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国士舘大学イラク古代文化研究所

Congratulatory Message in Commemoration of the Publication of AL-RAFIDAN Volume X

Shigeyuki SHIMIZU
Chairman of the Board of Regents, Kokushikan University, Tokyo

It is a great pleasure that our bulletin, 'AL-RAFIDAN' Volume X is now ready for publication from the Institute for Cultural Studies of Ancient Iraq, Kokushikan University, with which I am deeply impressed.

I can always talk over the following matters with pride and gratitude, and I am grateful to all the personages that have been concerned in our work: Prof. Hideo Fujii, Director, and his fellow researchers of the Institute have devoted themselves exclusively to the field works at several archaeological sites in Iraq; not only the researchers from our university but also those from other institutions in large numbers have jointly taken part in our excavation works in that country; we have won the fullest credit, understanding and cooperation from the Iraqi Government authorities; we have been in high reputation, financially supported by the Japanese Ministry of Education, Culture and Science, Japan Private School Promotion Foundation, and several other private research-promotion bodies; the Institute has attracted great attention in the international circles, receiving much encouragement.

Thus, I am all the more greatly moved to realize that the commemorable issue of our tenth bulletin is entirely the outcome of such steady and painstaking works.

It was in the 51st year of Showa (in 1976) that the Institute was established under the direct control of Kokushikan University. As defined in the regulations of the Institute, its principal aim is to conduct investigations into Eurasian ancient cultures with those of Iraq as its main target. Since then, the Institute has made not a little contribution to the progress of academic research through joint and interdisciplinary approaches and developing young researchers.

Today, there is a growing need of characterization, activation, and higher standards of academic researches and internationalization strongly urged among individual universities. Now I take great pride in the fact that all the staff members of the Institute are fully engaged in their work day and night, with spiritual and financial understanding and cooperation obtained from the inside and outside of the university, enjoying both domestic and foreign supports. At the same time, I must express my sincere thanks to all the joint researchers who help us with the work day after day.

I do sincerely hope that the Institute will be successful for the more excellent results of international academic exchanges through such steady research activities, responding to the expectations of all the well-wishers.

March, 2nd year of Heisei (1990)

Congratulatory Message on the Tenth Issue of the Bulletin, 'AL-RAFIDAN'

Hiroshi MATSUSHIMA, D. Eng.
President and Professor of Kokushikan University, Tokyo

It is a matter for hearty congratulation that 'AL-RAFIDAN' Vol. X, a commemoration number, is to be published at the Institute for Cultural Studies of Ancient Iraq, Kokushikan University. On this happy occasion, I would like to praise Prof. Hideo Fujii, Director of the Institute, and his staff members for their constant efforts.

The Institute was founded in 1976 under the direct control of Kokushikan University for the purpose of clarifying the ancient Eurasian civilization, with a special focus on the Mesopotamian history. Since that time, they have been making a profound contribution to the creation of new science through fieldwork and joint and interdisciplinary studies. Their work is characterized by a large number of participants from outside various institutions.

The friendship ties binding the Institute and Iraq date back to 1969. For these twenty years since then, Prof. Fujii and his staff members have been engaged in site investigations at various archaeological sites in Iraq.

And the day has actually come when the tenth edition of their bulletin is to be in print after they kept on publishing their invaluable results of studies in succession.

Needless to say, Prof. Fujii and his fellow researchers have suffered numberless great difficulties abroad. But, their endeavors and solidarity have got rid of the difficulties wonderfully well.

I appreciate successful academic reports which they have published in their bulletins sofar after they overcame the difficulties.

I express a deep respect to all the staff members of the Institute, who have been devoting themselves to their work which is I hope a new field of historical studies in Mesopotamia.

And, I do sincerely hope that the tenth issue of the bulletin could be a milestone for the greater success of their studies toward the world-wide reputation of the Institute.

March, 2nd year of Heisei (1990)

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国士舘大学イラク古代文化研究所

HOW FAR DID BUDDHISM SPREAD WEST ?

—— Buddhism in the Middle East in Ancient and Medieval Times ——

Warwick BALL*

Introduction

Nowadays in the West, there is a considerable growing interest in Buddhism. This interest is both academic: in the history and art of Buddhism, as well as religious: in the ideas and way of life that Buddhism offers. Although very far from being a "western"[1] religion in the sense that Judaism, Christianity and Islam are, there is nonetheless enough of an awareness of Buddhism in the West to reach a large number of people.

This present western interest in Buddhism however, is by no means new. There is strong evidence that Buddhist ideas reached the West in ancient and medieval times to influence not only many aspects of the arts and sciences, but some fundamental precepts of early Islam and probably Christianity as well. Indeed, it is important to realize that Buddhism spread *westwards* before it spread east: from its origins in eastern India, it spread into what is now Pakistan and Afghanistan, and the area rapidly became a great centre and stronghold of Buddhism. From there, Buddhism spread northwards into Central Asia, and then eastwards to China, to eventually reach Japan and South-east Asia. The fact that Buddhism is today largely an "eastern" religion therefore, is due more to historical circumstances than to its initial place of origin.

I wish now to examine some of the Buddhist ideas that influenced the West in ancient and medieval times, and then discuss the various points of contact between the West and Buddhism through which these ideas might have travelled. I will then examine some ancient remains in the Middle East that might mark the westernmost extent of Buddhist communities in antiquity, thus assessing the extent and relative strength of this western diffusion to schow that Buddhism might have played a more integral part in western cultural heritage than previously thought.

The Influences

1. Religious

Many religious practices in the ancient Near East—especially those related to asceticism and mysticism —may have had their origins in Indian ideas in general and Buddhist ideas in particular. These influences may have started as early as the 2nd century BC, as some scholars have recognized Buddhist influence in the ascetic Essene sect of the Dead Sea, which then continued to influence early Christianity[2]. But it is in early Islam—particularly its monastic branch, Sufism—that we recognize positive signs of these types of religious influences coming westwards. The life and associated legends of one of the earliest Sufis for example, Ibrāhim ibn Ādham, shows definite Buddhist origins: Ibrāhim ibn Ādham was born in about 730 AD in Balkh, one of the most famous centres of Buddhist learning in Central Asia. He later became an important Islamic mystic, but of an ascetic leaning more typical of Buddhism than of Islam at this time. Indeed, an early 12th century legend of his conversion to Islam follows the story of Prince *Gautama's*

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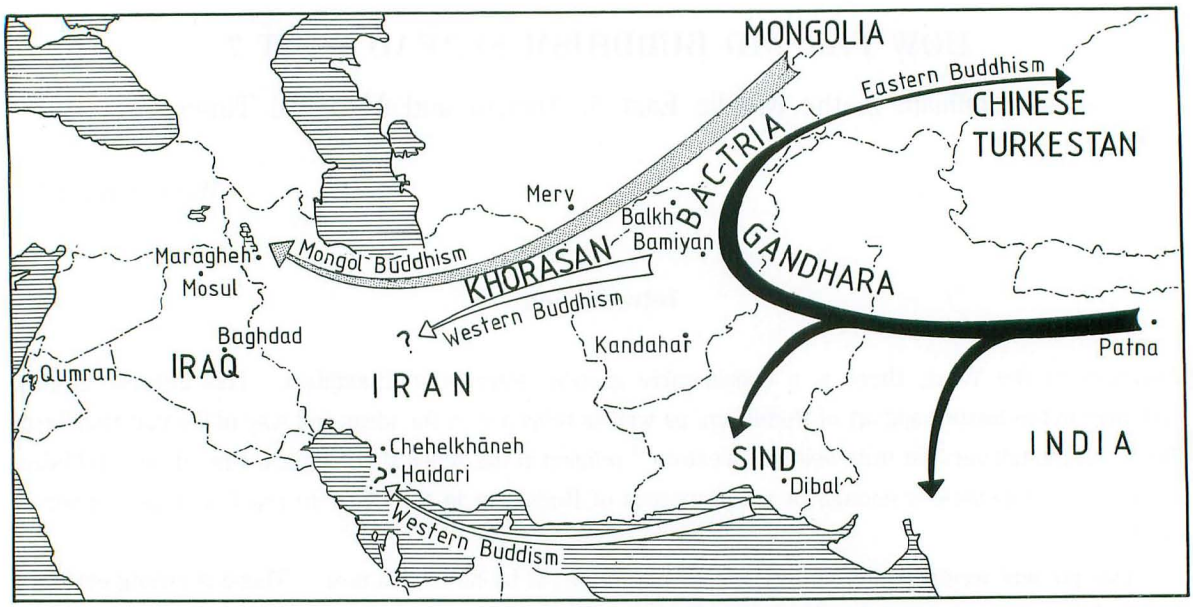


Fig. 1 Map showing location of places mentioned in the text.

conversion to Buddhism almost exactly[3]. Further Buddhist influence on Sufism is seen in the concepts of unity of being and unity with God in the Naqshbandi order of Sufis, which appear traceable to the Buddhist concept of Nirvana. Again, the Naqshbandi movement originated in Buddhist Central Asia[4].

It is tempting also to see many aspects of the Druze religion in the Levant as originating in Buddhism. The Druze believe in an hierarchical ascent to perfection through reincarnation, with each incarnation being a moral testing ground for the next ascent. This belief, though not necessarily exclusive or fundamental to Buddhism, is nonetheless found in Buddhist practice almost everywhere. The similarity is not surprising in view of the origins of the Druze religion: it received its definitive form from Hamza ibn 'Ali, who was born in Sūzān in the early 11th century. Sūzān, now in north-east Iran close to the Afghan border, was certainly close enough to Buddhist Central Asia to be receptive to ideas from there. A tradition that relates of another Druze community in China is perhaps a further indication of eastern connections[5].

Another well-known Buddhist fragment in the West is the legend known by the Moslems as the "Kitāb al-Bilawhar wa Būdāṣ af", known in the Christian world as the story of Barlaam and Josaphat. The word *būdāṣ af* derives from the Sanscrit "bodhisattva"; the story, originating probably in pre-10th century Central Asia, derives from the traditional biography of Gautama Buddha[6].

Speculation has also existed on the origins of some of the early Christian practices, such as monasticism and relic worship. Whilst there is no direct evidence that these practices can be traced to Buddhism, the similarities are nonetheless striking and cannot be ignored in the present context.

2. Cultural

Religion was by no means the only way in which Buddhism—and India generally—influenced the West. Early Islamic science and mathematics was to a very large extent indebted to India, and can be seen in such things as the numerical system, which the Arabs in turn passed on to Europe. Not only was India a source for new ideas, it also acted as a custodian of earlier Greek scientific thought, lost in the West in the "Dark Ages" but preserved in Buddhist learning by its contacts with Hellenistic Central Asia and north-western India. We are thus indebted to the Buddhists for preserving many parts of our own culture, as well as passing on theirs[7]. Buddhist influence on Islamic—particularly Persian—miniature painting was also extensive and has long been recognized. These artistic influences came largely with the Mongol and

Turkish conquests of the Islamic West in the 13th and 14th centuries[9]. Many of the Buddhist artistic ideas too were largely drawn from earlier Greek ideas which reached Central Asia and north-western India in the wake of Alexander the Great's conquests[9]. We can see therefore, a constant interaction of ideas between East and West that always existed despite the vicissitudes of these early periods.

In literature, apart from various writings associated with the religious influences mentioned above, Buddhism has contributed many ideas to the Middle East. These can be particularly seen in Persian literature, which derives much of its literary imagery from Buddhism[10]. The literary connections with and fascination for India dates back very early, and can be seen in Classical writers such as Strabo and Ptolemy, continuing into the Islamic period with writers such as al-Bīrūnī, Idrīsī and Ibn Baṭṭūta[11].

Points of contact

Many more examples of Buddhist ideas spreading westwards can be cited. The above very brief survey however, is enough to show that this influence was not only deep-rooted but also continued over a long time. It is important therefore, to outline the various points of contact between the West and Buddhism to see how these influences may have actually spread.

1. Proselytization

Buddhism first spread through direct proselytization. In the 3rd century BC in Mauryan India, Buddhism was enthusiastically espoused by the Emperor Ashoka, who had just embraced the emerging religion. He summoned a general Buddhist Council at Pataliputra (modern Patna), where it was decided that missionaries should be sent out to all the known world. Accordingly, missionaries went forth and edicts proclaiming the Buddhist message were set up all over the empire. That at Bhabra in India even specifies the countries of the West that were claimed to have been converted: "...conquests by the law of Piety [Buddhism]...won by his Sacred Majesty in his own dominions and in all the neighbouring realms as far as 6000 leagues where the Greek king named Antiyaka [Antiochus II] dwells, and the north of that Antiyaka, where dwell the four kings severally named Turamay [Ptolemy], Antiyaka [Gonatus], Magas [Magas of Cyrene], Sikandar [Alexander of Epirus?], and in the south Cholas and Pandyas, with Ceylon also"[12]. As confirmation—at least in part—of this claim, Ceylon was indeed converted soon after the Council and has since remained so, but the claims for conversions in the Hellenistic world are presumably mere statements of intent. We do know from western sources however, that Indian—presumably Buddhist—missions were received in the West at least as early as Roman times[13]. The earlier Hellenistic rulers mentioned in the edict therefore, presumably received such missions as well. Indeed, they were probably received with some interest, knowing the Greek tolerance of and receptiveness to new philosophical ideas. A possible Buddhist gravestone found at Alexandria in Egypt may be seen as archaeological evidence of one such mission[14]. Certainly speculation on Mauryan missionary activities in Greek speaking communities received graphic confirmation in 1958 with the discovery of an Ashokan Buddhist edict proclaiming the "Law of Piety" in Greek at Kandahar in Afghanistan. Buddhism then continued at Kandahar until well into Islamic times[15] (Pl. Ia).

Further west than Afghanistan however, direct documentary evidence for Buddhist proselytization is very fragmentary. The 3rd century AD inscription of the Zoroastrian High Priest of the Sasanian Empire, Kartir, carved in the cliffs at Naqsh-i Rustam near Persepolis, actually refers to Buddhists in Iran at the time, albeit in a rather negative way: "And the Jews and Buddhists and Brahmans and Nazarites and Christians and 'Maktag' and Manichaeans in the kingdom are being smitten. And their idols were destroyed"[16]. Since eastern Afghanistan and parts of Pakistan probably formed a part of the "kingdom" at

this time, this statement may not mean as much as it first appears. We read later on however, in the early 11th century writings of al-Bīrūnī, one of the greatest of all medieval Islamic scholars, that "In former times, Khurasan, Persis, Irak, Mosul, and the country up to the frontier of Syria, was Buddhistic, but then Zarathustra went forth from Adharbaijan and preached Magism in Balkh (Baktra)... In consequence, the Buddhists were banished from those countries, and had to emigrate to the countries east of Balkh"[17]. This statement can perhaps be taken as an indirect reference to Kartir's persecution of the Buddhists. Whilst al-Bīrūnī's claim for such extensive westward penetration of Buddhism must surely be exaggerated, it is worth noting that the pre-Islamic name for Mosul one of the cities he names as Buddhist—was "Budh Ardashir"[18].

2. Trade

More active than Indian missionary activity would have been Indian trading activity with the West—indeed, it is usually religion that follows trade rather than the other way round. Western—Hellenistic, Roman, Sasanian and Arab—trading missions to and colonies in India are well known and hardly need reiterating here[19], but Indian trading missions to the West, though smaller in scale, are less well known. Accordingly, we read in the anonymous 2nd century BC work, *Peryplus of the Erythraean Sea,* of traders from western and southern India coming to Aden, Socotra, Salala in Arabia and Apologou (Arab Ubullan) near Baṣra at the head of the Gulf[20]. The island of Socotra off the coast of Arabia even had a colony of Indians living there in the early 2nd century BC. Indeed, the name of Socotra itself is derived from the Sanscrit: *Sukhatara-dvīpa,* meaning "the most pleasant land"[21]. Later on, we read in Islamic sources of cargo ships from India continuing to put in at Gulf and Arabian ports. That these traders were Buddhists rather than Hindu is highly likely, as caste restrictions discouraged Hindus from travelling abroad—a factor that has always confined Hinduism mainly to the Indian subcontinent whilst Buddhism spread all over Asia.

Evidence for late Buddhist trading activities are seen elsewhere in the Indian Ocean. The Maldive Islands were converted to Buddhism in the 6th century by missionaries arriving with the traders from Ceylon[22], while on the Gulf the unusually high occurrence of Indian and Buddhist place names seems to indicate the presence of extensive trading activities there as well. These place-names contain roots such as *hind,* meaning "Indian", *but,* meaning "Buddha" (though sometimes simply "idol") and *bahār,* meaning "Buddhist monastery" (from the Sanscrit *vihara*) and *bahār,* meaning "Buddhist monastery" (from the Sanscrit *vihara*). It is significant that all of these places without exception are associated with ancient and medieval trading entrepôts, most of them having strong connections further east. For example, two places called *Bahāristān* and *Batkhāneh* ("Place of the Buddhist monastery" and "Buddhist idol-house"?) lie near Sīraf, one of the greatest of all Gulf ports for the eastern trade. Many other such occurrences of Buddhist or Indian place-names associated with trade entrepôts can be cited. Taken in isolation, they may of course, mean nothing, but taken together and supported by other evidence, such occurrences can hardly all be coincidental. Especially when one considers that all of them, without any exception, are associated with trade entrepôts[23]. We know that many such trading centres contained foreign colonies, particularly of those foreigners engaged in trade. For example, archaeological evidence suggests a Palmyrene Syrian trading community on Kharg Island[24], while documentary evidence shows that a Chinese colony existed in 10th century Baghdad[25]. In this context therefore, colonies of Buddhist Indians seem very likely and, taken with the toponymic evidence, even probable.

Relations between the Sasanian Empire and the Buddhist world were brought closer in the 5th century with the alleged marriage between Bahram V and an Indian princess. As part of her dowry, the port of Dibal at the head of the Indus River was ceded to the Persians[26]. Dibal was important not only as a major trading entrepôt, but also as a centre for Buddhism in Sind (see below). Further evidence for the

continuation of this close relationship can be seen with the final domination of Islam in Iran, when the surviving Zoroastrian communities chose to migrate to Buddhist and Hindu India rather than the Christian West, and survive there to this day as the Parsees.

3. Manichaeanism

Although a dead religion today, Manichaeanism, at its height in the 1st millennium AD, was a world religion stretching from the Atlantic to the Pacific. As such, it absorbed an immensely wide range of different cultures, and—not least—religious ideas. Manichaeism therefore, was an ideal vehicle for the diffusion of religious ideas both eastwards and westwards, particularly, in the context of the present paper, of Buddhism to the West.

The religion was founded in the 3rd century BC in Mesopotamia and Iran by the prophet Mani. In the religious fervour prevailing in the Parthian Empire at the time, Mani was able to borrow elements from many different sources to found a syncretic religion of universal appeal: Christianity and Gnosticism from the West, Zoroastrianism from Iran, and Buddhism from India and Central Asia. Mani probably travelled to India, so it is hardly surprising that many fundamental Buddhism elements, such as the doctrine of transmigration of souls or the practice of monasticism can be found in Manichaeanism as well[27].

Manichaeanism was ruthlessly supressed in Sasanian Iran, largely by the efforts of the high priest Kartir mentioned above. It survived most however, in the—significantly—Buddhist environment of Central Asia, where it flourished for a further thousand years. It survived also, albeit in different forms, in cults that spread westwards into the Roman world. Many of the possible Buddhist elements in early Christianity mentioned above therefore, may well have arrived in Europe by this means.

4. Afghanistan

Contacts through trade and religious fervour are not the only routes by which Buddhist influence may have reached the West. There are other, better known points of contact. Eastern and northern Afghanistan —ancient Bactria and Gandhara—was one of the most thriving centres of Buddhism in the ancient East between about the 2nd century BC and the 10th or even 11th century AD. The Greek conquest in the 4th century BC had already opened up the area to western contacts, and indeed laid much of the political and philosophical groundwork for the eventual growth of Buddhism there, just as the Greeks prepared the ground for the eventual spread of Christiarity further west. The subsequent penetration of the Hellenistic successor states down into north-western India, followed by the conquests of the Sasanians in the 3rd century AD, maintained these contacts with the West, making this area an ideal melting-pot for occidental and oriental ideas. Because of this great religious activity, these years in this area were perhaps the most formative in the early history of Buddhism, when many of its philosophical, ritual and iconographical ideas first evolved. The concept of the Buddha image, for example, before only represented by a symbol such as a footprint, was first formulated here from the contacts with Greek figural art; great monasteries grew up and flourished; the idea of the stupa evolved into a symbolic focal point for Buddhist worship[28]. It was from here, rather than eastern India where Buddha lived, that Buddhism spread northwards and eastwards to become the universal religion it is today.

With "Afghan" Buddhism being so dynamic and having such far reaching influences, there was naturally some diffusion westwards as well. The western presence in the area was reinforced with the arrival of the Arabs in the 8th century. Although Islam eventually predominated there (albeit over a long period: Islam did not reach some parts of Afghanistan until the end of the 19th century), Buddhism survived several more centuries co-existing with Islam to exert the influence on Islam that we have already seen.

Today, the countryside of Afganistan is littered with the remains of its Buddhist past, testifying to its

former importance: stupas, monasteries, shrines, paintings, etc. There are far too many to list here, but one cannot pass on without mentioning Afghanistan's most famous Buddhist monument: the colossal statues at Bamiyan. To my mind, these extraordinary statues and the vast rock-cut monastic complexes associated with them are not only perhaps the greatest of all Buddhist monuments, but as a sheer, positive statement of religious belief and self-confidence, rank with the greatest religious monuments of mankind (Pl. Ib).

5. The Barmakids

A fascinating and tantalizing footnote to Buddhism in Bactria and its possible western influence is seen in the history of the Barmakid family. The Barmakids were a family of powerful viziers at the court of the early Abbasid caliphs in Baghdad in the 8th and 9th centuries. Originally however, they were a family of powerful Buddhist priests at one of the most famous centres of Buddhist learning in Central Asia: the monastery of Nau Bahār at Balkh in northern Afghanistan[29]. (We have already encountered the word *bahār* on the Gulf; *nau bahār* means "New Buddhist Monastery". The name *Barmak* itself derives from the Sanscrit *Pramukha*, meaning "chief"[30]). This has led to speculations that they continued to unofficially encourage the spread of Buddhist ideas at the Caliph's court in Baghdad, and even to patronise a sect of Buddhism associated with the name *nau bahār* that was specifically new (as the name *nau* implies) and western-orientated. Evidence for this is seen in the unusually high occurrence of the name Nau Bahār in a series of place names stretching in a rough line westwards along the trade route towards Baghdad[31]. In support of this hypothesis, there is on the Gulf, in addition to the place names containing *bahār* mentioned above, a village just a few kilometres away from a site of possible Buddhist associations (Chehelkhāneh, discussed below), named in fact, Barmak. Furthermore, we read that one of the Barmakids, Khālid ibn Barmak, was governor of this part of the Caliphate for two periods in the 8th century[32]. If indeed they were unofficial patrons of Buddhism, the existence of a village named after the family next to a monument of almost certain Buddhist connections can hardly be a coincidence. Other members of the family certainly acted as particularly able governors in areas of the Caliphate with Buddhist populations, such as Central Asia, Afghanistan and Sind.

6. Sind

Sind in fact, was another place where the West came into close contact with Buddhism, first when the prophet Mani travelled through there in the 3rd century, converting the Buddhist king of Turan to Manichaeism[33], and then when the Arabs conquered it in the early 8th contury. Buddhism at this time was the dominant religion of Sind, and Hitti thus observes that "contact between Semitic Islam and Indian Buddhism was permanently established"[34]. In Sind we have, on the one hand, Buddhism surviving relatively late but still close to its Indian origins, unlike Bactrian Buddhism, and on the other hand, we have Islam in the very first years of its conception and dramatic outward expansion gaining a permanent hold. In the present discussion therefore, the importance of the contact between the two major religions is paramount.

