suggestion was first put forward by Professor Hideo Fujii (pers. comm.) before excavation had even begun at Tell al-Hawa.
- 28) There has recently been speculation in the international press that Tell al-Hawa might be the site of the Mitannian capital of Washshukanni, e.g., see the Observer (London) of 6-8-89. Despite a considerable, but as yet unquantifiable, Mitannian presence at the site however, this identification appears unlikely. Whilst excavations at Tell Fakhariya in Syria, the site traditionally identified with Washshukanni, have been similarly inconclusive [C.W. McEwan *et. al.*, 1958], all indications still point to Washshukanni being further west.

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THE LIONS AT SAR MAŠHAD AND THE LION-HUNT OF BAHRAM II
—AN ADDITIONAL NOTE TO LEO TRÜMPELMANN'S MONOGRAPH—

Katsumi TANABE*

In 1988 I happened to visit Munich and met with the late Dr. Leo Trümpelmann at his office in the Institut für Vor-und Frühgeschichte Provinzialrömische und Vorderasiatische Archäologie, Universität München. That was my first and last meeting with him, although we had been in communication with each other for some time previously. During this short rendez-vous, we discussed the problems of the so-called Sasanian silver which had preoccupied us both for a period of several years before that.

Unexpectedly, after one year, Prof. Hideo Fujii, editor of this journal, *al-Rāfidān*, informed me of Dr. Trümpelmann's premature death. In view of his many contributions to Iranian art and archaeology, and particularly on Sasanian rock-cut reliefs [Trümpelmann, 1975a; 1975b; 1979; 1981a; 1981b; 1987], his sudden death was a great loss to all of us, and especially for myself, it was all the more regretful, for I had an important message to convey to him.



Fig.1 The lion-hunt relief of Bahram II (below) and the Pahlavi inscription of Kardir (above), Sar Mašhad, Southern Iran.

* The Ancient Orient Museum, Tokyo

Last year, a few weeks before his death, I happened to examine the pictures of his monograph of the rock-cut relief at Sar Mašhad [Trümpelmann, 1975a], and discovered something which Leo Trümpelmann did not recognize when he studied the relief (Fig.1) of this site. Therefore, I felt it necessary to write a letter to him, but to my great regret I did not know that he had been suffering from fatal disease, and consequently I did not write to him immediately.

A few months later, Prof. Fujii asked me to make a contribution to this journal in the form of an article in memory of our friend Leo Trümpelmann. Therefore I took up the topic of my small discovery in this short paper, so that it may supplement, however modestly, Dr. Trümpelmann's splendid monograph on the Sar Mašhad relief.

In 1975 Leo Trümpelmann published *Das Sasanidische Felsrelief von Sar Mašhad* in which he

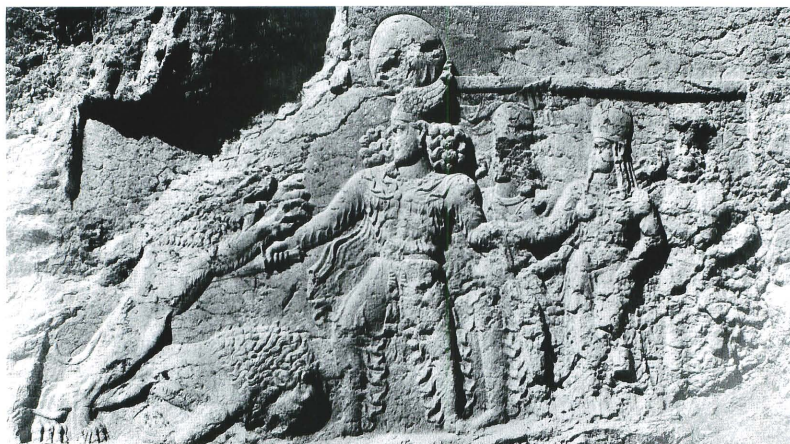


Fig.2a The lion-hunt relief of Bahram II, after Trümpelmann 1975, Pl. 1.

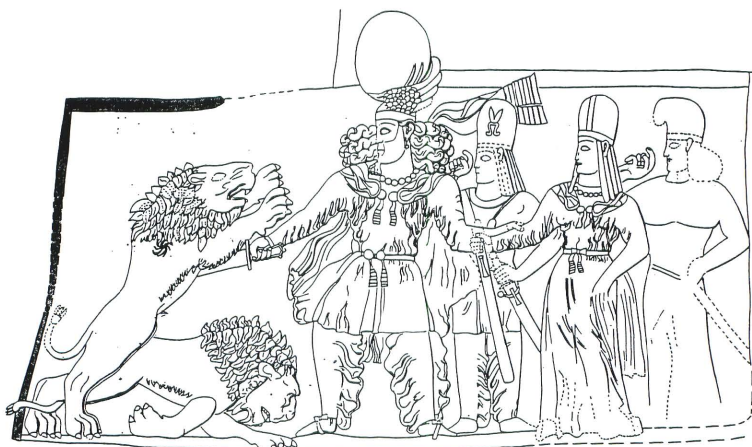


Fig.2b The lion-hunt relief of Bahram II (drawing), after Trümpelmann 1975, Pl.7. The shoulder ornament was added by the present author.

made detailed descriptions and investigations of this relief. He proposed an interesting new hypothesis to the effect that the female figure (Fig.2a, b, central part) behind the figure of King Bahram II (276-93) was not his wife, the queen Shahpurdukhtak, as initially identified by W. Hinz [Hinz 1969, pp.216, 220, Pl.135], but rather the goddess Anahitah, although this new interpretation was not accepted by other specialists [Hinz 1969, pp.215-217; Gignoux 1975; von Gall 1977; Göbl 1978; Vanden Berghe 1984, p.139].

The small discovery which I shall disclose in this paper is the so-called shoulder ornament or hair whorl which is sculptured around the neck area of one of the two lions (Fig.3). The existence of this ornament is clear if we look carefully at the picture of plate 2 of Trümpelmann's monograph. However, it is very difficult to recognize on the picture [Trümpelmann, Pl.2] unless one wittingly searches for evidence of it. As for myself, I had looked at this plate several times before, but I could not recognize this ornament. Similarly, this relief was examined by E. Herzfeld for the first time [Herzfeld 1926a, pp.256-57] and was later published by him [Herzfeld 1928, p.137, Fig.17; 1941, p.325, Pl.CXXIII], but he did not mention the existence of this ornament either. Moreover, R.N. Frye visited Sar Mašhad in 1948, but he seems not to have examined the relief very carefully [Frye 1949a, b]. This is not to say, however, that it was a shortcoming on the part of either Herzfeld or Trümpelmann, that they did not recognize this ornament. Indeed, not a single scholar, including the present author, who examined the original relief or its picture, initially took notice of that shoulder ornament [Bivar 1972, Fig.17; Vanden Berghe 1959, pp.18-20, Fig.11; 1984, Pl.29].

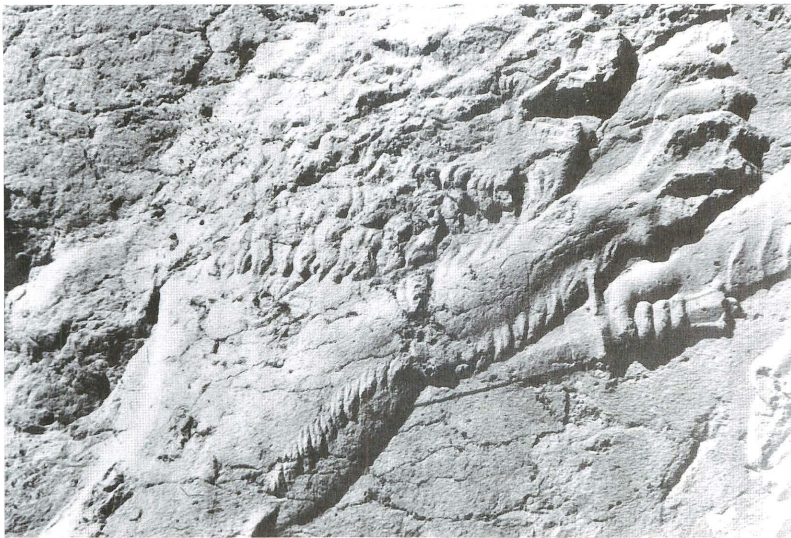


Fig.3 The detail of the upper attacking lion with the shoulder ornament, after Trümpelmann 1975, Pl.2.

The history and distribution of this traditional and unique ornament, found in Near Eastern lion images (Fig.4, 14th century B.C. [The Metropolitan Museum of Art 1986, Pl.44]), has already been clarified by several scholars [Roes 1938; 1953; Kantor 1947; 1950; Arkell 1948; Bate 1950; van Buren 1950; Goodenough 1958], and its Far Eastern transmission has recently been traced



Fig.4 A lion with the shoulder ornament, Orthostat from Beth Shean, after *The Metropolitan Museum of Art* 1986, Pl. 44.

by the present author elsewhere [Tanabe 1989; 1990]. Hence it is not necessary for me to dwell upon these problems again here.

However, the following point should be mentioned. This shoulder ornament originated from an actual hair whorl around the neck area of young lion-cubs under the age of three [Arkell 1948; Bate 1950, Pl.II]. Originally speaking, therefore, this ornament did not have any symbolical meaning. However, we cannot deny the possibility that this ornament in later periods had some symbolic associations, such as with solar symbolism [Roes 1953; Goodenough 1958]. In this connection, we should note the many views presented by our predecessors who have interpreted the lion-hunt scene of this relief from the symbolical or allegorical point of view. However, the problem presented by these interpretations is how to interpret the figures of the two lions.

Trümpelmann regarded this relief on the subject of the hunt as symbolizing the royal majesty of Bahram II. Before him, G. Herrmann proposed that this relief might have represented an actual lion-hunt carried out by this king somewhere nearby [Herrmann 1970, p.167]. According to R.C. Zaehner, the Zoroastrians regarded lions as one of the highest manifestations of the Evil One's or Ahriman's creative activity [Zaehner 1955, pp.237-38]. Therefore, the lion-hunt of Bahram II on this relief may have meant the struggle between Good (the King) and Evil (the Lion). H. von Gall, following this suggestion and also referring to the contents of the Pahlavi inscription (Fig.1) of Kardir above this relief [Henning 1955; Gignoux 1968; Back 1978, pp.384-487,507-520], proposed an elaborate view to the effect that the two lions symbolized the two enemies of Zoroastrianism, i. e., Manichaeism and Nestorianism [von Gall 1977, p.151]. This remarkable view depends upon the proposition that the inscription was engraved almost contemporaneously with the relief or earlier than the latter [von Gall 1977, p.150]. This supposi-

tion seems probable, because the space of the inscription is larger than that of the relief and is engraved in a better position, and furthermore the relief seems to be inserted later between the above inscription and a lower, narrow slanting passage (Fig.1). According to von Gall's view, therefore, the two lions of this relief are represented as two different lions.

However, the two lions represented on the so-called Sasanian silver plates have been regarded instead as representing one lion, in its living and dead states. Therefore, Trümpelmann regarded the pair of lions at Sar Mašhad as one lion represented at two different times. Others have since agreed with this interpretation [Harper 1981; Shepherd 1989]. This traditional view of a pair of lions or of other prey in the so-called Sasanian silver plates is, to some extent, reasonable if we refer to some royal lion-hunts of the Parthian period. For example, one of the scenes of the rock-cut sculptures at Tang-i Sarvak [Henning 1952, Pl.xiv; 1977, Pl.XX; Vanden Berghe/Schippmann 1985, p.79, Pl.45] shows a lion-hunt of an Elymaidan king in which only one lion is represented. The same is true in the case of a Parthian or Early Sasanian rock-engraving at Kal-i Džangal [Henning 1953, Pl.V; 1977, Pl.XXXVII; Gignoux 1983, p.108, note 30; Vanden Berghe 1987, p.249]. This tradition goes back to the killing of the lion-monster by the royal hero of the Achaemenid period (ex. Persepolis). All these royal lion-hunts seem to be symbolical or allegorical renderings and do not represent at all any actual hunting by the king. Therefore, the representation of a pair of lions might probably be a more elaborate Sasanian version of one lion as found in Parthian and Achaemenid iconography. If this surmise is correct, a pair of lions, as depicted in Sasanian art, should be regarded as a dual representation of the same lion.

On the contrary, it is also possible to regard a pair of lions as representing two different lions. If we look at some royal hunts depicted on seemingly later Sasanian or early Islamic silver plates [Harper 1981, Pls.20, 30; Lukonin/Treuer 1987, Pls.35], one lion and one other animal are represented instead of a pair of lions or of other prey animals. Therefore, there is no good reason to suppose necessarily that a pair of lions of the Sasanian period should represent in every instance one lion at two different times. Therefore, the proper interpretation of a pair of lions, on this relief (Fig.2a, b) and on several so-called Sasanian silver plates, is a rather complicated matter.

As for the interpretation of von Gall, it may be possible to suppose that the two different lions are represented on this relief, but it is hardly convincing to identify this pair of lions definitely with two specific religions. The religions mentioned in Kardir's inscription as the doctrines of Ahriman (Evil), are in fact six or seven in number: Judaism, Buddhism, Hinduism, Mandaeism, Christianity, Manichaeism and perhaps Jainism or other form of idol-worship [Gignoux 1968, p.395; Back 1978, p.509; Mosig-Walburg 1982, pp.71, 81]. Therefore, it is very difficult to identify either one of the two lions with any of these religions in particular. However, the shoulder ornament does serve to distinguish one attacking lion from the other, dead lion slain in a lying position. If we follow von Gall's interpretation, this mark should be interpreted as a symbol of either Christianity (Nestorianism) or Manichaeism.

A.D.H. Bivar has proposed, though in more concrete terms, a symbolical interpretation of the figures of the two lions. According to him, these two lions are related to the political events which threatened the Sasanian kingdom under the rule of Bahram II, being respectively the Roman emperor Carus' invasion, and the rebellion of Kushanshah Hormizd (II). According to him, the former is symbolized by the lying figure of the dead lion, and the latter by the attacking one [Bivar 1975, pp.280-81; 1979, pp.324-327]. This is quite an interesting hypothesis, although

it has not yet been corroborated by any inscriptional evidence. The long Pahlavi inscription engraved above this relief (Fig.1) belongs to Kardir, a high priest, and not to Bahram II [Gignoux 1968; Back 1978, pp.384ff.; Calmeyer/Gaube 1985], and consequently mentions nothing about Bahram II's lion-hunt and the political situation which Bivar wished to associate with this hunting scene.

Bivar seems to have identified the dead lion as Carus who is said to have died during a brief Roman occupation of Ctesiphon in A.D.283, while the attacking lion was identified as the rebellious Kushanshah (Sakanshah) Hormizd, because he was still alive at the time and was to be conquered by Bahram II. The invasion and death of Carus is recorded in *Historiae Augustae Scriptores, Carus* 8 [Bivar 1979, p.324; Marquart 1901, p.36; Herzfeld 1926b, pp.41-42; 1930, p.34]. The rebellion of the Kushanshah (Sakanshah) Hormizd (II) is possibly mentioned in *Panegyrici latini, 12 [petit frater Ormies*, Bivar 1979, p.324; Marquart 1901, p.36; Herzfeld 1930, p.34; Ghirshman 1946, p.168; Brunner 1974, p.156; Carter 1985, p.225]. If *Ormies* is to be identified with Hormizd (II), a younger brother of Bahram II, then his rebellion supported by Sakas, Kushans and Gilans, might have taken place around the year 280 [Brunner 1974, p.156] in Eastern Iran and continued for several years thereafter until 285 [Carter 1985, p.225].

This literary evidence, although left by Roman authors, seems to corroborate Bivar's argument to some extent. P.O. Harper [Harper 1981, p.139] seems to approve of Bivar's suggestion, yet Ph. Gignoux has definitely rejected his interpretation because, according to him, the lion cannot symbolize an adversary or enemy king [Gignoux 1983, pp.108-113].

The most recent criticism of the previous interpretations concerning the identification of the feminine image was made by P. Calmeyer. Calmeyer has challenged both identifications (Anahitah and Shahpurdukhtak), and has instead identified the female figure as the *daēnā* (of a king or Kardir) [Calmeyer/Gaube 1985, pp.43-49]. This new interpretation depends upon the contents of the Pahlavi inscription above the relief. The long inscription narrates the travel of Kardir through the other world (the Zoroastrian paradise or after-life) in which the *daēnā* (*den*) plays an important role. Although the *daēnā* is always represented by a young girl [Widengren 1983], Calmeyer regarded the royal lady of this relief (Fig.2a, b) as the *daēnā*. However, he did not mention the reason why two lions should appear in paradise. If we accept the hypothesis proposed by D. Shepherd to the effect that the royal hunt depicted in the so-called Sasanian silver plates symbolized the hunt in paradise [Shepherd 1974, p.80], then the lion-hunt of Bahram II means his victory in the after-life, i.e., his rebirth or resurrection in paradise, or in the world of the Just. It is true that there is a rock-cut grave (*astodān*) in the same cliff which, as Frye suggested, was the tomb of Bahram II [Frye 1949, p.70], but which von Gall associated with that of Kardir [von Gall 1977, p.152]. However, the simple appearance of this small grave reveals that it did not belong to either. Furthermore, Shepherd's interpretation is contrary to the views of T.W. Arnold [Arnold 1924, p.9], to the effect that the hunting scene corresponds to some fundamental interest in the Persian outlook upon life, and calls for further verification [cf. Geza de Francovich, 1964].

None of the above mentioned studies have made any mention of the shoulder ornament of the lion in this relief. The shoulder ornament is, as has already been stated, applied only to the upper, living and attacking lion (Fig.3.). The position of this shoulder ornament is quite correct compared with that of an actual lion [Bate 1950, Pl.II], and therefore indicates that the sculptor of this relief knew well the actual shoulder whorl of lion-cubs and could represent it exactly. This fact was attested by the present author who visited this site and examined minutely the two lion images in the company of Messrs. K. Suzuki and K. Yamaguchi, on the fourth of



Fig.5 The detail of the lower lying lion without the shoulder ornament.

May, 1990. There is no shoulder ornament around the neck area of the lower, lying dead lion (Fig.5). We can surmise that the sculptor of this relief seems to have intended to discriminate the upper lion from the lower, by the application of this ornament on only one of the two lions. If the sculptor wanted to depict the same lion twice, he might have applied the ornament to both lions, as in the case of the two lions with two shoulder ornaments depicted on the Sari plate (Fig.6 [Musee Iran Bastan, Ghirshman 1955, Fig.1; Tanabe 1990]). Therefore, the positive evidence of this shoulder ornament on the upper lion (Fig.2b, 3) may corroborate, at first glance, the greater part of Bivar's argument, or at least the view that two different lions are depicted on this relief.

However, another interpretation is also possible. According to Tabari, Mas'ūdi and Tha'ālibi, Bahram V (Gor) killed one or two lions in order to become the legitimate king of kings [Bivar 1975, p.280; von Gall 1977, p.151; Gignoux 1983, pp.112-113; Nöldeke/Tabari 1879, pp. 95-97; Pellat/Mas'ūdi 1962, p.230; Zotenberg 1900, p.552-553]. Mas'ūdi wrote as follows:

...(Bahram V) prit le pouvoir apres son pere, en s'emparant de la couronne et de la cuirasse placées entre deux lions (p.230).

Similarly, Tha'ālibi wrote as follows:

...Placez la couronne royale entre deux lions féroces, et celui de nous deux qui la prendra aura droit à la royauté...On fit venir deux lions féroces et affamés et on plaça la couronne entre eux (Bahram et Khosra)...Alors Bahram alla hardiment vers les lions. Assailli par l'un d'eux, il le frappa avec la massue, et le fauve s'enfuit loin de lui. L'autre l'ayant assailli à son tour, il lui assena un coup de sabre qui le décapita. Puis, ayant pris la couronne; il la posa sur sa tête... (pp.552-53).



Fig.6 Sasanian silver plate with royal lion-hunt, Sari, Northern Iran
(drawing by A. Hori).

Tabari also mentions that *the crown and the robe was put between the two lions* [pp.95-97]. These literary notices narrate the superiority of Bahram V over his rival Khosraw, and also suggest that killing or attacking the two lions was a royal prerequisite for obtaining the crown of the Sasanian king of kings. Therefore, the two lions, distinguished from one another by this shoulder ornament (Figs.2a, b, 3), may be interpreted as the two lions to be killed or severely wounded by Bahram II for his accession to legitimate kingship and coronation.

However, there remains one problem in this respect: Bahram V (Gur) struck one lion with a club [Nöldeke/Tabari 1879, p.97; Zotenberg 1900, p.553]. The club is the typical attribute of Heracles who killed the Nemean lion, and the figure of Heracles holding a club was often assimilated into the figure of Verethragna (Bahram) in the Parthian and Sasanian periods [Downey 1969; Ghirshman 1975; Invernizzi 1989]. On the other hand, the Iranian (or Indian) myth of the dragon-slayer is well known, and the dragon-slaying heroes or gods, such as Mithra, Verethragna, Thraëtaona, Feridün, Indra and so forth, used a club (*massu*, *Keule*) as a weapon for killing the dragon *Aji-Dahāka* [Widengren 1968, pp.60-63]. Therefore, the aforementioned legend of Bahram Gur partly follows the traditional Heracles/Verethragna iconography as well as the old Iranian myth of the dragon-slayer.

On the other hand, the king's lion-hunt traditionally had been represented by the figure of

a king armed with a sword [Tang-i Sarvak, Kal-i Djangal, etc., above p.33]. Therefore, the royal lion-hunt of Bahram II (Fig.1) compromised these two iconographic traditions (of the club and the sword), and consequently the sword was selected as more suitable weapon for the heroic king of kings than would have been the mythical club.

Although the episode of Bahram V (Gur, 420-438) is recorded in Islamic literature and the killing or attacking of the two lions for coronation is attributed to Bahram V, the original episode, as H. von Gall already has rightly suggested [von Gall 1977, p.151], may have originated in the lion-hunt of Bahram II, which is represented in the relief of Sar Mašhad or in other similar episodes or rituals of slightly earlier periods.

However, there may be yet another possibility, that the sculptor wanted to distinguish the living lion from the dead one by putting this ornament on only one of the two lions. If we look at the so-called Sasanian silver plates on which are depicted scenes of the royal hunt, a pair of game is almost always represented. In such cases, a pair of animals is usually regarded as the same beast; only one is living, and the other is dead. It is clear that the lion-hunt of Bahram II (Fig.2a, b) resembles those of the royal hunt as depicted in the so-called Sasanian silver plates such as the Sari plate (Fig.6), at least as far as the number of depicted prey animals is concerned. Therefore, in this rock-cut relief, the shoulder ornament might have been applied to underline the fact that the attacking lion is still alive.

However, if we look at pairs of animals as depicted on the so-called Sasanian silver plates [Harper 1984; Lukonin/Trever 1987; Darkevich 1978], we can say that no such distinction was made between living and dead game. The distinction of living game from dead one is rendered apparently in another way, in that the dead game was represented by a lying body, while the living one was depicted by an active figure. Consequently, it was not necessary to apply the shoulder ornament in order to distinguish the living lion from its dead counterpart. Therefore, even if the iconography of this relief (Fig.2a, b) were related to that of the so-called Sasanian silver plates (Fig.6), we might surmise that the shoulder ornament was seldom applied to distinguish the living lion from the dead lion in such a relief.

This conclusion is further corroborated by the depiction of two lions on the Sari plate (Fig.6). On this plate a pair of lions is depicted with two shoulder ornaments. Therefore, the shoulder ornament was not used solely to distinguish the living from the dead in Early Sasanian toreutics. The reason why the two lions of this plate are decorated with two shoulder ornaments might be on account of the fact that the application of two shoulder ornaments to the figure of a lion was influenced by the conventions of Gandharan art. Indeed, some of the lion images produced in Gandhara reveal the same rendering of the shoulder ornaments [Tanabe 1990].

In conclusion, I have chosen to regard the pair of lions shown in this relief as representing two different lions. The reason why one shoulder ornament was applied on the upper lion is nothing but a marker in order to distinguish clearly the upper lion from the lower lying one. Consequently, Bahram II did fight with both lions and killed them both. This was one of the royal prerequisites for a legitimate Sasanian king of kings, as is described in early Islamic literature [Nöldeke/Tabari 1879, pp.95-97; Zotenberg 1900, pp.552-53]. It is quite probable that the killing of the two lions was regarded as one of the qualifications to be gained by Sasanian princes in order to be nominated as candidates for the throne of the king of kings.

W. Sundermann states that the priority of birth among Sasanian princes (sons and brothers of king of kings) did not play any decisive role for acquiring the kingship, but rather a standard behavior and superiority endowed by Xvarnah (Royal Glory) was regarded as the decisive

qualification for accession to the throne of king of kings [Sundermann 1963, p.73]. Therefore, if Bahram Gur's behavior and superiority revealed in his brave fighting with the two lions and obtaining the Sasanian royal regalia were regarded by the Sasanians as one of the manifestations of divine Xvarnah upon him [Sundermann 1963, p.109], Bahram II's hunt of the two lions might



Fig.7 Equestrian investiture relief of Bahram I, Bishapur, Southern Iran.



Fig.8 Relief of Bahram II standing in front of an altar, Barm-e Dilak, Southern Iran.



Fig.9 Relief of Bahram II standing, Guyum, Southern Iran.

be well related to the divine investiture.

In this respect, we must draw attention to the fact that no investiture scene of Bahram II has yet been discovered. This is quite unusual, because more than eight rock-cut reliefs in Fars are attributed to him. However, none of them shows definitely the divine investiture by Ahura Mazda or Anahitah, who is represented, as a rule, in the investiture scenes (Fig.7) of Ardashir I (224-241), Shahpur I (241-272), Bahram I (273-276), Narse (293-309) and Ardashir III (628-630) or Khosraw II (591-628) at Taq-i Bustan. This problem has already been pointed out by Vanden Berghe [Vanden Berghe 1959, p.24], who suggested the following three hypotheses:

1. A standing figure of Bahram II depicted in a scene of adoration before a fire-altar (Barm-e Dilak) might be considered as his investiture scene (Fig.8).
2. A standing figure of Bahram II (Guyum), although unfinished, might be intended as his investiture scene (Fig.9).
3. An investiture scene of Bahram II had not yet been discovered.

In my opinion, his first and second hypotheses are hardly tenable and only the third one remains to be verified by future discoveries. In what follows, I should like to append my hypothesis to the three hypotheses of Vanden Berghe. As is suggested above, the killing of the two male lions by Bahram V (Gur) is apparently related to the coronation ritual of the Sasanian period, as recorded by Tabari and Tha'ālibi. Therefore, if the living and dead lions depicted at Sar Mašhad are not the same lion but rather represent two different male lions, the scene of the lion hunt by Bahram II was most likely meant to symbolize the ritualistic lion-killing of the coronation or enthronement ceremony (a rite of passage). This is not the same as the divine investiture sanctioned by Ahura Mazda or Anahitah, but a preceding prerequisite for the heir apparent or a candidate for legitimate kingship. After having performed this rite before the *mōbadān mōbad* (a high priest such as Kardir) and nobles, the Sasanian king of kings was regarded officially as being qualified for the first time to receive the ultimate divine investiture by Ahura Mazda or Anahitah.

Therefore, the lion-hunt of Bahram II at Sar Mašhad demonstrates the first stage through which Bahram II was made to pass prior to his final endowment of kingship by the Zoroastrian god. Therefore, Bahram II may have had sculpted a scene of his divine investiture in an unknown place or he might not have, simply because it is not always necessary to do so. That is to say, his lion-hunt at Sar Mašhad had equivalent value and merit as a scene of divine investiture, or may even itself has been regarded as a scene of his divine investiture.

Lastly, I should like to mention the reason why two lions must be killed by Sasanian kings for coronation. According to the Islamic literature mentioned above, the Sasanian regalia (the crown, robe and armour) were put between the two lions. In depictions of the throne with lion-protomes (*sihāsana*), the king sits between two lions. This kind of lion-throne is depicted in the relief of Bahram II enthroned at Naqsh-e Bahram (Fig.10). Although the legs of Bahram II's throne in this relief has suffered damage and the lion-legs are not clear, according to a comparative study of this throne with the throne-altar as depicted on the reverse of Ardashir I's coins, the legs of Bahram II's throne (Naqsh-e Bahram) are those of lions [Harper 1981, p.103, Figs.3, 26; Pfeiler 1973]. Therefore, the idea of putting regalia (a correlative of the king of kings) between the two lions is intimately associated with the image of the lion-throne. Subsequently, there followed the rite of passage of killing the two lions.

The reason why two lions are depicted on the Sari plate (Fig.6) might be related also to this rite of passage. The prince shown on this plate insisted that he was well qualified for the

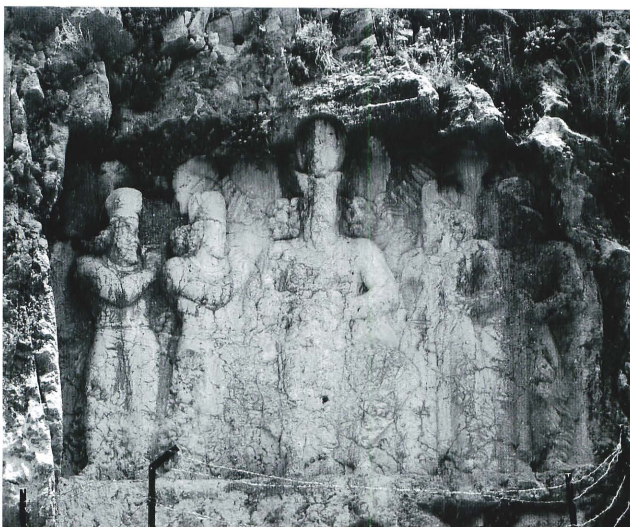


Fig.10 Enthronement relief of Bahram II, Naqsh-e Rostam, Southern Iran.

divine investiture. His headdress differs from any of the Sasanian kings' crowns depicted on coinage, and this fact alone means that he was not the king of kings but rather one of the princes (or provincial governors). He probably ordered this plate in order to impress Sasanian nobles and priests with his superb qualifications as a candidate for the office of the king of kings.

This supposition tallies perfectly with Harper's conclusion that "in the third and early fourth centuries the king (of kings) was not represented on silver plates in hunting scenes; only princes or rulers of recently conquered provinces were depicted in this fashion" [Harper 1981, p.126]. Apparently the king of kings did not need to proclaim his bravery, prowess, or hunting skills and so on, by producing and distributing silver plates depicting such a hunting scene, because he had already accomplished the required rite of passage for accession to divine kingship. Rather, it was the princes who were in need of personal propaganda for receiving the legitimate nomination for accession to the status of the king of kings. This was the reason why Sasanian princes and governors made and distributed such silver plates as the Sari plate (Fig.6).

The above developed argument and conclusion reject and go beyond the fundamental part of Trümpelmann's interpretation on the subject of the lion-hunt of Bahram II at Sar Mašhad, but I believe that he might have well agreed to most of my conclusion if he had survived and known the existence of the shoulder ornament. Lastly I express my heartsore regret over the premature death of Dr. Leo Trümpelmann.

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TEXTILES FROM AT-TAR CAVES:
PART II-(1) : CAVE 16, HILL C

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Foreword

The fifth excavation survey of Cave 16, Hill C, at-Tar Site Group Caves was carried out by the Japanese Archaeological Expedition to Iraq directed by Hideo Fujii from October 25 to December 20, 1977. The report *Excavations at at-Tar Cave, The Fifth Working Season: Cave 16, Part I* in Japanese [Ii, 1986 : pp.1-21, Pls.1-8] has been already made on the location of the cave, structure, deposits, excavated situation of the textiles and other archaeological goods uncovered here. Thus, the present report, Part II-(1), deals with the textiles uncovered at Cave 16, Hill C as the second report following both the first one by Ii and the report *Textiles from at-Tar Caves, Part I*. However, the current report has been divided into two, with the research required for their analysing and identifying work duly taken into consideration. Hence, in the first place, the present report covers pile textiles, and secondly, unpiled textiles, rush mats and leather goods will be reported in the forthcoming volume of this journal.

In relation to the excavated situation of Cave 16, Hill C, as is reported in detail in the Ii's report mentioned above, it has been made clear that Cave 16 was much more disorderly confused than any other cave. Thus, it is next to impossible for us to determine the compound relationship between human remains resulting from burials (3 adults; 2 infants) [Fujii, ed., 1980 : p.171] and the textiles.

In fact, the fragmentary textiles which should be identified into a single identical textile each and all the other burial goods were in dreadful disturbance, thrown away here and there inside the cave, and also the burial facilities including burial beds were found completely devastated. The result is that large fabrics have been scarce in number and most of them have been reduced to fragments, instead. Consequently, it made us difficult to grasp the whole information from each cloth as to the full-length size and pattern, though everything was the one of more excellent quality in weave technique and more elaborate in design composition than those of any other cloth uncovered at other at-Tar Caves.

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

Sheep fiber and other beast fiber textiles:

Pile textiles	8
Unpiled textiles	36
Cotton: Unpiled textiles	5
Linen: Unpiled textiles	2 (One of them uses sheep fiber in the weft thread of the pattern)
Rush mat:	1 (Grandrelle thread ¹⁾ of sheep fiber and camel fiber is used

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in the warp; sheep fiber and common goat fiber are used
in the pattern weft)

One of the questions we have been in mind under course of conducting this investigation is why grandrelle thread, which is produced by twisting two or three yarns of different colors together, was used for the warp of many pile textiles and all the rush mats. We see the wefts for the pile textiles and the rush mats cover the warps. That is to say, the grandrelle warp thread does not appear on the surface of the pile textile or that of the rush mat. Thereby, it has not been thought that the grandrelle warp thread was used for the decorative purpose [Fujii, Sakamoto and Ichihashi, 1989: p.151]. And it has been proved as a result of the light microscope observation that Textile 17 from Cave 12, Hill C, contains grandrelle warp thread which is produced by twisting sheep fiber yarn and camel fiber yarn [Fujii, Sakamoto and Ichihashi, 1989 : p.137].

In order to solve the aforementioned question completely, we asked Fibers & Textiles Research Laboratories, Toray Industries, Inc. to analyse the fibers used in the pile textiles from Cave 16. On the basis of their analytical results, we have decided to propose a new notion against the one in which we have meant 'wool' by sheep fiber and 'hair' by beast fibers other than sheep fiber. Thus, we have tried in the present study to classify all the fibers by animal species, thinking that 'wool' and 'hair' can coexist among beast fibers.

The present report has been made public supported by the Grants-in-aid for the Characteristic Studies of the Japan Private School Promotion Foundation, following the report *Textiles from at-Tar Caves, Part I: Cave 12, Hill C* [Fujii, Sakamoto and Ichihashi, 1989 : pp.109-165, Pls. 27-37].

Pile textiles from Cave 16, Hill C

- Textile 1 Rug with stripe border: Representative Specimen No.V-79-5 (P1.1-a)
- Textile 2 Rug fragment of rough finish: Representative Specimen No.V-39-2 (P1.3-c)
- Textile 3 Monochrome rug fragment: Representative Specimen No.V-97-1-a (P1.2-e)
- Textile 4 Pile fragment of twill ground: Representative Specimen No.IV-W-66-1 (P1.1-c, d)
- Textile 5 Double faced rug fragment: Representative Specimen No.V-62-3 (P1.3-d, e)
- Textile 6 Small red fragment: Representative Specimen No.V-47-13 (P1.2-d)
- Textile 7 Fragment of carpet with wave pattern and geometric pattern: Representative Specimen No.V-70-1 (P1.3-a, b)
- Textile 8 Green rug fragment with staircase pattern: Representative Specimen No.V-116-3 (P1.2-a, b)

Identification

As already mentioned in *AL-RĀFIDĀN* Vol.X [Fujii, Sakamoto and Ichihashi, 1989: pp.110-111], we notice some irregular weavings in pile textiles which cannot be commonly shared with the weavings in unpiled textiles.

One of the most extraordinary features of these pile textiles in weaving is that warp threads of different twist directions can be sometimes seen in a piece of fabric. And a piece of fabric often contains the 2-ply warp twisted with a single yarn of the same color and material each, the 2-ply warp twisted with a single yarn of different colors and materials each, and the 2-ply warp twisted with a single yarn of different colors and the same material each mixed together¹⁾. This is probably because any thread close at hand was made use of by joining it

with main warp, based on the fact that the warp used for a rug and a carpet was invisible since it was hidden behind the pile thread. Some warps and wefts contained in a single fragment are very different in thread thickness, thus resulting in an uneven ground-weave density. And also, sometimes, we see the wefts of different kinds of materials and colors in a single fragment.

As for the tiny textile fragments, if we are to strictly relying on the result of our examination of thread thickness, twist count and density, we are in danger of classifying the textile of supposedly the same origin at the time of its production into the ones of utterly different origins, and, on the contrary, in danger of identifying several pieces of supposedly closely related textiles into a single one, in view of the fact that the irregular weavings exist in pile textiles. This is why we are not necessarily able to determine the number of identified pile textiles in every cave. Accordingly, what is more important in identifying pile textiles lies in the pile knotting type, the color and thickness of the pile thread and the type of its ground composition, rather than the thickness, twist count, twist direction and ground density of the warp and weft threads.

As a result of identifying the Cave 16 pile textiles, there are two groups of fragmentary specimens with Type A-2 knotting. One of the pile thread colors is gold in a group while the other is dark grayish brown (only one fragmentary specimen: V-39-2). They are different in ground composition, i.e., the former is variation of plain weave (warp 2, weft 1) whereas the latter is variation of plain weave (warp 2, weft 2). Thus, the former has been identified into Textile 1 (P1.1-a) and the latter, Textile 2 (P1.3-c), respectively. In addition, Representative Specimen No.V-79-5, Textile 1, has a stripe border, so that the stripe fragments (Nos.V-58-7, V-62-4, V-65-7, V-95-3) of the same color as that of V-79-5 have been identified into Textile 1.

In the second place, there are two groups of specimens with Type B-2 knotting. One of them has pile tufts appearing on a single side, while the other has pile tufts on both sides. Both of their pile thread colors are dull reddish yellow. One of their ground compositions is plain weave (warp 1, weft 1) while the other is variation of plain weave (warp 1, weft 3). So, the former has been identified into Textile 3 (P1.2-e) and the latter, Textile 5 (P1.3-d,e), respectively. We can easily recognize them to come from plural origins at first sight, since the warp, weft and pile threads of the latter except for the weft in the border are generally at least 1 mm thicker than those of the former, besides the differences in their ground compositions.

There are two groups of pile textiles whose pile knotting types cannot be defined. One of them is composed of twill ground, and its pile threads are dark brown, and the other is composed of plain weave ground with its pile threads beautifully dyed strong yellowish red. Thus, we have identified the former into Textile 4 (P1.1-c,d), and the latter into Textile 6 (P1.2-d).

In the meantime, there is one fragmentary textile with Type C knotting on both surfaces. This is a cut pile with a wave pattern on it, which is among unique pile textiles uncovered in at-Tar. We have classified it into Textile 7 (P1.3-a,b).

The fragmentary specimens tied with Type A-1 knotting are of plain weave in ground composition, and their pile threads are colored dark grayish green. In spite of their showing no marked differences in their thread thickness and their identical twist direction, here are three different sorts of warp threads such as A (2-ply thread of dull reddish yellow), B (grandrelle thread of dull reddish yellow and dark brown) and C (2-ply thread of dull orange). In this case, a fragmentary specimen (V-87-1) has three kinds of warp threads, A, B and C, while the representative specimen (V-116-3, P1.2-a) and a few fragmentary specimens (V-68-1, V-95-7, IV-

W-31-1) have two kinds of warp threads, A and B, respectively. The result is that we have identified them into Textile 8 (Pl. 2-a,b), concluding that these fragments with various sorts of warp threads and the fragments with warp threads of A, B and C each come from a single identical source at their initial stage of production.

Weave structure

The fibers spun into thread for the use of pile textiles vary in thickness from very fine ones ($15\ \mu$) to very thick ones ($45\ \mu$), most of which are $20-35\ \mu$ in thickness (See p.70). Generally, their diameters are more irregular and thicker than those of the unpiled textiles. They are mostly sheep fiber and others are camel, cashmere and alpaca fibers. Here are used various sorts of threads differing in thickness, ranging from a single thread of 0.4 mm thick (Textile 4, Pl. 1-c,d) to a 3-ply thread of 6 mm thick (Textile 5, Pl. 3-d,e), which finally makes up the pile textiles with great variety of textures in touch, depending on the use of fine thread and that of thick thread, respectively. A single thread, whose twist is loose, is used for all the wefts except for those of Textile 7 (Pl. 3-a,b). The 2-ply thread is always used for the warp and Textile 5 takes up a 3-ply thread for its warp. The warp twist is stronger than the weft twist. Grandrelle thread, where a single sheep yarn and the other beast yarn are sometimes plied together, is used in five out of the eight textiles (See data list).

As for the sheep fiber, crimps are more remarkably visible, thereby making it more elastic and larger in milling because of its more crenated scale shape in longitudinal view, where change in size is more apt to occur, accordingly. As for the other beast fiber, on the other hand, crimps are less remarkably visible, thereby making it less elastic and smaller milling because of its more flattened scale shape, where change in size hardly occurs, accordingly.

The predominant use of the grandrelle thread evidenced in the warp threads of pile textiles and rush mats may have been firstly because of the necessity required for warp toughness.

At the same time, with a view to realizing their combining effects onto a single plied yarn, the ancients probably intended to make better use of such excellent properties as the toughness and less milling of camel, cashmere and alpaca fibers in order to make up for the milling caused by sheep's scales.

We have found that the ground structures of these pile fabrics include plain weave (Textiles 3,6,7,8) and its variations (3 kinds: Textile 1, warp 2, weft 1; Textile 2, warp 2, weft 2; Textile 5, warp 1, weft 3) and twill (Textile 4, 1/2 twill). As for pile textiles, it is observed that most of them unearthed at at-Tar Caves are quite naturally weft-faced in thread spacing with the weft threads strongly beaten to prevent the pile threads from falling off, since the spacing of the pile row in relation to another is rather large (the one from Cave-16 : 8 mm or more), between which a lot of wefts are inserted. We presume that the way of knotting piles with an ample space open from one row to another was solely due to the at-Tar weavers' point of view that they wanted to give their products more importance to the practical use of floor-rug, rather than the decorative use of pattern representation. That is why the weavers of at-Tar chose the production method of making as many textiles as possible quickly, that is, the method of giving large spaces among the pile rows and covering the field with long pile tufts, without taking up such laborious way to complete elaborate pattern representation into high-density pile thread knotting by making individual pile knotting rows much closer. In particular, the warp, weft and pile threads of the textile with Type A-2 knotting are altogether thick, and the pile tufts are extraordinarily long. It is customary that the pile textile patterns are represented by

knotting pile threads together. In Textile 8, however, we see a staircase pattern woven with dovetailed tapestry on its ground composition. Most of the at-Tar textiles have their pile rows spaced so large that the ground color is apt to be seen through the pile tufts for the pattern. To sum up, the use of the onecolor ground wefts all over will cause their overlapping with the pattern color to be depicted with the pile tufts of different color on the pattern portion. In order to avoid this, the same color has been used both in the ground weft thread on the pattern portion and the pile tufts for pattern representation.

Selvages survive in Textiles 1 (P1.1-a), 3 (P1.2-e) and 8 (fragmentary specimen V-68-1). All of them belong to Type 2 [See *al-Rāfidān* Vol.X: p.116] (Fig.1). The repetition work of the weft threads at the selvage section makes the selvage thicker than the ground. The weave edge remains in Textile 5, from which we can learn the weave start method of that day [See *al-Rāfidān* Vol.X: p.115] (Fig.2). It is deducible from this method that warps of this fabric were in the state of continuation on the loom when they were ready for weaving operation. Also, such weave start portions similar to the above have survived in some unpiled textiles discovered at the other at-Tar Caves, which can tell us the procedures to get ready for weaving operation in those days. At first sight, the starting border is apt to be mistaken for the warp cord finish [See *al-Rāfidān* Vol.X: pp.115-116]. Actually, at the beginning, the starting border has two thick weft threads in the twisted way interlacing with warps, as shown in Fig.2 (Textile 5: three 3-ply warps are further twisted together). It is conceivable from the close contact of the wefts with the warps at the turning point that some device to make this feasible was adopted at the warping²⁾ or on the loom. One presumable technique is, for example, that the warp was not directly from beam to beam, but was turned back with the use of a string or a hook-like slender one on the beam, and the weft was put into place while twisting it by hand. Another presumable technique is that both the warping and the weft twisting were practiced by using a tablet at the same time, and the warp insertion was practiced while twisting wefts [Bergman, 1975 : Fig.25, p.30].

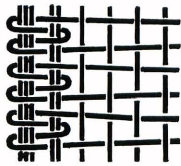


Fig.1 Selvage Type 2

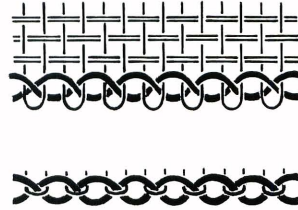


Fig.2 Starting Border

The pile textiles uncovered at the at-Tar Caves have five types of pile knotting methods, such as A-1, A-2, B-1, B-2 and C, as mentioned in *al-Rāfidān* Vol.X: pp.116-117 (Fig.3)³⁾. Type A-1 and A-2 knots are symmetrically formed around two warps. Type B-1 and B-2 knots are asymmetrically formed around two warps. Type C loops are formed around only one warp. This classification has been given not through the technique based on presumption but solely through the state observation made on the pile threads from the at-Tar materials. As regards Type B-2, judging from the existent condition of the at-Tar specimens, there is no probability of its pile yarn slipping. In general, Type B-2 is called slip loop, sharply distinguished from knot group, but we do not think it to be appropriate to the occasion. Taking up an example in this connection, it has been found among Coptic pile textiles that loop-like ones of Type B-1 and

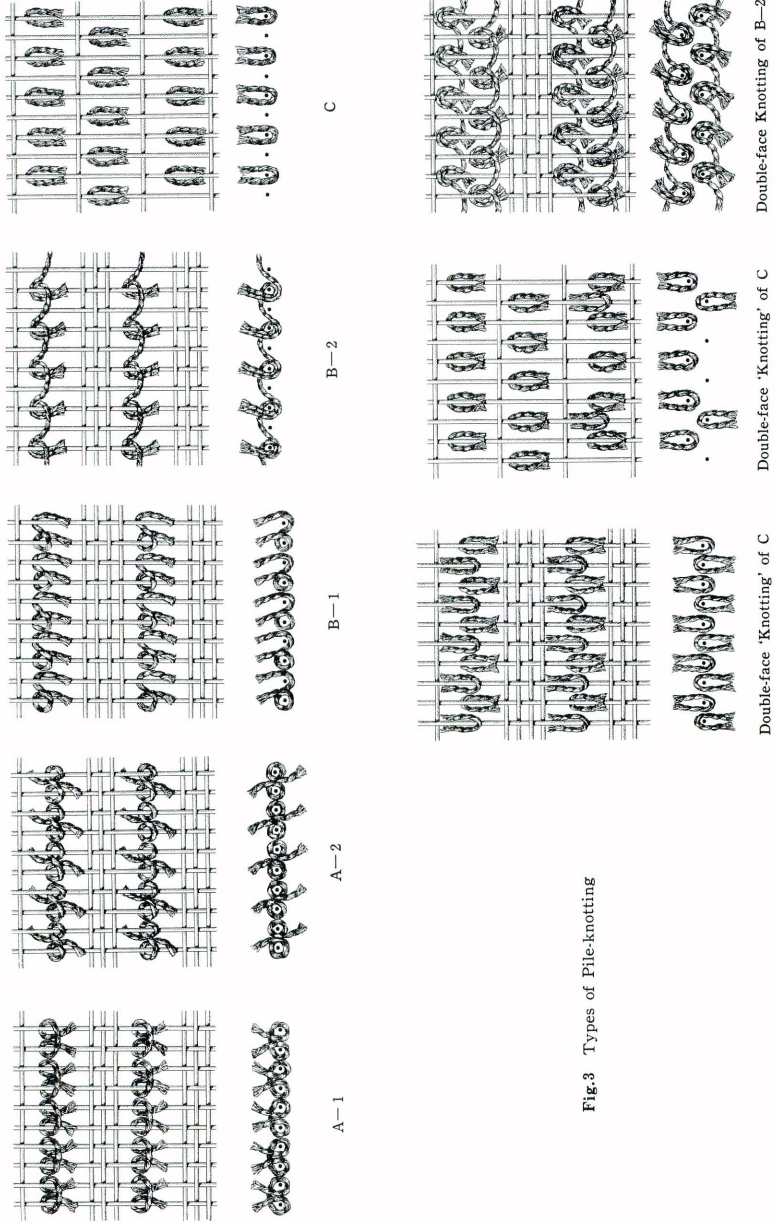


Fig.3 Types of Pile-knotting

variation Type B-2, of which we have formed a definition, coexist in the same knotting row (Textile No.173904 the Field Museum in Chicago). Cave 16 contains A-1, A-2, B-2 and C types, but not B-1. Moreover, they have yielded double-face knotting piles. Double-face knotting piles are the ones whose pile tufts come out on both surfaces of the fabric. But we also define the piles as double-face knotting ones if their reverse surfaces were used for another purpose, because they were different in their pile tuft length and pile 'knot'⁴⁾ density (Textile 7: the reverse side, Pl. 3-b). The ones with their both surfaces intended for obverse sides are also defined as double-face knotting piles.

Cave 16 has not only the double-face knotting piles with Type A-2 whose tufts come out on both surfaces, but also the double-face knotting ones whose tufts are knotted on both surfaces with Types B-2 and C. Such double-face knotting piles have been unearthed at Dura Europos (the obverse: Type B-1; the reverse: Type C) and Lou-Lan, Central Asia (double faced: Type C) [Pfister and Bellinger, 1945: p.49, No.233, Pls. IV, XXIV; Stein, 1921: pp.433, 438, Pl. XXXVII; 1928, p.252; Fujii, ed., 1980: p.76]. Type A-1 is equivalent to the so-called 'Turkish knotting', while Type B-1, 'Persian knotting'. In the meantime, Type B-2 can be often found in the archaeological carpets from Nubia and Egypt. Nevertheless, Type A-2 is peculiar to at-Tar as far as our comparative research including surveys on the materials from the Near East is concerned.

Designs

In the pile textiles uncovered at Cave 16, there are several types of designs such as stripe (Textile 1), chequered pattern (Textile 5), staircase (Textile 8), and the combination of wave and geometric patterns (Textile 7). The chequered pattern is composed of alternate shifting of comb patterns (picket-fence patterns) one by one into two rows up and down in the weft direction. The stripe and chequered patterns are represented along the unpiled weave edge of the pile textiles for the use of floor-rug as border decoration. All the border decorations of the at-Tar pile textiles are seen only at the starting and finishing portions, except for the double face pile textile (Type C) from Cave F-6, Hill A (C-04-3), where square patterns of different colors are designed along the selvage [Fujii, ed., 1976: p.182, Textile No.132; Fujii, ed., 1980: pp.65-66] (Pl. 1-b). The way of representing such border decoration for the rug use is different from that of the carpet coming from Antioch, four sides of which are border-decorated [Dimand, 1933: pp. 151-161, Figs.1,2] and that of the carpet unearthed at Pazyryk, four sides of which are surrounded with border decorations in fivefold way [Руденко 1968: Стр. 41-55, илл. 31; Rudenko, 1970: pp.300-302, Pl.174]. The pile textile fragments with border decorations presumably woven at the weave starting or finishing borders can be cited among the ones from Dura Europos [Pfister and Bellinger, 1945: pp.48,49, No.231, Pl.IV].

As for the staircase pattern, the one in Textile 8 from Cave 16 is so fragmentary that its allocation is impossible (fragmentary specimens: V-86-2, V-127-9). Deduced from the example from Cave 17, Hill C (IV-MK-1382) [Fujii, ed., 1980: pp.60-62] (Pl.2-c), however, there is a strong possibility that it can be positioned at a corner of a textile. The staircase pattern which is woven on the ground uses dovetailed tapestry technique. It seems that purple-like pile thread used to be knotted at the staircase pattern. It can be thought that the pattern section took the shape of triangle as a whole.

Wave patterns can be traced in lots of archaeological materials such as on the pottery from the Chalcolithic Period in Anatoria and Mesopotamia as decorative patterns. As for pile textiles, wave border decorations can be seen in the carpet fragments uncovered from sites such

as Lou-Lan [Stein, 1928: pp.232,251,252, P1.XLIV], and Grave 34 of Qum-Darya Delta [Sylwan, 1949: pp.47-49, P1.23], as well as in the carpet uncovered at Sampula, Lop county, Xinjiang, China in 1983 [Egami, 1983: No. 50]. The carpet from Sampula contains a wave pattern, an indented geometric pattern (whose slant lines are in the staircase way because of their short pile knots) or a parapet design, which are used as twofold border decoration. Such instances as the wave pattern and the indented geometric pattern are doubled as border decoration, which have also been confirmed in the mosaic layer of the paved floor uncovered at Antioch [Levi, 1947: P1.VIIb]. In this way, the Greco-Roman representation technique came to finally exert an influence upon the craftsmen for their creation of the Lop Desert goods. It seems likely that this is also true of the at-Tar pile textiles with the combination of wave pattern and geometric pattern arranged in them.

General outline on the identified textiles

Textile 1 (P1.1-a): It has been uncovered in fair preservation with its large cloth size, pile tufts and color surviving pretty well. It is a thick pile textile bordered with stripe patterns. The area of border decoration is of plain weave without any pile tufts, while the ground of the pile knotted field is of variation of plain weave, where paired warps are interworked with a single weft. But, the boundary shifting from the former to the latter does not take the method of altering the weave structure by warp crossing which has been seen in the H-shape pattern [Fujii, Sakamoto and Ichihashi, 1989; pp.140-143]. Most of the warps are grandrelle threads and several wefts are mottled ones. The wefts used on the border decoration are a little finer than those used in the field. A selvage on one side still remains (P1.1-a: left side). The selvage has been strengthened by the repetition of interlacing two cords of a set of 3-warps each with weft thread (Type 2). Type A-2 pile knotting is used here with its tufts coming out on both surfaces.

There is an interval of 1-2.3 cm (10-23 wefts) between the pile knotting rows. The pile tufts coming out on both surfaces and the use of thick warps and wefts have resulted in the fabric's formation of rather heavy, coarse texture in touch. It seems that the pile textiles of this sort were used for a saddle cover besides for a rug spread out on the open ground and/or on the floor. The pile textile with such border decoration can also be observed among the pile textile fragments unearthed at Dura Europos, as referred to in the preceding item, 'Designs'. Similarly, among the at-Tar finds, there are some pile textiles with such stripe border decorations along their weave edges, e.g., the pile textile from Cave 12, Hill C bordered with green and red stripes (IV-OH-368) [Fujii, Sakamoto and Ichihashi, 1989: pp.135,146], and the pile textile from Cave 17, Hill C which has a staircase pattern on its corner (IV-MK-1382). Textile 1 and the aforementioned textile from cave 12, Hill C have no pile tufts on their borders, while the textile from Cave 17 contains three stripes, only one of which, nearest the field, uses pile thread, but the rest outside two have no pile tufts at all. Type A-2 knotting method is used for the former two specimens, of which grounds of border decoration are of plain weave, and in which variation of plain weave (warp 2, weft 1) is taken for their grounds of knotted parts, where a unit of pile knot is practiced on two paired warps. In this way, there are a number of similarities among them such as heavy finish. Thus, it is apparent that Textile 1 shows an outstanding feature common to the pile textiles with Type A-2 knotting.

Textile 2 (P1.3-c): This is also a thick cloth with Type A-2 knotting just as Textile 1. It has been found poorly preserved with most of its pile tufts coming off. Its ground is composed

Table 1 Comparative Data of the Monochromatic Textiles with Type B-2 Knotting Method

Cave No.	F6	F6	C16
Textile No.			Textile 3
Representative specimen No.	C-39-19-b	C-40-(C)	V-97-1-a
Color	Gold	Gold	Dull reddish yellow
Ground thickness (mm)	2.10—2.45	2.40—2.60	2.30—2.90
Density	9.0 × 22.0	7.0 × 10.0	3.60 × 23.0—25.0

of variation of plain weave, warp 2 ad weft 2, by using rather thick threads. A unit of five pile threads each is knotted at an interval of 5-6 paired wefts (0.8-1 cm interval), resulting in the making of a single big knot. The pile knot density is rather low, but a unit of knot makes a lot of pile tufts come out on the obverse and the reverse.

Textile 3 (Pl.2-e): It is woven with the same kind of warp, weft and pile threads altogether by using undyed, natural material. The at-Tar textile finds are abundant in such pile textiles as made of undyed, natural wool. This is a monochromatic textile which makes us feel rather simple. Its ground is of plain weave with selvages of Type 2. It has Type B-2 pile knotting method as shown in Fig.3, whose knotting opens to the left. Also, the other monochromatic textiles with Type B-2 pile knotting like this textile have been uncovered at Cave F6, Hill A (C-38-19-b, C-40-(C)) (See Table 1). However, we see these pile knots open to the right, which is just in the reverse direction from that of Type B-2 shown in Fig.3.

Textile 4 (Pl.1-c, d): It has been discovered broken to tiny pieces, but is very unique in that its ground is the only one twill weave in the pile textiles that has been ever uncovered at at-Tar. To our regret, almost all the pile tufts have been lost, so it is still uncertain as to its pile knotting type. The threads used here are very fine and its ground thread density is high, compared with the other pile textiles. There is the possibility of its use with the pile tuft side on the obverse of a clothing. Otherwise, its use with the pile tuft side on the reverse of a clothing while putting the weft float of the twill on the obverse is also feasible. Some other uses like a rug use are also presumable. Deduced from the mechanism of the weave-loom, the pile threads seem to come out on the reverse side during the weaving operation since the weft float side, i.e., the side where warps are lifted by heddles in smaller number, is regarded as the obverse. Therefore, it is likely that the vertical loom required somebody to work as assistant on the opposite side. If a single weaver handles a loom, the weft float side should be made as the reverse at the time of weaving operation while a weaver uses a loom with treadles. Did a loom equipped with depression heddles actually exist in those days? In Western Asia, we see several persons working at a single vertical loom still today. It is presumed from this that several workers may have been engaged in a single loom at the same time also in that

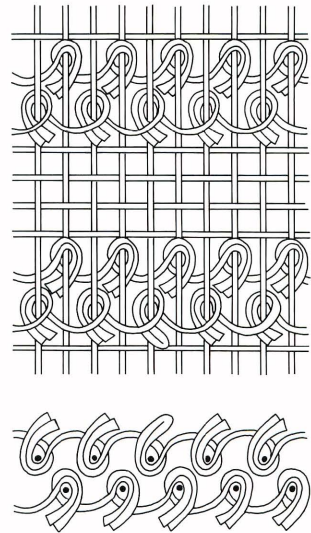


Fig.4 Structure of Textile 5

period. Moreover, the pile textiles with the ground of twill weave as this have also been given in the report of Palmyra [Pfister, 1937: pp. 24, 28, Pl. Ve,f, Pl. VIe] and Dura Europos [Pfister and Bellinger, 1945: pp.48,226].

Textile 5 (Pl. 3-d, e, Fig.4): This is also among outstanding pile textiles uncovered at at-Tar. It is a thick fabric with chequered border decoration, and pile threads are knotted on both sides in the field. Interworking a single 3-plyed warp with three wefts has led the fabric to be made extremely thick in texture. Grandrelle thread is used for all the warps. The chequered border decoration along the weave start is adorned with the pattern where deep purplish red and gold threads pass alternately by using two shuttles, and then reversing the color order of the threads about midway of the chequered pattern. There are no pile knots on the area about 10 cm away from the weave start, which is equivalent to border section, whereas, on the field there are pile threads knotted on both sides with Type B-2 knotting method. They are thick 3-plyed pile threads whose rows have an interval of 4 picks (1.0-1.2 cm apart), which combine 3-weft threads each. We have found only one of the pile tufts coming into a loop (Pl.3-e). It is considered that this was originally a pile textile with looped tufts, all the rest of which seem to have been damaged with the progress of years, or this may be the only evidence with its cutting missed. This is the textile whose starting border still remains, presenting important data from which we can learn the weave start technique done in those days (Fig.2). The presumption from the weave start technique is that the warp threads were in the state of loop also at the weave end portion on the loom. The strong tying of the pile threads at both sides results in the presence of two level warps on the pile thread knotting-field (See section of Fig.4). But such two level warps are absent on the border.

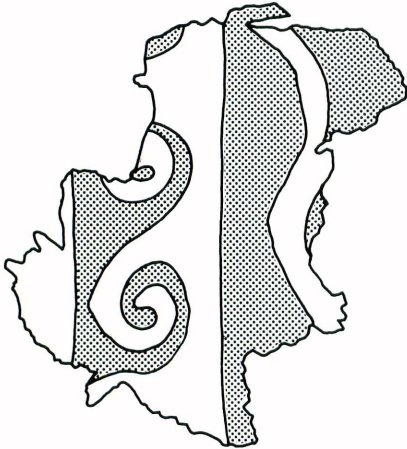


Fig.5 Pattern of the Obverse, Textile 7

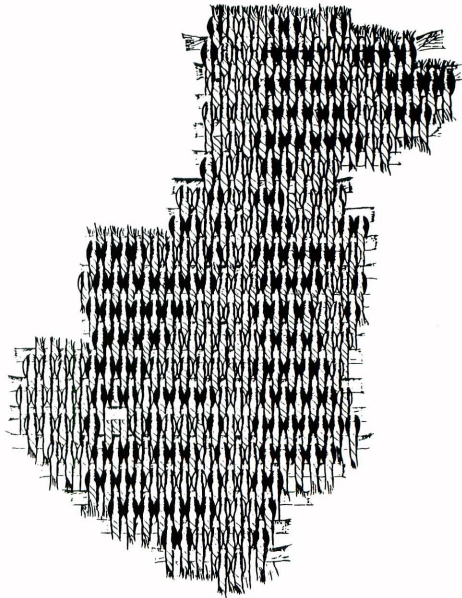


Fig.6 Allocation of Pile Color Threads for Pattern Representation (the obverse of Textile 7)

Textile 6 (Pl.2-d): This is a very tiny fragment, whose wefts become so loose that some change occurs in its weft density. In spite of its being so fragmentary, we fortunately see brilliant colors still remain there.

Textile 7 (Pl.3-a, b, Figs.5 to 7): This is a small double-face 'knotting' pile fragment, where wave and geometric patterns are depicted on the obverse. The pile threads with Type C 'knotting', which are trimmed as short as 1-2 mm in length, are used for representing the wave and geometric patterns. The carpet fragments with wave patterns on them have been uncovered in Central Asia. Though they are common to Textile 7 in their way of representing patterns, their knotting method takes Type A-1, and their cut tufts are slightly longer. We think that the difference in making method results from the difference in production area. In the days of Alexander the Great, it seems likely that there existed two sorts of carpets such as the one with long tufts and the other with short-trimmed tufts [Rudenko, 1970: p.299]. The very specimen of short trimmed tufts with the wave pattern is by far the most extraordinary among the at-Tar finds, most of which are of long tufts. It, as a whole, looks more like the carpets excavated in Central Asia. Textile 7 is different from the other pile textiles in the way that a slender pile thread and a thick weft thread pass through the warp by turns. Here, fine warp threads are used, and because of the high pile density, the trimmed pile tufts are thickly clustering. The weft, which is two times as thick as the warp, is strongly beaten in, so that the warps resultantly become meandering. The sectional view of the warp threads shows two levels. The allocation of the pile color threads for pattern representation seems to have been properly made just according to the programmatic design (Figs.5,6). In the reverse of the very textile, there are the Type C 'knots' with the use of pile threads several times thicker and stronger than the ones in the obverse, which are 'knotted' at an interval of 5-6 warps and 5 wefts, respectively (Fig.7). This way of 'knotting' is regarded as a device to prevent the rug from slipping. The textile is provided with 'knots' on its both surfaces. But its obverse and reverse function separately as their individual purposes.

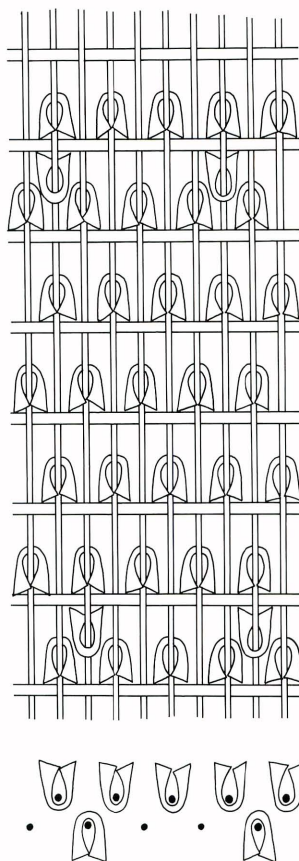


Fig.7 Structure of Textile 7

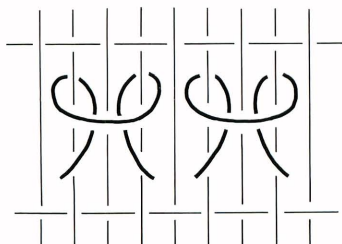


Fig.8 Knotting Method of Textile 8

Textile 8 (Pl.2-a,b, Fig.8): Several fragments are identified as this textile. Two of them have a staircase pattern of brown color on the ground whose original color seems to have been purple (V-127-9, V-86-2) (Pl.2-b). And the staircase pattern is woven with dovetailed tapestry-technique. Its knotting method is of Type A-1, where a single unit of three warps each has a knot whose

Table 2 Comparative Data of the Textiles with Reddish Purple Staircase (Brown) Pattern on Green Field

Cave No.		F4	C9	C16	C17
Textile No.				Textile 8	
Representative specimen No.		C-25-a	IV-OH-1-⑨	V-116-3	IV-MK-1382
Knitting type		B-2	Uncertain	A-1	B-1
Color	Weft (1) : Ground	Olive	Dull green	Dull green	Deep reddish orange
	Weft (2) : Derign	Dark red	Reddish brown	Reddish brown	Dark red
	Field pile thread	Dark yellowish green	Deep green	Dark yellowish green	Deep reddish orange
Pattern		Staircase	Uncertain	Staircase	Staircase
Pattern pile thread		None	None	None	Dark red pile tufts
Ground thickness		1.80	2.00	2.00—2.10	2.00—2.50
Density		5.0×32.0—35.0	4.5×20.0	4.6—4.8×17.0—20.0	3.5—4.7×13.0—20.0
Warp diameter		0.80—1.10	1.10—1.30	1.10—1.80	1.00—1.20
Weft diameter (1)		0.40—0.70	0.6—1.00	0.80—1.10	1.00—1.30
Weft diameter (2)		0.40—0.60	0.7	0.70—0.90	0.90—1.00
Pile thread diameter		1.00—1.20		1.00—1.50	1.50—2.00

resultant pile tufts come out from both sides of the single middle warp. And each unit of the pile knot is done at an interval of one warp (Fig.8). Almost all the pile tufts are lost today. One of the fragments so far identified (V-68-1) has its selvage, where we see a set of four warps each and a set of two warps each made into two warp codes, which are interlaced with weft threads at the selvage, where the wefts repeatedly turn back for selvage reinforcement, just as seen in Type 2 Selvage (Fig.1). Besides, the other textiles of this sort similar to Textile 8, such as the one with reddish purple (which is actually discolored into brown) staircase pattern on the green field or the one with part of the pattern, are discovered at Cave F4, Hill A (C-25-a) [Fujii, ed., 1976: p.180; Fujii, ed., 1980: p.290] and Cave 9, Hill C (IV-OH-1-⑨) [Fujii, ed., 1980: p.296]. But the specimen from Cave F4 is of Type B-2 knitting, and the pile threads of the specimen from Cave 9 are in poor preservation, so that it is still obscure about its knitting type (See Table 2).

Conclusion

Our researches in the field of the textiles coming from Cave 16 of at-Tar are now under way, following the report *al-Rāḥdān* Vol.X, pp.109-165, Pls.27-37 on the textiles uncovered at Cave 12, Hill C, at-Tar. In this connection, it is generally believed that most of the finds from Cave 16, Hill C are superior in quality, weave technique, design and color, compared with those unearthed at the other at-Tar caves, so that they are rich in the data which may well be regarded as functioning as a standard helpful for our further study of the whole textiles coming from at-Tar. In studying closely the textiles from the other caves, therefore, it can be said that the textiles from Cave 16 possess several characters from which useful suggestions will be derived for our forming a proper judgment on the textiles from the other caves. In the present report, especially on the subject of the pile textiles unearthed at Cave 16, we have introduced our comparative

studies between the pile textiles from Cave 16 and the ones from the other caves additionally filled here as many as we can, while paying attention to the above matter. For useful reference, here are listed specimen numbers, already in public. In our next report in the forthcoming volume of this journal, we are to report on the rest of the textiles except for pile textiles which were uncovered at Cave 16.

As for the pile textiles from Cave 16, mentioned below are their outstanding features compared with those of the pile textiles from the other caves.

- (1) The number of the finds from Cave 16 amounts to 8 when the individual fragments have been identified, which is the second largest in number next to the number of 10 in the Cave F6 (Hill A) finds. The other caves did not yield more than four. In view of an ordinary burial situation, it is observed that both the pile textile probably produced for the use of rug and the rush mat ('goza' in Japanese) were often used together as the dead's underlay. Otherwise, some burials took either of them. Thus, it is necessary for us to think of the possibility that nearly 8 persons' burials were actually conducted here, supposing that a single pile textile was used under a single dead body. In regard to Cave 16, however, it is rather hard for us to presume that all the pile textiles were made for the use of rug. This is because Textile 4, a twill ground pile, for instance, is apparently thought to have been made for clothing. In studying pile textiles, therefore, we find it necessary to ascertain what types of pile textiles were intended for the use of rug at the original stage of their production. Taking up some examples from Cave 16, it can safely be said that the pile textiles with borders (Textiles 1, 5) and the double-face 'knotting' pile textile with wave pattern, where trimmed pile threads are used on the reverse, too, to avoid slip at an interval of an ample space (Textile 7) were evidently made for the purpose of carpet. Moreover, it is possible to regard the textile with staircase pattern, Textile 8, as once a bordered pile rug, if we think that the staircase pattern existed at the corner, depending on the situation that this is similar to the bordered textile from Cave 17, Hill C (IV-MK-1382) in staircase pattern, design and color, as already mentioned.
- (2) The study of pile thread knotting methods has made it clear that all the knotting types but Type B-1 can be confirmed at Cave 16. This is a remarkable feature incomparable with the

Table 3 Comparative Data of the Textiles with Type A-2 Knotting Method

Cave No.	B8	D7	D7	C12	C16	C16
Textile No.				Textile 17	Textile 1	Textile 2
Representative specimen No.	C-14-I-2	C-05-VI-2	C-05-I-d	IV-OH-368	V-79-5	V-39-2
Pile thread color	Dark grayish brown	Dark grayish brown	Dark grayish brown	Dark grayish brown	Gold	Dark grayish brown
Number of a unit of pile threads	4	4-5	5	3-4	4	5
Ground thickness (mm)	3.35	4.20-4.30	3.45	3.50-4.35	3.80-5.00	4.90-5.20
Number of a unit of warps	2	2	2	2	2	2
Number of a unit of wefts	1	1	1	1	1	2
Pattern	Uncertain	Uncertain	Uncertain	Stripe border decoration	Stripe border decoration	Uncertain

finds from the other caves. What is more, it is noticed that there are at least two examples with Type A-2 knotting, which is a speciality in at-Tar. The other examples with Type A-2 knotting are one from Cave 12, Hill C, one from Cave B8, Hill A and two or three from Cave D7, Hill A. The one from Cave 12, Hill C owns a stripe pattern border combined with red plain weave and green variation of plain weave, and Textile 1 from Cave 16 is also a thick pile textile of stripe pattern border (plain weave). Type A-2 knotting is an exclusive speciality in at-Tar. The other examples with Type A-2 knotting have been discovered at Caves B8 (C-14-I-2), D7 (C-05-VI-2, C-05-I-d) and C12 (Textile 17: IV-OH-368). The features common to the textiles with Type A-2 knotting are: a unit of several pile threads each is knotted; unplied border is of plain weave, but its ground of the field is of variation of plain weave (warp 2, weft 1) without warp crossing; despite its low pile density, there are pile tufts coming out long and clustering closely on the surface; all the pile threads but those of Textile 1 are natural, undyed black or dark brown (See Table 3). On the contrary, both the border and the field of the textile from Cave 17, Hill C (IV-MK-1382, Type B-1 knotting) are of plain weave. Textile 5 is quite rare in the way of knotting threads with Type B-2 on both sides; no other finds in at-Tar have such a unique knotting method as this.

- (3) Besides, the instances which are incomparable with the ones from the other caves are the twill ground pile textile (Textile 4) and the cut-pile with wave and geometric patterns whose reverse has a device for avoiding slip (Textile 7). In the meantime, there are some pile textiles which are rather similar to the ones from the other caves. Textile 3 and the ones from Cave F6, Hill A, C-38-19-6 and C-40-(C), are all moderately thick pile textiles with Type B-2 knotting method, and are undyed wool monochromatic fabrics. Furthermore, Textile 8 as well as the textiles from Cave F4, Hill A (C-251) and Caves 9 (IV-OH-1-⑨) and 17 (IV-MK-1382), Hill C own reddish purple or the like colored staircase patterns by means of dovetailed tapestry technique on their green or the like colored fields. However, attention must be brought to the fact that Textile 8 is of Type A-1 knotting while the others are not (See Table 2).

We are sure that the characteristics of the pile textiles among individual caves will be gradually clarified through the pursuit of our researches. Systematic pigeonholing to a considerable extent will be expected by examining them from various angles, e.g., their knotting type, the way of using grandrelle thread, monochromatic one or not, the position of the staircase pattern, bordered one or not, and so forth. The evidence that the rush mat has stripe and chequered patterns on both ends of weave start and weave finish just like those of the bordered pile textiles will be good grounds for believing that the pile textiles with borders may have been made for the purpose of their rug use. The pile knotting rows of most of the pile textiles from at-Tar are not close with one another. We believe that this was one of the characteristics commonly seen around the at-Tar area of that day.

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Notes

- 1) It is mentioned in *al-Rāfidān* Vol.X, p.151 that grandrelle yarn means a plied yarn where a single yarn of different quality is twisted together with the other. Besides, it has been concluded by the fiber analysis recently conducted by the Toray Industries, Inc. that a plied yarn composed of same quality but of different colors can also be included in this category [See *Report on the Analysis of Textiles Uncovered at the Ancient Iraqi Site* pp.69—92 of this volume].
- 2) Warping is a procedure that threads of equal length are stretched and laid parallel in the preparation of a warp for the loom.
- 3a) The diagram of Type A-2 knotting in the present report shows that Type A-2 knotting here duly agrees with all the Type A-2 knotting specimens coming from the at-Tar Caves in knotting direction. The diagram of double face of Type B-2 is also the same as above.
- 3b) The twist directions of pile threads from the at-Tar Caves do not always agree with the direction schemes shown in the diagram.
- 4) Type C is not knotted in the actual state, but we give it the term 'knot'.