The last Buddhist dynasty to rule Sind was from the mid-6th to the mid-7th century. The rulership was then usurped by Brahmans, but Buddhism still continued to be widely practised and even encouraged, in some cases by the Brahman rulers themselves. Much of the administration and provincial government (especially in the province of Tūān, where Mani received much of his Buddhist ideas) remained in the hands of the Buddhist priesthood, known as *Samanis* (a word meaning "Buddhist priest", from the same Sanscrit root that English gets its word "Shaman"). Early Islamic accounts of the conquest of Sind also refer to temples again called Nau Bahār, while one of the provinces of Sind, next to Tūrān, was called Budhiya or

Budhpūr after the Buddhists. In many cases, the Arab invaders were met with peaceful overtures and requests for terms on religious grounds, with opposition mainly from the more warlike Brahmans. The governor of Budhiya even claimed that Islamic victory was inevitable and had been predicted in the "books of the Buddh". The Arabs themselves reciprocated by honouring the Buddhist priesthood and reinstating them in their traditional positions[35]. Buddhism thus continued and coexisted after the Islamic conquest, with the contact between the two religions becoming well established.

There is also evidence that the Buddhism of Sind was very outgoing: it had strong mercantile connections all over western and south-western Asia, both before and after the Arab conquest. Many of these trade connections were with the Gulf, which tie in very well with the possible Buddhist communities there reviewed above. The Arab conquests would have reinforced such western contacts. In Buddhist Sind therefore, we have one of the most likely routes by which Buddhist influences travelled west, for only in this case do we have the combination of prominent Buddhism, direct and permanent western contact, and major trade connections not subject to the political vicissitudes of land routes.

7. The Mongols

The only time that Buddhism actually spread west in the political sense was with the Mongol conquest in the 13th century. Iran was conquered in 1218–20 by Chinghiz Khan, and in 1256 his grandson Hülagü Khān founded a Mongol dynasty in the Middle East known as the Īlkhāns. Hülagü was almost certainly a Buddhist when he founded this dynasty, centred on north-western Iran, as was his successor Arghūn Khān, during whose reign Buddhism was actively encouraged in the Middle East. It was repressed however, in 1295 when Arghūn's successor, Ghazan Khān, converted from Buddhism to Islam, and eventually disappeared altogether from the Ilkhanid Empire[36]. This gives a total of almost forty years for Buddhism in the Middle East, which although relatively brief, was at least the official court religion enjoying the privileged imperial patronage—enthusiastically under Arghūn—of a particularly powerful dynasty. Accordingly, contemporary accounts mention many Buddhist temples (the word used is *butkhāneh*, which we have already encountered on the Gulf) being built in Iran: Hülagü's temples at Khoy and Maragheh, Arghūn's temple at Tabriz, and Ghazan's temples in Khorasan[37], while other accounts mention the presence of Buddhist teachers and learned men in Turkey[38]. With Ghazan's conversion however, all temples and monasteries were ordered to be either destroyed or converted into mosques.

Buddhist remains in the Middle East

We have seen threfore, that the theoretical requirements for Buddhist remains exist in Middle East. Against this background, there are a number of rather enigmatic monuments in Iran that deserve examination. The first two lie on or near the Gulf, and are associated with the eastern trade network discussed above. The other two lie near Maragheh in Azerbaijan, the first capital of the Ulkhanid Empire.

1. Chehelkhāneh and Haidari

Not far from each other on the Gulf are two very unusual rock-cut complexes: the caves of Chehelkhaneh (Pl. IIa), about 70 km inland from Bushehr, and the caves of Haidari (Pl. IIb), a short way inland further south of Bushehr. The tendency for Buddhists everywhere in antiquity—from Ajanta to Bamiyan to Tun Huang— to cut their places of worship from the rock is well known, and has almost become as much a definitive feature of Buddhist architecture as the ubiquitous stupa. Thus, in both cave complexes here, there are many features, such as the shapes, layout and arrangements of the rooms, that resemble known Buddhist cave complexes elsewhere. The large elliptical niches cut into the cliff faces at both

Chehelkhaneh and Haidari for example, are another such feature that occurs frequently in Buddhist cave architecture, where they traditionally frame a seated statue of Buddha. Haidari in addition contains a ritual circumambulatory in its main chamber, which is an essential feature of Buddhist monastic complexes elsewhere, usually surrounding a stupa but also a Buddha image or similar object of worship[39].

That both sets of caves were religious—and furthermore, monastic—there can be little doubt in the absence of alternative domestic, industrial or military explanations for them. With the absence of any direct epigraphical or iconographical evidence in the caves themselves, identifying them with the Buddhists in a traditionally non-Buddhist part of the world must of course be very tentative. But a Buddhist identification is nonetheless very attractive, and best fits both the architectural features of the caves themselves and the theoretical requirements of the background of Buddhist trading connections reviewed above. Chehelkhaneh in fact lies adjacent to the remains of the important medieval trading entrepôt of Tawwaz, that reached its peak between the 7th and 10th centuries[40]. It is additionally associated with a village of the name of Barmak, as we have seen above when discussing the Barmakids. These puzzling cave complexes therefore, may well mark small Buddhist monastic communities that grew up to serve the Indian traders along the Gulf.

2. Rasatkhāneh and Varjuvi

The first capital of the Mongols in the Middle East was at Maragheh, in north-western Iran not far from the present Turkish border. It is here, if anywhere, that one would most expect to find Mongol Buddhist remains. Today, there is little left in Maragheh itself of the old Mongol capital, but nearby there are two very puzzling monuments, probably of the Mongol period, that bear examination. The first is the cave complex of Rasatkhaneh (Pl. IIIa) in the side of a hill overlooking Maragheh; the second is another set of caves at Varjuvi (Pl. IIIb), a small village 6 km further south. Both are cut entirely from the rock, but neither fit into any known pattern of Islamic architectural history. These caves do however, bear a close resemblance to many Buddhist rock-cut monuments in Central Asia, from whence the Mongols came. The tendency for Buddhists to cut their religious monuments from the rock has been noted above, and nowhere was this more prevalent than in Central Asia. It would hardly be surprising therefore, for the Mongols to bring such traditions with them to Azerbaijan. Accordingly, both sets of caves have ritual circumambulatories which we have already recognized as essential features of Buddhist worship, while the Varjuvi caves have some illegible remains of frescos, which again is consistent with Buddhist cave architecture. Other features confirm this, but these are the main ones. Ghazan's conversion to Islam and his subsequent order for the destruction of all temples is very much in evidence at both sets of caves: both have *mih.rabs* roughly inserted into them as secondary features. In addition, at Varijuvi several Koranic inscriptions were carved onto the walls, and the frescos—inconsistant with Islam—were carefully chiselled away. Both features were done at the same time that the *mih.rab* was inserted. The caves therefore, must surely have been some of the Buddhist temples that Ghazan ordered to be converted[41].

Once again, direct epigraphical or icongraphical evidence for Buddhism eludes us in these caves. But against the background of Mongol Buddhism, similarities with known Buddhist architecture, and the secondary nature of the Islamic features, Buddhism is by far the most plausible explanation. As such, these caves represent the westernmost monuments of Buddhism in antiquity.

Conclusion

Speculation has always existed on the possibility of Buddhism spreading westwards in antiquity. On the one hand, we have many very tantalizing tidbits of information: an unusual placename here, an unexplained

monument there, evidence for unusual religious occurrences elsewhere. But on the other hand, we have no concrete, irrefutable evidence on the ground further west than Afghanistan: no inscriptions, no stupas, no Buddha statues. It is important however, to remember that the initial outward drive of Buddhism was towards the *west*, not the east. It can only surely be a matter of time therefore, before archaeological remains are discovered in the Near East to give us the definite evidence we need for this westward drive of Buddhism.

NOTES

1. The term "western" is here used in its broadest sense, from an "eastern" standooint, to include the Middle East and Hellenistic world, as well as Europe.
2. Dupont-Sommer, 1970, discusses a possible connection between the Essenes and a Buddhist inscription discovered in eastern Afghanistan.
3. See O'Leary, 1949: p. 130, Hitti, 1970: pp. 433–4 and Jones, 1978, for discussions on the Buddhist connections with the life of Ibrāhim ibn Ādham.
4. See Ahmad, 1969: pp. 40–42 for a discussion of the Naqshbandis.
5. See Hodgson *et alii*, 1965, for a history of the Druze.
6. The story is discussed in Lang 1965 and Gimaret, 1970: pp. 282–7. On the derivation of *budasal* from *bodhisattva*, see Bailey, 1931.
7. This is discussed more fully by O'Leary, 1949: 96–130.
8. The Buddhist influence on Persian and Arab art and architecture is discussed by Gimaret, 1970: pp. 274–82 and Melikian-Chirvani 1975.
9. This is discussed by Bussagli, 1953. Such influences are widely recognized by Japanese scholars; see Motamedi, 1975 and 1976 for summaries in English of recent Japanese work on the Buddhist art of Central Asia.
10. This is discussed in full by Melikian-Chirvani, 1974.
11. Translations of their works are published by Sachau, 1888, Jaubert, 1836–40 and Defremery & Sanguientti, 1853–8.
12. Translation by O'Leary, 1949: p. 123. See also Bloch, 1950: p. 130.
13. These are summarized by Warmington, 1928: pp. 35–40, and Wheeler, 1955: pp. 161–2.
14. Fraser, 1972: p. 81, n. 391 discusses this gravestone and other evidence for Indians at Alexandria.
15. See Schlumberger *et al.*, 1958. The Buddhist associations and origins of the name "Kandahar" are fully discussed in Ball, 1988.
16. Translated by Brunner, 1974: pp. 105–6.
17. Translated by Sachau, 1888: vol. 2, p. 21.
18. See Le Strange, 1905: p. 87.
19. Such activities are discussed by Warmington, 1928, Wheeler, 1955, Whitehouse & Williamson, 1973 and Hourani, 1951.
20. Huntingford, 1980: pp. 33, 38 & 40.
21. Hourani, 1951: p. 22.
22. They remained so until the conversion to Islam in 1135. See Reynolds, 1975.
23. This toponymic evidence is discussed more fully in Ball, 1986: pp. 106–7.
24. Ghirshman, 1959.
25. Pelliot, 1929.
26. Tabari, tr. Noldeke, 1879: p. 108, n. 1. See also Herrmann, 1976, p. 122.
27. The diffusion of Manichaeism is discussed by Sundermann, 1986.
28. The Afghan origin and diffusion of such Buddhist ideas are discussed by Combaz, 1935, Coomaraswamy, 1926–27, Gaulier *et alii*, 1976, Hallade, 1968 and Motamedi, 1977.
29. The Buddhist origins of the Barmakid family are discussed by Bouvat, 1912, Sourdel, 1960, and Bulliet, 1976.
30. Bailey, 1943: p. 2.
31. See Bulliet, 1976.
32. Sourdel, 1965.
33 Sundermann, 1986: p. 13.
34. Hitti, 1970: p. 212.
35. The story of the Arab conquest of Sind and the contact with Buddhism survives in an early document, the *Chachnama*, translated by Kalichbeg Fredunbeg, 1900. See also Lambrick, 1973.
36. Bausani, 1968.
37. Wilber, 1938: p. 15.
38. See Esin, 1972: p. 67.

39. These caves have been fully publishad in Ball & Whitehouse, 1976, Ball, 1976: pp. 104–127 and Ball, 1986.
40. Le Strange, 1905: pp. 259–60.
41. These caves have been fully published in Ball, 1976: pp. 127–143 and Ball, 1979.

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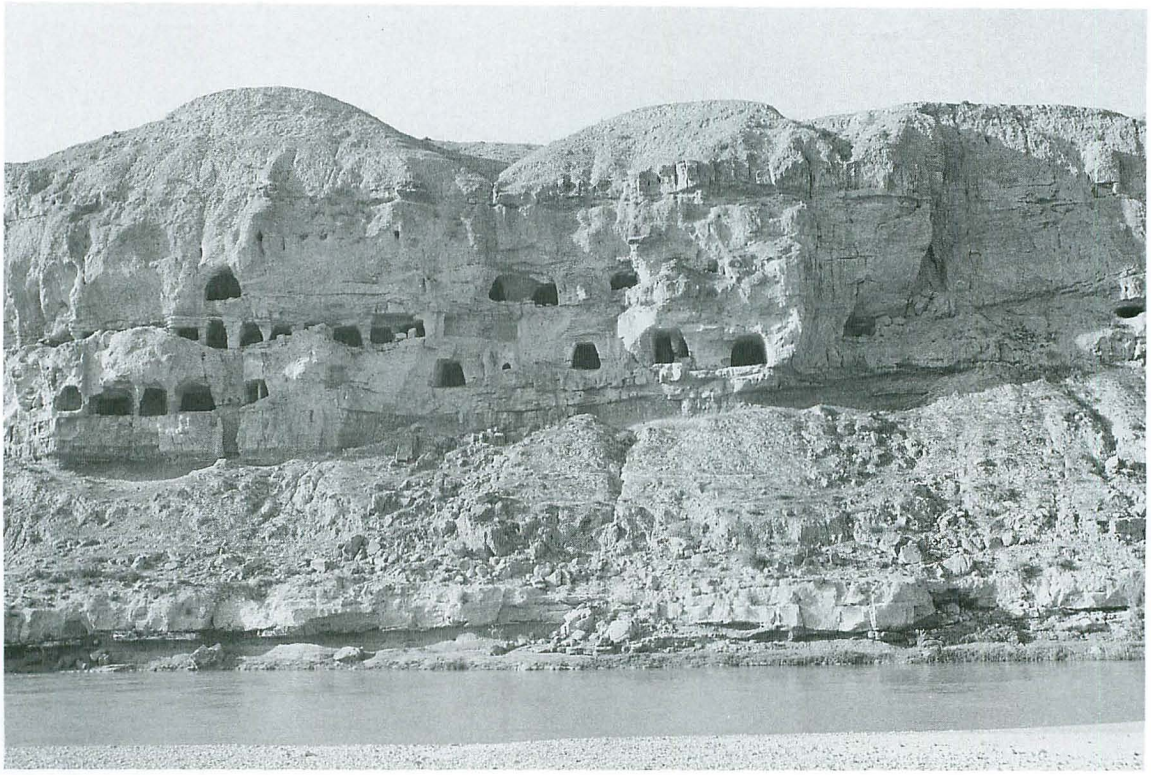
Pl. 1



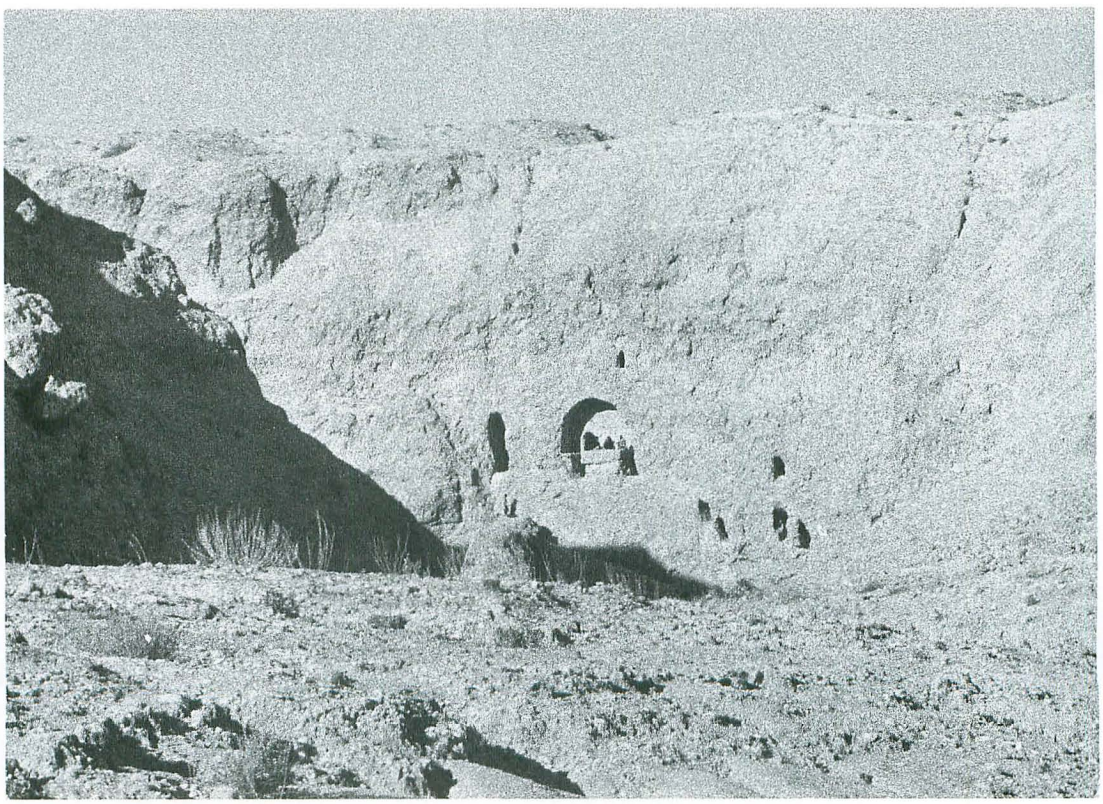
a. The Buddhist stupa and site at Kandahar



b. The colossal Buddha statue at Bamiyan



a. The Chehelkhaneh caves near Bushire.
Note the large elliptical cave at the top left, which may have been for a seated Buddha statue.



b. The Haidari caves near Bushire.
Note again the large elliptical niche and platform.



a. An interior of one of the Rasatkhaneh caves of Maragheh.
The platform in the centre may have been for ritual circumambulations. The opening at the lower right leads to further chambers.



b. Interior of one of the caves at Varijovi near Maragheh.
The line of elliptical niches may have been to take images.

CHANGES OF THE NINEVITE 5 CARINATED BOWL

—— Analysis by measurment values ——

Hirotoshi NUMOTO*

1. Introduction

Recent archaeological research in the Eski-Mosul region in Northern Iraq has made clear outline of chronological order of the Ninevite 5 period. Chronological relation between painted ware and incised ware in the Ninevite 5 period was proved in detail through the study of strata in Tell Mohammed Arab [Roaf 1983; 1984], even though it had been supposed that the period of painted ware was prior to that of incised ware [Speiser 1933]. According to the chronological order in Tell Mohammed Arab, the Ninevite 5 period is roughly divided into two periods, that is, the Mohammed Arab period 2 (MA2), which is the Early Ninevite 5 period, and the Mohammed Arab period 3 (MA3), which is the late Ninevite 5 period. Five phases of Mohammed Arab period 2 contain both ware with simple incised motif and painted ware which is similar to that of Tell Thalathat. This fact shows that painted ware and incised ware from a granary in Tell Thalathat [Fukai et al. 1974], sharing their characteristics with those of Mohammed Arab period 2, belong within the Ninevite 5 period. Roaf and Killick, who excavated Tell Mohammed Arab, call this the Painted and Early Incised period. On the other hand, incised ware with a heavy and complex motif and excised ware are found in Mohammed Arab period 3, but no painted ware appears. They call this period the Late Incised and Late Excised period, and place this in the Late Ninevite 5 period [1987]. A flood stratum between level "Mohammed Arab period 2" and those of Mohammed Arab period 3 indicates that there was a temporal gap between these two periods [Roaf 1983; 1984].

The most remarkable thing in research results on Tell Karrana 3 is that a transitional level was found, which is placed between the Late Uruk and the Ninevite 5 periods, and which does not exist in Tell Mohammed Arab [Fales et al. 1987; Wilhelm and Zaccagnini 1987]. Pottery from this transitional level mainly constitutes painted and plain ware. The shape is regarded as a transformation from that of the Late Uruk period. Considering this fact, Roaf and Killick proposed "the Late Uruk Transitional period" between the Late Uruk period and Mohammed Arab period 2 [1987]. The discovery of this level shows that the shape of pottery in the Ninevite 5 period followed that of the Late Uruk period and was gradually modified[1].

Thus, Roaf and Killick have indicated a chronology of the Ninevite 5 period, which is roughly classified into the Late Uruk Transitional period, the Painted and Early Incised period (MA2) and the Late Incised and Late Excised period (MA3) [1987]. The present author agrees with their chronological classification, and discusses in this paper the chronological changes of Ninevite 5 carinated bowls based on their order.

In this paper, the present author analizes characteristics of Ninevite 5 carinated bowls, making comparison between their numerical values, and tries to establish a chronological order of the Ninevite 5 period, referring to transition of carinated bowls in the period concerned. Roaf refered to transition of carinated bowls, and insisted that shallow round-based fine ware bowls are to be found in the period of the latest level of Tell Mohammed Arab, and that, on the contrary, the bases of carinated bowls were to become more hemispherical in the earlier period than that of the latest level. Though Roaf mentioned that

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Table 1. Measurement of Ninevite 5 carinated bowls.

No	Site	Find Spot	Type	RD (cm)	MD (cm)	H (cm)	UH (cm)	RD : MD (%)	UH : H (%)	H : MD (%)	Literature
1	Fisna	Floor B	Painted	7.1	11.2	9.2	3.5	63.4	38.0	82.0	Nomoto 1988, Fig.16-22
2	Fisna	Floor B	Plain	6.8	11.2	10.2	4.4	60.2	43.1	91.0	Numoto 1988, Fig.15-3
3	Fisna	Floor B	Plain	6.8	10.8	9.0	4.1	62.9	45.5	83.0	Numoto 1988, Fig.15-1
4	Fisna	Floor B	Plain	8.2	12.0	11.4	4.9	68.3	43.0	95.0	Numoto 1988, Fig.15-7
5	Fisna	Floor C	Plain	8.5	12.1	9.6	4.7	70.2	48.9	79.0	Numoto 1988, Fig.15-2
6	Thuwaij	Phase G	Plain	7.5	10.9	7.6	3.6	68.2	45.3	68.8	Fujii, et al. in press, Fig.5-7
7	Jigan Area C	G-4 Level 10	Painted	6.6	10.5	7.2	3.8	62.9	52.8	68.6	Fujii, et al. 1987, Fig.5-12
8	Karrana 3	Level 2,3	Painted	10.9	14.8	10.0	5.8	73.5	57.6	67.6	Rova in press, Fig.5-1
9	Karrana 3	Level 2,3	Painted	9.1	12.7	8.1	4.4	71.4	54.1	63.8	Rova in press, Fig.5-2
10	Nineveh	CC.18	Painted	6.9	10.7	8.8	4.2	64.3	47.2	82.3	Thompson and Hamilton 1932, Pl.52-2
11	Nineveh	N.12.10	Painted	9.0	13.7	9.6	4.9	65.8	51.0	72.0	Thompson and Hamilton 1932, Pl.52-1
12	Nineveh	CC.17	Painted	7.5	10.2	7.3	3.5	73.3	48.0	71.0	Thompson and Hamilton 1932, Pl.52-4
13	Nineveh	Q8(B)	Painted	7.7	9.4	7.5	3.7	81.0	48.9	79.8	Thompson and Hamilton 1932, Pl.52-14
14	Nineveh	CC.17	Painted	7.3	10.2	7.9	4.2	71.9	52.5	77.8	Thompson and Hamilton 1932, Pl.52-3
15	Nineveh	CC.16(B)	Painted	7.5	11.4	7.7	4.3	65.8	56.5	67.0	Thompson and Hamilton 1932, Pl.52-13
16	Nineveh	Q14(B)	Painted	10.0	13.9	9.8	5.8	71.8	59.7	70.1	Thompson and Hamilton 1932, Pl.52-9
17	Nineveh	V.15(B)	Painted	8.7	12.3	9.7	5.9	70.3	61.4	78.0	Thompson and Hamilton 1932, Pl.52-11
18	Nineveh	N18	Painted	9.6	11.8	8.7	3.3	81.1	62.3	73.0	Thompson and Hamilton 1932, Pl.52-7
19	Nineveh	CC.17(B)	Painted	6.6	8.7	6.0	4.0	75.7	66.6	69.0	Thompson and Hamilton 1932, Pl.52-6
20	Chagar Bazar	Level 5, G188	Painted	8.0	9.8	7.8	4.3	81.6	55.1	79.6	Mallowan 1937, Fig.25-1
21	Mohammed Arab	Period 2	Painted	8.3	10.0	8.3	4.5	83.0	54.2	83.0	Killick in press, Fig.4-9
22	Mohammed Arab	Period 2	Plain	7.0	9.7	8.7	4.3	72.4	50.0	89.7	Killick in press, Fig.6-7
23	Mohammed Arab	Period 2	Plain	7.7	10.8	9.7	4.4	70.8	45.5	89.8	Killick in press, Fig.6-8
24	Mohammed Arab	Period 2	Plain	8.3	11.7	9.3	4.0	71.4	42.9	79.5	Killick in press, Fig.6-9
25	Mohammed Arab	Period 2	Ribbed	8.0	10.0	8.9	4.3	80.0	48.5	89.0	Killick in press, Fig.6-12
26	Mohammed Arab	Period 2	Plain	8.7	8.7	9.3	5.9	100.0	63.6	106.9	Killick in press, Fig.6-10
27	Mohammed Arab	Period 2	Layered	8.6	10.3	8.9	4.9	83.3	54.8	86.0	Roaf 1983, Fig.3-9
28	Mohammed Arab	Period 2	Layered	8.7	10.0	7.9	4.9	86.6	61.0	79.0	Roaf 1983, Fig.3-10
29	Kutan	Level 1,2,3	Plain(gray)					91.9	52.7	90.3	Forest 1987, Fig.9
30	Kutan	Level 1,2,3	Plain(gray)					88.6	60.4	100.9	Forest 1987, Fig.9
31	Kutan	Level 1,2,3	Incised(notched band)	7.5	8.8	7.0	4.0	85.2	57.1	79.5	Bachelot in press
32	Kutan	Level 1,2,3	Incised(notched band)	9.8	11.8	9.8	5.6	83.0	57.1	83.0	Forest 1987, Fig.9
33	Kutan	Level 1,2,3	Layered	11.6	14.4	11.7	5.6	80.5	48.2	81.3	Bachelot 1987, Pl.4
34	Kutan	Level 1,2,3	Ribbed	9.2	10.9	9.6	5.1	84.4	53.1	88.0	Bachelot 1987, Pl.4
35	Kutan	Level 1,2,3	Layered	8.2	9.3	8.6	4.9	88.2	57.0	92.5	Bachelot 1987, Pl.4
36	Kutan	Level 1,2,3	Plain(gray)	7.4	8.7	8.1	4.4	85.0	54.3	93.0	Bachelot in press
37	Kutan	Level 1,2,3	Plain(gray)	9.2	11.2	9.9	5.9	82.1	59.6	88.4	Bachelot in press
38	Rijm	Grave	Ribbed	8.0	10.8	9.6	4.7	74.0	48.7	88.9	Bielinski 1987, Fig.4
39	Rijm	Grave	Ribbed	10.9	13.5	11.8	6.2	80.7	52.5	87.4	Bielinski in press, Fig.6-4
40	Rijm	Grave	Ribbed	10.5	12.4	11.3	6.0	84.7	52.7	91.1	Bielinski in press, Fig.6-5
41	Rijm	Grave	Ribbed	7.8	9.8	8.3	4.4	80.0	53.1	84.7	Bielinski in press, Fig.7-2
42	Rijm	Grave	Ribbed	7.7	9.8	8.0	4.1	78.6	51.3	81.6	Bielinski in press, Fig.7-3
43	Rijm	Grave	Ribbed	7.8	9.3	7.5	3.6	83.9	48.0	80.6	Bielinski in press, Fig.7-4
44	Rijm	Grave	Ribbed	8.5	10.3	8.9	4.1	82.5	46.0	86.4	Bielinski in press, Fig.7-5
45	Rijm	Grave	Ribbed	8.0	9.3	8.0	3.8	86.0	47.5	86.0	Bielinski in press, Fig.7-6
46	Rijm	Grave	Plain	6.9	8.3	7.2	3.8	83.1	52.8	86.7	Bielinski in press, Fig.8-3
47	Rijm	Grave	Plain	8.5	10.0	8.5	4.1	85.0	47.6	85.0	Bielinski in press, Fig.8-4
48	Rijm	Grave	Plain	10.4	12.8	10.8	5.5	81.3	50.9	84.7	Bielinski in press, Fig.8-5
49	Rijm	Grave	Incised(notched band)	8.0	9.8	8.3	4.3	82.0	51.2	84.7	Bielinski in press, Fig.7-1
50	Rijm	Grave	Incised(notched band)	7.1	8.5	6.9	4.3	83.5	62.3	81.2	Bielinski in press, Fig.11-12
51	Thalathat	R-28	Plain(gray)	6.3	7.5	6.8	4.3	84.0	63.2	90.7	Fukai, et al. 1974, Pl.47-26
52	Thalathat	B-III/2	Plain(gray)	7.9	9.6	8.0	4.7	82.3	58.8	83.3	Fukai, et al. 1974, Pl.47-32
53	Thalathat	E-III/3	Plain	8.6	10.5	8.4	4.9	81.9	58.3	80.0	Fukai, et al. 1974, Pl.47-31
54	Thalathat	E-III	Plain(gray)	8.7	10.0	9.4	5.3	87.0	56.4	94.0	Fukai, et al. 1974, Pl.47-28
55	Thalathat	R-28	Plain(gray)	9.3	10.6	9.6	5.5	87.7	57.3	90.6	Fukai, et al. 1974, Pl.47-23
56	Thalathat	E-III/2	Plain(gray)	12.9	14.5	13.5	7.8	89.0	57.8	93.1	Fukai, et al. 1974, Pl.47-33
57	Thalathat	C-II/2	Plain(gray)	7.7	8.8	7.4	4.4	87.5	59.5	84.1	Fukai, et al. 1974, Pl.47-30
58	Thalathat	R-16b granary	Plain	12.1	13.4	14.0	8.4	90.3	60.0	95.7	Fukai, et al. 1974, Pl.47-36
59	Thalathat	R-22 granary	Plain(gray)	11.7	13.1	12.5	7.5	89.3	60.0	95.4	Fukai, et al. 1974, Pl.47-34
60	Thalathat	C-II/2	Plain(gray)	6.8	7.1	6.4	4.0	95.8	62.5	90.1	Fukai, et al. 1974, Pl.47-20
61	Thalathat	R-1 granary	Plain(gray)	9.0	10.6	9.0	5.7	84.9	63.3	84.9	Fukai, et al. 1974, Pl.47-25
62	Thalathat	R-15b granary	Plain(gray)	8.2	9.3	8.9	5.6	88.2	62.9	95.7	Fukai, et al. 1974, Pl.47-29
63	Thalathat	R-1 granary	Layered(gray)	6.7	7.5	6.4	3.9	89.3	60.9	85.3	Fukai, et al. 1974, Pl.47-21
64	Thalathat	R-22 granary	Layered	6.0	6.6	5.6	3.4	90.9	60.7	84.8	Fukai, et al. 1974, Pl.47-22
65	Thalathat	R-17a granary	Plain(gray)	12.3	13.0	13.0	7.8	94.6	60.0	100.0	Fukai, et al. 1974, Pl.47-35
66	Thalathat	R-9	Plain	7.5	8.1	7.1	4.6	92.6	64.8	87.7	Fukai, et al. 1974, Pl.47-27
67	Thalathat	R-24	Plain(gray)	8.5	9.5	9.2	6.2	89.5	67.4	96.8	Fukai, et al. 1974, Pl.47-24
68	Nineveh	O.9:N.8.FR.	Incised	7.8	8.7	7.8	4.3	90.4	55.6	90.0	Thompson and Hamilton 1932, Pl.58-11
69	Nineveh	B8.7	Layered	8.0	8.7	7.7	4.3	92.3	56.5	88.5	Thompson and Hamilton 1932, Pl.58-10
70	Nineveh	X0.FR	Incised	9.4	10.3	9.9	5.7	91.3	57.0	96.0	Thompson and Hamilton 1932, Pl.58-16
71	Nineveh	CC.7.FR	Excised(groove)	8.5	8.9	8.0	4.9	95.1	60.8	89.6	Thompson and Hamilton 1932, Pl.58-13
72	Nineveh	V.16.FR.	Incised	8.4	9.0	8.0	5.0	93.7	62.5	88.9	Thompson and Hamilton 1932, Pl.58-12
73	Thuwaij	Level 8	Plain(gray)	8.9	8.9	8.6	5.7	100.0	66.3	96.6	Fujii, et al. in press, Fig.5-3
74	Thuwaij	Level 8	Incised	10.0	10.0	10.2	6.8	100.0	66.7	102.0	Numoto in press, Fig.12-35
75	Fisna	Above floor A	Plain(gray)	6.6	7.5	7.0	3.6	88.0	51.4	93.3	Numoto 1988, Fig.19-98
76	Gubba	Level 4	Plain(gray)	6.4	6.6	5.1	2.8	97.0	54.9	77.3	Ii and Odani 1981, Fig.20-5
77	Leilan	IIIb	Plain	6.1	6.7	7.1	4.2	91.9	58.8	106.0	Schwartz 1985, Fig.4-7
78	Leilan	IIIc, Pit 1	Plain	9.6	10.5	7.9	4.5	90.9	56.8	75.1	Schwartz 1985, Fig.1-9
79	Leilan	IIIc, Pit 1	Excised(groove)	8.3	9.4	7.9	4.6	88.5	57.9	84.0	Schwartz 1985, Fig.5-23
80	Leilan	IIIc, Pit 1	Excised(groove)	8.1	8.9	8.3	4.4	91.5	52.5	93.3	Schwartz 1985, Fig.1-3
81	Leilan	IIIc, Pit 1	Incised(notched band)	9.5	10.1	8.3	4.9	93.8	59.5	82.2	Schwartz 1985, Fig.1-7
82	Chagar Bazar	Level 5, G67	Incised	7.4	8.0	7.0	4.2	92.5	60.0	87.5	Mallowan 1936, Fig.18-1
83	Chagar Bazar	Level 5, G67	Incised	5.2	5.7	5.2	3.5	91.2	67.3	91.2	Mallowan 1936, Fig.18-3
84	Chagar Bazar	Level 5, G67	Incised	5.9	6.5	5.8	3.6	90.8	62.1	89.2	Mallowan 1936, Fig.18-4
85	Chagar Bazar	Level 5, G68	Incised	7.6	7.8	7.0	4.3	97.4	61.4	89.7	Mallowan 1936, Fig.18-2
86	Chagar Bazar	Level 5, G68	Incised	8.8	8.7	8.0	5.8	101.1	72.5	92.0	Mallowan 1936, Fig.18-7
87	Chagar Bazar	Level 5, G68	Incised	8.7	8.5	9.7	6.7	102.4	69.1	114.1	Mallowan 1936, Fig.18-5
88	Chagar Bazar	Level 5, G68	Plain(gray)	8.3	8.6	7.5	4.5	96.5	60.0	87.2	Mallowan 1936, Fig.10-7

RD:Rim Diameter MD:Maximum Diameter H:Height UH:Height of Upper Part

a deep carinated greenish bowl gradually changed into a shallow rounded grey ware in the Ninevite 5 period [1984: 153, 154], this possibility has not been studied in detail yet. Change of the form, which Roaf mentioned only through the different appearence between plain wares, reflected in numerical values and a correlative graph, seems to show that skill of each potter and regional varieties of the shape effect

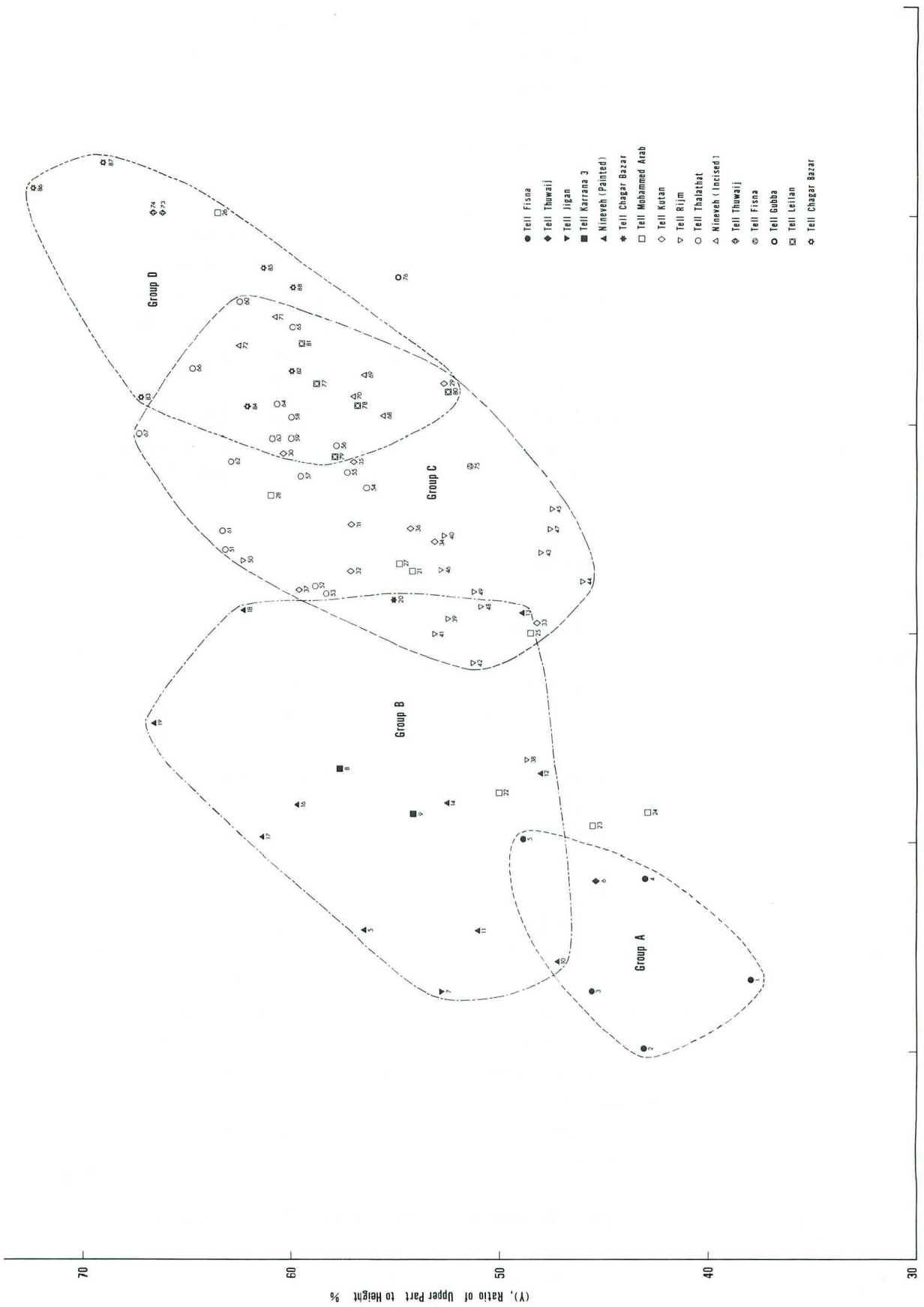


Fig. 1 Distribution of Ninevite 5 carinated bowls

difference of carinated bowls belonging to the same period and that these differences prevent us from more detailed study of the chronological order up from the point of transition concerning the shape of Ninevite 5 carinated bowls. It is possible, however, to show an outline of the chronological order by comparing between shapes of carinated bowls derived from different periods.

2. Features of carinated bowls

A carinated bowl is a small bowl with a round-base and carination on the body[2] (Figs. 2–4). The original form of this bowl traces back to the Late Uruk period[3]. This type of bowl was prevailing in the Ninevite 5 period. It represents one of the characteristics of Ninevite 5 pottery[4]. Though the carinated bowls are roughly classified into plain, painted, incised and ribbed types, it was not always that they existed in the same period. The characteristics of carinated bowls are as follows: they were thrown on wheels; the surface of lower part of bodies are scraped to make bottoms round; almost examples have a beaded rim; and fabric of both grey ware and incised ware is finely good, but many of painted ware and plain ware are tempered with a bit of straw and fine sand[5]. These carinated bowls are thought to have been used as drinking cups [Green in press]. This view is supported by the following facts: this kind of small bowls are buried in most of graves of the Ninevite 5 period[6]; and most of them are put on or in other larger jars or bowls[7].

3. Samples and method of survey

Samples examined here are derived from the following archeaological sites; Nineveh, Tells Thalathat, Mohammed Arab, Karrana 3, Rijm, Fisna, Thuwaij, Kutan, Jigan, Gubba, Chagar Bazar and Leilan. Generally speaking, materials which were drawn with complete shape and which possess carination dividing rims from bodies were investigated[8]. Bowls with rims more than six centimeters in diameter were surveyed. Bowls with particular shape were excluded from the pertinent survey, even though they were regarded as carinated bowls[9]. Most of the samples were measured from reduced drawings and, therefore, errors within a tolerance limits were unavoidable.

Carinated bowls were featured on a dispersal graph. At first, rim diameter, maximum diameter in a body, length from rim to carination, that is, height of upper part of the body, and height of a bowl were measured. Second, the ratio (X) of rim diameter to maximum diameter and the ratio (Y) of length from rim to carination to height of a bowl were measured (Table 1). The correlation between the ratios X and Y will show us important features of carinated bowls. Each ratio is expressed by percentages, and axis X for the ratio X and axis Y for the ratio Y is set up on a graph. The ratio X indicates inclination of rim and an upper part of a body toward inside. The lower value shows more inclination of an upper part of a body. On the other hand, the higher value means the lesser inclination, that is, nearly upright. The ratio Y expresses location of carination in a bowl. The lower value means that carination is in nearer to rim. The higher value means that carination is in lower part of bodies, nearer to their bottoms. Each point on the graph indicates characteristics of each carinated bowl (Fig. 1). This survey dose not lead to find shape of carinated bowls in detail, but it is most suitable to compare characteristics of carinated bowls on the graph.

4. Distribution of measuring values of carinated bowls and their classification (Fig. 1)

According to distribution of points which express shapes of carinated bowls, the present author classified shapes of the bowls into four groups, that is, group A, group B, group C and group D.

Group A The bowls belonging to this group are mainly painted ones and plain ones from Tell Fisna. This group is concentrated on the lower left part of the graph. The rim greatly inclines inward, and the carination are located upper than the middle of bodies. Located in the overlapped area with group B on the graph are samples from Tells Jigan and Thuwaij. This group also touches a group of plain wares from Tell Mohammed Arab period 2.

Group B This group is mainly constituted of painted bowls from Nineveh and Tell Karrana 3. Each point on the graph in this group tends to diverse, and shapes of this group of bowl vary. Both the ratios X and Y are bigger than those of group A. Carinations are located on the lower parts of bodies.

Common characteristics of groups A and B (Fig. 2) Characteristics common in these two groups are as follows: 1) inward inclination of rim (keen carination), 2) bowls arranged with painting, 3) rare bowls with grey colour, and 4) rounded bottoms. Most of the bowls of these two groups are colored light buff, reddish buff or light greenish buff. The fabric is tempered with straw and fine sand. Considering these features, the period concerned is called "the Late Uruk Transitional period" [Roaf and Killick 1987: 223][10]. The present author affirms that a bowl of which ratio X is less than 75 and of which ratio Y is less than 60 characterizes the Early Ninevite 5 period.

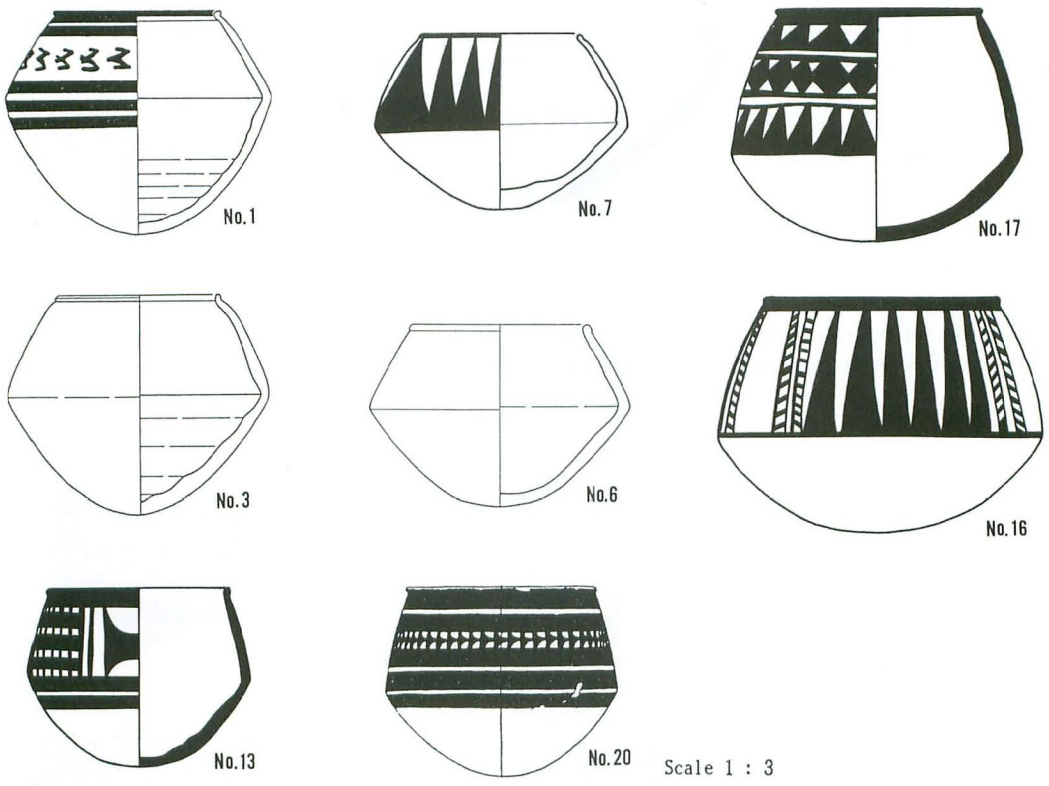


Fig. 2 Groups A and B

* The numbers of the figures are identical with those in Table 1, and Nos. 7, 13, 16 and 17 were re-drawn by the present author from literature cited.