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List of Data on Pile Textiles from Cave 16, Hill C

Explanatory notes

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

1. The **Textile number** (for example Textile 1) indicates an identified series of fragmentary specimens, of which the representative one, most preserved and characteristic, is shown with its number registered when it was excavated.
2. 'Size' is determined by "the maximum dial 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-mean-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: (12-13-14)×2/cm; the figures in the parentheses show the minimum-mean-maximum values at the spots where the frequencies of shed are measured. '×2' means double shed, '×3' triple shed, '×4' quadruple shed, '×5' quintuple shed, '×6' sextuple shed, '×7' septuple shed, '×8' octuple shed, '×9' nonuple shed, '×10' decuple shed, '×11' undecuple shed, '×12' dodecuple shed, '×13' tridecuple shed, '×14' tetradecuple shed, '×15' pentadecuple shed, '×16' hexadecuple shed, '×17' heptadecuple shed, '×18' octadecuple shed, '×19' nonadecuple shed, '×20' eiccuple shed, '×21' tricuple shed, '×22' tetracuple shed, '×23' pentacuple shed, '×24' hexacuple shed, '×25' heptacuple shed, '×26' octacuple shed, '×27' nonacuple shed, '×28' decuple shed, '×29' undecuple shed, '×30' dodecuple shed, '×31' tridecuple shed, '×32' tetradecuple shed, '×33' pentadecuple shed, '×34' hexadecuple shed, '×35' heptadecuple shed, '×36' octadecuple shed, '×37' nonadecuple shed, '×38' eiccuple shed, '×39' tricuple shed, '×40' tetracuple shed, '×41' pentacuple shed, '×42' hexacuple shed, '×43' heptacuple shed, '×44' octacuple shed, '×45' nonacuple shed, '×46' decuple shed, '×47' undecuple shed, '×48' dodecuple shed, '×49' tridecuple shed, '×50' tetradecuple shed, '×51' pentadecuple shed, '×52' hexadecuple shed, '×53' heptadecuple shed, '×54' octadecuple shed, '×55' nonadecuple shed, '×56' eiccuple shed, '×57' tricuple shed, '×58' tetracuple shed, '×59' pentacuple shed, '×60' hexacuple shed, '×61' heptacuple shed, '×62' octacuple shed, '×63' nonacuple shed, '×64' decuple shed, '×65' undecuple shed, '×66' dodecuple shed, '×67' tridecuple shed, '×68' tetradecuple shed, '×69' pentadecuple shed, '×70' hexadecuple shed, '×71' heptadecuple shed, '×72' octadecuple shed, '×73' nonadecuple shed, '×74' eiccuple shed, '×75' tricuple shed, '×76' tetracuple shed, '×77' pentacuple shed, '×78' hexacuple shed, '×79' heptacuple shed, '×80' octacuple shed, '×81' nonacuple shed, '×82' decuple shed, '×83' undecuple shed, '×84' dodecuple shed, '×85' tridecuple shed, '×86' tetradecuple shed, '×87' pentadecuple shed, '×88' hexadecuple shed, '×89' heptadecuple shed, '×90' octadecuple shed, '×91' nonadecuple shed, '×92' eiccuple shed, '×93' tricuple shed, '×94' tetracuple shed, '×95' pentacuple shed, '×96' hexacuple shed, '×97' heptacuple shed, '×98' octacuple shed, '×99' nonacuple shed, '×100' decuple shed.

1. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

2. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

3. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

4. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

5. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

6. The overall number of sheds and the number of wefts per shed are shown in the parentheses in the description of the weft density. For example, (12-13-14)×2/cm means that the number of sheds is 12, 13, or 14 and the number of wefts per shed is 2.

Textile 16-1 (Cave 16, Hill C)

Identification number: (16-16-16)×2/cm

Size: 16×16

Thickness: 0.15 mm (Mean: 0.15 mm, Minimum: 0.14 mm, Maximum: 0.16 mm)

Warp: 16/16 (Mean: 16/16, Minimum: 15/16, Maximum: 17/16)

Weft: 2/16 (Mean: 2/16, Minimum: 2/16, Maximum: 2/16)

Color: Yellow

Weight: 0.15 g/cm² (Mean: 0.15 g/cm², Minimum: 0.14 g/cm², Maximum: 0.16 g/cm²)

Weight: 0.15 g/cm² (Mean: 0.15 g/cm², Minimum: 0.14 g/cm², Maximum: 0.16 g/cm²)

Weight: 0.15 g/cm² (Mean: 0.15 g/cm², Minimum: 0.14 g/cm², Maximum: 0.16 g/cm²)

Warp (16/16)

Color: Yellow (Mean: Yellow, Minimum: Yellow, Maximum: Yellow)

Color: Yellow (Mean: Yellow, Minimum: Yellow, Maximum: Yellow)

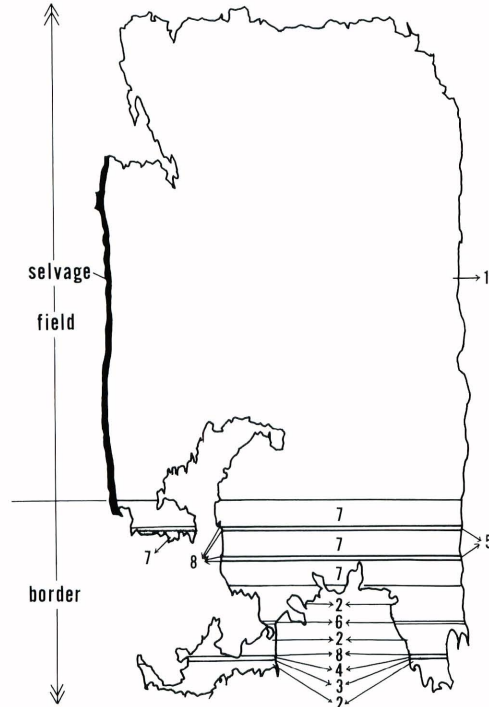
Color: Yellow (Mean: Yellow, Minimum: Yellow, Maximum: Yellow)

Thickness: 0.15 mm (Mean: 0.15 mm, Minimum: 0.14 mm, Maximum: 0.16 mm)

Thickness: 0.15 mm (Mean: 0.15 mm, Minimum: 0.14 mm, Maximum: 0.16 mm)

Thickness: 0.15 mm (Mean: 0.15 mm, Minimum: 0.14 mm, Maximum: 0.16 mm)

Weight: 0.15 g/cm² (Mean: 0.15 g/cm², Minimum: 0.14 g/cm², Maximum: 0.16 g/cm²)



Weft (1) field
(including mottled thread)

Raw material: Sheep
 Color: Light yellowish brown
 9YR 6.5/5 (dark brown)
 Diameter (mm): 1.50~2.00
 Twist, Twist No. (/cm): —Z (1.0~1.3)
 Density (/cm): 10.0~11.0

Weft (2) border

Sheep
 Dull blue green
 5BG 5/4
 0.70~0.80
 —Z (2.5~3.0)
 18.0~20.0

Weft (3) border

Raw material: Sheep
 Color: Deep red 4R 3.5/10
 Diameter (mm): 0.60~0.70
 Twist, Twist No. (/cm): —Z (4.0~5.0)
 Density (/cm): 18.0~20.0

Weft (4) border

Sheep
 Dark greenish blue 5B 2/4
 0.60~0.70
 —S (4.0~5.0)
 18.0~20.0

Weft (5)

Raw material: Sheep
 Color: Light reddish brown 10R 5.5/6
 Diameter (mm): 0.70~0.80
 Twist, Twist No. (/cm): —Z (2.0~2.5)
 Density (/cm): 18.0~20.0

Weft (6)

Sheep
 Pale reddish yellow 2.5Y 8.5/3
 0.70~0.80
 —S (2.0~2.5)
 18.0~20.0

Weft (7)

Raw material: Sheep
 Color: Dark red 4R 2.4/5

Weft (8)

Sheep
 Strong yellowish red 7R 45/12

Diameter(mm): 0.70~0.80 0.5~0.7
 Twist, Twist No. (/cm): —Z (2.5~3.0) —Z (2.5~3.0)
 Density (/cm): 18.0~20.0 18.0~20.0

Pile

Raw material: Sheep
 Color: Gold 9YR 6.5/11
 Diameter (mm): 2.00~2.50
 Twist, Twist No. (/cm): S $\left\{ \begin{array}{l} \text{---} \\ \text{---} \end{array} \right. Z (1.8\sim 2.2)$
 Density: 5×8 (pile knot/dm)
 Selvage: Type 2, cord (3.3) V-79-5
 Edge: None
 Others: Longest pile yarn 14.5 cm Interval between pile knotting rows 1.0~2.3 cm
 Fragmentary specimens:
 V-44-17 V-51-8 V-58-7 V-62-4 V-65-7 V-75-9 V-79-5
 V-90- 1 V-95-3

Textile 2: Rug fragment of rough finish

Representative specimen: Registered No.: V-39-2
 Size (cm): 10.7×12.2
 Structure: Ground Variation of plain weave, warp 2, weft 2, weft-faced
 Pile knot A-2, double-faced, 5 pile yarns together
 Thickness (mm): Ground 4.90~5.20 5.43~7.31 (with pile)

	Warp	Weft	Pile
Raw material:	Sheep	Sheep	Sheep
Color:	Dull reddish yellow 2.5Y 7.5/6	Gold 2.5Y 6/8	Dark grayish brown 5YR 2/1.5
Diameter (mm):	1.20~1.75	1.00~1.40	1.50~2.00
Twist, Twist No. (/cm):	Z $\left\{ \begin{array}{l} \text{---} \\ \text{---} \end{array} \right. S (2.0\sim 3.0)$	Z (2.5~3.3)	S $\left\{ \begin{array}{l} \text{---} \\ \text{---} \end{array} \right. Z (3.0\sim 4.0)$
Density (/cm):	(1.7~2.0)×2	(5.0~6.0)×2	6.0×8.5 (pile knot/dm)
Selvage:	None		
Edge:	None		
Others:	Longest pile yarn 3 cm	Interval between pile knotting rows	0.8~1.0 cm
Fragmentary specimen:	V-39-2		

Textile 3: Monochrome rug fragment

Representative specimen: Registered No.: V-97-1-a
 Size (cm): 17.8×9.5
 Structure: Ground Plain weave, weft-faced
 Pile knot B-2, open to the left
 Thickness (mm): Ground 2.3~2.9

	Warp	Weft	Pile
Raw material:	Sheep	Sheep	Sheep
Color:	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6
Diameter (mm):	1.00~1.85	0.80~1.10	1.50~2.00
Twist, Twist No. (/cm):	Z $\left\{ \begin{array}{l} \text{---} \\ \text{---} \end{array} \right. S (2.0\sim 3.0)$	—Z (1.3~2.0)	S $\left\{ \begin{array}{l} \text{---} \\ \text{---} \end{array} \right. Z (2)$
Density (/cm):	3.6	23.0~25.0	(8~9)×12 (pile knot/dm)
Selvage:	Type 2, cord (3·2) V-97-1-a		
Edge:	None		
Others:	Longest pile yarn 5 cm	Interval between pile knotting rows	1.0~1.2 cm

Fragmentary specimens:

IV-10-27-①	V-47-24	V-51-2	V-58-5	V-73-6	V-73-11
V-77-5	V-87-3	V-90-14	V-97-1-a	V-97-1-b	V-97-1-c
V-99-1	V-101-5	V-103-2	V-106-2	V-115-2	V-133
V-133-1	V-134-4				

Textile 4: Pile fragment of twill ground

Representative specimen: Registered No.: IV-W-66-①
 Size (cm): 6.6×8.1
 Structure: Ground twill (1/2), weft-faced
 Pile knot unknown
 Thickness (mm): Ground 1.65~1.90

Warp (grandrelle thread)
 Raw material: Camel Camel
 Color: Dull reddish yellow 2.5Y 7.5/6 Dark brown 5YR 2.4/4
 Diameter (mm): 0.50~0.70
 Twist, Twist No. (/cm): $Z \begin{array}{l} \nearrow \\ \searrow \end{array} S(2.0\sim 3.0)$
 Density (/cm): 9.0

Weft Pile
 Raw material: Camel Camel
 Color: Dark brown 5YR 2.4/4 Dark brown 5YR 2.4/4
 Diameter (mm): 0.40~0.50 0.7
 Twist, Twist No. (/cm): — Z (1.0~2.5)
 Density (/cm): 51.0~54.0 10×(30~35) (pile knot/dm)
 Selvage: None
 Edge: None
 Other: Interval between pile knotting rows 0.8~1.0 cm

Fragmentary specimens:
 V-8-1 V-41-3 V-75-17 V-88-2 V-90-20 IV-W-66-①

Textile 5: Double faced rug fragment

Representative specimen: Registered No.: V-62-3
 Size (cm): 25.0×21.0
 Structure: Field Variation of plain weave, warp 1, weft 3, weft-faced
 Border Variation of plain weave, warp 1, weft 3, weft-faced
 Pile knot B-2, double faced, open to the left
 Design: chequers
 Thickness (mm): Field 4.80 7.90~8.93 (with pile)
 Border 4.40~5.95

Warp (grandrelle thread)
 Raw material: Cashmere Sheep
 Color: Dull reddish yellow 2.5Y 7.5/6 Yellowish brown 9YR 4/4
 Diameter (mm): 2.10~3.70
 Twist, Twist No. (/cm): $S \begin{array}{l} \nearrow \\ \searrow \end{array} Z(1.7\sim 2.3)$
 Density (/cm): 1.8~1.9

Weft (1) field Weft (2) field
 Raw material: Sheep Sheep
 Color: Dull reddish yellow 2.5Y 7.5/6 Dark grayish brown 5YR 2/1.5
 Diameter (mm): 0.90~1.50 2.00

Twist, Twist No. (/cm):	— S (1.0~2.0)	— S (1.0)	
Density (/cm):	3.0×3	3.0×3	
Raw material:	Weft (3) border Sheep	Weft (4) border Sheep	Pile Cashmere
Color:	Gold	Deep purplish red	Dull reddish yellow
	2.5Y 6/8	1R 3/10	2.5Y 7.5/6
Diameter (mm):	0.90~1.50	0.90~1.20	3.00~6.00
Twist, Twist No. (/cm):	— S (1.0~2.5)	— S (1.0~2.5)	S S >— Z (1.3~2.0) S
Density (/cm):	(6.0~7.0)×3	(6.0~7.0)×3	(5.0~6.0)×(8.0~9.0) (pile knot/dm)
Selvage:	None		
Edge:	Weave start	Cord-like (U-turn warp) V-62-3	
Others:	length of loop 6.5 cm	Interval between pile knotting rows 1.0~1.2 cm	
Fragmentary specimens:	V-47-1	V-62-3	V-75-8

Textile 6: Small red fragment

Representative specimen:	Registered No. : V-47-13
Size (cm):	2.5×2.0
Structure:	Ground Plain weave, weft-faced Pile knot Uncertain
Thickness (mm):	2.00

Raw material:	Warp Cashmere	Weft Sheep	Pile Sheep
Color:	Gold	Strong yellowish red	Strong yellowish red
	2.5Y 7/10	7R 4.5/12	7R 4.5/12
Diameter (mm):	1.00~1.35	0.70~0.80	1.30
Twist, Twist No. (/cm):	Z >— S (3.0) Z	— Z (3.3~4.0)	S S >— Z (4.0) S
Density (/cm):	4.0	27.0~28.0	
Selvage:	None		
Edge:	None		
Fragmentary specimens:	V-41-16	V-47-13	

Textile 7: Fragment of carpet with wave pattern and geometric pattern

Representative specimen:	Registered No. : V-70-1	
Size (cm):	6.8×6.4	
Structure:	Ground Plain weave, balanced Pile knot C Double face	
Design:	Wave pattern, geometric pattern	
Thickness (mm):	Ground 2.20	4.50 (with pile)

Raw material:	Warp (grandrelle thread) Sheep	Weft Sheep
Color:	Dull reddish yellow	Yellowish brown
	2.5Y 7.5/6	9YR 4/4
Diameter (mm):	0.80~1.10	
Twist, Twist No. (/cm):	Z >— S (3.0~4.0) Z	S (1.0) Z Z Z Z Z Z

Density (/cm): 9.0 4 wefts and 3 pile rows

	Pile (1)		Pile (2)
Raw material:	Sheep		Sheep
Color:	Deep purplish red 1R 3/10		Gold 2.5Y 6/8
Diameter (mm):	0.90~1.20		0.90~1.20
Twist, Twist No. (/cm):	—Z		—Z
Density (/cm):			36.0×48.0 (pile 'knot'/dm)
Selvage:	None		
Edge:	None		
Others:	length of tufts 0.1~0.2 cm		Interval between pile knotting rows 0.18 cm

Fragmentary specimen: V-70-1

Textile 8: Green rug fragment with staircase pattern

Representative specimen: Registered No.: V-116-3

Size (cm): 24.0×15.0

Structure: Field Plain weave, weft-faced
 Design Plain weave, weft-faced, tapestry-weave technique
 Pile knot A-1

Design: Staircase

Thickness (mm): Ground 2.00~2.10

	Warp (1) (grandrelle thread)	
Raw material:	Sheep	Alpaca
Color:	Dull reddish yellow 2.5Y 7.5/6	Dark brown 5YR 2.4/4
Diameter (mm):	1.10~1.80	
Twist, Twist No. (/cm):	Z >— S (3.0~4.0)	
Density (/cm):	46.0~48.0	

	Warp (2)		Warp (3)
Raw material:	Cashmere		Cashmere
Color:	Dull reddish yellow 2.5Y 7.5/6		Dull orange 5YR 7/4
Diameter (mm):	1.00~1.80		1.00~1.60
Twist, Twist No. (/cm):	Z >— S (2.5~4.0)		Z >— S (2.0~2.5)
Density (/cm):	46.0~48.0		46.0~48.0

	Weft (1) field	Weft (2) corner	Pile
Raw material:	Cashmere	Cashmere	Cashmere
Color:	Dull green 5G 5/4	Reddish brown 10R 3/5	Dark yellowish green 10GY 3/4
Diameter (mm):	0.80~1.10	0.70~0.90	1.00~1.50
Twist, Twist No. (/cm):	—Z (2.0~3.3)	—Z (2.0~4.0)	S >— Z (3.0~4.0)
Density (/cm):	17.0~20.0	15.0	(10.0~11.0) × (11.0~12.0) (pile knot/dm)

Selvage: Type 2, cord (4.2) V-68-1

Edge: None

Others: Interval between pile knotting rows 0.8~1.0 cm

Fragmentary specimens:

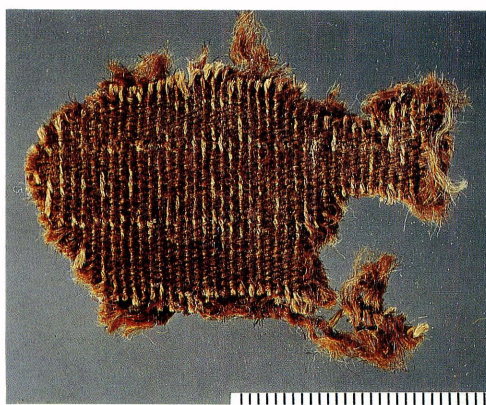
V-21-7	V-62-5	V-68-1	V-75-15	V-86-2	V-87-1
V-95-7	V-116-3	V-127-9	IV-W-31-①		



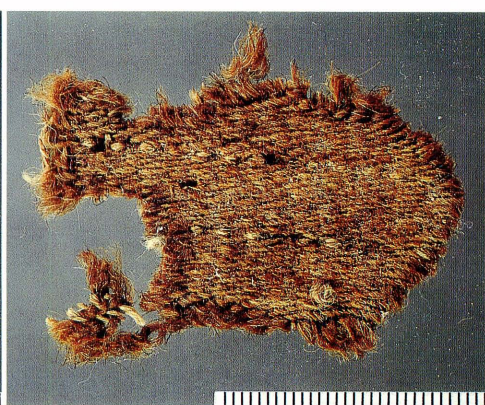
a. Rug with stripe border (Textile 1)



b. Square patterns along the selvage
(Specimen No. C-04-3, Cave F-6)



c. Pile fragment of twill ground
(Textile 4)



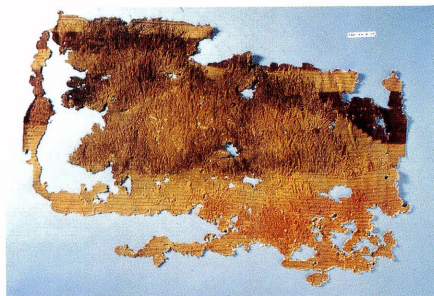
d. Reverse of Textile 4



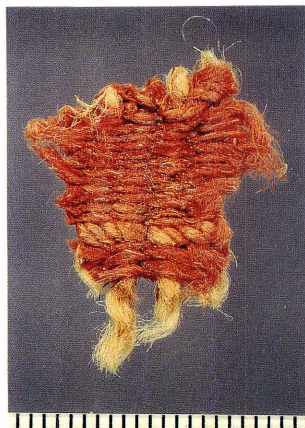
a. Green rug fragment with staircase pattern (Textile 8)



b. Small fragment with staircase pattern (Textile 8)



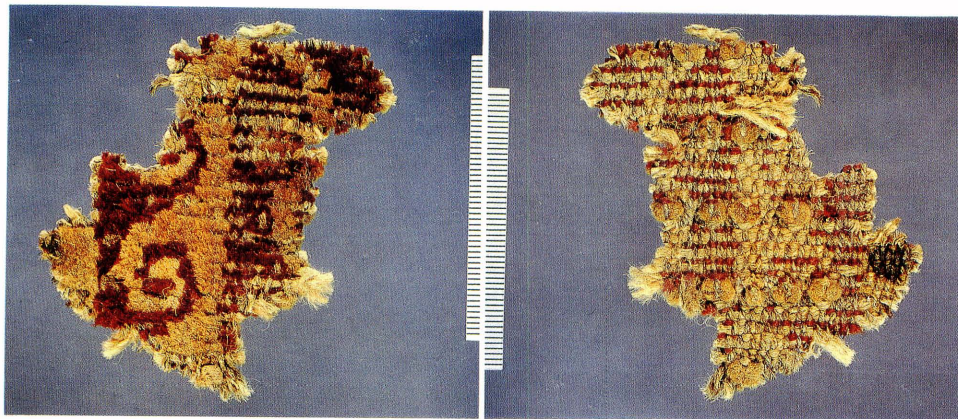
c. Staircase pattern at the corner (Specimen No. IV-MK-1382, Cave C-17)



d. Red small fragment (Textile 6)



e. Monochrome rug fragment (Textile 3)



a. Fragment of carpet with wave pattern and geometric pattern (Textile 7)

b. Reverse of Textile 7



c. Rug fragment of rough finish (Textile 2)



d. Double-faced rug fragment with weave start (Textile 5)



e. One loop knot of Textile 5

REPORT ON THE ANALYSES OF TEXTILES UNCOVERED AT THE ANCIENT IRAQI SITE

Fibers & Textiles Laboratories,
Toray Industries, Inc.*

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, alpaca fiber and camel fiber are in common use. In addition, it was very difficult for us to get conformation on the chemical structure of the dyestuff by means of electron probe microanalyzer and Raman microscope.

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 μm 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.
- E. **Dyestuff identification:** Having been treated with ultrasonic wave washing by water immersion, each sample was subjected to the analysis of laser Raman microprobe with the exciting line (5145Å) of argon iron laser.

Observations and consideration

A. Material analysis:

Pls. 4-12 show the results of photo-observation of the samples' fiber surface structures and cross sectional structures.

- a. Sample Nos.1-7, 10', and 11-13 are judged to be of sheep fiber from surface scale, cross sectional structure and thickness, irrespective of color.
- b. Sample Nos.10 (dull reddish yellow) and 14 (dull green) seem to be of cashmere because of their having very fine fibers and unique scales.
- c. Sample Nos.8 and 9 seem to be of camel fiber from their scale direction and cross sectional structure, though there are no medullas in their fibers observed by us. Sample No.13' (dark brown) is regarded as the one of alpaca fiber from the irregular thickness of cross

* 3-3-7, Sonoyama, Ohtsu, Shiga

Table 1 Analytical Results of the Textiles from the Ancient Iraqi Site: Textiles Uncovered at at-Tar Caves

Sample No.	Description				Material	Fiber width (μm)
	Textile No.	Specimen No.	Kind	Color of outward appearance	Animal fiber (Beast fiber)	
1	T-1	V-90-1	Warp (Grandrelle thread)	Pale reddish yellow	Sheep	15-45
1'	"	"	"	Dark brown	Sheep	20-35
2	"	"	Weft (Monochrome)	Light yellowish brown	Sheep	20-40
3	"	"	Pile thread	Gold	Sheep	20-40
4	"	"	Weft (Grandrelle thread)	Light yellowish brown	Sheep	20-35
4'	"	"	"	Dark brown	Sheep	20-40
5	T-2	V-39-2	Warp	Dull reddish yellow	Sheep	22-35
6	"	"	Pile thread	Dark grayish brown	Sheep	15-35
7	T-3	V-97-1-b	Warp	Dull reddish yellow	Sheep	15-35
8	T-4	V-41-3	Warp	Dull reddish yellow	Camel	15-25
9	"	"	Weft	Dark brown	Camel	20-40
10	T-5	V-47-1	Warp (Grandrelle thread)	Dull reddish yellow	Cashmere	15-20
10'	"	"	"	Yellowish brown	Sheep	20-35
11	"	"	Weft	Dull reddish yellow	Sheep	20-35
12	T-6	V-47-13	Weft	Strong yellowish red	Sheep	20-35
13	T-8	V-75-15	Warp (Grandrelle thread)	Dull reddish yellow	Sheep	15-30
13'	"	"	"	Dark brown	Alpaca	15-35
14	"	"	Weft	Dull green	Cashmere	15-25
18	T-5	V-62-3	Pile thread	Dull reddish yellow	Cashmere	18-31
19	"	"	Weft (Chequered)	Deep purplish red	Sheep	28-45
20	T-6	V-47-13	Warp	Gold	Cashmere	16-47
21	T-8	V-68-1	"	Dull orange	Cashmere	17-37
22	"	V-87-1	"	Dull reddish yellow	Cashmere	18-36
23	"	V-86-2	Weft (Staircase)	Reddish brown	Cashmere	27-39
24	"	IV-W-31-①	Pile thread	Dark yellowish green	Cashmere	23-32

sectional view and the existence of medulla.

- d. Sample Nos.18 and 20-24 seem to be from cashmere fibers because they have very fine fibers. Sample No.19 is considered as the one from sheep fiber depending on its cross sectional structure and thickness.
- e. Sample No. A (one-humped camel fiber) contains medulla, and Sample No. B (two-humped camel fiber) also contains medulla. In the meantime, there are no medullae in Samples No.1' (dark brown) and D or Samples No.4' (dark brown) and E, so that they are judged after all to be of sheep fibers.

Table 2 Analysis of Camel Fiber and its Related Samples

Sample No.	Description	Cross sectional structure			Fiber width (μm)
			Scale	Medulla	
A	One-humped camel (Back position)	Thick	Medium	Exist	35~63
		Thin	''	None	25~40
B	Two-humped camel	Thick	''	Exist	35
		Thin	''	None	15
	Table 1-Sample No.	Color of outward appearance			
C	No.1	Pale reddish yellow	—	None	15~35
D	No.1'	Dark brown	—	None	20~30
E	No.4'	Dark brown	—	None	12~35

B. Dyestuff identification:

The current observations are shown in Pl. 13 and the appendixes 1 and 2.

- Sulfur calcium and silicon have been detected as a result of the elementary analysis, all of which are the elements which are inherent in sheep fibers. Moreover, as for the micro-Raman analysis, the background jamming caused by fluorescence was so large that it was difficult for us to grasp something that would lead to dyestuff identification.
- Samples

Sample No.	Textile No.	Specimen No.	Kind	Color of outward appearance
12	T-6	V-47-13	Weft	Strong yellowish red
14	T-8	V-75-15	Weft	Dull green

Conclusion**Material analysis:**

The results of morphological analysis by microscope are listed in Table 1 and Table 2.

Dyestuff identification:

The research results obtained by Raman spectroscopy analysis through resonant Raman effect are shown in Appendix 1, while the results of visible and ultraviolet absorption spectroscopy analysis are shown in Appendix 2.

Reference data

The structures of the surfaces and the cross sections of the representative present animal fibers are shown in Plates 1 to 3.

List of Plates

- Pl. 1 (1) Structures of present animal fibers (Longitudinal view, Cross section): Sheep fiber (Merino wool), Common goat fiber and Cashmere goat fiber.
- Pl. 2 Alpaca fiber, Silk and Sample B: Camel fiber (Two-humped camel)
- Pl. 3 Sample A: Camel fiber (One-humped camel (Back position)).
Sample B: Camel fiber (Two-humped camel).
- Pl. 4 (2) Observation results of Samples (Longitudinal view, Cross section): Sample 1 (Sheep), Sample 1' (Sheep), Sample 2 (Sheep) and Sample 3 (Sheep).

- P1. 5 Sample 4 (Sheep), Sample 4' (Sheep), Sample 5 (Sheep) and Sample 6 (Sheep).
 P1. 6 Sample 7 (Sheep), Sample 8 (Camel), Sample 9 (Camel) and Sample 10 (Cashmere).
 P1. 7 Sample 10' (Sheep), Sample 11 (Sheep), Sample 12 (Sheep) and Sample 13 (Sheep).
 P1. 8 Sample 13' (Alpaca), Sample 14 (Cashmere), Sample 18 (Cashmere) and Sample 19 (Sheep).
 P1. 9 Sample 20 (Cashmere) and Sample 21 (Cashmere).
 P1.10 Sample 22 (Cashmere), Sample 23 (Cashmere) and Sample 24 (Cashmere).
 P1.11 Cross section: Sample \square (Sheep) and Sample \square (Sheep).
 P1.12 Cross section: Sample \square (Sheep).
 P1.13 Elementary analysis (Sample 12 and Sample 14).

APPENDIX 1: ANALYSS OF DYESTUFF CONTAINED IN THE IRAQI ANCIENT YARNS

An analytical attempt to identify the dyestuff used in the Iraqi ancient yarns was made by means of the laser Raman microprobe through resonant Raman effect. However, it was difficult for us to identify the dyestuff contained in the fibers because of strong fluorescence background.

Purpose of analysis:

Examination of what the dyestuff contained in the Iraqi ancient yarns is like.

Sample:

Sample No.	Textile No.	Specimen No.	Kind	Color of outward appearance
12	T-6	V-47-13	Weft	Strong yellowish red
14	T-8	V-75-15	Weft	Dull green

Analytical method:

Given below are the character and optical diagram of the laser Raman microprobe which was used for measuring the specimens (MOLE, Jobin-Vvon make, France).

1) The character of MOLE:

The mechanical feature of MOLE lies in the combination of optical microscope and laser Raman spectrometer. MOLE has the following microanalytical features:

- a. The information relating to chemical structure of small area and crystal structure is obtainable by means of $1\ \mu\text{m}$ -order in the positional resolving power.
- b. Distribution of specific compound and morphology can be observed.
- c. Non-destructive analysis is attainable.
- d. Specific measurement conditions such as evacuation are not required for measuring.

2) Optical diagram of MOLE:

Fig.1 shown below is the optical diagram of MOLE. The Raman data system developed by Toray Industries, Inc. (NEC PC9801) was used for measuring.

3) Measurement condition:

The measurement condition of each specimen as well as its spectra has been recorded as is shown in Table 3.

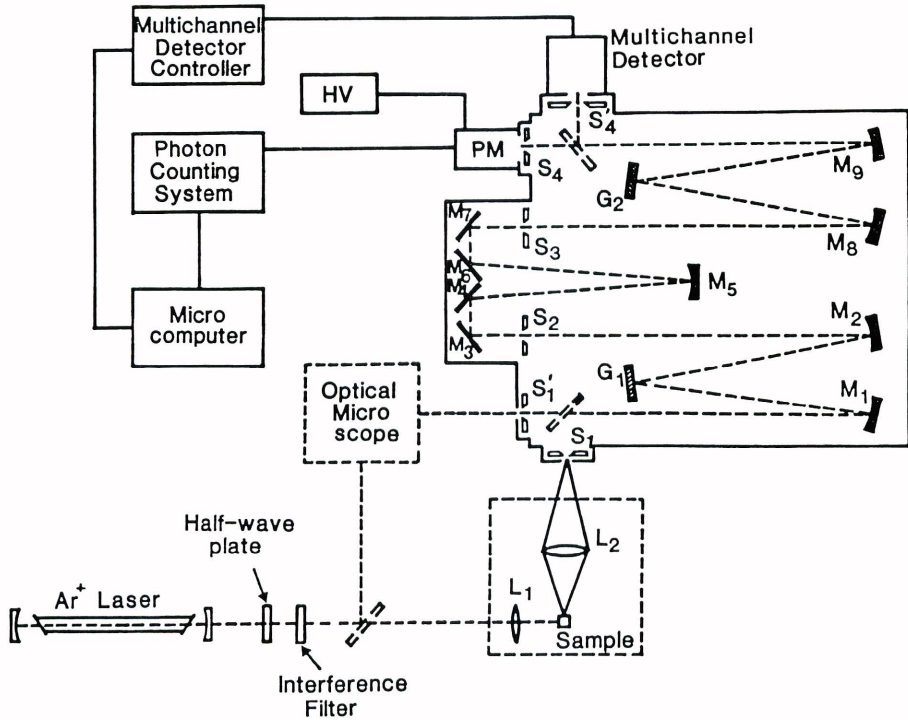


Fig.1

Table 3 Spectral conditions

Specimen No.	V-47-13		V-75-15	
	Fig.1	Fig.2	Fig.3	Fig.4
Slit width (μm)	1000/1000/1000	←	←	←
Laser wave length (\AA)	5145	4579	5145	4579
Laser power (mW)	12	←	←	←
Sensitivity	$1/2 \times 10^{-3}$	←	←	←
PM supply (V)	980	←	←	←
Scan speed ($\text{cm}^{-1}/\text{min}$)	50	←	←	←
Time constant(s)	0.8	←	←	←
Sampling interval (cm^{-1})	1	←	←	←
Repeat time	3	←	←	←
Objective (x)	100	←	←	←
Intensity max.	500	180	350	300
Intensity min.	0	30	200	40
Polarization	$Y \cdot \lambda/2$	←	←	←
Spectral range (cm^{-1})	1800-200	←	←	←

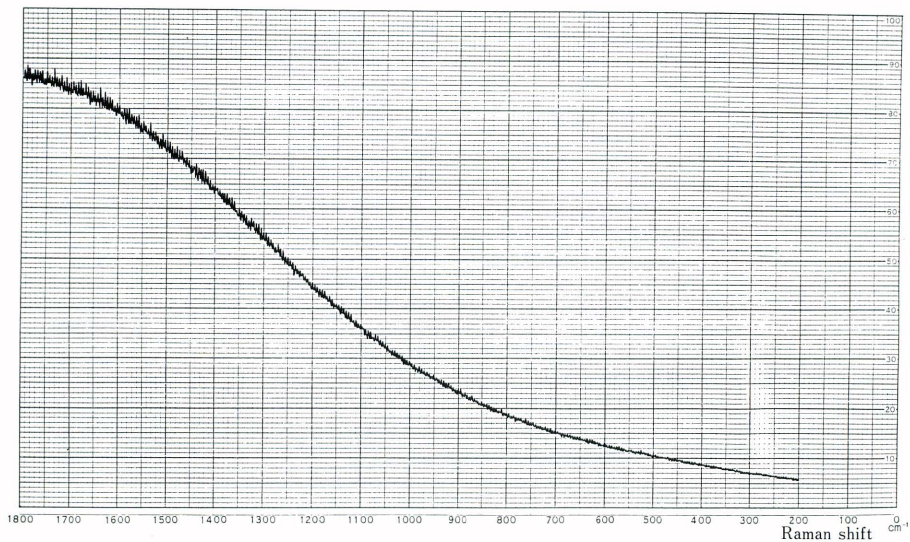


Fig.2 Exciting Wave Length 5145Å of V-47-13

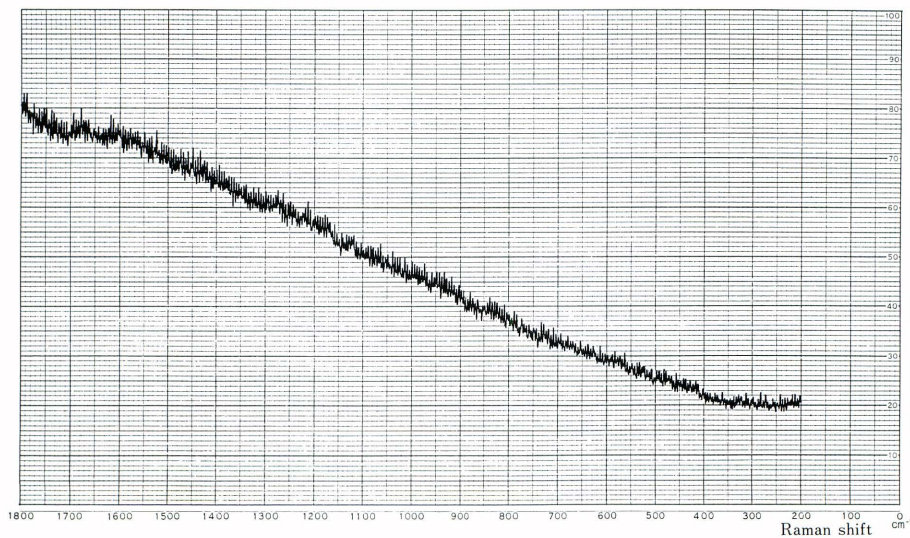


Fig.3 Exciting Wave Length 4579Å of V-47-13

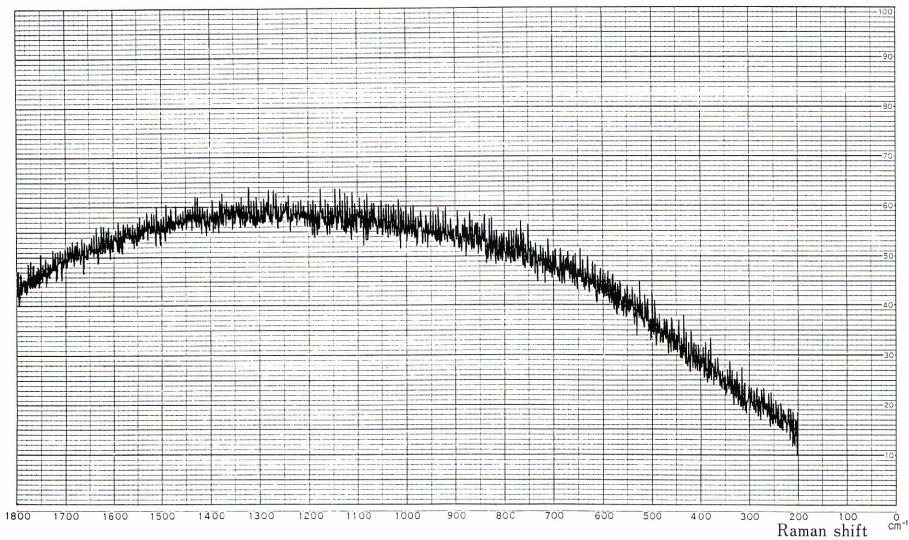


Fig.4 Exciting Wave Length 5145Å of V-75-15

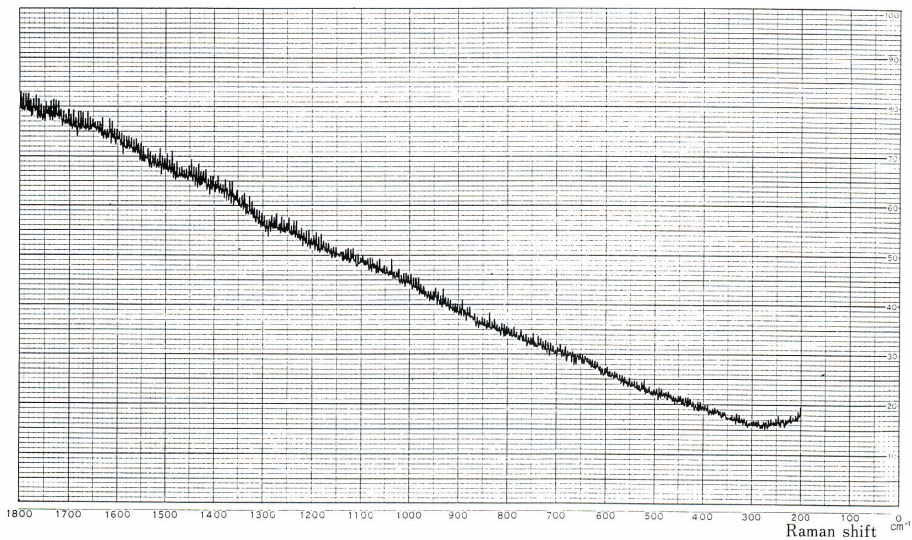


Fig.5 Exciting Wave Length 4579Å of V-75-15

Result and consideration :

The Raman spectral analysis through resonant Raman effect is frequently attempted for the purpose of identifying such small amount of colored component as dyestuff contained in yarn. The selective analysis of colored component using resonant Raman effect is explained in the attached data.

As for the two ancient yarns, their surface stain was removed in water by ultrasonic cleansing. And then, Raman spectral measurement was applied to individual yarns each by illuminating laser of 10 μm or so in beam diameter.

In the use of resonant Raman effect, Raman spectral SN ratio is determined through the equilibrium of the increasing degree of Raman scattering strength and the background fluorescence strength. Thus, as light source (exciting wavelength) for Raman spectral measurement, two kinds of Ar⁺ laser lines, 5145Å and 4579Å, were used whose measurement results are shown in the attached figures.

Fig.2 No.12 (Exciting wave length: 5145Å)

Fig.3 No.12 (Exciting wave length: 4579Å)

Fig.4 No.14 (Exciting wave length: 5145Å)

Fig.5 No.14 (Exciting wave length: 4579Å)

The result is that all of these Raman spectra were so high, caused by fluorescence background, that the Raman band by dyestuff was not detectable. This is why we were unable to identify the dyestuff contained in the yarns.

APPENDIX 2: RESEARCH ON WEFT YARN DYESTUFF: REPORT ON VISIBLE AND ULTRAVIOLET ABSORPTION SPECTROSCOPY ANALYSIS

With regard to the two weft threads tested by us (C-16 · T-6 · V-47-13 and C-16 · T-8 · V-75-15), their visible, ultraviolet absorption and reflection spectra were analyzed.

Purpose:

Examination of micro-transmission spectra and diffuse reflection spectra of the two weft yarns in order to obtain information relative to the dyestuff contained in their fibers.

Sample:

Sample No.	Textile No.	Specimen No.	Kind	Color of outward appearance
12	T-6	V-47-13	Weft	Strong yellowish red
14	T-8	V-75-15	Weft	Dull green

Measurement:

1) Diffuse reflection spectra:

Measuring apparatus: Spectrophotometer Type 330 (Hitachi make)

Slit width 5 nm (250—875 nm)

Gain 4 (875—2500 nm)

Time Constant 4

	Measuring speed	60 nm/min
	Light source	Halogen lamp (350—850 nm) Deuterium lamp (250—350 nm)
	Detector	PNT (250—875 nm)
Attachments:	Large sample chamber (60 ϕ Integrating sphere Reference sample (Standard white board: A 1203)	
2) Micro-transmission spectra:		
Microscope	Metal system microscope (Olympus make)	
	Objective	twentyfold, fiftyfold
	Measuring area	10, 4 μm ϕ
	Illumination mode	Transmission Light-field
Spectrometer	Rapid multichannel detection system NCPD-113 (Ohtsuka Denshi make)	
	Wave length	400—100 nm
	Resolution	6 nm or less
	Exposure time	10 sec.

Result:

Fig.6 shows reflection spectra in the UV-VIS region. Figs.7 and 8 show transmission spectra of individual specimens resulting from their glycerine immersion.

Comparison between the upper graph, Fig.6, a result of reflection spectra, and Fig.7, a result of transmission spectra, indicates that the strong yellowish red specimen (V-47-13) has its absorption spectral peak near 510 in both figures, whereas the dull green specimen (V-75-15) has no transmission spectral peak near 670 in Fig.8 in spite of its having its adsorption spectral peak near 670 in Fig.6.

It seems likely that the phenomenon mentioned above as to the specimen V-75-15 has been caused by either the weft-dye dissolution in glycerin or chemical reaction of the weft-dye with glycerin.

Next, Fig.9 shows transmission spectra of the yarn itself without any use of immersing liquid.

As for transmission spectra shown in Fig.9, we see absorption spectra especially dominant near 670, which is in accordance with reflection spectra in Fig.6.

It is therefore considered that spectra obtained from glycerin immersion (Fig.8) stand for the absorption spectra of the yarn itself which is free from any dye.

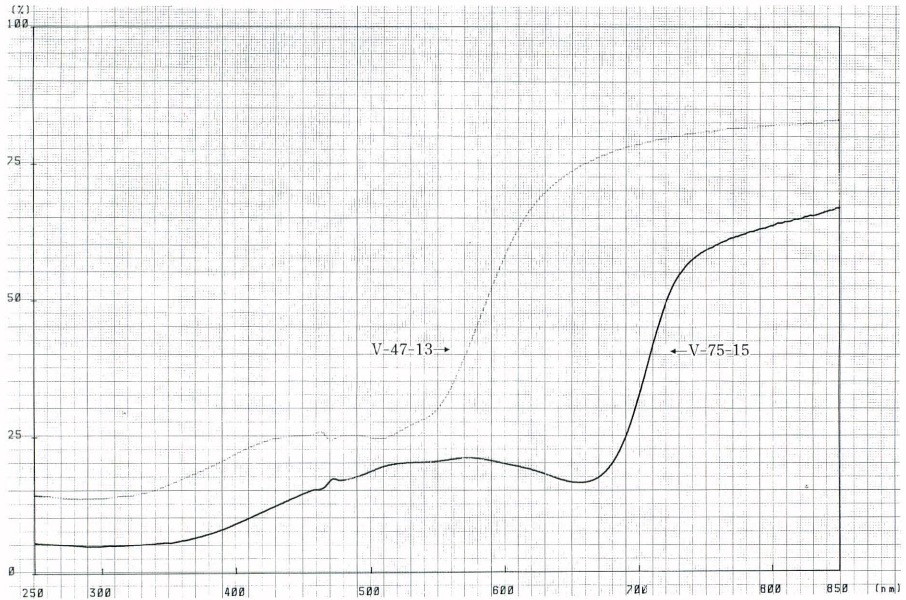


Fig.6 Reflection Spectra in the UV-Vis Region (V-47-13 and V-75-15)

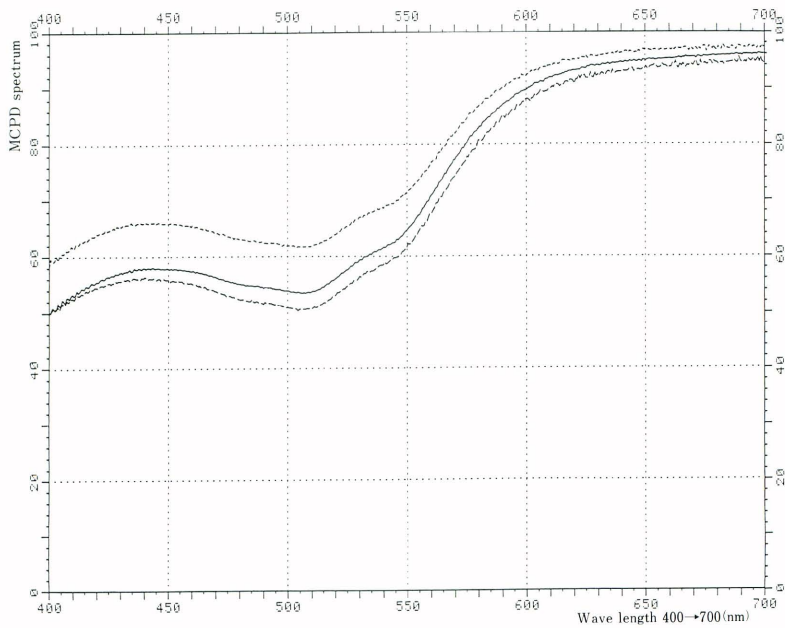


Fig.7 Micro-transmission of V-47-13 (with immersing liquid: Glycerin)

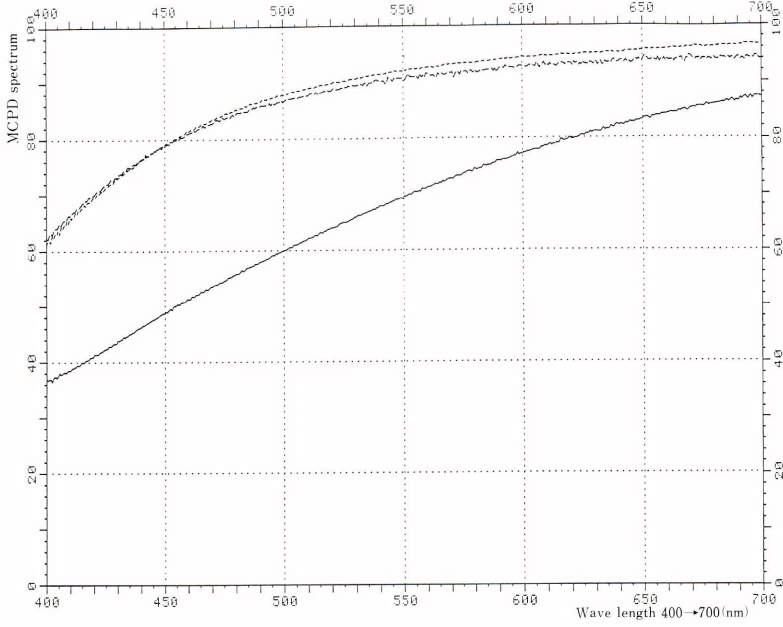


Fig.8 Micro-transmission of V-75-15 (with immersing liquid: Glycerin)

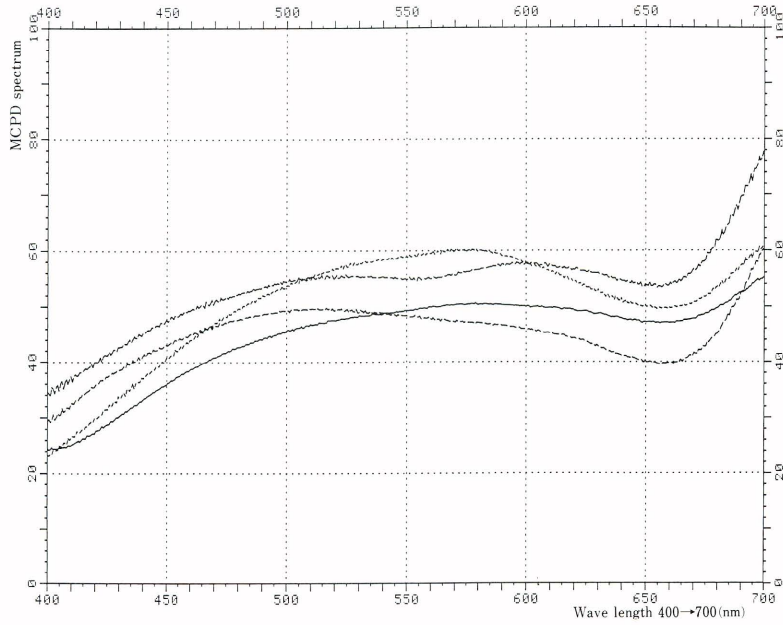


Fig.9 Micro-transmission of V-75-15 (without immersing liquid)

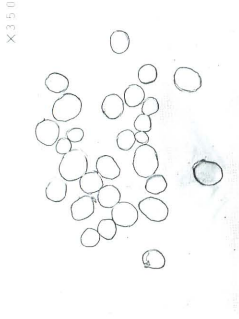
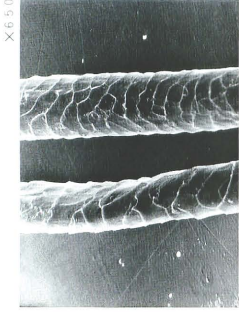
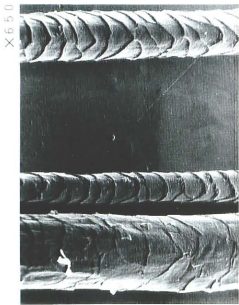
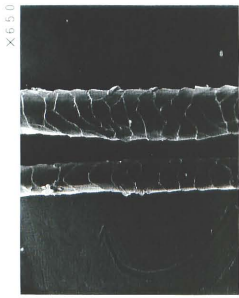
Longitudinal view

Stem (near to tip)

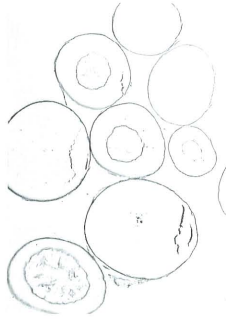
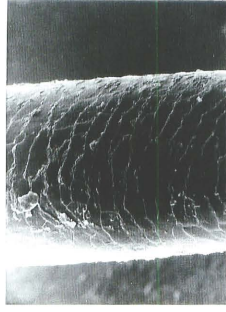
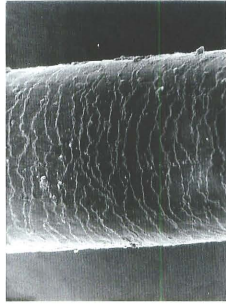
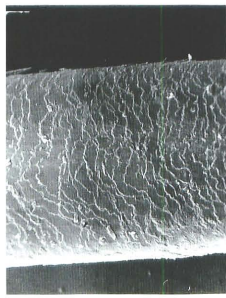
Stem

Stem (near to root)

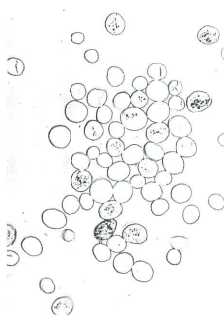
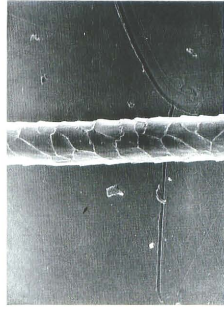
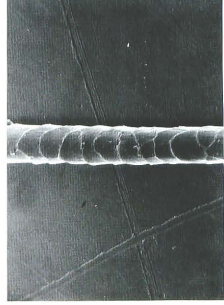
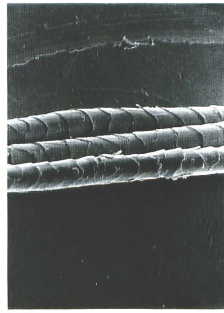
Cross section



Sheep fiber
(Merino wool)

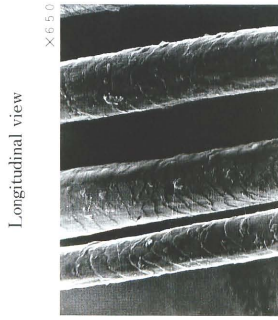
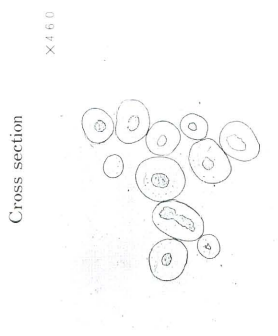
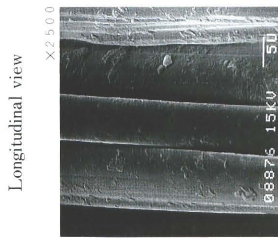
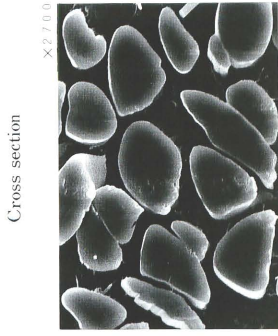


Common goat
fiber



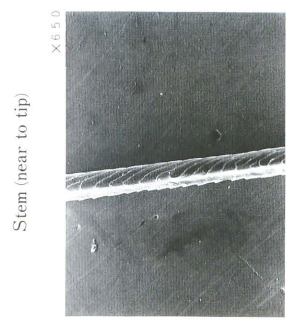
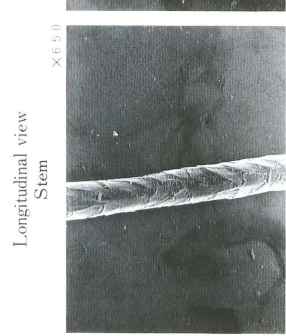
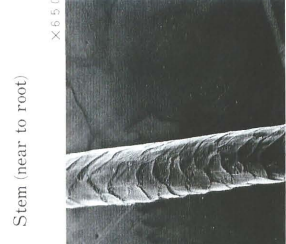
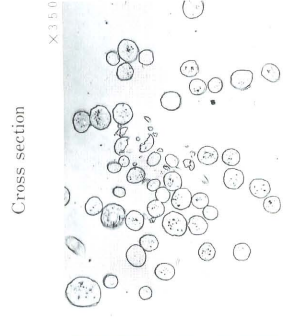
Cashmere goat
fiber

(1) Structures of present animal fibers



Silk

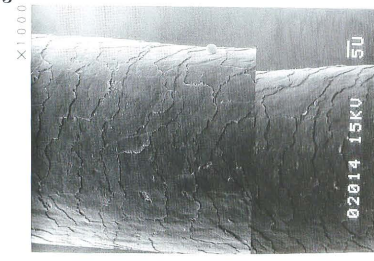
Alpaca fiber



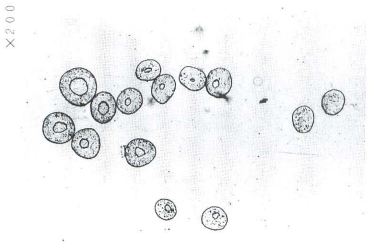
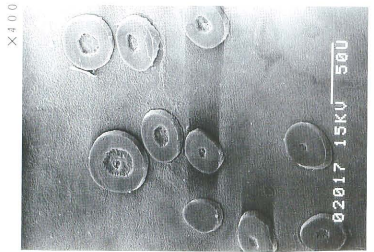
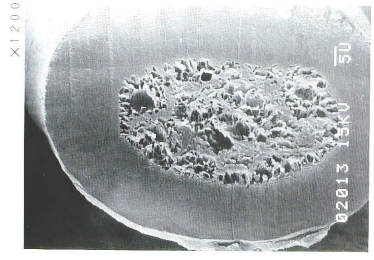
Sample B
Camel fiber
(Two-humped camel)

Alpaca fiber, silk and Sample B

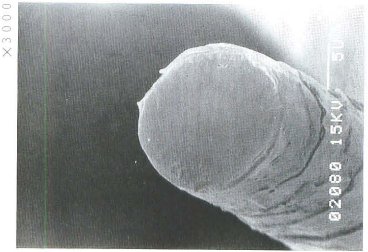
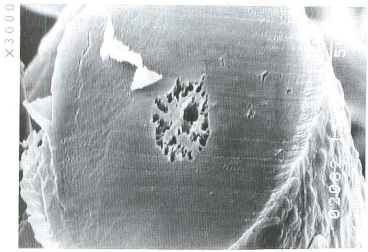
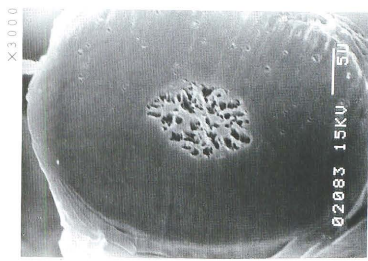
Longitudinal view



Cross section

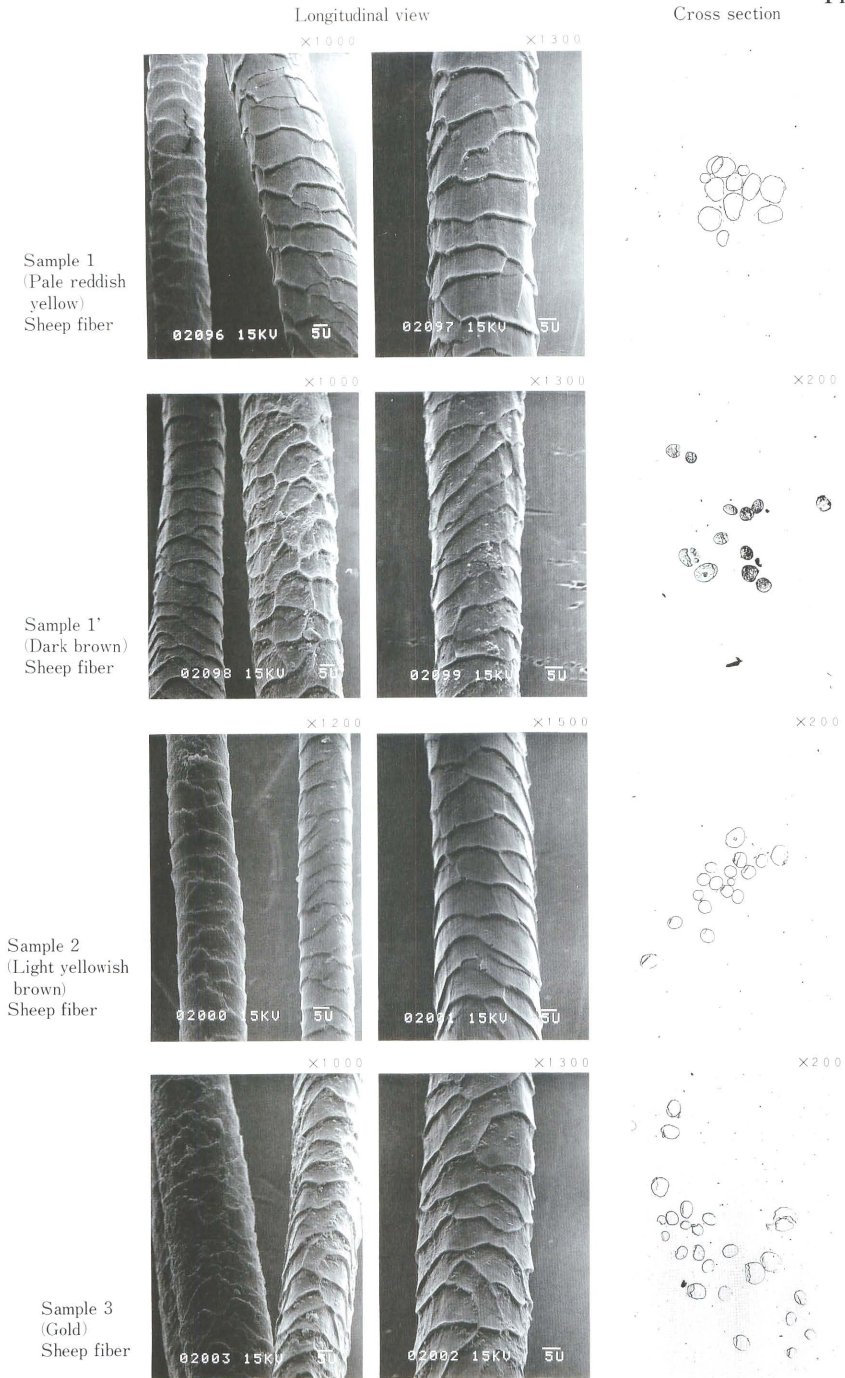


Sample **A**
Camel fiber
(One-humped camel,
back position)

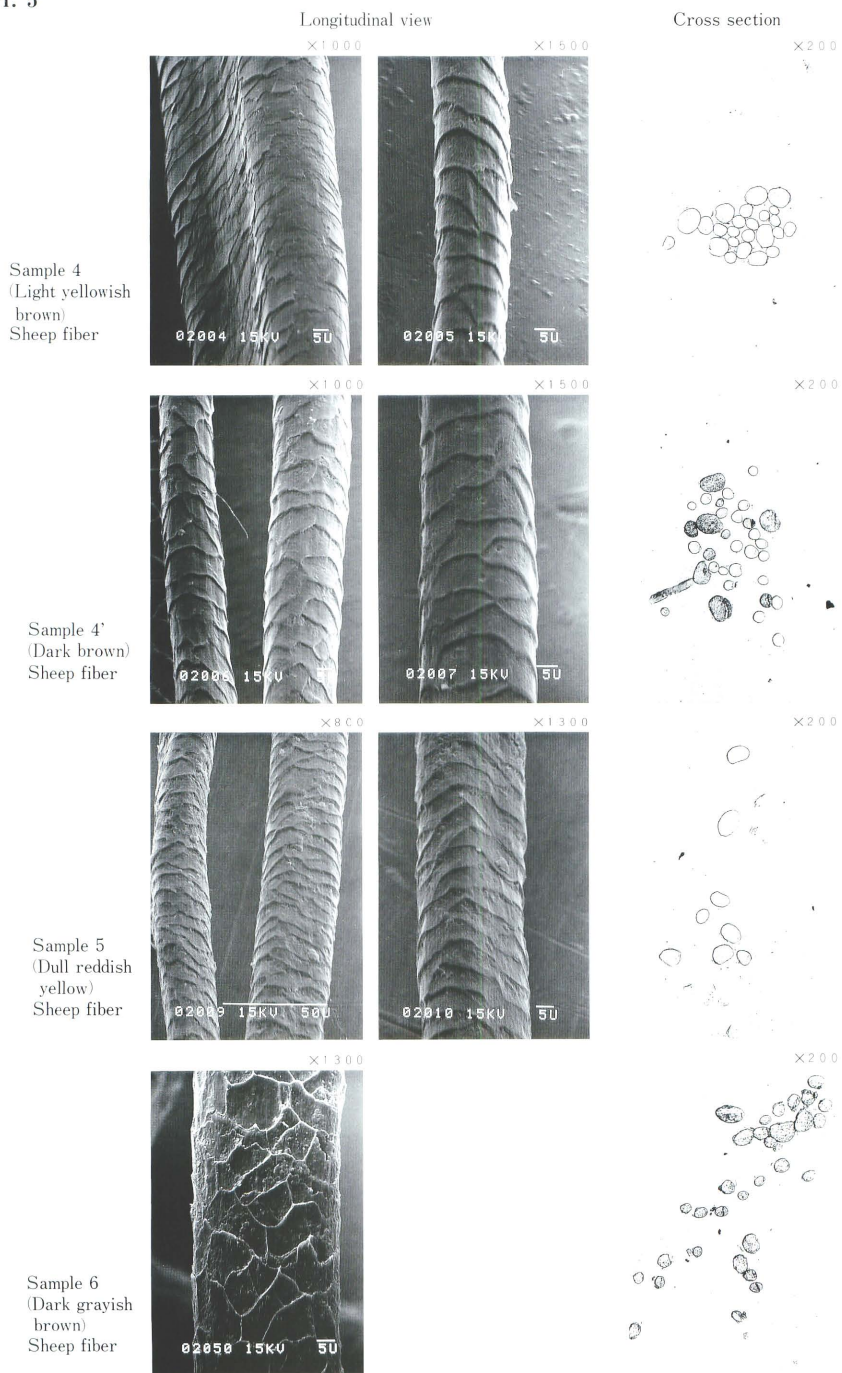


Sample **B**
Camel fiber
(Two-humped
camel)

Samples **A** and **B**



(2) Observation results of samples

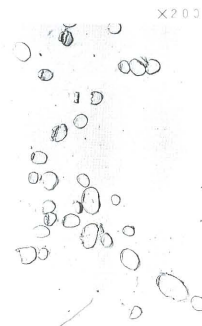
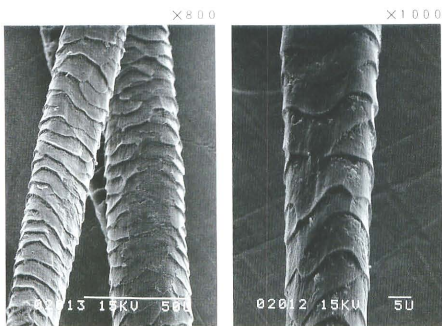


Samples 4, 4', 5 and 6

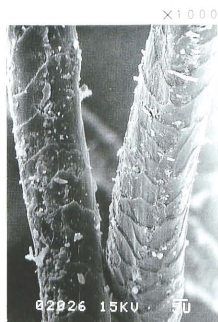
Longitudinal view

Cross section

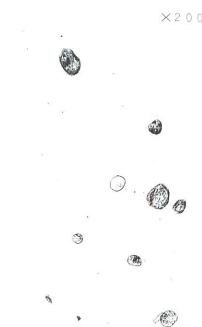
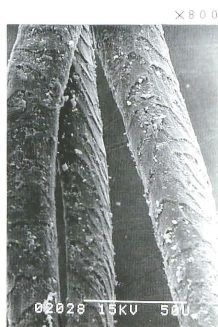
Sample 7
(Dull reddish yellow)
Sheep fiber



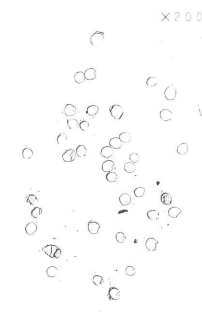
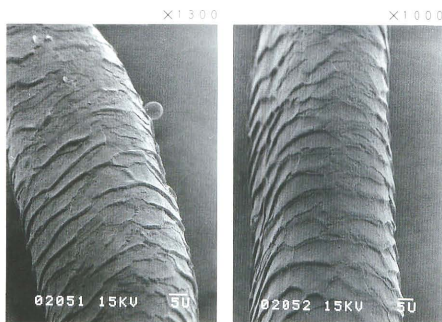
Sample 8
(Dull reddish yellow)
Camel fiber



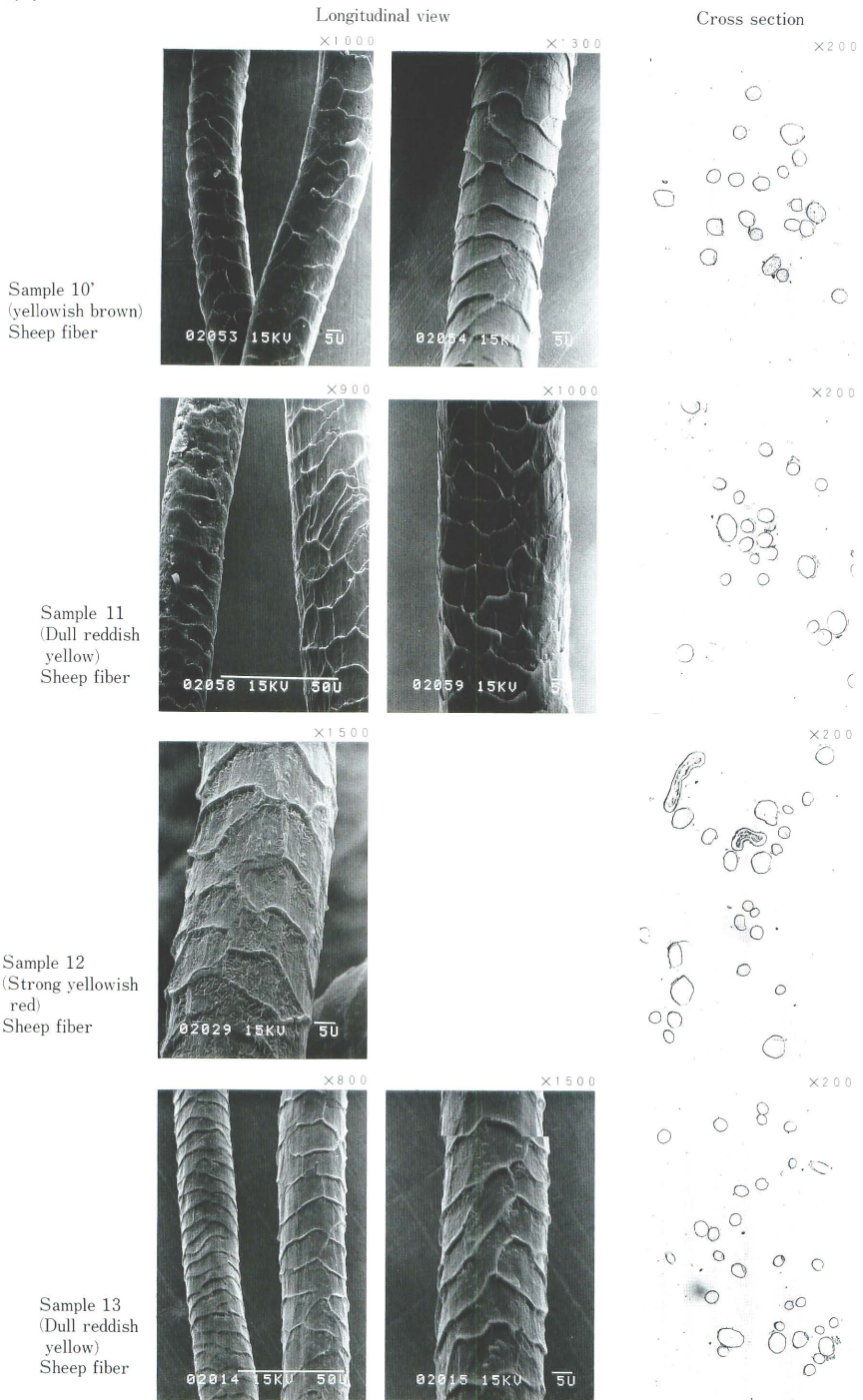
Sample 9
(Dark brown)
Camel fiber



Sample 10
(Dull reddish yellow)
Cashmere fiber



Samples 7, 8, 9 and 10

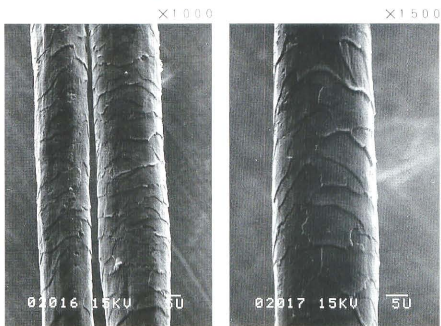


Samples 10', 11, 12 and 13

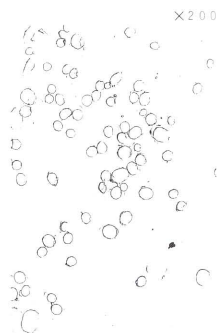
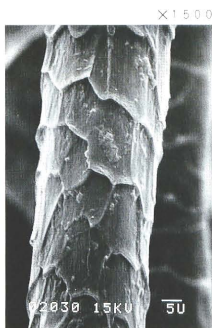
Longitudinal view