Group C (Fig. 3) Bowls from Tells Thalathat, Kutan, Rijm and Mohammed Arab period 2 mainly constitute group C. Most of them are made of fine fabric. The colour of bowls are mainly grey. These bowls are found with painted ware, which means that these belong to the Painted and Early Incised period. Comparing with groups A and B, the rim shows less inclination and difference in rim diameter and maximum

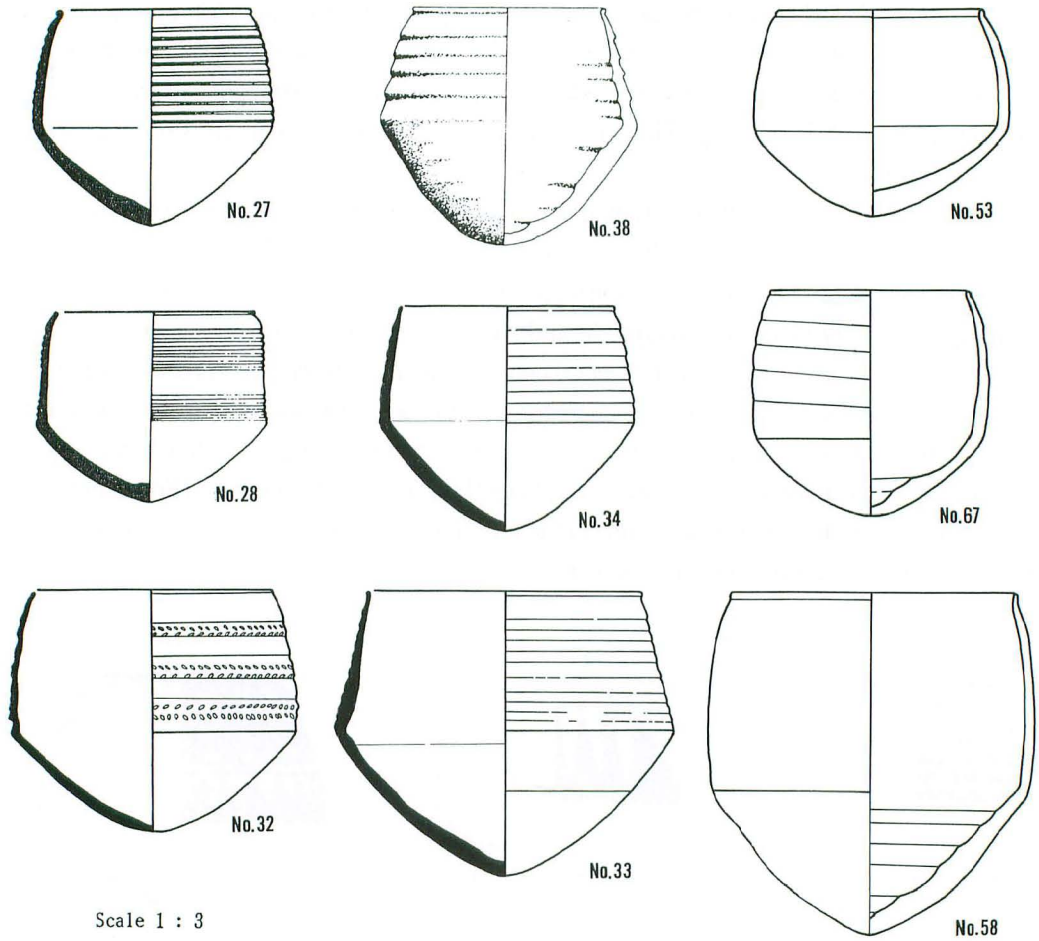


Fig. 3 Group C

* The numbers of the figures are identical with those in Table 1, and Nos. 32, 33, 34, 53, 58 and 67 were re-drawn by the present author from literature cited.

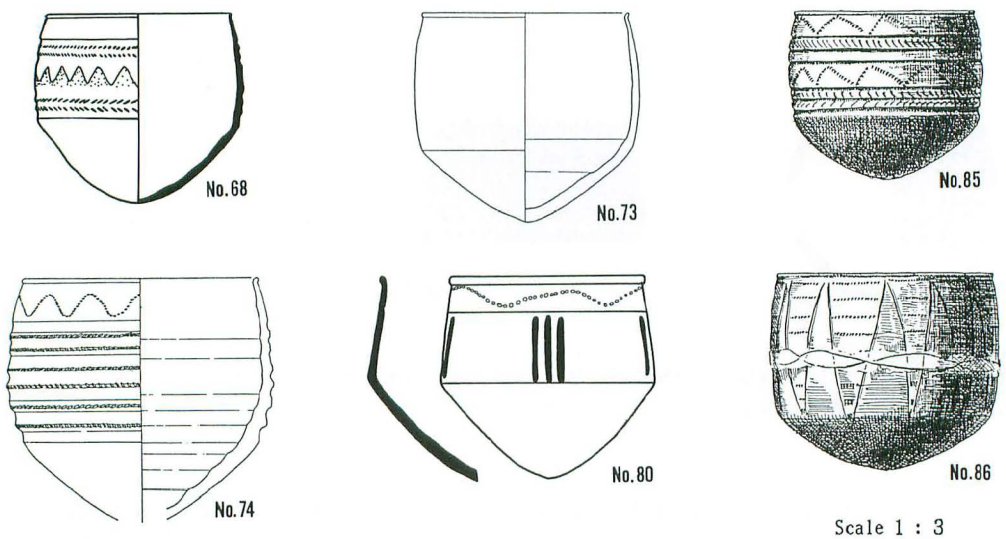


Fig. 4 Group D

* The numbers of the figures are identical with those in Table 1, and Nos. 68 and 80 were re-drawn by the present author from literature cited.

diameter which tend to decrease. This group contains incised ware, ribbed ware and layered ware. The incision is called "Early Incised motif" [Roaf and Killick 1987: 212], in which bowls have simple patterned incision like notched bands. Materials from Tell Thalathat occupy this group to a great extent. Both the ratios X and Y diverse greatly. The ratio X, however, is mainly concentrated between 80～90, and the ratio Y is mostly concentrated between 56～62. About a half of the material from Tell Kutan overlaps with that from Tell Thalathat. Value of ribbed wares from a grave in Tell Rijm well concentrates on lower left part of the graph.

Group D (Fig. 4) Incised ware from Nineveh, Chagar bazar, Leilan and Thuwaij constitute this group. Most of them overlap with a group of bowls from Thalathat of group C. All of patterns in this group are light incision. Concentration of the ratio X between 90～100 shows that rims are nearly upright. Especially, Nos. 86 and 87 are extraordinary examples. One of the most important features of this group lies in slight difference between rim diameter and maximum body diameter. No keen carinated bowls exist. Carination is on lower part of a body, and the base is shallow. These characteristics are thought to express the end of carinated bowls. Roaf and Killick placed all of the incised carinated bowls from Nineveh, Leilan and Chagar Bazar in almost the same period in the chronological order of the Ninevite 5 period [1987: 225]. Each value on the graph proves their similarity as well.

The present author summarizes the location of each group on the graph. The group C, which belongs to the Painted and Early Incised period and are constituted of samples from Tells Thalathat, Kutan, Rijm and Mohammed Arab period 2, is distributed around the center of the graph. Located on the lower left side are groups A and B, which are constituted of samples from Nineveh and Tell Fisna in the Transitional period. The group D, which is constituted of incised ware and early excised ware from Nineveh, Tells Leilan, Chagar Bazar and Thuwaij, is distributed on the upper right.

5. Features of carinated bowls in terms of height vs. maximum diameter ratio (Tables. 1, 2)

The higher value indicates taller and thinner shape of a bowl. The lower value, on the other hand, indicates shorter and wider shape. Compared between the average heights of bowls from sites belonging to the Transitional period, the group of Tells Fisna, Mohammed Arab Period 2, Kutan, Rijm and Thalathat shows higher marks. Especialy, the average height of Tell Fisna shows the highest mark: 86. In group B (Transitional period), the group from Nineveh, Tells Karrana 3, Thuwaij and Jigan shows lower mark than the former group. The average of each group is near to marks of bowls from Nineveh, Tells Mohammed Arab and Karrana 3 in the Late Uruk period (Table. 2, Fig. 6). This implies that carinated bowls in the Transitional period take over the characteristics of bowls of the Late Uruk period.

Table 2. Measurement of Late Uruk carinated bowls.

No	Site	Find Spot	Type	RD (cm)	MD (cm)	H (cm)	UH (cm)	RD : MD (%)	UH : H (%)	H : MD (%)	Literature
1	Karrana 3	Level 2	Incised	10.6	14.1	9.4	4.8	75.2	50.0	66.7	Fales, et al. 1987, Fig.9-11
2	Nineveh	BB.17.	Painted(with low base)	9.6	13.9	10.5	5.3	68.7	50.8	75.4	Thompson and Hamilton 1932, Pl.52-5
3	Nineveh	R 14	Painted(with ring-base)	10.7	14.0	8.7	5.6	76.0	65.0	61.9	Thompson and Hamilton 1932, Pl.52-15
4	Nineveh	BB 7	Plain	6.5	8.7	6.1	3.0	75.1	49.2	70.5	Thompson and Hamilton 1932, Pl.61-2
5	Nineveh	Q 12 FR	Plain	8.7	11.0	7.5	4.5	78.6	60.0	68.2	Thompson and Hamilton 1932, Pl.61-3
6	Mohammed Arab	Grave 63X	Painted(with spout and ring-base)	11.6	16.8	12.0	6.0	69.0	50.0	71.4	Roaf 1984, Fig.8-a
7	Mohammed Arab	Period 1	Painted(with spout and ring-base)	10.9	15.9	11.3	5.4	68.4	47.9	71.0	Roaf and Killick 1987, Fig.2
8	Mohammed Arab	Period 1	Painted	7.6	9.3	7.1	4.0	81.7	56.3	76.3	Killick in press, Fig.1-9
9	Mohammed Arab	Period 1	Plain(with ring-base)	7.3	8.6	5.6	3.3	84.9	58.9	65.1	Killick in press, Fig.3-7
10	Mohammed Arab	Period 1	Plain(with ring-base)	10.1	13.1	9.6	5.8	77.1	60.4	73.3	Killick in press, Fig.3-8
11	Mohammed Arab	Period 1	Plain(with ring-base)	11.3	13.6	10.0	4.9	83.1	49.0	73.5	Killick in press, Fig.3-9
12	Mohammed Arab	Period 1	Plain(with ring-base)	8.0	11.0	8.4	5.0	72.7	59.5	76.4	Roaf 1983, Fig.2-7
13	Mohammed Arab	Period 1	Plain	11.1	13.1	10.1	6.4	84.7	63.4	77.1	Roaf 1983, Fig.2-8
14	Mohammed Arab	Period 1	Plain	10.2	11.7	7.5	4.6	87.2	61.3	64.1	Killick in press, Fig.3-4
15	Mohammed Arab	Period 1	Plain	8.2	11.8	7.3	4.9	69.5	67.1	61.9	Killick in press, Fig.3-5
16	Mohammed Arab	Period 1	Plain	11.0	14.5	10.7	6.8	75.9	63.6	73.8	Killick in press, Fig.3-6
17	Mohammed Arab	Period 1	Plain	8.4	8.7	6.3	4.0	96.6	63.5	72.4	Killick in press, Fig.3-1

RD:Rim Diameter MD:Maximum Diameter H:Height UH:Height of Upper Part

6. Types of carinated bowls and their characteristics (Fig. 5)

Carinated bowls are classified into three groups: painted, ribbed and incised bowls. The shape of painted ware is totally different from that of incised ware. The value of painted ware overlaps with those of groups A and B. The value range of incised ware overlaps with those of groups C and D. Ribbed ware is mainly from Tell Rijm, and is distributed on the lower part of the area on the graph where range of painted ware mingles with that of incised ware.

Here, the present author is going to point out features of bowls and relations between them, and likes to arrange their chronological order. Among painted wares, No. 13 (from Nineveh) (Fig. 2), No. 20 (from Tell Chagar Bazar) (Fig. 2) and No. 21 (from Tell Mohammed Arab period 2) are on the area, where a group of painted wares crosses that of incised wares. The shapes of these three samples are different from those of other painted wares, and are similar to those of incised wares with notched bands or that of ribbed wares (Fig. 3). It is affirmed that No. 21 from Mohammed Arab period 2 belongs to a later period than the Transitional period, to which other samples of painted wares (Nos. 1～19) from Nineveh, Tells Karrana 3 and Fisna belong. The graph shows relations between features of carinated bowls. No. 20 is from grave 188 in Tell Chagar Bazar[11]. The period of No. 20 is not certain,[12] but it seems to belong to the Mohammed Arab period 2, if taking the shape of a footed bowl found associated into consideration

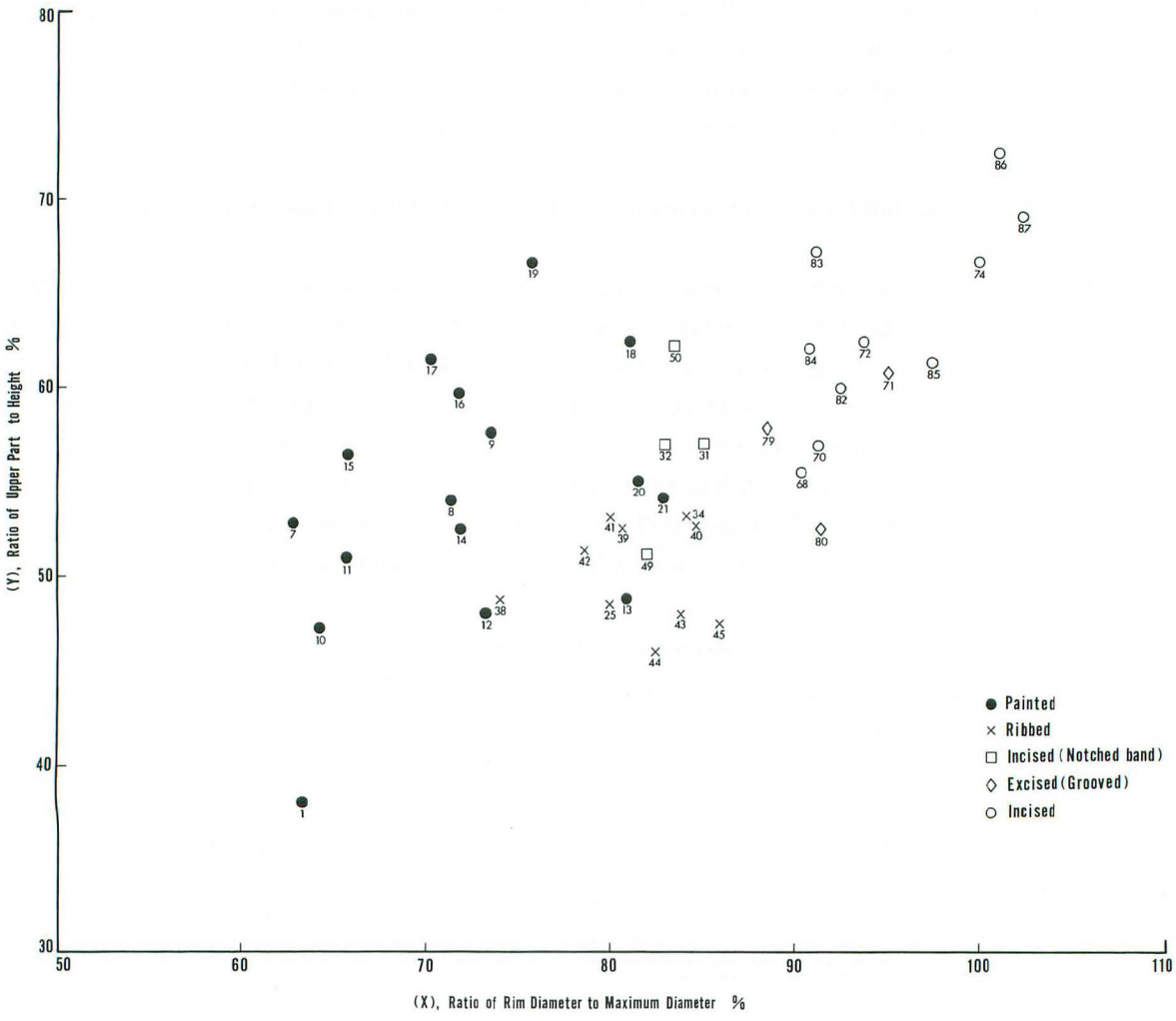


Fig. 5 Type distribution of Ninevite 5 carinated bowls.

〔Mallowan 1937: Fig. 25–2〕[13]. It is affirmed that it is ordered in almost the same period as the Mohammed Arab period 2. The period of No. 13 from Nineveh is unknown. Considering the shape, however, it is supposed that it belongs to a later period than the Transitional period. The relation between features of painted bowls is worth mentioning as well as their chronological order on the graph. Bowls, of which ratio X is less than 75, are placed in the Transitional period, while those with the ratio more than 80 are located in the Painted and Early Incised period.

As regards the incised wares, they are classified into two types: one is with patterns of notched bands (Nos. 31, 32, 49, 50) and from Tells Kutan, Rijm, and so on; another is with conbination of several patterns (Nos. 68, 70～72, 74, 82～87)[14]. On the graph, the former is focused on the range mingled with painted wares, and the latter is diversed on the range, where the ratio X is more than 87 and the ratio Y is more than 56. These two types of incised wares are also different in their shapes. Especially, the ratio X of Nos. 74, 86 and 87 goes over 100. These are located on the right edge of the graph. In the chronological order, the periods of Tells Rijm or Kutan are arranged in the Painted and Early Incised period, whereas the periods of Tell Chagar Bazar Graves 67 and 68, and Tells Leilan III-C are located after the Painted and Early Incised period 〔Roaf and Killick 1987: 225〕. The graph confirms the transition of shapes of incised wares through these periods.

Ribbed ware is found neither in the Transitional level in Tell Karrana 3 nor on the floors B and C in Tell Fisna 〔Fales et al. 1987; Numoto 1988〕, and therefore we are able to trace its origin back to the Painted and Early Incised period. This assumption coincides with the distribution of ribbed ware, which is located on the range where painted ware mingles with incised ware on the graph. According to the reseach results of Tell Mohammed Arab 〔Roaf and Killick 1987: 223〕, patterns of ribbed, layered and notched band were found from the earliest phase of Period 2, and after this phase many kinds of incised motifs appeared. Incised bowls with combined patterns are on the right range of the graph. The graph indicates that incised patterns change from simple single motif into pattern combined with many kinds of motifs.

To summarize each range, painted ware of the Transitional period is located on the left. Painted ware, ribbed ware and incised ware of the Painted and Early Incised period, on the other hand, are located in the center. And, incised ware of the period after the Painted and Early Incised period is on the right. Generally speaking, each point in the graph is located from the left to the right according to the passage of time.

7. Conclusions

Here, the present author summarizes the results of re-examination of the chronological order of Ninevite 5 carinated bowls. Roaf and Killick define carinated bowls of the Transitional period as bowls following those of the Late Uruk period, taking several common features between these bowls into consideration[15]. They also think that there is not a considerable gap between these two period 〔1987〕. The research at Tell Karrana 3 has proved that the level of the Transitional period existed immediately after the Late Uruk period 〔Fales et al. 1987〕. The measuring values of carinated bowls in the Late Uruk period from Tell Mohammed Arab, Nineveh and Tell Karrana 3 almost coincide with the ratio of group B (Fig. 6, Table. 2).

Carinated bowls from Tell Fisna (Group A) are slightly different in appearance from those of Tell Karrana 3 (Group B), by which carinated bowls of the Transitional period are represented[16]. Thinking over these features, the period of carinated bowls from Tell Fisna seems to have been later than that of Tell Karrana 3. Other types of bowls, found with these carinated bowls, are discussed here to identify the relative chronology with respect to Tells Karrana 3, Fisna and Mohammed Arab Period 2. Foots of painted footed bowls from Tell Karrana 3 〔Fales et al. 1987: Fig. 10–2〕 are lower than those of Tell Fisna

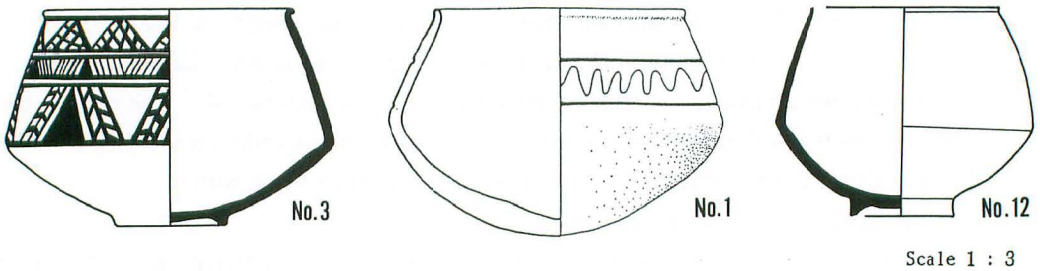


Fig. 6 Late Uruk carinated bowls
* The numbers of the figures are identical with those in Table 2, and Nos. 3 and 12 were re-drawn by the present author from literature cited.

〔Numoto 1988: Fig. 16–57, 58〕. It is suitable to call this foot a high ring-base. The shape is originally developed from a ring-base of the Late Uruk period. Shape of a ring-base is supposed to have been transformed from a low foot to a high foot or pedestal during a period between the Transitional period and Mohammed Arab period 2 〔Rova in press; Killick in press〕. Similar development may be exampled by a foot of the painted footed bowl from Tell Fisna. The foot from Tell Fisna is clearly a development from Tell Karrana 3 foot. The most remarkable defference between Tells Fisna and Karrana 3 is that fine grey footed bowls and footed bowl with notched band motif, which resemble Mohammed Arab Period 2 pottery, are found on floors C and B of Tell Fisna 〔Numoto 1988: Figs. 15–13, 19–100〕. Such bowls are not found in the Transitional level of Tell Karrana 3. The profiles of the bowls suggest that Tell Fisna group is probably later than the group of the typical Transitional period, and that the former group is placed in between Tell Karrana 3 and Mahammed Arab period 2 in chronological order.

Group C belongs to the Painted and Early Incised period (MA2), and is found with painted wares and early incised wares. This period is upper middle in the chronological order of the Ninevite 5 period 〔Roaf and Killick 1987〕. Two samples from Tell Thalathat, on which both paint and incision are applied, prove the existence of both painted ware and incised ware in this period[17] 〔Fukai et al. 1974〕. From the similarity of type of carinated bowl and their shape, Tell Rijm (grave 1) is identified as belonging to the same period as the Mohammed Arab period 2 〔Bielinski in press〕, and Tell Kutan (level 1, 2, 3) is dated to the same period as Tell Thalathat 〔Bachelot in press〕. Though carinated bowls from Tell Thalathat resemble those from Mohammed Arab period 2, Roaf and Killick insist that the period of Tell Thalathat is slightly later than the Mohammed Arab period 2. They compared pottery from these two sites, and suggested several features of pottery from Tell Thalathat as follows: 1) frequency of incised wares is comparatively higher.; 2) appearence of new incised pattern; and 3) longer foots of painted footed bowls 〔1987: 216, 217; Killick in press〕. No plain ribbed ware with carination was found from Tell Thalathat, but a few fragments of incised ribbed ware were identified 〔Fukai et al. 1974: Pls. 47–9, 57–8, 9〕. This fact suggests new pattern of incision as Roaf and Killick noticed. According to the sequence of the Mohammed Arab period 2 phases, which the present author has already mentioned, the period of Tell Thalathat possibly belongs to a later period than the Mohammed Arab period 2 and the period of Tell Rijm.