Cross section

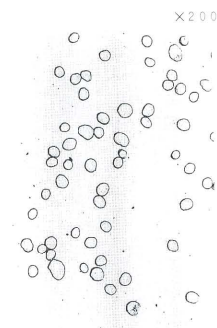
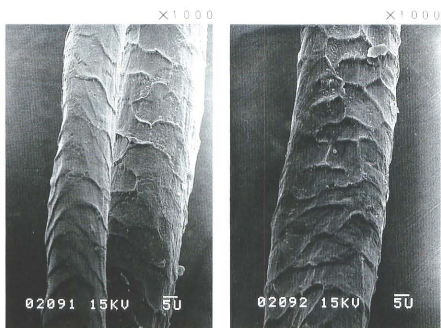
Sample 13'
(Dark brown)
Alpaca fiber



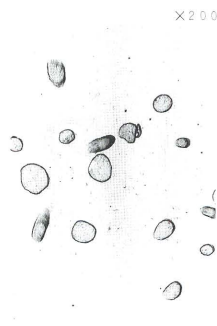
Sample 14
(Dull green)
Cashmere fiber



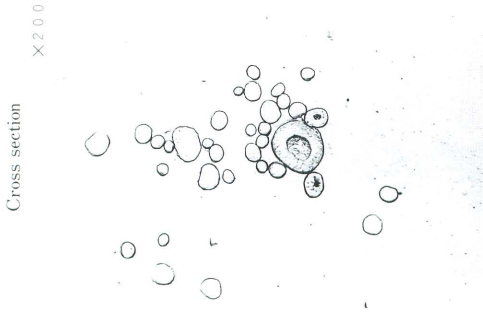
Sample 18
(Dull reddish
yellow)
Cashmere fiber



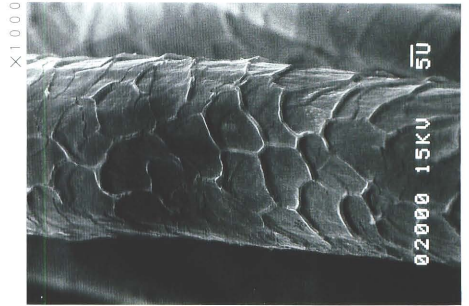
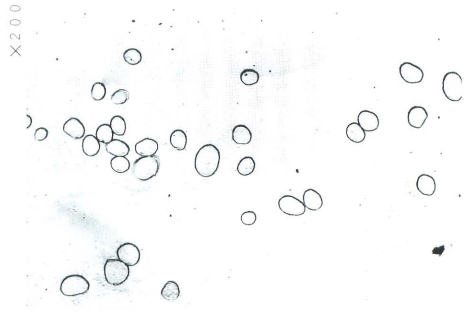
Sample 19
(Deep purplish
red)
Sheep fiber



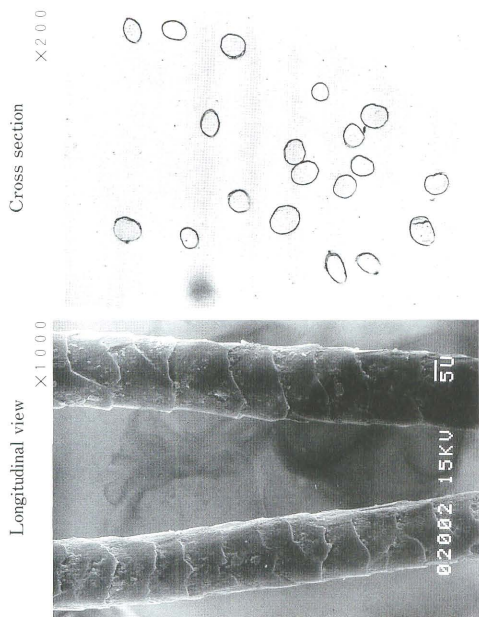
Samples 13', 14, 18 and 19



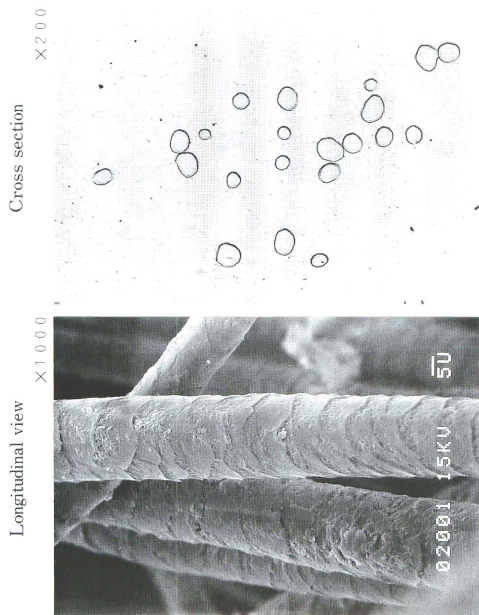
Sample 20
(Gold)
Cashmere fiber



Sample 21
(Dull orange)
Cashmere fiber



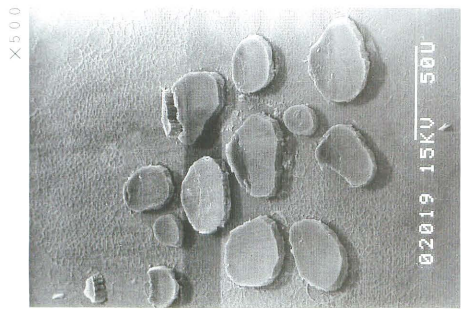
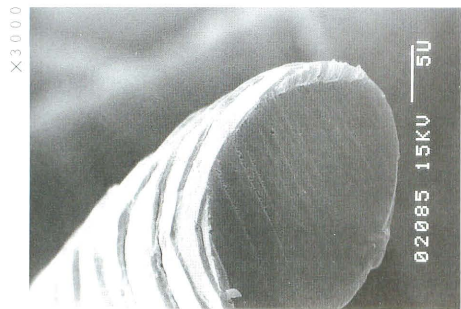
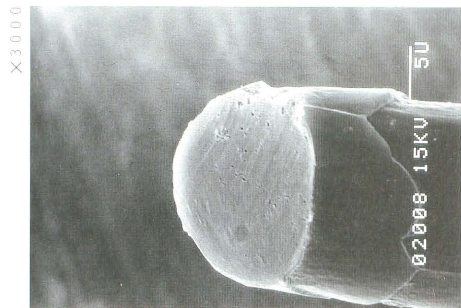
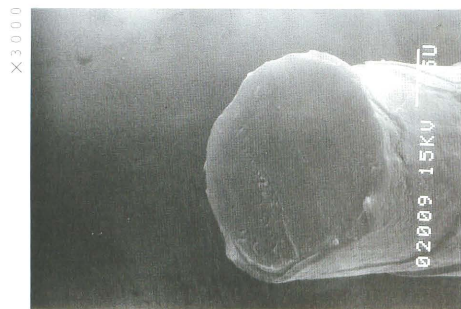
Sample 22
(Dull reddish yellow)
Cashmere fiber



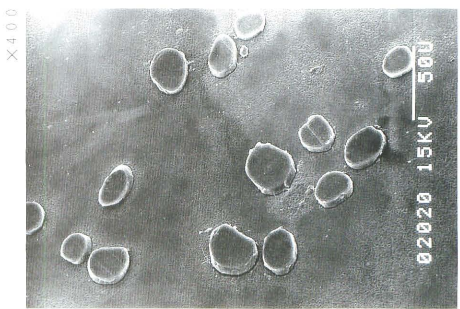
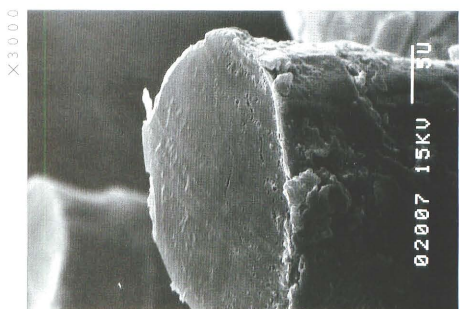
Sample 23
(Reddish brown)
Cashmere fiber



Sample 24
(Dark yellowish green)
Cashmere fiber

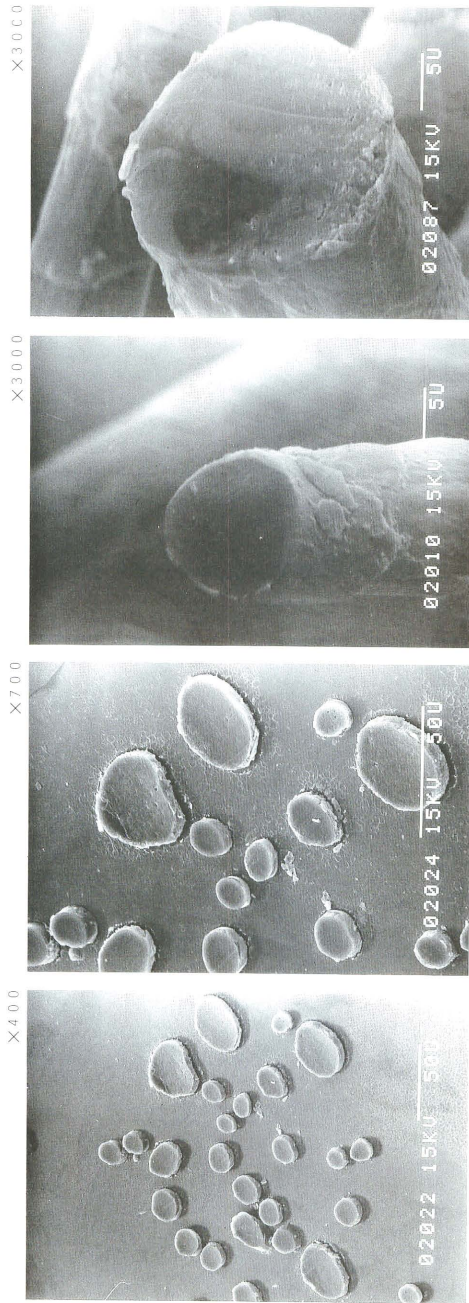


Sample **C**
 (Table 1-Sample 1)
 Pale reddish
 yellow
 Sheep fiber



Sample **D**
 (Table 1-Sample 1)
 Dark brown
 Sheep fiber

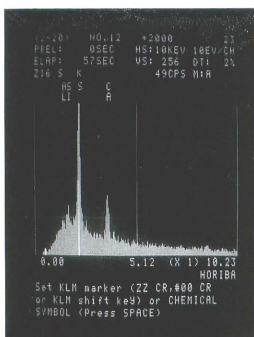
Cross section of Samples **C** and **D**



Sample E
(Table 1-Sample 4)
Dark brown
Sheep fiber

Cross section of Sample E

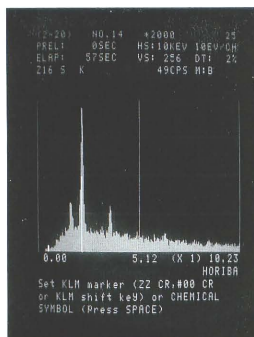
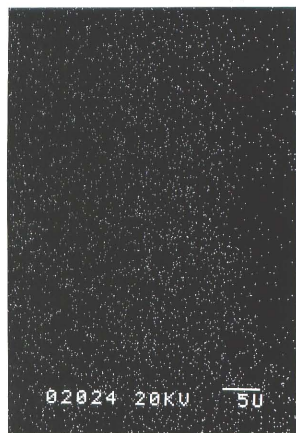
Spectrogram of sample's surface



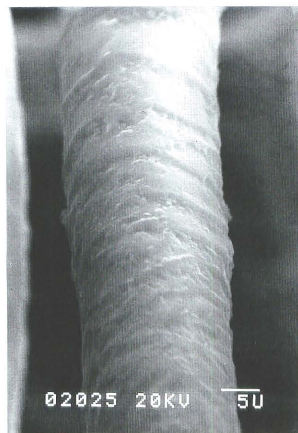
Sample 12 (T-6)
Outward appearance color:
strong yellowish red
Sheep fiber



Distribution of silicon



Sample 14 (T-8)
Outward appearance color:
dull green
Cashmere fiber



Elementary analysis

フリット／ガラス製三稜玉・多管玉・山梔玉： テル・アブ・ソール出土例の再検討

Some notes on frit/glass beads from Tell Abu Thor, Iraq

井 博 幸*

はじめに

1981年イラク古代文化研究所は、イラク考古局の要請により、ユーフラテス川中流域に計画されたハディーサダム建設に伴う関連水没遺跡の緊急調査を実施した。調査のため選定した遺跡はテル・アブ・ソールで、既に概報が公表されている〔藤井・岡田 1982/83〕。筆者も極く短期間、調査に参加した。調査状況に関しては概報で触れられているので重複はさける。

調査では、土器を中心として多量の遺物が採集されたにも拘わらず、明確な遺構は確認されなかった。遺跡の性格についても推測の域をでない。しかしながら微細な骨片とともにビーズの出土をみたことから、ここで埋葬が行われたことは確かである。

遺跡の年代についても概報で言及されており、新アッシリア時代の特徴を有した土器の存在が顕著な点は、その時期の遺構・遺物であろうと示唆され、墓の年代も同時代と解釈された〔藤井・岡田 1982/83: 11〕。筆者は最近、出土のビーズに興味をもって調べていくうちに、指摘された年代とビーズの年代観に若干の疑問を持つに至った。そこで以下にアブ・ソール出土のビーズを通じて墓の造営時期を考えてみたいと思う。

出土ビーズ

アブ・ソールの丘頂部からは200点以上のビーズが出土したという。石、ガラス、貝のほかダチョウ卵殻利用の製品が存在した。概報には30点が図示され、14点のガラス、3点のガラス状品[?]、および石製品などが所収してある〔藤井・岡田 1982/83: 11〕。多くは球形、円筒形、双円錐形などの一般的なビーズであるが、特徴的な形態をもつ3点のガラスもしくはガラス質ビーズが存在し注目された(図1)。

No 1 はガラス[?]とされるが、色調に関する記述はない。材質は焼成された混合物／練物[?]と推測され、きめ細かい胎に若干粒子の大きい混和剤を含む。このためザラついた表面を呈しており、写真からもその状態が観察できる(図1-1)。材質については現物が手元に存在しないため、写真および概報に頼らざるを得ない。報告者は材質を特定するまでは至らないものの、ガラス製品と本品を明らかに区別しており、ガラス以外の可能性を示唆しているようでもある。つまりこの製品はガラス質のようではあるが、ガラスでない製品で製作されたとみなし得るのである。筆者は写真の特徴および後述する他遺跡出土例を参考とし、フリット製品と推定した。その形は、側面形は下部が狭く、上部が僅かに広がっている。上部は山形の三つの稜を形成し、中央の稜が鋭く、左右はほぼ対称形をなす。孔は側面のほぼ中央付近に中央稜を挟んで二つ穿てある。断面形は二等辺三角形、全体の平面形は両端が尖った楕円形である。長さ13mm、厚さ5mm、高さ7mmを計測する。以下に説明を行う関係から、このタイプのビーズをその特徴的な側面形にちなんで“三稜玉”とよぶことにする。

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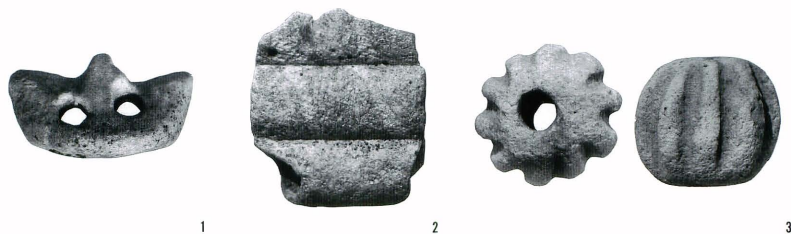


図1 アブ・ソール出土のフリット、ガラス／フリット製玉（国士館大学イラク古代文化研究所提供）

No 2 は円筒形のビーズを横に並列した形であるが、一部を破損する。材質は黄褐色ガラスとある。写真観察によれば、表面の状態は No 1 より僅かに粗く、円形の極く微小な剥離痕？を多数認め、気泡の痕跡を示しているようでもある。筆者は実物の観察を行っていない。このためフリットの可能性も保留し、ここではガラス／フリット製品としておきたい。製品の現存長（穿孔方向）は 13 mm、幅 15 mm 以上、厚さ 5 mm である。孔の径は中央のそれが狭く、両側は僅かに大きい。管が連続する形状から“多管玉”と呼称する。

No 3 もガラス？と報告されたが、色調に関する記述はない。写真（図1—3）でも明らかのように No 1 と酷似する表面状態を呈しており、フリットの可能性が高い。製品は球形で10条の刻みを孔方向に沿って施す。高さ 9 mm、径 10 mm であり、本邦の山梶玉くわなしだまとは若干趣の異なる製品である。些か乱暴ではあるが、製品の側面に穿孔方向にそった刻みのある球形・楕円形の玉を総称して“山梶玉”とよぶ。

他遺跡出土例（図2）

バビロン Babylon ドイツ・オリエント学会によって調査が行われた Merkes 地区では、バビロン第1王朝時代層の上層にて、カッシート時代に属する遺構と遺物が発見され、アブ・ソール出土例に類するビーズが墓 13, 15, 16, 24h, 25, 51 などから多数出土した [Reuther 1926]。

墓13：土墳墓である。多くのビーズに混じって三稜玉が出土した。フリット製で線刻による装飾が施してある。中央稜には縦方向の3条の沈線が、側稜および底部には縁部に沿った単線がめぐる。底面にも3条の並行線がある。長さ 17.5 mm、高さ 8 mm、厚さ 5 mm (4)。

墓15：日干煉瓦積墓で数名を埋葬する。山梶玉（6）を含む多くのフリット製装身具とともに、フリット製の多管玉2点が出土した。長さ 14 mm、幅 11 mm、厚さ 3 mm を計る。孔は4列あり径 1 mm 前後で揃っている。断面形は上面のみ整った円弧の連続で、裏面は形式的に連続する円弧をなす（5）。

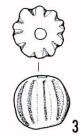
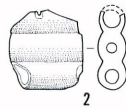
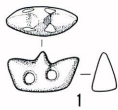
墓16：土墳墓である。多くのフリット製装身具が出土した。フリット製三稜玉の中央稜には底部に達する1条の刻みが施してある。断面形は丸みを帯びた二等辺三角形。長さ 17.5 mm、高さ 7 mm、厚さ 4 mm である（7）。No 8 と 9 は伴出した山梶玉である。

墓 24h：煉瓦積墓である。金属製指環やその他の装身具が出土した。フリット製の三稜玉（10）および山梶玉（11）を含む。三稜玉は長さ 14 mm、高さ 7 mm、厚さ 5 mm で、特別な装飾は施されていない。なお No 12, 13は墓25から出土した典型的な山梶玉である。

墓51：合口甕棺墓である。さまざまな形態のフリット製装身具が出土した。三稜玉（14）、山梶玉（15, 16）や本邦の三輪玉に類似したもの（17）などを含む。三稜玉は長さ 30 mm、高さ 11 mm、厚さ 10 mm を計測す

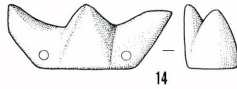
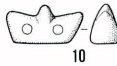
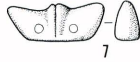
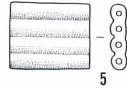
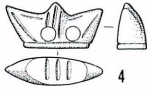
TELL ABU THOR

Fujii and Okada 1982/83 :
Fig. 13



**BABYLON
(Merkes)**

Reuther 1926 : Tafn.
47, 48, 50



NIPPUR

McCown et al. 1967 :
Pl. 150



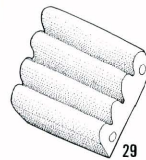
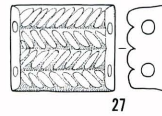
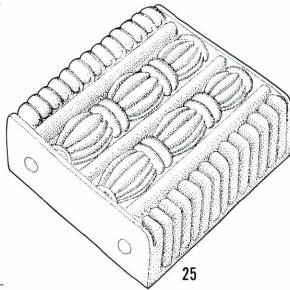
TCHOGA ZANBIL

Ghirshman 1966 : Pl. 79



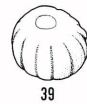
NUZI

Starr 1937 : Pls. 120,
130



TELL ZUBEIDI

Boehmer and Dämmer 1985 :
Tafn. 141, 151, 152



41: SUSA

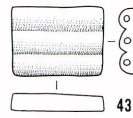
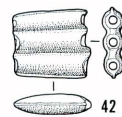
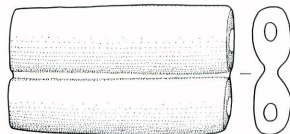
le Burn 1971 : Fig. 57

42: TELL FISNA

Numoto 1988 : Fig. 41

43: MARI

Parrt 1959 : Fig. 72



41

42

43

図2 メソポタミア・イラン出土のフリット/ガラス/土製玉

る。形態は既述の例に類似するが、それらと比べ2倍に近い大きさを有する。大型でかつ側稜が鋭く、断面形も三角形とならず中央稜が前面に出ている点でやや異質である。

ニップール Nippur シュメールの聖都。カッシート時代に属する TA 地区Ⅵ層で発見された墓 3B8 からは三稜玉 (18) 26点と、変形山柵玉 (20) 34点が出土した。これらは白色チョーク質の混合物 *chalky white composition* とされ、報告者も材質の特定をさけている [MaCown et al. 1967]。三稜玉は長さ 15 mm, 高さ 7 mm, 厚さ 5 mm で、既述の当該種に比べ中央稜の形態が僅かに異なる。

多少時代のくだる TA 地区Ⅳ層 (新アッシリア時代) の墓 1 B 269 からは、フリット製多管玉 (19) と山柵玉 (21) が出土し、報告者もバビロン出土例との類似性を指摘する [MaCown et al. 1967: Pl. 150 in catalogue]。両端部に環節状の装飾がある黒灰色のフリット製山柵玉 (22) は、TA 地区153地点Ⅲ層 (イシン・ラルサ時代) 出土で、他の山柵玉や以下に述べるヌジ出土例 (25) を考えるうえで注目される。このほか TA 地区Ⅶ層 (カッシート時代) からは、白色フリット製の変形多管玉? も報告されている [MaCown et al. 1967: Pl. 150-19]。

チャゴ・ザンビル Choga Zanbir 古名は Dur Untash. Untash-Napirisha (1275-1240 B. C. 頃) によって築かれた。3重の堅固な壁に囲まれた未完成の聖都である。ジグurat: 聖塔を囲繞する内周壁の南西面には、長方形の部屋が一行に3室並ぶ。このうちフリット製の三稜玉は *Chapell IV* と称される部屋から、多くのテラコッタ製品や他のフリット製品 (山柵玉を含む) と共に出土した [Ghirshman 1966: Pl. 79]。2点が報告されており、形はメソポタミアの例に酷似する。しかしながら実測図がスケッチの域を出ず、正確な特徴の把握は難しい (23, 24)。実測図を参照する限りでは長さ 15 mm, 高さ 5.5~5 mm と推定できる。断面形は不明、中央稜は他遺跡出土例に比べ僅かに丸みを有しているようである。

ヌジ Nuzi Yorgan Tepe ともいう。遺跡の歴史は新石器時代までさかのぼる。有名なのは前2千年紀中/後半まで連続する神殿と宮殿複合体で、ミタンニ王国との関連において注目される。発見された一連の神殿の最後の時期 (神殿 A: Ⅱ層) から、ミタンニ王 Saushtatar (1450 B. C. 頃) に関係する粘土板文書が出土した。神殿 A を中心として、ほぼ同時代の層からは多数のガラスやフリット製ビーズが出土した。ガラスは緑、黄、白、黒色、フリットには白、青、赤色などのヴァリエーションがある [Starr 1937: 445-7]。以下にヌジ遺跡出土の多管玉 (25~29) の特徴を表で示す。

No	出土地点	材 質	形 状	穿孔数	管/畝数	装飾その他
25	神殿 A	緑色ガラス	方形	2	7? (表面のみ)	半肉彫の連続山柵玉, 界線を伴う
26	神殿 A	白色ガラス	方形	3	3 (表・裏面)	両端部は螺旋状
27	X 147 区	緑色ガラス	方形	2	4 (表面のみ)	斜行する刻み/螺旋状刻み? ²⁾
28	N 102 区通路12	緑色ガラス	方形	2	4 (表面のみ)	なし
29	S 111 区	青色フリット	方形	2	4 (表面のみ)	なし

表面のみを畝状としたシンプルな多管玉 (28, 29) は多数出土したとされ、それらは緑色ガラスが最も多く、青色のフリット製品は前者に比べやや少なく、白色ガラス製品も存在した。畝状加工は3~7列があり、4列のものが多い。穿孔は通常2孔であるが、3列の畝状となった製品に限って3孔を有するという。これらの多管玉は大略長さと同幅の比が同じであり、9~26 mm を計測したとある [Starr 1937: 453]。なお、No 25 の表面には2列で連続する山柵玉が浮彫で表現されており、当時におけるビーズの配列や組み合わせを知る上で看過できない資料といえる。一方、山柵玉では青色フリット (30)、黄色ガラス (31)、白色ガラス (32) が確認されてお

り、No 30 はヌジで普及したタイプ、31と32は一般的でないタイプとされた [Starr 1937 : 453-4]。

ズベイディ Zubeidi ハムリン盆地内に存在し、ドイツ考古学研究所によって調査された。カッシート時代の遺跡で、出土の印章関係遺物からヌジとの関係が示唆されている³⁾。2層があり前14世紀から12世紀中頃にかけての遺跡とされる [Boehmer and Dämmer 1985]。フリット製容器・ビーズを副葬する合口甕棺墓や土壙墓、日干煉瓦墓などが検出された。なかでも墓46：合口甕棺墓には変形の山柵玉 (34) を含む多くのフリット製ビーズが副葬されており、このうちの1点は裏面が平らな小型の多管玉である (33)。このほかの墓からは山柵玉をはじめとし (35~40) 様々な形のフリット製ビーズが出土した。

テル・フィスナ Tell Fisna ティグリス川の河岸に存在した遺跡で、エスキ・モースル・ダム関係の緊急調査の一環として発掘された。ニネヴェ 5期からイスラム時代までの層位がある。多管玉は初期王朝 III期後半 (2400 B. C. 頃) の造営と推定される土壙墓から、他のビーズと共に被葬者の右手首に巻かれた状態で出土した。腕輪は9点のビーズで構成され、7点のファイアンス/フリット製品と2点の赤紫色の石からなる。多管玉は暗緑色のファイアンスもしくはフリット製で、長さ25 mm、幅 23 mm、厚さ 7.5 mm を計測する [沼本 1988 : 12, 42]。成形方法に関する言及はないが、鋳範の合わせ目と推測される張り出しが観察できることから型づくりとしてよいだろう。平面形は方形に近いが整っていない。断面は表裏ともに対応して連続する円弧である。側面形は両端が急激にすぼまる長楕円形で、他の製品にはない特徴を認める。孔は3列 (42)。

マリ Mari 前2千年紀の前半に位置づけられる宮殿より多管玉が出土した [Parrot 1959 : 100 No. 777]。材質は青色の練物/合成物 *Pâte* とされる。長さ 16 mm、幅 12.5 mm、厚さ 4 mm で、断面形は表面のみを畝状とし、裏面は平らである (43)。このほか平面形が方形で側面形は長楕円形を呈し、二つの孔を穿ったスベサービーズ多数も出土した [Parrot 1959 : Fig. 72]。

スーサ Susa 南西イランにおける中心的な都市遺跡である。アクロポリスの17A層より多管玉が出土した。材質は灰色を呈する焼物 *Ceramique* という [Le Burn 1971 : Fig. 57-22]。長さ 40 mm、幅 23 mm、厚さ 7 mm で、管の断面形はそれぞれ楕円形をなす (41)。なお17A層はメソポタミアのウルク後期と併行関係にあり、ジャムダト・ナスル期に先行すると推定されている。

ウルク Uruk シュメールの中心都市のひとつ。第37次の調査 (遺物分布の表面調査) において、青色のフリット製ビーズを発見した。3列の多管玉で、長さ 8.4 mm、幅 9 mm、管の径は 3 mm の小型の製品である [Boehmer and Finkbeiner 1984 : No. 27]。

系譜に関して

三稜玉 現時点では系譜関係を述べるほど出土例は多くない。バビロンでは Reuther のいう古カッシート時代層 *Alteren Kassitischen Schicht* より3点 (4, 7, 10)、新カッシート時代層 *Jungeren Kassitischen Schicht* から1点 (14) が出土しており、三稜玉の流行期間がごく短期間に限られなかったことを証明する。メルケス地区の墓葬を研究した Strommenger によれば前15世紀頃から前12/11世紀頃にかけて営まれたという [1964]。一方、チョガ・ザンビル出土例は信頼に足る年代を提供でき、前13世紀中頃まで使用されていたことが判明する。つまりカッシート時代を通じて流行したと推定できるのだが、何分にも例が少なすぎる。今後の類例の増加を待ちたい。またその形態は特殊であり、形自体がなんらかの意味を有している可能性もある、と推考されるが、その意図するところは不明である。さらに発生時点において整った形をもち、しかも少なくとも300

～400年以上にわたって、さほど大きな形態変化を示さない。そのことはカッシート時代に先行する使用があったことを暗示しているのかもしれない。

バビロン出土例を参考にすれば、カッシート時代の比較的古い段階の製品は、端正な形で装飾を施す例も存在し、断面形は丸みのある二等辺三角形、側面に穿たれた孔の間隔も狭いという特徴を認める。比較的時代の降る製品では、孔の間隔が広がる、稜の形が僅かに変化する、断面形が異なるなどの変容を観察できる。このようにみえてくるとアブ・ソール出土例は、カッシート時代の古い段階の製品に共通点が多いといえそうである。

多管玉 初期王朝Ⅲ期に属するウルの王墓出土品(2500～2400 B. C. 頃)に、金製やラピスラズリ製の多管玉が存在することはよく知られている〔Woolley 1952〕。多管玉の系譜がどこまで遡り、かつ何をもって初源とするかに関して、現時点で多くの例証に当たっていない。しかし、ウルグ後期以降のメソポタミアを中心とした西アジアの遺跡で発見されるスペーサービーズ Spacer bead (隙間調整／確保用の挿入ビーズ)は、その初源たり得るのではないかと考えている。すでにスーサのアクロポリス17A層では初源的な多管玉が存在し注目された⁹⁾。しかしながらアクロポリス17A層例は前4千年紀後半にあっては特異な例で、同時代における類例の報告はなく、前3千年紀中頃までの中間を埋める資料が現時点では欠落している⁹⁾。一方、方形あるいは長方形を呈する板状の製品に、複数の孔を並行して穿ったスペーサービーズは、アクロポリス17A層とほぼ同時代頃の多くの遺跡で確認されている〔井 1989 : Table 3〕。さらに初期王朝Ⅲ期～アッカド時代頃になると、製品の表裏に孔方向に並行する刻みを施した例や、貴金属製の多管玉が頻出するようになる。それはキシュA墓地〔Mackay 1925 : Pl. 60 Nos. 31, 32, 37, 38, 44, 46, 48, 49〕や、テル・アスマル〔Frankfort 1933 : Fig. 31 ; Frankfort 1934 : Figs. 28, 29〕、ウル出土例〔Woolley 1934 : Pls. 132, 134, 135, 145, 220〕のなかに確認でき、前3千年紀の中～後半における重連の装身具の流行を明らかにする。多管玉のすべてに複数の孔が存在する事実は、これらの玉が重連の飾りの部品として製作され、機能したことを示しており、このことも多管玉の初源をスペーサービーズに求めることの一助となる。

フリット製の多管玉がどの時代までさかのぼるか不明であるが、テル・フィスナ出土のファイアンス／フリット製品は注目してよい。側面の形状などに若干の相違はあるものの、後代の特徴を端的に示しており、筆者の知る限り現時点では最古のファイアンス／フリット製品である。この玉を出土した墓はウルの王墓の時期とほぼ同時代と推定され、南・北メソポタミアで同様な使用が確認されたことも興味ぶかい。また、マリの宮殿から出土した青色の練物は、フィスナ例から類推すれば、おそらくフリットもしくはファイアンス製品と考えられ、前2千年紀の比較的早い段階の製品とみなし得る。このような伝統がカッシート時代のフリット製品に受け継がれたとしても不思議ではない。

話しは変わるが、テル・グッパの調査ではⅦ層：ジャムダト・ナスル期(大略3300～3000 B. C. 頃)に帰属する6点のスペーサービーズを発見した。材質は石灰岩2点、フリット／ファイアンス1点、テラコッタ1点、焼いたか施釉した凍石2点であった〔井 1989〕。このことから、伝統的にスペーサービーズや多管玉が、硬度の低い石や、焼物あるいは合成物で製作されたことが知られる。それはグッパⅦ層とほぼ同時代とみなされるテル・ブラクの“灰色煉瓦層”出土遺物においても確認されている〔Mallowan 1947 : 254-6〕。

ビーズの製作工程で最大の問題は穿孔である。ひとつの製品に複数の孔を穿つことは、より高度な技術を要求されると共に、長時間の拘束につながる。このようなことから玉造りの工人達(?)は、より簡便な製作方法として、焼物や合成物に着目したと推測され、それが大幅な省力化と大量生産を可能にしたことは明らかである⁹⁾。

初期王朝Ⅲ期以降のフリット／ファイアンス製の多管玉は、製作者側からすれば上記のような理由であろうが、利用者にとっては貴金属やラピスラズリ製品の安価な模造品として珍重されたと思われる。その根底にはより豪華な装身具への欲求・願望があったことは言うまでもない。

山梔玉 管見の限り最古のファイアンス／フリット製の山梔玉は、前4千年紀後半／終末頃に比定されるテル・ブラクの“灰色煉瓦層”出土遺物中に求められる⁷⁾。灰色煉瓦層からは極めて多量のビーズが出土したとされ、様々な形のファイアンス製品や施釉？ 凍石 Glazed steatite 製品を含んでいた [Mallowan 1947: 254-6, Pl. 84]。それ以降のメソポタミアでは、フリット／ファイアンス製の山梔玉は比較的一般的なビーズとなり、カッシート時代以降も生産が途絶えることはない。特にカッシート時代や、ほぼ併行関係にあるミタンニ／中アッシリア時代はフリットやガラス工芸が隆盛をみた時代なのである⁸⁾。

試験的な製作と配列による観察

工作用の紙粘土を使用して、試験的に三稜玉、多管玉、山梔玉を製作してみた(図3)。三稜玉は手捏で行い、一点の製作におよそ5分間ほどを要したが、比較的簡単に造形することができた。多管玉と山梔玉も同じ方法を採ったが、乾燥後の側面調整(ヤスリがけ)に時間を費やし、三稜玉のおよそ二倍の時間を要した。実働130分で20点が完成した。そのことから判るように、当時のフリット製の玉が型作りで製作されていたとすれば、一日の製作個数は膨大な数に達したことは想像に難くない。

乾燥後の製品に色付を行い、試験的に配列してみた。配列を行う前の三稜玉の観察は側面観のみに集中し、上面観にはさほど注意を払っていなかった。しかし、実際に配列して上面からみると、その側面観とは裏腹に意外に変化に乏しい製品であることが確認でき、むしろ多管玉や山梔玉のほうがコントラストに優れ、演出効果も高いと感じた。また、三稜玉の側面に穿たれた孔についても、重連の飾りに対応させるため、意図的に二つを穿ったと推定するに至った。実際、図3でも明らかなように、多管玉との組み合わせは極めて自然で、なんら違和感を感じさせない。例示した三稜玉の長さが15~30mmの範囲にあり、ほぼ多管玉の大きさと揃っていることは、飾りのバランスを考えての配慮であろう。このような点もヒントになって、三稜玉も一種のスペーサービーズとして製作され、かつ機能したのではないかという結論に達した。

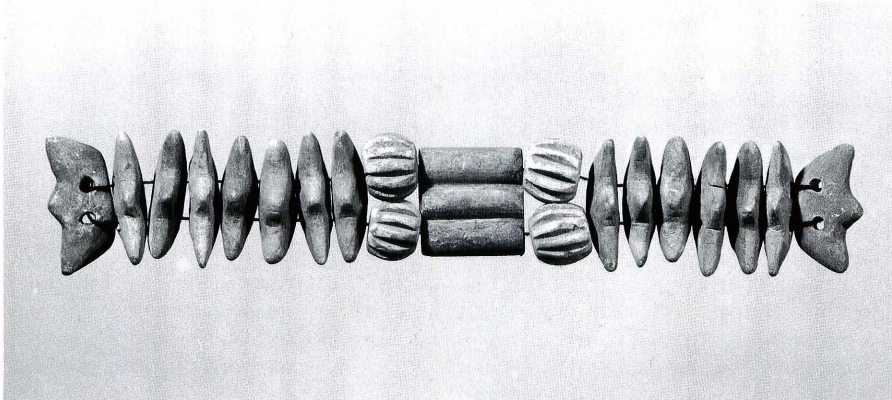


図3 三稜玉、多管玉、山梔玉の模作品と試験的な配列

まとめ

ビーズには再利用される、伝世するなどの要素が常につきまとい、単独で時代を決定することが困難な場合が多い。土器が時代と共に形態や製作手法を変化させるように、ビーズにもその時々流行した形が存在すると考え、アブ・ソール出土例の中から3点を選んで追及してみた。

アブ・ソールの概報でも触れられているように、ビーズの出土地点は数箇所の可能性がある。およそ200点のビーズが一つの墓、あるいは単一の時代に帰属するか否かは疑問が残る。ただ、ここに取り上げた3点の特徴的なビーズが、フリット製品の可能性が極めて高い点は共通しており、考慮されるべきである。他遺跡出土例や、系譜関係を見ても明らかのように、この3点のビーズが一連の飾りを構成していた蓋然性は高いと思う。実際、複数の遺跡で三稜玉と山柵玉、多管玉と山柵玉がセットで出土する事実からも肯首されよう。時間的制約・不勉強もあり、すべてのカッシート関係およびメソポタミアのビーズ/装身具に関する書籍⁹⁾に目を通したとはいえない難いが、三稜玉に関する限り、すでに Reuther が指摘したようにカッシート時代を特徴づける遺物とみなし得る [1926: 18]。フリットやガラス製の多管玉も前2千年紀の中頃に流行の中心が求められそうである¹⁰⁾。しかし山柵玉は単品での時代の特定が難しいことがわかった。以上から、アブ・ソールにはカッシート時代(前14~13世紀頃?)に営まれた墓が少なくとも一つは存在した、といえそうである。ハディーサ・ダムに関連した調査で、カッシート時代の遺構はアブ・ソールに近い Shuweimiyeh と Usiyeh で確認されたという [Killick and Roaf 1983: 220, 223]。このこともアブ・ソール付近がカッシートの版図内であった可能性を補足する¹¹⁾。このようにみえてくると、アブ・ソールの丘頂部に採集された大型のゴブレット型容器 [藤井・岡田 1982/83: Nos. 83, 84] はカッシート時代に帰属する可能性が強くなる。つまりアブ・ソールの丘は、前2千年紀以降断続的に様々な用途に利用され、極めて複雑な様相を呈していたと考えられるのである。

注

- 1) チョガ・ザンピルの建設者に関しては Untaş-GAL もしくは Un-taş-napir-risa の書き下しがあり、松島英子氏が書下しの問題点を論じているのが参考になる [1979: 114-7]。最近出版された Gershevitch, I. ed. 1985, *The Cambridge History of Iran*, volume 2. P. 16 では後者を採用する。筆者は楔形文字に関して門外漢であるので、コメントできる立場になく、ここでは Cambridge History of Iran に従ったにすぎない。
- 2) 報告書中の記述に若干の混乱がある。カタログでは diagonally fluted ribs とされたが、本文中の解説は twisted rope pattern on each rib とある。実測図も不鮮明で詳細が判らない。従って図 No 25 は報告の範囲で転載した。
- 3) 印章に関しては Boehmer, R.M. 1981, Glyptik der späten Kassiten-Zeit aus dem nordöstlichen Babylonien. *Baghdader Mitteilungen* 12: 71-81 に詳しい。
- 4) スペーサービーズ Spacer bead はその機能に由来する名称であり、多管玉 Multi-tubler bead はその形態を示す。今までの諸報告は、管状の外観をもつものであっても形の説明を加えず、単にスペーサービーズとされたり、あるいはスベーターと記すものがおおい。また方形で大型の製品は筒玉 plaque とされることが多い。本稿でいう多管玉とは、表裏もしくは片面(表面)が、弧状断面で連続する畝状または管状を呈し、かつ複数の孔をもつ製品に限る。単なる線刻を伴うものはスペーサービーズとする。即ち、多管玉はスペーサービーズのヴァリエーションの一つではあるが、やや独立して位置付けるのである。
- 5) ニネヴェ出土例に黒色ファイアンス製の多管玉数点(?)が存在する [Beck 1931: 429 no. 22]。これは長さ 22 mm, 幅 12 mm で2連の製品である。断面形は表裏ともに連続する円弧を成し、スーサ出土例に類似する。しかしながら時代が特定できず、しかも出土地点がはっきりしないことから、ここでは除外せざるを得ない。
- 6) ここで問題となるのは、玉造り工人と、フリット/ファイアンスなどの一種の焼物を生産する工人と、密な職業分担が既に存在したか否かである。神殿などの管理体制のもとでは、工人間の交流は比較的スムーズになされと考えられるが、独立した專業集団間においては様相が異なると思われる。推測をたくましくし、玉造り工人が製作を担当したと

仮定すれば、新分野への参入や、工人の細分化を示しているともとれる。同じことは焼物に関係した工人についても言え、様相は複雑になる。ここには直接関係しないが、類似する状況が“焼/施釉凍石”でも起こっている。これは凍石を焼き、硬度を飛躍的に高める技術で、ビーズや、専門知識を求められる印章に採用される。またカーネリアンを炉中で加熱し赤色の発色を促進したり、あるいは含有する鉄を酸化させ赤変させるなどは、相当古い時代から周知の技術である。このように当時の先進的な技術は、多くの異分野の工人に共有され、さまざまな製品に応用された。従って玉造り工人がフリット/ファイアンス製の玉を製作した可能性は十分にあり得ると考える。

- 7) Stone によれば最古のファイアンス製品は前 5 千年紀まで遡り、北メソポタミアは前 4 千年紀の終末頃までファイアンス生産の中心地であったという [1956: 40-44]。従って今後、より精密な調査を行えば、テル・ブラク例より古い年代を示す山柙玉が発見される可能性は十分に考えられる。しかしながら前 4 千年紀以前のファイアンスに関しては問題も多く、その点について Moorey はより慎重な態度をとっている [1959: 142-3]。
- 8) メソポタミアのファイアンス、フリット、およびガラスに関しては Moorey 1985 に詳しい。
- 9) 系統的にメソポタミアの装身具やビーズを論じた書物として Maxwell-Hyslop, K.R. 1971, *Western Asiatic Jewellery, c. 3000-612 B. C.*: London があるとされるが、筆者はこの書を見ない。またアッシュールの墓に関する Haller, A. 1954, *Die Gräber und Gräfte von Assur*: Berlin など入手できなかった。
- 10) Boehmer and Finkbeiner 1984 : p.107 で Maxwell-Hyslop 1971 を以下のように引用する。“ペーストや青色ガラスで製作された 3 列の多管玉 Triple spacers は前 2 千年紀中頃の遺物中によく知られる”と。
- 11) 現時点で三稜玉の分布はハムリン山脈の南側のみで確認されており、カッシートとはほぼ併行関係にある中アッシュリア時代の遺跡、たとえばアッシュール(?), カラ・トゥクルティ・ニスルタ、およびハムリン盆地内の遺跡では出土が報告されていない。もちろん報告の精度も問題となるが、現状ではバビロニア(シュメールを含む)とエラムに限定されている。はたして三稜玉が極く限られた地域のみで流行したのか、あるいはその分布範囲が拡大するかは、今後の資料待ちといえそう。

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後記

脱稿後、中近東文化センターにおいて Woolley and Mallowan 1962, *Ur Excavations volume IX, The Neo-Babylonian and Persian Period* : London を見せていただいた。この中に上部の稜を形式的に残す三稜玉とおぼしきもの2点が所収されていた (Pl. 31 : U. 11599, U. 16196)。解説では U. 11599 は町の南端で発見したペルシア時代の墓出土遺物で、two-hole spacer とある [p. 115]。U. 16196 は墓 AHG/30 出土で green spacer (for two strings) と説明する [p. 119]。

また、ビーズに関係する書物として Limper, K. 1988, *Uruk : Perlen · Ketten · Anhänger, Grabungen 1912-1985.* Ausgrabungen in Uruk-Warka Endberichte 2. Deutsches Archäologisches Institut Abteilung Baghbad : Verlag Philipp von Zabern · Mainz am Rhein が研究所に新着した。書中 p.3において、三稜玉に関して舟型ビーズ "Schiffchenförmige" perlen として言及されていた。

このほか多管玉では、最近開催された『奈良・シルクロード博』に出品された、イラクのオウシーヤ遺跡出土品は注目される [シルクロード大文明展カタログ, シルクロード・オアシスと草原の道 1988 : No. 52]。解説によれば前2千年紀前半の遺物と推定されており、表面は金線でもって細かい三角形に縁取りされ、その中にラピスラズリとトルコ石を交互に象嵌した精緻な製品である。

RECONSIDERATION OF PLAQUE-TYPE CROSSES FROM AIN SHA'IA NEAR NAJAF

Yasuyoshi OKADA*

アイン・シャーイア出土の板状十字架について

〈要旨〉

1986年から1990年にかけての発掘によってアイン・シャーイア遺跡から10数点の十字架が出土した。十字架の図像がレリーフであるか線刻によるものであるかを問わず、それらはみな小さな角板状に作られていた。発掘報告の中で、わたしたちはそれらを修道士らが個人的に使用したアイコンの一種だと結論づけたものの、その図像学的特徴の考察や他地域由来の類品との比較を十分に行なうには至らなかった。本稿は、そうした観点からの研究をすすめ、わたしたちの資料における図像学的特徴をあらためて指摘し、イスラム勃興期前後の時代に東西のキリスト教世界に広く展開したアイコングラフィアの系譜中にそれらを正しく位置づけようとするものである。あわせて既刊の報告では、デザイン上の同定が不明だった数点の資料について可能な復原を試みた。

The site of Ain Sha'ia, where we uncovered the ruins of a Christian monastery through the archaeological excavations from 1986 to 1989, has brought a decade or more of cross-designed objects [Fujii et al. 1990]. Whether the depictions are relieved or incised, all of their forms are of plaque type, except one pottery jar with a simple cross incision on the neck. Although we resulted our plaque-type crosses as personal icons in the previous report, their iconographic features were not satisfactorily exhausted, nor was done an extensive study of comparison with parallels from various sites¹⁾. This article is aimed, through reconsideration based on such points of view, at a proposition of their significance and valid evaluation of our materials in the iconography of the early eastern Christianity²⁾. For some restorable plaques, at the same time, of which elemental motifs have been unsolved, the possible designs will be described. The present writer acknowledges to Mr. Ken Matsumoto a favour of re-publishing the illustrations which he previously provided.

Descriptions

The plaque-type crosses discovered at Ain Sha'ia, though all fragmentary, come originally from twelve plaques at least³⁾ (Fig.1), including problematic one, No. 12. Here at first the detailed descriptions of these plaques are stated, especially in respect of motifs and making technique; it will be expected to clarify their distinctive features, so as to compare them with parallels of iconographic products from various regions. For the fundamental factors, see the list of crosses in page 105.

Nos. 1, 2 and 3: The variety of superficial texture enables us to divide fragmented pieces into three groups of identical plaques, Nos. 1 to 3. The surface of No. 3, i.e. fragments No.

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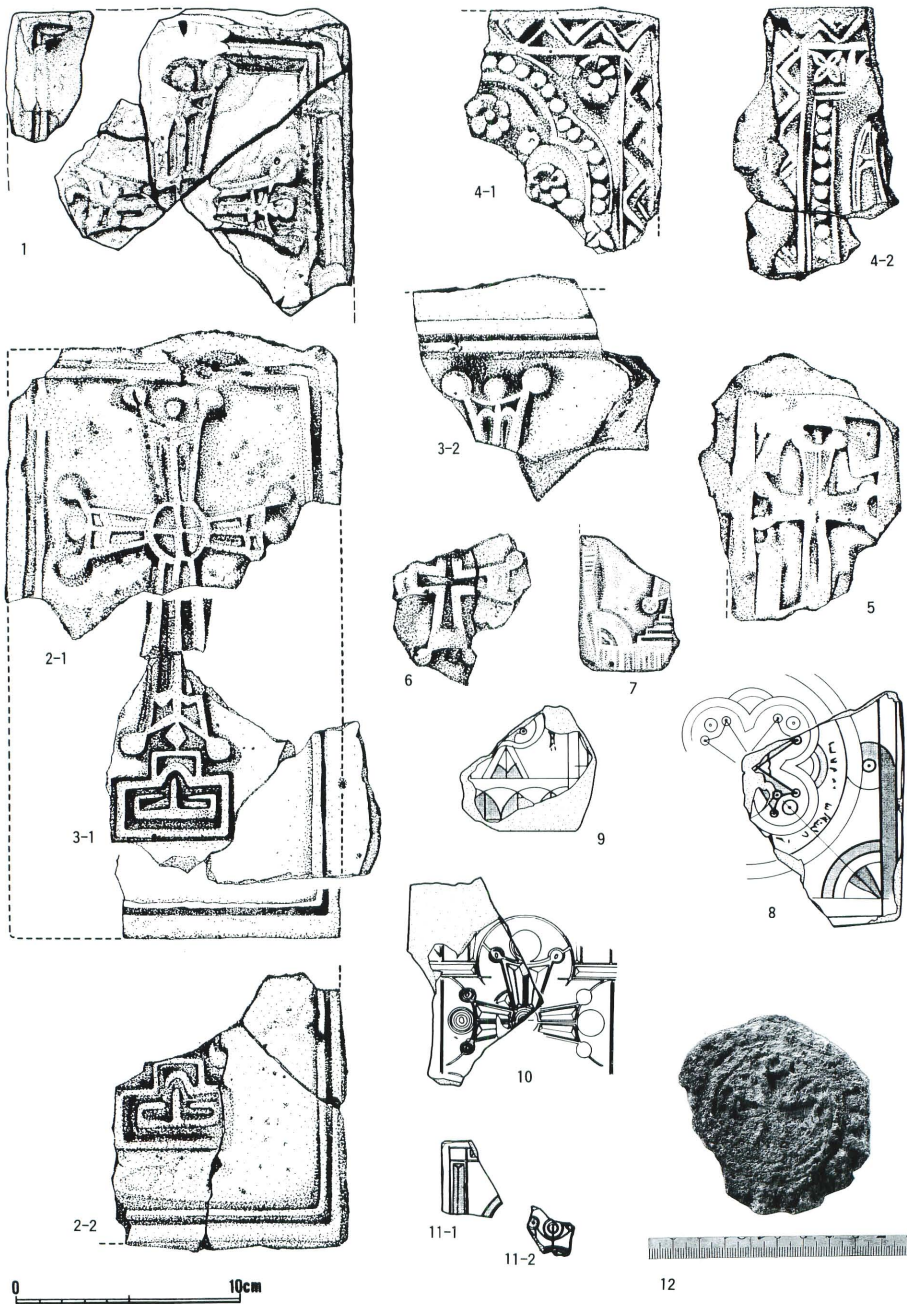


Fig.1 Corpus of plaque-type crosses from Ain Sha'ia

List of plaque-type crosses from Ain Sha'ia

No.	findspot	size of piece	material	portion of plaque	technique	colouring	item in Rafidān 10	remarks
1	Site F Room 2	H × W × Th(mm) 137 × 119 × 22–27	stucco	upper half with three arms of cross and frame	moulded relief	only frame-side painted plum-red	II-141, Fig. 22	ground smoothed by finger
2-1	Spot 17 Room C	140 × 150 × 17–31	stucco	upper half with three arms of cross and frame	moulded relief		Fig. 34 upper one	ground left rough
2-2	Spot 17 Room C	122 × 103 × 24–30		stepped pedestal and frame corner			Fig. 35-6	ground left rough
3-1	Spot 17 Room A	155 × 122 × 10–16	stucco	lower shaft of cross with stepped pedestal	moulded relief		Fig. 34 middle one	ground smoothed possibly with self slip
3-2	Spot 17 Room A	107 × 91 × 19–25		right arm of cross and frame			Fig. 35-4	ground smoothed possibly with self slip; top of illustration should be turned left
4-1	Spot 17 Room B	110 × 67 × 16–23	stucco	upper corner	moulded relief		Fig. 35-2	
4-2	Spot 17 Room B	172 × 72 × 20–28		lower corner			Fig. 35-1	illustration surely upside-down
5	Spot 17 Room C	121 × 81 × 15–24	stucco	upper three quarters with frame	relief; moulded or not uncertain		Fig. 35-5	
6	Spot 17 Room B	67 × 62 × 8–14	stucco	three arms of cross; frame missing	relief; moulded or not uncertain	partly bright red paint	Fig. 35-3	illustration probably upside-down
7	Site C	60 × 46 × 11–13	stucco	lower corner and stepped pedestal	relief; moulded or not uncertain		Fig. 37-9	
8	Site F Room 4, upper filling	93 × 100 × 28	very fine plaster	corner part with two arms of cross	geometrical incision	partly red or black	II-148, Fig. 23	cross placed diagonally to plaque edge; illegible inscription in black around cross
9	Site F, paved courtyard	56 × 61 × 21	very fine plaster	lower part with a triangular pedestal and designed frame	geometrical incision	partly red	II-146, Fig. 23	
10	Site F Room 16, upper filling	94 × 61 × 9	ivory white mudstone or marlstone	upper and right arms of cross	geometrical incision	partly red	II-149, Fig. 23	cross itself and smaller circles at end coloured red, a larger disc not.
11-1	Site F, paved courtyard	33 × 27 × 5	chalky white gypsum with grit temper	upper frame corner	geometrical incision	partly red	II-150, Fig. 23	very fragile material
11-2	Site F, paved courtyard	22 × 20 × 4		upper end of cross shaft		partly red	II-150, Fig. 23	smaller circles at end coloured red, a larger disc not
12	Spot 17 Room A	c. 75 × 74	wall plaster?	—	relief		Pl. 19-d	only a vestige of a almost complete disc

3-1 and 3-2 together, is finished smooth with rather fine plaster; that of No. 1 smoothed probably by fingers; No. 2 left without any finishing. Each of these three plaques depicts simply a cross in relief. Although there is a subtle qualitative distinction, they are no doubt made by the use of the one and same mould, since to compare them one another any size and proportion of common parts are identical, and moreover on the surface of the plaques, particularly of Nos. 1 and 2, are some unintentional hollows which seem to have been caused by firmness of raw material. Along the edge of No. 1 is partially survived extra plaster, painted plum-red, which suggests that the plaque had probably been stuck on a wall; in fact the room where it was found had been furnished with a red-painted wall on one side. On the edge of No. 3 remains extra plaster attached in part, too.

The representation in relief on the plaque is restorable to an expanding Latin cross with its pedestal and a double linear frame, as is shown in the illustration. The lower arm, or shaft, of the cross is depicted as the longest, of course; though the other three are almost identical at a glance, the upper shaft has certainly been intended to be just a little longer than the horizontal ones. This is evidenced also with some other plaques such as Nos. 5 and 10. Three blobs on each arm end and a central circle on the intersection impressively feature the cross, but only one blob between two circular blobs on the lower extremity is shaped into a lozenge⁴⁾. This suggests that any middle blob among the three should be interpreted iconographically as a specific meaning. Likewise on the arm end of the crosses of the plaques Nos. 8 and 10, the middle circle is distinctively depicted larger than the rest, and solely without colouring. Accordingly the basic type of such a cross can be said to have no difference from a typical cross with two-dotted and splayed arms such as the plaques Nos. 5 and 6. A circular element at the cross center is secondly a specific motif, which may recall a medallion as is seen frequently in the Roman or Byzantine art [Christe et al. 1982: figs. 83, 84 and 86]. This element is in common with the cross of No. 10.

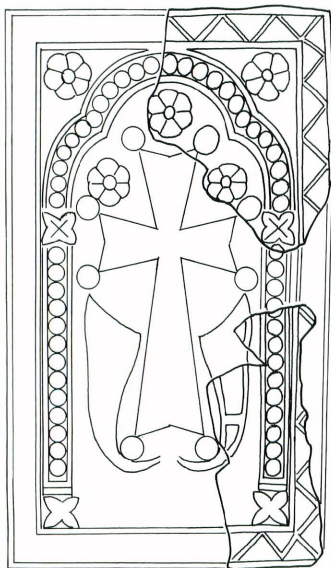


Fig.2 No. 4 reconstructed

The pedestal is also an important motif in the constitution. It can be regarded as a variation of the stepped platform of the Calvary-type cross, which will be discussed later, usually in the shape of some slabs accumulated as is the case with the plaque No. 7.

No. 4: Although a disparate view was offered in the previous report [Matsumoto 1990a: 72-73], most probably the pieces Nos. 4-1 and 4-2 come from an identical plaque because both have a continuable pearl band and a frame of serial triangles in common and were uncovered at the same spot as well. If such a presumption is correct, the missing central part of the plaque must have been occupied by a certain cross despite lacking any cross part in either the piece No. 4-1 or No. 4-2. On the piece No. 4-2, though the illustration upside down, is still survived part of a ribbon which is no other than an embellishment for a possible cross. This plaque must have been produced by means of a mould like the above-mentioned ones, for another piece of almost identical part with No. 4-1 was found

from the same spot [Matsumoto 1990a: Pl. 19-c right]. An approximate reconstruction of the plaque design will be shown in another illustration (Fig.2). The reconstructed one would have a size of about 25 by 14.8 cm, which is nearly the same proportion as that of the plaques No. 1, 2 or 3. Such dimensions may give a standard size of a plaque for a specific use possibly as a personal icon. A cross embellished with a ribbon is evidenced also with the plaque No. 5, together with an arch above the cross.

No. 5: This plaque is of rather smaller type and appears to have been fixed into a wall because of extra plaster remaining. It is uncertain whether the relief was formed by a mould or not as the surface is much worn out, but principal motifs are enough visible; a Latin cross with dotted and slightly splayed arms, a ribbon springing up from the foot of the cross and an undecorated arch over the cross as are shown in another illustration which is attempted to make them more clarified (Fig. 3). Unlike the widely-known type of an arched cross, supporting columns are lacking here. It is not known whether any pedestal or platform had been depicted, since the lowermost part is missing.

No. 6: Only three of expanding arms are survived; surrounding part is missing at all. It is uncertain whether the plaque is mould-made or not. Each arm end is embellished with two blobs, while another blob or circle is absent between the two. There is no particular motif at the intersection of the cross. Although an idea for reconstruction was proposed that this part might be placed in the center of the plaque No. 4 [Matsumoto 1990a: 73], the plaque No. 6 is too thin to be identified with No. 4. It is considered more likely to come from such a type of plaque as No. 7 (Fig.4). In this case the lower arm illustrated in Fig.1 must be turned to top because the arm abutting on a pedestal might well be apparently longer than the other three.

No. 7: Lower corner part of the plaque. A four-stepped pedestal with a supporting rod and one of blobs attached to the lower arm end can be seen together with a scallop decoration in the frame corner. The cross stands without a ribbon. Such a presentation of pedestal is rather normal than those of Nos. 2 and 3, for it can be repeatedly seen in moulded glass flasks of Christian use produced in the Constantinian or subsequent era [Eisen and Kouckajki 1927: 489ff.]. The cross itself might be nearly identical in proportion with that of No. 6. The plaque is possibly restored with the width of some 8 cm, while the vertical measurement may well be more or less as twice as the width.

No. 8: Any motif on the plaque, of snow-white delicate matrix, is drawn in shallow geometrical incision, comparable to the "shallow incised and red filled" plaque found at Hira [Talbot Rice 1932: 282, fig. 3-a and b; id. 1933: 70-73]. Not only a red pigment but even black is applied to ours. Different from the above-mentioned plaques of stucco-like matrix, it has no trace of having been stuck on a wall. The cross of which only two arms are partially survived is diago-

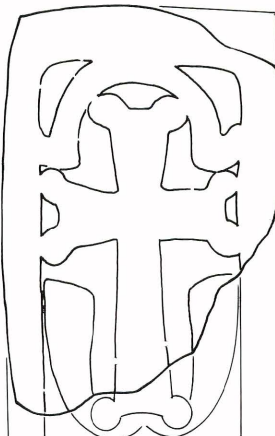


Fig.3 No. 5 reconstructed

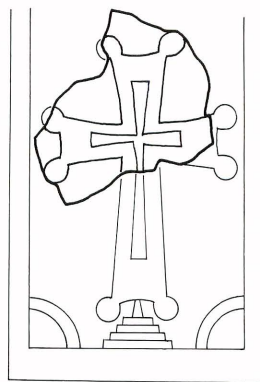


Fig.4 No. 6 reconstructed

nally arranged at 45 degrees to the plaque contour, and looks comparatively small in contrast to the thickness of the plaque. One of the arms toward the plaque corner is depicted just a shorter than another surviving one; the latter possibly represents the upper shaft. It is, however, doubtful that this cross would be a main motif of a possible composition. If it is appendant one, a considerably larger cross could have been placed in the center of the plaque. In this case one large cross might be flanked by two smaller crosses on either side as occurred in stone sculptures numerously survived in the Armenian region, such as rock relieves of St. George Church in Geghard [Brentjes 1984: fig. 71], and also in the plaques found from Jerusalem [Tushingham 1985: pls. 123 and 124], which will be discussed later. One of the incised pieces from Hira bears at least two crosses arranged diagonally as well. It is, however, still in the dark whether our plaque would be attributed to such a style, for appendant ones in flank necessarily stand perpendicular in any other case. Only in the case with one plaque from Jerusalem, one of the appendants is found slightly slanting.

There are three circles drawn close to the surviving arm end, as is the case with the Hira plaque. The middle one exactly on the faintly incised line springing from the corner scallop is placed slightly away from the cross end and left uncoloured, whereas the other two are joined to the arm end and entirely coloured red. This recalls the questionable blob in the lozenge shape which occurs on the plaque No. 3.

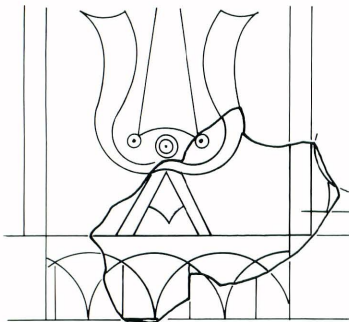


Fig.5 No. 9 reconstructed

No. 9: Another geometrically incised plaque of the identical matrix with No. 8 above. In the previous report the fact escaped our notice that part of a cross proper is hidden among the remaining incisions on the plaque. The subsequent observation has led to a conviction that a dotted small circle and double curvilinear incisions with a triangle beneath would compose the bottom part of the cross (Fig.5), since the existence of crosses with a ribbon has been ascertained among the finds from Site B on the other hand. In this case the triangle is identified with a pedestal.

This piece was found accompanied by several fragments most probably to be attributed to the identical plaque [Okada and Numoto 1990: fig. 23 nos. 142 to 145]. These are all backed with separate sandy plaster for preservation, worn by handling on this side. It means that such a type of plaque had been produced certainly for portable use. The possible size appears to be much smaller and thinner than that of No. 8 as well. It might, therefore, have been an amulet rather than an icon.

No. 10: The plaque, of creamy-white mudstone or marlstone, bears an engraved cross embellished with smaller circles thinly incised on either tip of the splayed arm and with a larger concentric circle between the smaller ones. The larger circle is exclusively uncoloured, the others filled with red. At the intersection of the cross is another concentric circle identical in size with the larger one at the arm end, but coloured.

A single-lined semicircle is incised each on three sides springing from the linear frame so that the middle part of the curve may form the contour of an arm extremity. An incised horseshoe arch surmounts the cross, paralleled to the depiction of the relieved plaque No. 5. The possibility cannot be excluded that the missing lower shaft of the cross might have been tied with a ribbon.

No. 11: This plaque is extremely thin, and very fragile because of coarse matrix containing limy gravel which cannot be thought as an intentional temper at all; natural gypsum deposited in places in the vicinity may have been used on occasion. On the account of such a matrix, we could not preserve the piece as it had been when uncovered; now only two fragments Nos. 11-1 and 11-2 are illustratable. The former shows an upper plaque corner, with an engraved linear frame and part of an arch no doubt surmounting a certain cross, of which one of the extremities is seen on the latter (Fig. 6). The cross appears here again to have a splayed arm with two smaller and one larger circles on its end. It is noticed that only the larger circle is uncoloured while the rest of incisions are filled with a red pigment. Whether as a portable amulet or as an icon put on a wall, it could scarcely be used without any reinforcement, but such a trace never remains unfortunately.

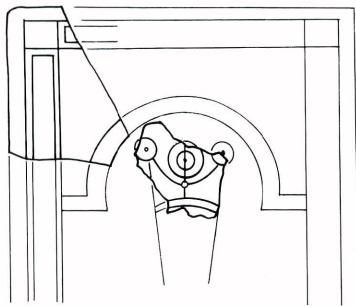


Fig.6 No. 11 reconstructed

No. 12: This plaque is exclusively shaped into a disc and represents a Greek-type cross with three-dotted splayed arms; a pearl wreath encircles the cross. Curiously enough the motifs appear to be entirely depicted in intaglio. However, to take account of its stucco-like matrix, rather coarser and much bubbly, the disc can hardly be considered to have been neither inlaid, nor utilised as a mould. Furthermore it is not distinguished where a contour of the disc should be, since the edge of the piece remains extremely uneven. It is presumed inevitably that it could be a fragmented wall plaster which had once covered or hidden a certain disc with such a relief on the wall and then had been negatively marked with its motifs. It is the fact, in any case, that a disc-shaped plaque was existed in addition to the rectangular ones.

Discussion and conclusions

The plaque-type crosses uncovered at Ain Sha'ia include, as mentioned above, portable ones and those stuck on walls. The plaques made of stucco appear to belong to the latter, otherwise the former. It is certain, as well, that even the latter ones would not be made for part of architectural decoration because any other piece with decorative relief has never been found. On the other hand, none of them comes from the naves or cellae of the church, which, as we discussed in the previous report, had no longer functioned in its final stage as a congregational building for liturgical purpose. The monks and devout adherents who did never give up their faith must have personally required some objects against which they would pray. This is why all the plaques should be identified with personal icons including those even to be regarded as amulets.

As for the principal motifs of their representations, firstly a cross itself is formed mostly into the Latin type with dotted splayed arms, some of which show another larger dot or circle between the two on each tip of the arm end. The emergence of one exception that is a disc type with a Greek cross seems merely to be attributed to the necessary round shape. The motif of the indispensable two circles symmetrically placed on each arm is considered most probably to have a close connection with the image of the Golgotha Cross as had already been represented in the western basilicas as early as the late fourth century, such as the apse mosaic of St. Pudenziana in Rome. Meanwhile a distinctive middle circle apparently takes a specific significance. This is perceived on some seals said to be Sasanian products [Lerner 1977: 3-7]. Among the

surviving pectoral crosses in the Byzantine art, one can find some portrait medallions at the identical place, one of which is assigned to the sixth to seventh century [Schiller 1968: 95, fig. 332]. Parallels are also evidenced with the finds from the nearby site Qusair, which will be referred to below. Such a medallion on an arm end appears to be an origin of our middle circle. Later in Byzantine works it often reemerged with somewhat different character such as a floral design in the Church of Nativity at Bethlehem [Stern 1936: 149-152].

Secondly two types of stepped pedestal or platform occur; one on the plaques Nos. 1 to 3, another on No. 7. It is commonly believed that such a pedestal would derive from the cross which have once been erected on the hill of Golgotha by Constantine the Great in the 4th century⁵¹. The inner relief of the pedestal of Nos. 2 or 3, as if it looks like a human face, is quite strange. It is likely that there can be found some relation of the motif to a certain representation of pedestal seen on a crystal seal introduced in the Sasanian context, where it is composed of a nearly full circle above and a simple rectangle below [Lerner 1977: fig. 4]. It is doubtful, anyhow, whether a possible deviser would be aware of significance of the pedestaled cross in connection with the legend of the Golgotha Cross.

Thirdly some depict an arch or semicircle over the cross, such as the plaques Nos. 4, 5, 9 and 10. It seems to derive from the image of the entrance or ciborium of the Holy Sepulcher, otherwise the gate of Heaven, as are found in various pilgrim vessels, for instance, some of the Monza ampullae [Schiller 1968: fig. 325; Christe 1982: fig. 82].

Lastly a ribbon springing up from the cross can be seen in Nos. 4 and 5. This motif may well be regarded as a variation of the "leaved cross" stressed by Talbot Rice [1934: 73]. On the other hand many of Sasanian seals also bear the similar composition, depicting both a standard with a crescent and a floral design [Brunner 1978: 94-125]. The change from a leaf to a ribbon seems to have been influenced rather by the Sasanian or, to say more appropriately, western Asiatic feeling; even from the Medieval central Asia a ribbon-tied cross on a grave stone has come to light [Saeki 1935: 745]. The concept of general formation of an arch and a ribbon, however, parallels to that of a certain seal now in Louvre, which Lerner discussed as a Sasanian product [Lerner 1977: 7, fig. 7], and later reemerged in Nishapur, where the plaque is of an earthenware assigned to the tenth or eleventh century [Wilkinson 1973: 335, no. 200].

In the process of archaeological researches so far, not a few plaques depicting cross symbols as elements of mural decorations have been discovered at various ruins of Christian monuments, such as the site of the Martyrion at Seleucia Pieria [Stillhell et al. 1941], but there are not so many examples of plaque-type cross irrelevant to architectural decoration⁶¹. In the vicinity of Ain Sha'ia, or the Iraqi south-western desert area, similar plaques have already come to light from two sites, Hira and Qusair. Above all the excavations at Qusair by Iraqi scholars in 1979 have noticeably brought a lot of Christian objects. Regrettably we cannot introduce them here because any report of the excavation has not published yet⁷¹. Abundant variety of iconographic representations including crosses and even human images, however, convinces enough that the complex of Qusair had once functioned as a regional and religious center, certainly preceding in date of establishment, as the German scholars have already referred to [Finster and Schmidt 1976: 27-39], a possible monastery at Ain Sha'ia and the churches at Hira that have been excavated. The plaques from Hira, assigned to an acceptable date that is the eighth century, include two types; deep incision is one type, otherwise red-filled shallow incision. Talbot Rice does not describe the former as the mould-made other than the engraved. If it is correct, the mould-made technique

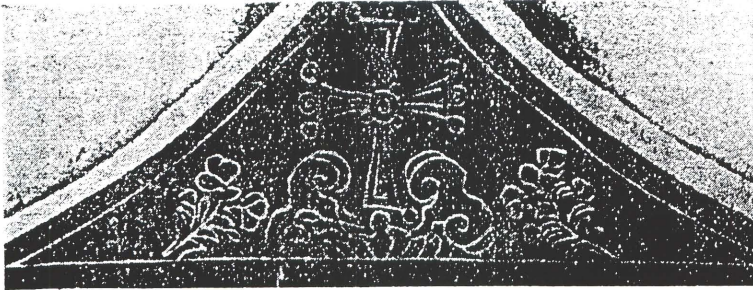


Fig.7 Cross on the Nestorian monolith in China [Saeki 1935]

might be originally invented at Ain Sha'ia.

Outside the Iraq, two rectangular plaques were discovered in Jerusalem; engraved one with a Latin cross in the center flanked by two smaller crosses aside and another with a central cross surrounded by smaller crosses and rosettes so as to fill the space of the plaque [Tushingham 1985: pls. 123 and 124]. Another plaque comes from the vicinity of Antioch on the Orontes, nearly one third fragment of a round disc with a splayed arm of a cross on obverse and with an orant figure on reverse [Stillwell et al. 1938: pl. 21 no. 225]. Those three are assigned approximately to the sixth century, but it is not sure. The last one is brought from Nishapur, already referred to, which depict a Latin cross with dotted splayed arms, flanked by two smaller crosses aside and embellished with an arch above and a ribbon below. Its composition impresses as a whole a close connection with some of our materials. That is all as far as we know.

In the further east there are well-known stone sculptures with somewhat identical motifs, though not a plaque type. South of the Indian subcontinent there are elaborate sculptures each with a pedestaled cross tied with leaves or a ribbon. Most famous one is installed in the St. Thomas Mount Church, datable to the sixth to ninth century [Gropp 1970: 269]. It is noteworthy that on every four arm end is found a larger globe between two bulged tips of the arm. A specific significance of the lower one appears to be lost. Finally a noticeable example is evidenced in China. It is a cross symbol incised on the commemorative monolith erected by the Nestorians in 781, which is ascertained from its inscriptions [Saeki 1935: fig. 24]. Here the cross stands above a sea of cloud instead of a ribbon or leaf. Three circles are extravagantly depicted on each end of four arms. The middle circle of the three appears still larger than the others (Fig.7). Thus, as the Christian doctrine was widely spread Christian symbols or iconographic images traveled as far as the Chinese world. One of the starting points of such a travel certainly existed in the Iraqi south-western desert area where the ruins of Ain Sha'ia are located.

Notes

- 1) In the report in *al-Rāfiḍān* X, a series of plaque-type crosses could not be taken into consideration all together because the writers had separately charge of description according as they had independently conducted the field work.
- 2) Among the recent iconographical studies, Lerner's and Barag's works are the most helpful for me to interpret the respective motifs [Lerner 1977; Barag 1970].
- 3) If a fine plaster piece with a vine scroll pattern from Site F [Okada and Numoto 1990: Fig. 23, No. 147], a stucco piece with separate but quite similar pearl arcs to the plaque No. 4 here from Site B [Matsumoto 1990a: Pl. 19-c right] and a frame part of a plaque from Site C [Matsumoto 1990b: Fig. 37, No. 10] had respectively embellished a certain cross, three more plaques should be added.
- 4) On many of surviving polygonal-sided glass flasks of some earlier date, the lower end of cross shows a

- distinct shape whereas the other three arms are identically bifurcated, and as for a lozenge motif, its origin is possibly sought for a decoration of Biblical bookbindings [Eisen 1927: 505; Barag 1970: 43f.].
- 5) On the historical basis the convincing theory is offered that the monumental cross on Golgotha had never been erected before 420 A.D. in the reign of Theodosius II at the earliest [Barag 1970: 39–41]. It is, however, not directly concerned with the present discussion whether the Golgotha Cross was established either by Constantine or by Theodosius.
 - 6) Of course, engraved tombstones with crosses made much larger in size should be regarded as a quite different category of use, which can be seen widely in the Christian world, whereas the possibility is not necessarily excluded that their representational motifs may be comparable in some cases.
 - 7) I found in the Iraq Museum merely the documents of the registered findings including plaque-type crosses concerning the present discussion.

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AN ANALYSIS OF THE BY-PRODUCTS OF EXPERIMENTAL MANUFACTURE OF CLASSICAL LEVALLOIS FLAKES

Katsuhiko OHNUMA*

Introduction

The term "Levallois technique" derives from the type site near Paris, Levallois-Perret, where an industry characterised by this technique (Fig.1) was discovered around 1879 by Rebourg [Wymer, 1968: p.72].

It was Commont who presented a detailed description of the technique as early as the beginning of this century [Commont, 1909: p.122, cited in Brézillon, 1977: p.79], seemingly for the first time in the Palaeolithic study. According to Commont, the raw material is first roughed out to remove its irregular parts, making it into a multilateral disc-shaped core. The core is then finely modified in order to regularize the ridge allocation on its flaking surface. Finally, the core is held in such a way that its flaking surface is sloped somewhat downwards, and the majority of the surface is detached with a proficient blow, aimed at a right angle to the selected portion of a faceted striking platform, producing a very large flake with centripetal flake scars.

It is noteworthy that there has appeared no technological study radically differing from that of Commont in some eighty years since this Levallois description.

In the 1950s through 1970s, Bordes focused his Palaeolithic research on the Levallois technique. *Typologie du Paléolithique ancien et moyen* published in 1961 is the comprehensive compilation of his works on this subject. In this publication, he described the Levallois technique as a special flaking process, in which an important flake (with the butt faceted or unfaceted) with a predetermined shape prepared on a core prior to its detachment is removed from the core with a final blow [p.14]. The flakes thus produced were grouped into three categories according to different shapes and different processes of their production: a flake category with parallel, crossed and centripetal dorsal scars; a blade category or flakes with the length equal to or more than twice the width continuously detached from a same core; and a point category or triangular flakes, with the flake axis dividing the distal end into two, detached from a specially prepared core [pp.17-18].

In the mean time, West and McBurney rejected uncritical acceptance of Bordes' Levallois definition, stating "*Does an examination of the flakes and cores reveal anything which can be confidently termed Levalloisian or Mousterian in the current acceptance of these terms?*" [1954: p.147] and "*Using rather more restricted connotation than that favoured by some authors (for example F. Bordes) the writer intends only flakes showing evident traces of multiple preparation of the dorsal surface*

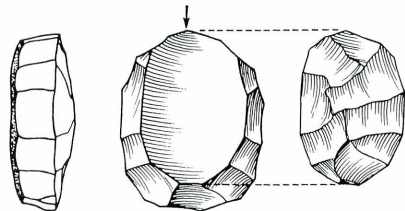


Fig.1 Scheme of Production of a Levallois
Flake [Bordes, 1968: p.30]

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together with the use of a true faceted platform" [McBurney, 1967: p.77].

In fact, Bordes' Levallois definition was so broad that it could be applied to discoidal cores and the Upper Palaeolithic prismatic blade cores, which also produced flakes and blades specially predetermined their shapes prior to their detachment.

Thus in 1980, Bordes put his Levallois ideas into shape in *Le Débitage Levallois et ses variantes*, responding to questions raised by scholars represented by McBurney as to the vagueness of the definition. This work, however, was essentially the same as that seen in the 1961 publication, and it seems that Bordes failed to establish a common standard on which researchers base their analyses of lithic assemblages with Levallois features.

From 1967 onward, Tixier has been proposing the term "Levallois method" instead of "Levallois technique" [Tixier, 1967: p.813; Tixier et al., 1980]. This terminology was a great advance on the Levallois research; too much attention had been paid to Levallois cores and flakes that were nothing but the products of the core reduction sequence, and the term "Levallois method" better connotes the whole process of Levallois flaking, starting with the initial rough-out of raw material and ending with the final detachment of a flake with a predetermined shape.

In *Préhistoire de la Pierre taillée: 1: terminologie et technologie* published in 1980, Tixier, Inizan, and Roche attempted to explain the difference between Levallois blades and the Upper Palaeolithic blades, which Bordes had not demonstrated convincingly. In this publication, the authors defined Levallois blades in a stricter sense than Bordes; the Levallois blades were defined as having non-parallel dorsal ridges and being continuously detached from a Levallois core with a rectangular outline and two opposed striking platforms [p.46, p.50], whereas the Upper Palaeolithic blades were defined as being removed following a crested blade detached to facilitate the continuous removal of regular blades [p.50].

In spite of the experiment-based persuasive Levallois definitions, especially that of a blade category proposed by Tixier and his colleagues in the 1980 publication, "Levallois" is still a difficult problem, and we see a confusion in which there is no clear definition of it, with each author making their own interpretations.

Regarding this confusion, Copeland [1983] emphasized an importance to reassess Levallois problems, especially those associated with the Levantine Mousterian.

At present, Boëda is proposing a classification system of the Levallois flaking methods consisting of two kinds: *méthode linéale* in which a single end product (flake or point) is detached from a core and *méthode récurrente* in which a series of end products (flakes, blades or points) are detached from a single core [1988a; 1988b]. The *méthode récurrente* is further sub-classified into *méthode récurrente unipolaire*, *méthode récurrente bipolaire*, and *méthode récurrente centripète*.

This concludes the introductory summary of the literature concerned with the Levallois flaking methods. As Bordes emphasized himself, it is always difficult to determine whether a given flake is Levallois or not; the determination relies mainly upon experience of observation of archaeological specimens and their experimental manufacture [1961: p.17], thereby leading to different definitions according to various degrees of experience of each researcher.

Through the experimental studies, described below, the present author was able to obtain raw data on the features of the by-products of the manufacture of classical Levallois flakes, which he may take into consideration in analysing material with Levallois features.

Replications and analytical study

In October 1989, experimental manufacture of classical Levallois flakes was undertaken in order to investigate several typological and metrical features of the by-products and to compare them with the features of the Levallois flakes removed as the end products.

The term “classical Levallois” is used here after Bordes [1980]: core reduction in which a single Levallois flake, short or elongated, is detached with a final blow after centripetal preparation to predetermine the shape of the flake to be detached [p.45].

Four blocks of siliceous shale, generally of a fine grain, were used as the raw material for the replications. The blocks were collected on the banks of the Tsukinuno river at the village of Tsukinuno, Sagae-city, Yamagata-prefecture, Japan. They vary in colour from light to dark brown.

Located some 14 km east of the Tsukinuno village is the Takaseyama site, where a bifacial tortoise-shaped core with a Levallois-like appearance, made on the similar raw material to that used for the replications, had been found (Fig.2). The core was described by Abe concerning its reduction process [1976: pp.246-251].

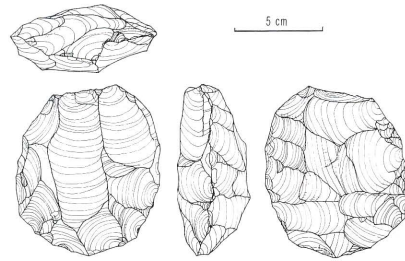


Fig.2 Levallois-like Core from Takaseyama, Yamagata-prefecture, Japan [Abe, 1976: p.246]

Three hammerstones were used for the replications: a basalt hammerstone (Fig.3: left), largest of the three and weighing 930 g, for initial rough-out of the blocks to make rough shapes of cores as well as for detaching large flakes from the blocks to make core blanks; a hammerstone of basalt-like material (Fig.3: middle) weighing 290 g for core preparation and final blows; and a hammerstone of chert-like material (Fig.3: right), smallest of the three and weighing 120 g, used delicately to modify the surfaces and sides of the cores and to facet the striking platforms of the cores.

Flaking technique used was hand-held non-marginal direct percussion, with points of percussion well on to the striking platforms, except for the initial rough-out of the blocks, in which the blocks were struck with the largest hammerstone swung down with the right hand while being rested and stabilized on the ground with the left hand (Fig.4).

The tangential percussion, illustrated by Bordes as a very efficient way to detach a Levallois flake [1961: p.14, Fig.3-5A] (Fig.5), was practised at the final stages of the core reductions, using

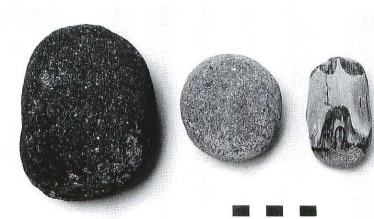


Fig.3 Hammerstones Used for the Replications: Scale in 5 cm



Fig.4 Rough-out of Core Blank Rested on the Ground

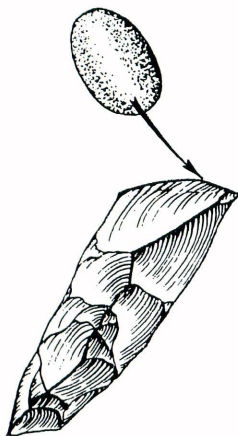


Fig. 5 Tangentile Percussion Illustrated by Bordes [1961: p.15]

the medium-sized hammerstone being aimed at an oblique angle to the striking platforms, though not in a marginal way, and detached five Levallois flakes as the end products from the largest portions of the core surfaces.

When the removal of a classical Levallois flake with the final blow failed, the surface, sides, and striking platform of the core were modified again to make a core shape good enough to accomplish the purpose. Once the final blow succeeded in detaching a flake which satisfied the requirements of the end product, the core reduction was discontinued even when it was possible to detach more Levallois flakes continuously after modifying the core again.

Very tiny by-products were excluded from the analysis; the aim of the analysis was to compare the Levallois flakes detached as the end products with the by-products of their manufacture in terms of typological and metrical attributes, and was not to describe in detail how all the pieces produced were conjoined.

Each piece of debitage¹⁾, large enough for the analysis, was numbered immediately after it had been removed from the core.

The numbered pieces were classified into four main débitage categories: cortical²⁾, partially-cortical³⁾, naturally-backed⁴⁾, and non-cortical débitage⁵⁾.

The non-cortical débitage was sub-divided into non-Levallois flakes⁶⁾, pseudo-Levallois points [Bordes, 1961: p.22], non-Levallois blades⁷⁾, Levallois flakes⁸⁾, levallois points [Bordes, 1961: p.18], elongated Levallois points⁹⁾, and Levallois blades¹⁰⁾.

All of the numbered débitage pieces were analysed on the following attributes:

1. Features of butt: 1) Cortex, 2) Plain, 3) Convex dihedral faceted, 4) Straight multiple faceted, 5) Convex multiple faceted, 6) in *Chapeau de gendarme*, and 7) Broken [Bordes, 1947: pp.7-8; 1961: p.5]
2. Butt width
3. Butt thickness at the point of percussion [Wilmsen, 1968: p.984]
4. Maximum length from the point of percussion to the point of last detachment [Jelinek, 1975: p.304]
5. Maximum width measured perpendicular to the maximum length [Bordes, 1961: p.6]
6. Maximum thickness measured anywhere along the length excluding bulbar area [Munday, 1976: p.121]
7. *Angle de chasse* formed between dorsal surface and butt [Barnes and Cheynier, 1935: p.289]
8. Dorsal scar patterns (Fig.6): 1) Unidirectional [Bordes and Crabtree, 1969: pp.2-3], 2)

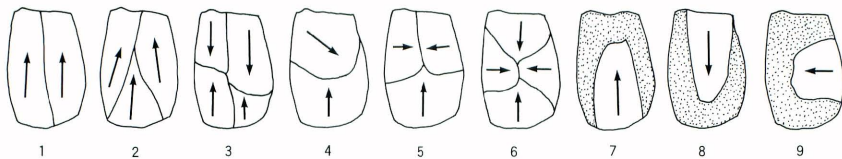


Fig. 6 Patterns of Dorsal Scars

1~2: Unidirectional; 3: Bidirectional opposed; 4~5: Crossed; 6: Centripetal; 7~9: A single flake scar

- Bidirectional opposed [Bordes and Crabtree, 1969: pp.2-3], 3) Crossed [Tixier, 1963: p.43],
 4) Centripetal [Crew, 1975: p.429], and 5) A single flake scar
9. Number of dorsal scar(s)
 10. Dorsal shapes: 1) Parallel, 2) Converging, and 3) Expanding [Marks, 1976: p.372]
 11. Distal shapes: 1) Blunt and 2) Pointed [Marks, 1976: p.372]
 12. Lateral profiles: 1) Flat, 2) Incurvate, and 3) Twisted [Marks, 1976: pp.372-373]

Replication 1: The raw material used in Replication 1 was a block of finely-grained siliceous shale, light brown in colour and with the cortex patinated dark brown. A large flake (with maximum length 117 mm, width 126 mm, and thickness 50 mm) was detached from the block to make a core blank (Fig.7: flake conjoined on the left).

The three hammerstones were used during the core reduction: the largest one for detaching the core blank, the medium-sized one for core preparation and the final blow, and the smallest one for delicate modification of the core sides and surface and for faceting the striking platform for the final blow.

The core reduction started with the side preparation, and then the centripetal preparation of the flaking surface was carried out, alternatively with the side preparation in accordance with the shape of the core under preparation. During this preparation, the striking platform for the final blow was located, and a classical Levallois flake (Fig.8-5) was detached successfully after the striking platform had been faceted delicately.

The core in the final form is 90 mm long, 90 mm wide, and 34 mm thick (Fig.8-6). The core surface retains centripetal flake scars which were left by its preparation. The striking platform for the final blow remains convex multiple faceted.

The numbered *débitage* pieces total 31, of which 3 are cortical, 3 are partially-cortical, 1 is naturally-backed, 22 are non-cortical, and 2 are broken and therefore unclassifiable (Table 1). Seven of these 31 pieces came from the side preparation, 18 came from the surface preparation, 5 came from the faceting of the striking platform, and 1 came from the final blow as the end product (Table 2).

Aside from the finally-detached Levallois flake, the non-cortical *débitage* consists of 14 non-Levallois flakes, 1 pseudo-Levallois point, and 6 non-Levallois blades. Most of them were produced during the surface preparation (Table 2).

The typological and metrical features presented in Tables 3 to 8 show that the Levallois flake is bigger than most of the by-products in butt width, butt thickness, length, and width. The biggest difference between them, however, lies in the number of flake scars on their dorsal surfaces; the scars on the Levallois flake are far more numerous than on the by-products.

For the reason that the core was made on a flake and that the flaking surface of the core was the ventral surface of the flake, most of the side preparation pieces are cortical or partially-cortical *débitage* with plain butts, while the surface preparation pieces are neither cortical nor partially-cortical *débitage*, with many of their butts being cortex or plain (Tables 2 and 6). Many of the

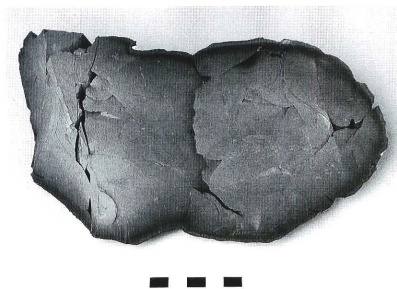


Fig.7 Conjoined Large Flakes Used as the Core Blanks for Replications 1 (Left) and 2 (Right): Scale in 5 cm

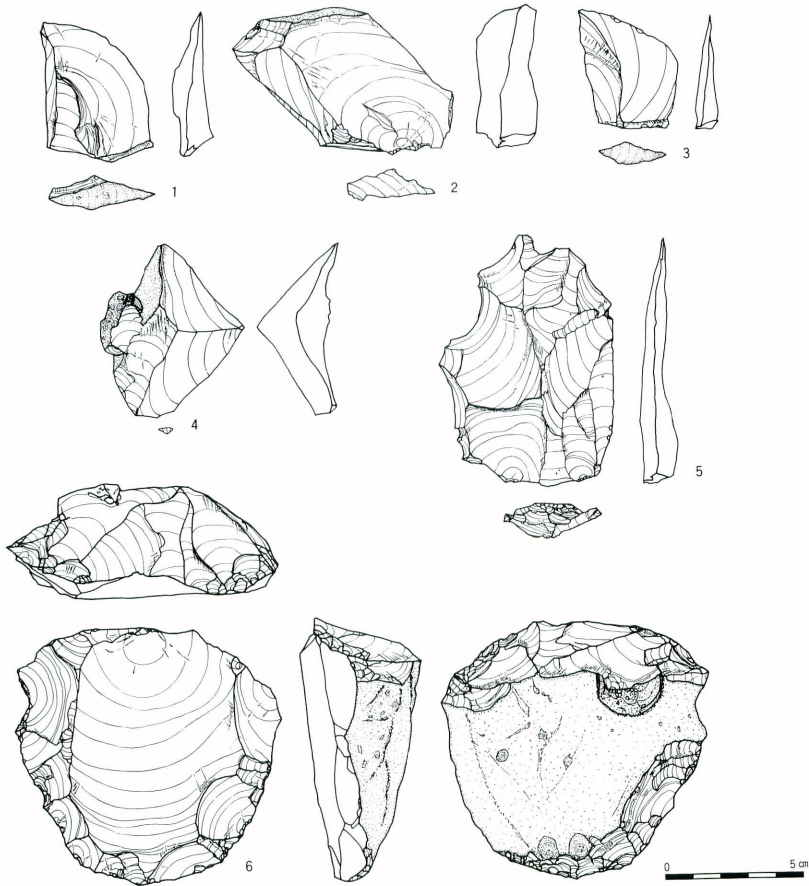


Fig.8 Products from Replication 1

surface preparation pieces have crossed dorsal scars, but the side preparation pieces tend to have a single flake scar (Table 7). As to the shapes of the débitage pieces, the dorsal shapes are parallel, converging, and expanding, and the distal shapes are mostly blunt (Table 8). The lateral profiles of the side preparation pieces are mostly incurvate, while those of the surface preparation pieces are mostly flat (Table 8).

No Levallois flakes other than the end product were accidentally detached during the core reduction.

Replication 2: In Replication 2, a large flake (with maximum length 112 mm, width 112 mm, and thickness 39 mm) was detached as the core blank from the same block of siliceous shale that was used for Replication 1 (Fig.7: flake conjoined on the right).

The largest hammerstone was used for detaching the core blank, and the medium-sized hammerstone was used for core preparation and the final blow.

The core reduction started with the centripetal preparation of the flaking surface. The side

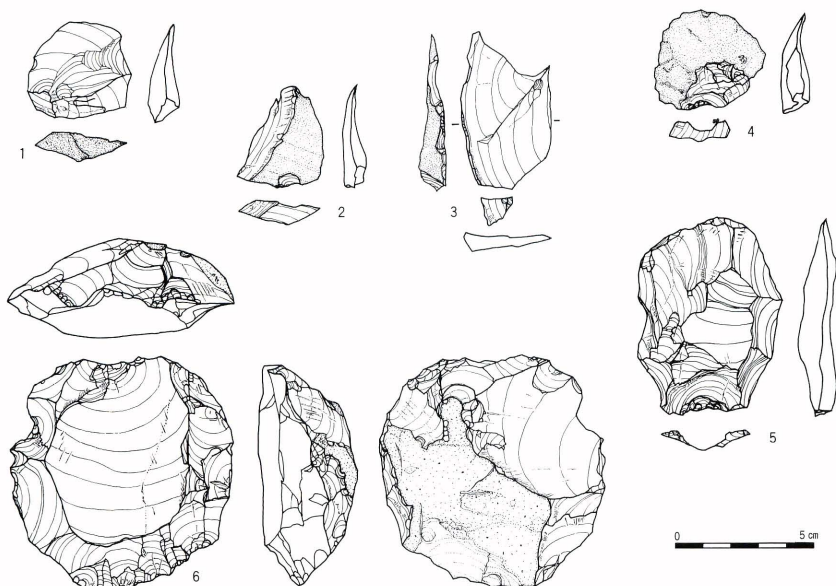


Fig.9 Products from Replication 2

preparation followed, alternating with the surface preparation. The striking platform for the final blow was located when the preparation of the core sides and surface had been finished, and a classical Levallois flake (Fig.9-5) was detached with the final blow after modifying the selected portion of the striking platform.

The core in the final form is 80 mm long, 80 mm wide, and 28 mm thick (Fig.9-6). The core surface retains centripetal flake scars left by its preparation, and the striking platform for the final blow remains straight multiple faceted.

The numbered *débitage* pieces total 30, of which 1 is cortical, 6 are partially-cortical, 3 are naturally-backed, 17 are non-cortical, and 3 are broken and unclassifiable (Table 10). Seven of these 30 pieces were from the side preparation, 21 were from the surface preparation, and 1 was from the final blow as the end product (Table 11).

The non-cortical *débitage* other than the end product consists of 14 non-Levallois flakes and 1 pseudo-Levallois point. All of them were from the surface preparation (Table 11).

The Levallois flake is bigger than most of the by-products in butt width, length, width, and thickness (Table 12), but the most remarkable difference is in that it has far more dorsal scars than the by-products (Table 14).

Because the core was made on a flake as in Replication 1 and the flaking surface of the core coincided with the ventral surface of the flake, the side preparation pieces are either cortical or partially-cortical *débitage* with plain butts, whereas the surface preparation pieces are either naturally-backed or non-cortical *débitage*, mostly with cortex or plain butts (Tables 11 and 15). Most of the surface preparation pieces have crossed dorsal scars, and the side preparation pieces usually have a single flake scar (Table 16). The dorsal shapes are parallel, converging, and expanding, with the expanding shape being seen more often in the surface preparation pieces than in the side preparation pieces, and the distal shapes are blunt (Table 17). The lateral profiles

of the side preparation pieces are either flat or incurvate, and those of the surface preparation pieces are mainly flat (Table 17).

As in Replication 1, no Levallois flakes but the end product were accidentally detached during the core reduction.

Replication 3: The raw material for this replication was a pear-shaped block of siliceous shale (with maximum length 202 mm, width 128 mm, and thickness 99 mm) of a rather coarse quality, brown in colour and with the cortex patinated orange (Fig.10).



Fig.10 Conjoined Core Blank for Replication 3: Scale in 5 cm

Most probably due to the coarse quality of the raw material, hinging and plunging often occurred during the core reduction, and core size was decreased to a great extent at the stage when the core preparation had been finished.

Only the medium-sized hammerstone was used at all of the stages of the core reduction.

The core reduction started with the centripetal surface preparation, and then the sides were prepared alternating with the surface preparation. The striking platform for the final blow was located when the surface and side preparation had

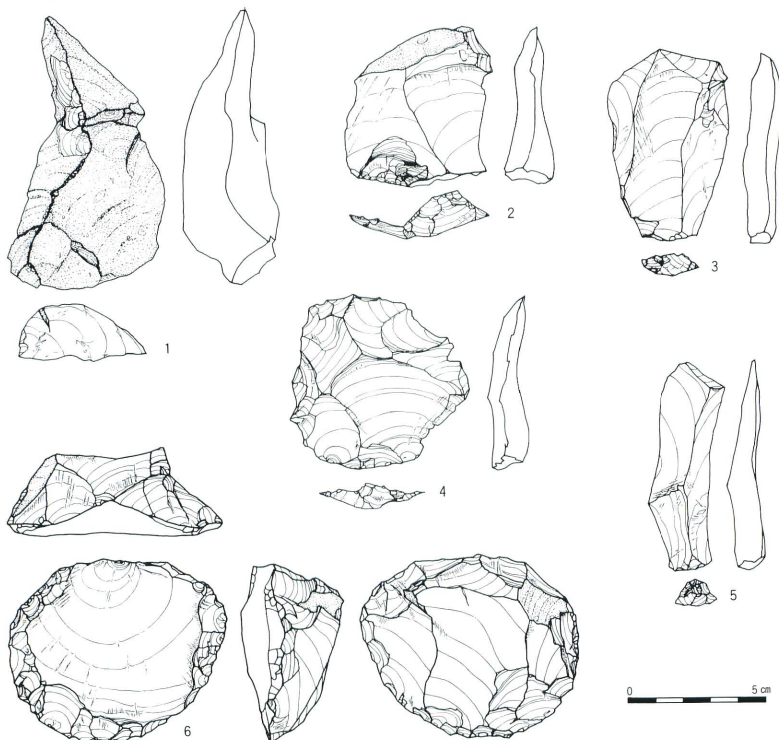


Fig.11 Products from Replication 3

been finished, and the final blow detached a classical Levallois flake (Fig.11-4).

The core in the final form is 65 mm long, 77 mm wide, and 26 mm thick (Fig.11-6). Its surface retains centripetal preparation scars, and the striking platform for the final blow remains convex multiple faceted.

The numbered débitage pieces total 65, of which 10 are cortical, 17 are partially-cortical, 34 are non-cortical, and 4 are broken and unclassifiable (Table 19). Twenty-four of these 65 pieces were from the side preparation, 38 were from the surface preparation, and 1 was from the final blow as the end product (Table 20).

Excluding the finally-detached Levallois flake, the non-cortical débitage consists of 29 non-Levallois flakes and 3 non-Levallois blades. Most of them were from the surface preparation (Table 20).

The most remarkable difference between the finally-detached Levallois flake and the by-products is that the Levallois flake has much more dorsal scars than the by-products (Table 23).

The side preparation pieces tend to be cortical or partially-cortical with plain butts, while the surface preparation pieces tend to be non-cortical débitage with plain or convex dihedral faceted butts (Tables 20 and 24). Many of the surface preparation pieces have crossed dorsal scars, and the side preparation pieces usually have unidirectional or crossed dorsal scars (Table 25). The dorsal shapes are parallel, converging, and expanding (especially for the surface preparation pieces), and the distal shapes are predominantly blunt (Table 26). The lateral profiles of the side preparation pieces are either flat or incurvate, and those of the surface preparation pieces are mainly flat (Table 26).

Aside from the end product, 1 Levallois flake and 1 Levallois blade were accidentally detached during the core reduction. They were from the surface preparation, and have crossed dorsal scars.

Replication 4: The raw material for Replication 4 was a hemispherical block of siliceous shale (with maximum length 205 mm, width 170 mm, and thickness 104 mm), very finely grained, which was dark brown in colour and had the cortex patinated yellowish brown (Fig.12).

The largest hammerstone was used for the rough-out of the block, and the medium-sized hammerstone was used for the core preparation and re-modification as well as for the final blows. The smallest hammerstone was used for delicate modification of the sides and flaking surface of the core and of the striking platforms for the final blows.

The core reduction started with the side preparation. This was followed by the centripetal preparation of the surface, which alternated with the side preparation. The striking platform for the final blow was located when the core preparation had been finished, but the final blow failed and detached a broken Levallois flake with centripetal dorsal scars (Fig.13-4). The core surface and sides were modified again in the same manner as in the preparation prior to the failed blow, and the second final blow succeeded in detaching a classical Levallois flake (Fig.13-7).

The core in the final form is 99 mm long, 88 mm wide, and 37 mm thick (Fig.13-8). The core surface retains centripetal flake scars left by its re-modification, and the striking platform for



Fig.12 Conjoined Core Blank for Replication 4: Scale in 5 cm

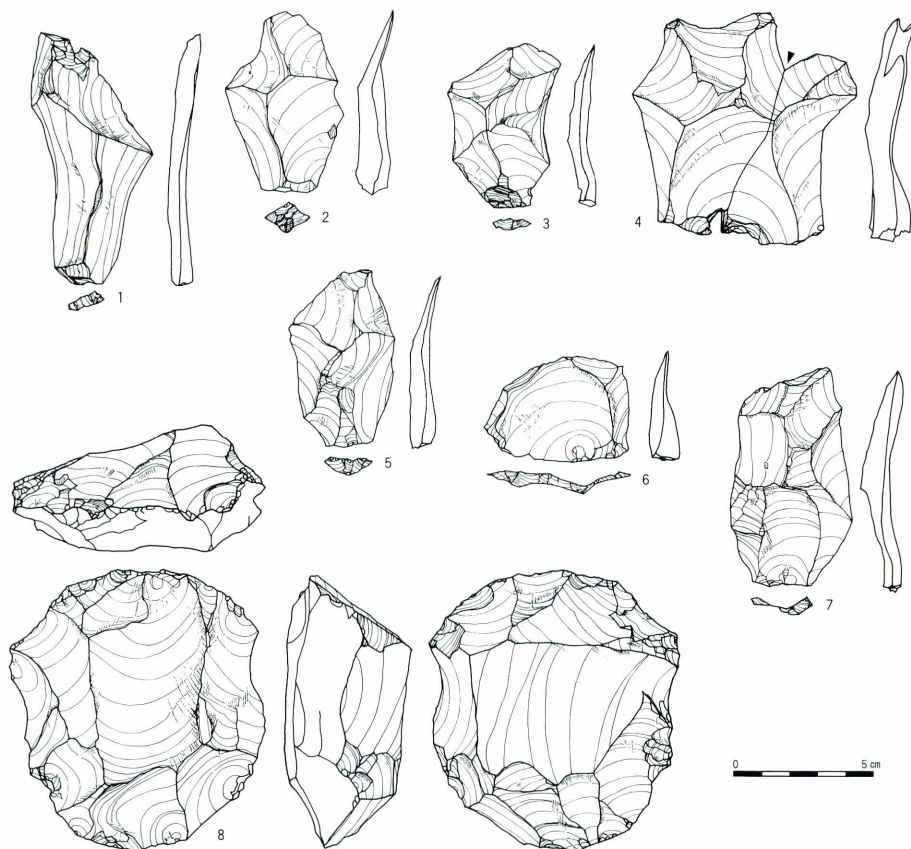


Fig.13 Products from Replication 4

the second final blow remains convex dihedral faceted.

The numbered *débitage* pieces total 64, of which 4 are cortical, 11 are partially-cortical, 46 are non-cortical, and 3 are broken and unclassifiable (Table 28). Twenty of these 64 pieces came from the core side preparation, 17 came from the surface preparation, 1 broken end product came from the failed first final blow, 20 came from the core surface re-modification, 3 came from the core side re-modification, and 1 unbroken end product came from the successful second final blow (Table 29).

The non-cortical *débitage* other than the two end products consists of 33 non-Levallois flakes, 1 pseudo-Levallois point, 6 non-Levallois blades, and 3 classical Levallois flakes. They were from the preparation and re-modification of the core surface and sides. All of the pieces from the re-modification are non-cortical (Table 29).

The Levallois flake from the successful second final blow has the dorsal scars far more numerous than on any of the by-products and the broken Levallois flake (Table 32).

The side preparation pieces are cortical, partially-cortical, and non-cortical with plain butts, and the surface preparation pieces are mainly non-cortical with plain butts (Tables 29 and 33).

Many of the surface preparation pieces have a single and crossed dorsal scars, and the side preparation pieces have a single as well as unidirectional and crossed dorsal scars. The dorsal scars on the remodification pieces of the core surface are mostly crossed, though centripetal in some cases (Table 34). The dorsal shapes of the preparation and remodification pieces are parallel, converging, and expanding, and the distal shapes are predominantly blunt (Table 35). The lateral profiles are mainly incurvate (Table 35).

Aside from the two Levallois flakes from the two final blows, 12 pieces of Levallois débitage were accidentally detached during the core reduction, of which 9 have crossed dorsal scars and are non-Levallois in terms of the classical category with centripetal preparation. These by-products Levallois consist of 3 flakes and 1 blade with crossed dorsal scars, derived from the initial preparation of the flaking surface of the core, as well as 5 flakes with crossed dorsal scars and 3 flakes (Table 37) with centripetal scars, both derived from the re-modification of the core surface.

Replication 5: The raw material used in Replication 5 was a tabular block of siliceous shale of a rather fine quality (with maximum length 188 mm, width 133 mm, and thickness 72 mm), which was light brown in colour and had the cortex patinated grey (Fig.14).

Only the medium-sized hammerstone was used for the core reduction.

The core reduction started with the centripetal preparation of the flaking surface, and the side preparation followed it, alternating with the surface preparation. Because breakage direction of the raw material, in which flaking was better controlled, was known during the core preparation, the striking platform for the final blow was located with this breakage mechanism in mind, and the final blow detached a classical Levallois flake (Fig.15-3) after the striking platform had been delicately faceted.

The core in the final form is 107 mm long, 108 mm wide, and 28 mm thick (Fig.15-5). The core surface retains centripetal flake scars left by its preparation, and the striking platform for the final blow remains convex multiple faceted.

The numbered débitage pieces total 45, of which 5 are cortical, 13 are partially-cortical, and 27 are non-cortical débitage (Table 38). Eleven of these 45 pieces came from the side preparation, 33 came from the surface preparation, and 1 was from the final blow as the end product (Table 39).

Excluding the finally-detached Levallois flake, the non-cortical débitage consists of 19 non-Levallois flakes, 5 pseudo-Levallois points, 1 non-Levallois blade, and 1 Levallois blade. Most of them were produced during the surface preparation (Table 39).

The finally-detached Levallois flake is longer than the by-products (Table 40), but the biggest difference between them is seen in that the former has more dorsal scars than any of the latter (Table 42).

The side preparation pieces tend to be cortical or partially-cortical débitage with plain butts, and the surface preparation pieces tend to be non-cortical débitage with plain or convex dihedral faceted butts (Tables 39 and 43). Most of the surface preparation pieces have crossed dorsal scars, while the side preparation pieces have a single flake scar as well as unidirectional or



Fig.14 Conjoined Core Blank for Replication 5: Scale in 5 cm

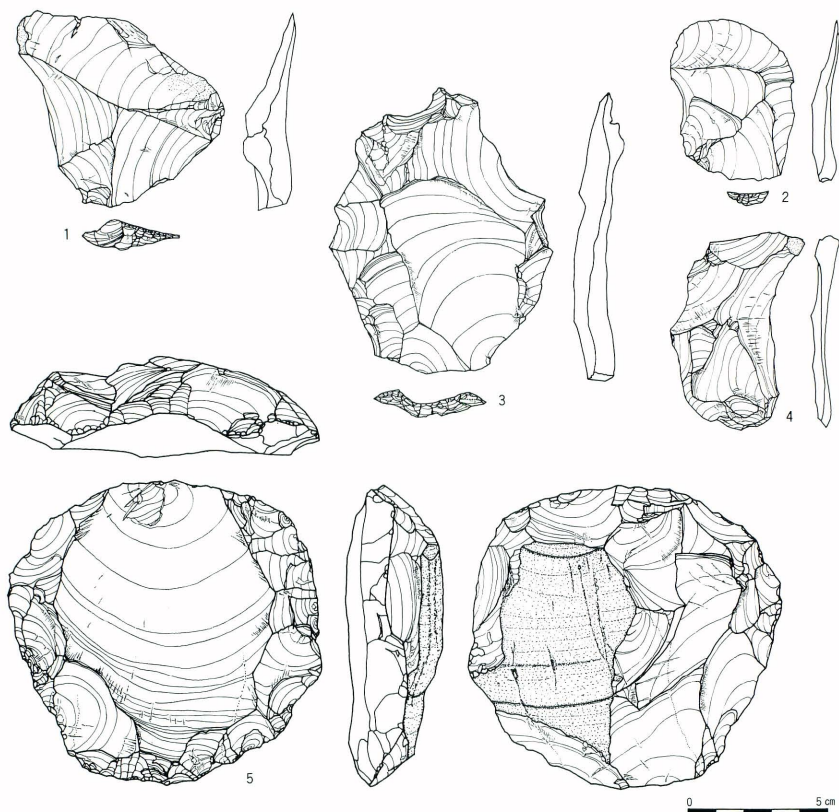


Fig.15 Products from Replication 5

crossed dorsal scars (Table 44). The dorsal shapes are mainly expanding, but are also parallel and converging, and the distal shapes are blunt in nearly all cases (Table 45). The lateral profiles of the side preparation pieces are mainly incurvate, while those of the surface preparation pieces are mainly flat (Table 45).

Four pieces of Levallois débitage other than the end product were accidentally detached during the core reduction: 3 flakes with crossed dorsal scars, which may be described as non-Levallois in terms of the classical Levallois definition, and 1 classical Levallois blade with centripetal dorsal scars. All of them were derived from the surface preparation.

Summary of analysis

In each of the replications, the non-cortical débitage was the most frequent category of the by-products. The partially-cortical débitage took the second place, and the cortical débitage was least frequent. Most of the non-cortical débitage pieces were from the preparation of the flaking surfaces of the cores. All of the four naturally-backed pieces were produced in the reduction of the cores on flakes (Replications 1 and 2), and were produced in the preparation of the flaking surfaces of the cores, which were the ventral surfaces of the flakes.

The sizes of the by-products from the five replications suggest that a size of raw material decides

sizes of preparation pieces, especially those of pieces produced at earlier stage of core reduction.

In a core reduction as Replications 1 and 2 using raw material or core blank originally shaped ideal for the reduction of a classical Levallois core, total number of detachment in the whole reduction sequence may be less numerous than in reductions using raw material shaped otherwise. When a core blank is well fitted originally, the striking platform for the final blow can be located at an early stage of its reduction. It may be very rare that striking platform for the final blow remains cortical; in order to detach a Levallois flake with its butt left cortical, a certain cortical portion of a core, originally shaped and angled favourable for the striking platform, should be extremely carefully selected at the very beginning of the reduction.

As is clearly seen in Replications 1 and 2 which used large flakes as the core blanks, which portion of a core on flake, side or surface (being the ventral surface of the flake), is detached at the very onset of the reduction may schematically decide types of the butts of initial preparation pieces: side preparation pieces with plain butts and surface preparation pieces with cortex butts in the case of a core reduction starting with surface preparation.

The débitage pieces from the core side preparation are mainly cortical and partially-cortical with plain butts, whereas the pieces from the surface preparation are mainly non-cortical with cortical, plain, and convex dihedral faceted butts, although varying in scar numbers on their dorsal surfaces.

Many of the side preparation pieces have a single as well as unidirectional flake scars, but the surface preparation pieces mainly have crossed dorsal scars.

There is seen no strong relationship between the converging dorsal shape and pointed distal shape of the débitage pieces (Tables 9, 18, 27, 36, and 46). It seems that in reductions of classical Levallois cores the distal shapes of débitage are not pointed even when the dorsal shapes happen to be converging, for it may be rare that the overall shapes of the cores are converging [see Bergman (1981: p.320) and Marks (1983: p.64) for the strong connection between core shapes and shapes of débitage pieces].

With regards the lateral profiles of the débitage pieces, the side preparation pieces tend to be incurvate, while the surface preparation pieces are generally flat. In a case of core reduction such as Replication 4, even the surface preparation pieces may be often incurvate, most probably due to the quality of raw material.

The Levallois flakes detached as the end products are bigger than most of the by-products. The biggest difference between them, however, is in the numbers of the flake scars on their dorsal surfaces, with the scars on the Levallois flakes being far more numerous than those on the by-products.

In Replications 3 to 5, 14 pieces of Levallois débitage with crossed dorsal scars, which may not be described as the classical Levallois with centripetal dorsal scars, as well as 4 pieces of classical Levallois débitage were produced accidentally during the core reductions. Although the former Levallois pieces were derived from both the initial preparation of the core surfaces and the re-modification of the core surface after the failed blow, all of the latter Levallois pieces but one (from the initial core surface preparation) were produced in the surface re-modification.

It is believed that classical Levallois débitage is detached unintentionally (or intentionally in the méthode Levallois récurrente centripète of Boëda [1988a]) during re-modification of core surface after successful or failed detachment of the end product; at this stage of core reduction the core surface is expected to have no cortex and to have more or less centripetal flake scars (Fig. 16).

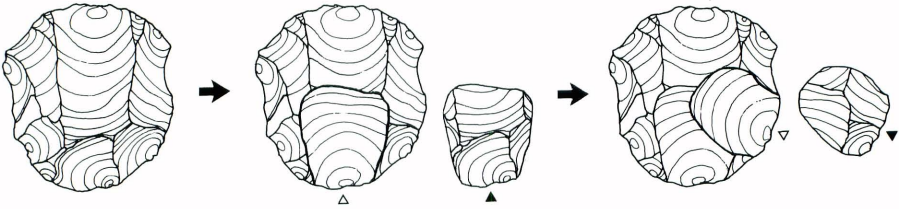


Fig. 16 Scheme of Accidental Detachment of Classical Levallois Flakes during Core Surface Re-modification

Examining both the end products Levallois and the by-products Levallois, the former pieces are bigger than most of the latter, and have more dorsal scars than the latter. The ratios of the scar numbers on the end products Levallois to the by-products Levallois (with crossed dorsal scars) are 1) 13 to 4 (2 cases), 5 (3 cases), 6 (2 cases), and 9 (2 cases), 2) 14 to 4 and 7, and 3) 15 to 4, 5, and 6. The scar number ratios of the end products Levallois to the by-products Levallois with centripetal scars are 1) 13 to 6, 7, and 8 (3 cases from the re-modification) and 2) 15 to 8 (from the initial preparation).

Needless to say, it was easy for the present author, who had undertaken the replications, to differentiate between the end products Levallois and the by-products Levallois, but many analysts might have defined these by-products as typical Levallois end products. It may be actually difficult to distinguish between these two kinds of products in facing a given lithic assemblage with Levallois features, unless they are altogether conjoined to cores. A possible good basis for differentiating between them may be the numbers of flake scars on their dorsal surfaces.

Typical pseudo-Levallois points illustrated by Bordes [1961: pp.22-23, Fig.3-7] (Fig.17) were not produced very often in the replications: 8 of the 235 pieces or 3.4% of the total débitage pieces are classifiable as such. This rather small percentage seems to suggest that typical pseudo-Levallois points are not produced very often during the classical Levallois core reduction [see Matsuzawa (1987a: p.19) for a similar conclusion based on the observation of the untruncated and mint shapes of the dorsal scars on a classical Levallois flake from le Tillet].

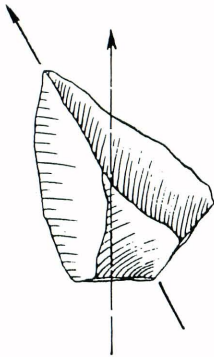


Fig. 17 Pseudo-Levallois Point Illustrated by Bordes [1961: p.15]

It may be difficult to distinguish between the reduction of a Levallois core, with a series of end products removed, and that of a discoidal core. It seems likely in this connection that in the former reduction the end products differ from the by-products in some features such as the numbers of flake scars on their dorsal surfaces, whereas in the latter reduction many of the products are end products themselves and are similar to each other.

Conclusion

The experimental reductions of classical Levallois cores reported in the present paper followed the reduction schemes established by modern lithic technologists. Due to an inevitable limit of imitation, the pertinent experiments should have been more or less different from the reductions carried out by prehistoric peoples.

As a result of the analysis of the by-products from the experiments, however, the present author was able to put several Levallois questions, which he had been asking vaguely, into order in the preceding summarizing section.

In the beginning of this century, Commont described the whole process of the classical Levallois flaking, starting with the rough-out of raw material and ending with the final detachment of a large flake with centripetal flake scars left by the core preparation [1909: p.122].

Commont's description still holds for the classical Levallois definition of today, which describes careful preparation without any failure up to the final blow to obtain only a single end product, thereby describing neither the re-modification of the core after a failed blow nor the characteristic features of the by-products from the re-modification.

Except for some mention in the 1961 publication [p.17, plate 3-2], Bordes did not state explicitly as to a possibility that several classical Levallois flakes were produced from a single core. It seems, therefore, that he regarded the classical Levallois as a single detachment of end product rather than production of more than one. In this connection, Bordes ascribed the considerable scarcity of discoidal cores in the Mousterian assemblages with Levallois elements to the abundance of raw material [1961: p.73]. It seems more than probable, however, that the reduction of a Levallois core continued after a failed blow even in places where raw material was available in abundance, if the failed core still remained good enough in size and shape for its further modification to obtain the end product in the form intended at the very onset of the reduction.

Currently, Boëda [1988a; 1988b] is proposing a classification system of the Levallois flaking methods made up of two different ideas of core reduction: *méthode linéale*, equivalent to the classical Levallois, and *méthode récurrente*. This classification is quite promising in that it certainly is to present a key to solve several Levallois problems, proposing various types of models that can be used to analyse lithic assemblages with Levallois features from many parts of the world, some of which may not apply to the European Levallois definitions.

As was pointed out by Bradley and Sampson [1986: p.30], the substantiality of end products of core reductions may have been conditioned by several factors such as traditional reduction schemes, sizes and shapes of raw material, and knapper's ability to accomplish the scheme. It is also believed that the failures in flaking which occurred during the reduction led to the change of the initial scheme to a different one.

Because knapping failure, due to the quality of raw material or the knapper's insufficient control of flaking, should have happened frequently in the prehistoric times, though seemingly much less often than today, re-modification of core shapes after failed blows and the features of the by-products from the re-modification should be considered more seriously.

As the concluding remarks of the present study, two questions are raised as follows:

1) In the replications, 18 pieces of Levallois débitage (7.7% of the total débitage pieces amounting to 235), consisting of 14 with crossed dorsal scars and 4 with centripetal scars, were produced accidentally during the core preparations and re-modification. Here arises a question how we distinguish between classical Levallois flakes produced as the end products and those derived from core preparation and re-modification. In this regard, it seems problematic to count unretouched Levallois flakes for a quantitative analysis on the same level as tools with clear traces of retouch, for the identification and quantification of Levallois flakes as end products may be different according to different researchers. Is it not more reasonable to analyse Levallois flakes qualitatively as a means to see the flaking technique consistent in a given lithic assemblage

altogether with cores found associated?

2) The replications did not produce any débitage pieces which can be Levallois with unidirectional or bidirectional opposed dorsal scars. It seems highly likely as Boëda [1988a; 1988b] suggests that such kinds of Levallois flaking methods were proceeded intentionally and quite differently from the classical Levallois flaking. What, then, is a technological significance of the Levallois method with elaborate parallel preparation? This question may interestingly link with that concerning the Levantine Lower Mousterian, modelled by Tabun D, with parallel Levallois preparation and laminar débitage, which is said to be technologically distinct from the overlying Mousterian modelled by Tabun C and B said to have the classical Levallois features [see Copeland (1975: pp.329-335) for the tripartite scheme of the Levantine Mousterian].

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Notes

- 1) The term débitage is meant here for various types of flakes other than debris, although this term was originally designated for intentional action of breaking a piece of hard rock in order to use the products as they are or after retouch modification as well as for all of the products from this action [Tixier, 1963: p.32].
- 2) The cortical débitage is a category which has more than 80% cortex.
- 3) The partially-cortical débitage is a category which is neither the cortical nor non-cortical débitage.
- 4) The naturally-backed débitage is partially cortical, and has cortex or natural surface which makes almost right angles with the ventral surface [Bordes, 1961: p.33].
- 5) The non-cortical débitage is a category which has cortex up to 20%.
- 6) Flakes with the length less than twice the width and without the Levallois features are defined as non-Levallois flakes [Bordes, 1961: p.6].
- 7) Elongated non-Levallois flakes with the length equal to or more than twice the width are defined as non-Levallois blades [Bordes, 1961: p.6].
- 8) The standard, on which the determination whether or not a given flake is Levallois is based, is that of Bordes [1961: p.17]; if the flake retains dorsal scars, which may be parallel or convergent (crossed and centripetal), left by careful preparation on the core to predetermine its shape prior to its removal, the flake is defined as Levallois. In 1980, Bordes [p.45] particularly defined a Levallois flake with centripetal dorsal scars as the classical type.
- 9) Levallois points with the length equal to or more than twice the width are defined as elongated Levallois points [Bordes, 1961: p.18].
- 10) Elongated Levallois flakes with the length equal to or more than twice the width are defined as Levallois blades [Bordes, 1961: p.18].

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Explanation of Figures 8, 9, 11, 13, and 15

Fig.8 Products from Replication 1

- 1: Core surface preparation piece with cortical butt and bulb of percussion of the core on flake
- 2: Non-Levallois flake with plain butt from core side preparation
- 3: Non-Levallois flake with cortical butt from core surface preparation
- 4: Partially-cortical débitage with incurvate lateral profile from core side preparation
- 5: Classical Levallois flake from the final blow
- 6: Core in the final form

Fig.9 Products from Replication 2

- 1: Core surface preparation piece with cortical butt and bulb of percussion of the core on flake
- 2: Partially-cortical débitage with plain butt and incurvate lateral profile from core side preparation
- 3: Naturally-backed débitage from core surface preparation
- 4: Partially-cortical débitage with plain butt and incurvate lateral profile from core side preparation
- 5: Classical Levallois flake from the final blow
- 6: Core in the final form

Fig.11 Products from Replication 3

- 1: Cortical débitage with incurvate lateral profile from core side preparation
- 2: Non-Levallois flake from core surface preparation
- 3: Levallois flake with crossed dorsal scars from core surface preparation
- 4: Classical Levallois flake from the final blow
- 5: Levallois blade with crossed dorsal scars from core surface preparation
- 6: Core in the final form

Fig.13 Products from Replication 4

- 1: Levallois blade with crossed dorsal scars from core surface preparation
- 2: Levallois flake with crossed dorsal scars from core surface preparation
- 3: Classical Levallois flake from core surface re-modification
- 4: Classical Levallois flake, obliquely split (▼), from the failed first final blow
- 5: Classical Levallois flake from core surface re-modification
- 6: Classical Levallois flake from core surface re-modification
- 7: Classical Levallois flake from the second final blow
- 8: Core in the final form

Fig.15 Products from Replication 5

- 1: Pseudo-Levallois point from core surface preparation
- 2: Levallois flake with crossed dorsal scars from core surface preparation
- 3: Classical Levallois flake from the final blow
- 4: Classical Levallois blade from core surface preparation
- 5: Core in the final form

Abbreviations in Tables

Ave. : Average; S.D. : Standard deviation;
 N : Number of samples

Tables 2, 11, 20, 29, and 39

C.D. : Cortical débitage; P.C.D. : Partially-cortical débitage; N.B.D. : Naturally-backed débitage;
 N.L.F. : Non-Levallois flakes; P.L.P. : Pseudo-Levallois points; N.L.B. : Non-Levallois blades;
 C.L.F. : Classical Levallois flakes; C.L.B. : Classical Levallois blades

Tables 3, 12, 21, 30, and 40

Max. : Maximum value; Min. : Minimum value

Tables 4, 13, 22, 31, and 41

Max. : Maximum angles; Min. : Minimum angles

Tables 5, 14, 23, 32, and 42

Max. : Maximum number; Min. : Minimum number

Tables 6, 15, 24, 33, and 43

C. : Cortical; Pl. : Plain; C.D.F. : Convex dihedral faceted; S.M.F. : Straight multiple faceted;
 C.M.F. : Convex multiple faceted; *Chap.* : in *Chapeau de gendarme*; B. : Broken

Tables 7, 16, 25, 34, and 44

Uni. : Unidirectional; B.O. : Bidirectional opposed; Cr. : Crossed; Cent. : Centripetal; Same : Single detachment in the same direction as débitage axis; Side : Single detachment from sideway of débitage axis; Opp. : Single detachment from opposite end of percussion point

Tables 8, 17, 26, 35, and 45

Pa. : Parallel; Co. : Converging; Ex. : Expanding; Bl. : Blunt; Po. : Pointed; Fl. : Flat;
 In. : Incurvate; Tw. : Twisted

Table 1 Main Categories of Débitage Pieces from Replication 1

	Frequency
Cortical débitage	3
Partially-cortical débitage	3
Naturally-backed débitage	1
Non-cortical débitage	22
Unclassifiable débitage	2
Total	31

Table 2 Frequency of Débitage Categories of Different Types of Preparation Pieces from Replication 1

	C. D.	P. C. D.	N. B. D.	N. L. F.	P. L. P.	N. L. B.	C. L. F.
Core side preparation pieces (N=7)	3	3		1			
Core surface preparation pieces (N=18)			1	10		5	
Pieces from striking platform faceting (N=5)				3	1	1	
Finally-detached Levallois flake							1
Total	3	3	1	14	1	6	1

Table 3 Measurements (mm) of Butts, and Lengths, Widths and Thicknesses of Débitage Pieces from Replication 1

	Butt width				Butt thickness				Length				Width				Thickness			
	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	44	6	25.4	12.5	17	2	8.7	4.6	68	15	43.1	20.2	65	15	41.3	14.9	39	5	14.3	11.7
Core surface preparation pieces (N=18)	51	6	21.6	13.1	20	2	7.0	5.5	75	13	37.9	16.9	50	10	25.9	11.7	12	1	4.9	3.7
Pieces from striking platform faceting (N=5)	18	5	11.6	5.4	11	1	4.0	3.6	46	30	37.2	6.0	27	13	23.2	5.3	9	2	5.0	2.4
Finally-detached Levallois flake	35				12				86				61				10			

Table 4 Angle of chasses (°) of Débitage Pieces from Replication 1

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	90	35	65.6	19.0
Core surface preparation pieces (N=18)	84	45	68.9	9.7
Pieces from striking platform faceting (N=5)	83	81	82.3	0.9
Finally-detached Levallois flake	80			

Table 5 Dorsal Scar Numbers of Débitage Pieces from Replication 1

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	5	0	2.3	1.6
Core surface preparation pieces (N=18)	4	1	3.1	0.9
Pieces from striking platform faceting (N=5)	7	3	4.2	1.5
Finally-detached Levallois flake	14			

Table 6 Frequency of Butt Types of Débitage Pieces from Replication 1

	C.	Pl.	C. D. F.	S. M. F.	C. M. F.	Chap.
Core side preparation pieces (N=7)	7					
Core surface preparation pieces (N=18)	5	2	3	4	1	1
Pieces from striking platform faceting (N=5)	3		1			
Finally-detached Levallois flake	1					
Total	5	12	4	4	2	1

Table 7 Frequency of Dorsal Scar Patterns of Débitage Pieces from Replication 1

	Uni.	Cr.	Cent.	Side	Opp.
Core side preparation pieces (N=7)	1	1		2	1
Core surface preparation pieces (N=18)	1	11		2	
Pieces from striking platform faceting (N=5)	1	4			
Finally-detached Levallois flake	1				
Total	3	16	1	4	1

Table 8 Frequency of Dorsal/Distal Shapes and Lateral Profiles of Débitage Pieces from Replication 1

	Dorsal shapes			Distal shapes		Lateral profiles		
	Pa.	Co.	Ex.	Bl.	Po.	Fl.	In.	Tw.
Core side preparation pieces (N=7)	4	1	2	7		6 1		
Core surface preparation pieces (N=18)	7	6	4	17	1	15	1	1
Pieces from striking platform faceting (N=5)	1	4		3	2	1	3	1
Finally-detached Levallois flake	1			1		1		
Total	13	11	6	28	3	17	10	3

Table 9 Interrelationship between Dorsal Shapes and Distal Shapes of Débitage Pieces from Replication 1

Dorsal shapes	Distal shapes		Total
	Blunt	Pointed	
Parallel	13		13
Converging	8	3	11
Expanding	6		6
Total			30

Table 10 Main Categories of Débitage Pieces from Replication 2

	Frequency
Cortical débitage	1
Partially-cortical débitage	6
Naturally-backed débitage	3
Non-cortical débitage	17
Unclassifiable débitage	3
Total	30

Table 11 Frequency of Débitage Categories of Different Types of Preparation Pieces from Replication 2

	C. D.	P. C. D.	N. B. D.	N. L. F.	P. L. P.	C. L. F.
Core side preparation pieces (N=7)	1	6				
Core surface preparation pieces (N=21)			3	14	1	
Finally-detached Levallois flake						1
Total	1	6	3	14	1	1

Table 12 Measurements (mm) of Butts, and Lengths, Widths and Thicknesses of Débitage Pieces from Replication 2

	Butt width				Butt thickness				Length				Width				Thickness			
	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	36	9	24.3	8.5	22	2	8.8	6.5	47	24	32.9	6.7	39	17	29.6	7.5	14	2	7.7	3.7
Core surface preparation pieces (N=21)	56	8	22.7	11.4	14	2	7.1	3.2	50	19	31.4	8.1	74	17	34.8	11.4	8	3	5.1	1.8
Finally-detached Levallois flake	31								67				52				11			

Table 13 Angle de chasses (°) of Débitage Pieces from Replication 2

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	69	42	57.0	9.6
Core surface preparation pieces (N=21)	85	55	69.9	8.7
Finally-detached Levallois flake				

Table 14 Dorsal Scar Numbers of Débitage Pieces from Replication 2

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=7)	3	1	1.3	0.7
Core surface preparation pieces (N=21)	6	1	3.8	1.9
Finally-detached Levallois flake	16			

Table 15 Frequency of Butt Types of Débitage Pieces from Replication 2

	C.	Pl.	C. D. F.	S. M. F.	C. M. F.	B.
Core side preparation pieces (N=7)	6					1
Core surface preparation pieces (N=21)	4	9	2	3	1	2
Finally-detached Levallois flake						1
Total	4	15	2	3	1	4

Table 16 Frequency of Dorsal Scar Patterns of Débitage Pieces from Replication 2

	Cr.	Cent.	Side	Opp.
Core side preparation pieces (N=7)	1		3	3
Core surface preparation pieces (N=21)	12	1	3	1
Finally-detached Levallois flake	1			
Total	13	2	6	4

Table 17 Frequency of Dorsal/Distal Shapes and Lateral Profiles of Débitage Pieces from Replication 2

	Dorsal shapes			Distal shapes		Lateral profiles	
	Pa.	Co.	Ex.	Bl.	Po.	Fl.	In.
Core side preparation pieces (N=7)	3	3	1	7		4	3
Core surface preparation pieces (N=21)	6	3	9	18	1	14	7
Finally-detached Levallois flake	1			1		1	
Total	10	6	10	26	1	19	10

Table 18 Interrelationship between Dorsal Shapes and Distal Shapes of Débitage Pieces from Replication 2

Dorsal shapes	Distal shapes		Total
	Blunt	Pointed	
Parallel	11		11
Converging	5	1	6
Expanding	10		10
Total			27

Table 19 Main Categories of Débitage Pieces from Replication 3

	Frequency
Cortical débitage	10
Partially-cortical débitage	17
Non-cortical débitage	34
Unclassifiable débitage	4
Total	65

Table 20 Frequency of Débitage Categories of Different Types of Preparation Pieces from Replication 3

	C. D.	P. C. D.	N. L. F.	N. L. B.	C. L. F.
Core side preparation pieces (N=24)	6	9	7	1	
Core surface preparation pieces (N=38)	4	8	22	2	
Finally-detached Levallois flake					1
Total	10	17	29	3	1

Table 21 Measurements (mm) of Butts, and Lengths, Widths and Thicknesses of Débitage Pieces from Replication 3

	Butt width				Butt thickness				Length				Width				Thickness			
	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=24)	47	3	24.8	12.8	20	1	8.0	5.1	85	19	48.2	16.8	82	19	37.6	15.5	35	3	14.2	8.5
Core surface preparation pieces (N=38)	50	6	22.4	10.9	17	1	6.0	3.4	102	18	43.9	16.7	62	19	36.9	11.8	26	3	9.7	5.2
Finally-detached Levallois flake			37				10				60				62					10

Table 22 *Angle de chasses* (°) of Débitage Pieces from Replication 3

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=24)	89	50	70.1	12.3
Core surface preparation pieces (N=38)	85	45	70.5	9.9
Finally-detached Levallois flake			77	

Table 23 Dorsal Scar Numbers of Débitage Pieces from Replication 3

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=24)	9	0	3.1	2.1
Core surface preparation pieces (N=38)	10	0	3.8	2.2
Finally-detached Levallois flake			14	

Table 24 Frequency of Butt Types of Débitage Pieces from Replication 3

	C.	Pl.	C. D. F.	S. M. F.	C. M. F.	B.
Core side preparation pieces (N=24)	1	15	4			1
Core surface preparation pieces (N=38)	3	14	8	4	2	6
Finally-detached Levallois flake					1	
Total	4	29	12	4	3	7

Table 25 Frequency of Dorsal Scar Patterns of Débitage Pieces from Replication 3

	Uni.	B.O.	Cr.	Cent.	Same	Side	Opp.
Core side preparation pieces (N=24)	7		9		1	2	
Core surface preparation pieces (N=38)	4	1	22	1	2	4	1
Finally-detached Levallois flake				1			
Total	11	1	31	2	3	6	1

Table 26 Frequency of Dorsal/Distal Shapes and Lateral Profiles of Débitage Pieces from Replication 3

	Dorsal shapes			Distal shapes		Lateral profiles		
	Pa.	Co.	Ex.	Bl.	Po.	Fl.	In.	Tw.
Core side preparation pieces (N=24)	8	6	10	21	3	11	9	4
Core surface preparation pieces (N=38)	7	9	21	36	1	25	12	1
Finally-detached Levallois flake			1	1			1	
Total	15	15	32	58	4	36	22	5

Table 27 Interrelationship between Dorsal Shapes and Distal Shapes of Débitage Pieces from Replication 3

Dorsal shapes	Distal shapes		Total
	Blunt	Pointed	
Parallel	16		16
Converging	11	4	15
Expanding	31		31
Total			62

Table 28 Main Categories of Débitage Pieces from Replication 4

	Frequency
Cortical débitage	4
Partially-cortical débitage	11
Non-cortical débitage	46
Unclassifiable débitage	3
Total	64

Table 29 Frequency of Débitage Categories of Different Types of Preparation Pieces from Replication 4

	C. D.	P. C. D.	N. L. F.	P. L. P.	N. L. B.	C. L. F.
Core side preparation pieces (N=20)	3	6	8	1	1	
Core surface preparation pieces (N=17)	1	4	6		5	
Failed Levallois flake						1
Core surface re-modification pieces (N=20)			16			3
Core side re-modification pieces (N=3)			3			
Finally-detached Levallois flake						1
Total	4	10	33	1	6	5

Table 30 Measurements (mm) of Butts, and Lengths, Widths and Thicknesses of Débitage Pieces from Replication 4

	Butt width				Butt thickness				Length				Width				Thickness			
	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=20)	51	4	30.6	12.4	20	1	11.2	5.4	125	38	71.1	22.5	102	27	60.0	22.1	38	7	20.3	9.9
Core surface preparation pieces (N=17)	62	11	28.5	17.8	19	3	9.1	4.9	130	33	63.7	24.5	95	13	45.3	25.5	35	2	11.3	9.3
Failed Levallois flake	60								80				74				9			
Core surface re-modification pieces (N=20)	46	13	27.7	10.3	16	3	6.6	3.2	72	22	43.3	12.5	58	25	38.7	10.6	13	3	6.5	2.4
Core side re-modification pieces (N=3)	50	9	25.0	17.9	18	3	8.3	6.8	50	48	49.0	0.8	60	30	42.3	12.8	12	5	8.3	2.9
Finally-detached Levallois flake									77				44				10			

Table 31 *Angle de chasses* (°) of Débitage Pieces from Replication 4

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=20)	90	57	67.9	8.3
Core surface preparation pieces (N=17)	85	57	72.3	8.2
Failed Levallois flake				
Core surface re-modification pieces (N=20)	84	49	73.8	8.2
Core side re-modification pieces (N=3)	78	65	72.3	5.4
Finally-detached Levallois flake			87	

Table 32 Dorsal Scar Numbers of Débitage Pieces from Replication 4

	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=20)	7	0	2.7	1.9
Core surface preparation pieces (N=17)	9	0	3.5	2.1
Failed Levallois flake			7	
Core surface re-modification pieces (N=20)	9	2	4.6	2.0
Core side re-modification pieces (N=3)	6	3	5.0	1.4
Finally-detached Levallois flake			13	

Table 33 Frequency of Butt Types of Débitage Pieces from Replication 4

	Pl.	C. D. F.	S. M. F.	C. M. F.	B.
Core side preparation pieces (N=20)	15	1	1		1
Core surface preparation pieces (N=17)	6	3	2	1	3
Failed Levallois flake					1
Core surface re-modification pieces (N=20)	1	8	3	5	2
Core side re-modification pieces (N=3)	1	2			
Finally-detached Levallois flake					1
Total	23	14	6	6	8

Table 34 Frequency of Dorsal Scar Patterns of Débitage Pieces from Replication 4

	Uni.	B. O.	Cr.	Cent.	Same	Side
Core side preparation pieces (N=20)	4	1	6		1	5
Core surface preparation pieces (N=17)			8	1	1	5
Failed Levallois flake				1		
Core surface re-modification pieces (N=20)			14	4		2
Core side re-modification pieces (N=3)	1		2			
Finally-detached Levallois flake				1		
Total	5	1	30	7	2	12

Table 35 Frequency of Dorsal/Distal Shapes and Lateral Profiles of Débitage Pieces from Replication 4

	Dorsal shapes			Distal shapes		Lateral profiles	
	Pa.	Co.	Ex.	Bl.	Po.	Fl.	In.
Core side preparation pieces (N=20)	2	6	11	18	1	10	9
Core surface preparation pieces (N=17)	6	3	7	15	2	5	11
Failed Levallois flake	1			1			1
Core surface re-modification pieces (N=20)	8	5	7	18	2	7	12
Core side re-modification pieces (N=3)	1	1	1	3			3
Finally-detached Levallois flake	1			1			1
Total	19	15	26	56	5	22	37

Table 36 Interrelationship between Dorsal Shapes and Distal Shapes of Débitage Pieces from Replication 4

Dorsal shapes	Distal shapes		Total
	Blunt	Pointed	
Parallel	19		19
Converging	10	5	15
Expanding	28		28
Total			62

Table 37 Features of By-products Levallois Classical from Replication 4

	Butt width	Butt thickness	Length	Width	Thickness	Angle de chasse	Dorsal scar number	Butt type
Sample 1	46 mm	9 mm	37 mm	52 mm	8 mm	81°	6	Straight multiple faceted
Sample 2	18 mm	6 mm	60 mm	38 mm	7 mm	66°	8	Straight multiple faceted
Sample 3	13 mm	3 mm	58 mm	36 mm	7 mm	84°	7	Convex dihedral faceted

Table 38 Main Categories of Débitage Pieces from Replication 5

	Frequency
Cortical débitage	5
Partially-cortical débitage	13
Non-cortical débitage	27
Total	45

Table 39 Frequency of Débitage Categories of Different Types of Preparation Pieces from Replication 5

	C. D.	P. C. D.	N. L. F.	P. L. P.	N. L. B.	C. L. F.	C. L. B.
Core side preparation pieces (N=11)	2	5	3	1			
Core surface preparation pieces (N=33)	3	8	16	4	1		1
Finally-detached Levallois flake						1	
Total	5	13	19	5	1	1	1

Table 40 Measurements (mm) of Butts, and Lengths, Widths and Thicknesses of Débitage Pieces from Replication 5

	Butt width				Butt thickness				Length				Width				Thickness			
	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.	Max.	Min.	Ave.	S.D.
Core side preparation pieces (N=11)	57	8	37.4	15.2	23	4	9.4	5.8	88	37	59.4	14.8	83	29	56.8	16.4	38	2	15.4	9.4
Core surface preparation pieces (N=33)	83	5	27.7	17.4	17	1	6.6	4.1	81	20	50.3	15.6	120	16	47.4	19.5	23	2	8.9	5.4
Finally-detached Levallois flake	42				5				100				78				10			

Table 41 Angle of chasses (°) of Débitage Pieces from Replication 5

	Max.	Min.	Ave.	S. D.
Core side preparation pieces (N=11)	86	61	78.4	9.6
Core surface preparation pieces (N=33)	90	37	69.8	12.8
Finally-detached Levallois flake	78			

Table 42 Dorsal Scar Numbers of Débitage Pieces from Replication 5

	Max.	Min.	Ave.	S. D.
Core side preparation pieces (N=11)	6	0	3.0	2.3
Core surface preparation pieces (N=33)	10	0	4.1	2.4
Finally-detached Levallois flake	15			

Table 43 Frequency of Butt Types of Débitage Pieces from Replication 5

	C.	Pl.	C. D. F.	S. M. F.	C. M. F.	B.
Core side preparation pieces (N=11)		5	2		1	1
Core surface preparation pieces (N=33)	2	13	9	1	2	4
Finally-detached Levallois flake					1	
Total	2	18	11	1	4	5

Table 44 Frequency of Dorsal Scar Patterns of Débitage Pieces from Replication 5

	Uni.	B. O.	Cr.	Cent.	Side
Core side preparation pieces (N=11)	2		4		3
Core surface preparation pieces (N=33)	3	1	19	3	6
Finally-detached Levallois flake				1	
Total	5	1	23	4	9

Table 45 Frequency of Dorsal/Distal Shapes and Lateral Profiles of Débitage Pieces from Replication 5

	Dorsal shapes			Distal shapes		Lateral profiles	
	Pa.	Co.	Ex.	Bl.	Po.	Fl.	In.
Core side preparation pieces (N=11)	2	2	7	11		3	7
Core surface preparation pieces (N=33)	8	11	13	32	1	26	7
Finally-detached Levallois flake			1	1			1
Total	10	13	21	44	1	29	15

Table 46 Interrelationship between Dorsal Shapes and Distal Shapes of Débitage Pieces from Replication 5

Dorsal shapes	Distal shapes		Total
	Blunt	Pointed	
Parallel	10		10
Converging	12	1	13
Expanding	21		21
Total			44

テル・グッバの調査：前 3 千年紀の墓

Excavations at Tell Gubba: The Third Millennium B.C. Graves

井 博 幸*

はじめに

貯水を開始したハムリンダム水位が、日ごとに上昇し、グッバに迫りはじめた1980年3月9日、以前に試掘を行いつつながら、作業を中断していた地山確認のためのトレンチの調査を再開した。その初日、現地表面下 170 cm 付近で前 3 千年紀中／後半と推定される土器片が出土した。土器はトレンチの東端を中心に広がっており、しかも完形とみなされることから、急拠、慎重な調査を行うこととした。しかしながらこの間も、水位の上昇は急速で、どの程度の調査ができるのか、遺物を伴う遺構の性格を把握するだけの時間的余裕があるのか、心配であった。他の作業との兼ね合いから、遺物を取りあげず、埋め戻しも検討されたが、水没までに数日間は確保できると判断し、土器群の広がりを追及した。それが前 3 千年紀中頃の大規模な墓（墓 5）の発見につながった。とはいうものの、時間的な制約もあって十分な観察を行ったとはいえない。

トレンチ

地山確認のトレンチは、テルの中心部からおよそ 60 m 東に離れたグリッド XIII—23, 24 区に設定した (Fig. 1)。長さ 10 m、幅は 2 m である。夏季に作業を開始したため、能率の悪さに加え、土はまるでコンクリートを思わせるほど堅く、作業の進捗はおそい。そこで、150 cm の深さまで掘り進んだ時点で中断し、水を溜め土質を軟化させた後、作業を再開する方針を採った。これが好結果を得ることとなる。初期の時点でこの付近には遺構の存在は予測されず、南東方向約 500 m に展開するソングル遺跡群 [藤井編 1981: Fig. 2] との間に広がるなだらかな谷状の地形を想定していた。

試掘地点付近の標高は 88.2~88.4 m を測り、南東方向への極めて緩やかな傾斜を認める。表土部分は耕作に利用された茶褐色粘質土で、テル側が薄く、南東側にやや厚く堆積しており、テルから流出したと考えられる土器の細片が混在した。表土の下層には表土よりも褐色がかつたまだらな土が存在した。後になってこの褐色土は、墓の埋土であることが判明した (Fig. 2)。

トレンチの中央付近から西側にかけて、幅 5 m 以上で南北方向に延びる深さ約 1 m の溝状遺構(?)を確認した。遺構の掘込み角度は比較的緩やかで、底面はほぼ平らである。溝(?)内には、底から遺物を含んだ緑灰色土、赤褐色土、薄い灰層、褐色土などがほぼ水平に堆積しており、灰層付近(標高 87 m)よりスタンプ裝飾付土器片 (Pl. 8, GP. 1274) が出土した。土器はセレウコス朝頃の遺物と推定でき、この溝状遺構の時期決定の手懸りたり得る。おそらく溝は、土器が示唆する時期に掘削されたものと考えられる。しかしながら当時の地表面・掘込面がどのレベルにあったかは判らない。トレンチの南東端にも類似する掘り込みを検出した (Fig. 2 断面)。遺物の出土はなく、掘削時期はわからないが、西側の溝状遺構とはほぼ同じ頃の遺構と推定する。墓 5 はその下部にて発見した。

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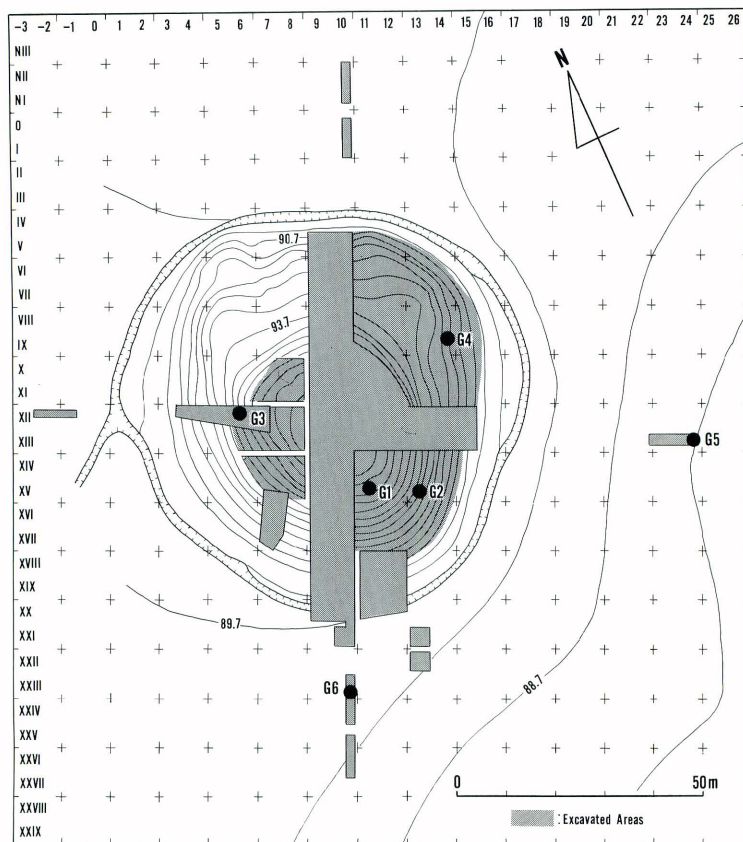


Fig. 1 Location of the Pre-Islamic Graves at Tell Gubba

墓 5

遺構

墓は旧地表からおよそ60度の角度で堅坑を掘り込んで営まれていた。堅坑の掘込が当時の生活面からどの程度の深さまで達したのか、はっきりとわからないが、残存する壁面の立ちあがりから、地山への掘削は50~100cm以上であったと推定できる。トレンチ内の確認であるため、遺構の範囲もはっきりとしない。しかしながら、北と北西側では、堅坑の輪郭を平面で確認できたので、東西方向5.5m以上、南北方向2m以上の大規模な構造をもっていたことが分かる。堅坑の平面形をみると、北辺の東側は直線的で整っているのに対し、中央から西側にかけては直線状とならず不規則な凹凸を認めるが、このことが直ちに別の墓や、その他の遺構の重複を意味するとは限らない。おそらく堅坑の掘削はさほど計画的でなく、複数の掘手がこれを担当したことも一つの要因と考えられよう。実際、ハムリン盆地内で発見されたほぼ同時代の墓の多くが多少いびつな平面形をなしている[Killick and Roaf 1979 : 537 ; Gibson ed. 1981 : Pls. 46, 47]。