Pottery from the Mohammed Arab period 2 represents an innovative step by the potters, who display a greater mastery of fast-wheel throwing techniques and of kiln control than their predecessors. Their technological innovation made possible to produce grey ware, that is, incised carinated bowls and grey carinated bowls 〔Killick in press〕. On the other hand, painted carinated bowls tend to decrease[18]. One painted carinated bowl from Tell Thalathat, a few samples from Tell Karrana 3 and more than 10 samples from Tell Mohammed Arab are reported dated to this period 〔Fukai et al. 1974; Rova in press; Killick in press〕. Though almost completely restored bowl from Tell Mohammed Arab is No. 21 only, its shape is different from that of bowls of the Transitional period as the graph shows (Fig. 5), but is similar to ribbed

and incised wares. The features of this period lead to the end of painted carinated bowls. Only one example from Tell Thalathat [Fukai et al. 1974: Pl. 47–1], belonging to a later period than the Mohammed Arab period 2, is interpreted as a product of the final period. The period of Tell Thalathat may be in the margin of transition between the period of painted carinated bowls and that of incised carinated bowls. When painted wares of the Transitional period are regarded as early painted wares, they seem to be later painted wares. Besides, the later painted wares of this period parallel with early incised wares. Roaf and Killick identify pottery of this period as typical Ninevite 5 pottery [1987].

Group of Mohammed Arab Period 2 varies in their shapes, and dispenses their values on the graph (Fig. 1). Their shapes are mainly divided into the following three types; Nos. 22, 23 and 24 resemble Tell Fisna samples of group A with respect to the shapes and values. The chronological relationship between them and Tell Fisna group seems to be close. Nos. 27 and 28 belong to the groups from Tells Thalathat and Kutan. No. 26, of which ratio of rim diameter to maximum diameter is 1:1, is on the right side of the graph, and is close to the group of Tell Chagar Bazar and No. 73 from Tell Thuwaij level 8. Though the Mohammed Arab period 2 is divided into 5 phases, pottery secquence between these phases and relationships between pottery types and phases are not mentioned. Judging from the shape, however, Nos. 22, 23 and 24 are not dated to the period of No. 26. The variety of the shapes tells us that the Mohammed Arab period 2 seems to have lasted fairly long.

There is a considerable decrease in carinated bowls after the period of the Tell Mohammed Arab period 3 (Late Incised and Late Excised period). In contrast with carinated bowls, bowls having pointed bottoms and rounded bottoms without carination increase [Killick in press]. This transition concerning the shape is the characteristic of small bowls after the period of the Tell Mohammed Arab period 3 (Fig. 7). Decrease in carination is recognized on footed bowls. Both carinated bowls and pointed bottom bowls without carination are also found from Tell Thuwaij level-8. Moreover, early incised ware and grooved excised ware were found from this level. This fact implies that grooved excised ware is early excised ware [Numoto in press]. In the chronological order of the Ninevite 5 period, the period of Tell Thuwaij level-8 is locatable in between the period of Tell Thalathat and Tell Mohammed Arab period 3. Carinated bowls from Tell Thuwaij level-8 represent the end of these bowls (Fig. 4, No. 73). This period seems to be

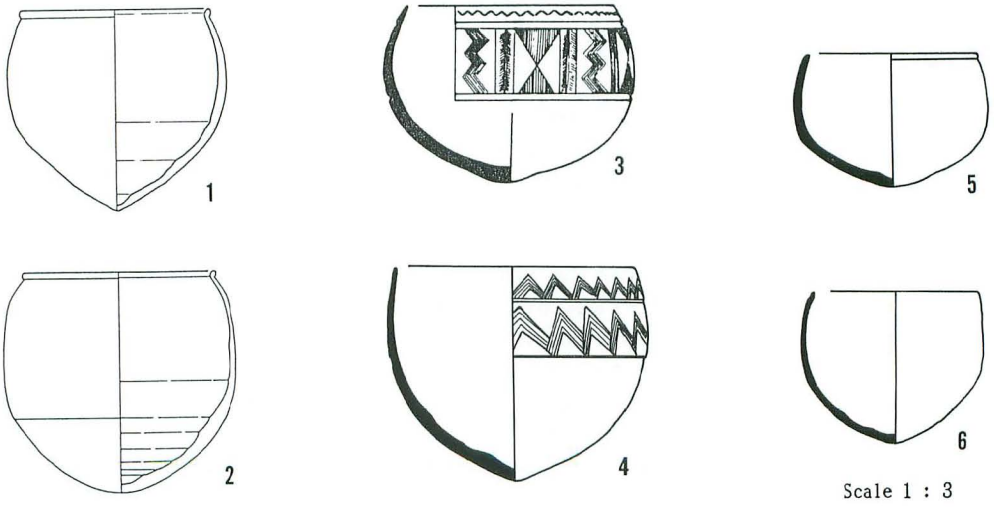
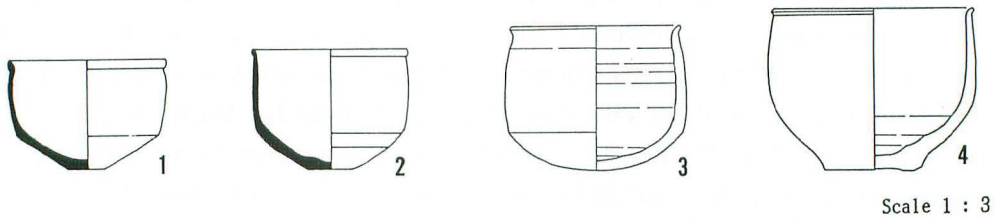


Fig. 7 Late Ninevite 5 bowls (Late Incised and Late Excised Period)

1. from Tell Thuwaij [Fujii et al. in press: Fig. 5–5]
2. from Tell Thuwaij [Fujii et al. in press: Fig. 5–8]
3. from Tell Mohammed Arab [Killick 1986: Fig. 4–9]
4. from Tell Mohammed Arab [after Roaf 1983: Fig. 4–02]
5. from Tell Mohammed Arab [after Killick 1986: Fig. 4–1]
6. from Tell Mohammed Arab [after Roaf 1983: Fig. 4–09]

transitional from that of carinated bowls to that of bowls without carination.

Carinated bowls with inclination of rim toward inside do not continue into the end of the Ninevite 5 period[19] and the Late E D III period [D. Oates 1982; J. Oates 1982]. One of the most important factors, that transformed shapes of small bowls, is the development of fast-wheel throwing techniques. Especially, small bowls were thrown on the wheel and then were scraped on the lower part of the outer surface also using the wheel. The traces of scraping tools are quite clear on many bowls[20]. The bottoms were pared down by a string [Ii and Kawamata 1984/85; J. Oates 1982; Numoto 1988]. The Late E D III period had been a rapid advance in wheel-throwing techniques. With transition from rounded base to flat one, the bowls seems to have changed to be intended for more practical use (Fig. 8).



Scale 1 : 3

Fig. 8 Late E D III bowls

1. from Tell Brak [Oates 1986: Fig. 5–85]
2. from Tell Brak [Oates 1986: Fig. 5–86]
3. from Tell Fisna [Numoto 1988: Fig. 21–126]
4. from Tell Fisna [Numoto 1988: Fig. 21–127]

Finally, all of the Ninevite 5 pottery from both the Mosul and Khabur regions have not been published yet. In this paper the present author was able to use only restricted samples and to analize their characteristics statistically. As mentioned above, the graph which displays ratios X and Y shows the transition of carinated bowls in the chronological framework of the Ninevite 5 period. Characteristics of carinated bowls undergo a transition from group B, which was the typical Transitional period, through group A, believed to be the Late Transitional period, to group C of the Painted and Early Incised period, and finally to group D believed to belong to the final Early Incised period. This transition corresponds with the graph, with area of each group going up from the bottom left toward the upper right.

Notes

1 A carinated bowl with a ring-base disappears after the Late Uruk period. The ring-base is considered to have been replaced by a foot of a footed bowl [Rova in press; Killick in press].

2 The present author uses the term "carinated bowl" as a generic one. This term contains even grey ware with a little carination, which appeared after the Mohammed Arab period 2.

3 This type was found at both Tell Karrana 3 and Tell Mohammed Arab [Roaf 1983; Fales et al. 1987].

4 Other characteristic pottery of this period are footed bowls and lugged jars.

5 This view is based on the observation of samples from Tells Fisna and Thuwaij.

6 EX. Graves in Tell Karrana 3, Tell Rijm, Tell Chagar Bazar, Tell Mohammed Arab, Tell Thuwaij, Tell Leilan, and so on.

7 Green has made detailed and concrete studies on burial customs and rites in the Ninevite 5 period. He insists that house-hold utensils were buried with the deceased. Especially, jars and bowls were used to offer water to the deceased [Green in press].

8 As for materials which lack in part of the bottom, the present author inferred overall shape from the drawing and measured it.

9 Ex. A bowl with everted rim, miniature ware, and so on.

10 In the Khabur region, only two painted carinated bowls are reported from Tells Chagar Bazar and Brak [Mallowan 1937: Fig. 25–1; Oates 1986: Fig. 5–107].

11 Mallowan supposed that it was brought from an area along the Tigris [Mallowan 1937: 149].

12 Roaf and Killick, however, proposed to order it in the Transitional period [Roaf and Killick 1987: 225].

13 According to the assumption of Killick and Rova [Rova in press; Killick in press], the length of a foot of footed bowl changes in the Transitional period through the Painted and Early Incised period. A foot of footed bowl in the Transitional period seems to

have been a lower stand, but the painted and plain footed bowls of the Painted and Early Incised period had a foot with long pedestal.

14 EX. Notched band, traiangle impressed dots, waving dotted line, grooved excised, and so on.

15 Keen carination and traiangle cross-hached painting are the common characteristics [Killick in press].

16 Comparing with those from Tell Karrana 3, carination of Tell Fisna is located nearer to rim, and, moreover, ratio of the height to maximum diameter is larger.

17 One is a painted jar with notched bands on the shoulder, and the other is a painted jar with a ribbed motif on the shoulder [Fukai et al. 1974: Pls. 22–3, 31–2–6].

18 Paint does not seem to have been suitable for decorating grey ware; higher firing temperature is not good for painting [Killick in press]. Bowls which are clearly identified as painted carinated bowls are not found either in Tells Rijm or Kutan [Bielinski in press; Bachelot in press].

19 The period of Tell Thuwaij level-1, 2 and 3 [Numoto in press] and Tell Leilan III-d [Weiss and Calderone in press].

20 Most bowls were scraped by hands in the Ninevite 5 period.

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EXCAVATIONS AT AIN SHA'IA RUINS AND DUKAKIN CAVES

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K. Matsumoto and H. Numoto

I. Introduction

Hideo FUJII*

The survey of the Abu Dibbis Depression area expanding to the west of the Kerbala Plateau was made fairly well along with those of at-Tar Caves six times. The survey of the Najaf Depression area, on the other hand, was rather insufficient. In our survey of some other cave sites and a prospective existence of some open-air sites closest to them for the related necessity of at-Tar textile researches, we fortunately discovered Dukakin Caves in the Najaf Depression area along the precipice line at the south margin of the Kerbala Plateau, and an open-air site, Ain Sha'ia,[1] fitted with a qanat structure on the rock fan closest to Dukakin Caves, both of which are found 22 km west away through the desert road along the precipice line

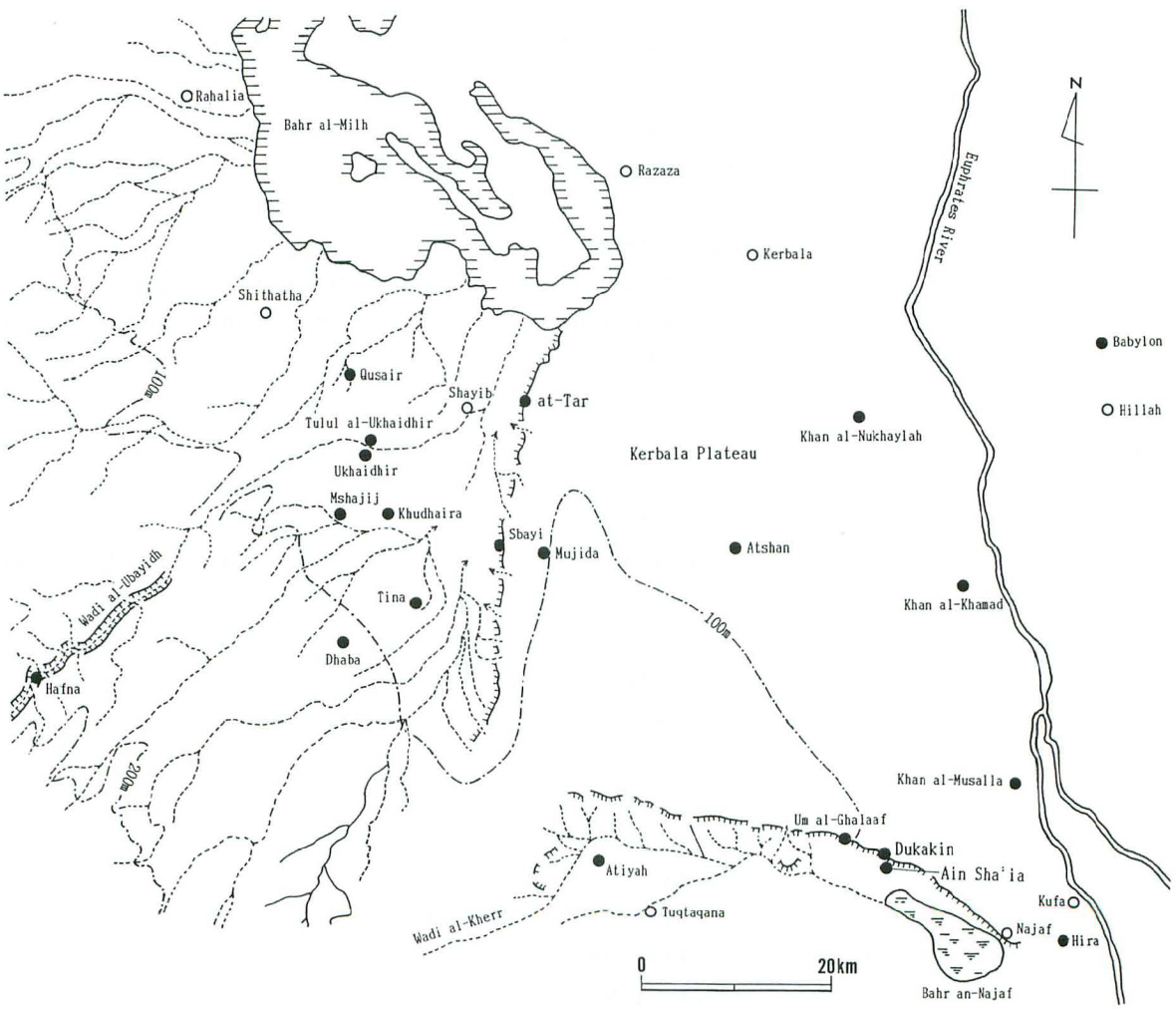


Fig. 1 Regional map showing the sites of Ain Sha'ia and Dukakin

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from the city of Najaf. In this regard, we pondered over the possibility of whether or not there was any prospect of solution as to the problematic origin and cultural complex of the group of people, who had been buried in at-Tar Caves, by excavating the open-air site, Ain Sha'ia, if Dukakin Caves were to uncover some textiles similar to the ones from at-Tar Caves.

In January, 1985, the writer had the opportunity to deliver a lecture on the subject of "the textiles uncovered at at-Tar Caves" at the invitation of the State Organization of Antiquities and Heritage, Ministry of Culture and Information, Iraq. Talking of the above at that time, the writer explained the necessity of excavation researches into Dukakin Caves and the Ain Sha'ia site to Dr. Muayad Said Basim Damerji, President of the State Organization of Antiquities and Heritage. Then, Dr. Damerji fully understood it and gave us permission to excavate them. First of all, therefore, we should like to express our profound respect for Dr. Damerji on the occasion of presenting this report to the public. As for our work, colleagues in the said State Organization gave us their invaluable assiatance on the practical side. They willingly alloted for us their branch office and lodging house of the said Organization as our lodging in Kufa City near our excavation area. Moreover, representative officers from the State Organization, Messrs. Riad al-Doori, Salahaddeen Hamid, and Ali at-Taei, with smooth tie-up of the chief of the Kufa office, Mr. Shakir Abdulzahara, offered us warm advice on the matter of taking trouble to find laborers and cooks, to prepare necessary materials, and to take charge of the uncovered objects, as well as on the matter of scientific affairs required for our excavation work, including collecting information and joining its discussion. We are most grateful to them all for their kind and useful advice and help, without which our work would not have been accomplished.

Also, we are extremely indebted to Dr. Bahija Khalil Ismail, Director of the Iraq Museum who kindly took custody of the precious cultural heritages throughout our excavations and afforded every facility for survey to our members.

What is more, in the research field, we will never forget the hearty cooperation obtained from Dr. Erica C. D. Hunter, Visiting Scholar of the British School in Iraq, who undertook to decipher the Syriac inscription, and Drs. Roger Matthews and Jeremy Black, the incoming and outgoing Directors of the British Archaeological Expedition in Iraq, who provided us with the references on the early Christianity such as that on the Hira region. We are also grateful to Mrs. Taeko Komiya for taking part in our fieldwork and other general affairs with much interest.

The survey was carried out under the financial help of the Aid of Kokushikan University supported by monetary contribution of the Science Research Promotion Fund of the Japan Private School Promotion Foundation, and also under the Research-aid Fund of the Ishibashi Foundation, the Mitsubishi Foundation and the Toray Science Foundation. We sincerely owe them for their most hearty cooperation. In completing the report, we appreciate the assistance of Mr. Yasuyuki Hisa and Mr. Tsuyoshi Kato, students of Kokushikan University, and Mrs. Junko Matsumoto who worked with us for making up numerous illustrations, and of Mrs. Maya Ikuma who kindly proofread.

The Japanese Expedition itself consisted of the following members:

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Among the at-Tar cave sites, Hill A, which is located along the precipice line some 35 km to the southwest of Kerbala, was discovered by the writer in September, 1969. And then, at the request of the Iraqi Government, we, the Expedition, set about the excavations of Hill A in March, 1971. Afterwards, by the sixth survey of 1984 from that time, we carried out the excavations of all the caves of Hill A [Fujii ed. 1976], and Hill C, Cave 12 (Corridor) [Ohnuma & Inaoka 1984/85: 28–36], Cave C-17 [Matsumoto & Wada 1984/85: 37–50], Cave 16 [Ii 1986: 1–21, Pls. 1–8] and Cave 12 (Inner Room) [Fujii et al. 1986: 246–251; Fujii & Sakamoto 1986: 37–54, Pls. 14–19]. As already clarified in these reports, it is observed that these caves were artificially constructed by ancients in the manner that they first cut off the marlstone rock-body with several kinds of chisels, while utilizing the joint system caused by nearly the straight crossing at the angle of 45 degrees of the cracks which run in the SW-NE direction with the other cracks on the marlstone layer which is a component of the rock-body, and then they finally arranged the floor, ceiling and wall surfaces [Fujii ed. 1976: 1–14; Takemura 1976: 106–119].

As for the cave interior, the remarkable features in construction are that the ceiling surfaces located at the lower parts of the uppermost bluish marlstone layer are arranged nearly at a same level, whereas some floor levels of corridors and rooms are markedly up-and-down since the portions corresponding to corridors and rooms are cut off along the joint system on the brownish marlstone layer which is accumulated lower than the bluish marlstone layer. Sometimes, they are observed to be cut down even to the top of the lowermost hard sand layer of at least 3 m below brownish marlstone layer. And the wall constructions are of zigzag structure, arranged up to the extent of hindering good visibility. Especially, in the lower caves of Hill A, their corridors, through which the rooms are connected, are finished into a kind of labyrinth construction [Fujii 1984/85: 3–4]. This is far from a normal space for man to live in. In particular, marlstone is not durable for man's long dwelling, because it is composed of such minerals as are easily eroded by water [Yamada, Ossaka & Ohira 1976: 276–283; Fujii: 332]. For what purpose were such caves dug out? There are various assumptions about the above question as follows:

1) The site was a stronghold to watch the southwest direction [Fujii ed. 1976: 13].
2) It was a temporary shelter for nomads to rest in (do.).
3) Originally, it may have been built for a burial place (do.).
4) It was dug up for the purpose of gathering bats' feces [Ii 1986: 14–15].

Secondly, what matters is the problem that over 4,000 textile fragments have been uncoverred together with a number of leather goods, glass bowls, glass beads, iron arrowheads, date palm baskets, woodenwares or pottery vessels, and sometimes with bivalve shells which are native to the East Mediterranean coastal area or the Arabian Gulf coastal area [Fujii ed. 1976: 220–248]. Most of these textiles have been discovered accompanied with human remains. So, they are regarded as the textiles which are associated with burials. In this case, however, the textiles have seldom been found with the above-mentioned, what is called, burial goods. The majority of the textiles have been discovered only with human bones. The burial situations of the dead body are presumably classified into two types:

1) a. A platform as a coffin is made by cutting the rock-body into horizontal plane or so to properly secure the body.

b. The rock-body is cut down deep to make a coffin room.

c. After the primary cave cutting, the filling of chipped blocks is leveled in the bottom of the dug-down room. And then, the burial level is hardened with plaster laid over to place the dead on it.

d. The aeolian sand blown into the cave is smoothed, on which the dead is placed or in which the dead is buried.

e. A mat or a pile textile is usually spread under the dead in any preceding cases, some of which use both. And in burial, garments which seem to have been worn by the person while alive are laid over the body, or the dead is wrapped up in a few pieces of cloth.

To add to the above, some entrances to the burial places are piled up with large blocks, jointed with plaster, so as to close them up.

2) Inside the dug-down room of the cave, a number of dead bodies are found lying among the blocks which have been thrown in. It can be imagined that they were the victims of some battle.

At any rate, it is assumed from the excavated situation that most of these burials have resulted from the secondary grave utilization later than the primary cave-digging period. Concerning these textile specimens, we are now conducting analytical and classifying studies of their material, weave structure, and design in a stepwise manner [Fujii ed. 1976; Fujii ed. 1980; Fujii et al. 1982/83:89–96; Fujii & Sakamoto 1986; Fujii & Sakamoto 1987: 215–231, Figs. 68–86; Fujii, Sakamoto & Ohnuma 1987: 131–140]. As mentioned in detail in another article of this volume, these textiles show striking resemblance to those from Dura-Europos, Palmyra, the Cave of Letters and the sites of Nubia along the East Mediterranean coast in the weave type, weave structure and the feature and composition of the pattern. For example, some cloth either with H-shape or gamma patterns from at-Tar Caves are quite similar to the textiles discovered at the above different sites. These sorts of patterns corresponding to those of the at-Tar textiles can be evidenced on the mantles of human figures painted on the wall of the synagogue and Palmyra Temple at Dura-Europos, and also on those of some priest-statues in some Hatra shrines. We have not yet solved what these patterns should symbolize.

With these textiles kept under closer observation, however, the at-Tar textiles have such complex cultural traits as are markedly distinctive from them in the concrete. In this connection, the writer is of the opinion that outstanding textile cultures which had been brought in through the following routes used to flourish here in the at-Tar area all through the period of the 1st to 3rd centuries A.D.: eastward progress of the Roman culture from the Mediterranean coastal area → establishment of the Syrian cultural traits caused by locality-transformation → further, their eastward advance and arrival in Mesopotamia → finally, their contact with the native Mesopotamian culture. What is more, the existence of these at-Tar textiles fully makes us consider that they were not merely the imported ones by trade through the desert road, but also the ones produced here locally by some groups of people who were engaged in spinning and dyeing with skillful weave technique at some fixed workshop, while settling somewhere around at-Tar Caves and leading a considerable scale of social life. To be brief, the second problem is to solve precisely where around at-Tar Caves the people had their group life, based on the fact that some groups of people who owned such elaborate textiles have been found buried here in at-Tar Caves.