堅坑の床面は現地表面下約230cmにあり、標高はおおよそ86mを計測し、不規則な張出部をも含む全面がほ

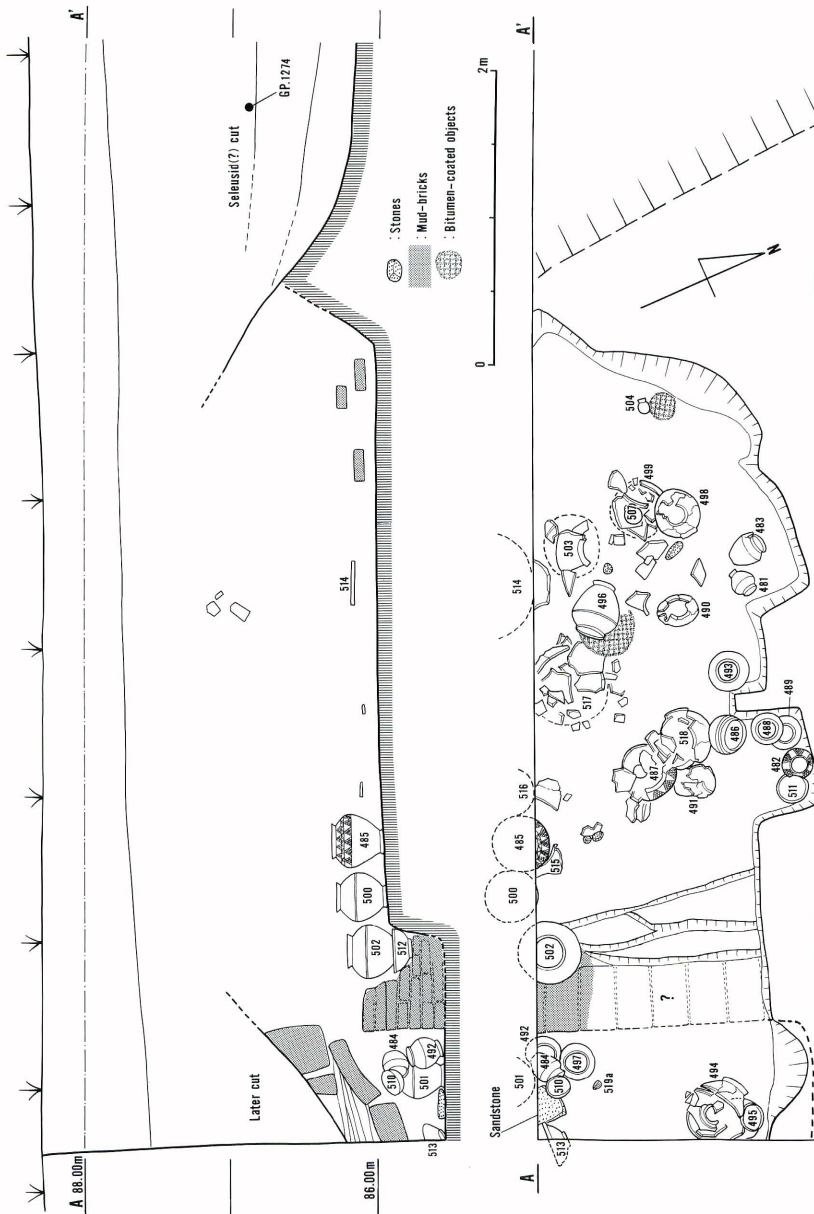


Fig. 2 Grave 5: plan, section and contents

ば水平に整えてある。東側は床面をさらに 40cm 掘り下げ、ここに埋葬のための墓室（以下、埋葬室という）を設ける。埋葬室は間口の広い横穴構造を意図して掘削されたらしく、調査時点でも、オーバーハングする天井部が北側の一部で観察できた（P1. 1a）。しかしながら埋葬室の上部構造が、地山をそのまま利用したものであったとは断定できない。というのも、南側部分の断面観察によれば、少なくとも中央部より南側には、大型の日干煉瓦による被覆が存在するからである。このことは、掘削時には横穴を意図したが、天井部の崩壊など、なんらかの理由によって、急遽それになる別の被覆方法が採用されたことを示唆しているかもしれない。

堅坑と埋葬室との境には日干煉瓦の列があり、7段で 60cm の高さまで残っていることが断面観察の結果判明したが（P1. 2-c）、発掘時点では、日干煉瓦列を平面で確認することはできなかった。それは日干煉瓦中へのスサの混入もなく、また煉瓦間のモルタルも煉瓦と同一の材料が使用されていたためである。遺存していた煉瓦から、この壁はさらに数枚分の高さを有し、天井の煉瓦と合致したと考えられる。埋葬室の上部はまず日干煉瓦で覆い、つぎに土による被覆を行う。それは厚さ 4~5cm の灰色粘質土と赤褐色土数層からなり、全体で約 25cm 厚の互層をなし、さらにその上部を縦積み的大型日干煉瓦で覆っていた。丁寧な被覆である（Fig. 2）。

埋葬状況

比較的時間、滞水させた影響もあってか、人骨の残存は極めて悪い。埋葬室内では土器494から513にかかる範囲に微細な骨片が遺っていた。しかしながら埋葬の状態が窺えるだけの状況証拠は揃っていない。ハムリン盆地内の他の遺跡を参考にすれば、被葬者は北頭位屈肢葬で葬られた可能性が高く、「Cosmetic shell」が被葬者の近くに副葬されることが多い事実からも、ここに人が埋葬されたことは確かであるといえよう。

遺物出土状況（Fig. 2, 3）

おおまかに、埋葬室内の遺物、室外中央の遺物群、室外西側の遺物群に大別できる。

埋葬室内の遺物 室の北側では大型の凸帯付土器2点(494, 495)を発見した。495は床面に直接接していたが、494は495の上に乗せてあった。この2点からおおよそ1m南側には、中型壺が床面上に正位置で配され(497)、中型無文壺(492)と接しており、その南側に大型土器(501)を並べる。彩文土器(484)は土器492の上部で発

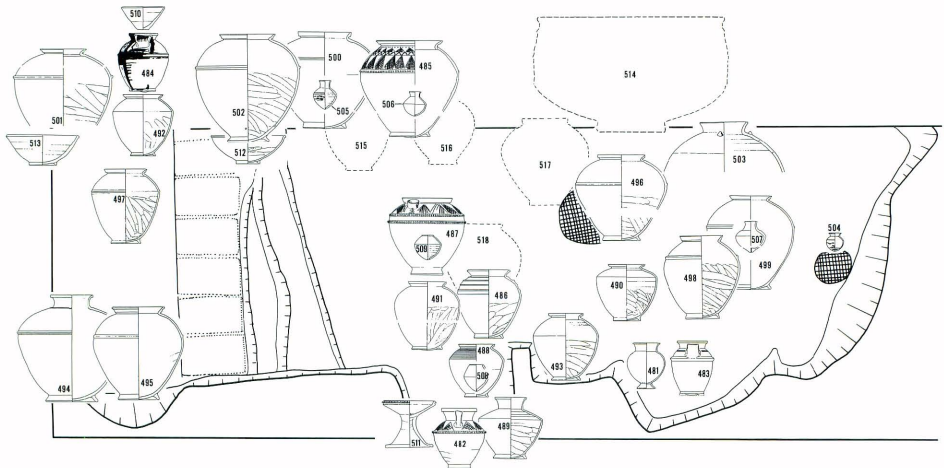


Fig. 3 Grave 5: schematic plan of contents

見し、ほぼ同レベルには碗(510)があったことから、本来、彩文土器の口は碗で蓋がされていたと思われる。これらの土器に接して、一辺30cmほどで中央部が僅かにくぼむ厚さ約5cmの砂岩(石臼?)が床面上にあり、砂岩の西側から中型の碗(513)が出土した。土器497の東側では内部を黒色物質で充填した完全な二枚貝(519a)を発見し、貝付近より長さ1cm、厚さ5mmほどの銅片が出土したが、錆のためその本来の形を知ることとはできない。遺物のない空白部には人骨と考えられる微細な骨片があった。

室外中央の遺物群 室外の西側で、ほぼ南北方向に列をなす土器群をさす。堅坑が北側に40cmほど方形に掘り広げられた張出部には、高杯(511)、直立単把手付刻文壺(482)、中型無文壺(489)が壁面に接して一列に並ぶ。このうち482の内部には、黒色物質を充填した二枚貝が入れてあった。肩部を畝状とした壺(488)は489の肩部に乗り、内部に底部穿孔土器(508)を収めていた。その南側では畝状の貼付凸帯壺(486)が床面上にあり、付近には中・大型の刻文壺(487)や、無文壺(491, 518)がほぼ同レベルで並ぶ。なお487の内部にて底部穿孔土器(509)を発見した。

土器487から南側に60cm離れた位置には、大型土器を中心とした別のグループがある。日干煉瓦壁の上には中型碗(512)が正位置で配されており、その中に収まって、底部に近い側面に小孔を穿つ大型土器(502)が出土した。土器502に接して無文(500)と刻文(485)の大型土器が配され、それぞれ底部穿孔土器(505・506)を内蔵していた。このほかにも、この付近には中・大型土器が存在したことは確かであるが(515・516)、破片状態での出土であるため正確な情報はつかめない。なお土器487と515の間には径6~8cmの円礫2個があった。

これら中央部の土器群を概観すると、特殊な土器が多い、刻文土器がこの部分に限定される、底部穿孔土器を内蔵する中・大型土器が多いなど、他のグループと異なる要素が観察できる。また方形張出部を中心としたグループは、あたかも箱に収納したかのような出土状況を示しており、注目される。

西側の遺物群 比較的広い範囲にあまりまとまりなく展開する。中央遺物群の北側には、掘込に接して中型壺(493)があり、その西側のやや離れた位置には脚付壺(481)と単把手付壺(483)が並ぶ。その南側には大・中型壺(490, 498, 499, 496, 517, 503)がさほどの企画性もなく(?)配してある。トレンチの断面にかかって出土した粗製土器(514)は極めて大型であるが、本体の大部分はトレンチ外にあるため、正確な形を知ることとはできない。このほか517も大型壺で、ほぼ一個体分の破片が出土したが、接合・図化作業は完了していない。土器499の内部から底部穿孔土器(507)を発見した。小型壺で底部を穿孔していない唯一の例(504)は、堅坑の壁面にほぼ接しており、その横から径15~20cmで表面にピッチメンを塗布した編籠/ザルが出土した。さらに、土器496の下でも同じようにピッチメンを塗布した径40cm以上の葦製(?)編物/籠を発見した。このほか、土器498の東側で比較的最長い礫1点を、496の西側でも礫を発見した。

以上、遺物の出土状況から大きく三つのグループに分けて観察した。各群の遺物構成が若干異なることが判明したが、容器に入れられていたと思われる内容物については、底部穿孔の小型土器と、貝製の化粧用具を確認したのみで、その他を知ることとはできなかった。このほか、墳底に敷かれていた可能性がある数物の痕跡や、“Food offering”に伴って供献されたと考えられる魚・動物(骨)などについても確認できなかったが、それらが存在しなかったとは断定できない。調査範囲内での出土遺物は土器38点(壺:28, 高杯:1, 碗:3, 底部穿孔土器:5, 粗製土器:1), 貝製品2, 編籠(?)2, 銅片1, 砂岩製白1, 自然礫(?)4点である。

出土遺物 (Fig. 7-11)

出土した遺物のうち8点については、既に実測図を公表した〔小谷・井 1981: Fig. 12〕。しかしながら、遺物の

説明は行っていなかったなので、ここに同じ物を再度収録する。

土器

形態 基本的には壺，碗，高杯，底部穿孔土器，バット？ に分類可能である。

壺形土器の器形は，口縁部の形状から，やや広口で『く』の字状に外反する口縁部を特徴とするもの（485-488，490-493，495-503）と，はっきりした頸部を有するもの（481-484，489，494，504）に大別できる。広口壺の外形は多少の差異は認めるものの，ほぼ卵形の側面観を特色とし，最大径を胴部の中央よりやや高い位置に有しており，最大径付近に貼付凸帯をめぐらした例が多い。凸帯には通常キザミなどは施されていないが，肩部に刻文をもつ土器に限ってキザミが存在した。

碗は3点出土しており，高台を伴う中型（512，513）と，円錐形でコニカル・ボウルと称されるもの（510）の二種がある。高杯は杯部と脚部を分離して成形し，接合する。脚部にはロクロによるシボリの痕跡を認める。底部穿孔土器には細頸壺（505-507）と，ボウル：碗？（508，509）があり，すべて小型で丸／尖底をなす。バットは極めて大型の容器で，垂直に立ち上がる体部と貼付凸帯を特徴とする（514および523）。

口縁部・頸部 墓5出土の壺形土器の口縁部は，おおまかに以下の4タイプに分類できる（Fig. 4）。

タイプ1：水平もしくは外側に強く張る口縁。

タイプ2：三角形断面で，外縁部がほぼ垂直に近い口縁。

タイプ3：タイプ2より口縁部が広く，頸部と口縁部がほぼ一体化する。口縁部の外傾がきつくと，このため外縁が内傾し，下端に稜をのこす。

タイプ4：口縁（口辺）部は丸みをもち，外縁下端の稜が消滅する。

しかし，Fig. 4 でも明らかのように，タイプ2とした484はタイプ3の一部と，またタイプ3の495はタイプ4の486に共通する特徴を認め，必ずしも各タイプを明瞭に画することはできない。ちなみに出現頻度はタイプ

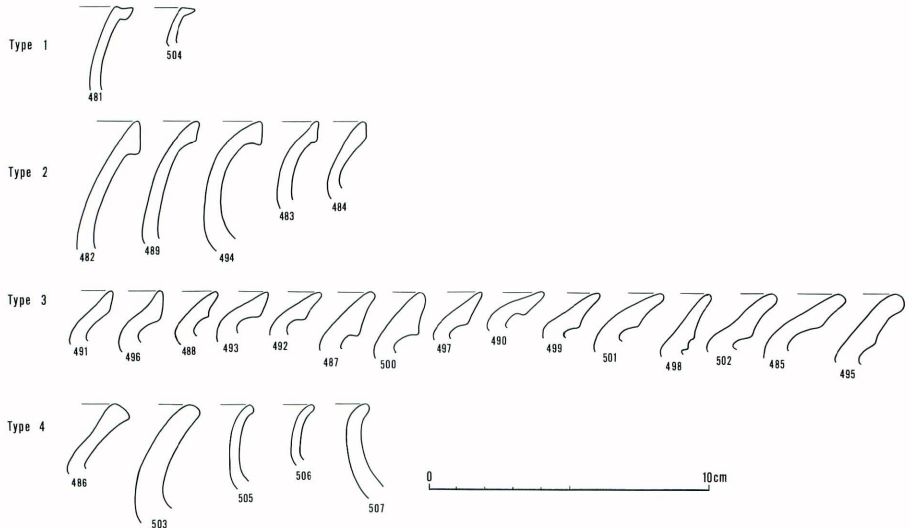


Fig. 4 Rim types of jars/bottles from Grave 5

3が圧倒的に高く、タイプ1は少ない。

器形別の発生状況を見ると、タイプ1は球形の胴部をもつ2点に伴い、タイプ2は時代的にさかのぼる特徴をもつものに認められ、直立単把手付土器のすべてに採用されていた。タイプ3は中・大型の広口壺で卵形胴部を特徴とするものに顕著である。タイプ4は底部穿孔土器、単突起付土器（503）、肩部に複数の水平凸帯をめぐらすもの（486）に出現する。器形や口縁部の特徴からすれば、タイプ4をさらに細分すべきとも考えられる。特に486は、口縁部の形は異なるが、器形やその機能はタイプ3の口縁部をもつ土器群と同一であるとみなし得る。なお壺以外の土器については Fig. 11 を参照されたい。

肩・胴部 壺形土器の肩部と胴部の比率は、およそ 1:2 を示し、多くの土器がその境界に貼付凸帯をめぐらしていた。凸帯のないものには明瞭とはいえないが、かすかな稜（カリネーション）がある。しかし点数については稜のはっきりしないものがあつた（481, 491）。

底部：高台・脚 中・大型の壺形土器のすべてに貼付による高台が付く。その形はほぼ直立したもの（482, 512, 513）と、裾が広がるもので、後者が主流をしめる。脚に相当する高さをもつもの（481）や、台が低く底部をささえるだけの十分な高さが確保されておらず、本来の機能が反減したもの（484, 485, 491, 499, 500）などがある。個体により高台の高さや径は数値のパラツキが大きい。中・大型土器に限ると径は 67—189 mm の範囲にあり、口縁部の径より僅かに小さいものが多かった。製作には胴部ほかと同質の胎土が使用され、アブ・サラビーク出土例で指摘された、混和剤を多量に含むやや荒い胎土の使用〔Moon 1987〕は確認できなかった。なお丸底壺はミニチュア状の1点（504）のみである。

施文・装飾・スリップ 器の表面に彩色を施すもの（484）、刻文を施すもの（482, 483, 485, 487, 504, 505, 511, および521）、貼付装飾をもつもの：肩部と胴部の境の凸帯を除く（482—484, 486, 487, 503）、スリップによる装飾（481, 488）などが存在する。

彩文土器 484 は中空の直立単把手を伴い、黒色と黄色がかつた赤色による幾何学文が肩、胴、把手部分に焼成後に施してある。このため色の残存も悪く、殆ど部分で剝落し、描かれた文様も不鮮明である。残存部には格子、平行線、鋸歯、櫛状文などを認める。

刻文土器には肩の全面を幾何学文で充すもの（482, 485, 487）と、単調な平行線を施すものが存在した。前者は高台付の中・大型土器で、すべてキザミのある貼付凸帯を伴う。文様単位は細かく、主文様は三角に枠囲いされた中を斜格子で充填したもので、3例に認められる。482には三角囲斜格子文が8箇所配してある。485はこの文様を2段に配し、上部に列点文、中間に2条の平行線からなるジグザグ文がある。487には6個の三角囲斜格子文と、2条の線で三角形に縁取りした中を斜めの平行する線でみたした文様が2箇所あり、疑似注口の直下には、植物文状？ の特殊な文様もしくは文字が配されていた。文字であるとすれば“SE”：穀物と読める〔前川 1989: 61〕。このほかの刻文はロクロの回転を利用した平行線で、肩部に配するもの（483, 504, 505）と、頸の基部に配したもの（521）がある。刻文のほとんどは比較的乾燥した時点でヘラ状具を使用して行われたようである。なお凸帯上の刻みも指圧ではなく、なんらかの道具を使用して施文してある。

貼付装飾はしばしば刻文とセットで出現し、直立単把手（482, 483）、疑似注口（487）、円形浮文：突起（503）などがある。もちろん肩と胴の境にある貼付の凸帯も貼付装飾の一つとすることができる。494の頸の基部には低い貼付凸帯がめぐり、指圧による凹みが等間隔で4箇所にある。直立単把手には、上端が尖り気味に終わる棒状（482）、板状（483）、および内部が中空となったもの（484）が存在した。特に484の肩部への接合方法は注口

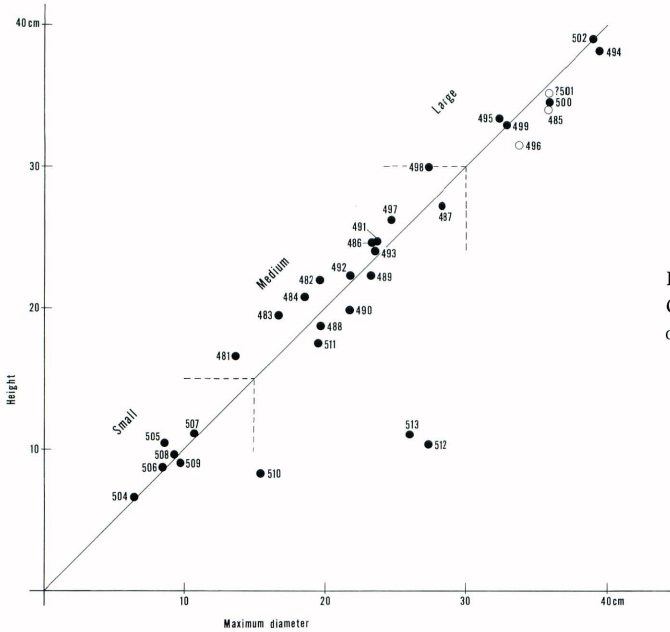


Fig. 5
Chart to show dimensions
of pottery from Grave 5

土器のそれと同じである。

スリップは半数以上の土器で確認できた。色調は淡黄褐色が多く、土器自体の色調と僅かに異なる。ほとんどは薄い泥漿で器の表面のみに施してあるが、2点には加飾を目的とした比較的濃度の高いスリップがかかっていた。それは、頸部から肩部を水平のリザーブ・スリップ（部分的な拭き取り）としたもの（481）と、肩部の全面を細かい畝状に盛り上げたもの（488）で、いずれもロクロの回転力を利用して施文する。

法量 土器の復元・図化作業を通じて、不思議に近似する数値をもつ容器が多いことに気付いた。それは偶発的な発生とするには、あまりにも出現頻度が高いと感じた。そこで数値の明らかな容器の、高さ・径を Fig. 5 にプロットし、さらに出土土器全体の相関関係を知るために、高さ・最大径・口縁部径・底部径を Fig. 6 に示した。法量の観察・分析を行う前に、まず土器の大きさを小・中・大型に3分類する (Fig. 5)。その判断基準は以下のとおりであり、すでに触れた出土状況などでの大きさの呼称は、この分類に沿っている。

小型：高さ、もしくは径が 15 cm 以下のもの。

中型：高さ、もしくは径が 15 cm を超え、30 cm 以下のもの。

大型：高さ、もしくは径が 30 cm を超えるもの。

Fig. 5 から明らかなように、副葬されていた壺形容器の形態は、高さ・最大径がほぼ等しい均衡のとれた姿を意図して製作されたことがわかる（どちらかといえば、高さの大きいものが僅かに多い）。計測可能な土器が限定されるため、確定的なことはいえないが、高さ・最大径についてみると、2～3 個単位での集中化が認められる。たとえば 502 と 494、485 と 500、495 と 499、486・491 と 493 などである。これらの土器は若干の形態差をもつにも拘わらず、ほぼ近似した計測値を示しており、なかでも 486 と 493 では輪郭をトレースできるほどに酷似する。特に最大径と高さは容量を決定する要素であり注目されよう。また口縁部や底部の計測値についても、ある

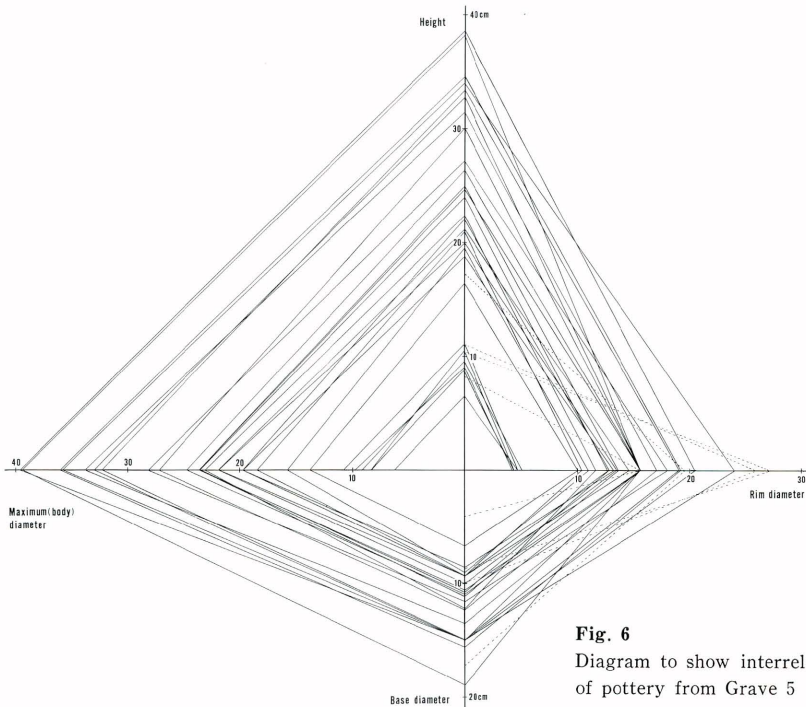


Fig. 6
Diagram to show interrelation
of pottery from Grave 5

数値への集中化が看取できる。たとえば口縁部径 155 mm と、底部径 150 mm 前後は最も集中顕著な数値であり、あまりにも出現頻度が高いと思う (Fig. 6)。当時の工人が同じ大きさを意図したか否か検証することは出来ないまでも、興味ある事例といわざるを得ない。しかしながら Fig. 6 からわかるように、口縁部や底部の数値はラインの交差現象が頻繁で、高さや最大径の関係に比較して規格性が乏しいことが判明する。

底部穿孔の小型土器については、高さや最大径の振幅値は比較的大きいが、口縁部径は 42~51 mm の狭い範囲に集中する (Fig. 6 中心部)。このことは底部穿孔土器が、ある程度統一された口縁部径を意図して製作されたことを示唆するとともに、その機能に関係する可能性が強いといえよう。壺／高杯についても Fig. 6 中に破線で示したが、例も少なく法量に関するはっきりした傾向を窺い知るまでには至らない。しかし 512 と 513 はほぼ同じ大きさを意識して製作されたようでもある。

メソポタミアでは極めて古い時代から度量衡 (容量単位など) の統一基準があり、前 3 千年紀の後半以降 2、3 の遺跡から内容量を明記した土器が出土しているというが、その容量単位の確定には、まだ未解決の問題もあるとされる [前川 1989 : 71]。従って今後、各遺跡毎の土器計測データの集積がなされれば、ある程度の基準単位が判明する可能性がある。

成形・整形 ほとんどの土器がロクロを使用して製作されるが、大型の器は粘土紐を巻き上げて成形し、最終仕上げのみにロクロを使用したようである (503)。粘土巻き上げの確認は 1 例に留まるが、大型土器のほとんどはこの成形法を採用していると考えて良い。しかし、最終的に土器の内外面は荒削り調整されるため、その痕跡を明瞭に残さない。中・大型の壺形土器では肩部と胴部を分離して成形し、これを接合したようであるが、

その痕跡をはっきり認める例は少ない。小型土器はロクロによる水挽痕を顕著にのこす。熟達した腕前である。

粗製土器を除く総ての土器が最終的にロクロを使用して調整／整形されていた。中・大型の壺形土器の肩部は内外面ともにロクロによる水挽痕が観察できる反面、胴部の内外面には荒い削りの痕跡が顕著である。削りは縦横、斜方向になされ、特に統一された方法は認められず、工人の癖の差を反映しているようである。確認できた削りの最大幅は 36 mm を計り、一度に比較的広く長い範囲を削り取る。内面に施された削りの断面形は、中央部が僅かに凹んでいることから、使用された道具は広い面を確保でき、かつ曲面を持つものであったことが判る。一方、外面の削りはほぼ平らであり、内面で使用された道具と異なるものを使い分けていたと思われる。削りは壺形土器の一部や、底部穿孔土器の一部でも観察された。

胎土 ほとんどの土器がきめ細かい粘土を使用する。胎土中に混和剤を認めないもの、径 0.5 mm ほどの黒色の微砂粒を多量に混入したもの、径 1 mm 以上の小礫を混入したもの、長さ 1~2 mm ほどの細かいスサ（繊維）を混入したものなどがある（巻末リスト参照）。相対的に墓 5 出土の土器は、初期王朝 I 期（以下、ED I 期という）頃の土器と比較して、砂粒の混入率の高いやや砂っぽい胎土を使用して製作されていた。このほか大型の粗製土器（514, 523）は比較的長いスサ（10 mm 以上）や粗い礫を多量に含む。

焼成・色調 ほとんどの土器が比較的高温の還元雰囲気中で焼かれていた。ただ大型粗製土器（514）と小型の底部穿孔土器（507）は低火度焼成である。土器の色調は緑～淡緑色 14 点、淡緑黄褐色 2 点、ピンク色 7 点、クリーム・ピンク色 5 点、クリーム色 6 点、ピンク系黄褐色 1 点、黄褐色 2 点、赤褐色 2 点であり、墓 5 出土の土器では緑色がかったものが多かった。精製土器で内部に黒色の芯を残すものは存在しない。

その他の遺物

化粧用の貝 埋葬室内と土器中から 2 点が出土した（Pl. 8-519a, b）。ザルガイ *Cardium* で大きさは揃っており、共に殻高 48 mm を計測し、表面は使用のためやや滑らかとなる。内部にはアイシャドウ／アイライン用の黒色の物質（アンチモニー鉱の粉末？）が入れてあった。

砂岩／石臼 辺 30 cm ほどの方形で、厚さは約 5 cm 程である。中央部が僅かに凹むことから、石臼として実際に使用されていたと考えられる。その意図は不明であるが、石臼状の石製品（？）を墓内に副葬した例は、ほぼ同時代のハムリン盆地の遺跡や、ジュメール地域の遺跡でも確認されており、先学の注目するところである〔Postgate 1980〕。

自然礫 竪坑の床面上から 4 点が出土した。2 点は円礫で径は 6~8 cm。他は長さ 18 cm を計り、石杵として使用することも可能である。土器 496 の西側で検出した石は人為的に打ち欠かれていた。これらの石はなんらかの目的で墓内に取められたと考えられるが、観察も十分でなく、機能もはっきりとしない。

墓 6

位置 テルの端部から約 20 m、中心部からではおよそ 60 m 南に離れたグリッド XXIII—10 区で発見した。墓 5 の西南西約 90 m に位置する（Fig. 1）。墓が営まれた付近はほぼ平坦で、標高は 89.5 m を測る。

墓は、地山と遺跡の範囲確認のために設定した長さ 10 m、幅 2 m の試掘溝内の中央付近で検出した（Fig. 7）。ここでは表面から 60~80 cm の深さまで、硬くしまった茶褐色の粘質土があり、調査の直前まで耕作が行われていた。その下部には遺物を多く含む緑灰色の厚い堆積がある。緑灰色土は数層に細分が可能であるが、ここでは説明を省略する。伴出した遺物からこれらの緑灰色土層は、墓 6 よりも約 500 年程さかのぼる ED I 期

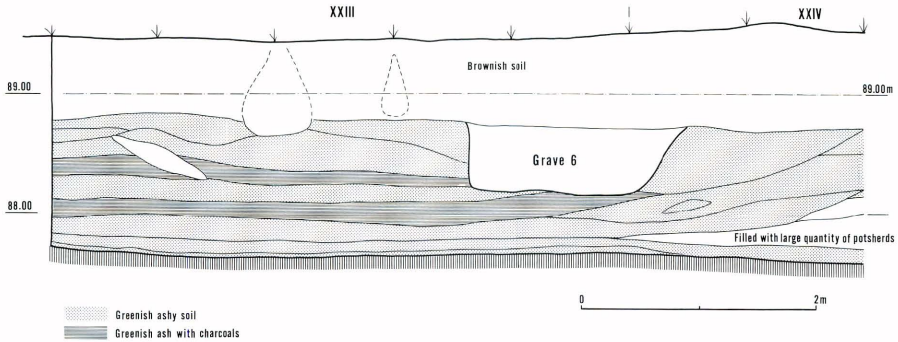


Fig. 7 Section of Grave 6

前半に伴う堆積であることが判明した。

構造 地山の確認を主目的としたため、遺構を平面で捉えることはできなかった。しかしながら緑灰色土層を切って墳（堅坑）が掘削されていることや、墳内から完形土器2点を含む若干の破片が出土したことなどから墓と考えた。墓壇は幅1.8m、深さ0.6mを計測するが、平面形は不明である。掘り込みは北側がほぼ垂直になされ、南側はやや緩やかであった。床面は標高88.2m付近にあり、ほぼ平らである。墳内の埋土は茶褐色土で小さなブロック状を呈し、石膏の結晶を多く含んでおり、人為的に埋め戻された様子が観察された。

出土遺物 土器4点が出土した。高台付壺3点(520~522)と大型バット(523)である。

520: 肩と胴部の境に明瞭な屈曲をもつ中型の高台付壺である。高台の径は小さく他に例をみない。

521: やや広口の中型壺で、口縁部の特徴は墓5出土のタイプ2に共通する。頸部の直下には2条の沈線が配してある。高台は貼付、胴部内面の下半には削りの痕跡を認める。

522: 土器521に類似する器形と考えられるが、上半部を欠失する。胴部の内外面には削りが施してある。

523: 非常に大型の土器でスサや小礫を混入した荒い胎土で成形する。図は復元実測であるが、口縁部の径は67cm前後に達する。胴部には水平の貼付凸帯をほぼ等間隔に配する。下部を欠失するが他遺跡出土例などから推して高台が伴うと思われる。

まとめ

ハムリン盆地内の調査では、グッパの墓5を前後する時期に比定される遺跡や墓が、ラズーク Razuk [Gibson ed. 1981], アティーク Atiqeh [Gibson 1984], マドフル Madhbur [Roaf ed. 1984], サブラ Sabra [Tunca ed. 1987], アブカ Abqa [Trümpelmann 1982; Hrouda et al. 1982], ヤルヒ Yalkhi [Bergamini et al. 1985], スレイマ Suleimeh [Salah and Burhan 1979]²⁾ などで発見された。このうちサブラとラズークについては既に調査報告書の刊行をみたが、他の遺跡は概報・予報段階であり、十分な情報を得ることはできない。これらの遺跡は、大きく別けて、墓を検出したもの(ラズーク, マドフル, サブラ, グッパ)と、生活・建築遺構を確認したもの(アティーク, アブカ, ヤルヒ, サブラ)に分類できる。以下にグッパの墓5を中心とした考察・比較をおこなうが、その前に、これまでに提示された、ハムリンにおける前3千年紀中頃を中心とした年代観を概観しておく必要がある。というのも、現時点でハムリン盆地の前3千年紀中／後半に関する編年は確立

しているとはいえず、研究者間でも意見の統一を得るまでには至っていない。特に初期王朝 III 期（以下 ED III 期と略記する）からアッカド時代にかけての編年は問題も多いからである。

ハムリン盆地のアッカド時代の土器については、ラズークに関して Gibson が傾聴すべき指摘をおこなっている。彼は中部メソポタミアで調査した遺跡との比較から、ラズークで検出した墓のすべてを、ED IIIB 期の可能性を残しつつ初期アッカド時代に比定した。これに関して彼は、1930年代に調査されたディヤラ河流域の遺跡にも触れ、ディヤラ河流域で ED III 期とされたものの中には、アッカド時代まで時期が降る例を多く認めると説く〔1981：76-80〕。

サブラの発掘者は、地表から 1 m の深さまでを 7 層に細分し、ED III 期、ED III 期後半もしくは初期アッカド時代⁹⁾、アッカド時代とする細分を報告書中で試みており、検出した墓のうち 3 基を ED III 期とした〔Tunka ed. 1987〕。

マドフルで検出された数基の墓について概報は、5G 墓を初期アッカド時代に、6G 墓を ED III/初期アッカド時代に比定し、5G 墓副葬品とアブカ出土品を同時代とみなしている〔Roaf 1984: 133-7〕。一方、アブカの報告者はその概報中で、出土した土器を ED III 期後半と推定しており〔Trümpelmann 1982〕、時代設定に若干の矛盾が生じている。ちなみにアブカの上層で出土した土器群は、グッパの II 層と III 層の間に存在した中間層 Interstratification of pottery deposit〔井 1989: 167〕から出土した一括の土器群に酷似しており、ほぼ同時代と推定される⁹⁾。なお、このほかの遺跡については、概報段階での時代に関する言及があるが、総ての報告が揃うまで正確な相関関係を明らかにすることはできない。以上の点を考慮した上で、グッパの墓 5 の時代、構造的な特徴、出土遺物の比較を試みたいと思う。

構造 墓 5 の平面形はマドフルの 5G 墓に共通する特徴が認められると共に、想定される墓の規模もほぼ同程度とみなされ、被葬者を堅坑の北東隅の埋葬室に北頭位で葬る点も共通する。仮に墓 5 がマドフルの 5G 墓と同じような構造を有していたとすれば、墓壙は南側にさらに 4 m 以上延ていたと考えてよい。マドフルでは埋葬施設(室)が、間口の広い横穴状に掘削されており〔Roaf 1982: Fig. 34〕、このことも同じといえるけれども、横穴を一段深く掘りくぼめることはなく、前面の閉塞施設も存在しないようである⁹⁾。一方、ラズークの 11墓と 12墓は、埋葬室が深く掘り下げられ、室の全面には掘り残した壁(閉塞壁? : 説明がない)が存在しており、グッパの墓 5 の構造と一致する〔Gibson ed. 1981〕。ただグッパでは閉塞壁を平面で捉えることができなかったため、若干の問題を残すが、ラズークもグッパに類似する閉塞が行われた可能性は否定できない。このようにグッパ、ラズーク、マドフルの墓の構造や埋葬方法、方位には多くの点で共通する特徴が認められるのである。

遺物出土状況とセット関係 墓 5 は部分的な確認に留まるが、土器 38 点以上を副葬する豊かな墓であることが判明した。これらの土器は、一見、乱雑に配されているようにみえるが、その配列の状態は、埋葬に関係する儀式、当時におけるセット関係、土器自体の機能の解明に役立つと思われる。特に大型の広口土器に内臓された小型の底部穿孔土器は、両者がセットで使用されていたことを証明した。底部穿孔土器の孔の径はいずれも 3mm ほどしかなく (Pl. 7- 右下)、このことからこれらの容器が液体に関係して使用されたことを窺わせる。ただ大型土器中の底部穿孔土器は 1 点に限られ、複数を取めた例は存在しないのも事実である。大型土器中に取められた底部穿孔土器は、ハムリンの他の遺跡でも確認され、殆んどの報告者の注目するところである〔killick and Roaf 1979; Gibson ed. 1981; Tunca ed. 1987〕。なかでも Gibson は、これらの土器には吸飲用のチューブが接したであろう、とする示唆に富む解釈を行っている〔1981：75〕。大器土器中に小型の容器を内臓した例は、

多少時代が降るソングルA遺跡のイン・ラルサ時代の墓でも確認されており [Kamada and Ohtsu 1988: Pl. 49], 埋葬に関係する保守的な伝統を明らかにする。このように大型土器に内臓された底部穿孔土器は、ハムリン盆地内の遺跡では顕著である反面、円錐形坑：コニカル・ボウルの出土は極端に少ない。これが地域的な傾向なのか、あるいは時代差による現象かは、今後追及すべき課題であろう。

また土器502と512の組合わせは、液体の濾過に関係して使用されたと考えてよいだろう。このほか直立単把手付彩文土器の口縁部には、円錐形坑が接していたが、おなじセット関係はアブ・サラビークでも確認されており注目してよい [Postgate 1980: 77]。

墓5の埋葬室内に存在した砂岩製の石臼(?)の機能は不明であるが、サブラ [Tunca ed. 1987: Pl. 19, 20] や、同時代とみなされるキシュ [Mackay 1925: 15], ディヤラ河流域の遺跡 [Delougaz et al. 1967], アブ・サラビーク [Postgate ed. 1985] などでも頻出しており、この時代のシュメール地域の埋葬に特有の副葬品とみなし得る。しかしハムリン内でED III/初期アッカド時代、および初期アッカド時代に比定された墓からの出土は、現時点で報告がなく、この間に埋葬儀礼に関するなんらかの変化が起ったとみなすこともできる。

土器 墓5出土の大・中型土器の殆んどに高台が伴い、丸底の土器は存在しない。初期アッカド時代とされるラズークの12・16墓や、マドフルの5G墓に丸底の壺が伴出する点を考慮すれば、墓5はそれらより古い様相を有していると考えられる。刻文や彩文の施された3点の直立単把手付土器が伴う事実も注目してよい。直立単把手土器は既にED I期には出現しており、アッカド時代頃まで流行し、特にED III期頃に盛行することが知られている [Delougaz 1952; Moon 1987]。ハムリン内の遺跡ではサブラの5310・5370墓のほか、マドフルの6G墓、ラズークの17墓などで発見されたが、その想定年代は前記したように若干の時間差が示されている⁹⁾。

墓5出土の土器に施された刻文の基本文様は、三角罫斜格子文と平行線文であり、ハムリン盆地のED III/初期アッカド時代とされる土器に頻出する櫛描斜格子文は存在しない。また、波状文も高杯の口縁部で確認された1例のみである。つまり墓5出土の刻文土器を構成文様からみると、ED III/初期アッカド時代をさかのぼる特徴が認められるのである。ただ、肩部に複数の貼付凸帯をめぐらした装飾(486)は、アッカド時代頃に流行の中心が求められそうであるが、この1例のみをもって、墓5の年代を下げる必要はないと考えている。

高杯も時期決定の一つの目安となるが、ハムリン盆地内ではグッバのほかサブラのED III期の墓から出土しているのみで、ラズークやマドフルからの報告はない。

このように見てくると、遺物の構成や特徴からグッバの墓5とサブラの墓の類似性が明らかになり、ラズークやマドフルの5G墓とは多少異なる様相が看取できる。

以上の観点に立ち、ハムリン盆地内で確認された遺跡を、試案として以下に表形式で整理してみると、

	ED III(?)	ED III/Ak(?)	Akkadian (?)
Gubba	Grave 5	Interstratification of pottery deposit	
Sabra	G. 5310, 5370, 5473	(Chantier A): Ensemble VII	Ensemble VI-V
Madhhur	7D Grave (?)	6F, 6G Grave	5G Grave
Razuk		Burial 17(?)	Burial 12
Abqa		GVII-NO, HVII, VIII-S.N	

となる。従って、グッパの墓5の年代は、マドフルの6G墓に近い時期ではあるが、僅かに先行し、サブラで発見された3基の墓にほぼ併行すると考えたい。即ち、ED III期の後半/終末頃(ED IIIB)の年代である。ただ、ハムリン盆地は、南メソポタミアからみれば辺境の地であり、中・南メソポタミアの編年観をそのまま当てはめることには十分な配慮が必要であろう。しかしながら、Eshnunnaを始めとした中・南メソポタミアの強大な都市国家の影響力を無視することもできない。今後、ハムリン盆地で発掘された関連遺跡の報告が出揃うことによって、この地域の編年が確立されると共に、中・南メソポタミアとの相関関係も明らかにされると思う。

なお、墓6の造営時期は、土器の特徴が墓5出土例と相違しており、中間層出土物とも異なることから、ED III期を前後した時期にはちがいないが、先行するの、あるいはアッカド時代まで降るのか、現時点で言及できるだけの根拠がない。従ってここでは、資料を提示するにとどめ、時期決定は類例の出現をまっておきたい。

出土遺物のうち no.487 と 504は三鷹市の中近東文化センターに、その他の遺物は Iraq Museum と、ハムリン盆地の Bahiza 村にあるイラク考古総局の倉庫に収蔵・保管されている。

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注

- 1) マドフルでは、前3千年紀に属し豊富な副葬品を伴う4基の大型墓が検出された。これらはED I後半/ED II期(?)からアッカド時代にかけて営まれたと推定されており、被葬者はすべて堅坑の東隅に設けられた横穴(埋葬室)に、北頭位で葬られていた[Roaf 1982: 45]。ラズークの墓もマドフルと同一の方向性を示しており[Gibson ed. 1981]、当時の埋葬形態を明らかにする。
- 2) スレイマはハムリン盆地内で最も重要な遺跡の一つであるが、正式報告書は未刊行である。初期アッカド時代の第IV層から出土した粘土板文書はFawzi, R. 1981, *The Ancient Inscription in Hamrin Area* (Hamrin Report 4): State Organization of Antiquities and Heritage, Baghdad (in Arabic)として、印章に関してはLamia, al-Gailani, W. 1982, *Catalogue of the Cylinder Seals from Tell Suleimeh, Hamrin, Sumer* 38: 68-88で報告されている。
- 3) これは、どちらもも決定しかねるという意味であり、このなかには、いわゆる過渡期も含まれる。本文中ではこの未確定の時代を、ED III/初期アッカド時代と記すが、このような時代区分が存在する訳ではないことを、最初にことわっておく。
- 4) グッパのII層とIII層の中間層では、極めて多量の土器片が、大型のビット状落ち込みから出土したが、建築遺構は確認できなかった[小谷・井 1981: 27]。遺物の整理は、調査分担者の小口和美によってなされ、出版が準備されている。土器の概略を記すと、刻文土器では篩描斜格子文、波状文、刺突による列点文、およびその複合文様が顕著である。また、肩部や胴部に水平の凸帯をめぐらし敵状とした壺、刻文のある器台/高杯も多い。
- 5) 比較的広い堅坑を掘ったのち、この一隅に、間口が広く奥行きの浅い横穴を一段深く掘りくぼめて埋葬室とし、日干煉瓦列で閉塞した埋葬施設(以下、堅坑横穴墓と仮称する)は、北メソポタミアでは既にウバイド期には存在しており、ウルク期に連続する。前3千年紀の前半から中頃にかけてのニネヴェ5期でも、この堅坑横穴墓が広く行われ、北メソポタミアの主な墓構造となる。一方、ハムリン盆地のED I期(大略ニネヴェ5期の前半に併行する)の埋葬施設は、北メソポタミアのそれとは根本的な違いをみせる。それは、死者を安置するための施設(室/棺)は方形堅坑であるが、その回りを日干煉瓦壁が厚く方形に取り巻き、墓の上部は地表に出ていると推測されるヘヤット・カーシム例[Forest 1979, 1980]を始め、個々の墓がヘヤット・カーシムよりも大型の構造で、複数の埋葬室を伴うものが存在したアハマド・アル・ハットゥー例[Sürenhagen 1981]からも明らかである。ところが、前3千年紀中頃のED III期、もしくは初期アッカド時代になると、突然、ハムリン盆地にも堅坑横穴墓が出現し、ラズークほかの多くの遺跡で、ED I~II期の建築・生活(?)遺構を掘り込んで造営される。そして、この堅坑横穴墓は前2千年紀初頭/前半のインシ・ラルサ時代に受け継がれ[Kamada and Ohtsu 1988]、さらには現代イスラムまで断続的に命脈を保つのである。南メソポタミアでは、アブ・サラビーク [Postgate ed. 1985] や、著名なウルの墓地で、大規模な堅坑墓が発見されており、なかには傾斜路を伴う例も存在する[Woolley 1934]。グッパの墓5は、調査範囲が限定されたため、傾斜路を確認することはできな

ったが、基本的にはウルの王墓と共通する構造をもった墓であると指摘でき、ウルの王墓よりも僅かに遅れて造営されたと考えられる。

ハムリン盆地内には明らかに ED II 期と認め得る遺跡は存在しないが、ED I 期から ED III 期後半にかけての墓構造の変化は、あまりにも極端であるといわざるを得ない。しかもこの間に、多くの遺跡で層位の断絶が観察されるのである。この背景には人種・民族、社会、都市国家、宗教、階層の差、流行など、多くの要因を考慮する必要があるが、筆者にとっては大きな問題を孕んでいるように思われてならないのである。

- 6) このことに関して Gibson は、ラズークの17墓から出土した彩文のある単把手付土器を、古い要素であることを認めつつも伝世品と推測し、他の墓とおなじ初期アッカド時代の造営とする、やや強引な解釈をおこなっている [1981 : 76, 79]。

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Catalogue of Finds from Graves 5 and 6 at Tell Gubba

Number	Type or Material	Height (mm)	Rim diam.	Max. diam.	Base diam.	Color of ware	Temper in clay	Color of slip	Remarks and References
481 (GP. 168)	Footed jar	165	100	138	67	greenish	fine sand	greenish	Added ring-base, horizontal reserve-slip on neck and shoulder (ill-preserved). Moon 1987: nos. 600, 601 (IIIB), 363 (IIIA). Delougaz 1952: C. 684.420 (III), C. 686.443 (lugged III). Mackay 1925: Pl. 14 nos. 7, 16.
482 (GP. 172) IM. 89906	Incised jar (upright-handled)	221	128	197	83	greenish	fine sand	?	Added ring-base and upright-handle, eight cross-hatched triangle incisions on shoulder, notched ridge at carination point, scraped interior and exterior of lower body. contained No. 519b (cosmetic shell with black pigment: see Pl. 8). Gibson ed. 1981: Pl. 98 no. 10 (painted AK). Moon 1987: nos. 743, 748 (IIIB). Tunca ed. 1987: Pl. 21 no. 3 (III). Mackay 1925: Pl. 9 no. 9.
483 (GP. 182)	Ring-based jar (upright-handled)	195	110	158	≈90	cream	sparse grit	buff	Added ring-base and plain upright-handle, comb groovings on shoulder, scraped interior and exterior of body. Roaf ed. 1984: Fig. 12 no. 6 (III/AK).
484 (GP. 164)	Painted jar (upright-handled)	210	104	185	94	greenish	fine sand and straw	buff	Added ring-base and ridge, hollow upright-handle, geometrical bichrome paintings (painted after firing: orange-red and black) on exterior, scraped interior of body. Tunca ed. 1987: Pl. 19 no. 2 (III). Gibson ed. 1981: Pl. 98 no. 10 (AK). Salah 1981: p. 139 (III).
485 (GP. 178)	Incised jar	≈340	241	358	149	pinkish	no visible	?	Added ring-base and notched ridge, incised motifs are as follows from top to down: slanting notches/dots, cross-hatched triangles, horizontal line, parallel zigzag, horizontal line, cross-hatched triangles. scraped interior and exterior of body, contained No. 506 (perforated bottle). Tunca ed. 1987: Pl. 19 no. 8 (III). Roaf ed. 1984: Fig. 12 no. 1 (III/AK). Salah 1981: no. 123 (III).
486 (GP. 177)	Ring-based jar	247	156	234	105	cream-buff	fine sand		Added ring-base and shoulder ridges, scraped interior and exterior of body. Moon 1978: no. 706 (IIIA). Tunca ed. 1987: Pl. 54 nos. 2, 3 (AK). Delougaz 1952: D. 465.360 (III/AK).
487 (GP. 171)	Incised jar	272	180	282	116	greenish-buff	fine sand & sparse grit	buff	Added ring-base and notched ridges, incised motifs around shoulder: six cross-hatched triangle, two shevron panels with vertical parallel lines, tree/plant-like motif or pictographic inscription of "SE"? just below the spoutlike decoration (unperforated), scraped interior and exterior of lower body. contained No. 509 (perforated carinated bowl). Delougaz 1952: C. 525.352 (III), C. 515.362 (plain III).
488 (GP. 166) IM. 89904	Ring-based jar	188	132	198	86	greenish	fine sand	greenish	Added ring-base, reserve-slip on shoulder as ribbing effect, scraped interior and exterior of lower body, contained No. 508 (perforated carinated bowl).
489 (GP. 180)	Ring-based jar	224	116	231	122	greenish	no visible	greenish-buff	Added ring-base, sharp carination between shoulder and body, scraped interior and exterior of body.
490 (GP. 174)	Ring-based jar	199	135	218	100	greenish	fine sand		Added ring-base, scraped interior and exterior of body.
491 (GP. 181)	Ring-based jar	249?	136	235	111	buff	sparse grit	buff	Added ring-base, scraped interior and exterior of body, reconstructed drawing.

Number	Type or Material	Height (mm)	Rim diam.	Max. diam.	Base diam.	Color of ware	Temper in clay	Color of slip	Remarks and References
492 (GP. 175)	Ring-based jar	211	145	218	93	pinkish-buff	fine sand	?	Added ring-base, scraped interior and exterior of body.
493 (GP. 187)	Ring-based jar	240	126	235	107	cream-pink	fine sand	buff	Added ring-base, scraped interior and exterior of body. Gibson ed. 1981: Pl. 96 no. 7 (AK).
494 (GP. 184)	Ring-based jar	382	155	394	189	greenish	fine sand	buff	Added ring-base, and plain ridge at carination point, low ridge at base of neck with four finger-impressions. scraped interior and exterior of body. Moon 1987: no. 617 (IIIA). Salah 1981: no. 136 (III).
495 (GP. 183)	Ring-based jar	334	190	323	148	cream	fine sand	buff	Added ring-base and ridge, scraped interior and exterior of body. Roof ed. 1984: Fig. 12 no. 3 (III/AK).
496 (GP. 190)	Ring-based jar	310-320	170	328	135	cream-pink	fine sand	greenish-buff	Added ring-base and ridge, scraped interior and exterior of body.
497 (GP. 173)	Ring-based jar	264	155	247	109	greenish-buff	fine sand	buff	Added ring-base, plain ridge? at carination point, scraped interior and exterior of body.
498 (GP. 186)	Ring-based jar	300	155	272	123	greenish	fine sand & sparse grit	greenish-buff	Added ring-base and ridge, scraped interior and exterior of body.
499 (GP. 188)	Ring-based jar	320-335	155	320-340	150	pinkish	no visible	buff	Added ring-base and ridge, scraped interior and exterior of body, contained No. 507 (perforated bottle).
500 (GP. 179)	Ring-based jar	345 ?	192	360	156	cream-buff	no visible	buff	Added ring-base and ridge, scraped interior and exterior of body, contained No. 505 (perforated bottle), reconstructed drawing. Gibson ed. 1981: Pl. 96 no. 2 (AK).
501 (GP. 191)	Jar	?	165	360		cream	no visible	cream-buff	Added ridge, scraped interior and exterior of body, reconstructed drawing, probably as high as No. 500.
502 (GP. 185)	Ring-based jar	382-390	203-206	382-390	150	greenish	fine sand	greenish-buff	Added ring-base and ridge, side-perforation (diam. 4 mm) near to the base, scraped interior and exterior of body. Gibson ed. 1981: Pls. 96 nos. 2, 3, 99no. 3 (AK). Roof ed. 1984: Fig. 13 no. 3A (III/AK).
503 (GP. 189)	Single-lugged jar	176	<40			greenish	fine sand & sparse grit	buff	Lower half missing, coil-method and wheel finished, added hemispherical/conical lug at base of neck. Moon 1987: nos. 518 (IIIA), 521 (IIIA), 526-528 (IIIA).
504 (GP. 161)	Round-based jar	66	47	63		cream	fine sand		Miniature?, grooved line on lower shoulder, scraped/rubbed exterior of body. Moon 1987: nos. 359 (IIIA-B), 805, 806 (IIIA-B).
505 (GP. 159) IM. 89902	Round-based bottle	104	44	84		buff	fine sand		Two groove lines at lower shoulder, perforation (diam. 3 mm) at bottom, scraped/rubbed exterior of body. Roof ed. 1984: Fig. 13 no. 4.1 (III/AK), Tunca ed. 1987: Pls. 19 no. 10, 13 (III), 50 no. 21 (III).
506 (GP. 160)	Round-based bottle	89	44	84		pinkish	fine sparse grit		Perforation (diam. 3 mm) at bottom, scraped/rubbed exterior of body. Gibson ed. 1981: Pl. 89 no. 6 (AK).

507 (GP. 163)	Round-based bottle	111?	46	108	pinkish	fine straw	Low-fired, perforation (diam. 4 mm) at bottom. Tunca ed. 1987 : Pl. 50 no. 24 (III), Delougaz 1952 : C. 546.620 (AK).
508 (GP. 167) IM. 89903	Carinated bowl	96	51	92	pinkish	fine sand buff	Perforation (diam. 3 mm) at bottom, scraped exterior of lower body.
509 (GP. 162)	Carinated bowl	90	42	98	cream-pink	no visible ?	Perforation (diam. 3 mm) at bottom, scraped exterior of lower body. Roaf ed. 1984 : Fig. 13 no. 4.3 (III/AK).
510 (GP. 170)	Conical bowl	82	155	40	cream	fine sand & fine grit buff	String-cut base. Moon 1987 : no. 3 (III), Tunca ed. 1987 : Pl. 38 nos. 16, 17 (III/AK).
511 (GP. 165) IM. 89907	Stemmed dish	172	196	172	pinkish	fine grit/ buff sand	Joined two parts, wavy incisions on rim, notched ridges. Moon 1987 : nos. 217 (III), 218-229 (IIIB), 234-236 (IIIB), Tunca ed. 1987 : Pl. 41 no. 5 (III).
512 (GP. 169)	Ring-based bowl	104	273	87	reddish	fine sand	Added ring-base, scraped lower interior, rounded rim.
513 (GP. 176)	Ring based bowl	110	260	99	greenish	fine grit buff	Added ring-base, scraped lower exterior. Roaf ed. 1984 : Fig. 12 no. 9 (III/AK), Gibson ed. 1981 : Pl. 99 no. 1 (AK).
514	Bowl/vat?				reddish	straw & grit	Fragment of large vat (?), added plain ridge, probably shaped like No. 523. reconstruction and illustration not finished.
515	Jar				greenish		Fragment of medium- to large-sized jar, reconstruction and illustration not finished.
516	Jar						Fragment of medium- to large-sized jar, reconstruction and illustration not finished.
517	Jar				cream		Medium- to large-sized jar, added plain ridge, illustration not finished.
518	Jar				greenish		Large-sized jar (more than 400 mm in diameter), reconstruction and illustration not finished.
519 a	Cosmetic shel						Cockle shell (<i>Cardium</i> sp.), contained black pigment, length : 38 mm, height : 48 mm, see Pl. 8.
519 b	Cosmetic shell						Cockle shell (<i>Cardium</i> sp.), contained black pigment, length : 36 mm, height : 48 mm, see Pl. 8.
520 (GP. 119)	Ring-based jar	195	102	172	45	cream-pink fine sand	From Grave 6. Added ring-base, sharp carination between shoulder and body, scraped interior and exterior of body.
521 (GP. 117)	Ring-based jar	212	106	157	80	cream-pink fine sand greenish-buff	From Grave 6. Added ring-base, two groove lines at base of neck, scraped interior of lower body
522 (GP. 1344)	Ring-based jar			91		fine sand	From Grave 6. Added ring-base, scraped interior and exterior of body.
523 (GP. 1363)	Bowl/vat	670?		708?		coarse straw and grit greenish	From Grave 6. Added plain ridges at upper body, reconstructed drawing. Gibson ed. 1981: Pl. 97 no. 2 (AK), Roaf ed. 1984 : Fig. 13 no. 9 (III/AK), Moon 1987: no. 209 (III).

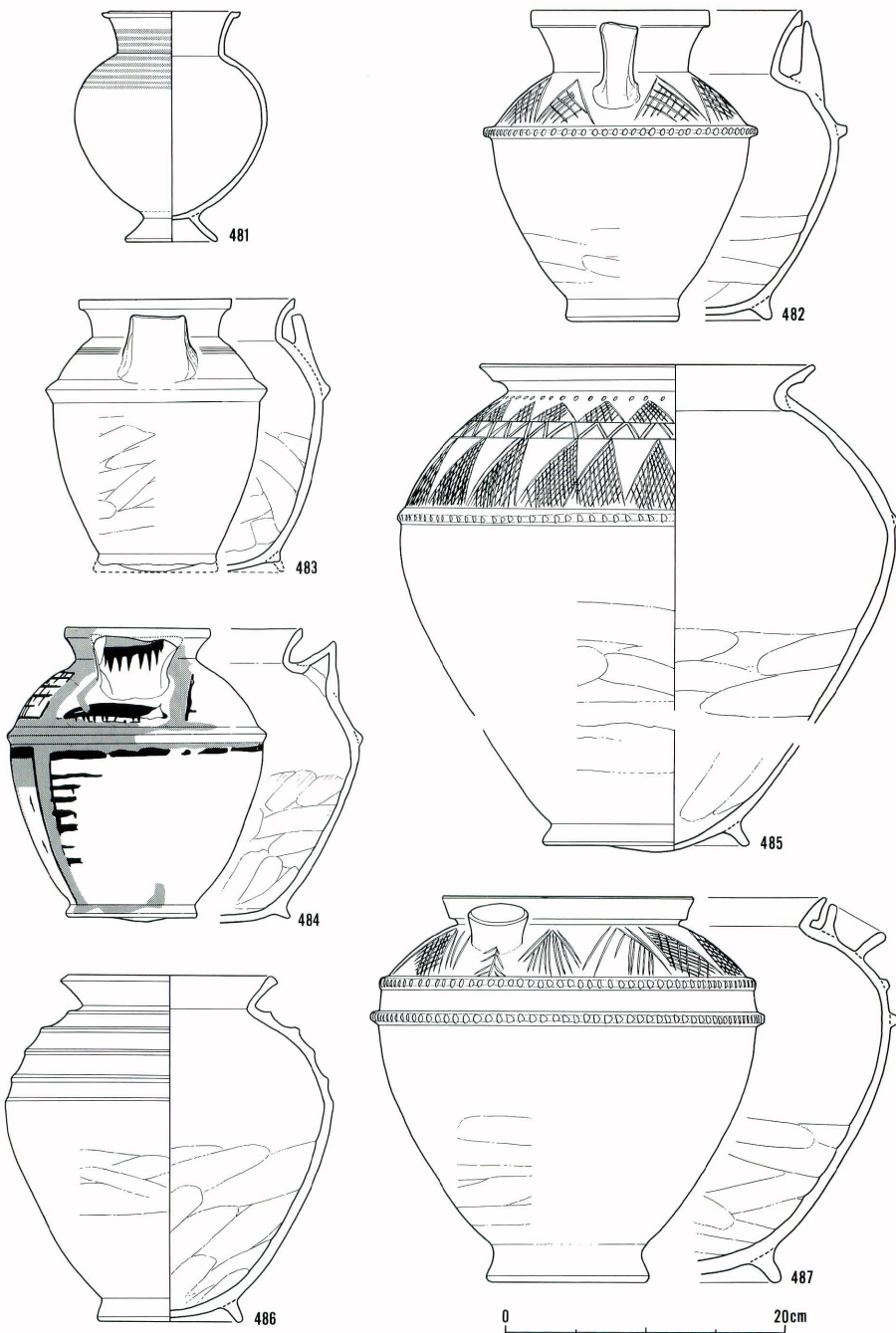


Fig. 8 Pottery from Grave 5

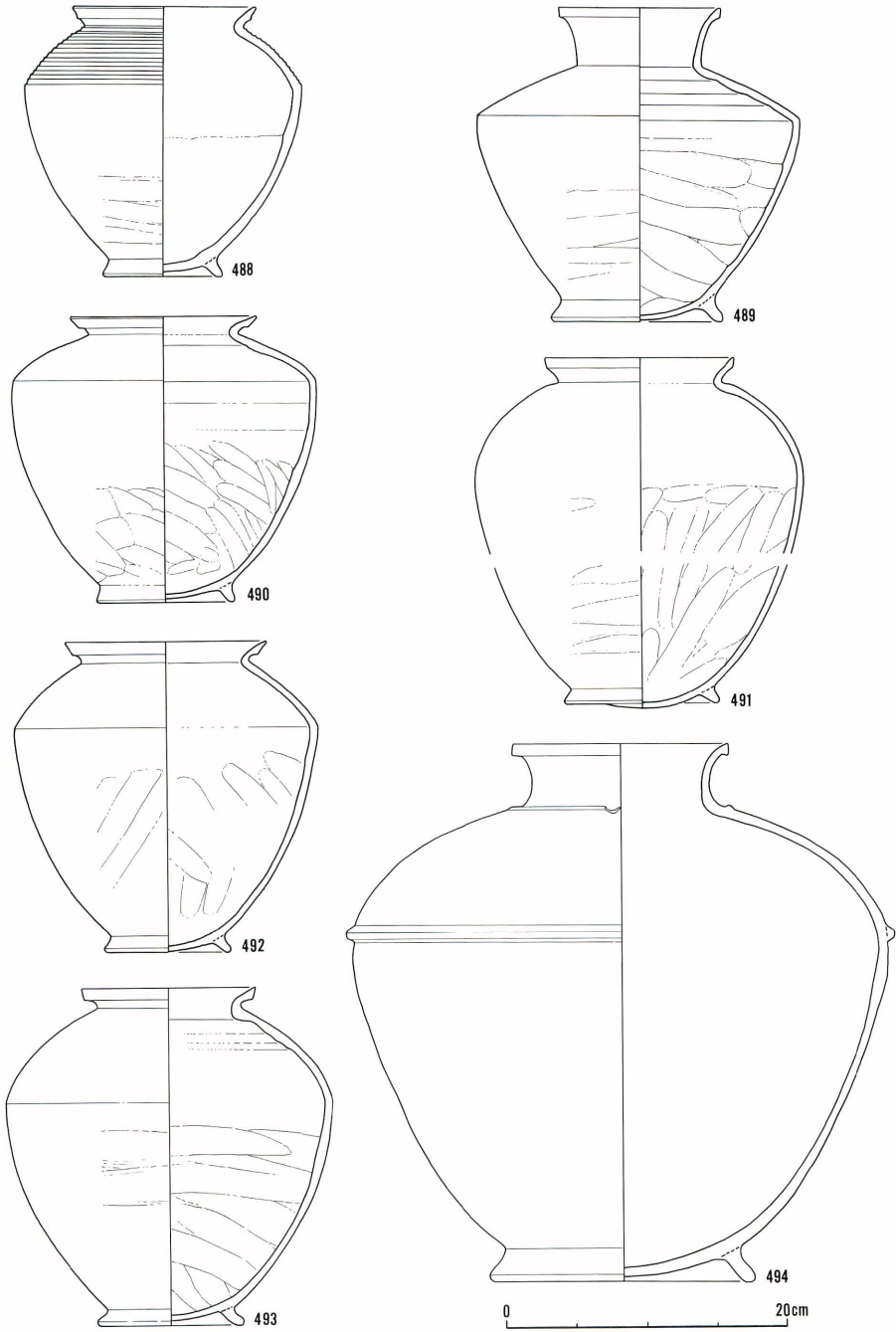


Fig. 9 Pottery from Grave 5

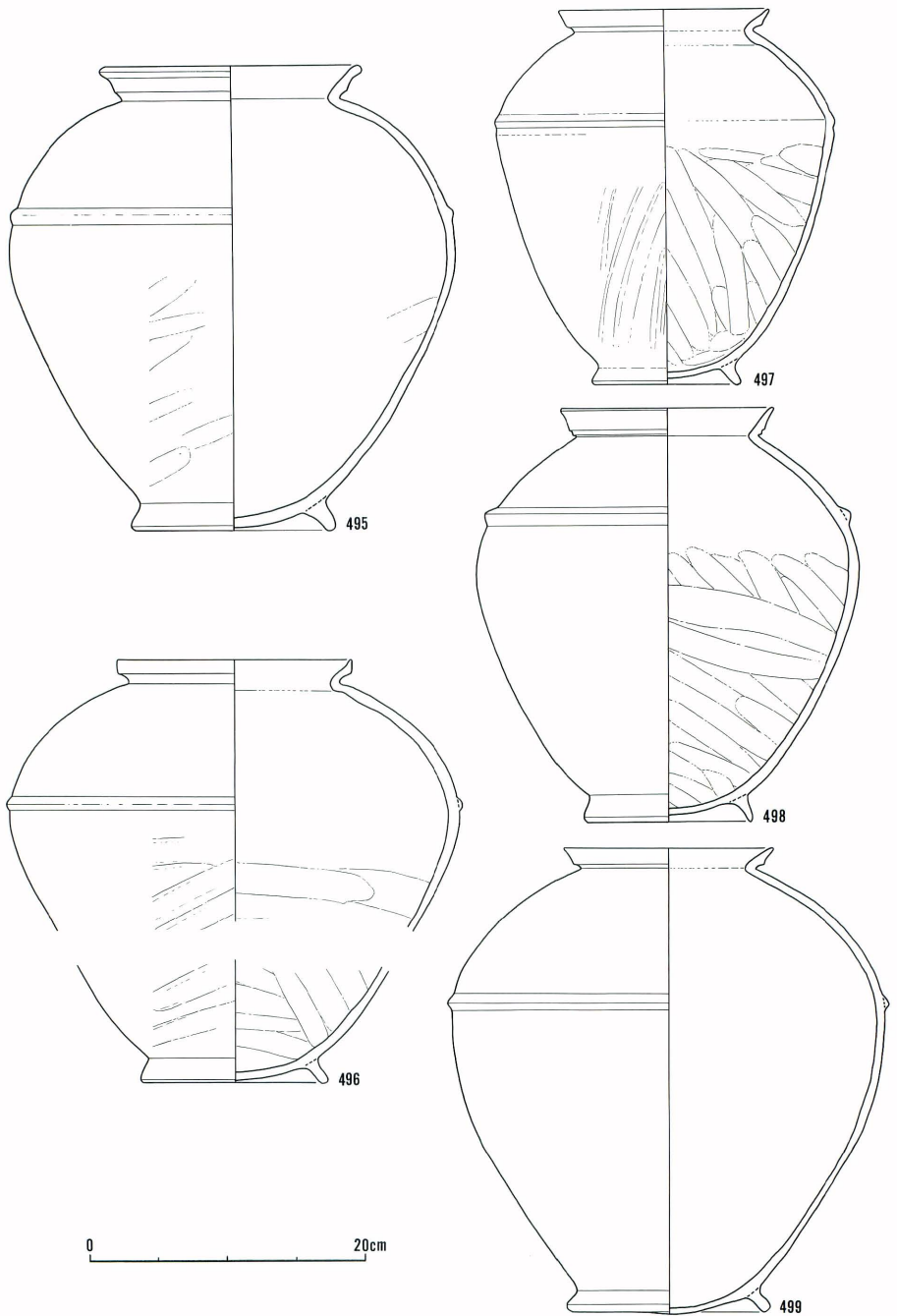


Fig. 10 Pottery from Grave 5

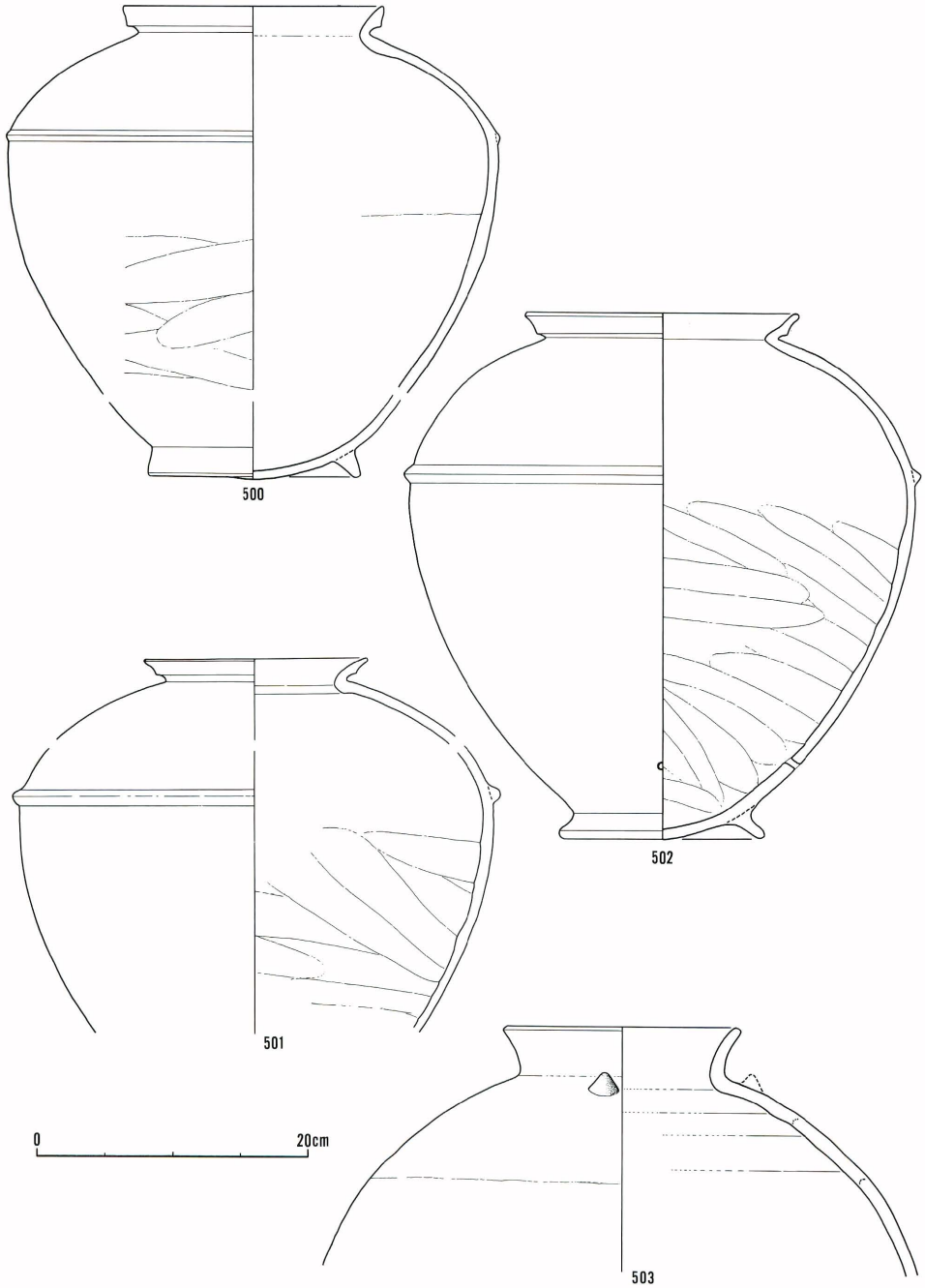


Fig. 11 Pottery from Grave 5

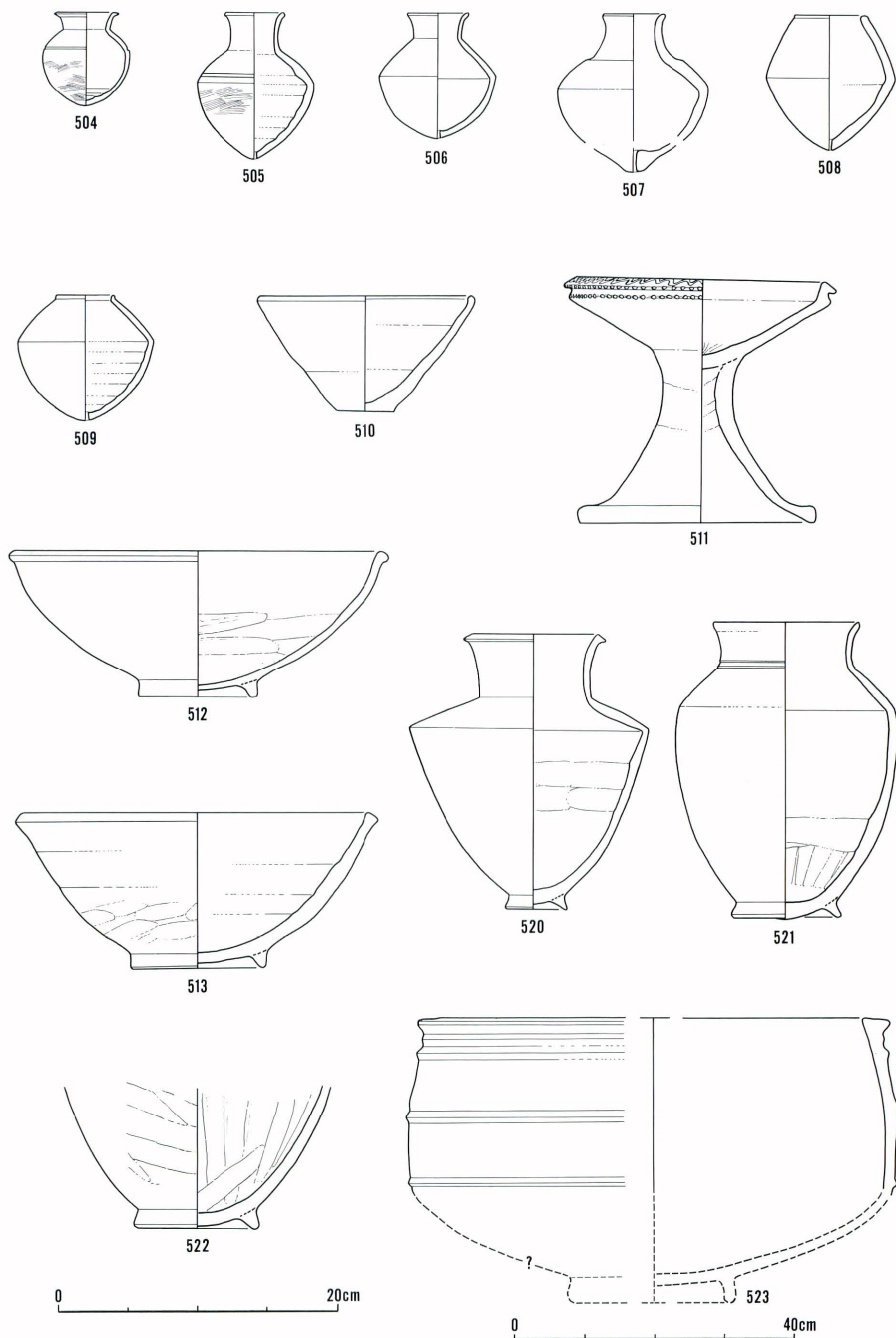


Fig. 12 Pottery from Grave 5 (504-513), Grave 6 (520-523)



a. Grave 5: after excavation



b. Grave 5: pottery *in situ*



a



b



c

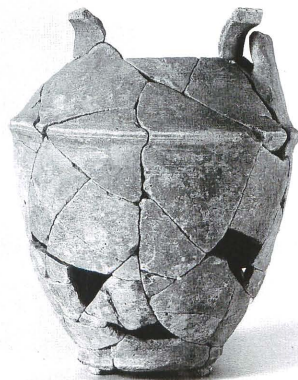
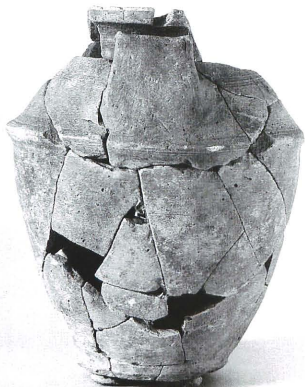
Details of Grave 5
Tell Gubba



482



484



483

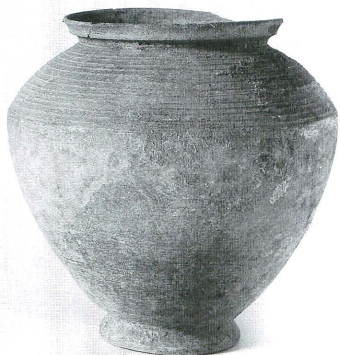
Pottery from Grave 5
Tell Gubba



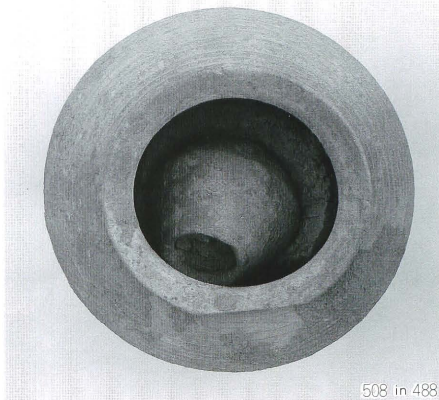
481



485



488



508 in 488



487

Pottery from Grave 5
Tell Gubba



Pottery from Grave 5
Tell Gubba



494



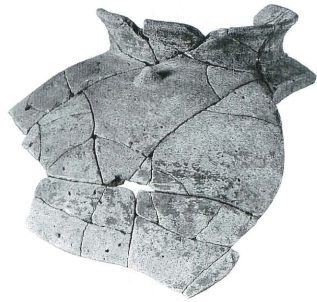
493



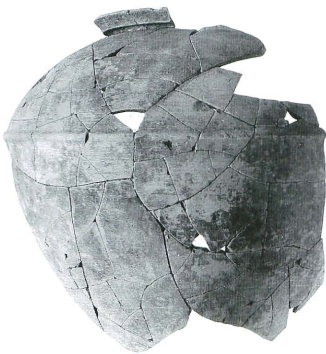
502



491



503



499



496

Pottery from Grave 5
Tell Gubba



498



498



511



510



512



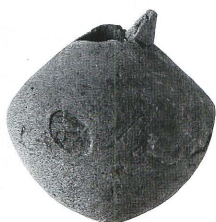
513



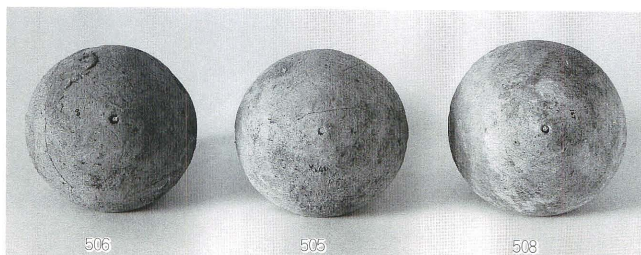
505



508



506



506

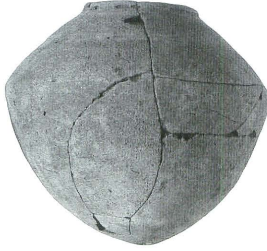
505

508

Pottery from Grave 5
Tell Gubba



507



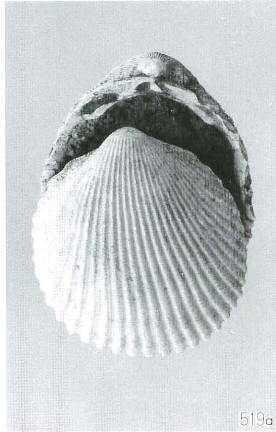
509



504



519b



519a



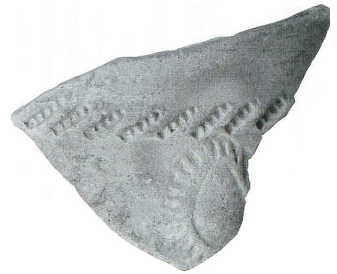
523



521



520



GP. 1274

Finds from Grave 5 (504, 507, 509, 519a, 519b), Grave 6 (520, 521, 523) and ditch (?) on Grave 5 (GP. 1274)

Tell Gubba

テル・ハメディヤート—そのⅡ
Telul Hamediyāt near Tells Gubba and Songor: part II

川又正智* (Masanori KAWAMATA)

The part I of this report was published as the chapter V in *Preliminary Report of Excavations at Gubba and Songor* [Fujii and Ii, eds., 1981].

Four types of remains were found in the eastern part of Telul Hamediyāt as follows:

- 1 The building with storage rooms for big jars (Fig.1: A; Figs.2-13) [Fig.58: 3-11; Pl.23: 2, 3, 5, in the part I]. Most of the big jars were lined with bitumen.
- 2 The single-room-buildings with gypsum and bitumen lining (Fig.1: B, C, D, G, H).
- 3 The winery-like building with gypsum and bitumen lining (Fig.1: E; Figs.14, 15) [Pl.23: 4, 6, in the part I].
- 4 Pottery kiln (Fig.1: F) [Fig.58: 1, 2; Pl.23: 1, in the part I], which shall be reported in the forthcoming part III.

国士館大学調査団(代表者藤井秀夫教授)は、テル・グッバとテル・ソングルと共に、テル・ハメディヤート東部第一報を先に本誌に報告した〔藤井・井 編 1981: 第V章, および第I, XII 章参照〕(以下, そのI, という)。本稿はその続編である。

調査箇所はテル・グッバ中央からおよそ南25度西へ700 mのあたりである。検出遺構は次の4種である:

- 1 大型土器置場のある建物(図1-A)
- 2 石膏張小室建物(図1-B, C, D, G, H)
- 3 醸造場らしい建物(図1-E)
- 4 土器窯(図1-F)¹⁾

周辺には他にまだ多数の遺構が地表で見え、北北西へテル・ハバリーにつづいてゆく。東北方のテル・ソングルA, B, そしてテル・グッバ, またナリン川対岸にも同時代らしい遺跡がある。

- 1 大型土器置場のある建物A(図1-A)

1-1 遺構

現在の地形ではテルが東南斜面で入江状になっていて、その入江の奥の部分にある。傾斜のゆるい所で、耕地になっている周辺平面からは3 mほどたかくなっている。他の遺構もそうであるが、テル・ハメディヤートは、

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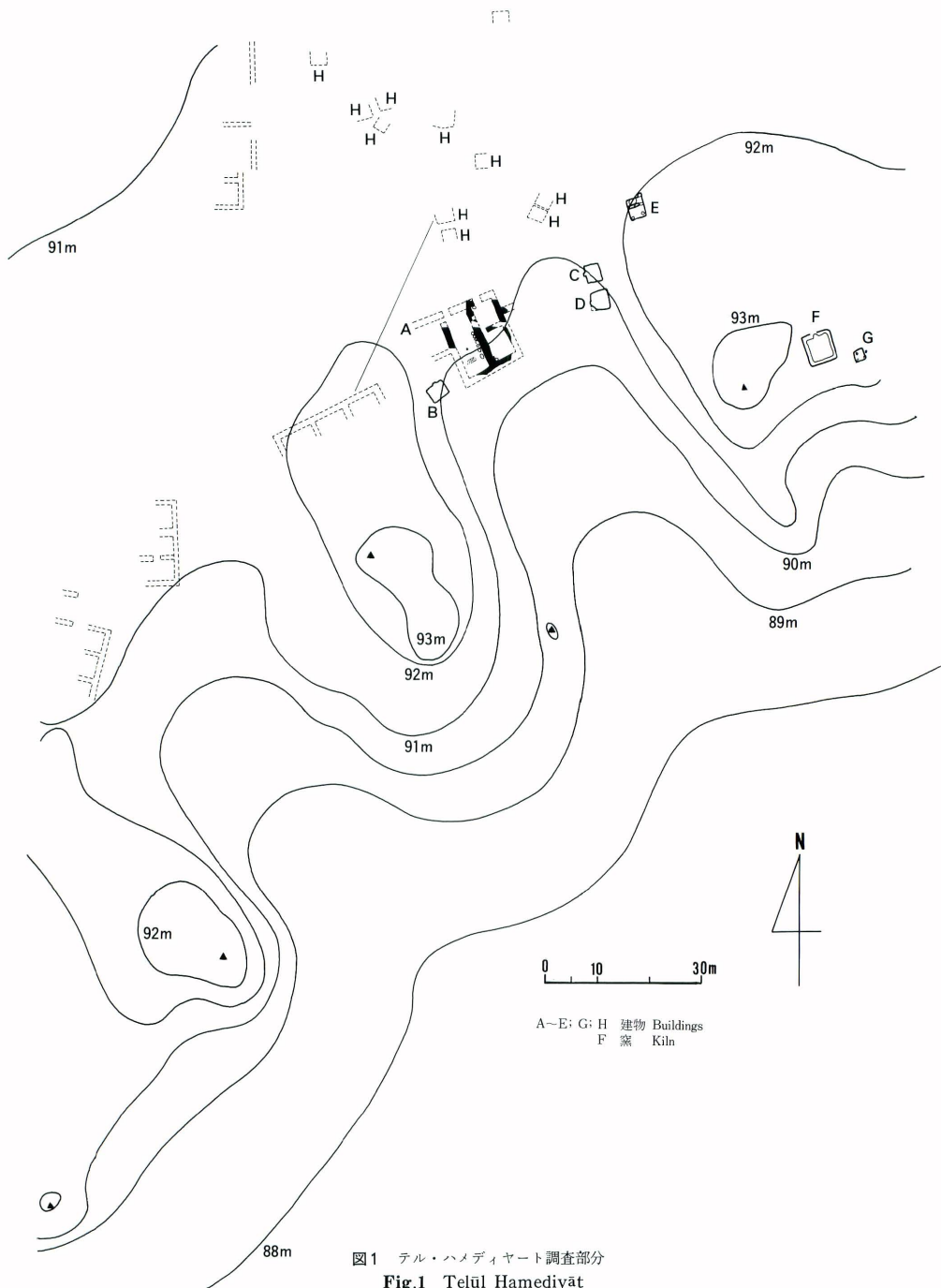


図1 テル・ハメディヤート調査部分
Fig.1 Telul Hamediyat



図2 作業開始時のテル・ハメディヤート 右後方はテル・グッバ 西南より東北をのぞむ

Fig.2 Telul Hamediyat and Tell Gubba, from the south-west

全体に浸蝕されているテルで、積もってたかくなってきたテルでなく、遺跡としての遺存状態はわるい。遺物も原位置ではない物がおおいであろう。

この建物Aは半地下式で、西南側に $4.6\text{ m} \times 12\text{ m}$ の、東北側北に $4.0\text{ m} \times 4.8\text{ m}$ 、東北側南に $4.0\text{ m} \times 5.5\text{ m}$ の2室、計すくなくとも3室がある。壁厚 $0.9\text{ m} \sim 1.3\text{ m}$ 。

西南の室は、西隅に出入口があったようで、室内には多数の土器が床上〔その I・Pl.23-2〕および中央南よりの泥煉瓦製台の上(図3)〔その I・Pl.23-3〕に置いてあった。台上の土器は口部を上普通にたててあるいは横たえて置かれていたらしい。その1で述べた入籠になっていた土器は台上のものである。床上には特に大型の土器〔その I・Pl.23-2〕(図5やその I・Fig.58-10; Pl.23-4 も同型)が口部を下に東北の壁にたてかけて置いてあった。したがって使用中の土器ではない。

土器台とみえたものは形状を明確には検出できなかったが、筋の非常に多い泥煉瓦造で、焼けた部分があり、本来は竈であったかとおもう。

東北側北室は西北に出入口があり、北隅に排水の設備がある。西南壁に沿って、南室への出入口がある。南室からは、封泥が出土した(図13)。

1-2 遺物

1-2-1 土器

この建物出土品には大型品がめだつ。テル・ハメディヤートでは全体に把手付土器が表面採集でめだつたのであるが、ここではそれほどでない。

図4；その I・Pl.23-3： 高 65 cm 、胴径 45 cm 、口縁径 17 cm 。砂粒のおおい白っぽい胎土で、もろい。施文は手指で引いてある。ナリン対岸でテル・グッバのほぼ真西 1.7 km にあるテル・アルワーン(約 $60\text{ m} \times 40\text{ m}$ 、比高 1 m 余のテル、未調査)にも同様な破片が分布していた。

図5；その I・Fig.58-10： 特大品で、残高 103 cm (推定全高 120 cm)、胴径 63.9 cm 、口外径 20.8 cm 。

100 l 以上の容量がある。轆轤造。やや緑がかった淡灰色で、焼成良好。極小の黒砂をふくむ胎土。口径

が相対的にちいさいのは封しやすく、気ぬけをふせぐためであり、底の突出は澗溜であって、醸造品用のものである。内面にアスファルト塗布。この形態のはここでは非常に多量で、1—1で述べた室内床上にならんでいたのもこれであるし、その中にはマーク付（図6；そのI・Pl.23-2）もあった。図7—11, 18, 22；図8—32, 33等もこの型であろう。図1—E, Fの醸造場、土器窯からも出土している。この型は内面にアスファルトを塗布したものが多いのは、なにか醸造の上で有効なことであるらしい。胴部の小孔は焼成後にあけられている。2孔あって、上のは径0.9 cm, 下のは径0.4 cmである。まったく同型のはともかく、おおまかには、ローマ世界内外でひろく出土する土器である。

このちかくでは、テル・アバスによく似たものが出土している〔Boehmer u. Dämmer, 1985: Taf. 166〕。テル・アブーグバーブ〔Ratib, 1979: p.580〕やテル・フバーリー〔Faḍil, 1979: p.597〕にも報ぜられている。

図7—1；図10： 径 15.3 cm, 高 4.1 cm。外から内に2小孔をうががつ。これは蓋で、小孔は紐通であろう。軟質で赤褐色、砂粒のおおい胎土。轆轤造の上内外ナデ、天井部筧。

図7—2： 蓋。天面径 4.9 cm。轆轤造。

図7—3： 蓋。径 15.5 cm, 高 5.1 cm。轆轤造。

図7—4： 径 7.5 cm, 高 3.0 cm。轆轤造。軟質。完形。

図7—5： 蓋。天面径 4.3 cm。轆轤造。

図7—6： 蓋。径 16.2 cm。轆轤造。

図7—7： 径 15.6 cm, 高 5.3 cm。轆轤造。軟質。完形。内面と外面上部に炭化物多量に付着²⁾。

図7—8： 口縁外径 10.3 cm。轆轤造。スリップあり。把手痕あり。

図7—9： 口縁外径 15.0 cm。轆轤造。外面一部分に煤付着。

図7—10： 口縁外径 18 cm。硬質精製。轆轤造。

図7—11： 口縁外径 21.1 cm。轆轤造。内面にアスファルト。

図7—12： 口縁外径 14.0 cm。轆轤造。内面にアスファルト。

図7—13： 口縁外径 17.0 cm。硬質精製。轆轤造。

図7—14： 口縁外径 18.0 cm。精製。轆轤造。焼成前に刺突文と浅沈線の波状文をほどこす。内面黒色物。

図7—15： 口縁外径 30 cm。精製。轆轤造。明青色釉が一部残存。

図7—16： 口縁外径 18.5 cm。轆轤造。内面全体にアスファルト。

図7—17： 口縁外径 37.6 cm。轆轤造。やや軟質、大型。

図7—18： 口縁外径 18.5 cm。精製硬質。轆轤造。内部と口唇部上面にアスファルト。

図7—19： 口縁部小片。深緑色釉。

図7—20： 口縁部小片。精製硬質。緑青色釉。

図7—21： 口縁外径 15 cm。硬質。轆轤造。ウォッシュあり。

図7—22： 口縁内径 13.0 cm。轆轤造。水引。内面全部と外面口縁部にアスファルト。

図7—23： 口縁外径 16.0 cm。やや軟質。轆轤造。内面全部にアスファルト。

図7—24： 口縁外径 30.4 cm。硬質。轆轤造。斜刺突文と凹線。

図8—25： 最大径 26.4 cm。砂すくなく精製。輪積ののち轆轤引。

- 図8-26： 胴径 15.3 cm以上。轆轤造。
- 図8-27： 胎土に砂粒多。轆轤造。外面一部に煤。沈線 4 本。
- 図8-28： 胴径 23 cm 以上。精製。轆轤造。2 把手。把手は貼付で、残存上端幅 3.5 cm。口縁はもうすこし上方である。
- 図8-29： 黄褐色で砂のおおい胎土。轆轤造。貼付横把手で、中央部幅 3.2 cm、指おさえ痕が装飾的。表に白ウォッシュ。内面全体にうすく炭化物。
- 図8-30： 胴径 16.8 cm。精製。轆轤造。外面スリップ。高台貼付。内面の一部にアスファルト。
- 図8-31： 高台外径 10.5 cm。精製硬質。轆轤造。
- 図8-32： 残高 8 cm。やや硬質。手捏。しぼりによる底部澱溜。底面は篋削。
- 図8-33： 残高 16.5 cm。手捏。しぼりによる底部澱溜。内面にアスファルトあつく付着。
- 図8-34；図11： 残高 67 cm，径 53.5 cm。砂粒のおおい緑がかった胎土。輪積後上半轆轤引。本体仕上後さらに粘土をはって、手指で施文。図4と同技法である。
- 図8-35： 胴径 39.8 cm。輪積後轆轤引，底部はしぼり。胎土に細黒砂ややおおく，外面に緑がかった白のスリップ。

その I・Fig.58-9： 高 20.4cm。精複。轆轤造。肉厚でおもい。底は紐切。完形。三重入籠になっていた中心物。

その I・Fig.58-11： 高 46.4cm，胴径 32.3 cm。胎土に黒砂をふくむ。輪積後轆轤引。底をしぼって高台をつける。2 把手。把手下に沈線 3 条。完形。

図9はこの建物内床土隅でかたまってきた一括出土したものの一部である。1-1 で述べた土器台の下にあった。

- 図9-36： 口縁外径 21.3 cm。特大型土器の口縁。胎土に砂を多量にふくむ。轆轤造。約 1.5 cm ずつ引きあげている。スリップ有。
- 図9-37： 口縁外径 17.5 cm。轆轤造。スリップ。
- 図9-38，39： 残高 13 cm と 11 cm。手捏。しぼり技法による，特大型土器底部澱溜。内面は黒色物質が付着。
- 図9-40： 径 38 cm。砂を多量にふくむ。轆轤造。約 1.5 cm ずつ引きあげている。スリップ。
- 図9-41： 口縁内径 7.8 cm。轆轤造。スリップ。内面全部と外面上端から約 2 cm 黒色物付着。
- 図9-42： 口縁内径 9.6 cm。轆轤造。スリップ。把手は両側であったかもしれない。
- 図9-43： 高台外径 7.2 cm。赤褐色胎土で砂をふくむ。轆轤造。薄手。外面スリップ。内面不明。

1-2-2 ガラス器等

- 図12-1；その I・Pl.23-5 上： 切子碗底部。最大厚 0.8 cm。中心は径 2.0cm の円形カット。カットは互に接触していない。銀化して、すこし緑色のまじった白銀色。
- 図12-2；その I・Pl.23-5 下： 黒色に銀化。放射状の筋は菊花状になっているものであろう。長円形皿か。
- 図12-3： 脚外径 2.9 cm。白色に銀化。内面は緑色。
- 図12-4： 白色ねりものの玉。長 3.5 cm，径 2.5 cm。外面は石膏が付着しているが本来はなめらかであったらしい。

その I・Fig.58-3： 径 9 cm。厚 0.35~0.20 cm。黒色に銀化。中は象牙色。

その I・Fig.58-4： 碗底。高 3.9 cm，径 8.7 cm。緑色に銀化。

その I・Fig.58-5： 薄手の碗で，高台は中空。高 4 cm，径 11 cm，厚 0.10~0.15 cm。

その I・Fig.58-6： 脚外径 12.4 cm，厚 0.10~0.15 cm。金色に銀化，中は虹状紫色。脚は折りまげ。

その I・Fig.58-7： 径 4.2 cm。黒色と銀色混。

その I・Fig.58-8： すこしとがった丸底で，底厚 1.1 cm。白色に銀化。

図13： 封泥 2点。左の1点は人物横顔を中心に，周囲にパフラヴィーらしい文字を配す。印面径 1.3 cm。

もう1点は，鳥文かあるいは人物横顔か判然としない。印面径 0.9~1.1 cm。紐孔がとれている。

人物文のは，裏面が曲面で，なにかまるい物に封されていたものであろう。

2 石膏張小室建物B, C, D, G

このあたりには，1室からなる方形建物が点々とある。残存部分は，掘りさげてつくった床面だけであって，その平面形以外のことは知るを得ない。床にアスファルトと石膏をはっている。遺物はほとんど出土しない。

図1—Bは 3.8 m×3.0 m。10回以上の石膏塗布が確認でき，下から3回めにアスファルトをはる。西北辺中央がすこし突出する。

図1—Cは 3.3 m×3.5 m。西辺中央が突出。石膏の下には砂利がしいてある。

図1—Dは 3.5 m×3.5 m。西辺中央が突出している。

図1—Gは 1.9 m×2.3 m。床面は現地表下 0.3 m で，西よりに2小穴がある。なにか液体に使用する目的であろうか。大型の土器突底（図15左と同型）片1点が，東辺中央外 6 cm に出土。置いてあったものであろうか。床東南隅はすこしたかくなっている。

同様の建物は多数上記以外に地表面にみえた。図1でHとしてあるのは，石膏張を確認したものである。

3 醸造場らしい建物E（図1—E；図14）⁹⁾

3—1 遺構

全体は 3.0 m×4.0 m，2室の堅穴式建物で，全面石膏とアスファルトをはっている。石膏とアスファルトのあつきはあわせて 0.5~1.0 cm である。

東北隅に幅 0.9 m の，外の方がたかい階段出入口があり，さらに北室東壁に沿って南室に通じている。壁残存高は，のこりのよい所で約 0.6 m。厚さ 0.4 m の隔壁中央床上に土管（図15；その I・Pl.23-6）が1本あって，入口側である北室（2.9 m×1.2 m）中央にある穴の上に出ている。この穴は，床面で 1.5 m×1.2 m，深 2.5 m である。この穴は上から溜めるのみの，他に出口のない穴で，内面にやはり石膏とアスファルトを塗っている。

奥である南室（2.9 m×2.1~2.4 m）には，突底を上方にした大型土器底部（図15；その I・Pl.23-4）と，口縁を下方にした図5と同型の大型土器口縁部が置いてある。他に遺物は無い。

南室の床は土管側がややひくく傾斜しており，想像すれば，南室でたとえば葡萄をつぶすとか何かの作業をし，その作業による液体を土管を通じて北室の穴にながし込んだのであろう。今のところは何か醸造に関するものと推定している。あるいは製油とか染料関係であろうか。

両室境の敷居は高 0.16 m。

3-2 遺物

大型土器底部（図15左；その I・Pl.23-4）は、残高 48.0 cm、径 55.4 cm。上は人為的に切られたかのようである。内面に付着物は無い。

土管（図15右；その I・Pl.23-6）は精製品で、全長 47.0 cm、外径 16.4 cm、厚 1.0~2.4 cm、轆轤造。

注

- 1) そのⅢとして、本誌次巻に報告予定。そのⅠの Fig.58-1, 2 と Pl.23-1 はこの窯跡のものである。
- 2) 土器付着物の説明で、煤、黒色物、炭化物と記述したのは、だいたいアスファルトのことであるとおもうが、確認できないので、今は実測者の記録どおりにしておく。
- 3) そのⅠで、建物Aと接している、としたのは、あやまりである。

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あとがき

その1から10年ちかく、現場作業からは10年以上すぎ去ってしまった。我々の着事前、ドイツ考古学研究所調査団も本テルを発掘地候補のひとつとしたので、一緒にテルをみてまわったのもたのしい想出である。

このテルの現場作業は、当初を川又が、その後を篠原徹調査員が中心となって、他班の応援を得ながら担当した。現場記録は十分ではない。また川又、篠原とも現場作業のみにて帰国したので、遺物実測、清図、その他は、グッバ・ソングル各班の井博幸、大津忠彦、小口和美、鎌田博子、浜崎一志、松原隆治各調査員による。特に井調査員におおくをよっている。本稿図1清図は松本淳子氏による。 (庚午夏)



南より from the south



東北より from the north-east

図3 土器置場の台 建物A

Fig.3 Pottery on the Stand, Building A



図4 土器 建物A
Fig.4 Pottery, Building A

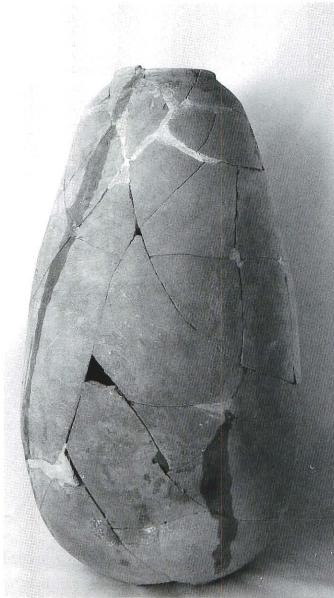


図5 大型土器 建物A
Fig.5 Big Torpeido Jar, Building A



図6 大型土器上のマーク 幅：左：約 25 cm, 右：約 10 cm, 建物A
Fig.6 Marks on the Torpeido Jars. Width: left 25 cm, right 10 cm, Building A

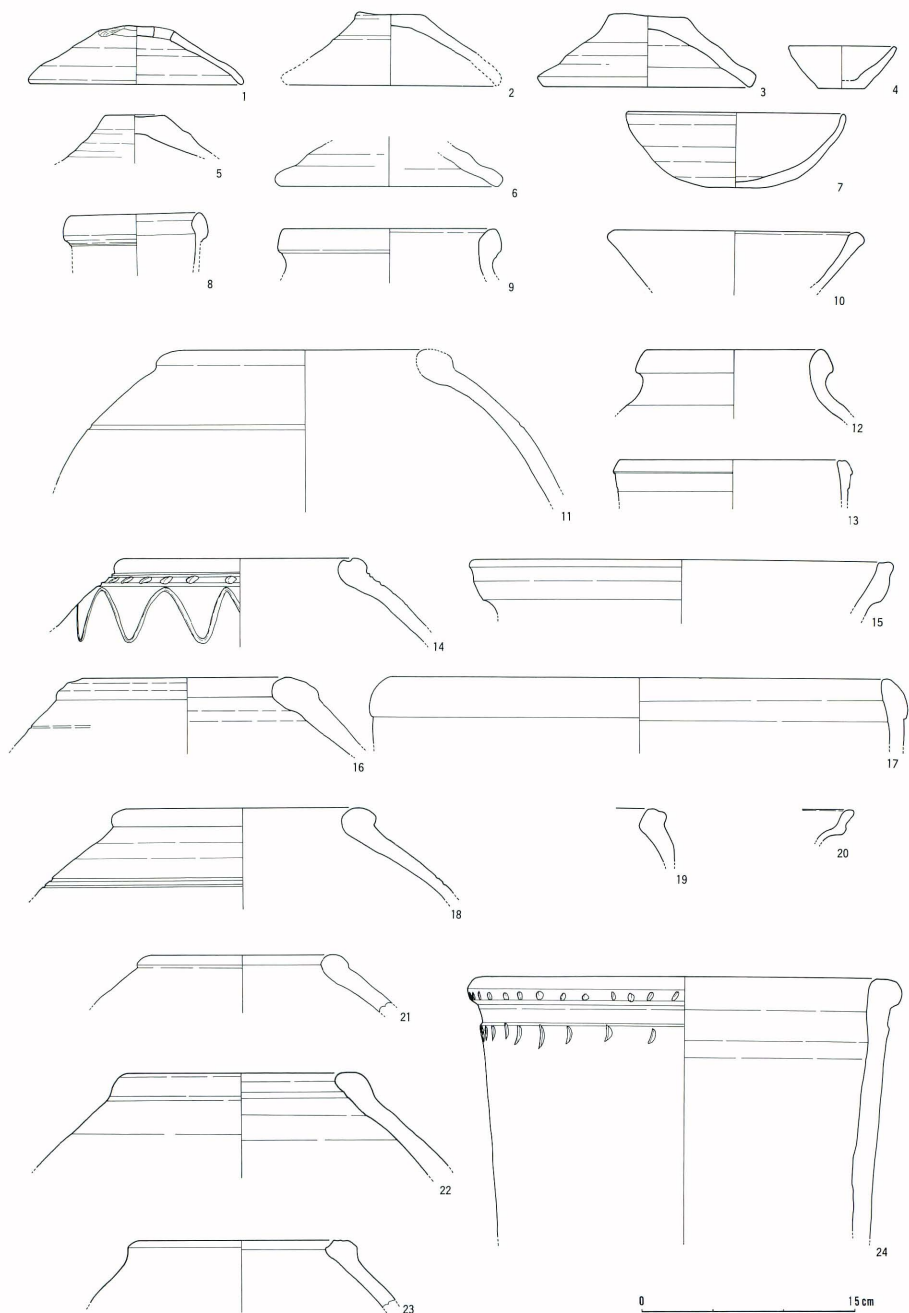


图7 土器, 建物A
Fig.7 Pottery, Building A

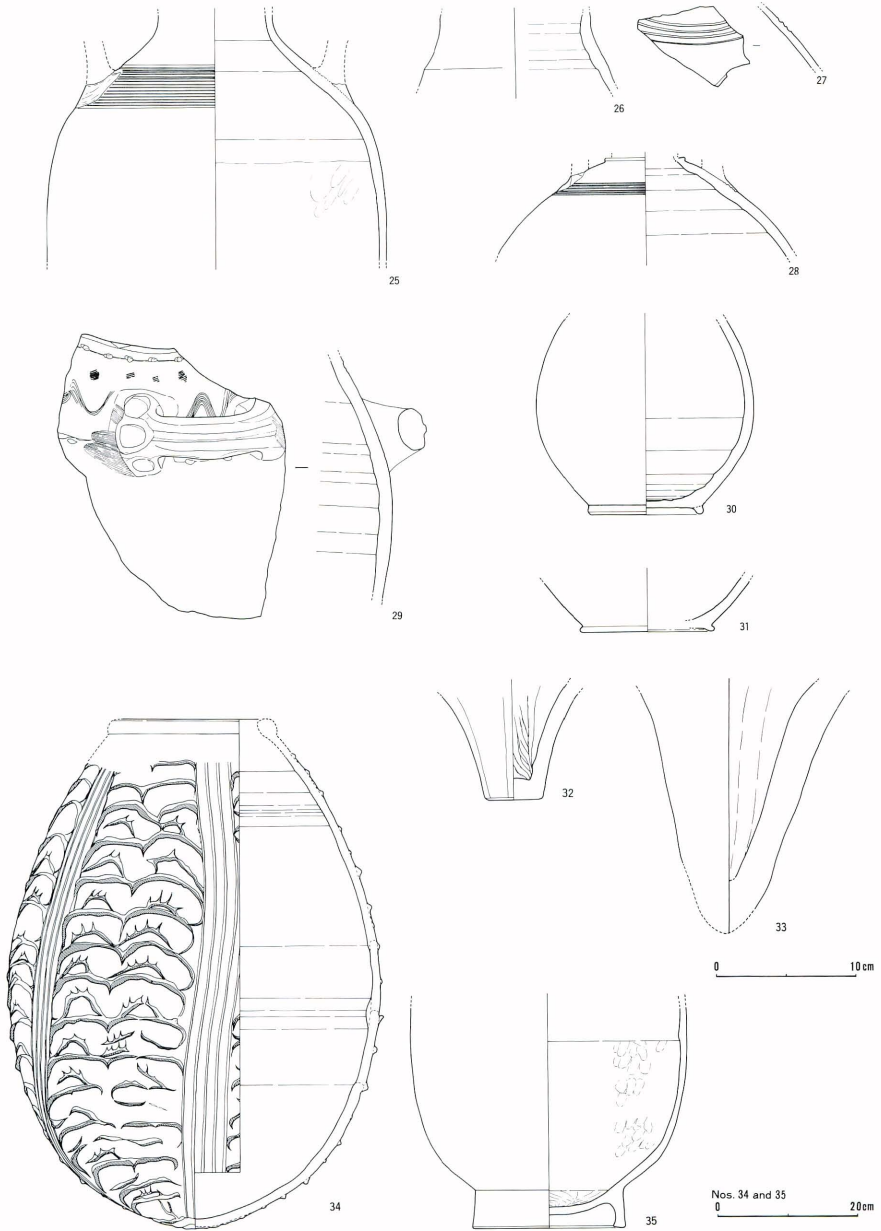


図8 土器, 建物A
Fig.8 Pottery, Building A

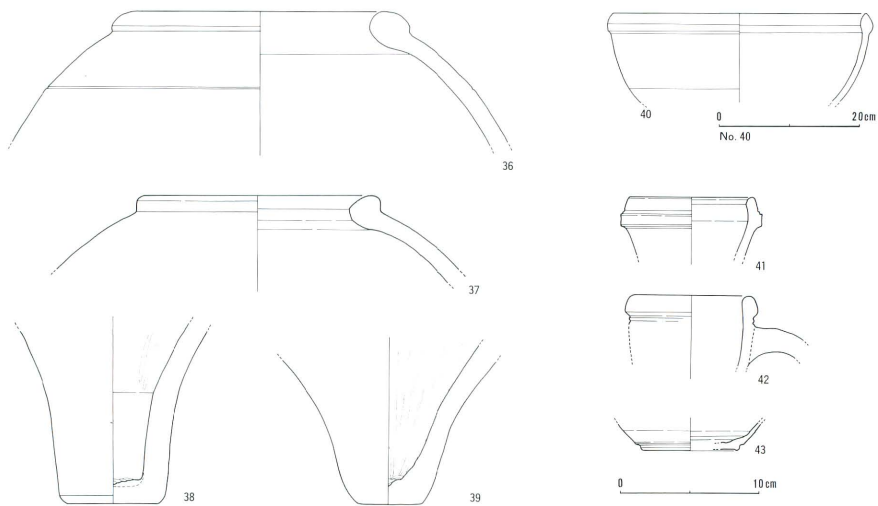


图9 土器, 建物A
Fig.9 Pottery, Building A



图10 土器, 建物A
Fig.10 Pottery, Building A



图11 土器, 建物A
Fig.11 Pottery, Building A

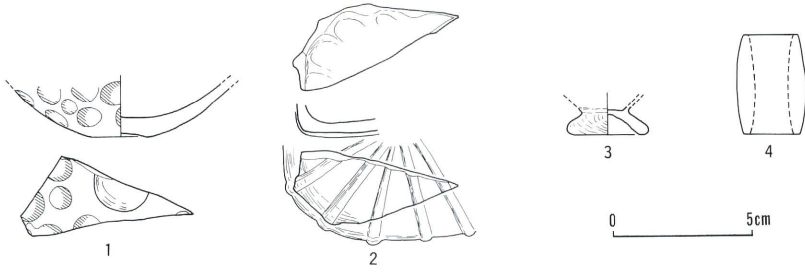


図12 ガラス器 (1, 2, 3) と練物 (4), 建物A
Fig.12 Glass (1, 2, 3) and Faience (?) (4), Building A

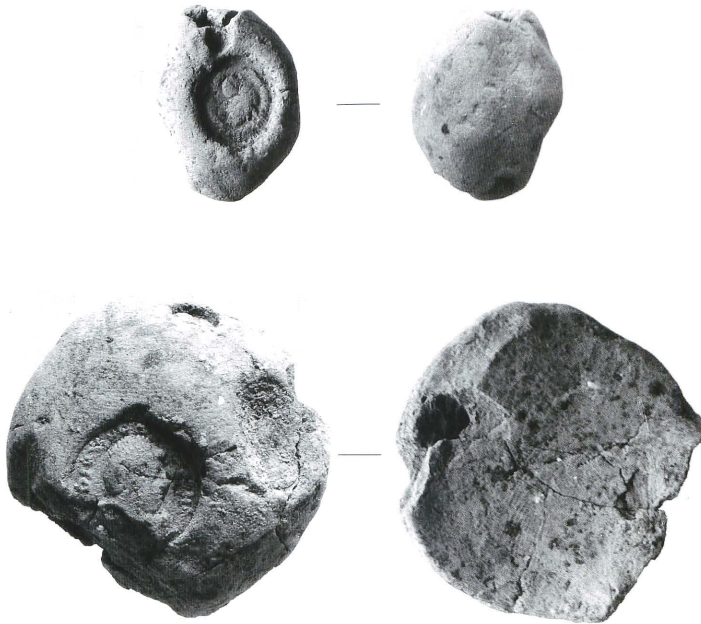


図13 封泥, 建物A
Fig.13 Bullae, both sides, Building A



図14 醸造場らしい建物E, 東より
Fig.14 Winery-like Building E, from the east

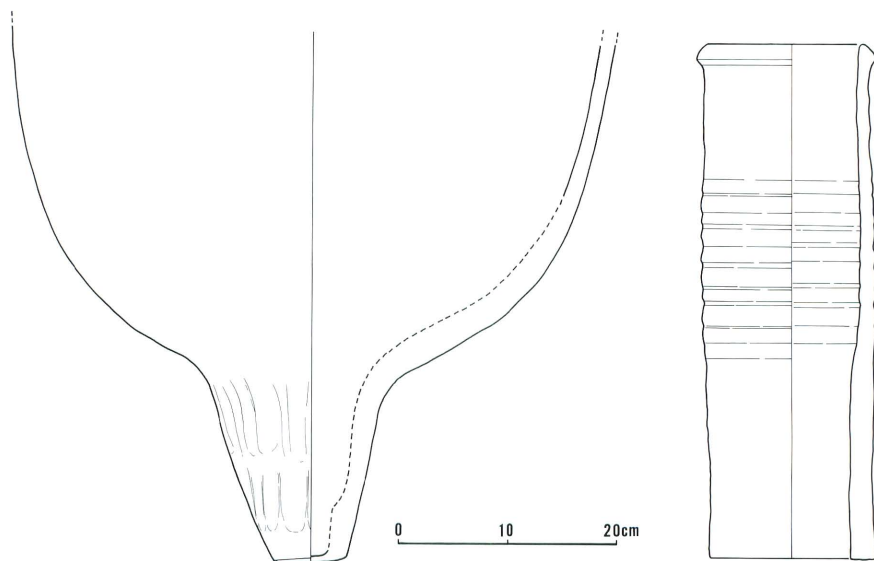


図15 土器・土管, 建物E
Fig.15 Base of Torpedo Jar and Drain-pipe, Building E

THE GRAVES AT TELL SONGOR B

Shoichi YOKOYAMA* and Ken MATSUMOTO**

Preface

Forty-five graves out of the eighty-three which were uncovered from Tell Songor B can be dated by grave goods. The graves marked as datable were 8 Islamic, 1 Sasanian, 12 Kassite, 13 Isin-Larsa, 4 Isin-Larsa/Ur III, 1 Akkadian, 1 Early Dynastic, 1 Jamded Nasr and 4 Halafian ones; and the others are of uncertain periods¹⁾.

The records of the excavated graves have already been reported in *al-Rāfidān* vol.X [Matsumoto and Yokoyama 1989: 245~328]. The present report, therefore, aims at showing the distribution and orientation of such datable graves in every period confirmed, and includes an attempt, based on the data of the depths of the graves, to topographically pursue the changes of the surface level of this mound particularly in the Isin-Larsa period.

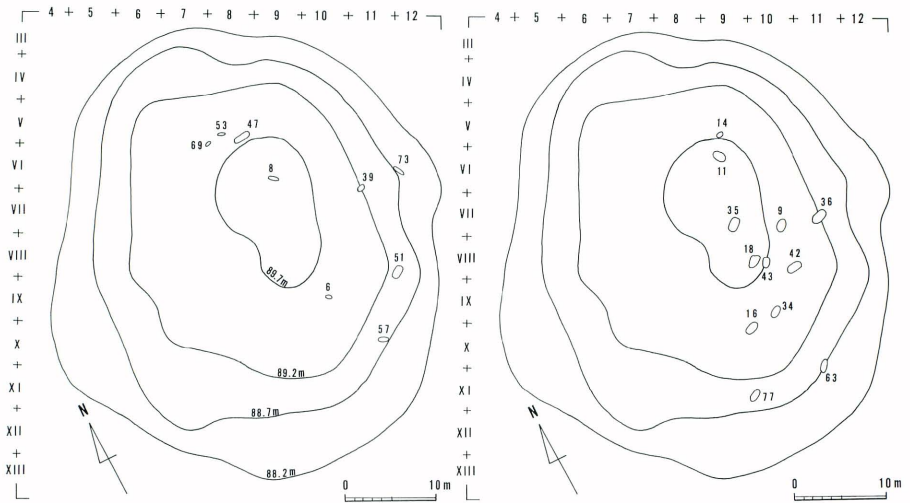
1. The distributions and orientations of the graves

In all the graves plotted in the distribution map which has appeared in *al-Rāfidān* vol.X [Matsumoto and Yokoyama 1989: Fig.1], forty-five graves can be assigned to the respective periods, as pointed out above; and this is shown in Figs.1 and 2 of the present report, in which the depths of the graves (Gl.-cm) measured from the present surface, as well as their individual numbers, are described. On the other hand, the orientation of the graves and the methods of burying dead bodies are shown in the graphic charts of Figs.3 and 4: in the chart, the direction of the dead body's head is shown by the degree of the line, the direction of the face is shown by the mark ← or the mark ○ that means facing upward. In the case that the a dead body's head was missing or not found *in situ*, a question mark (?) is given.

The Islamic period (Figs.1.a and 3.a): It seems likely that there are two distribution patterns of the Islamic graves: some graves were located in the grids VI-VII, and the others were in the southwestern slope of the mound, but there were no graves in the western slope of it. The orientation of the grave concentrates in the directions between N50W and N70W and of nearly S77W, and the eight graves in all were turned between the southwest and south directions, namely, toward Mecca. Of Gr.73 the long axis was in the direction of N37W, and this is a slightly northerly direction in comparison with the graves discovered in the eastern foot of the mound. Gr.69 had coins as associated grave goods, which made it possible, in evidence for dating, to infer that this grave may perhaps belong to the early Islamic period, and the grave lay in the direction of S77W. Consequently, it seems probable that the differences of their directions may suggest the temporal gaps between them within the Islamic period. In this site, most of the Islamic graves contain infant bodies, which were buried in simple shallow shafts. At Tell Gubba and Tell Songor A, in the vicinity of this site, there were found many Islamic graves, some of

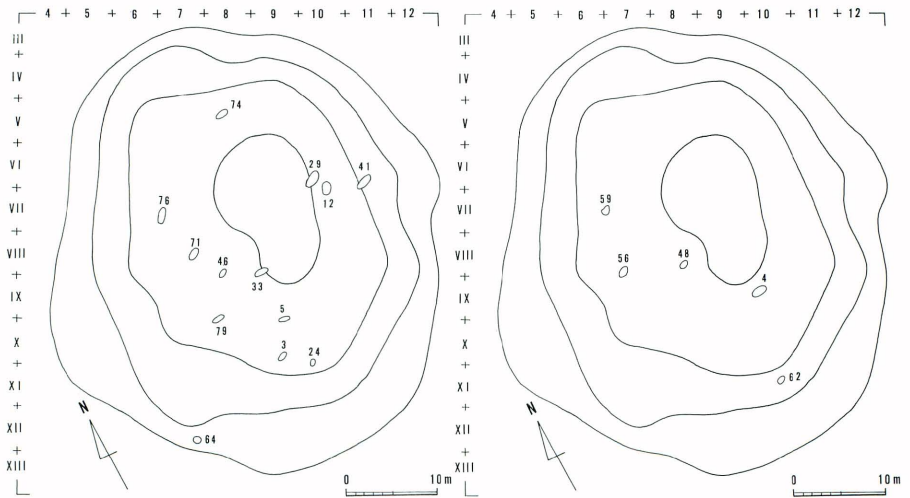
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a. Graves of the Islamic and Sasanian Periods
 Gr. 6(-80cm), Gr. 8(-30cm), Gr. 39(-20cm),
 Gr. 47(-90cm), Gr. 53(-78cm), Gr. 57(-40cm),
 Gr. 69(-43cm), Gr. 73(-65cm), Gr. 51(-65-70cm),
 Sasanian grave)

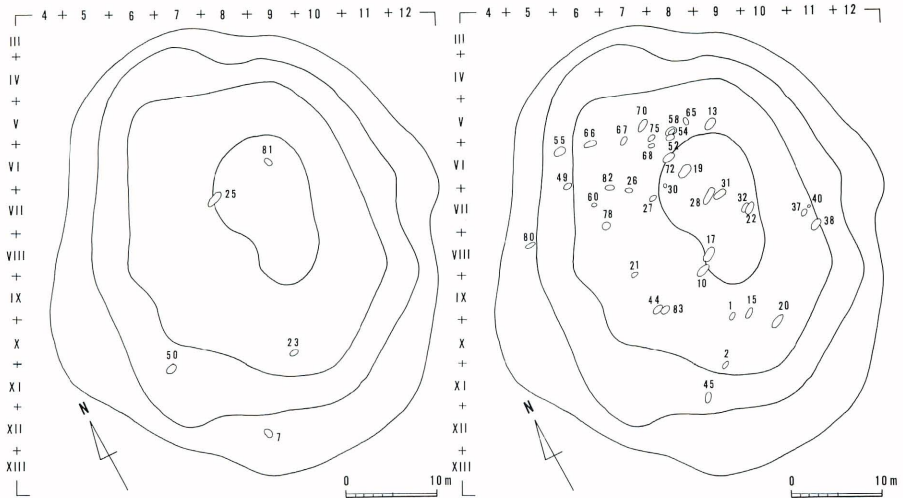
b. Graves of the Kassite Period
 Gr. 9(-30cm), Gr. 11(-50cm), Gr. 14(-40cm),
 Gr. 16(-40cm), Gr. 18(-120cm), Gr. 34(-100cm),
 Gr. 35(-115cm), Gr. 36(-105cm), Gr. 37(-60-70cm),
 Gr. 42(-50cm), Gr. 43(-110cm), Gr. 63(-30cm),
 Gr. 64(-23cm), Gr. 77(?)



c. Graves of the Isin-Larsa Period
 Gr. 3(-120cm), Gr. 5(-120cm), Gr. 12(-30-50cm),
 Gr. 24(-100cm), Gr. 29(-110cm), Gr. 33(-140cm),
 Gr. 41(-20cm), Gr. 46(-100cm), Gr. 64(-23cm),
 Gr. 71(-131cm), Gr. 74(-100cm), Gr. 76(-105cm),
 Gr. 79(-145cm)

d. Graves of the Isin-Larsa/Ur III, and Akkad Periods
 Gr. 4(-45cm), Gr. 56(-110cm), Gr. 59(-91cm),
 Gr. 62(-80cm), Gr. 48(-105cm, Akkad)

Fig.1 Distribution of the Graves



a. Graves of the ED, JN, and Halaf Periods
 Gr. 23(-70cm, ED), Gr. 7(-140cm, JN),
 Gr. 25(-120cm, Halaf), Gr. 50(-50cm, Halaf),
 Gr. 61(-183cm, Halaf), Gr. 81(-209cm, Halaf)
 ※ Gr. 61 was found at grid XVI-9.

b. Graves of Uncertain Periods
 Gr. 1(-45cm), Gr. 2(-75cm), Gr. 10(-130cm),
 Gr. 13(-40cm), Gr. 15(-30cm), Gr. 17(-130-140cm),
 Gr. 19(-70cm), Gr. 20(-40cm), Gr. 21(-60-70cm),
 Gr. 22(-50cm), Gr. 26(-130cm), Gr. 27(-100cm),
 Gr. 28(-130cm), Gr. 30(-100cm), Gr. 31(-130cm),
 Gr. 32(-100cm), Gr. 37(-60cm), Gr. 38(-30cm),
 Gr. 40(-60-70cm), Gr. 44(?), Gr. 45(-162cm),
 Gr. 49(-20-25cm), Gr. 52(-42cm), Gr. 54(-69cm),
 Gr. 55(-40cm), Gr. 58(-87cm), Gr. 60(-78cm),
 Gr. 65(?), Gr. 66(-20cm), Gr. 67(-85cm), Gr. 68(-54cm),
 Gr. 70(-86cm), Gr. 72(?), Gr. 75(-80cm),
 Gr. 78(-146cm), Gr. 80(?), Gr. 82(?), Gr. 83(-30cm)

Fig.2 Distribution of the Graves

which have grave goods such as bracelets, necklaces, etc. [Kamada and Ohtsu 1988: 150~151; Ii 1989: Fig.23]; but the majority of the Islamic graves have generally no grave goods. In conclusion, it seems, at present, that graveyards of the Islamic period used to be set up on high mounds around settlements [Matsumoto and Yokoyama 1989: 297 note 1]²⁹.

The Sasanian period (Figs.1.a and 3.b): In this site, the only grave that belongs to this period (Gr.51) was uncovered oriented toward the southwest; at Tell Songor A, three of this period were found oriented northeast [Kamada and Ohtsu 1988: Figs.9,10,11]; at Tell Gubba, a grave of this period, which has grave goods such as a pottery vessel with a handle, a whetstone, and both iron and copper objects, was found oriented nearly west [Ii 1989: Fig.13]. There were two burial methods in this period: either a simple shaft or an urn was in use for burial.

A settlement which relates to these graves must have been at Telul Hamediyat, where houses, pottery kilns, wine breweries, etc. were discovered; but the graves found around this site are ten in number. But only few graves were found around there scattered. Hence, it seems likely that the period of habitation in Telul Hamediyat was not so long [see Kawamata, in Pages 175 to 188 of this volume].

The Kassite period (Figs.1.b and 3.c): As for the graves of the Kassite period, we have attempted to re-examine all the graves that bear the possibility of their belonging to the Kassite period, as mentioned in the lists in the following pages 193 and 194.

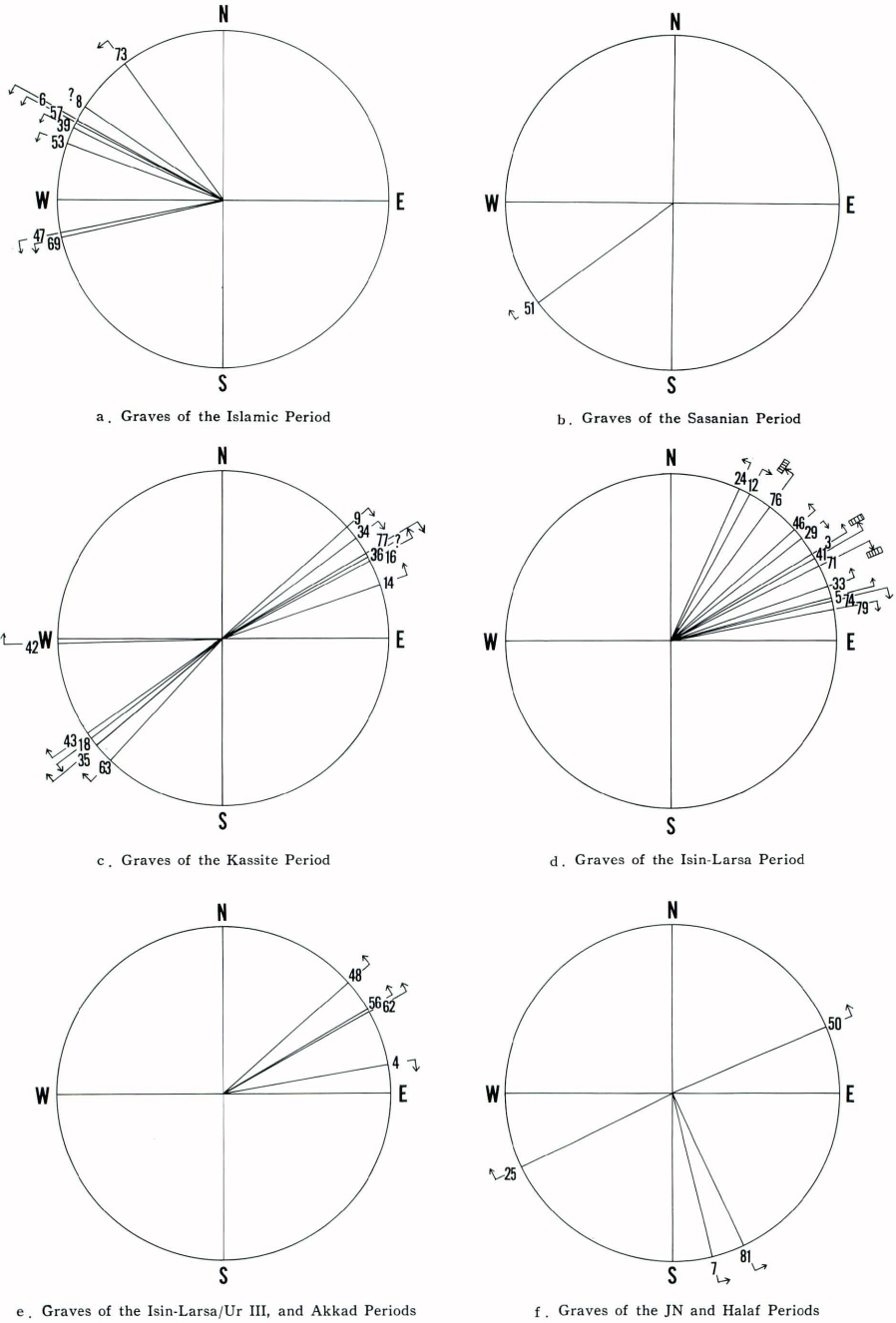


Fig.3 Orientation of the Graves

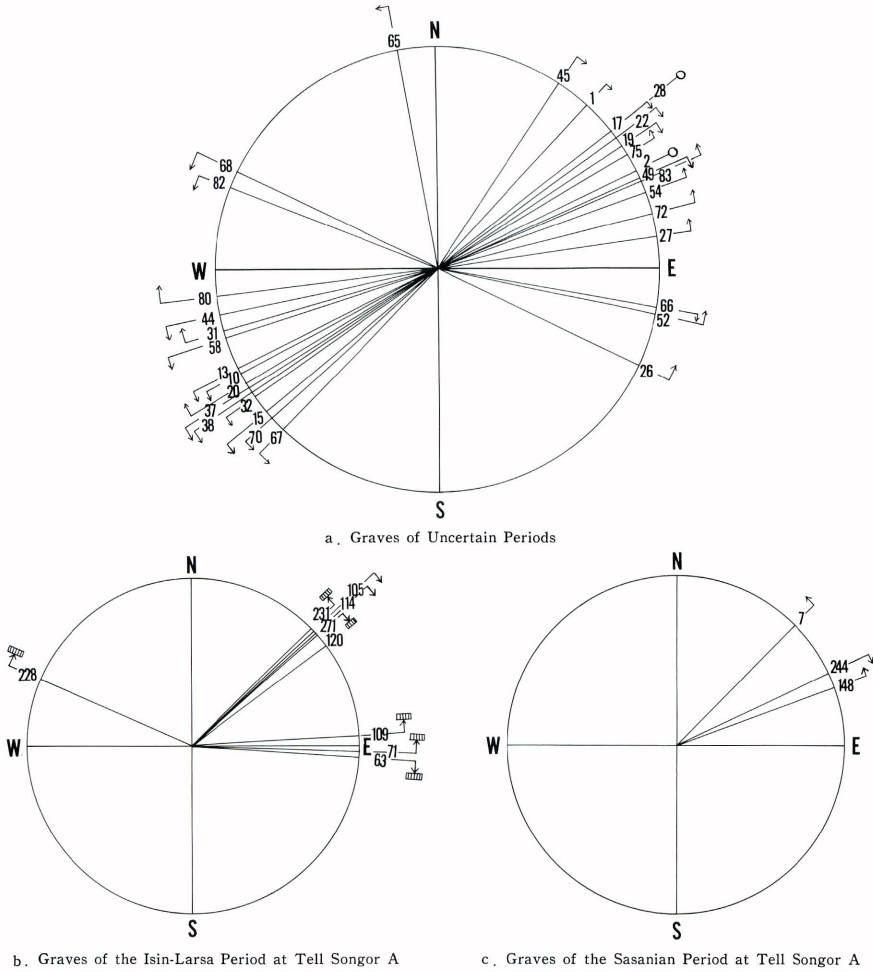


Fig.4 Orientation of the Graves

Gr. 9: N48E; an adult; no pottery, many beads (a scarab, shells, a gold ring, gold beads, etc.).

No pottery was found in this grave, but the discovered beads and scarab are very similar to those from Tell Yalkh (Nos.144,145,147), where they are dated to the 15th century B.C. [Ezio 1985: 318].

Gr.11: SE; an adult; a deep bowl with a button-like base [cf. Woolley 1976: Pl. 101-15].

Gr.14: N71E; an infant; no pottery, a long cylindrical bead made of amethyst.

Gr.16: N62E; an adult; a small jar, a bowl.

The bowl, which is very similar in type to that from Nuzi [Starr 1939: Pl. 89, J, M], was uncovered together with Nuzi ware.

Consequently, we assume that the bowl and the small jar, found in this grave, are contemporary with the Nuzi ware, which are dated to the 15th-13th centuries B.C.

Gr.18: S53W; an adult; a small jar and beads, thin lentoid fritt³⁾ with a distinctive feature, beads similar in type to those from the Gr.63 and from Tell Zubeidi [Boehmer und Dämmer 1985: Taf. 151, No.684a, b, c].

A gold earring, found in this grave, is similar to a nosering from Tell Yalkh, which is dated to

the 15th century B.C. [Ezio 1985: 318].

Gr.22: N54E; an adult; no pottery, beads, of all the same size.

Gr.26: S64E; an infant; no pottery, anklets, beads.

Gr.31: S74W; an adult; no pottery, beads of all the same size.

Gr.34: N53E; an adult; a shoulder cup with a button-like base belonging to the Kassite period [cf. Ezio 1985: 54].

Gr.35: S50W; an adult; no pottery, a ribbed ball-shaped bead [cf. Boehmer und Dämmer 1985: Taf. 141, Nr. 544; Taf. 152, Nr. 685], a chalk bead.

Gr.36: N61E; an adult; an incised small jar [cf. Ezio 1985: 54], beads.

Gr.37: S58W; an infant; no pottery, a semi-circular and crescent-shaped bead similar to that from Temple A at Nuzi [Starr 1939: Pl. 120, TT, VV].

Gr.38: S56W; an adult; no pottery, a gold ring [cf. Boehmer und Dämmer 1985: Taf. 151, Nr. 678].

Gr.42: N89W; an adult; a jar with a long body, three beads of the same size.

Gr.43: S55W; an adult; an incised small jar with a short neck.

Gr.49: N66E; an infant; no pottery, fritt beads.

Gr.63: S43W; an adult; a shoulder cup with a globular body and a high neck, a fritt miniature jar, a scarab, shell-shaped fritt beads, stone beads, a gold earring, bronze anklets, bronze strainers.

Gr.64: Scattered human bones, three small jars, perhaps of the Isin-Larsa period.

Gr.75: N59E; an adult; no pottery, fritt beads.

The excavation of this grave was incomplete.

Gr.77: N59E; an adult; a shoulder cup (typical of late Kassite pottery).

Fig.102 (*al-Rāfidān* X)

6: a small jar.

7: a small jar.

8: a small jar.

9: a small jar.

Fig.103 (*al-Rāfidān* X)

1: a small jar (a base shard) similar to that of Gr.34-2.

To sum up, the following are the distinctive graves of this site during the Kassite period: this includes their comparison with the graves of the same period at other sites in Hamrin.

1. The graves concentrate in the eastern slope of the mound. The long axes of the graves converge into NE-SW, and the head directions point to both the directions between N48E and N71E, and S43W and S58W. The faces are placed toward various directions.
2. A question is raised as to why no Kassite graves were found in Tell Songor A, higher and bigger than Tell Songor B.
3. The graves of Tell Songor B are of the simple shaft in form; on the other hand, at Tell Imlihiye and Tell Zubeidi, urns were in common use for burial in the Kassite period.
4. The infant graves contain such grave goods as beads but no pottery.
5. Some of the adult graves contain a pottery and luxury beads as grave goods, and Gr.16 has two pottery vessels, a bowl and a jar. The small jar bears in particular a parallel to examples in southern Mesopotamia, and the bowl resembles in shape Nuzi ware in northern Mesopotamia [Ii and Kawamata 1984/85: Figs.28-27, 28]. This seems to result from the location of this site, situated in the area between northern and southern Mesopotamia.
6. The Kassite sites in Hamrin are Tell Zubeidi, Tell Imlihiye, Tell Hassan, Tell Yalkh, Tell Kesaran, Tell al-Zawiyah, Tell shieb, Tell Ajamat, Tell Haddat, and Tell Sulaiman, of which Tell Zebeidi, Tell Imlihiyh and Tell Yelkh may belong to the late Kassite period.
7. The sites of the early Kassite period are very few in number in Hamrin. One grave of Tell Yalkh, belonging to the Early Kassite period [Bergamini 1984: Fig.53], contains a pottery vessel, anklets and beads, and is very similar to the graves of Tell Songor B in grave form, burial method, and grave goods. Not only objects from graves but also finds from a building

level at Tell Yalkh are similar to the objects contained in the graves at Tell Songor B [Ezio 1985: 54].

8. The place of habitation at Tell Songor B in this period is uncertain; however, its place seems to have existed far from the graveyard of this site: this idea can be supported by the fact that no early Kassite settlements were discovered around Tell Songor B.

The Isin-Larsa Period (Figs.1.c and 3.d): The distribution of the graves of this period concentrates in two areas, the northeast and southwestern slopes of the mound. The twelve graves are in the northeast direction. The directions of the faces are not systematically oriented; they were, however, placed respectively toward a mudbrick wall with which the burial chamber was closed. Three graves with such walls (Grs.41,71,76) were found at Tell Songor B. In all, there are twenty graves of this period at Tell songor A, of which nine graves have such walls. The orientation of the graves at Tell Songor A is shown in a circular graph (Fig.4.b and c); the head-directions of the graves concentrate in the northeast and the east; the face-directions are not systematically oriented, as observed in Tell Songor B. It is supposed that within the Isin-Larsa period the graves were set up at Tell Songor A and that Tell Songor B may be a little different in time, because the pottery from Tell Songor B are earlier in types. Then, it can be possibly said that many graves have been provided at Tell Songor B, and the others at Tell Songor A⁴. The highest or biggest mound, therefore, was not necessarily provided for the graves. Around Tell Songor B, settlements for the people of the graves could not be recognized. Tell abu Huseini, located about 10 km west of Tell Songor B, has a grave, closed with a mudbrick wall, belonging to the Isin-Larsa period, and similar to the graves of Tells Songor A and B. The settlement of Tell abu Huseini may have supposedly been at Tell Yalkh [Tusa 1984: Fig.18].

The Isin-Larsa/Ur III, and Akkad periods (Figs.1.d and 3.e): The graves were distributed at the southwestern slope of the mound. The head-directions concentrate in the northeast, and this makes little difference with the graves of the Isin-Larsa period. The pottery has been succeeded as property of some traditional form. It may be possibly said that these graves are included in the Isin-Larsa period.

The Early Dynastic, Jamded Nasr, and Halaf periods (Figs.2.a and 3.f): The patterns of the orientations and the distributions are not clear because the graves discovered are small in number. One of the Halafian graves was of an infant buried under the floor, so that the adult graves of the Halaf period may have been placed at a cemetery which existed far from Tell Songor B.

2. The levels of the graves

In the course of our excavating the graves, it is almost impossible to clear the original surface from which the graves were dug. At Tell Songor B, the depths of the graves seem to show nearly the original depths; but, strictly speaking, in order to know the original depths, the thickness of the eroded surface of the mound has to be added to their depths. We have mentioned the depth (Gl.-cm) from the surface of the mound to the bottom of the grave in Tell Songor B. Therefore, if it is mentioned Gl.-100 cm, it means the original depth was more than 100 cm in depth.

We have tried to examine how the pattern of the graves in each period is gotten by the depths of the graves.

The Islamic period: Seven graves of the eight graves in all are of infant skeletons, whose depths are measured during -20 cm~-80 cm. Gr.53, where an infant is buried at the depth of

Gl.-78 cm which is deeper than the others, has a bead. Another adult grave (Gr.47) has coins, rings etc. as grave goods, whose depth is Gl.-90 cm.

But it is not clear whether the depth has been connected with the existence of the grave goods. And in general, no grave goods are offered in the grave of the Islamic period²⁾. It is most probable that the infant graves are shallower than the adult graves.

The Sasanian period: A single grave (Gr.51) has been discovered with a jar at the depth of Gl.-70 cm.

The Kassite period: The graves seem to be concentrated in two areas: some of the graves (Grs.9,11,14,16,42,63) have been uncovered at the depth of Gl.-30 cm~70 cm, which were located at the foot of the mound, which has been easily eroded. The others (Grs.18,34,35,36,43) have been uncovered at the depth of Gl.-100~120 cm, located at the top of the mound. It can not be said from the surviving depths and grave goods that the graves were buried deeper when the graves had many grave goods. The depth of Gr.63 is measured only Gl.-30 cm in spite of having the most grave goods in Tell Songor B. And, on the other hand, at Gr.36, its grave goods seem to have been stolen though it is buried Gl.-105 cm in depth, because the head has been moved from the original position. Therefore, it is possible to say that the graves of the period had been buried deeper than Gl.-120 cm in depth because we see the deepest depth of Gl.-120 cm still survive to our time.

The Isin-Larsa period: The graves are divided into two large patterns by levels: the first ones, Grs.12,41,64 at the depth of Gl.-23~30 cm, have been distributed on the foot of the mound. Gr.41, whose chamber was closed by a mudbrick wall, has been dug down into the Ubaid/Halafian Structure (B-1) which was eroded to nearly the *Juss* floor. So the graves have also been heavily eroded since their construction. The others have been uncovered at the depth of Gl.-100 cm~145 cm, which have been distributed on the southwestern slope of the mound. For example, Grs.71,76 have also been closed by a mudbrick wall, which has been buried Gls.-131 cm~105 cm deep. The deepest grave (Gr.79) was Gl.-145 cm in depth, which had also the closed chamber with a mudbrick wall. Therefore, it can be said that the graves have been buried deeper than 145 cm in this period.

The Isin-Larsa/Ur III, and Akkad periods: Gr.4 and Gr.62 have been buried Gl.-45 cm and Gl.-80 cm in depth on the eastern slope of the mound. Gr.48 has been buried Gl.-105 cm in depth. These graves are characterized as almost the same type with the graves of the Isin-Larsa period.

The Early Dynastic, Jamded Nasr, and Halaf periods: Gr.23, which belongs to the ED period, has been buried Gl.-70 cm in depth. Gr.7 which belongs to the Jamded Nasr period has been buried Gl.-140 cm in depth. The Halafian graves were discovered from under the floor of the Halafian buildings (level IV).

3. An experiment on the reconstruction of the topographical condition by the grave levels

We have tried to reconstruct how the original surface of the mound had been. At Tell Songor B, only graves were dug down into the mound after abandonment of the Ubaidian inhabitation, so that the surviving depth of the graves seems to show nearly the original depths of the graves. But it is necessary for us to take account of the somewhat eroded depth in addition to the surviving depth of the grave, to reconstruct the original surface of the mound. We do not know exactly how many centimeters had been eroded. Accordingly, we have thought that a fixed thickness may be added to the level of the uncovered graves to reconstruct the original shape of the mound.

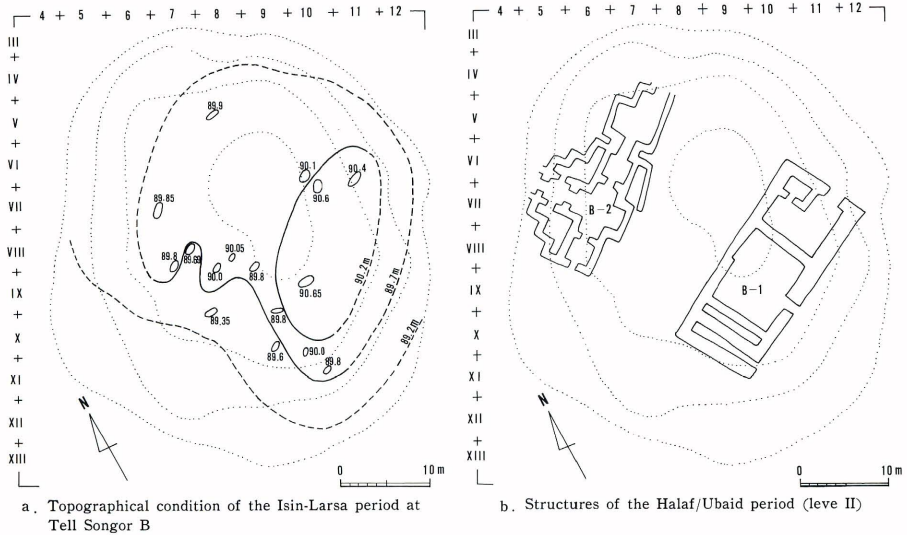


Fig.5 Reconstruction of the Topographical Condition by the Graves

The following is the method of the reconstruction.

The surviving depth can be gotten as the differences between the level of ground surface over the graves and the level of the bottom in the grave. And then, the standard depth of the graves is assumed from the surviving depths. However, we can scarcely clear the original surface into which the graves had been dug down when we excavate the graves.

We could also get the surviving depths of the Isin-Larsa period graves from Tell Songor A [Kamada and Ohtsu 1988: 138~149]. There are four examples, G1.-153 cm (Gr.63), G1.-175 cm (Gr.71), G1.-160 cm (Gr.231), and G1.-180 cm (Gr.228). Gr.228 was dug down about -137 cm in depth below the surface cut through down to the Samarran buildings. Tell Songor A had also been used as graves only after the abandonment of the Samarran building and Halafian pits. Hence, these depths mentioned above seem to show nearly the values of the original surfaces, respectively. The depths of the graves in the Isin-Larsa period show between G1.-100 cm~-140 cm at Tell Songor B, and also between G1.-150 cm~-180 cm at Tell Songor A. According to the results of the depth, we suppose from the contour lines on the map (Fig.5.a) why the standard thickness from the bottom of the graves towards the original ground surface is -150 cm in the Isin-Larsa period at Tell Songor B.

The results of the reconstruction on the topography are somewhat interesting for us. One of the results is that the reconstructed topography in this period may reflect the mound shape that was formed by the collapse of two Ubaid/Halafian buildings; the other is that the highest area in the reconstructed topography corresponds to the position in which the large Ubaid/Halafian building (B-1) existed (Fig.5.b: B-1 and B-2) [Matsumoto 1981: Fig.43].

After the Isin-Larsa period the mound has also been eroded by wind, rain, and rivers. In particular, the rivers have eroded the mound from the northwest to the southeast. It is possible to say that the straight contour lines at each side of the mound have shown its eroded lines.

Summarizing remarks

This time, we have tried to reconstruct the topographical condition in the Kassite and Isin-Larsa periods of Tell Songor B.

The grave has included many factors with the dead such as its religion, sex, age, and status, and has also revealed important factors on the geological situation of the cemetery and the protection against animals. The type, the orientation, the distribution, and the depth of the graves are fixed by these factors.

From the above-mentioned investigation, we have understood some trends of the graves in spite of the eroded mound.

Acknowledgements

Our special thanks are due to Mrs. Maya Ikuma for her kind improving the English and Mrs. Junko Matsumoto for her tracing work of the drawings.