To begin with, it was necessary for us to grasp whether or not Hill A was the only existence provided with such unique structure. Then, we actually followed the topographical features of the precipice line running along the Kerbala Plateau to investigate the distribution of cave groups and their structures.

In result, we found the existence of some 480 caves spreading with Hill A as the core, about 1.2 km north and about 2.5 km south along the precipice line, including Hills B, C and D which were named by us. Moreover, in the suburbs of Najaf, further in the south-southeast direction from at-Tar caves, we discovered cave groups including the Um al-Ghalaf and Dukakin Caves along the precipice line on the Lake Bahr an-Najaf coastal area [Kawana 1984/85: 6–13]. In observing all the caves thronging over the precipice line with Hill A as their core , they can be classed into three types in the cave structure, chisel trace and topographical location, i.e., height from the talus. It is evidenced among them that the cave groups located at the relatively higher marlstone layer above the talus, generally present such structural features as are common to those of Hill A, where textile deposits have been identified [Matsumoto

1984/85: 14–27]. In further pursuit of the above, we went on investigating Cave 12, Cave 16 and Cave 17, Hill C located closest to Hill A. The result is that the caves of Hill C are similar to those of Hill A in cutting method and structure, as already pointed out in the reports published so far. Also, there is a strong possibility of these caves having been secondarily utilized as burial places. Therefore, the textiles uncovered from Hill C as well as those from Hill A were very helpful in making the cultural complex of the people buried there all the more conspicuous. For example, the rush mats with woolen borders with striped and/or chequered patterns of plain weave-make, which have been unearthed accompanied with pile textiles, were made of rush which grew thick along the wadis or in the oases. From this, it is presumed that some groups of people excellent in such high spinning and weave techniques had settled somewhere in an area convenient for drawing water along some wadis or oases near at-Tar Caves while living in a fairly large-scale society.

So, the fieldwork of surveying the Kerbala Plateau within a radius of some 60 to 80 km with Hill A centered on, was conducted also from the aspects of geology and hydrology. Namely, the distribution of the wadis and oases was checked, and their individual water qualities were analytically examined together with the matter of whether the water was drinkable. This is one of the methods to acquire the existence of open-air sites in the Iraqi Southwestern Desert from the viewpoint of water quality and its utilization. The examination of the water quality in some oases and artesian wells led to the discovery of good-quality underground water. Thus, fairly large open-air sites, such as Sbayi along the at-Tar precipice line, Khudhaira, Mshajiij and Ain at-Tina which are located in the Abu Dibbis Depression area further west of Sbayi, were discovered, as well as Atiyah and Tuqtaqana in the Najaf Depression area facing the south Najaf precipice line. By connecting these oases, we can picture a traffic route from the north of the Abu Dibbis Depression area down to the south, i.e., Rahariyah–Shithatha–Ukhaidhir–Khudhaira–Ain at-Tina, or Ukhaidhir–Muhajiij–Dhaba. The route further extends through Atiyah, Tuqtaqana up to Najaf by way of the Lake Najaf coast, going across the Najaf Depression area from west to east [Wushiki 1976: 27–43; Fujii ed. 1976: 330–332]. In this regard, our interest was absorbed in the subject of how these oasis sites would be connected with at-Tar Caves.

The borderland of the Kerbala Plateau in contact with the Iraqi Southwestern Desert includes two precipice lines in separate direction: one is running north to south linking at-Tar Caves and Sbayi, the other running west to east through Umm al-Galaf, Dukakin and Najaf. The former bounds the Abu Dibbis Depression area which gathers the water of Wadi al-Ubayidh and its branches, whose source is in the borderland i.e. an-Nafud Highland between Iraq and Saudi Arabia. The latter bounds the Najaf Depression area, where Wadi al-Kherr and its branches springing also from the an-Nafud Highland flow into the Lake Najaf.

During the distribution survey of oasis sites in the Abu Dibbis Depression area in 1972, we discovered the site called Dhaba which probably stems from the Parthian period in the desert, at the point of some 30 km southwest away from Hill A of at-Tar and some 19 km to the south-southwest of the Ukhaidhir Palace. This is the ruins made up of the enclosure walls and inner structures built of thickly baked bricks on a mesa-like topography, annexed with probable watchtowers [Fujii 1973: 66, 85]. It may safely be assumed that Dhaba, which is geographically located at the southwestern border of the Abu Dibbis Depression area, played a role of watching-stronghold, while securing the connecting routes of the above-mentioned oases all through and functioning as an advance guard. Therefore, to pursue this, we had to take enough time for investigating Dhaba and these oasis sites. In particular, the solution of these oasis sites was the first essential for us to set out with because of their correlation with the textile specimens from at-Tar Caves.

Meanwhile, on the precipice line about 11.5 km to the south of Hill A, at-Tar, the oasis site Sbayi was discovered at the gentle slope, where fallen structural remains of mud-bricks have been found occupying the

upper part of the slope, while at its lower part are about thirteen shallow artesian wells of horseshoe shape along the wadi [Fujii 1973: 66, 85; Fujii ed. 1976: 3]. There are no caves dug through in the precipice here. It is presumable from thinner deposits of the marlstone stratum around here that this was once opened to the public as an important center of traffic road which connected the Ukhaidhir area with Mujida and Atshan over the precipice line.

In the Najaf Depression area, in the meantime, Dukakin Caves were discovered in 1974, as well as their neighboring site Ain Sha'ia located on a rock fan, whereas we were unable to obtain any evidence leading to the existence of such an open-air site at the continuous rock fan next to at-Tar Caves. We have observed the scattering of potsherds, glass fragments, kiln traces, remnants of plaster-laid floors and the huge rectangular structural remains surrounded by enclosure walls in the site Ain Sha'ia. Their distribution signifies the existence of a certain extent of an open-air site there. In addition, at the bottom of the precipice in the Ain Sha'ia area, we have confirmed an underground structure enough to suggest the existence of a qanat through which water runs. Besides, we have found a field of palm trees which grew thick supplied with the oasis water. Thus, the simultaneous researches of Dukakin Caves and the open-air site of Ain Sha'ia will surely be important to acquire a clue to the correlation between a cave site and an open-air site, apart from the aspect that we are to follow the correlation between at-Tar Caves and the oasis sites and that between the oasis sites and the site of Dhaba in the Abu Dibbis Depression area.

Furthermore, we have to admit that our distribution and construction researches on the caves dotted over the precipice line at south of the Kerbala Plateau were not necessarily sufficient, compared with the investigations of at-Tar Caves. As is the case with at-Tar Caves, Dukakin Caves are the ones whose uppermost bluish marlstone layer of the rock-body component is made into the ceiling, while the lower brownish marlstone layer is finished into the room and corridor. In this connection, we had a pressing need for investigating the following subjects:

1) Whether or not Dukakin Caves are common to at-Tar Caves in the construction, cutting method and the height from the talus.
2) Whether or not there can be two periods of cave use, primary and secondary.
3) If possible, how they were secondarily utilized. Whether or not Dukakin Caves were used for burial just as seen in at-Tar Caves.
4) What character and scale the open-air site Ain Sha'ia, developing on the rock fan in front of Dukakin Caves, used to have.
5) What kind of relation Ain Sha'ia and Dukakin had each other.

Our campaigns were carried out three times, actually for eight months in all, starting from 1986 up to 1989. These are our first excavations in the Najaf Depression area in the Iraqi Southwestern Desert. The results obtained differ sharply from that from at-Tar Caves in characters of the findings, and also in age, accordingly. The site complex of Ain Sha'ia and Dukakin was proved to contain the Christian remains with three-aisled church. They have yielded various sorts of archaeological materials inclusive of Syriac inscriptions. All of them can fully tell us that the ruins were once a certain Christian institution. These results and our stock of information from references will enable us to obtain glimpses into the Christian life in the society in the early Islamic period.

The rock fan of Ain Sha'ia looks like a wilderness at first sight, but it has an extension of nearly flat land and not a few wadis flow into this area from the precipice. So, if the water supply is adequate, this must be a fine location suitable for a considerable scale of settlement with the precipice and its valleys behind as protective barriers. Moreover, the people living there utilized such precipice topography to the utmost extent. Indeed, there are structures of qanat and canal for the effective utilization of the underground

water which is supplied out of the precipice. Thereby, we can readily understand the indefatigable grand scheme devised by the Christians in the days of the early Islamic time.

Geographically speaking of the depression areas, it seems that oases and artesian wells were dotted over these areas, and desert roads linking them together must have existed there. It is, therefore, conceived that there used to be some sort of close cultural ties between the Abu Dibbis and Najaf Depression areas. For example, some Christian sites in the former are known such as Qusair North several kilometers northward away from the Ukhaidhir Palace and Tulul al-Ukhaidhir lying across Wadi al-Ubaidh from the said Palace.

Furthermore, of the numerous textiles uncovered from at-Tar Caves, we have not yet solved what the H-shape and gamma patterns should symbolize. Nevertheless, it is beyond question that they imply some sort of religious connotation. They could represent some sorts of religious symbols on the Judaism or the Semitic religion in which people had believed there. On the whole, we deem that the textiles from at-Tar Caves show striking similarities to those from Dura-Europos, Palmyra and the Cave of Letters in weave structure and pattern, spanning the 1st to 3rd centuries A.D..

Here, we have to admit that the Iraqi Southwestern Desert area had undergone two cultural currents of different ages from the East Mediterranean coastal areas. The innumerable wadis in the desert were certainly useful to the people shifting in a group along them. And the oases dotted along the wadis may have served as the place of their activity.

Our latest researches have led to the exemplification of a remarkable current of culture. With this result in mind, we feel it necessary to clarify the subject of cultural formation in the Iraqi Southwestern Desert from the comprehensive viewpoint, together with more intensive studies of the Abu Dibbis and Najaf Depression areas.

Note

1) The spelling "Ain Sha'ia" is used in this report instead of "'Ayn Shai'a" after the supposed pronunciation of the local inhabitants near the site.

II. Topography

Hideaki SHIBATA*

The ruins of Ain Sha'ia are situated around Long. 44°13′E. and Lat. 32°03′N., lying in the desert region of about 170 km to the south of Baghdad and about 15 km to the west of Najaf. Topographically, it is the place at which the Kerbala Plateau makes contact with the North Arabian Desert or the Iraqi Southwestern Desert, where we see the exposure of a rocky precipice in the height of some 40–50 m extending about 30 km east to west, at east end of which the city of Najaf is located (see Fig. 1). The structural remains are dotted along the precipice within the range of 700 m in width and 1.5 km in length (Fig. 3 and Pl. 4–a). The precipice consists of a five-storied terrace which is some 61 m high at its topmost part and some 10 m high at the lowland above sea level. There is the Lake Najaf some 4 km eastward away from the ruins. On the east end of the site is a spring still in use today, and some 120 date palm trees are seen growing around there (Pl. 4–b). The geologic formation of the precipice is made up of sandstone strata in several layers, where we can confirm a marlstone stratum at the height of 40–45 m and a gypsum stratum of some

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2 cm thick sandwiched between sandstone strata (Fig. 2). Moreover, beneath the particular sand stratum located at the lowermost part, there is a greenish clay stratum of about 1 m in thickness. The surfaces of both the highland and lowland have been heavily weathered, where such hard stones as chert, siliceous slate, quartz porphyry and siliceous fine-grained breccia of 1–3 cm in diameter respectively, are scattered mixed with the desert sand. In the meantime, most part of the wadis are covered with fine yellowish sand, and lots of small shells are littered all over the lowland. This sort of shells also exist here and there on the slope of 50–55 m in height.

Dukakin Caves are located to the west side of Ain Sha'ia, and are artificially dug into the marlstone stratum at the height of 40–45 m in the peninsular cliff. They have twenty entrances on the north side and twenty-one on the south, and some of the caves are linked together without any intermission inside.

The fortified remains of Ain Sha'ia are placed at some 200 m westward away from the modern spring (Site A), showing a rectangular enclosure approximately of 160 m in long side and 60 m in short side.

There is a *qanat* (Site E), though in a small scale, lying at the beginning of the lowland, more or less 22 m in height, which is about 50 m north of the spring. On the halfway point of the precipice of 46 m high, the traces of a well or bank have been found (Site D).

A great multitude of small structural remains (Site B) are distributed over the place between the Dukakin Caves and the spring, as well as heavily damaged but considerably large structures in a ravine (Site C). And around these remains, there are numerous potsherds scattered on the sand.

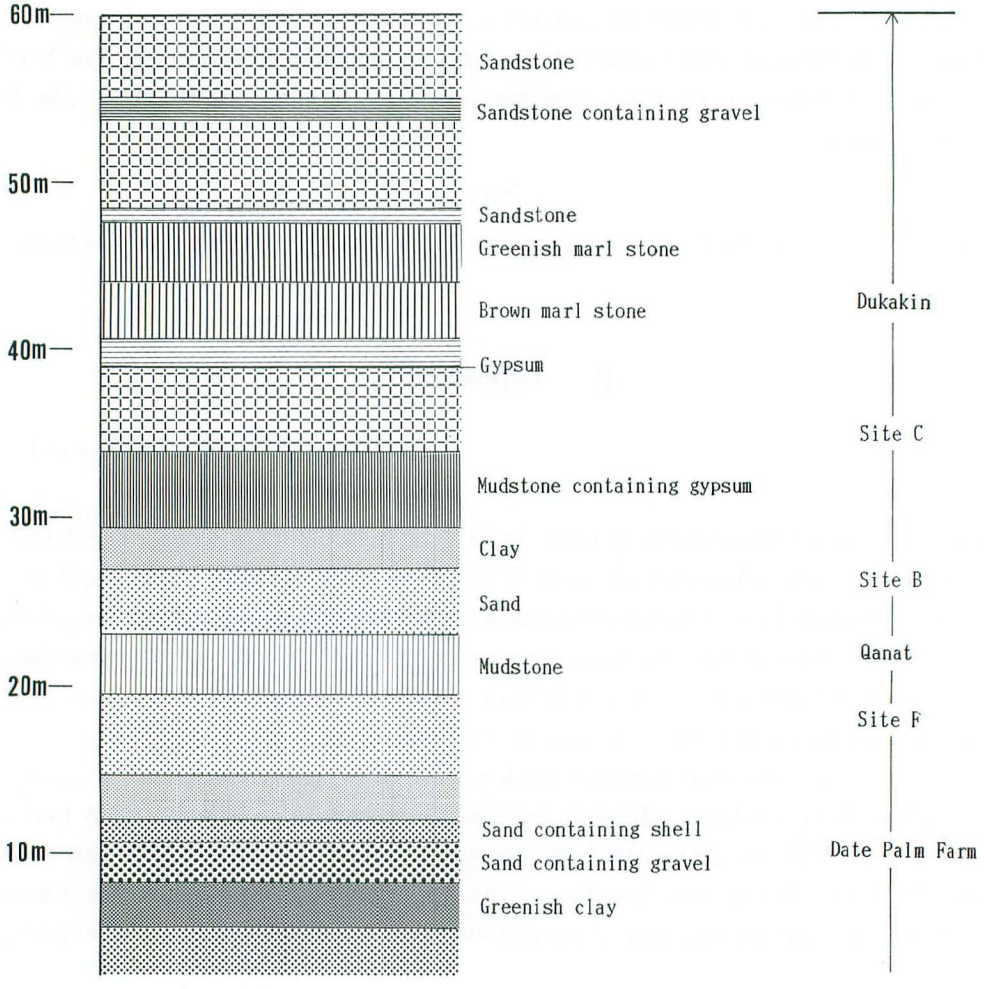
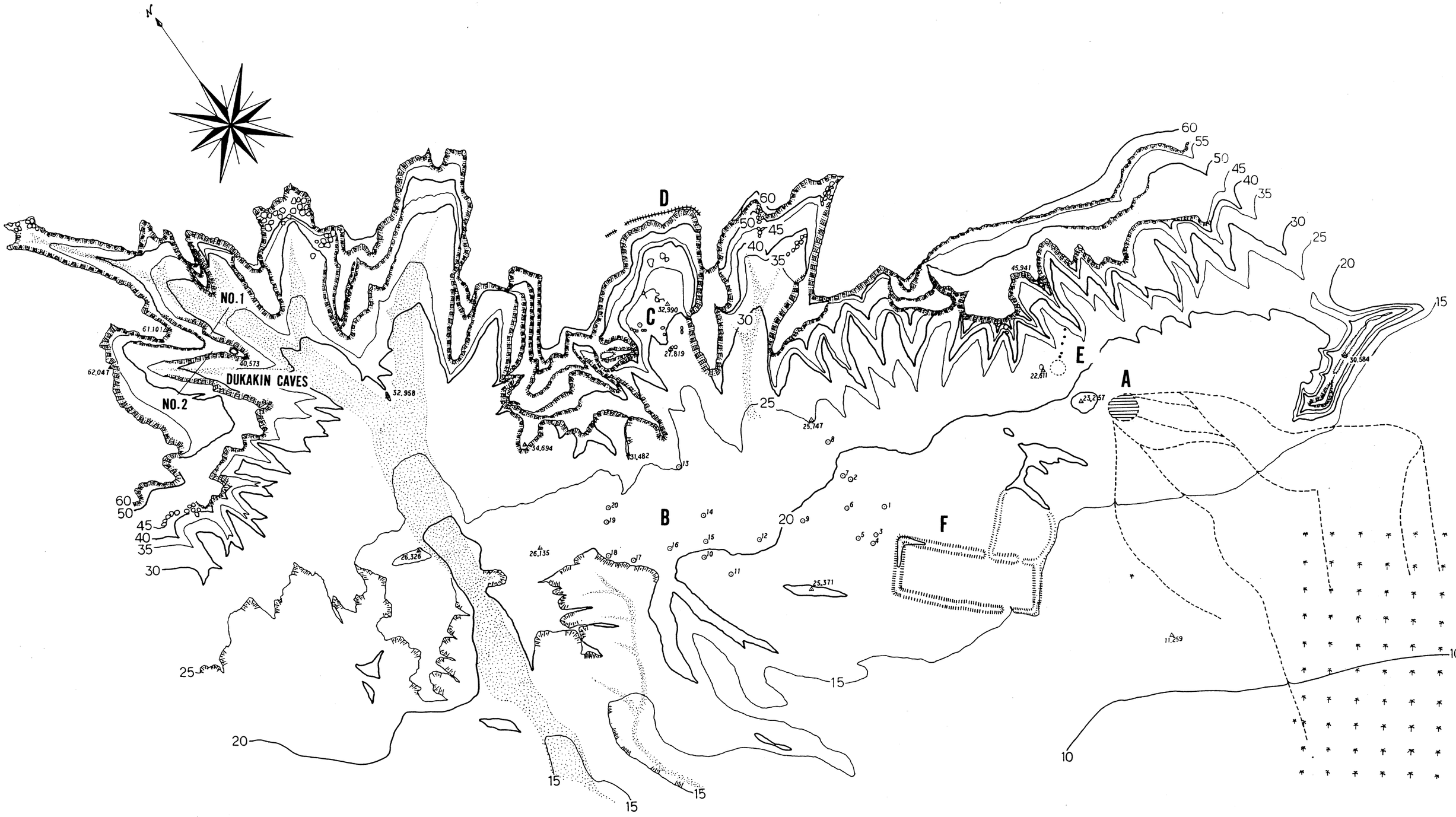


Fig. 2 Geological profile of the site



A: Modern spring

B: Small buildings and miscellaneous remains (Spots 1 to 20)

C: Ruins of a religious building complex

D: Damming-up bank

E: Qanat and canal

F: Fortified building

Fig. 3 Overall plan of Ain Sha'ia and Dukakin (by H. Shibata, 1986)

III. Fortified Building — Site F

Yasuyoshi OKADA* and Hirotoshi NUMOTO*

1 Methodology

Of various ruins at Ain Sha'ia, Site F is the most remarkable, since there is a considerably large fortification (Fig. 4 and Pl. 5–a). In the autumn of the year 1986, the first soundings of 3×20 m squares, named Trench 1, was conducted in the middle of the north-east wall of the enclosure, with the aim of confirming the formation of the wall itself and the structural remains inside. The long side of the trench was oriented N-41°-E approximately at right angles to the wall direction. After the thorough excavation the trench was enlarged 3.5 m westward and investigated without a stop during the same season.

Following the excavation of Trench 1, the work in 1987 was mainly concentrated on some prominences around the central part of the fortified area. Three trenches with a length of 9 m each, numbered 2, 4 and 7, at intervals of 1 m balks were initially set out in a row along the line at right angles to the basic orientation of Trench 1. Trench 6 was added south-west of Trench 4. Each trench had an initial width of 4 m except Trench 7, 2 m wide. Finally most of balks were removed and every trench was more or less extended driven by necessity. A small wadi running across the ruins was conveniently a kind of sounding pit. The surface earth covering the wadi bed was, therefore, removed limitedly from the eastern end of Trench 7 up to the northern enclosure wall, and thus some structures were exposed. This area was named Trench 8 for convinience. During the same season, the south corner of the fortification, Trench 5, and brief part of its north-west side, Trench 9, were investigated as well. Early in 1989, the final excavation of a short term, the area of which was numbered Trench 10, was carried out simply to ascertain the sanctuary of a church.