Notes

- 1) It was difficult to find the grave pits and human bones, because the graves were in very bad condition when the graves were uncovered. So, there are instances that only grave goods i.e. pottery, beads, etc. were found [Matsumoto and Yokoyama 1989: Figs.102,103,104]. The graves of Tell Songor B, therefore, may be more than one hundred in all. We have to correct "Report on the Excavations at Tell Songor B" in *al-Rāfidān* vol.X as follows:

The N directions of Fig.14 · Gr.10 · p.252, Fig.17 · Gr.13 · p.253, and Fig.83 · Gr.70 · p.281 change into S direction. The depth of Gr.46 in p.269 changes from -30 cm to -100 cm. The direction of the face of Gr.80 in Table 1, p.290 changes from W to N. Gr.64 in Table 1, p.290 changes from the Kassite period to the Isin-Larsa period.

- 2) The graves of the modern Islamite are dug down about 1.5 m (N-S) × 2.0 m (E-W) and the height from foot to breast of the man i.e. about 1.3 m for the man and the height to shoulder i.e. about 1.5 m for the woman, and after that the long chamber, where the dead body is buried, is dug down further at the southern corner of the oblong pit. The dead body, which is bound with white cloth, is carried by men or by horse to the cemetery. The dead body has its head turned to the west, and its face turned to south i.e. Mecca. And after the chamber is covered with some bricks, the pit is filled up with the mud. At last, the mud is piled up to a small mound, and one stone is put on the west end of the mound. This is an example at the village in the Hamrin basin.
- 3) The graves of this period have many grave goods including beads made of fritt. Here, it is better to replace "fience" by "fritt", though such material of the beads as grave goods has been termed "fience" in the *al-Rāfidān* vol.X [Matsumoto and Yokoyama 1989: 245~328]. And also it could be said that the "9. Necklace of the shells in Gr.63" [Matsumoto and Yokoyama 1989: Fig.75] was made of the fritt. We thank Mr. Hiroyuki Ii for useful suggestions of the bead materials.
- 4) This opinion was made known when we opened the symposium in Tokyo on the subject of "The Archaeological Research on the 2nd Millennium B.C. in Mesopotamia".

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FINDINGS FROM TELL JESSARY

Hirotoshi NUMOTO*

Introduction

The Japanese Archaeological Expedition from Kokushikan University excavated archaeological tells in the area of Eski-Mosul from the autumn in 1983, where the Saddam Dam was under construction and would go under water. From the autumn in 1983 to the spring in 1985, we excavated Tell Jigan and its surrounding tells located on the east bank of the Tigris [Fujii et al. 1987; Fujii 1987a; Ii and Kawamata 1984/85; Numoto 1988; Ohnuma and Matsumoto 1988]. After finishing the excavations of this area, we excavated tells in the Zummar area on the upper west bank of the Tigris.

Tell Jessary was situated in the Zummar area¹⁾, and was chosen for excavation simultaneously with general survey of Tell Thuwajj and other tells in the autumn 1982. The excavations at Tell Jessary were conducted in two seasons: the first season from June 8 to July 20 1985 and second season from October 14 to November 11 1985. The staff members of these excavations were; Hideo Fujii (Director), Hiromichi Oguchi and Hirotoshi Numoto in the first season; Hideo Fujii (Director), Mamoru Yoshikawa, Hiromichi Oguchi, Kazumi Oguchi and Hirotoshi Numoto in the second season. In both of the field seasons, we excavated small areas, and dug four trenches (TA, TB, TC, TD) only.

The report on the research in the first season is already published in the *Researches on the Antiquities of Saddam Dam Basin Salvage and Other Research* [Fujii 1987b: 68~72], and that on the second season's research is going to be submitted to the forthcoming volume of *summer* [Fujii et al. in press]. In these papers, the main reference was levels and structures discovered, and, therefore, pottery and other findings were scarcely reported.

In the present paper, the author mentions mainly the findings, but not detailed explanation of the levels and structures. Most of the findings illustrated in the present paper is pottery which was excavated from Trenches A, B and D. The findings were drawn by Noriko Sato, Masayuki Yokokura and Hirotoshi Numoto, and the tracing of the drawings was completed by Hirotoshi Numoto and Tsuyoshi Kato.

Pottery from Trench A²⁾ (Levels 1 to 5) (Figs.1 and 2)**Level 5 (Fig.1):**

All of the pottery was excavated from the ash pit dug into natural soil, which we supposed to be related with kiln facilities. The pottery collected was all fragmentary, and was small in quantity, due to the limited area of excavation, that is only a part of the ash pit.

The types of pottery are as follows: 1) carinated bowls (Nos.1~7), bowls with rim diameter ranging from 15 to 20 cm (Nos.8~18), 3) a conical bowl (No.19), 4) coarse wares (Nos.20,21,24), 5) a incised sherd (No.28), etc.

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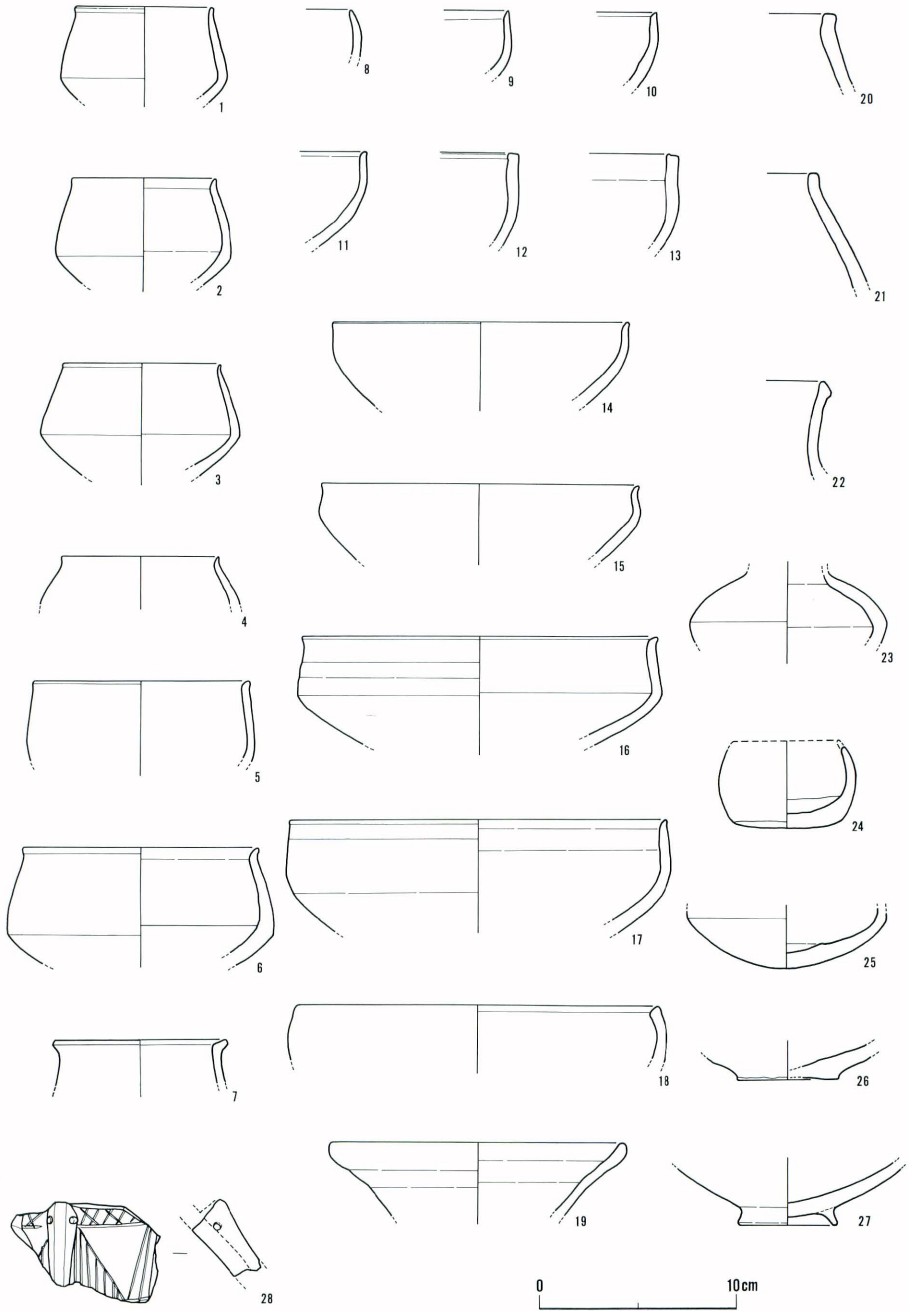


Fig.1 Pottery from Level 5 at Trench A

In the preliminary report [Fujii 1987b: fig.4-11~13], we mentioned that these types of pottery belonged to the Ninevite 5 period³⁾. However, the examples concerned are closely similar to those from the Late Uruk levels of Tells Mohammed Arab [Roaf 1983, 84; Killick in press; Roaf and Killick 1987] and Karrana 3 [Fales et al. 1987; Wilhelm and Zaccagnini 1987; Rova in press]. Judging from the research results, our previous mention should be altered toward its Late Uruk connection.

Here, the present author would like to mention on the features of each type of pottery following the figure numbers.

The common features recognized among most types of bowls are as follows: 1) The bowls were made on wheel, and have horizontal lines clearly seen on the surface. 2) Most examples have out-turned rims. No.7, especially, is a distinctive specimen with this type of rim. It has an extreme out-turned rim, and is closely similar to one of the bowls from Tell Thuwajir Phase-H [Fujii et al. in press: fig.6-23]. Besides, examples with other type of rim have the topmost part which is flattened (Nos.12,13,18). This type of rim is similar to one of the bowls from Tell Karrana 3 [Fales et al. 1987: fig.4-3]. No examples of bowls with typical beaded rim were found. 3) Most of the surface colors are cream, creamy buff and greenish, and the core colors are mainly pink and pinkish buff. Most examples have creamy or white slip on their surfaces. 4) The fabrics were always with much fine sand temper, and the surface therefore is very sandy. The most remarkable thing lies in that most of the examples contain chalky particles and gold colored mica. 5) The common features of the surface treatments are mentioned in two ways as follows: 1. All examples have trace of wet-smoothing on the upper part of the carination by the wheel. 2. The marks of the scraping tool were usually recognized clearly on the lower portion of the outer surface. Some of them were finished by the hand wet-smoothing after scraping (Nos.3,9,15~17). Base shape of these bowls are unknown because of lack of complete samples, but it is believed that they had rounded or ring bases, judging from bowls from Tells Mohammed Arab and Karrana 3. Whole features of these bowls are closely similar to those of the bowls from the Late Uruk level of Tells Mohammed Arab and Karrana 3.

No.19 is a rim of the so-called conical bowl, and the similar type of complete one was found from Tell Karrana 3 [Rova in press: fig.4-1]. Nos.20 and 21 are rims of coarse bowls. Their fabrics were tempered with much quartz sand. It is believed that they were used for cooking wares. No.23 is a fine grey ware, which is regarded as a shoulder of a small jar. It is characterized by keen carination. No.24 is a small coarse ware made by hand. It is tempered with much large-sized vegetable.

Three types of base fragments are recognized: rounded type (No.25), flat type (No.26), and ring-base type (No.27). These bases suggest that No.25 was a part of a carinated bowl, No.26 was of a conical bowl or jar, and No.27 was of a jar or bowl.

No.28 is a shoulder of an incised nose-lug jar. It is similar to the complete specimen of incised jar from Tell Mohammed Arab [Roaf 1983: fig.2-1,3]. The incised motif consists of a cross-hatched band and triangles with vertical lines. These motifs were arranged after applying nose-lug. The same kind of incised motif is recognized on one of the nose-lug jar from Tell Brak [Oates 1985: 185-46].

Beveled rim bowls and painted and spouted wares which were found from Tells Mohammed Arab and Karrana 3 were not excavated from this level.

<in Fig.1>

1. Carinated bowl; buff surface; pinkish core; middle amount very fine sand temper; containing gold

- colored mica; Rim diam. : 7 cm.
2. Carinated bowl; black surface; grey core; much very fine sand and a little fine sand temper; Rim diam. : 7.4 cm.
 3. Carinated bowl; creamy buff (slip) outer surface; pinkish buff inner surface; pinkish core; much very fine sand and a little vegetable temper; Rim diam. : 8 cm.
 4. Rim of bowl; creamy white (slip) surface; pinkish core; middle amount very fine sand temper; Rim diam. : 8 cm.
 5. Rim of bowl; cream surface; buff core; much very fine sand temper; containing chalky particles and gold colored mica; Rim diam. : 11 cm.
 6. Carinated bowl; creamy buff (slip) surface; pinkish core; much very fine sand temper; containing chalky particles and gold colored mica; Rim diam. : 12 cm.
 7. Carinated bowl; greenish white (slip) surface; pinkish buff core; a little very fine sand temper; fine ware; Rim diam. : 9.5 cm.
 8. Rim of bowl; buff surface; pinkish core; much very fine sand temper; containing gold colored mica.
 9. Rim of bowl; cream (slip) surface; pinkish core; much very fine sand temper; containing gold colored mica.
 10. Rim of bowl; creamy buff outer surface; buff inner surface; pinkish core; much very fine sand and sparse fine sand and coarse sand temper; containing chalky particles.
 11. Rim of bowl; cream outer surface; light buff inner surface; light buff core; much very fine sand and spares vegetable temper; containing chalky particles.
 12. Rim of bowl; greenish white (slip) outer surface; dark buff inner surface; dark pink core; much very fine sand and a little fine sand temper; hard.
 13. Rim of bowl; greenish white (slip) outer surface, buff inner surface, pinkish core; much very fine sand and a little fine sand temper; containing chalky particles.
 14. Bowl; creamy buff (slip) surface; dark pink core; much very fine sand and a little fine sand temper; containing chalky particles; slightly soft; Rim diam. : 15 cm.
 15. Bowl; greenish white (slip) surface; pinkish core; much very fine sand and a little fine sand temper; containing much chalky particles; Rim diam. : 16 cm.
 16. Bowl; greenish surface; greenish core; much fine sand temper; containing chalky particles; hard; Rim diam. : 18 cm.
 17. Bowl; greenish white (slip) surface; pinkish buff core; much very fine sand temper; Rim diam. : 20 cm.
 18. Rim of bowl; greenish white (slip) surface; pinkish core; much very fine sand temper; containing chalky particles; hard; Rim diam. : 19 cm.
 19. Rim of conical bowl; creamy buff outer surface; buff inner surface; buff core; much very fine sand and a little vegetable temper; Rim diam. : 15 cm.
 20. Rim of coarse ware; light brown surface; blackish brown core; much coarse sand (quartz sand) temper.
 21. Rim of coarse ware; light brown surface; blackish brown core; much coarse sand (quartz sand) temper.
 22. Rim of jar; greenish cream (slip) outer surface; buff inner surface; buff core; a little coarse sand and sparse vegetable temper; soft.
 23. Shoulder of small jar; dark greenish buff outer surface; yellowish grey inner surface; yellowish grey core; a little very fine sand and fine sand temper; containing chalky particles and gold colored mica; fine ware; Max. diam. : 10 cm.
 24. Small coarse ware; dark buff surface; blackish brown core; a little coarse sand (small stones) and much coarse vegetable temper; hand-made ware; Max. diam. : 7 cm.
 25. Round base sherd; dark brown outer surface; dark buff inner surface; pinkish core; a little fine sand and coarse sand temper; containing sparse vegetable; Max. diam. : 10 cm.
 26. Flat base sherd; brownish buff outer surface; creamy buff inner surface; pinkish buff core; much very fine sand and a little fine sand temper; containing sparse vegetable; string-cut base; Base diam. : 5 cm.
 27. Ring-base sherd; greenish cream outer surface; buff inner surface; pinkish core; much very fine sand and a little fine sand temper; containing gold colored mica; Base diam. : 5 cm.
 28. Shoulder of incised jar; buff outer surface; dark buff inner surface; pinkish core; much very fine

sand and a little fine sand and coarse sand temper; containing gold colored mica; pierced lug applied on exterior.

Levels 1 to 4 (Fig.2):

Pottery from these levels were all fragments. The pottery found belongs to the Middle Assyrian and the "Nuzi and Khabur ware periods". It is suggested that pottery from the levels 1 to 3 is regarded as belonging to the Nuzi to Middle Assyrian periods. We suppose that periods of the levels 2 and 3 are very close each other. Some sherds of Khabur wares are mixed in these levels.

Bowl rim fragments (Nos.29~35) were derived from levels 1 and 2. The rim shape of Nos. 29,30 and 33 examples are very similar to those of bowls found from a pit at Tell Jigan Area B [Ii and Kawamata 1984/85: fig.28]. The excavators proposed that the pottery assemblage from this pit is chronologically placed in the "Late Nuzi period" [Ibid: 203]. No.33 is a red burnished ware. Specimen No.34 is a distinctive type characterized by keen carination with its surface burnished. Nos.32 and 35 are large bowls which measure about 30 cm in rim diameter.

Specimens Nos.36 to 38 are fragments of goblets. No.36 is a base sherd, of which bottom is believed to have been button-shaped. No.37 has parallel painted bands on the body, and it had sticking carbide on its inner surface.

No.38 is a Nuzi ware, of which the four legs were designed with animal motif in white paint on the brownish black paint band. This animal motif is abstract design, and it is unknown what kinds of animals were depicted. The motif is divided into parts of head, neck, body and tail of animals. The part of head is expressed by circular lines, with eye, beak and cristate decoration. The technique of drawing the head, eye and beak are clearly identical with that used for the popular bird motifs on the Nuzi wares. The space inside of the neck and body are filled with dots. The common animal motifs in the Nuzi ware are mainly birds. Similar example to this animal motif has not yet been found among other Nuzi wares⁴.

Specimen No.39 is a body of beaker or jar, with two parallel painted bands on its body. The shape of this specimen is similar to that from the pottery assemblages found from Tells Chagar Bazar phase-E and Billa stratum 3 [Mallowan 1947: pl.LXXXI-6; Speiser 1933: pl.LXII-7].

Specimen Nos.40 to 44 are rims of jars. Each of them is tempered with large amount of vegetable. The common morphological features of these rims are that which made flat the upper part of rim. It is thought that the shapes of body portion of Nos.40 to 42 were cylindrical, and those of Nos.43 and 44 were expanded roundly. Similar examples to these jars were found from the Middle Assyrian level of Tell Mohammed Arab as well as from the level 3 and kiln of Tell Fisna [Roaf 1983: fig.5; Numoto 1988: figs.29,30].

Specimens Nos.45 to 49 are base sherds. Nos.45 and 46 are supposed to have been a very thin small jar made of fine fabric. Both of them have ring-bases on their bottoms. No.47 is a beaker with nipple base. No.48 is a grey ware characterized by the button base. This is made of fine fabric. No.49 is considered to be either a jar or beaker. It is similar to No.39 in shape. The bottom has a ring-base made by scraping.

Specimens Nos.50 to 55 are fragments of jars or bowls. Nos.50, 52, 53 and 55 are Khabur wares, which have parallel painted bands on their surfaces. Nos.51 and 55 were excavated on Level 3. No.52 is relatively finer in fabric than the other Khabur wares, and circular dot motif is drawn between the parallel painted bands. The same kind of painted motif is recognized on one of the Khabur wares from Tell Hamad Aga as-Sagir [Spanos 1988: abb.21-1]. As for No.54, a solid triangle motif is drawn continuously on the shoulder. This painted motif is a distinctive one among the Khabur wares. Besides, it was made with more gritty fabric and softer firing

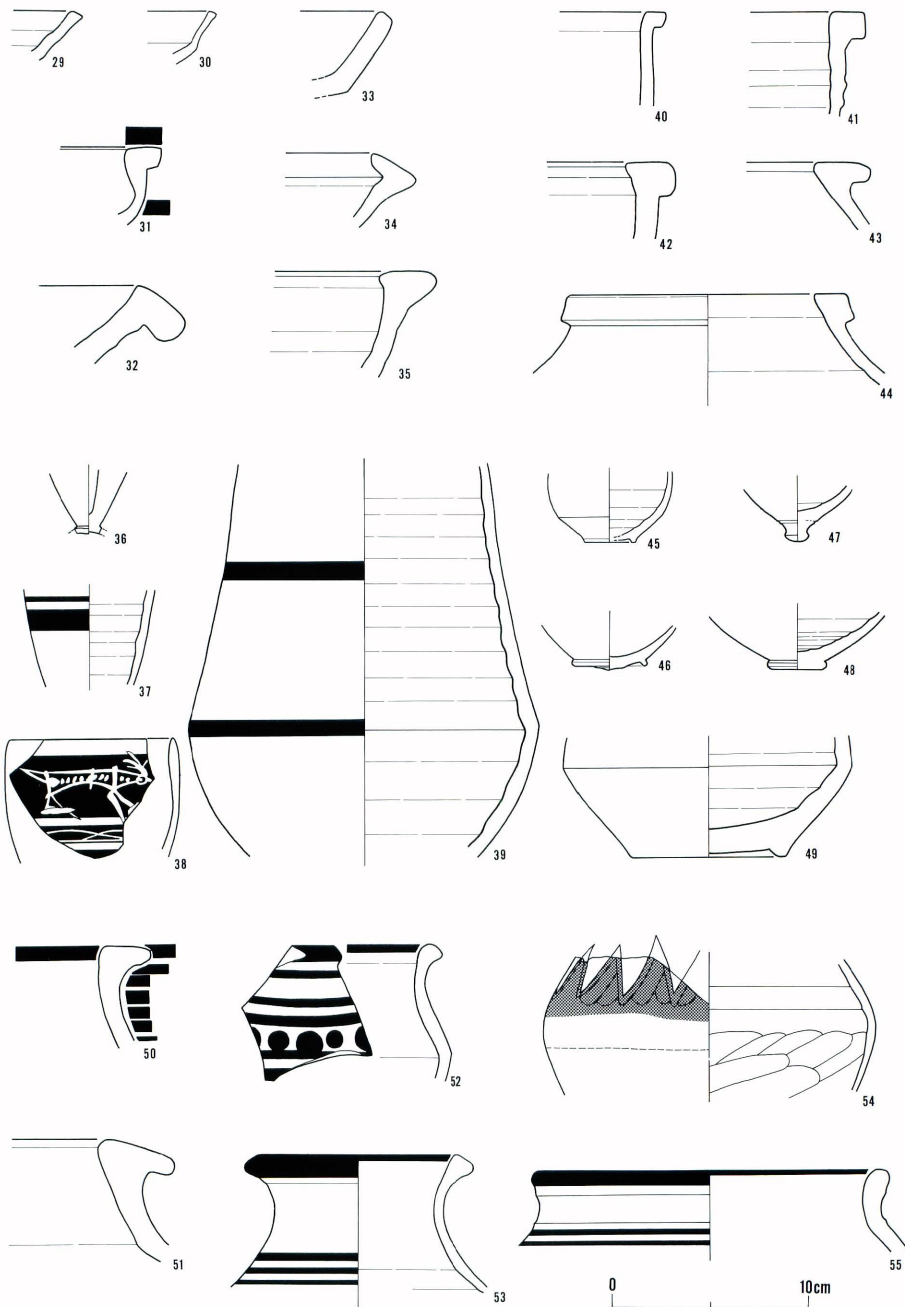


Fig.2 Pottery from Levels 1 to 4 at Trench A

than the other Khabor wares. Moreover, the paint was very easy to come off, and the concentration was very weak. Therefore, the paint might have been arranged after firing of the pottery. Judging from the features mentioned above, there is a great possibility that this sherd did not belong to the "Khabor ware period", since it is different from the common features of the Khabor wares. It is possible that it belonged to the Level 5.

<in Fig.2>

29. Level 1: Rim of bowl; greenish surface; greenish core; sparse fine sand and vegetable temper; slightly soft.
30. Level 1: Rim of bowl; greenish white surface; greenish white core; sparse very fine sand and vegetable temper; slightly soft; fine ware.
31. Level 1: Rim of painted bowl; greenish white (slip) outer surface; creamy buff inner surface; reddish buff core; blackish brown paint; a little very fine sand and vegetable temper.
32. Level 1: Rim of large bowl; greenish white surface; pinkish buff core; much fine sand and vegetable temper; hard.
33. Level 2: Rim of bowl; brownish red surface; blackish grey core; sparse fine sand and coarse sand and vegetable temper; burnished on surface; slightly soft; defaced surface.
34. Level 1: Rim of bowl; greenish white outer surface; creamy buff inner surface; pinkish buff core; a little very fine sand and vegetable temper; burnished on surface.
35. Level 2: Rim of bowl; greenish surface; greenish core; much fine sand and a little vegetable temper; hard.
36. Level 1: Base of goblet; cream (slip) outer surface; pinkish buff inner surface; pinkish buff core; much very fine sand and sparse vegetable temper; hard.
37. Level 2: Body of painted goblet; greenish white (slip) outer surface; blackish brown inner surface; light buff core; blackish brown paint; sparse vegetable temper.
38. Level 3: Rim of painted goblet; greenish white (slip) surface; pinkish buff core; brownish black and white paint; much very fine sand temper; soft; Nuzi ware; Rim diam. : 8.5 cm.
39. Level 1: Body of painted beaker; greenish surface; greenish core; brownish black paint; sparse coarse sand and much vegetable temper; hard.
40. Level 2: Rim of jar; greenish white surface; greenish white core; much fine sand and vegetable temper; hard.
41. Level 2: Rim of jar; greenish white outer surface; light buff inner surface; reddish buff core; much fine sand and vegetable temper; rough fabric; hard.
42. Level 1: Rim of jar; creamy buff surface; creamy buff core; much very fine sand and fine sand and vegetable temper; slightly soft; trace of slip outer surface.
43. Level 2: Rim of jar; greenish buff surface; greenish buff core; sparse fine sand and much vegetable temper.
44. Level 2: Rim of jar; greenish white outer surface; greenish buff inner surface; creamy buff core; a little very fine sand and much vegetable temper; hard; Rim diam. : 15 cm.
45. Level 1: Body of small bowl; creamy buff (slip) outer surface; buff inner surface; no visible temper; fine ware; Base diam. : 2.6 cm.
46. Level 3: Base sherd; dark creamy buff surface; dark creamy buff core; sparse very fine sand temper; fine ware; Base diam. : 3.8 cm.
47. Level 2: Base of beaker; greenish white outer surface; creamy buff inner surface; a little very fine sand and fine sand temper; slightly soft; nipple base.
48. Level 3: Base sherd; blackish grey outer surface; grey inner surface; no visible temper; burnished on outer surface; fine ware; Base diam. : 3 cm.
49. Level 1: Base of jar; reddish buff outer surface; buff inner surface; a little fine sand and vegetable temper; scraped on upper part of outer surface; hard; Base diam. : 7.9 cm.
50. Level 4: Rim of painted jar; greenish white (slip) surface; reddish buff core; blackish brown paint; a little coarse sand (small stones) and much vegetable temper; hard.
51. Level 3: Rim of jar; greenish surface; reddish buff core; much fine sand and coarse sand and vegetable temper; scraped on lower part of inner surface; hard; Rim diam. : 22 cm.
52. Level 4: Rim of painted jar; cream (slip) outer surface; buff inner surface; brown paint; a little coarse sand and vegetable temper; hard.

53. Level 4: Rim of painted jar; creamy white (slip) surface; reddish buff core; blackish brown paint; much fine sand temper; scraped on lower part of inner surface; Rim diam.: 11.6 cm.
54. Level 4: Body of painted jar; cream (slip) outer surface; cream inner surface; reddish buff core; brown paint; much fine sand and sparse coarse sand and vegetable temper; scraped on lower part of inner surface; slightly soft; Max. diam.: 17 cm.
55. Level 3: Rim of painted jar; cream (slip) outer surface; reddish buff inner surface; buff core; blackish brown paint; sparse coarse sand and medium vegetable temper; Max. diam.: 18 cm.

Pottery from Trench B (Fig.4)

Pottery from this trench consists of two groups: 1) one which was excavated from the portion of natural soil cut to construct stone wall (Fig.3, section B-B': soil of Nos.2 and 3) and 2) another which was excavated from stones believed to have been collapsed from walls (Fig.3, sections B-B' and C-C': soil of No.1). Most of the pottery excavated are considered to have belonged to the Ninevite 5 or the Late Uruk period.

Specimens Nos.56 to 61 are fine ware sherds. No.56 is a rim of a small jar, which is supposed to have belonged to the period of the Middle to Late Ninevite 5 period, and is similar to those of the jars from Periods IIIc and III d of Tell Leilan [Schwartz 1988: fig.34; Weiss and Calderone in press]. Specimens Nos.57, 58, 60 and 61 are rims of carinated or footed bowls. Specimen No.62 is believed to a pedestal of a large bowl, which is tempered with a large amount of coarse vegetable. Specimen No.63 is a fragment of an incised Ninevite 5 ware with a vertical pierced lug shaped cylindrical. The incised feather patterns were partially remaining. Nos.64 and 65 are sherds of painted Ninevite 5 wares, which are believed to have been derived from a same body by the features of the paint and fabric. The period of these Ninevite 5 sherds are believed to be parallel to the Period 2 of Tell Mohammed Arab [Roaf and Killick 1987: 207] or slightly later.

Specimens Nos.66 to 69 are rims of jars, all of which have creamy slip on the outer surfaces with the core mainly reddish buff. It is supposed that these sherds belonged to either the Ninevite 5 period or the Late Uruk period.

Specimens Nos.70 to 79 are rims of bowls considered to have belonged to the Late Uruk period. Features of these sherds such as fabric and color are closely similar to those of the bowls from the level 5 in Trench A (Fig.1). Nos.70, 72, 74 and 75 are a type of carinated bowl. No.72 is characterized by the beaded rim among the samples with out-turned rims. No.76 is a type of an open bowl, which is similar to one of the bowls from the Late Uruk level at Tell Siyana as well as a bowl from the Period IV of Tell Leilan [Ball in press: fig.10-2; Schwartz 1988: fig. 52-5]. Specimen No.77 is also similar to one of the rims of bowls from Period IV of Tell Leilan [Schwarz 1988: fig.53-5]. No.78 is a rim of an open bowl with a pierced hole on the body.

Specimens Nos.80 to 84 are rims of jars. Shapes Nos.80 and 81 are similar to the rims of incised and painted jars from the Late Uruk level of Tell Mohammed Arab [Roaf 1983: fig.2-1~3].

Specimens Nos.85 to 87 are ring-base sherds of jars or bowls. No.87 is closely similar to a base of jars from the Late Uruk level of Tell Mohammed Arab mentioned above.

Specimens Nos.88 and 89 are body sherds of jars. No.88 has two parallel projection bands on its outside, black-brown paint on its surface. No.89 has scratched rough incision on its outer surface. Both of these specimens are considered to have belonged to the Late Uruk period or to the earlier period than it.

<in Fig.4>

56. Below the layer of collapsed wall stones (Fig.3, soil of No.2 in section B-B'): Rim of small jar; greenish grey surface; greenish grey core; a little very fine sand temper; fine ware; Rim diam.:

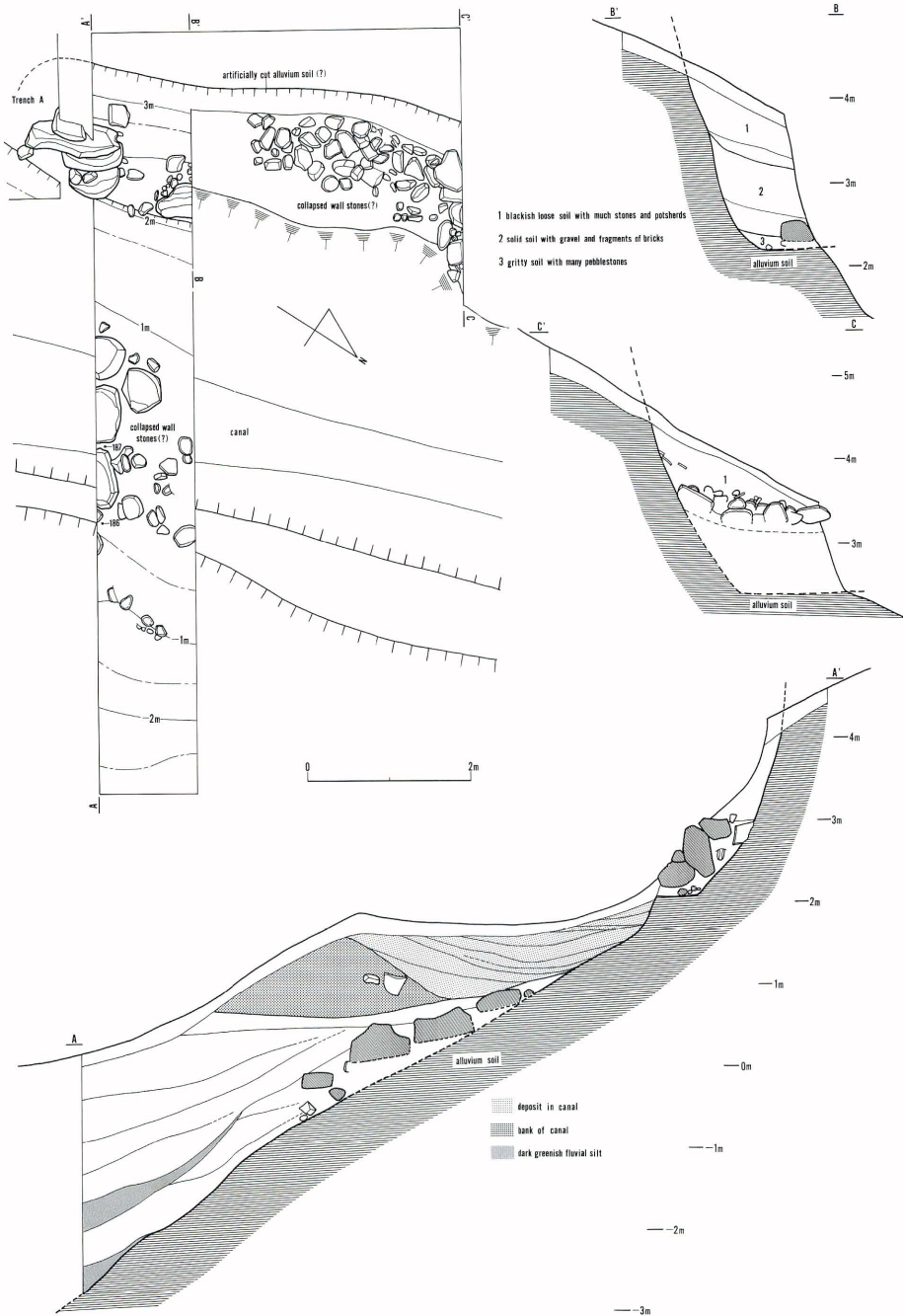


Fig.3 Plan and Sections of Trench B

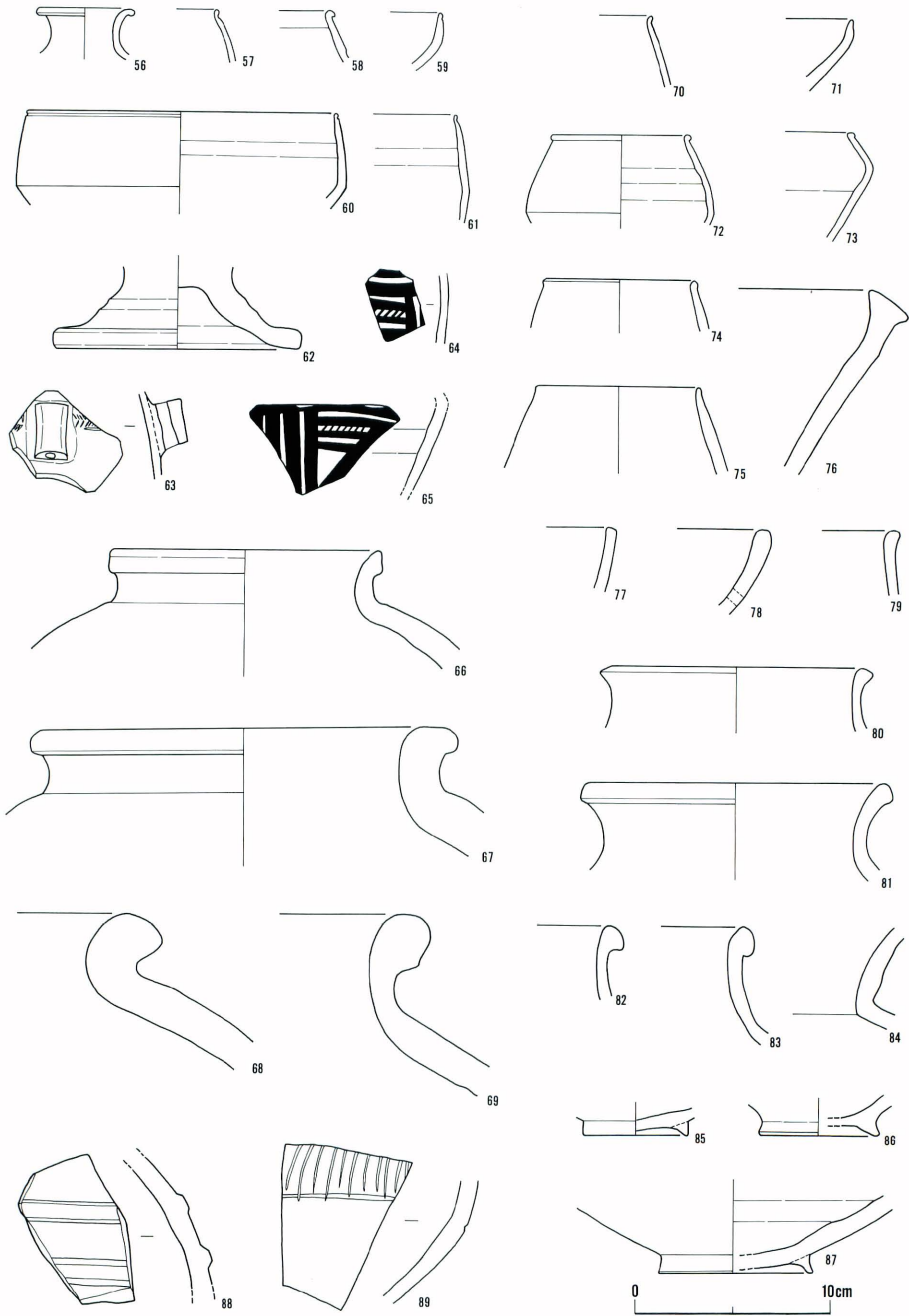


Fig.4 Pottery from Trench B

- 5 cm.
57. Below the layer of collapsed wall stones: Rim of bowl; greenish white surface; greenish white core; a little very fine sand temper; fine ware.
 58. Layer of collapsed wall stones (Fig.3, soil of No.1 in sections B-B' and C-C'): Rim of bowl; greenish white surface; greenish white core; a little very fine sand temper; fine ware.
 59. Below the layer of collapsed wall stones: Rim of bowl; greenish surface; greenish core; no visible temper; scraped on lower part of outer surface; fine ware.
 60. Layer of collapsed wall stones: Rim of bowl; grey surface; grey core; a little very fine sand temper; hard; fine ware; Rim diam. : 16 cm.
 61. Layer of collapsed wall stones: Rim of bowl; light grey surface; light grey core; no visible temper; hard; fine ware.
 62. Layer of collapsed wall stones: Foot sherd; greenish grey surface; blackish grey core; much coarse vegetable temper; Base diam. : 12,6 cm.
 63. Layer of collapsed wall stones: Incised sherd (with lug); greenish cream (slip) outer surface; creamy inner surface; pinkish buff core; no visible temper; fine ware.
 64. Layer of collapsed wall stones: Painted sherd; cream (slip) surface; buff core; brown paint; much fine sand temper.
 65. Layer of collapsed wall stones: Painted sherd; cream (slip) surface; buff core; brown paint; much fine sand temper.
 66. Layer of collapsed wall stones: Rim of jar; creamy buff (slip) outer surface; reddish buff inner surface, reddish buff core; a little very fine sand and much vegetable temper; containing gold colored mica; Rim diam. : 14 cm.
 67. Layer of collapsed wall stones: Rim of jar; greenish white (slip) outer surface; reddish buff inner surface; reddish buff core; much very fine sand and sparse coarse sand temper; hard; Rim diam. : 23 cm.
 68. Layer of collapsed wall stones: Rim of jar; greenish white (slip) outer surface; reddish buff inner surface; reddish buff core; a little very fine sand and fine sand temper; hard.
 69. Layer of collapsed wall stones: Rim of jar; greenish white (slip) outer surface; reddish buff inner surface; reddish buff core; much very fine sand and vegetable and sparse coarse sand temper; hard.
 70. Below the layer of collapsed wall stones: Rim of bowl; greenish white surface; greenish core; sparse vegetable temper; slightly soft; fine fabric.
 71. Layer of collapsed wall stones: Rim of bowl; light buff surface; light buff core; a little very fine sand temper.
 72. Bottom of cutting face (Fig.3, soil of No.3 in section B-B'): Rim of carinated bowl; buff surface; pinkish buff core; much very fine sand and sparse vegetable temper; containing gold colored mica; scraped on lower part of outer surface; Rim diam. : 7 cm.
 73. Layer of collapsed wall stones: Rim of bowl; reddish creamy buff surface; reddish buff core; a little very fine sand temper.
 74. Layer of collapsed wall stones: Rim of bowl; creamy buff outer surface; pinkish buff inner surface; pinkish buff core; much very fine sand temper; containing gold colored mica; Rim diam. : 8 cm.
 75. Layer of collapsed wall stones: Rim of bowl; cream (slip) outer surface; pinkish buff inner surface; pinkish buff core; a little very fine sand and sparse vegetable temper; Rim diam. : 8,5 cm.
 76. Below the layer of collapsed wall stones: Rim of bowl; creamy buff (slip) surface; pinkish buff core; a little very fine sand and coarse sand and much vegetable temper.
 77. Layer of collapsed wall stones: Rim of bowl; buff outer surface; creamy buff inner surface; buff core; a little very fine sand temper; containing gold colored mica.
 78. Bottom of cutting face: Rim of bowl; cream (slip) surface; pinkish buff core; much very fine sand and sparse coarse sand and a little vegetable temper.
 79. Bottom of cutting face: Rim of bowl; greenish surface; buff core; a little fine sand and vegetable temper.
 80. Layer of collapsed wall stones: Rim of jar; creamy buff (slip) outer surface; pinkish buff inner surface; pinkish buff core; much very fine sand and a little vegetable temper; containing gold colored mica; Rim diam. : 14 cm.
 81. Layer of collapsed wall stones: Rim of jar; cream (slip) surface; pinkish buff core; a little very fine sand and much vegetable temper; slightly soft; Rim diam. : 16 cm.

82. Bottom of cutting face: Rim of jar; reddish surface; buff core; much vegetable temper; containing gold colored mica.
83. Bottom of cutting face: Rim of jar; creamy buff surface; pinkish buff core; much very fine sand and a little vegetable temper.
84. Bottom of cutting face: Neck of jar; creamy buff (slip) surface; pinkish buff core; much very fine sand and a little vegetable temper; containing gold colored mica; hard.
85. Layer of collapsed wall stones: Ring-base sherd; creamy buff surface; light buff core; middle amount very fine sand and sparse vegetable temper; Base diam. : 5.5 cm.
86. Below the layer of collapsed wall stones: Ring-base sherd; creamy buff surface; pinkish buff core; much very fine sand temper; Base diam. : 6 cm.
87. Layer of collapsed wall stones: Ring-base sherd; creamy buff surface; buff core; middle amount very fine sand temper; containing gold colored mica; Base diam. : 8 cm.
88. Bottom of cutting face: Painted sherd; blackish brown paint all over; pinkish buff core; much very fine sand and vegetable temper; containing gold colored mica.
89. Below the layer of collapsed wall stones: Incised sherd; cream (slip) outer surface; pinkish buff inner surface; pinkish buff core; much very fine sand and a little coarse sand temper; scraped on lower part of outer surface.

Pottery from Trench D (Figs. 6, 8~13, 15~17)

Level 1a~c (Fig.6):

Pottery unearthed from this level (Fig.5, Pl.1-a) is all fragmentary, but most of it is regarded to have belonged to the "Khabur ware period". There is a great possibility that specimens Nos. 91 and 92 belonged to the Middle Assyrian period.

Specimens Nos.90 to 102 are rims of bowls; Nos.90 to 96 and 101 are plain wares, and Nos. 97 to 100 and 102 are painted wares. Painted motifs are recognized on their rims. The motifs are classified into two types: horizontal bands (Nos.97~99) and vertical bands drawn partially (Nos.100,102). Most of these rim sherds are considered to be of open bowls, but specimens Nos. 95 and 102 are supposed to be of deep bowls. The rims have a great variety of shapes. Among

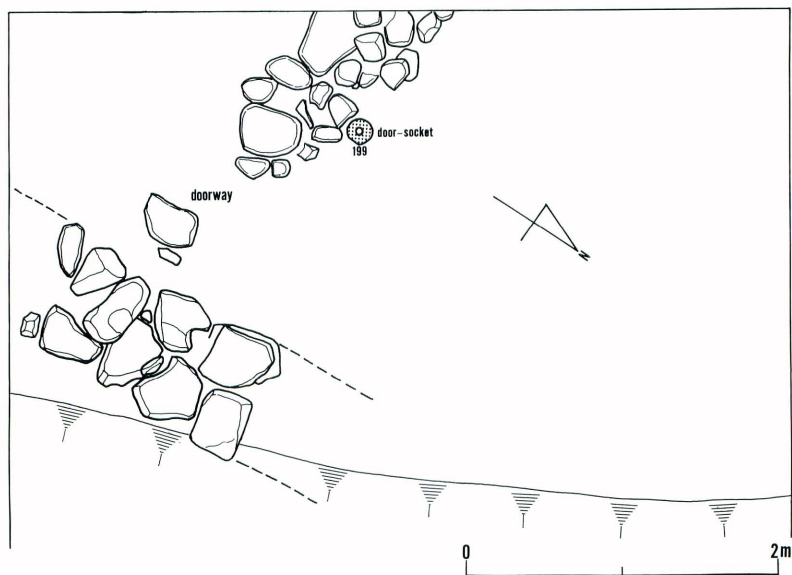


Fig.5 Plan of Level 1 at Trench D

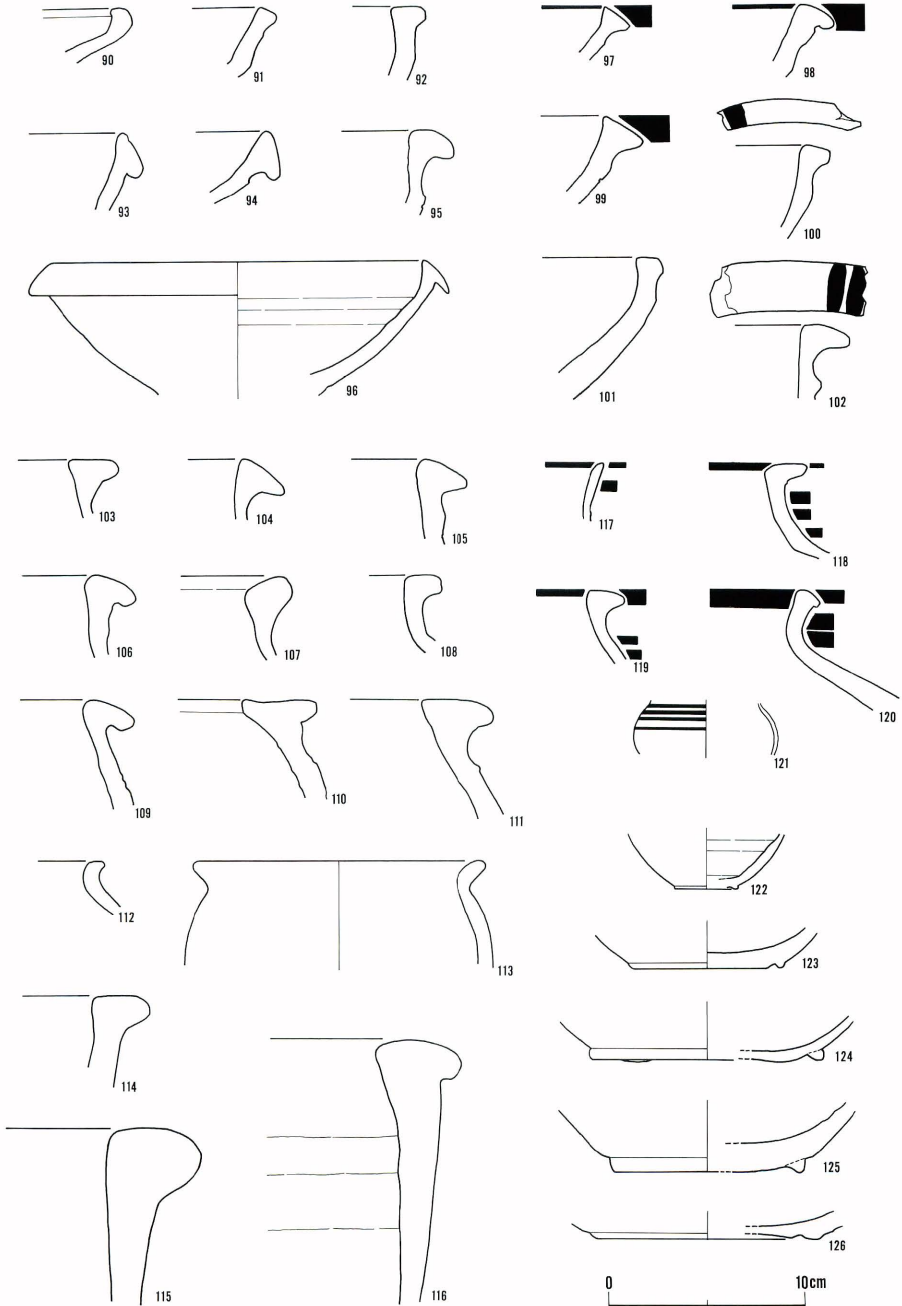


Fig.6 Pottery from Level 1 at Trench D

them, specimen No.96 is a grey ware characterized by a keen everted rim.

Specimens Nos.103 to 106 are small rim sherds, which are supposed to be of jars or deep bowls.

Specimens Nos.107 to 111 are believed to be rims of jars. Nos.109 to 111 are regarded as a large jar with rounded expanded shape of its body. The rims of Nos.110 and 111 are made flat on its top.

The rim sherds of Nos.112 and 113 are burnished wares, which are colored reddish brown.

Specimen Nos.114 to 116 are considered to be rims of deep bowls or jars, and are shaped like a club head.

Specimens Nos.117 to 121 are Khabur wares, which have horizontal parallel painted bands on its surface. No.117 is a rim of a beaker, while Nos.118 to 120 are rims of jars. Specimen No. 121 is supposed to be a body of a jar or a beaker. It is made of fine fabric and is very thin. This specimen is closely similar to one of the Khabur wares from Tell Hamad Agh as-Sagir [Spanos 1988: abb.21-3].

Specimens Nos.122 to 126 are base sherds having ring-bases on their bottoms. These ring-bases are classified into ones, made by scraping (Nos.122,123,126), and ones stuck (Nos.124,125).

<in Fig. 6>

90. Level la: Rim of bowl; greenish buff outer surface; greenish white (slip) inner surface; light buff core; much very fine sand and a little fine sand and vegetable temper.
91. Level la: Rim of bowl; greenish white surface; greenish white core; much fine sand and vegetable temper.
92. Level la: Rim of bowl; greenish surface; greenish grey core; much fine sand and vegetable temper.
93. Level lc: Rim of bowl; cream (slip) surface; pinkish buff core; much very fine sand and a little fine sand and middle amount vegetable temper; burnished on lower part of inner surface.
94. Level la: Rim of bowl; light grey surface; dark reddish brown core; much very fine sand and a little fine sand and vegetable temper; burnished on surface.
95. Level lb: Rim of bowl; creamy buff (slip) surface; pinkish buff core; much very fine sand and a little coarse sand temper.
96. Level la: Rim of bowl; grey surface; grey core; much very fine sand temper; burnished on surface; hard; defaced surface; Rim diam.: 20 cm.
97. Below the level la: Rim of painted bowl; greenish surface; greenish core; blackish green paint; much very fine sand and sparse vegetable temper; scraped on outer surface of body; hard.
98. Level lc: Rim of painted bowl; creamy white (slip) surface; pinkish buff core; brown paint; much fine sand and vegetable temper; hard.
99. Level la: Rim of painted bowl; cream (slip) surface; light buff core; brown paint; middle amount very fine sand and vegetable temper; scraped on outer surface of body.
100. Below the level la: Rim of painted bowl; greenish white surface; greenish white core; blackish green paint; much very fine sand and vegetable and a little fine sand temper; defaced surface.
101. Level la: Rim of bowl; greenish white surface; greenish white core; much very fine sand and vegetable and a little fine sand and sparse coarse sand temper.
102. Below the level la: Rim of bowl; greenish white surface; greenish white core; blackish brown paint; much very fine sand and vegetable and sparse coarse sand temper.
103. Below the level la: Rim sherd, creamy buff surface; buff core; much very fine sand and vegetable and a little fine sand and coarse sand temper.
104. Level la: Rim sherd; greenish white (slip) surface; light buff core; much very fine sand and a little vegetable temper.
105. Level la: Rim sherd; greenish white (slip) surface; reddish buff core; much very fine sand and fine sand temper.
106. Below the level la: Rim sherd; greenish white surface; greenish white core; much very fine sand and vegetable and sparse coarse sand temper; hard.
107. Level la: Rim sherd; greenish white (slip) surface; pinkish buff core; much fine sand and sparse coarse sand and middle amount vegetable temper; hard.

108. Level 1a : Rim of jar ; creamy buff surface ; buff core ; much very fine sand a little vegetable temper ; Rim diam. : 19 cm.
109. Level 1a : Rim of jar ; greenish cream (slip) surface ; buff core ; much fine sand and sparse coarse sand and vegetable temper.
110. Level 1a : Rim of jar ; greenish white (slip) surface ; light buff core, much fine sand and vegetable and middle amount coarse sand temper.
111. Level 1c : Rim of jar ; greenish cream (slip) surface ; pinkish buff core ; much fine sand and vegetable temper ; hard.
112. Level 1a : Rim of jar ; brownish red surface ; dark grey core ; much very fine sand and sparse vegetable temper ; slightly soft ; burnished on surface.
113. Level 1a : Rim of jar ; brown/black/buff outer surface ; brown inner surface ; buff grey core ; much very fine sand and sparse vegetable temper ; burnished on surface.
114. Level 1c : Rim sherd ; creamy buff (slip) surface ; pinkish buff core ; much fine sand and a little coarse sand temper ; hard.
115. Level 1c : Rim sherd ; greenish white (slip) outer surface ; pinkish buff inner surface ; pinkish buff core ; much very fine sand and fine sand and a little coarse sand and vegetable temper ; hard.
116. Below the level 1a : Rim sherd ; greenish white (slip) outer surface ; pinkish buff inner surface ; pinkish buff core ; much fine sand and vegetable and a little coarse sand temper ; scraped on inner surface ; hard.
117. Level 1a : Rim of painted beaker ; greenish white (slip) surface ; brownish grey core ; blackish brown paint ; middle amount fine sand temper ; hard.
118. Level 1a : Rim of painted jar ; greenish cream (slip) outer surface ; light reddish buff inner surface ; light reddish buff core ; reddish brown paint ; much fine sand and vegetable and a little coarse sand temper ; scraped on lower part of inner surface.
119. Level 1a : Rim of painted jar ; greenish cream (slip) surface ; light buff core ; brown paint ; much very fine sand and vegetable temper.
120. Below the level 1a : Rim of painted jar ; greenish white (slip) surface ; light pinkish buff core ; blackish brown paint ; much fine sand and a little coarse sand and vegetable temper.
121. Level 1b : Body of painted sherd ; dark greenish white surface ; dark greenish white core ; greenish black paint ; sparse very fine sand temper ; slightly soft ; fine ware ; Max. diam. : 7.4 cm.
122. Below the level 1a : Base sherd ; cream (slip) surface ; light buff core ; sparse very fine sand temper ; fine ware ; Base diam. : 3 cm.
123. Level 1a : Base sherd ; greenish white outer surface ; trace of brown paint inner surface ; buff core ; much very fine sand and vegetable temper ; Base diam. : 8 cm.
124. Level 1a : Base sherd ; greenish cream surface ; creamy buff core ; much very fine sand temper ; Base diam. : 12 cm.
125. Level 1a : Base sherd ; greenish cream (slip) outer surface ; pinkish buff inner surface ; pinkish buff core ; much fine sand and a little coarse sand and vegetable temper ; Base diam. : 10 cm.
126. Level 1a : Base sherd ; greenish white surface ; greenish white core ; much fine sand and a little vegetable temper ; hard ; Base diam. : 12 cm.

Level 2a, b (Figs. 8~11):

Pottery assemblages unearched were derived from the floor considered to be a cooking room or a workroom (Fig.7, Pl.2,3). The pottery unearched is closely similar to that from Tell Taya levels 8 and 9 [Read 1968]. These are generally called "Tell Taya ware", and are dated to the Akkadian period.

Pottery is roughly classified in types into jars and bowls. Bowls are divided into two kinds: one made of fine fabric and very thin (Nos.128~134) and another which is large and thick, and which is made of rough fabric (Nos.135,144). The former type of bowls are classified into two: one with carination on the upper part of height and beaded rim (Nos.130~132) and another without carination on the body and with rim of a simple style (Nos.133,134). Firing of the latter bowls is relatively soft.

No.127 is a fragment of a miniature ware, of which the original shape is unknown. The trace

of winging exists on its inner surface.

Specimens Nos.136 to 139 are flat base sherds made of fine fabric. All of their bottoms are pallet-cut using the wheel-turn. They are supposed to be bases of bowls or jars.

No.140 is the so-called "stone ware or metallic ware", which is fired very hard. This sherd is believed to be a base of a bowl, because a small ring-base exists on its bottom. Thin burnishing can be traced on its surface.

No.141 is a fragment of a base with a leg. The similar examples are found from Tell Fisna [Numoto 1988: fig.25-216,127].

Jars are classified in types as follows: 1) fine wares (Nos.142,143), 2) middle-sized ones tempered with large amount of vegetable (Nos.145~149), 3) coarse wares (Nos.150~152), and 4) a large jar (No.153). No.142 is a grey ware characterized like double rim. Vertical burnishing is recognized on the lower part of its outer surface. No.143 is a small jar with rounded bottom. Its shape lacks uniformity. This jar is a typical type of this period. No.145 is a shoulder of a jar with a vertically pierced lug. The similar examples are found from Tell Fisna [Numoto 1988: fig. 25-221,222]. Specimens Nos.146 to 149 are rims of jars. They are almost identical in shapes. The common features among these rims are in that the inside of rim is concave. Nos.146, 147 and 149 have combing incisions on their bodies. Specimens Nos.150 and 151 are coarse wares,

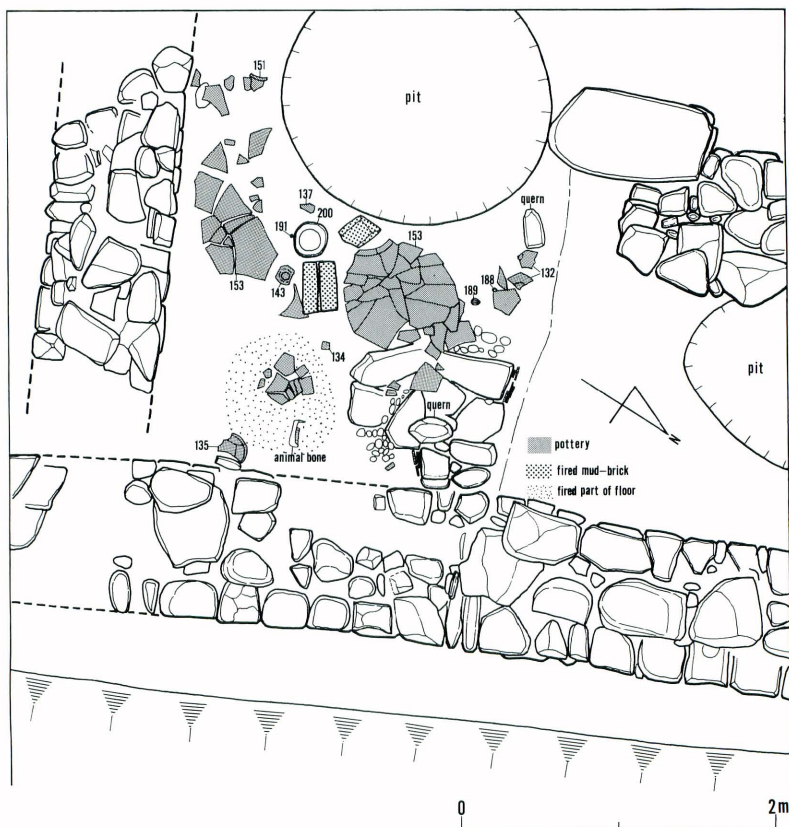


Fig.7 Plan of Level 2a at Trench D

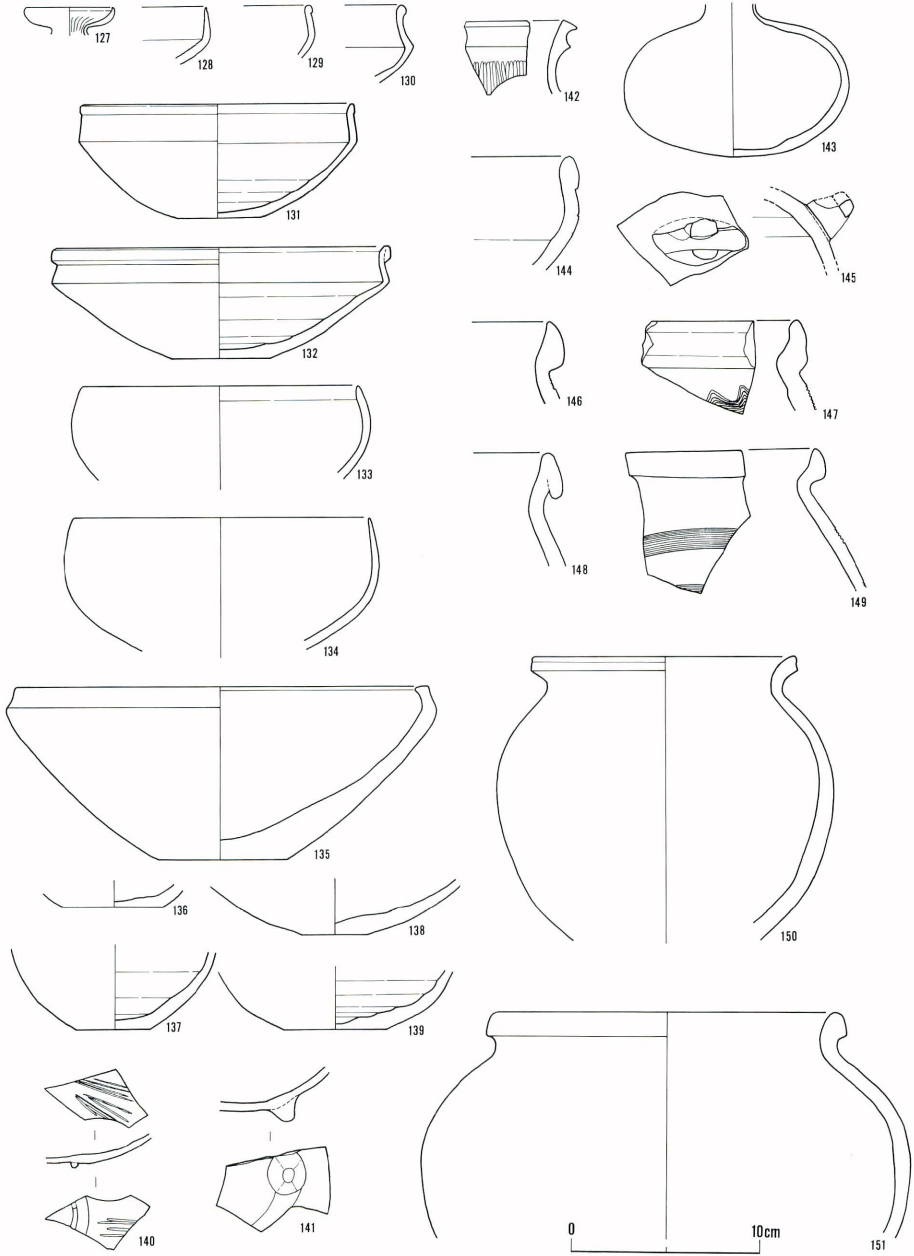


Fig.8 Pottery from Level 2 at Trench D

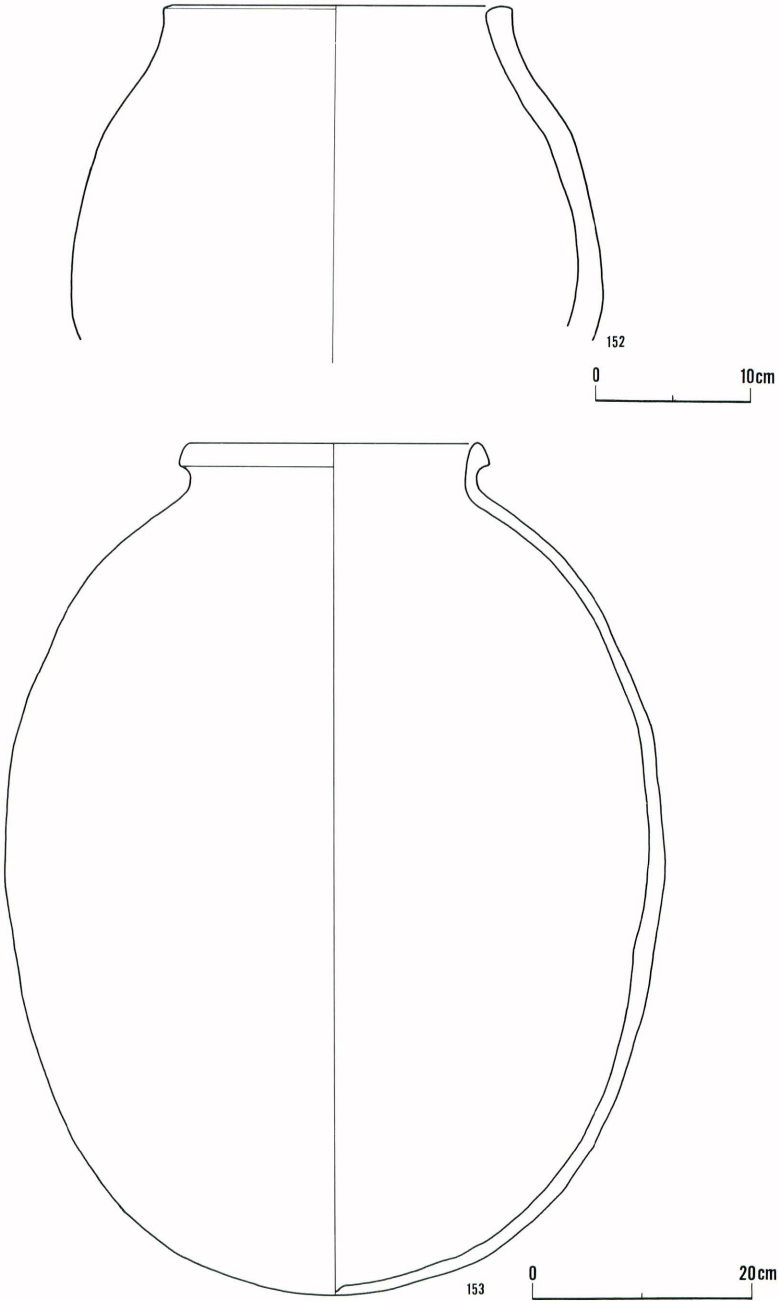


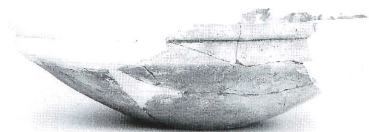
Fig.9 Pottery from Level 2 at Trench D



131



150



132



135



153



143

Fig.10 Pottery from Level 2 at Trench D

* The numbers of the photographs are identical with those in Figs.8 and 9.



Fig.11 Pottery from Level 2 at Trench D

*The numbers of the photographs are identical with those in Fig.8.

which are considered to have been used for cooking. The fabrics is tempered with large amount of white coarse sand, containing no vegetable at all. No.152 is a hand-made ware. It is coarsely tempered with much vegetable. The shape, therefore, lacks uniformity. No.153 is a large jar found in the center of the room in a squashed condition (Fig.7, Pl.2). This jar is measured about 80 cm in height, and was completely restored to the original shape. The body displays an egg shape, and is slightly unbalanced. The lower part of the inner surface is roughly scraped horizontally by hand. Trace of stripe patterns exists on the rim to body portion on the outer surface. This trace is believed to have been caused by the drip water, and this jar was undoubtedly used for water storage.

<in Figs. 8~11>

127. Level 2b: Rim sherd (miniature ware); greenish creamy white surface; greenish creamy white core; no visible temper; partially burnished on outer surface; fine ware; Rim diam. : 4.7 cm.
128. Level 2b: Rim of bowl; greenish surface; greenish core; no visible temper; burnished on lower surface; natural slip; fine fabric; stoneware.
129. Level 2b: Rim of bowl; greenish cream outer surface; cream inner surface; cream core; no visible temper; fine ware.
130. Level 2b: Rim of bowl; greenish white surface; greenish white core; no visible temper; burnished on outer surface and lower part of inner surface; fine ware.
131. Level 2a: Bowl; greenish buff (slip) surface; buff core; sparse coarse sand temper; scraped on outer surface of body using the wheel-turn; pallet-cut on bottom; slightly soft; fine ware; incomplete; Rim diam. : 14.7cm; Height : 6 cm.
132. Level 2a: Bowl; creamy buff (slip) outer surface; reddish buff outer surface; reddish buff core; middle amount fine sand and a little coarse sand and much vegetable temper; wet-smoothing after scraped on outer surface of body; pallet-cut on bottom; soft; incomplete; Rim diam. : 18 cm; Height : 5.9 cm.
133. Level 2a Rim of bowl; greenish white (slip) outer surface; cream (slip) inner surface; buff core; sparse vegetable temper; burnished on outer surface of body; slightly soft; fine ware; Rim diam. : 15 cm.
134. Level 2a: Rim of bowl; greenish grey surface; pinkish buff core; no visible temper; burnished on lower part of outer surface; very fine ware; Rim diam. : 16 cm.
135. Level 2a: Bowl; brownish buff surface; brownish buff core; middle amount fine sand and vegetable temper; roughly scraped on lower part of outer surface; slightly soft; incomplete; Rim diam. : 22 cm; Height : 8.8 cm.
136. Level 2b: Base sherd; creamy buff surface; creamy buff core; no visible temper; scraped on outer bottom using the wheel-turn; fine ware; Base diam. : 5.4 cm.
137. Level 2a: Base sherd; cream surface; cream core; sparse vegetable temper; scraped on outer surface using the wheel-turn; pallet-cut on bottom; natural slip; very fine ware; Base diam. : 4 cm.
138. Level 2b: Base sherd; cream surface; cream core; no visible temper; scraped on outer surface using the wheel-turn; pallet-cut on bottom; fine ware; Base diam. : 3.8 cm.
139. Level 2a: Base sherd; dark greenish outer surface; light greenish inner surface; pinkish brown core; sparse coarse sand temper; scraped on outer surface using the wheel-turn; pallet-cut on bottom; hard; very fine ware; Base diam. : 5.4 cm.
140. Level 2a: Base sherd; brownish white surface; greyish brown core; no visible temper; burnished on surface; very fine fabric; stoneware.
141. Level 2b: Base sherd (with leg); greenish outer surface; buff inner surface; buff core; a little very fine sand temper; burnished on outer surface of body; pallet-cut on bottom; fine ware.
142. Level 2b: Rim of jar; grey surface; grey core; much fine sand and a little vegetable temper; burnished on lower part of outer surface; hard.
143. Level 2a: Small jar; creamy white outer surface; pinkish buff inner surface; pinkish buff core; sparse vegetable temper; burnished on lower part of outer surface; Max. diam. : 11.5 cm.
144. Level 2b: Rim of bowl; light buff surface; reddish buff core; much fine sand and vegetable and a little coarse sand temper.
145. Level 2b: Shoulder of jar (with lug); greenish white (slip) outer surface; buff inner surface; pinkish buff core; a little very fine sand and much vegetable temper.

146. Level 2b: Rim of jar (with combing incision); greenish surface; greenish buff core; much very fine sand and vegetable temper.
147. Level 2b: Rim of jar (with combing incision), creamy white (slip) surface; pinkish buff core; a little very fine sand and vegetable temper.
148. Level 2b: Rim of jar; greenish white (slip) surface; buff core; much very fine sand and fine sand and vegetable temper.
149. Level 2a: Rim of jar (with combing incision); greenish buff (slip) surface; buff core; much very fine sand and vegetable temper; slightly soft.
150. Level 2a: Coarse jar; light brown surface; light brown core; much white coarse sand (quartz sand) temper; burnished on outer surface of body; carbide sticking outer surface; soft; Rim diam. : 14 cm.
151. Level 2a: Coarse jar; light brown surface; light brown core; middle amount fine sand and much white coarse sand (quartz sand) temper; burnished on surface of rim and partly outer surface of body; carbide sticking outer surface; soft; Rim diam. : 18 cm.
152. Level 2b: Coarse jar; light brown/buff outer surface; dark buff inner surface; dark buff core; middle amount coarse sand and very much coarse vegetable temper; containing chalky sand; burnished on upper part of outer surface; carbide sticking inner surface; Rim diam. : 26 cm.
153. Level 2a: Large jar; creamy buff surface; pinkish buff core; much very fine sand and fine sand and vegetable and sparse coarse sand temper; scraped on lower part of inner surface; Rim diam. : 26.5 cm; Height : 77.4 cm.

Other levels (Figs. 12, 13, 15~17) :

Pottery from these levels was found as follows: 1) a jar from beneath level 2b (Fig.12, No.154), 2) the pottery from level 3 (Fig.13, Nos.155~158), 3) the pottery found in unidentified levels (mainly from above the upper layer of collapsed wall stones) (Figs.14,15,16, Nos.159~167) and 4) the pottery from the two layers of the collapsed wall stones (Figs.14,17, Nos.168~185).

1) No.154 is a jar which was used for burial urn (Fig.12). It was found just below the stone wall of level 2, and was buried in level 3 (Pl.5). The jar is a complete specimen, and bones of an infant existed inside it. This jar is characterized by a globular body, a short neck, and a peculiar shape of lip. It was fired very soft. The joint in clay bands clearly remains at the upper part of the body, and the lower part of the body are roughly scraped both inside and outside. Besides, the trace of exfoliation was recognized at its shoulder, which is supposed to be of a pseudo-spout or handle⁹⁾. The shape of lip is considered to be common with one of the out-turned rim of the Late Uruk carinated bowls from Tell Thuwajj [Fujii et al. in press: fig.6-21,22]. Judging from the features mentioned above and the method of shaping, this jar can be dated in the Late Uruk period.