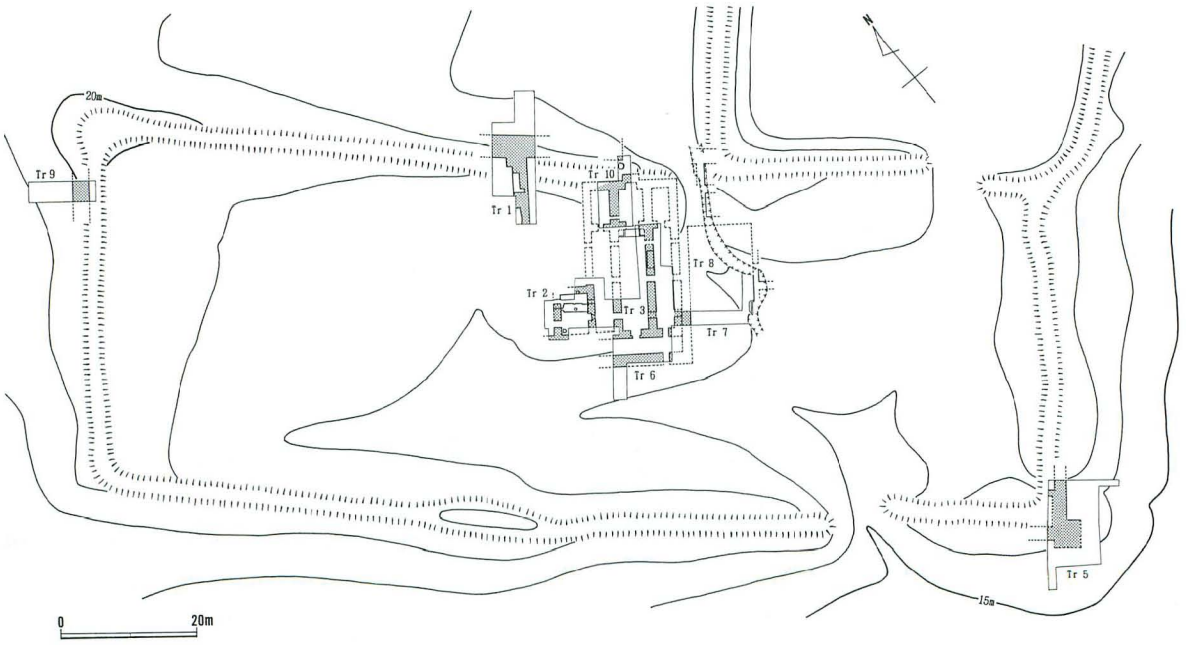


Fig. 4 Map of the ruins of the Fortified Building

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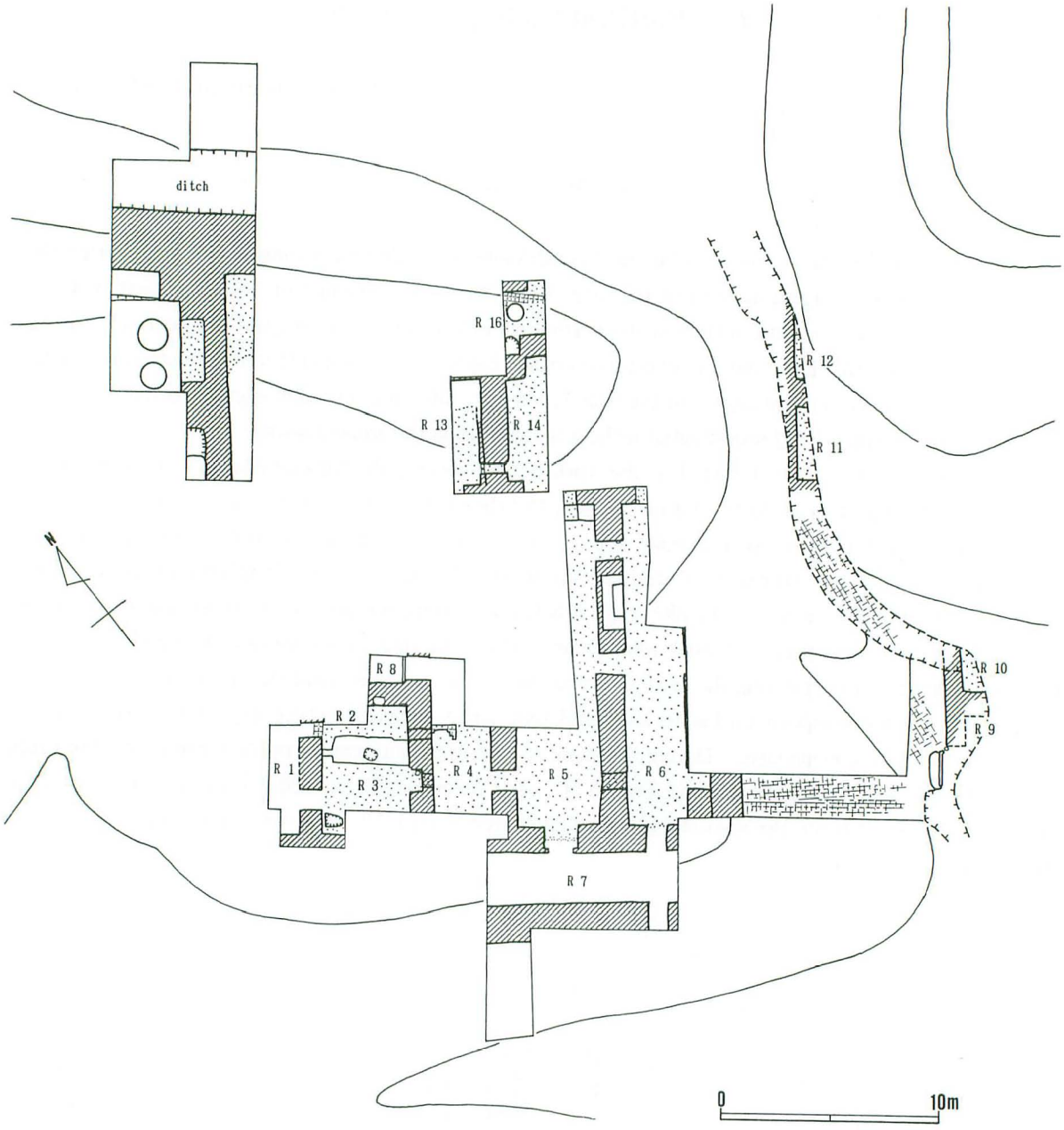


Fig. 5 Plan of the excavated structures in the central area of the Fortified Building

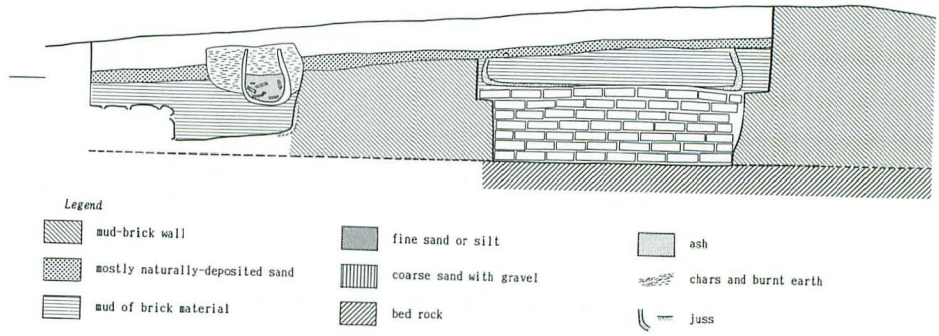


Fig. 6 Section of Trench 1

2 Architecture

Trench 1 (Figs. 5 and 6)

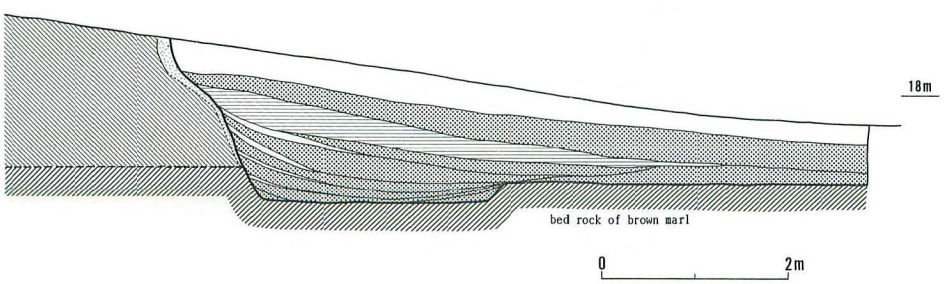
The enclosure wall recovered was *c.* 3.0 m in thickness at the bottom and *c.* 1.5 m in the remaining height as far as in Trench 1. The wall itself seemed to be built with mud-bricks piled up starting from the top of the natural ground, though every joint was not visible. *Juss* plaster was preserved partially on the exterior of the wall, with some potsherds behind as a kind of grounding (Pl. 7–a). It is, however, doubtful whether the enclosure had been plastered all over, since the plaster limitedly remained on the slightly projecting portion of the wall, as was observed in Trench 9. Along the enclosure was a ditch, 2.5 m wide and 0.3–0.4 m deep, where a lot of potsherds were unearthed. It could be provided for drainage in view of the situation of the whole fortified building, which is located on the gentle declivity arising from the foot of the cliff and, therefore, must have been attacked by rainwater.

Inside the enclosure wall appeared two rooms in part respectively, separated by a mud-brick wall, *c.* 1.8 m thick, orthogonally to the enclosure wall. The upper half of accumulation in the trench, covering the preserved partition, is composed mostly of sandy earth and seemed to have gradually been deposited probably by wind and rainwater. The interior walls of both rooms were plastered with *juss,* rather thin and less preserved.

The floor of the east room was plastered with *juss* directly on the natural earth. Only northern half of the plaster was preserved in good condition. The room was filled with collapse of mud-brick walls thickly down to the floor, of which the upper border looked somewhat flat. There was a slight ash layer sporadically between the upper accumulation and the lower filling. The western side of the room measured more than 10 m within the trench. It may, therefore, have been a vast room, or a long corridor, and connected to Room 1 in the church area, as mentioned below, which was excavated during the second campaign in 1987.

In the west room were uncovered two *tennors,* or baking ovens, below which older ones, 1.0–1.2 m in diameter each, appeared. The room was filled with heavy ash, 50–70 cm thick down to the earthen floor. The ash layers contain at least four interjacent floors of fired earth. The interior walls had been plastered but was stained with soot. Against the north-east wall is a built-in shelf with mud-bricks piled up, the top of which was fired in part and had the same level with the uppermost face of the ash layers. On the other hand, a plastered niche was uncovered in the south-east wall. Strangely enough, just beneath the niche was a coffin-sized cavity of 0.8 m in breadth. The cavity was screened against the room by a wall of a single-brick thickness, 32 to 35 cm. The west room is evidently regarded to have functioned as a kitchen or a baking place, but it is still unclear why the cavity was walled up or how it had been utilized here.

In the south-west corner of the trench is a depression containing a mass of pebbles. Whether it was



part of a pit, or of another room, could not be clarified. Above it is a small oven placed in a pit dug from the upper layer, which suggests a temporary occupation of a later date, possibly in parallel with the time of the ash deposit found in the east room, shortly after the demolition of the original structure.

Structures of a church proper

Throughout the last two seasons, fifteen rooms were, though partially, uncovered as well as a brick-paved courtyard (Fig. 5). Each room has been numbered roughly in sequence of the discovery date. The interior walls of rooms were always plastered with *juss,* but it seems unlikely that the same material was applied to the exterior walls facing to courtyards judging from the small part ascertained so far. Every room except Rooms 1 and 7 has a frequently replastered floor, which can be called the main level of the whole building, probably contemporary with the lower floor uncovered in Trench 1.

Among a lot of rooms, three rooms numbered 4, 5 and 6 are extremely long, 14.5 m each, arranged into a tripartite hall in plan which strongly reminds us of a three-aisled basilica. Room 5 is the central one, 3.9 m wide; the other two, 2.5 m each. Room 6, or the east aisle, faces to a brick-paved courtyard on the south-east. There are three doorways leading to the courtyard. On the south-west these three rooms are connected to an unpaved transverse chamber, Room 7, analogous in plan to a narthex seen in a Syrian church. However, there is no gainsaying the possibility that Room 7 might be part of a long corridor, since both narrow ends of this room have not been exposed. Meanwhile at the opposite spot, a room of 4.6 m deep appeared just behind Room 5 and is designated Room 14, yet its western half only could be excavated (Pl. 7–b). This room is undoubtedly identified to have been the sanctuary of a church, probably with the same width as Room 5, since it is utterly distinguished from the other rooms by the following features. Firstly a large quantity of gypsum fragments bearing various linear paints of red, blue and black in colour were yielded (Pl. 14–b to d), and in fact, part of mural painting, though quite vaguely, was uncovered both on the side and end walls *in situ.* These paintings are, however, too much fragmentary to reconstruct original depictions. It can be said, however, that nothing of them suggest a figurative character. Secondly in the end wall is a rectangular niche, 1.05 m deep, possibly with a frontage of half width of the room. The bottom of the niche is even with the floor of the room. In the third place the floor of this room was made nearly 30 cm higher than those of the rest rooms. Accordingly, it is observed that two low steps were necessary to fill the gap in the entrance, rather wider than the other doorways. It flanks possibly at either corner of Room 5 a pair of square podiums built of baked bricks and then plastered (Pl. 7–c). Lastly, Room 14 is connected to a side room, which may be called a sacrisity, by a narrow passage, 0.4 m wide (Pl. 7–d), as occured in the churches at Ctesiphon [Reuther 1929: figs. 1 and 2] and Hira [Talbot Rice 1932: fig. 1], as well as in Church A at Qusair North, where such a passage was, though not ascertained by the German Expedition, uncovered through the recent excavations by Iraqi scholars. In this room, numbered 13, no trace of mural painting could be found. The east interior wall of the same room was found evidently reerected upward from the level of about 20 cm above the plaster floor, since the bottom part of the wall is projected nearly 25 cm inward. Consequently it is believed that the partition wall between Rooms 13 and 14 was originally made somewhat thicker than the other walls, 1.10 to 1.15 m thick in common.

The three aisles, Rooms 4, 5 and 6, are separated one another by pier walls of mud-bricks, and the central aisle was no doubt connected to the side ones each by a set of three passages placed symmetrically at the outset. In the northernmost passage between Rooms 5 and 6, two door-sockets both of baked brick were found on either side slightly above the initial floor (Pl. 7–e). Apart from these, door-sockets alike were found between Rooms 3 and 4, and 5 and 7 as well as in the doorway in the northern end wall of Room 6. It is noteworthy that in the north pier between Rooms 5 and 6 is a built-in chest of 2.4 by 0.9 m, walled

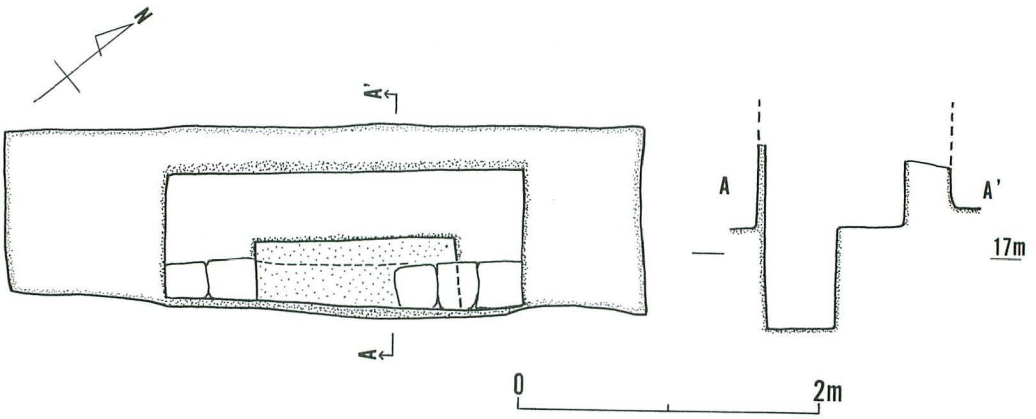


Fig. 7 Plan and section of the built-in chest in a pier wall

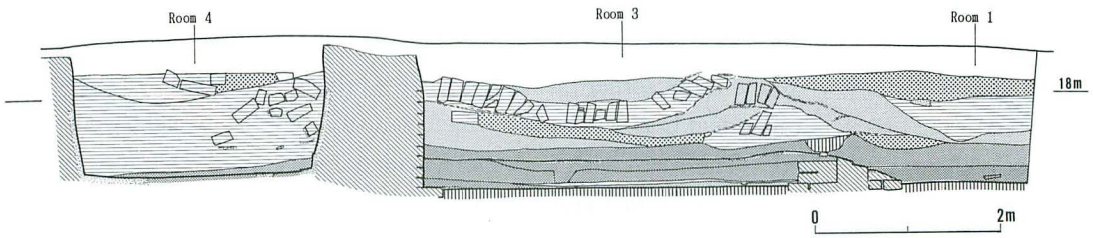


Fig. 8 Section of Room 1 to Room 4

up as was the case of the cavity found in Trench 1 (Fig. 7 and Pl. 6–a). Each side wall of the chest is plastered, but its bottom, approximetely on the same level as the Room 6 floor, is not. At the bottom again, a smaller chest is built in downward and entirely plastered inside, measuring 1.35 by 0.4 m and 0.71 m deep, which holds the east edge in common with the upper one. While the lower and smaller chest was filled up with mud-bricks only, the upper was filled with crushed mudstone which is available in this vicinity, except in the eastern part, where mud-bricks were piled up continuously from the bottom of the lower chest wholly in contact with the edge of Room 6. No significant objects were unearthed from both chests. In Room 5 a considerable amount of fragments of wall plaster bearing Syriac letters, mostly peculiar to Nestorian, were found on the floor close by this pier wall.[1] Such wall inscriptions are nowhere else to be found except trivial pieces from Trench 7 within the excavated areas.

Other dependencies

The earliest phase was ascertained in Room 3 (Pl. 7–f). Here exposed was a natural earth of coarse sand, the surface of which had been no doubt utilized as the earliest floor in view of an ash layer widely covering it (Fig. 8). Moreover, the original wall foundations, consisting of one course of rather stiff mud-bricks with a format of $37\times37\times10$ cm, were uncovered along each side of the room. These foundation bricks were placed jutting out some 20 cm from the wall face of the superstructure. Up to the main plaster floor lay an accumulation of some 30 cm, containing at least two interjacent floors without plaster, upper one of which is roughly paved with baked bricks. Potsherds unearthed from these lower layers suggest that there is not so long time span between the main and earliest floors (see Fig. 16).

Rooms 2 and 3 are partitioned off by a peculiar table-like wall, which cannot be thought to have reached the room ceiling upward, since a kind of oven was discovered thereon, with its fuel hole open to Room 2 (Pl. 8–a). No trace of fire, however, was found in it. It implies that the room have possibly been

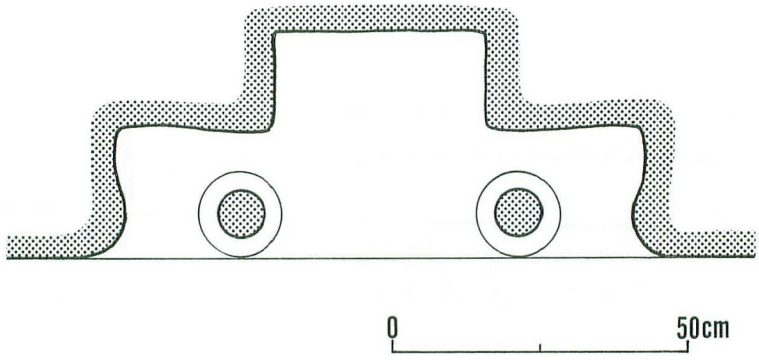


Fig. 9 Sketch plan of the tripartite niche in Room 2

demolished as the oven was left out of use after the repair and re-plastering. In the opposite wall in the same room, a small tripartite niche was furnished, around which, though finally covered with normal plaster, the wall face had once been coloured cinnabar red (Fig. 9 and Pl. 8–b). In front of it the floor is partly paved with irregular stones. In the room corner beside the niche is, though screened by plaster for some reason, a rather big hollow into the mud-brick wall. It seemed as if any valuables would have been hidden therein, but nothing was yielded. The room itself, however, yielded fragments of a plaster plaque with a moulded relief of the holy cross together with a green-glazed lamp (see Figs. 19 and 22).

Meanwhile, behind the sanctuary of the church is Room 16 with a passage leading to the outside of the enclosure (Pl. 8–c). The room was filled mostly with naturally deposited sand in the upper portion but in the lower mostly with ash down to the plaster floor. Such an accumulation is very similar to that in the east room found in Trench 1. Here again one *tennor* was discovered with a footstall of baked bricks underneath. On the north-east the church faces a spacious courtyard, approximately 9.4 m by more than 14 m in area, paved with baked bricks (Pl. 8–d). The pavement had possibly been altered in part more than once, since not only different sizes of bricks but different directions of paving were observed. Most of bricks uncovered in Trench 8, namely, in the wadi bed, are $24.5^2 \times 4$ cm each in size (Pl. 8–e), while those in Trench 7, 17.5^2–$19^2 \times 2.5$–3 cm. Of four rooms, none of which entirely appeared, Room 9 seems to have an entrance probably with a flight of stairs in front just opposite to the southernmost doorway in the north-east side of the church.

Later alterations

Of the excavated structures there are neither rooms nor doorways without alteration. Before destruction of the building in large scale, considered to be the final stage of the main period, as is recognized in the accumulation of Room 3, some of doorways had undoubtedly been blocked up and the bulk of walls was restored mainly by the use of mud, not bricks. Rooms 2 and 3 were, for instance, once connected to Room 1 respectively as well as to Room 4 in the earlier time, but both doorways leading to Room 4 were walled up later on; one of the passages between Rooms 4 and 5 seems to have often been repaired, where some baked bricks in different sizes were found placed vertically behind the latest wall plaster (Pl. 9–a). In Room 4 a kind of podium built of baked bricks was installed on the plaster floor against the walled-up passage which had once led to Room 2 (Pl. 9–b).

In the meantime, the easternmost wall of the church, facing the courtyard, was thickened outside with an additional wall composed mostly of hardened mud and built almost direct on the brick pavement. Moreover, two of the passages apart from the middle one in the partition between Rooms 5 and 6 were blocked up as well. Thus, it is most likely that each room came to be of independent use and that the

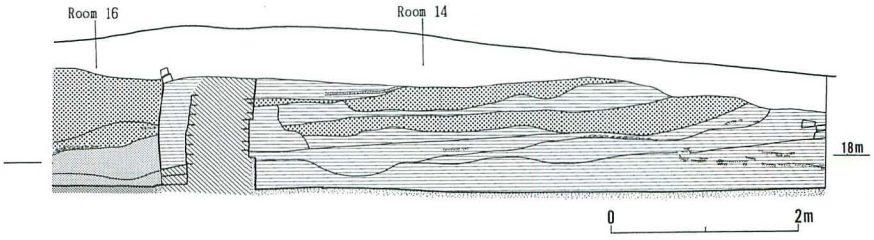


Fig. 10 Section of Room 14

function of the building itself as a Christian church was either lost or hidden before the serious destruction mentioned above.

The latest occupation can be ascertained from the unnatural deposit immediately above a thick accumulation of collapsed walls of mud-bricks in a number of rooms. Most of rooms were reused in this period with the identical walls as had been allocated and with their fillings of mud left unplastered. Even the sanctuary Room 14 seemingly came to be of ordinary use with its front opening walled up, where the lower filling of collapsed bricks accompanied a layer of ash and chars thereon (Fig. 10). Some of the rooms, however, Rooms 5 and 6 and southern part of Room 4 for instance, still remained with their plaster floors as they had been. Room 5 retained part of a mud-brick wall in the middle with slight deviation from the principle orientation of the building (Pl. 9–a), and furthermore, yielded a mass of baked bricks, 19.5^2–$20.5^2 \times 4$–5 cm in size. They are enough to expect an additional furniture on the floor, yet what they were is unknown.

Fortification walls

For the sake of ascertaining the structures of fortifications apart from the north-east wall of the enclosure, Trench 5 was set out at the south-east corner, and Trench 9 at the north-west side. The corner projection almost squared in plan, 4 by 3.7 m, was uncovered at Trench 5 as well as part of the enclosure walls, 1.8 m in thickness, to both directions from this point (Fig. 11). The wall body is composed of mud-bricks, 31^2–$33^2 \times 11$ cm each in size, carefully piled up from the bottom on the natural ground (Pl. 6–b). In the section of the surface earth, decades of centimetres deep, no regular joint was recognizible, probably for the reason either of terrible weathering or of restoration by the use of mud and sand. Inside the wall are two rooms, one of which has a plaster floor on the relatively high level, but in the other a positive floor could not be found as far as on the same level.

The north-west wall of the enclosure was proved to be of a little more than 2.3 m in thickness. The wall itself consists mostly of mud-bricks, but in part, bricks seemed to be placed over the heaped-up earth. Against the outer foot of the wall is, as is the case with the north-east wall seen at Trench 1, a slight projection with thick plaster on this particular portion (Pl. 9–c). It has proved as a result that the fortifications occupied the area of 58.5×147.7 m.