<in Fig.12>

154. Jar; reddish brown surface; buff/blackish brown core; much fine sand and coarse vegetable and a little coarse sand temper; scraped on lower part of body surfaces; very soft; Rim diam. : 17 cm; Height : 34 cm.

2) Level 3 is solid dark brown soil, which had been accumulated on the natural soil in the thickness of 40 to 50 cm (Pl.5-a). We did not recognize any structures and floors in this level due to the limited area of excavation. Specimens Nos.155 to 158 were excavated from this level (Fig.13). These are all fragments tempered with large amount of vegetable, and are greenish in color. The characteristic features of these sherds are: 1) hand-made and 2) the trace of rough finger-smoothing remains on its surface. The period when these sherds were made are not certain. It is undoubted, however, that they date back to before the Early Uruk period.

<in Fig.13>

155. Painted sherd; greenish surface; greenish core; blackish brown paint; sparse very fine sand and vegetable temper; hand-made.

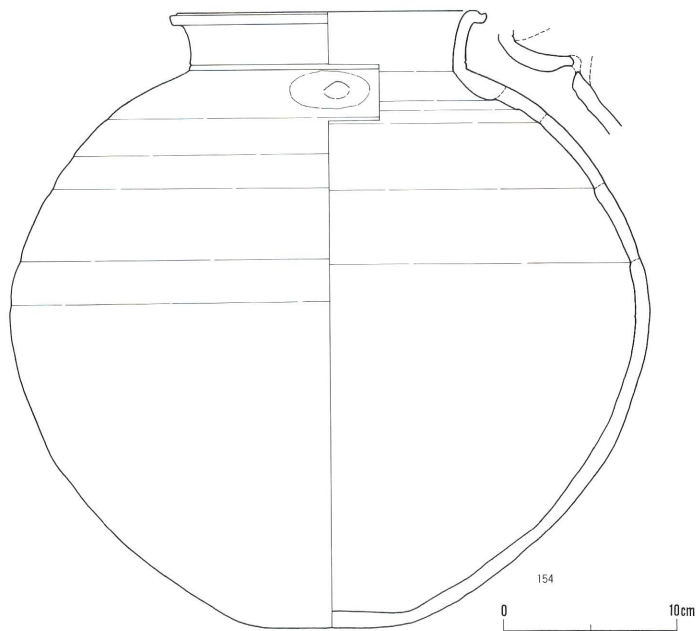


Fig.12 Burial Urn from Trench D

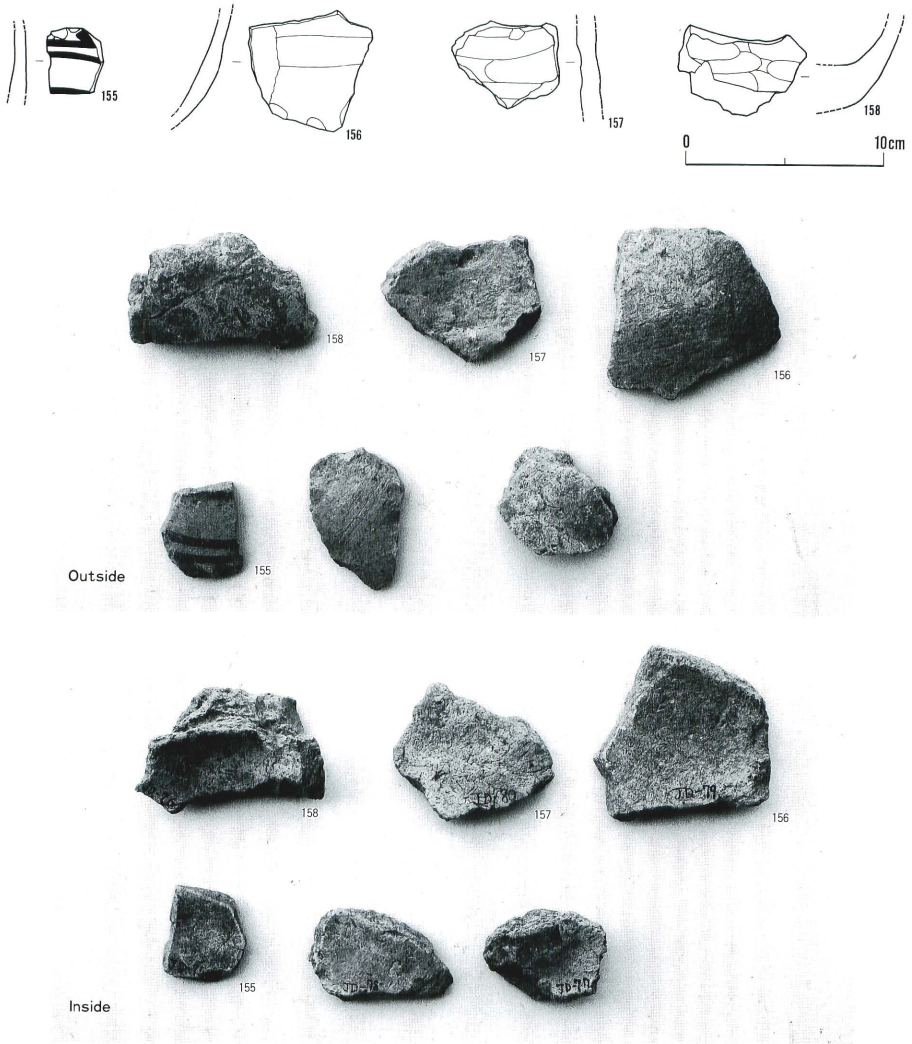


Fig.13 Pottery from Level 3 at Trench D

- 156. Body sherd; greenish white surface; greenish white core; much very fine sand and vegetable temper; hand-made.
- 157. Body sherd; dark greenish surface; greenish core; a little coarse sand and very much vegetable temper; hard; hand-made.
- 158. Body sherd; greenish white surface; pinkish buff core; middle amount fine sand and very much vegetable temper; slightly soft; hand-made.

3) All of the specimens were excavated from above the upper layer of the collapsed wall stones (Fig.14, Pl.6) except for specimen No.166. Specimens Nos.159 to 163 are incised (Nos.159, 161~163) and excised (No.160) Ninevite 5 wares. The incised ware has the so-called "early

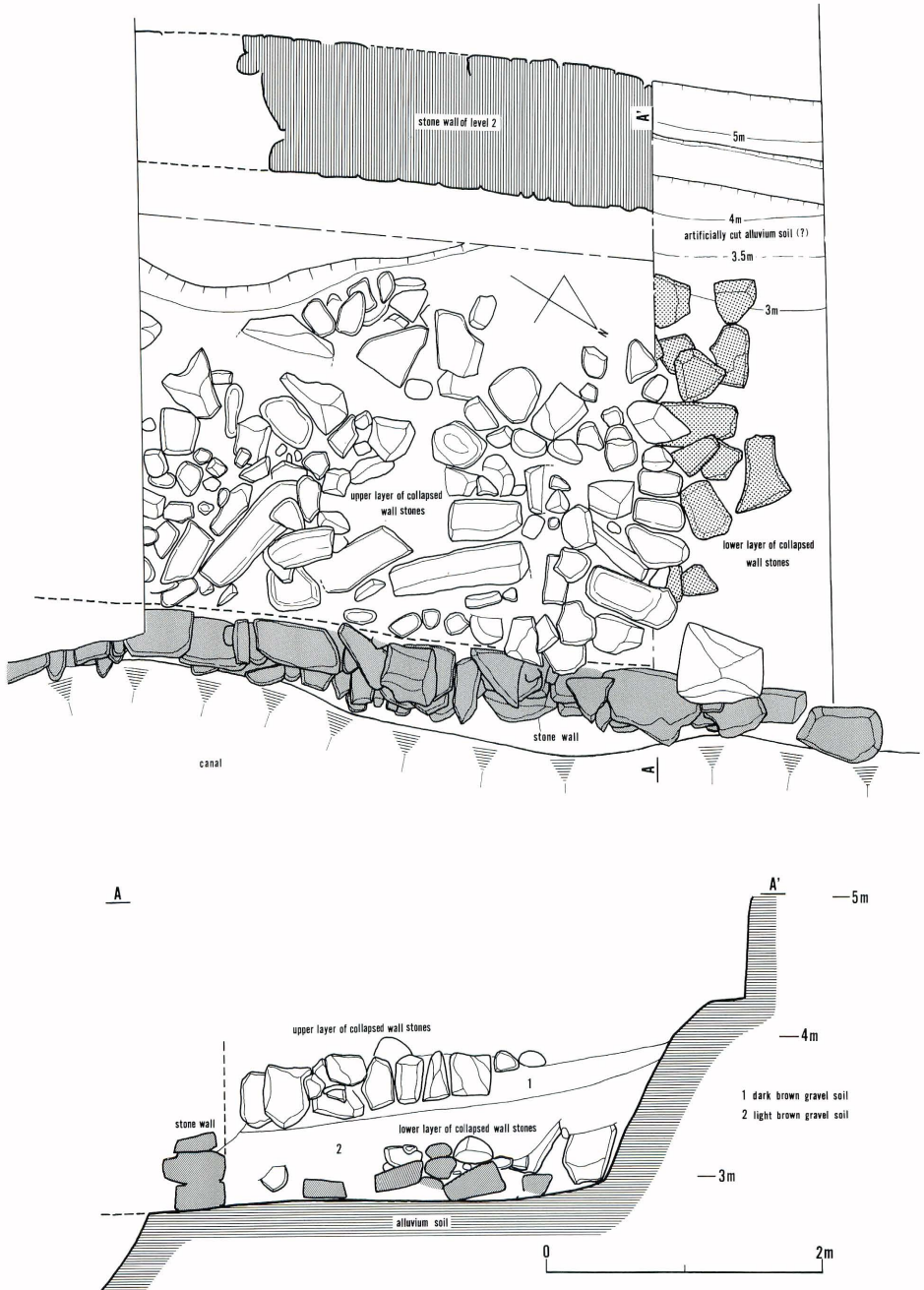


Fig.14 Plan and Section of Stone Wall and Collapsed Wall Stones at Trench D

incised" motif [Roaf and Killick 1987: 212], and are parallel to the period 2 of Tell Mohammed Arab. The excised ware had grooved motif called "early excised" motif [Ibid: 222]. Similar examples to this excised ware are found from Tells Leilan, Hawa, Durdara and Thuwajj [Schwartz 1988: fig.39-5~8; Ball et al. 1989: fig.21-28~30; Spanos 1986: fig.11-1; Numoto in press]. Besides, some painted Ninevite 5 sherds were found together with those of incised and excised sherds (Fig.16-d). There was no occupation levels, however, belonging to the Ninevite 5 period. No.164 is a rim of a painted bowl, having two vertical thick painted lines on its outer surface. The paint is dark-green, and the color of the fabric is greenish. This specimen is closely similar to the painted bowls with incurvate rim among the Ubaid pottery assemblages from Tells Thalathat No.2 and Leilan [Fukai et al. 1970: pls.75-8,77-6; Schwartz 1988: fig.69-1,2]. The painted motif correlated to the group Ib in the classification of painted patterns at Tell Thalathat [Fukai et al. 1970: pl. 44-3-3~7]. Specimens Nos.165 and 166 are believed to belong to the Late Uruk period. No.165 is a fragment of a incised lug jar, and is the same type as No.28. No.166 is a ring-base bowl with gentle carination on the middle of height. This ring-base is similar to that of the carinated bowls from the period 1 of Tell Mohammed Arab [Killick in press: fig.3-8,9]. This specimen was found from the outside of the floor of level 2b located on the south-west side of Trench D. No.167 is considered to be a rim of a jar. Light brown paint is recognized on its outer surface. There is a great possibility that this specimen was painted after firing, since the paint has become like powder and is very easy to come off. The definite period of this specimen is unknown, but it is supposed that it belonged to the Late Uruk period or earlier. Most of the pottery from above the upper layer of the collapsed wall stones are regarded to have belonged to the Late Uruk period (Fig.16-b~e).

<in Figs.15 and 16>

159. Rim of incised sherd; greenish grey outer surface; light grey inner surface; light grey core; sparse very fine sand temper; fine ware.
160. Rim of excised sherd; light grey surface; light grey core; sparse very fine sand temper; hard; fine ware.
161. Body of incised sherd; creamy white outer surface; creamy buff inner surface; creamy buff core; sparse very fine sand temper; fine ware.
162. Body of incised sherd; light buff surface; light buff core; a little very fine sand temper; fine ware.
163. Body of incised sherd; greenish white outer surface; light buff inner surface; light buff core; a little very fine sand temper; fine ware.
164. Rim of painted sherd; greenish surface; greenish core; blackish green paint; much fine sand and a little vegetable temper.
165. Shoulder of incised jar (with lug); cream (slip) surface; pinkish buff core; much very fine sand and a little fine sand temper; hard.
166. Ring-base bowl; greenish cream surface; creamy grey core; middle amount very fine sand temper;

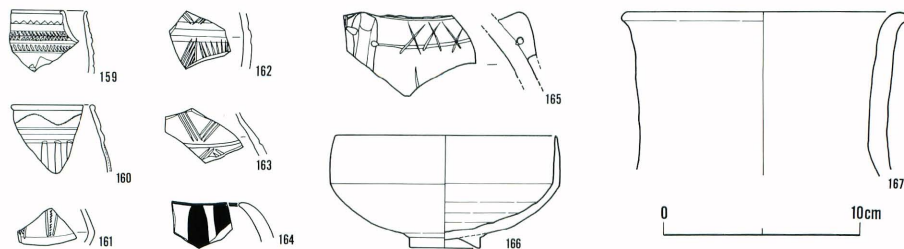


Fig.15 Pottery from Unidentified Levels at Trench D



Fig.16 Pottery from Unidentified Levels at Trench D
*The numbers of the photographs are identical with those in Fig.15.

containing gold colored mica and chalky particles; slightly soft; incomplete; Rim diam.: 12 cm; Height: 5.7 cm.

167. Rim of painted jar; light brown paint on outer surface; light buff inner surface; light buff core; a little fine sand and coarse sand and middle amount vegetable temper; containing gold colored mica; slightly soft; Rim diam.: 14 cm.

4) Most of the pottery from the two layers of the collapsed wall stones (Fig.14) are believed to have belonged to the Late Uruk period (Fig.17). Specimens Nos.168 to 180 were excavated from the upper layer of the collapsed wall stones. No.168 is believed to be a fine ware with a beaded rim of a Ninevite 5 bowl. Specimens Nos.169 to 172 are rims of Late Uruk carinated bowls. All of them are identical in every feature with the bowls from level 5 at Trench A. Specimens

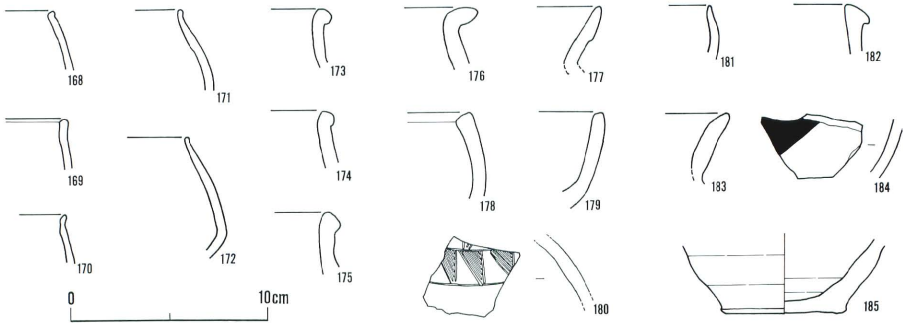


Fig.17 Pottery from Upper and Lower Layers of Collapsed Wall Stones at Trench D

Nos.173 to 178 are rims of bowls and jars. It is believed that they all belonged to the Late Uruk period in terms of fabric, color and shape. Rim shapes of Nos.173 to 175 are similar to those of the incised and painted jars from Tell Mohammed Arab period 1 [Roaf 1983: fig.2-1~3]. No. 179 is a rim of a bowl. Whole features of this specimen is different from those of the rims of bowls mentioned above. No.180 is a shoulder of an incised jar with fine triangle incision different from rough incision of Nos.28 and 165. This specimen is also regarded to have belonged to the Late Uruk period. Specimens Nos.181 to 185 were excavated from the lower layer of the collapsed wall stones. Specimens Nos.181 to 183 are rims of bowls and jars of the Late Uruk period. Rim of No.183 is closely similar to that of the spouted jars from Tells Mohammed Arab period 1 and Thuwajj phase-H [Roaf 1983: fig.2-5; Fujii et al. in press: fig.6-19]. The trace of paint existed on the inner surface of its upper part. No.184 is a body sherd with dark purple paint. The period of this specimen is unknown. No.185 is a base fragment. The fabric and firing are similar to the specimen No.154. The bottom was finished with pallet-cut.

<in Fig.17>

168. Rim of bowl; greenish white (slip) surface; pinkish buff core; no visible temper; fine ware.
169. Rim of bowl; creamy buff surface; pinkish buff core; a little fine sand temper; containing gold colored mica and chalky particles.
170. Rim of bowl; reddish cream (slip) outer surface; cream (slip) inner surface; pinkish buff core; much fine sand temper; containing gold colored mica; hard.
171. Rim of bowl; creamy buff (slip) surface; pinkish buff core; a little very fine sand temper; containing much gold colored mica.
172. Rim of bowl; creamy buff (slip) outer surface; pinkish buff inner surface; pinkish buff core; much very fine sand temper; containing gold colored mica; scraped on lower part of outer surface.
173. Rim of jar; creamy buff (slip) surface; pinkish buff core; much fine sand and vegetable and sparse coarse sand temper; slightly soft.
174. Rim of bowl; dark creamy buff (slip) surface; pinkish buff core; much very fine sand and vegetable temper; containing chalky particles.
175. Rim of jar; greenish white (slip) surface; pinkish buff core; much very fine sand and vegetable and a little fine sand temper.
176. Rim of jar; light creamy buff (slip) surface; pinkish buff core; much very fine sand and vegetable temper; containing gold colored mica. hard.
177. Rim of jar; buff surface; pinkish buff core; much very fine sand and vegetable temper; containing chalky particles and gold colored mica.
178. Rim of bowl; creamy buff surface; pinkish buff core; much fine sand and sparse coarse sand temper; containing chalky particles and gold colored mica.
179. Rim of bowl; greenish surface; greenish core; a little fine sand and much vegetable temper; containing much chalky particles; slightly soft.
180. Shoulder of incised jar; greenish white (slip) outer surface; buff inner surface; pinkish buff core; a little very fine sand and fine sand and vegetable temper; containing much chalky particles.
181. Rim of bowl; dark buff surface; dark buff core; much very fine sand temper; fine fabric.
182. Rim sherd; buffish grey surface; dark grey core; a little very fine sand and very much vegetable temper.
183. Rim of jar; pinkish cream outer surface; greenish white inner surface; pinkish core; a little very fine sand and middle amount vegetable temper; trace of brown paint on the top of rim.
184. Painted sherd; greenish buff/grey outer surface; greenish inner surface; buff core; dark purple paint; a little coarse sand and much vegetable temper; containing chalky particles; slightly soft.
185. Base sherd; reddish buff surface; dark blackish brown core; a little fine sand and coarse sand and much vegetable temper; slightly soft.

Other objects (Figs.18 and 19)

Specimens Nos.186 and 187 were excavated from the upper level of the sloping natural soil at

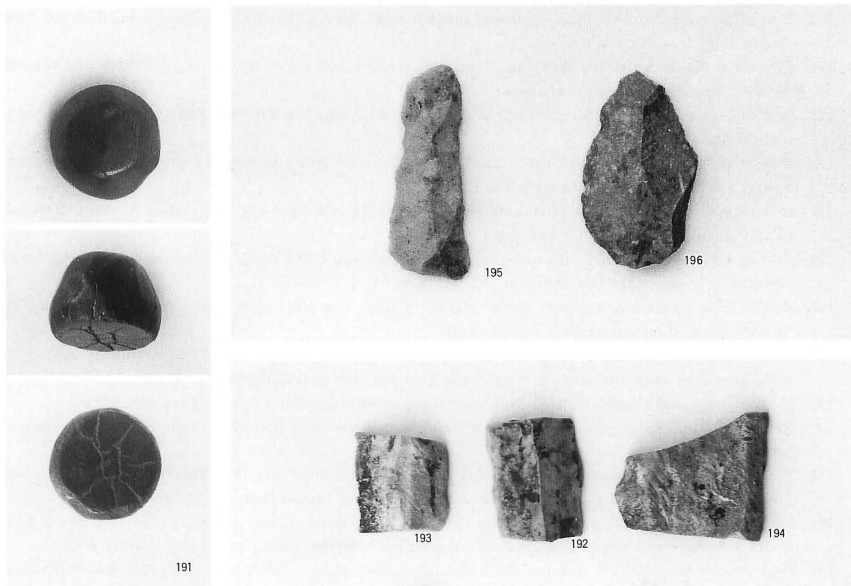
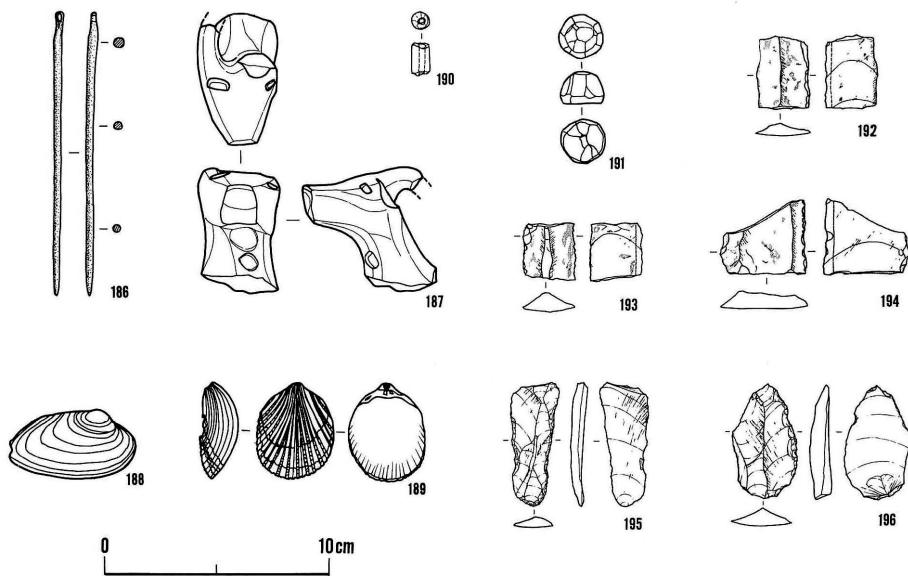


Fig.18 Copper/Bronze, Terracotta, Shells and Stone Objects from Trenches A, B and D

Trench B (Fig.3). No.186 is a bronze or copper pin. It has a hole at its top. No.187 is a head sherd of an animal terracotta, believed to depict either gazelle or goat. The fabric contains large sized vegetable. These specimens are supposed to have belonged to around the Ninevite 5 period, judging from the pottery found associated.

Specimens Nos.188, 189, and 191 to 193 were excavated from the floors of levels 2a and 2b at Trench D. Specimens Nos.188 and 189 are bivalve shells. They are both weathered, and are colored white. Specimen No.188 is considered to be of a kind of fresh-water mussel. Several same kind of shell fragments were also found. Specimen No.189 is a shell which is hard and thick and resembles cockle shell. Therefore, it is supposed to be a sea-water shell. The tip of the shell has a hole, though unknown whether it is natural or artificial hole. This kind of shell is usually used for vessel of cosmetic pigments, which are always found as grave goods [Mackay 1925: pl.III-8; Woolley 1934: pl.137-c]. However, this specimen was found together with stone quern (No.200), stone object (No.191) and other objects from the same floor (Fig.7). Judging from the above facts, it is suggested that this shell was brought into the site to be made into ornaments.

No.190 is a bead, made of agate dark orange in color. The hole was pierced from one side only. Both ends are broken. It was heavily weathered, and fine cracks are recognized all over. The date is not certain. No.191 was found from immediately above the floor beside the stone quern No.200. The way of use of this stone object is not clear. The material of this stone is hematite, and it was ground all over the surface. It is supposed, therefore, to have been an unfinished weight. Natural crack lines exist on the flat face, as if they were incised artificially. Judging from the found condition, there is a great possibility that this stone was ground with the stone quern No.200.

Stone objects Nos.192 to 194 are sickle blades of flint. They have the trace of use at parts of edges. Trace of bitumen are recognized almost all over the edges. Stone implements Nos.195 and 196 were found from the natural soil at Trench A [Fujii 1987b: fig.3]. This natural soil is regard to be alluvium, composed of gravel and soils accumulated alternately. Consequently, these specimens are believed to have been drifted by the stream of the Tigris river. Stone implement No.195 is a double-denticulated blade with a punctiform butt. It is techno-typologically similar to one of the examples from Tell Der Hall level 6 [Ohnuma and Matsumoto 1988: fig.8-1]. Stone implement No.196 is a single-convex side-scraper on a flake with faceted butt. Both of them are made of flint, but their date is unknown.

<in Fig.18>

186. Above the slope of alluvium soil at Trench B: Bronze/copper pin; length 12.4 cm; thickness 2.5~5 mm.
187. Above the slope of alluvium soil at Trench B: Terracotta; light buff; much vegetable and a little fine sand temper; length 5.5 cm; width 5.8 cm.
188. Level 2b at Trench D: Shell; length 5.5 cm; width 3 cm; thickness 1~2 mm.
189. Level 2a at Trench D: Shell; length 4.2 cm; width 3.4 cm; thickness 1.5~2 mm.
190. Unstratified (Trench D): Beads; agate; dark orange; length 1.5 cm; diameter 8.5 mm.
191. Level 2a at Trench D: Weight?; hematite; brownish black; height 1.5 cm; width 1.7 cm.
192. Level 2b at Trench D: Blade; flint; single-edged with sickle sheen; length 2.9 cm; width 2.3 cm.
193. Level 2b at Trench D: Blade; flint; single-edged with sickle sheen; length 2.5 cm; width 2.3 cm.
194. Unstratified (Trench D): Blade; flint; single-edged with sickle sheen; length 3.2 cm; width 3.7 cm.
195. In the alluvium soil at Trench A: Stone implement; flint; length 5.5 cm; width 1.6 cm.
196. In the alluvium soil at Trench A: Stone implement; flint; length 5.1 cm; width 2.9 cm.

Specimens Nos.197 and 198 were excavated from the level 2b at Trench D. No.197 is a pestle or a grinder of a river stone. The trace of grinding is recognized on its surface, as especially is the trace of use on its both ends. No.198 is supposed to be a stone plummet of a river stone.

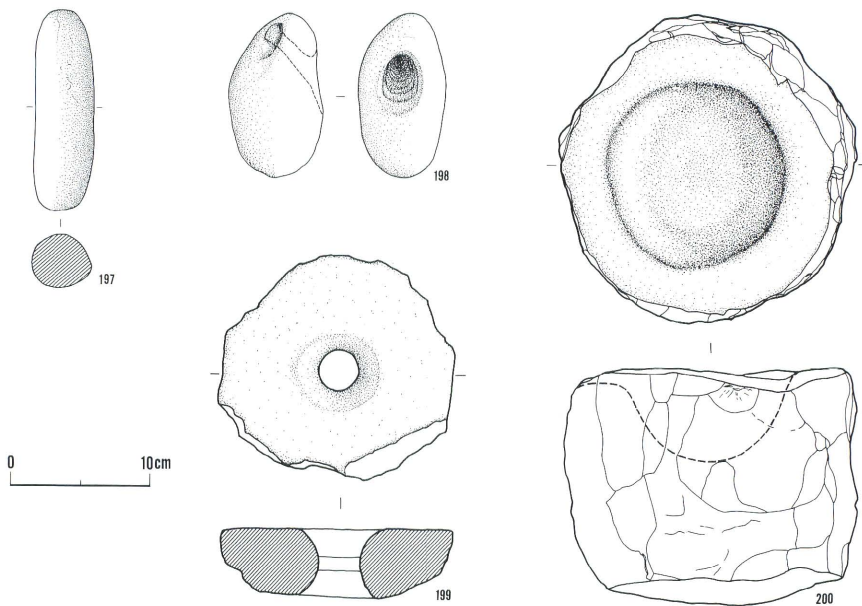


Fig.19 Stone Objects from Levels 1 and 2 at Trench D

It has a hole considered to be for passing a rope. It is suggested that the hole was pierced for use using a natural hole. The polish trace caused by the rope is recognized on the edges of the hole. There was also confirmed one similar example (Fig.19-c).

Specimen No.199 is a door socket belonging to the stone structure of level 1 at Trench D (Fig.5, Pl.1-b). It is made of basalt, and was formerly used for a saddle quern. It was changed afterwards into a door socket.

Stone quern No.200 was excavated from the center of the floor of the level 2a at Trench D (Fig.7, Pl.2). It has a cylindrical shape with a circular depression on its upper face. The material of this specimen is limestone, and both the upper and bottom faces are the natural surface. The side face is broken in circular. The depression is very smooth, because it was used quite often.

Besides, a large stone quern was fixed in the floor of level 2b at Trench D (Pl.4a,b). This quern is measured about 50 cm in diameter. It has a circular depression which is measured about 25 cm in diameter and 20 cm in depth. A few basalt grinding querns were found in the floors of levels 2a and 2b at Trench D (Fig.19-d).

<in Fig.19>

197. Level 2b at Trench D: Pestle/grindstone; greenish grey; length 14.4 cm; width 3.8~4.4 cm.

198. Level 2b at Trench D: Stone plummet?; river stone; creamy white; length 12 cm; width 6.2 cm.

199. Level 1a at Trench D: Door socket; basalt; dark grey; length 16 cm; width 15 cm; thickness 4.2 cm.

200. Level 2a at Trench D: Quern; limestone; diameter 18~20 cm; height 16.5 cm.

Conclusions

The present author would like to refer to some corrections concerning the reports of the first and second seasons.

In the second season's report, we supposed that the occupation level of the Late Uruk period had been situated at the center of the Tell. As is mentioned above, however, the pottery from level 5 at Trench A certainly belongs to the Late Uruk period, and, therefore, the occupation area was on the edge of the Tell. However, level 5 at Trench A is hardly regarded to have been a purely residential area, since it was a part of the ash pit considered to be a kiln or oven. Also, it is supposed that the main residential level occupied the center of the tell.

The Late Uruk pottery unearthened is commonly seen in the Eski-Mosul area from the upper stream of the Tigris downwards; this group of pottery from the west bank of the same area was recognized at Tells Ger Matbakh, Abu Dahir, Khirbet Karhasan, Siyana Ulya [Ball 1987], Thuwajj [Fujii et al. in press] and Rijm [Beilinski 1987]. Most of these tells are located on the narrow river terraces along the Tigris River.

The structures of the artificially cut natural soil and the outer stone wall remained on the edge of the tell (Figs.3,14). This kind of structure is very unique in the area. The period of this remains is believed to have been around the Late Uruk period, if based on the pottery unearthened. But, no clear occupation level belonging to this period is recognized, and we don't know exactly what kind of characters this tell had. The purpose and functions of this remain, therefore, are not known yet. As was already mentioned in the report of the second season [Fujii et al. in press], it is only supposed that this remain had special functions, probably associated with the flood or water force.

The potsherds from Trench D (Nos.155~158,164) are similar to those of the Northern Ubaid period. There is a great possibility, therefore, that the occupation level of this period will be

found somewhere; it is probable that the occupation level corresponds to the level 3 which yielded Nos.155~158 sherds only. The sites which proved to have the Northern Ubaid period levels in the Zummar area are as follows: Tells Imsefna [Hosen 1987], Sheikh Homsy [Bader 1987] and Abu Dhahr [Ball 1987]. All of these tells are situated in the stream upper than Tell Jessary. And, only one sherd was found from Trench C at Tell Thuwajj [Numoto in press: fig.14-91].

Sherds of painted, incised and grooved excised Ninevite 5 wares were found from Jessary, as were a Late Excised sherd. Judging from this fact, it is supposed that the Ninevite 5 period continued relatively long at this site, but we did not find any Ninevite 5 occupation level in the area excavated. However, at Tells Salal and Thuwajj, located about 9 km upper stream from Jessary, the Ninevite 5 levels were identified. Tell Salal is the largest site with Ninevite 5 occupation levels in the zummar area⁹⁾.

We found typical bell shaped pits at Trenches C and D at Tell Jessary (Fig.5), which belongs to the Hellenistic period. The occupation of this period, therefore, is considered to have expanded in a wide area.

Any Islamic occupation level was not found in the area excavated, although we recognized a large amount of Islamic potsherds from the surface of the tell between the 8 m contour line and the top level of the tell. This fact suggests that the occupation level of the Islamic period existed.

As is already mentioned above and in the previous publications, our investigation was a sounding alone in the limited period. Moreover, we mainly excavated the edge of the tell. We could not, therefore, understand the scale of occupation level of each period.

Tell Jessary is accumulated on the natural river terrace. This natural soil is considered to occupy 5 to 6 m area of the contour line. The thickness of the accumulation from the natural soil to the top of the tell is measured only 5.5 m. If considering this and the fact that this tell has relatively many occupation levels, the accumulation is very thin. This may imply that the occupation of each period did not concentrate at a given place, and that the center for each occupation was located differently period by period. It is clear that this tell formed a small rural site at each period.

Tell Jessary was beginning to sink immediately after the end of the excavations, and was completely under water by the end of January 1986.

Notes

- 1) See map in p.152 of *al-Rāfiḍān* Vol.V-VI [Ii and Kawamata 1984/85] for the location of Tell Jessary.
- 2) See figures in pp.69 and 70 of *Researches on the Antiquities of Saddam Dam Basin Salvage and Other Research* [Fujii 1987b: 68~72] for the detail of Trench A.
- 3) Concerning this matter, Roaf raised a question in his paper delivered in the Ninevite 5 conference at Yale University [in press].
- 4) The Nuzi wares with four leged-animal motif were found from Tells Billa, Brak and Alalakh. These animal motifs, however, are clearly identified with a kind of gazelle [Speiser 1933: pl.LXI-4; Mallowan 1947: pl. LXXVIII-11; Woolley 1955: pl.XCV AT/46/272].
- 5) The similar type to this jar was found among the jars of the Ninevite 5 period such as examples from Tells Thalathat and Kutun [Fukai et al. 1974: pl.53; Bachelet in press]. These Ninevite 5 jars, however, are different from the jar in hand in that the former jars are not softly fired as the latter, and that no examples of the Ninevite 5 jars have spout or handle. The example of a jar with pseudo-spout is excavated from the Mallowan's Prehistoric Pit at Nineveh [Thompson and Mallowan 1933: pl.LII-12].
- 6) The first occupation level in this tell is regarded as belonging to the Painted and Early Incised Ninevite 5 period (Mohammed Arab period 2). The accumulation of the whole Ninevite 5 occupation levels are

measured about 10 m. Among others, most of those Ninevite 5 levels are considered to have belonged to the Late Incised/Late Excised period (Mohammed Arab peiod 3) to the Late ED III period.

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a. General view of Trench D



b. Stone structure of Level 1 at Trench D



a. Floor of Level 2a at Trench D viewed from the west



b. Pottery and stone quern on the floor of Level 2a at Trench D



a. Stone wall and floor of Level 2a at Trench D viewed from the north-east



b. Stone structure and floor of Level 2a at Trench D viewed from the north



a. Level 2b at Trench D viewed from the west



b. Level 2b at Trench D viewed from the north



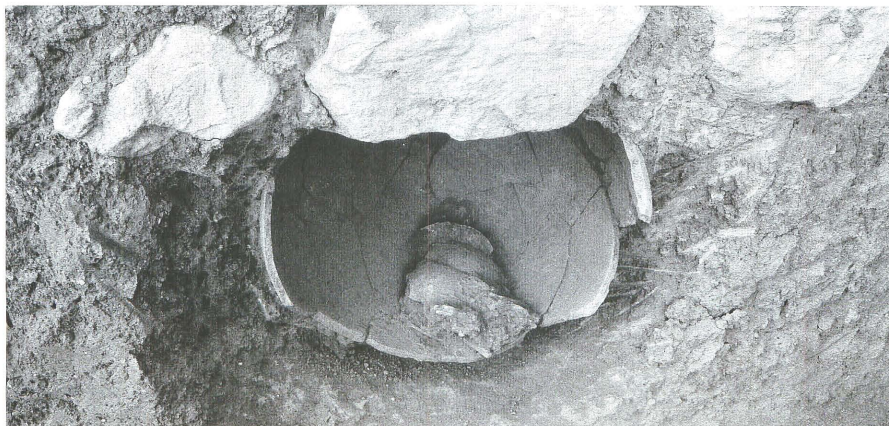
c. Stone wall of Level 2 at Trench D viewed from the south-east



a. Stone wall of Level 2 and burial urn in Level 3 at Trench D viewed from the north



b. Closed view of burial urn at Trench D viewed from the north



c. Infant burial in the urn



a. Collapsed wall stones at Trench D viewed from the south



b. Detail of collapsed wall stones at Trench D viewed from the west



a. Collapsed wall stones and stone wall of Level 2 at Trench D viewed from the north-west



b. Collapsed wall stones and stone wall of Level 2 at Trench D viewed from the south-east



a. Outer stone wall of Trench D viewed from the south-east



b. Outer stone wall of Trench D viewed from the north



c. Outer stone wall of Trench D viewed from the east

アル・アダーム地域の予備調査

藤井秀夫*・井 博幸*

はじめに

1990年3月、来日したイラク考古総局の発掘・調査局長 Taha Munir 博士は、イラクにおける多目的ダム建設に伴う、発掘調査が開始されつつあるとの情報をもたらした。この中には、テル・グッパ〔藤井編 1981〕との関係で、かねてから我々が注目していたハムリン盆地に北接するアル・アダーム al-Adaim 地域が含まれていた。そこで我々は、出来る限り速やかに現地調査をしたい旨を同博士に口頭で伝えると共に、イラク考古総局に現地調査と発掘調査の可能性を文書で打診したところ、予想外に早く、4月の下旬にはイラク考古総局から、アダーム地域での発掘調査の許可が交付された。同時に、このプロジェクトはダム建設計画に伴うもので、向う3年間の期限であることも確認した。

このような経緯で藤井と井は、今年度は現地のより正確な情報を得るための予備調査として、国士館大学当局の理解を得て、6月6日から6月20日まで滞在し、この間に5日間の現地調査を行った。今回の短期調査は水没予定地域内に存在する遺跡の把握と、発掘予定遺跡の選定にあり、本調査は来年度以降に、イラク考古総局との合同調査で実施する計画である。以下に今回の予備調査の概略を述べる。

水没予定位置と範囲 ダムの建設地は東経 44°30′、北緯 34°31′ に当たり、バグダッドの北約 150 Km に位置する。すでに調査を行ったハムリン盆地のテル・グッパの北西約 70 Km 付近が今回の水没予定範囲である(図1)。計画によれば、水没範囲は北西～南東方向 50 Km、最大幅は約 10 Km で、最高到達水位は標高 150 m であったが、最近 143 m に変更されたとも伝えられる。

付近の地形・景観と集落 メソポタミア低地とアッシリアの微高地を限るハムリン山脈は、部分的に数百 m の高さに達し、約 300 Km にわたって南東一北西方向に連続する。ハムリン山脈とザグロス山脈との間には、幅 20～50 Km の比較的平坦な平原地帯が展開しており、メソポタミア低地と異なる景観を呈する。この平原を開析して、ザグロスの高山地帯に源を発する大小の河川が南西流しティグリス河に合流する。それらは南からディヤラ、アダーム、小ザブ、大ザブ川などである。

アダーム川はトッズ Tuz から南西流するトッズ川と、スレマニア付近の山岳地に源流をもつ水量の豊かなダーコーク川 Dakoq (Tauq ともいう)、およびキルクーク南西の平原の水を集めるズゲイトゥーン川 Zugeitun が、ダム建設地付近で合流し、メソポタミア東部の平原地帯を流れ下る。なおトッズ川の一支流は南および南東流してナリン川と合流、すでに調査が完了したテル・グッパ付近に達する。

トッズ川の水量は少なく、広い氾濫原と礫の堆積が顕著であり、河岸段丘上では堀抜き井戸を伴うモーター灌漑により、夏季には野菜栽培が行われている。ダーコーク川の水量は豊富ではあるが、台地を開析・侵蝕しつつ

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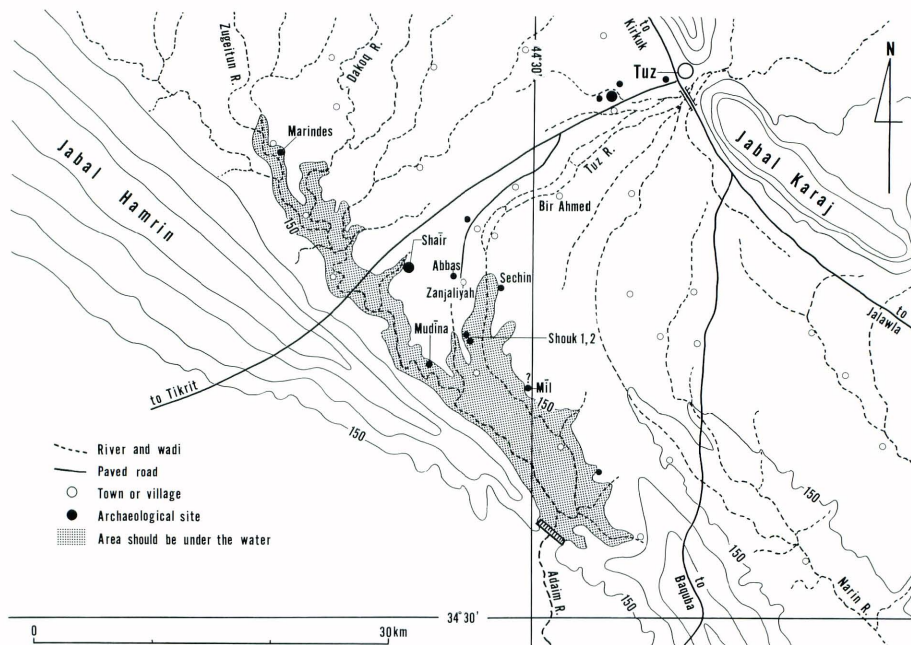


図1 アル・アダイム地域の遺跡分布略図

あるため、狭く高い段丘が形成され、野菜栽培には適さない地形である。ただ砂質の氾濫原に沿ってタマリスクの群生が連続する。ズゲイトゥーン川流域もダーコーク川と類似した状況を呈する（以上は水没予定地域内に限っての観察である）。なおこの地域は天水農耕地帯で、台地上の平原には小麦・大麦などが栽培されており、筆者等が訪れた6月には、収穫したばかりの大麦と小麦の集積をいたるところで見ることができた。

この付近での最大の町はトッズ（ドゥーズとも発音する）で、交通の要衝にあたり、物資が集散する。人口は不明だが1万人以上に達すると思われる。トッズにおける民族構成はクルド、トルクメンが主で、アラブ人は少数である。水没予定地に接し、我々が宿舎としたザンジャリーヤ村は、戸数140戸の中規模の村で、民族構成はトッズ付近とほぼ類似する。ほとんどの村では生活飲料水は共同の掘抜井戸を利用しており、定期的にモーターで汲み上げていた。村や農耕地で利用する井戸の水位は、地点により大きな差があり、地下の褶曲が小地形的であると推測できる。また季節を限って利用される放牧のための村落が、テル・ムディーナの対岸に存在していた。このことは天水農耕の実態と併せ考え、古代遺跡の分布や性格を追及する上で看過できない資料といえる。

水没予定地内および付近の遺跡

水没予定地内で調査が終了した遺跡はテル・カーヌーン Kanun で、後期イスラム時代の遺跡であったという。調査継続中のテルはショーク1号丘と2号丘で、考古総局の Kamel Alwan Shihab 氏が担当している。今回の我々の調査では、氏に大変お世話になるとともに、多くの教示を得た。

テル・ショーク 1 ザンジャリーヤ村の南約 5 Km、トッズ川西岸の段丘上に占地し、西側には侵蝕され独立丘状を呈する比高差約 30 m の台地が 150 m の地点に迫っている。テルは径約 30 m、高さ約 2.5 m の円形

である。確認された遺構は、厚さ 1.5 m ほどの同心円壁を 3 重に巡らせ、中央部に径 4 m の部屋／空間を有する円形建物であった。壁と壁の間は数箇所て仕切られ、部屋状となったり、あるいは回廊・通路として利用される。最も内側の回廊の 1/3 周は、回廊の中央線上に薄い壁が巡らしてある。おそらくこの部分には二階もしくは屋上に達する階段が施設されていたのであろう。回廊床面の数箇所にはビット状の落ち込みが存在する。出土遺物は土器、石器、骨角器、装身具、紡錘車、テラコッタ像などである。特に土器では緋色土器 Scarlet ware が回廊部分から多量に出土しており、この建物が初期王朝 I 期（以下、ED I 期と略記する）の構築であることが判るとともに、ハムリン盆地のグッパヤラズークで検出された円形建物との関連で注目される。装身具にはカーネリアンやペルシア／アラビア湾産の貝製ビーズに加え、グッパで注目された“直角孔形ペンダント／ビーズ [井 1989] が多量に出土した。このほか典型的なウルク／ジャムダト・ナスル様式の円筒印章、ブロード様式の円筒印章、亀甲形でドリル技法による印面をもつスタンプ印章など 4 点が出土した。

テル・ショーク 2 ショーク 1 号丘の東約 150 m に存在する。長径約 50 m、高さ約 3.5 m の楕円形のテルである。調査は中央部の 6×20 m の範囲で、極く最近 Kamel Alwan 氏によって開始された。イスラム時代の墓が表層直下のウルク期の層をほりこんでいる。現在確認されつつある遺構は日干煉瓦造の住居跡と推定され、方形の区画（部屋）が出現しつつある。出土遺物は土器、石器、メイス・ヘッド、焼成土鎌などである。土器はウルク期に特徴的な灰／黒灰色磨研土器や赤色磨研土器と共に、粗製の傾斜口縁ボウル Bevelled rim bowl が相当数出土している。注口土器、片口碗、カリネイテッド・ボウル（図 2—7：以下に示す番号は図 2 中の遺物ナンバーである）、磨きを施した浅い大型のボウル（6）、荒い刻文のある大型壺、単彩土器、ストラップ・ハンドル壺（5）、穿孔された 4 耳土器、肩部～胴部に斜め方向のリザーブ・スリップを施した壺（1）などが集中していた。注口土器では注口先端の上部を三角形に切り裂いた例 [Starr 1937, 39: Pl. 50-H] が顕著である。伴出した焼成土鎌は、石器素材の入手が容易な地域であるにも拘わらず、南メソポタミア的な道具であり、この点、南・北メソポタミア文化の接触を示すうえで、示唆に富む遺物といえる。なおショーク 1・2 周辺は平坦ではあるが、長さ約 400 m、幅約 200 m の範囲に限って農耕地としても利用されておらず、この範囲に当時の集落を想定することも可能と思われる。この未利用地内ではウバイド式土器も採集できたので、おそらくウルク期に先行する遺構が確認できるであろう。図 2 に示したテル・ショークに関する遺物は、発掘担当者の了解を得て付近から採集し、実測したものであることを付記しておきたい。

テル・ムディーナ テル・ホデイルともいう。ザンジャリーヤ村の南約 8 Km、ダーコーク川の北岸に存在する。遺跡までの道路状況は悪く、ザンジャリーヤ村から車走約 30 分、徒歩 20 分を要する。遺跡は氾濫原から 10 m の高さを測る段丘上にある。背後には深く切れ込んだワディと、侵蝕をうけた台地の縁部が数十 m の高さでそびえ立つ。テルは二つの丘からなり、主丘は径約 50 m、高さ約 4 m を測る。表層には近・現代の遺物が散布するが、その下層はウルク／ジャムダト・ナスル～ED I 期と推定でき、赤色の彩色を施した短頸壺（8）、ウルク後期的な内外面を磨研した大型のボウル（9）、大型壺（10）などを採集した。

主丘の南約 50 m の川側には、長さ約 40 m、幅約 15～20 m で、高さ 50 cm ほどの低いテルが存在する。ここでは微細な銅片と共に、刻文土器を中心とした遺物を採集した（11～14）。このなかには後期ウバイド～前期ウルクと推定できる土器片（12, 14）も含まれており、遺跡の時代は主丘よりさかのぼる可能性もある。刻文土器はいずれも壺形土器の肩部破片と思われ、格子、ジグザグ、波状、平行線などを認める。石製の鎌刃（16）も量は多くないが採集できた。

テル・アップバスとリヤース ザンジャリーヤ村の北約 1 Km に存在する。図 1 にはアップバスのみを記したが、本来は二つのマウンドで構成され、西側がアップバスで径約 30 m、高さ約 1 m、東側のリヤースは径約 30 m、高さ約 1.5 m を計測する。採集遺物はボウル (17~19)、リザーブ・スリップのある壺 (20)、外反する口縁部を特徴とした壺 (21~25)、コニカル・ボウル (26)、刻文土器 (27)、高杯 (29)、石製鎌刃 (28) などである。このほかにも実物を見ることはできなかったが、白色石灰岩製で複数の魚を配したウルク／ジャムダト・ナスル様式の円筒印章が表採され、イラク博物館に保管されているという。遺跡の年代は円筒印章が示唆する時代までさかのぼると推定できるが、高台付壺 (30, 31) や、高杯の脚部形態は初期王朝 III 期 (ED III) / アッカド時代的である。土器 21, 24, 25 についても、ウルク後期頃の遺物とするよりは、むしろ ED III / アッカド時代に帰属する可能性が強い。とすればハムリン盆地内で確認された同時代の遺跡や、ヌジ遺跡のガ・スルとの関連で注目される。いずれにせよこの遺跡には、前 4 千年紀後半から前 3 千年紀中頃にかけての遺構の存在が予測される。

テル・シャイル アブ・ヘルザともいう。水没予定地付近で最大のテルで、恰好のランドマークとなっている。当初水没予定であったが、計画変更により回避される可能性がでてきた。最大長は約 600 m、最大幅約 500 m、高さ約 20 m を測り、中央部は幅約 100 m の凹地・谷状 / オープン・スペース (?) となり、テル全体の形状は馬蹄形をなす。遠方より望見すると二段に積み上げられた丘であることが分かる (テルが巨大なため計測は概略であり、車の走行メーターを使用した)。テルの北側部分が高く、面積も南側の倍以上を有する。表面採集した遺物から、テルの構成時代はイスラム、新アッシリア (?), カッシート、前期ウルク～後期ウバイド、およびハラフ期と考えられ、特にカッシート時代の遺構面積は比較的広範囲におよび、ここに大規模な街区を想定できる。即ち、北側部分の上部の高まりは前 2 千年紀中頃に降に形成されたとみなし得る。この下部にはウルク期以前ハラフ期にさかのぼる遺構の存在が予測でき、新石器時代～銅器併用時代にかけての集落が馬蹄形に展開していたと思われ、その面積はおよそ 20 ha 程を占めた、と想定している。つまり、このテルは新石器時代以降この地域における中心的な集落であり、調査を行えばこの地域のほぼ全時代の歴史を包括する可能性もある。

テル・マリントス ザンジャリーヤ村の北西約 20 Km、ズゲイトゥーン川の東岸にあり、川からおおよそ 1 Km 離れた低い河岸段丘の端部に占地する。遺跡は径約 100 m、高さ約 7 m でほぼ円形をなす。表層にはイスラム (イルハーン朝) 頃の遺物や、新アッシリア (?) と考えられるもの、石器および銅片などが散布しており、比較的多くの時代を包括した遺跡であることがわかる。イラク考古総局が行った事前調査では、ウバイド、ハラフ式土器も採集されたといわれるので、ハラフ期までさかのぼる遺跡とみなし得る。ただ遺跡に到達する道路状況は悪く、調査には相当の困難が予想される。

テル・セチン テル・シジンともいう。トゥズ川を挟んでザンジャリーヤ村の対岸にある。この付近での川の水深は浅く、よほどの降雨でもないかぎり、通常は車・徒歩で渡河できるという。従って相当古い時代から、ここが渡河地点として利用されていたと考えてよい。テルはトゥズ川東岸の段丘上にあり不正形をなす。最大長約 200 m、高さ約 20 m で、立ち上がりは比較的急である。ザンジャリーヤ村側は急峻な崖状をなしており、この部分がしばしば濁流によって洗われたことを示唆する。川側に認められる大型の日干煉瓦を使用した厚く高い壁は、洪水に対する備えとなっていたのであろう。多量に散布する遺物からバルティア時代頃の遺跡と推定され、立地、テルの形状などと相まって、城塞的な性格を暗示する。なおテルの背後には長さ約 50 m、高さ約 1 m の小さな別のテルが存在した。

このほか水没予定地内で遺跡として登録されているが、現地確認ができなかった例としてテル・アチュファール（川岸に存在する）、テル・ミール（トッヅ川の東岸、テル・セチンの下流にあり、ワディに侵蝕されつつある）、カラ（現在も居住者がいる）などがある。また周囲の平原地帯、特にカラジ山とハムリン山脈との間の平原には、数十基に達する大小のテルが点在しており、その分布密度は現在の集落数をはるかに超える。

まとめと展望

この地域はハムリンに連続する平原であり、共に酷似した自然環境と風土をもち、ほぼ同一の文化圏に属すると考えてよい。このほかに我々が注目するのは、この地域が考古学的にまったく未調査地域であるからである。比較的近い調査遺跡として、1925～1931年にわたり American School of Oriental Researche によって発掘されたキルクーク南西 13 Km に位置するヨルガン・テバ（ヌジ）があるが、報告書はアダイム地域に関する僅かな情報さえも提供してはくれない [Starr 1937, 39]。1938～1965年にかけて行われたイラク考古総局による、イラク国内の遺跡分布調査は、ほぼ全土をカバーするものであった。この調査を担当した元イラク考古総局の Behnam Abu al-Soof は、分布調査の成果を踏まえた上で、アダイム周辺地域にも触れ、特に銅石併用期の遺物に注目しつつ多くの指摘を行った [1968: 74-86]。しかしながら彼の分布調査の足跡を仔細に検討すると、ズゲイトゥーンおよびダーコーク川上・中流に関しては、実際、分布調査が行われたとみなし得るが、今回のダム水没予定地域を踏査した形跡はなく、メソポタミアでも大型の部類に属するテル・シャイールさえも見逃されている。最近出版されたメソポタミアの考古遺跡地図でも、Behnam 氏の指摘に沿う分布と時代区分が踏襲されており [Finkbeiner and Röllig 1988: B II 7], 特にニネヴェ 5 期と ED I 期の関係など、依然として多くの問題を残している。つまりハムリン盆地の北から、キルクークの南にかけての約 100 Km 四方の地域は、殆んど未調査地域といっても過言ではない。このようなことから我々は、既にハムリン遺跡調査中から、この地域に大いなる関心を寄せていたのである。

テル・ショーク 1 で検出された ED I 期の円形建物は、構造的にはハムリンのテル・グッパとラズーク [Gibson ed. 1981] の中間形態をもち、时期的にもほぼ中間（グッパ V 層併行期頃）に相当すると推定できる。しかしながら発掘調査は建物の完全な基底部分を明らかにしておらず、調査の進展次第では、よりさかのぼる可能性も秘めている。現時点で円形建物の構築順序は、グッパ VII 層→ショーク 1→ラズークと位置づけることができるが、その機能や性格に関しては統一した見解を得るまでには至らない。ハムリンやアダイム地域を含む東北イラクの ED I 期文化圏では、円形建物を中核とする社会が形成されていたことは確かであり、その性格や機能の究明は当時の社会形態や、経済活動、あるいは対外関係などを明らかにしてくれるであろう。ショーク 1 の円形建物からは比較的多くの彩文土器が出土しており、それらは明らかに緋色土器の範疇に属し、ハムリンとの緊密な関係を窺わせるに足る資料である。彩文の特徴はハムリンの当該種に比べ、若干の地方色も認められるが、基本的にはほぼ同じであり、北に展開するニネヴェ 5 期文化の影響は少ないとみなし得る。出土状況や遺物の種類もほぼグッパに共通しており、およそ 75 Km 離れた二つのテルの間に強固な関係が存在したことを明らかにした。また、現在問題となっている南メソポタミア的なジャムダト・ナスル文化の北への波及範囲についても、ショーク 2 やムディーナの調査が行われれば、何等かの解決が得られると考えている。そのことは南・北メソポタミアに開花したウルク文化の研究にも直接関係し、大きな示唆を与えるであろう。

我々の研究課題は、メソポタミアにおける前 4 千年紀中頃から前 3 千年紀中頃にかけての文化（ウルク～初期

アダタイム地域表面採集遺物 観察表

遺跡	番号	器種・種類	法量(mm)	器形の特徴	成・整形と調整	胎土中の混和剤	地成、色調	その他備考
テル・ショーク2周辺	1	壺	口径128	ゆるく外反する頸部、口縁部は三角形、肩はなだらか。	紐土成形。内外頸~口縁部はロクロ利用のナデ、肩部内面ケズリ。外面は斜方向のリゾープ・スリップ。	微量の細砂と細いスサ	良好 ピンク色	スリップは緑色がかった淡黄褐色。
	2	壺	口径約145	頸部はほぼ直立、口縁部は大きく外反し、内湾気味に終る。	ロクロ成形。内外面にロクロの痕跡を残す。	細砂と細いスサ	良好 クリーム色	外面に淡黄褐色のスリップ。
	3	壺	規定口径：88(?)	口縁部は「く」の字形に開く。	輪積成形のちロクロで仕上げ。肩部以下と口縁部を接合する。	混入物を認めず	良好 ピンク色	外面に淡黄褐色スリップ。
	4	壺	口径150	頸部と口縁部が一体化し、外反する。	紐土成形。頸部以上にはロクロの痕跡を認める。肩部内面はケズリ。	細砂と細いスサ	良好 クリーム色	外面に淡黄褐色スリップ。
	5	把手付壺		本体不明、把手は中央が僅かに凹む板状ハンドル。	ハンドルは紐土成形。全面ナデ。	細砂と小礫	良好 クリーム・ピンク色	ストラップ・ハンドル壺(?)。把手部分の胎土は本体より濃い。
	6	ボウル	口径約320	比較的深い大型碗で、口縁は尖り気味に終る。	成形不明、内外面はミガキ。	多量のスサ	良 赤褐色	いわゆる「ウルク赤色磨研土器」。
	7	ボウル	口径110 最大径125	口縁部は水平に近い段がある。底部と底部の境に接もつ。	ロクロ成形。底部外面横方向のミガキ、底部はケズリのみナデ。	混入物を認めず	やや甘い クリーム色	カリネイテッド・ボウル。内壁面が円形に割製する。
テル・ムムデイナ	8	短/無頸壺 (彩文土器)	口径約110	直立する形式的な頸部、肩は強く張る。4耳土器(?)。	ロクロ成形。	微量の細砂	良好 クリーム色	外面に淡黄褐色スリップ。頸~肩部の一部に濃赤色の彩色を認める。
	9	ボウル	口径約280	口縁は内湾気味に終る。	成形不明(ロクロ仕上げ?)。内外面丁寧なミガキ。	微量の細砂と細いスサ	良好 淡赤褐色	彩形品には低い貼付高台が伴う。
	10	壺	口径200以上	「く」の字形の厚い口縁。	ロクロ成形。内面に水接痕がある。	細砂	良好 クリーム・ピンク色	大型土器破片、外面に淡黄褐色スリップ。
	11	壺 (刻文土器)		肩部破片。	ロクロ成形(?)。外面からいミガキのみ刻文。	混入物を認めず	良好 赤褐色	外面淡黄褐色スリップ。磨研具による斜格子の磨製。
	12	壺 (刻文土器)		肩の上部にかすかな稜がある。	成形不明。肩部に木端状具(?)を押し当てたジグザグの刻文がある。	細砂および黒・赤色の小礫を比較的多く混入	良好 ピンク色	頸部復元径約100mm。
	13	壺(?) (刻文土器)		ほぼ平らな肩部(?)破片)。	成形不明。内外面ナデ。6条以上の歯をもつ櫛状具による並行線と波状文。	細砂	良好 クリーム色	
	14	壺 (刻文土器)		曲面をもつ破片。	紐土成形。櫛状具による並行線。	細砂	良好 クリーム色	後期ウバイド~前期ウルクの可能性あり。
15	器形不明		上部はど径が大きい。	ロクロ成形。	相当量の細いスサ	良好 淡緑黄褐色		
16	石製鎌刃	長42、最大幅20、厚さ6		使用による刃こぼれ、両端部をリタッとする。			灰白色フリント。	
テル・アッパリス/リヤース	17	ボウル	口径約120	器壁は薄く、口縁は尖り気味。	ロクロ成形。内外面はロクロ利用のナデ。	細砂	良好 クリーム・ピンク色	コニカル・ボールと考えられる。
	18	ボウル	口径250	中~大型碗で、器内は比較的厚い。口縁は丸く内湾気味に立ちあがる。	ロクロ成形。内面および外面上半部はロクロ水挽き、外面下部はケズリ。	細砂と細いスサ	良好 クリーム色	
	19	ボウル	口径約260	器形はW18に類似。口縁部は方形をおびる。	ロクロ成形。外面水挽き、内面なかのちかるいミガキ。	細砂	良好 淡黄褐色	
	20	壺	現存最大径115	比較的丸味をおびた肩部。	ロクロ成形。外面肩部には水平方向のリゾープ・スリップあり。	細砂を多く混入	不良(甘い) クリーム色	
	21	壺	口径140	「く」の字形に外反する口縁部。	ロクロ成形。全面ナデ。外面肩部付近はリゾープ・スリップ状となる。	細砂	良好 ピンク色	スリップは淡緑黄褐色。
	22	壺	口径約140	口縁部の形態は基本的にW22に同じ。肩上部にかすかな稜がある。	ロクロ成形。肩部外面ケズリ。他はロクロによる水挽き。	多量の細砂	良好 ピンク色	外面ケズリのち淡緑黄褐色スリップ。
	23	壺(?)	不明	口縁は外傾し、中央が僅かに凹む。	ロクロ成形。	多量の細砂	良好 ピンク色	
	24	壺(?)		上端が鋭く尖った三角形の口縁。	ロクロ成形。	細砂	良好 ピンク色	
	25	壺(?)		外傾した三角形の口縁。	ロクロ成形。	細砂	良好 淡赤~ピンク色	
	26	ボウル(?)		円錐形の体部と平らな底部。	ロクロ成形。底部は糸切りのちナデ。	細砂と微量の小礫	良好 ピンク色	
	27	不明 (刻文土器)		部位不明	成形不明。外面に並行する3条の線刻。内面はカキトリに近いケズリ。	細砂	良好 クリーム・ピンク色	外面淡緑黄褐色スリップ。
	28	石製鎌刃	長60、最大幅21、厚さ8		未使用(?)。			灰色フリント。
	29	高 瓦(?)	脚部径約200	端部は三角形で鋭い。	ロクロ成形。	細砂	良好 淡緑色	外面スリップ有か。
30	高台破片			貼付高台。接合後ロクロを利用したナデ。	細砂	良好 ピンク色	外面クリーム色のスリップ。	
31	壺(?)	高台径130	台は高く、大きく広がる。	本体ロクロ成形。貼付高台、外面は高台接合後ロクロ利用のナデ、内面はケズリ。	細砂と細いスサ	良好 ピンク色		

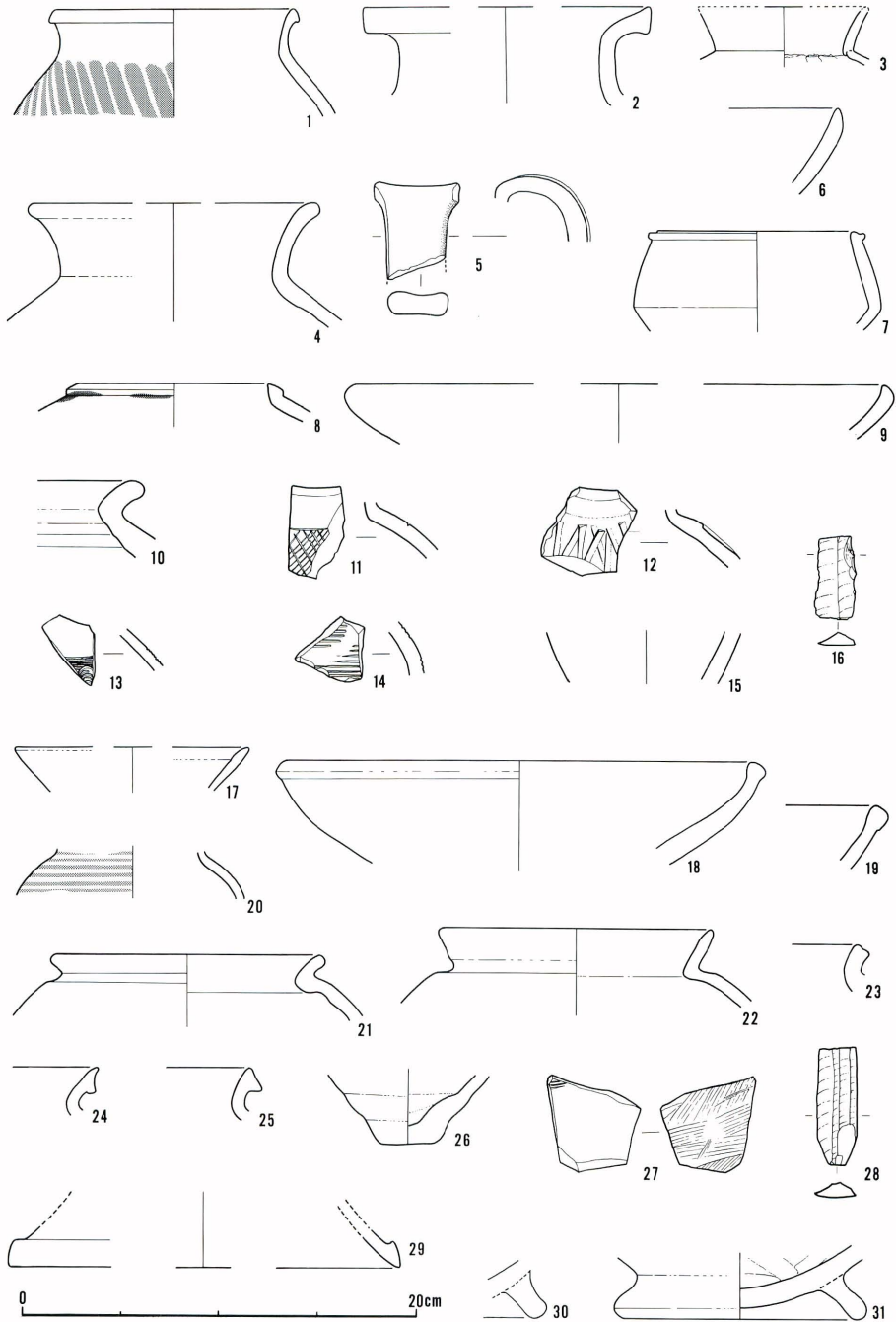


図2 アル・アダイム地域表面採集遺物(ショック2周辺:1-7, ムディーナ:8-16, アップースとリヤース:17-31)

王朝期)の把握であり、対象地域として特に東北イラク地方を重視している。というのも、この地域は、数千年にわたって独自に展開する南・北メソポタミア文化の接触地帯とみなされ、北と南からの影響を受けつつ独自の発展を遂げた地域だからだ。したがってまず、我々はこの地域の調査を通して、上記した時代の土器を中心とした正確な編年を確立したいと考えている。そして当時の社会形態の復元に取り組みたいと思っている。

今回の予備調査は短期間ではあったが、多くの新知見を得ることができ、この地域の重要性を再認識した。我々はイラク考古総局にテル・ショーク地区の合同調査を打診している。それは既に述べた多くの問題点を解決できる可能性を持つ数少ない遺跡であるからである。ハムリン盆地の考古学調査が多くの新事実をもたらしたように、アダム地域への遺跡はそれ以上の情報を提供してくれると期待している。

(1990. 7. 15)

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研究所彙報

1989年

12月5日 藤井秀夫, 文化服装学院で講演: 演題: 「アッターール洞窟出土の染織遺物」。

1990年

2月11日 第4回「大学と科学」公開シンポジウム「文明発祥の地からのメッセージ: メソポタミアからナイルまで」に於いて発表。

演題: 藤井秀夫「イラク考古学調査20年のあゆみ—特にアッターール洞窟の染織品について—」

吉川 守「キシユと洪水伝説」

松本 健「シユメールの古代都市キシユ」

岡田保良「イスラーム時代のキリスト教遺跡アイン・シャーイア」。

2月28日 藤井秀夫, イラク共和国へ出張(〜3月10日)(イラク考古庁からのニムルド出土染織遺物の分析調査依頼を受諾)。

4月1日 岡田保良, 助教授に発令。

松本 健, 助教授に発令。

小口裕通, 講師に発令。

4月5日 北原実徳, イラク古代文化研究所共同研究員として委嘱される。

6月6日 藤井秀夫, 井 博幸, イラク共和国へ出張(〜20日, アダイム遺跡群発掘の事前調査)。

7月4日 平成2年度文部省科学研究費補助金(国際学術研究—学術調査)交付決定: 研究題目: 「古代都市キシユの発掘調査—古代メソポタミア文明の考古学的調査」。

7月5日 吉川 守, 英国オックスフォード大学に於ける「シユメール語研究者シンポジウム」参加のため渡英(会期7月10日〜14日)。

9月11日 藤井秀夫, 坂本和子, 英国マンチエスター大学で開催された“Far Easten Textiles Weekend Conference”で研究発表(〜21日): 演題: “The Chief Characteristics of the Textiles Unearthed from at-Tar Caves, Iraq, in Comparison with those of Near East and Far East Asia” 「アッタ

ール洞窟出土の染織品の顕著な諸特性に関する中東及びアジア地域出土品との比較」(藤井); “A Silk with the Design of Two Dragons diametrically opposed within Medallions of Tang Dynasty” 「唐代の双龍連珠円文絨について」(坂本)。

9月30日 小口和美, 英国マンチエスター大学院留学を修了し帰国。

10月23日 ローマ大学オリエンツ学科教授, Fiorella Ippolito-Strika 博士, イラク古代文化研究所にて講演: 演題: “Portable Shrine—Anthropomorphic Vessels and Zoomorphic Vessels.”

11月3日 藤井秀夫, 広島県立歴史博物館の開館一周年記念特別講演会で講演: 演題: 「古代メソポタミアの遺跡と文化—アッターール洞窟出土のゴザを中心として」。

11月15日 大沼克彦, 東京大学主催国際シンポジウム“The Evolution and Dispersal of Modern Humans in Asia”(11月14日〜17日)で研究発表: 演題: “Significance of Layer B of the Amud Cave in the Levantine Levallois-Mousterian: A Technological Study”。

11月16日 藤井秀夫, 坂本和子, 米国サンフランシスコで開催された第6回オリエンタルカーペット国際会議 “International Conference on Oriental Carpets with-ICOC”で研究発表(〜21日): 演題: “The Marked Characteristics of the Textiles Unearthed from the At-Tar Caves, Iraq” 「イラク, アッターール洞窟出土染織資料の顕著なる特性」(藤井); “Characteristics of the Knotted Pile Fragments from the At-Tar Caves, Iraq” 「イラク, アッターール洞窟出土パイル資料の特徴」(坂本)。

11月28日 岡田保良, 文部省重点領域研究「イスラームの都市性」第2回国際会議にて発表: 演題: “Identity of Ancient Mesopotamian Cities: Urban View to and from the Gate”。

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本誌は研究所の紀要ですが、所外の投稿希望者にも広く誌面を開放し、学術の進展に寄与したいと思います。投稿資格は問いません。年1回の発行を原則とし、原稿の採否と掲載方法については編集委員会が決定します。

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例）[松井 1960： 30～135] [大岡 1987： fig. 12； Naharagha 1981： 45ff]
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1. The manuscript should be typed on one side only of A-4 size paper.
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4. The drawings should be inked over, then covered. In general, photo typesetting of letters, numbers, etc. in illustrations will be done by the editorial board.
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[Childe 1956: 30-32]

[Annahar 1943: 123; Agha 1946: pl.15]

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name, volume number, issue number and publisher's name (place) are to be filled in the references in regular sequence. The title of journals or independent publications should be specified, with underline or by the use of Italic letters.

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正 誤 表 CORRIGENDA

(Vol. X)

	誤 errors	正 corrections
p. 16 ll. 25~26	in a body	in a body (diameter at the carination),
p. 186 l. 24	像嵌用	象嵌用
p. 269 Gr. 46	-30 cm	-100 cm
p. 290 Gr. 64	Kassite period	Isin-Larsa period
p. 297 l. 3	W	N
p. 298 l. 11	into a well	into a pit
	Starr, R.F.S.	Starr, R.F.S. 1937, <i>Nuzi</i> , Harvard University. Wada, Y.
p. 308 l. 4	40 km	40 m
Pl. 81, Pl. 82, Pl. 83	Beads from the graves at Tell Songor B	Small finds from the graves at Tell Songor B

In Figures 14 (p. 252), 17 (p. 253) and 83 (p. 281), the orientation-indicating arrows are to be directed to the south.

刊行物案内 ————— Publications

AL-TAR, I, EXCAVATIONS IN IRAQ, 1971~1974

藤井秀夫編 A 4 版 英文 全 460 頁 (カラー図版入)
 発行年 1976年
 発行 国士館大学イラク古代文化研究所
 申込先 国士館大学イラク古代文化研究所
 郵便振替口座 東京 6-7 6 2 6 4
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『メソポタミア建築序説—門と扉の建築術』(和文)

*THE DEVELOPMENT of THE ARCHITECTURE of DOORS
 and GATES in ANCIENT MESOPOTAMIA* (英文)

Muayad S.B. Damerji (ムアヤッド S.B. ダメルジ) 著
 高世富夫・岡田保良 編訳

発行年 1987年
 発行 国士館大学イラク古代文化研究所
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 英文 B 5 判・上製 340 ページ・定価 9,800 円

現在イラク共和国孝古総局長官である著者ダメルジ博士は、壁体と門と扉に視点をおくという立場からメソポタミア建築のすべてを語る。
 (日本図書館協会選定図書・全国学校図書館協議会選定図書)

編集後記

編集にあたり助力を惜しまなかった沼本助手に謝意を表したい。 (大沼)

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- TELL AL-HAWA AND THE DEVELOPMENT OF URBANIZATION IN THE JAZIRA
by Warwick BALL
- THE LIONS AT SAR MAŠHAD AND THE LION-HUNT OF BAHRAM II
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