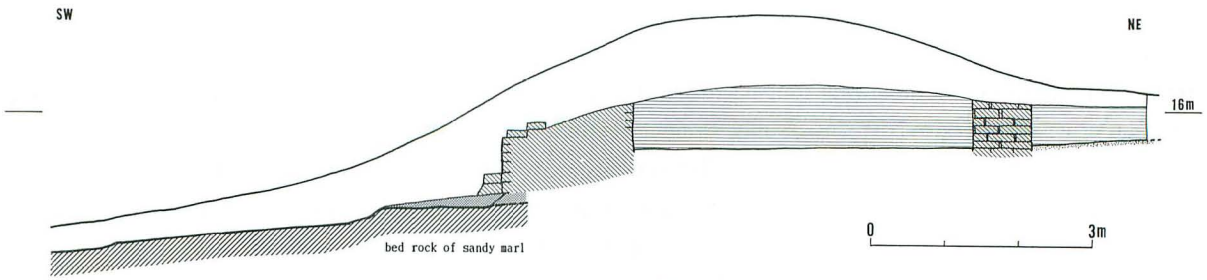


Fig. 11 Section of Trench 5

3 Pottery and miscellaneous finds

Pottery from Trench 1 (Figs. 12 to 15)

At Trench 1, only a few of pottery vessels were found from the rooms, but a considerable number of sherds come from the ditch along the enclosure. Most of them are too much fragmentary to reconstruct into a complete shape. All the pottery can generally be grouped into the plain, incised and glazed wares. There are two types of vessel, the bowl and the jar. Of the plain and incised wares, large-sized vessels can hardly be found. Plain and incised ware vessels of smaller or medium size are all wheel-made, tempered mostly with fine sand, sometimes with vegetable. Any one of them has a greenish buff or creamy buff surface, sometimes with a slip. Not a few are lined with bitumen.

There are rather fewer samples of bowl than those of jar. Of the bowls are smaller ones, 10 to 20 cm in the rim diameter (1–3, 7), and larger ones, more than 30 cm (4–6). Considerable variety of the shape can be seen in these rim sherds. The sherd No. 4 may perhaps be of a deep bowl. No. 7 is solely able to be completed in form characterized by its flaring rim and string-cut flat base.

Nos. 8 to 18 are regarded as rim fragments of plain jars, of which three in fine fabric (8, 10, 11) fall under the sort of the Thinware. Nos. 9 and 16 of hard-fired reddish brown ware can be called the Brittle Ware. No. 9 has a black surface. Whether the sherds Nos. 13 and 15 are of jars or of another sort is uncertain. The latter is decorated with combing lines. Both of Nos. 17 and 18 are heavy grit tempering wares with bitumen lining and most probably of torpedo jars. Nos. 19 to 22 are handled jars, remaining enough to reconstruct their entire forms. All the handles are oval in section and attached to the rim and shoulder. Each of Nos. 19 and 20 has an unsquared shoulder and one handle. The former bears an unaccountable letter or symbol in black colour on the shoulder. Of all the unearthed sherds, No. 20 is solely decorated with paintings, blackish brown in colour, of which unfortunately the complete design cannot be detected due to defacement. As for No. 21, only one handle survives, but it is not known how many handles were initially attached. No. 22 represents a three-handled jar, recovered in the corner of the east room, where it had no doubt been placed (Pl. 10–a). The fabric of this jar is rather coarser than that of the others, perhaps due to its larger size, and a creamy-white slip is thickly applied to the surface. In the lower portion of the body remain two perforations and on the neck is a cross incising produced before firing, of which every end characteristically spreads into three branches, analogous to one of the holy cross plaques unearthed from Qusair North.[2]

Nos. 23 to 36 are base sherds mostly of jars, but some of them may perhaps come of bowls. These bottoms are all made flat by means either of string cut or pallet cut, including three different formations as well: firstly with a side body everted (28, 30–33), secondly with a bottom edge jutting out (26, 27, 29, 34–36), and lastly without a distinctive feature (23–25). Any one of jars here remains notably with traces of scraping treatment on the exterior from the shoulder downward, whether the finishing is done by wet-smooth, or those traces are left intact.

Surface decoration with incision is very common in Thinware jars (Pl. 10–b). They always have a ridge just at the base of the neck, mostly with one or more handles. No incision can be seen below the shoulder. The combing incision which varies in the stroke from three to five streaks is the most prevalent decoration, including the following four patterns. The first is a design merely of comb lines (39, 40, 43–45, 48, 51), of which are both patterns of only straight combing and of combination of straight and arc combings; the second distinguished with circular dots filling open spaces between comb lines customarily after combing (41, 42); the third a short stroke of combing encircled by punctured dots (37), and the last is a cross-hatched motif, not a true combing, applied limitedly to the neck surface (38, 46–48).

The two-handled jar No. 48 has an unsquared shoulder and a vertical neck with a rim widely open, of

which each handle, as well as those of Nos. 51 to 54, is decorated with a turban, or thumb stub, of floral design and with an applique snake. Most of the other incised sherds probably belong to the same type of jar. No. 49 represents a quite peculiar form of a two-handled jar. The fabric is very compact and moreover its decoration is far more distinguishing than the others in view of design and manufacturing. It has eight horizontal grooves on the neck and, on the shoulder, comb lines combined with reed puncture dots arranged in the separate panels, together with dot-encircled combings. These shoulder incisions are sandwiched between chevron motif bands of combing dots both on the upper and lower ends of the shoulder space. Its handle, another probable one missing, is peculiarly attached to the neck, not to the rim as is the case with any other handles. The configuration and ornamentation are also different from the others'. Its base is missing, but presumably of the same type as that of No. 31 or 32. No. 50 is a handle with an animal head turban, paralleled numerously at Kufa, perhaps in the third layer [Mustafa 1963: fig. 15]. No. 55 is a handle, too, unusually with several loops of clay cord behind.

No. 57 is a rim of a large jar with horizontal and wavy lines gouged out. The sherd No. 58 is of a cylindrical body with a couple of horizontal notched ridges, but which type of form it belongs to is indistinguishable. No. 59 is a jar shoulder fragment with leaf-motif incisions. Of the examples of large vessels, No. 60 is decorated with broard combings of a wavy pattern, and Nos. 61 and 62 characteristically with punctured dots and gouged lines in bold strokes. The rim and neck sherd No. 63 is of a coarse ware jar probably made without a potter's wheel and roughly wet-smoothed, with stubs of a handle remaining both on the rim and unsquared shoulder. No. 64 is a cylindrical fragment with applique clay lumps of a coffee bean size. It comes most likely of a spout, judging from bitumen lining.

Circular stamp impressions were found not only on the bodysherd No. 66, but, though unillustrated here, on some other sherds unearthed from different spots. Quite similar motifs can be seen at Hira [Talbot Rice 1934: fig. 22] and Tulul al-Ukhaidhir [Finster and Schmidt 1976: fig. 49]. No. 65 is a fragment of a moulded lamp. A parallel was found at Site C, which will be discussed in the appropriate section afterwards.

The glazed wares include very few samples other than bowls. They usually have a yellowish buff fabric with very fine sand tempering, mostly with a glaze deteriorated (72–74) or exfoliated (67, 70, 75, 76). Some of the vessels have a monochrome glaze of blue green, while the others are decorated with a polychrome combination of blue, green and yellow or of green and ocher. In the case of No. 72, a colouring of yellow and dark manganese violet is mottled together with no attempt at a design. Nos. 71 and 74 are rim sherds with splash glaze inside trickled down from the rim top. To No. 73, long oval-shaped splashes are given outside almost at regular intervals.

Of the whole materials unearthed at Trench 1, the illustrated ones are listed below. Each one is described in the order of the figure number, its locus, summary description and its dimensions.

<Fig. 12>

1. East room, south. Rim of small bowl, creamy buff surface, probably slipped, reddish buff core, very fine sand temper.
2. Ditch. Rim of bowl, creamy white slip all over, buff core, heavy temper of fine or very fine sand. Rim diam.: 20 cm.
3. Cavity in the west room. Rim of small bowl, creamy white slip all over, buff core, heavy fine sand and sparse vegitable temper. Rim diam.: 11cm.
4. Ditch. Rim of bowl, creamy buff, fine sand and spares grit temper, bitumen lined.
5. Behind wall plaster. Rim of bowl, creamy white surface, buff core, heavy fine sand and sparse fine vegetable temper, bitumen lined.
6. Cavity in the west room. Rim of bowl, greenish buff, heavy fine sand and sparse grit temper.
7. East room, south. Bowl, incomplete, greenish cream slip all over, pinkish buff core, fine sand and sparse

vegetable temper. String cut base. Rim diam.: 10 cm, height: 8 cm.

8. Ditch. Rim of bowl/jar, compact greenish buff, sparse temper of very fine sand. Rim diam.: 19 cm.
9. Depression in the trench corner. Rim of jar, Brittle Ware, reddish brown to blackish brown exterior, very fine sand temper.
10. Ditch. Rim of jar, greenish buff, heavy fine sand and sparse grit temper, grooving on rim.
11. West room, ash layer. Rim of jar, greenish white slip all over, greenish grey core, sparse grit and fine sand temper.
12. Ditch. Rim of jar, buff, heavy fine sand and sparse grit temper.
13. Depression in the trench corner. Rim of jar, buff, heavy fine sand temper.
14. East room, south. Rim of jar, greenish, heavy temper of very fine sand, bitumen lined.
15. Cavity in the west room. Rim of jar, greenish, sparse fine sand temper, combing on rim. Rim diam.: 9 cm.
16. Ditch. Rim of jar, Brittle Ware in brown colour, very fine sand temper. Rim diam.: 10.2 cm.
17. East room, south. Rim of torpedo jar, reddish buff, fine sand and grit temper, bitumen lined.
18. Ditch. Rim of torpedo jar, greenish buff surface, buff core, heavy sand and grit temper, bitumen lined.
19. Ditch. Jar with one handle, greenish, sparse grit, fine sand and fine vegetable temper. Max.diam.: 24.4 cm, extant height: 28.5 cm.
20. Ditch. Jar with one handle, greenish, heavy very fine sand and sparse grit temper, trace of blackish brown paint on body. Max.diam.: 15.7 cm.

<Fig. 13>

21. West room, ash layer. Jar with handle, creamy buff slip all over, pinkish buff core, heavy grit and sparse vegetable temper. Rim diam.: 13 cm.
22. East room, nourth-west corner. Jar with three handles, greenish cream slip all over, greenish buff core, heavy grit and fine sand temper. Rim diam.: 13.4 cm.
23. Ditch. Base of jar/bowl, buff surface, pinkish buff core, heavy grit and fine sand temper. Base diam.: 4.6 cm.
24. Behind wall plaster. Base of jar, creamy buff surface, pinkish buff core, fine sand temper. Base diam.: 6.6 cm.
25. Cavity in the west room. Base of jar, buff, greenish white slip on exterior, heavy very fine sand temper. Base diam.: 6.5 cm.
26. Ditch. Base of jar, compact greenish buff, sparse very fine sand temper. Base diam.: 5 cm.
27. Ditch. Base of jar, buff, greenish white slip on outer surface, heavy very fine sand temper. Base diam.: 5.8 cm.
28. Ditch. Base of jar, creamy buff, heavy sand and sparse grit temper, bitumen lined. Base diam.: 9.4 cm.
29. Cavity in the west room. Base of jar, greenish buff surface, buff core, heavy very fine sand and sparse grit temper. Base diam.: 7.6 cm.
30. Ditch. Base of jar/bowl, greenish cream slip all over, buff core, heavy fine sand temper. Base diam.: 9 cm.
31. Behind wall plaster. Base of jar, creamy buff surface, pinkish buff core, heavy fine sand and grit temper. Base diam.: 10.2 cm.
32. East room, south. Base of jar/bowl, pinkish buff, greenish buff interior, sparse fine sand and vegetable temper. String cut base. Base diam.: 9 cm.
33. Ditch. Base of jar, greenish buff surface, buff core, sparse grit and vegetable and heavy fine sand temper, bitumen lined. Base diam.: 12 cm.
34. Ditch. Base of jar, greenish buff surface, buff core, sparse grit and vegetable and heavy very fine sand temper, bitumen lined. Base diam.: 10.4 cm.
35. East room, south. Base of jar, greenish, heavy fine sand temper. Base diam.: 11 cm.
36. Ditch. Base of jar, greenish, heavy fine sand temper. Base diam.: 14 cm.

<Fig. 14>

37. Ditch. Rim and shoulder of incised small jar, greenish buff Thinware, no visible temper, burnished outer surface. Rim diam.: 5 cm.
38. Ditch. Rim of incised jar, greenish, heavy fine sand temper.
39. East room, south. Shoulder of incised jar, greenish cream surface, pinkish buff core, heavy fine sand temper, bitumen lined.
40. Ditch. Shoulder of incised jar, greenish buff surface, buff core, heavy fine sand temper.

41. Depression in the trench corner. Shoulder of incised jar, greenish cream slip all over, buff core, heavy very fine sand temper.
42. East room, south. Shoulder of incised jar, greenish buff, sparse fine sand temper.
43. Ditch. Shoulder of incised jar, greenish buff, heavy very fine sand temper.
44. Ditch. Shoulder of incised jar, creamy buff, heavy fine sand temper.
45. Ditch. Shoulder of incised jar, greenish cream slip on exterior, pinkish buff core, sparse very fine sand and fine sand temper.
46. Ditch. Rim of incised jar, greenish buff, heavy fine sand temper.
47. Ditch. Rim of incised jar, greenish buff, sparse fine sand and vegetable temper.
48. Ditch. Incised jar with two handles, greenish buff, heavy white grit and very fine sand temper, bitumen lined. Rim diam.: 14 cm.
49. Ditch. Incised Thinware jar with two handles, greenish buff surface, buff core, sparse very fine sand temper. Rim diam.: 15 cm.
50. Cavity in the west room. Handle of jar, greenish buff surface, buff core, sparse fine sand temper.
51. Ditch. Rim of incised Thinware jar, creamy buff surface, buff core, sparse very fine sand temper.
52. Ditch. Handle sherd, greenish cream, heavy very fine sand temper.
53. Ditch. Handle sherd, greenish cream surface, buff core, heavy very fine sand temper.
54. Ditch. Handle of incised jar, greenish buff surface, buff core, heavy fine sand and sparse grit temper.
55. Depression in the trench corner. Handle sherd, greenish cream slip all over, buff core, sparse fine sand and grit temper.

<Fig. 15>

56. East room, south. Handle of jar, greenish buff, sparse fine sand temper, bitumen lined.
57. Behind wall plaster. Rim of incised jar, creamy buff surface, buff core, heavy very fine sand and sparse grit temper.
58. West room, south. Incised bodysherd, greenish buff, heavy very fine sand temper, bitumen lined.
59. Ditch. Shoulder of incised jar, greenish buff, heavy fine sand and sparse grit and vegetable temper, bitumen lined.
60. Cavity in the west room. Comb-incised bodysherd of large jar, greenish, heavy fine sand and sparse grit temper.
61. Behind wall plaster. Pallet-incised bodysherd of large jar, greenish, heavy fine sand and very fine sand temper.
62. Behind wall plaster. Pallet-incised bodysherd of large jar, greenish, heavy very fine sand temper.
63. East room, south. Rim of coarse jar, brown, grit and mineral temper.
64. Depression in the trench corner. Cylindrical gritty sherd, greenish white slip all over, pinkish core, heavy fine sand temper, bitumen lined.
65. West room, ash layer. Lamp sherd, creamy buff surface, grey core, heavy very fine sand and sparse grit temper, sooted inner surface.
66. West room, south. Bodysherd of jar impressed with stamp, buff surface, pinkish buff core, heavy very fine sand temper.
67. West room, south. Rim of glazed bowl, compact creamy white ware, opaque white slip? inside and out, lead glaze efflorescent.
68. West room, south. Rim of glazed bowl/jar, creamy white ware, heavy very fine sand temper, clear lead glaze inside and out, coloured with blue and yellowish green.
69. Behind wall plaster. Rim of glazed bowl, buff ware, heavy very fine sand temper, white slip inside (and out?), blue-green glaze outside and over rim.
70. East room, south. Rim of glazed bowl, creamy buff ware, heavy very fine sand temper, deteriorated glaze inside and out.
71. West room, south. Rim of glazed bowl, compact creamy white ware, blue-green glaze inside and on top of rim.
72. Behind wall plaster. Rim of glazed bowl, pinkish buff core, sparse fine sand temper, splash glaze inside in yellow and manganese black, exterior glaze deteriorated.
73. Ditch. Rim of glazed bowl, pinkish buff ware, heavy very fine sand temper, clear lead glaze inside and over

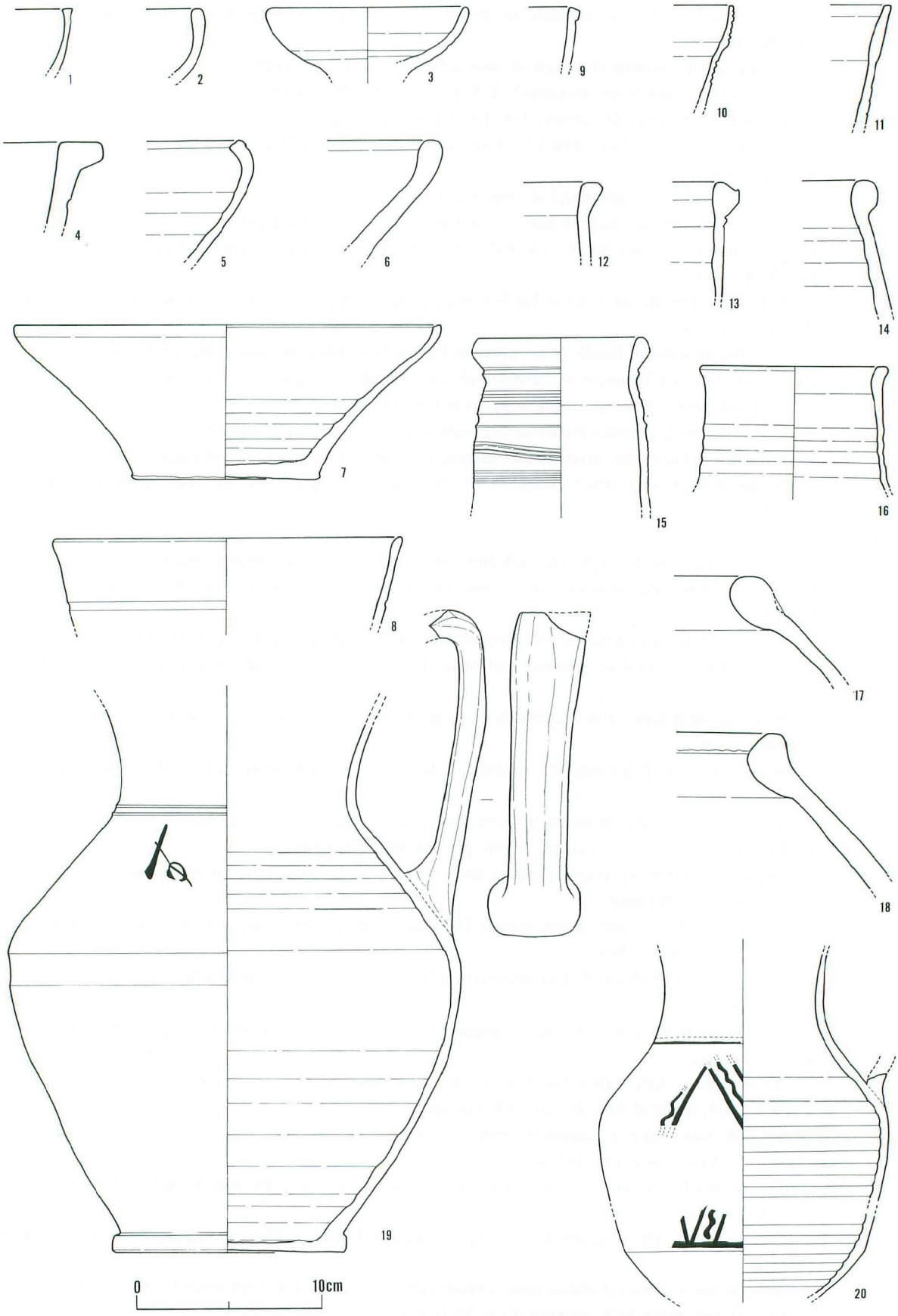


Fig. 12 Pottery from Trench 1—Part 1

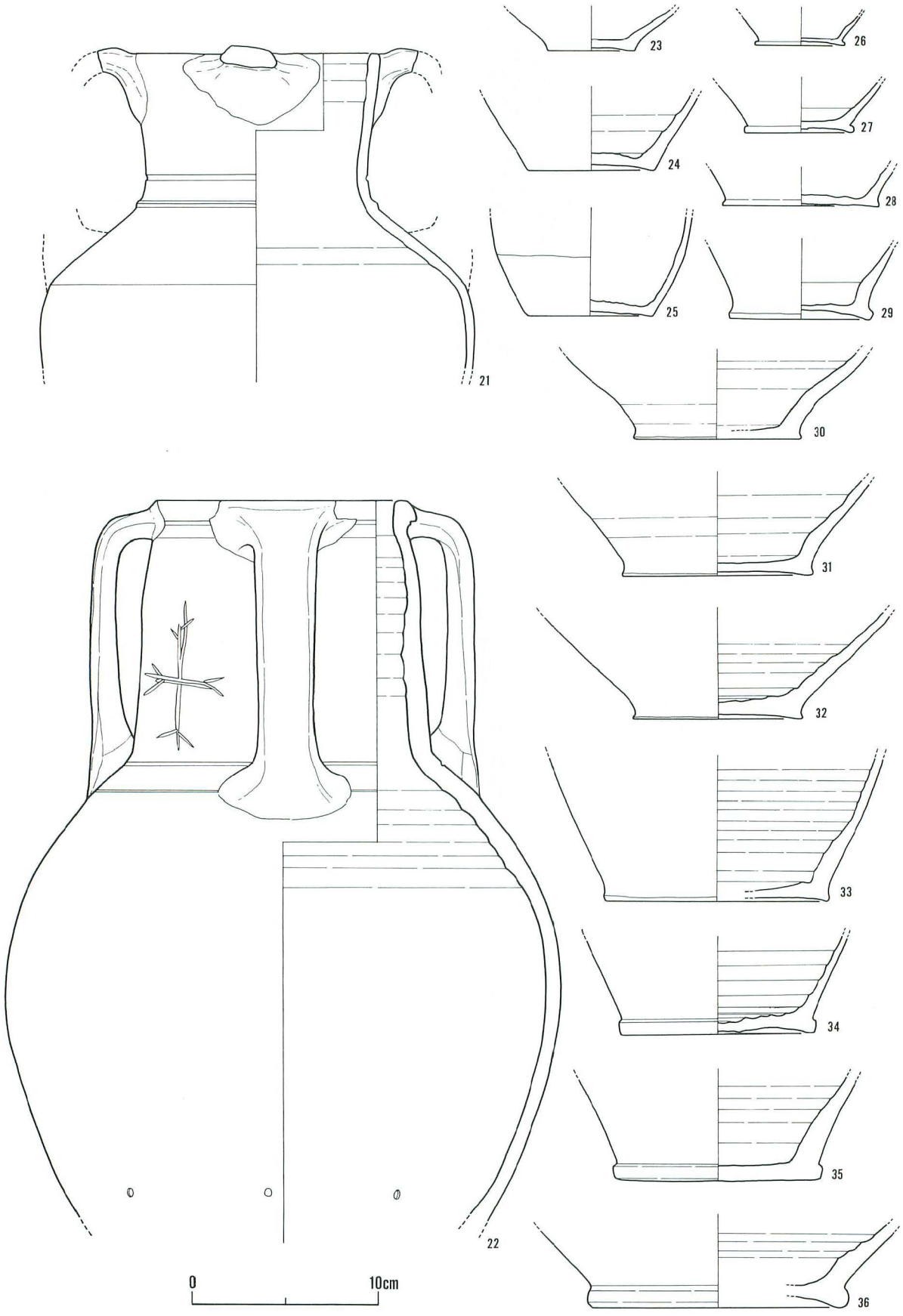


Fig. 13 Pottery from Trench 1—Part 2

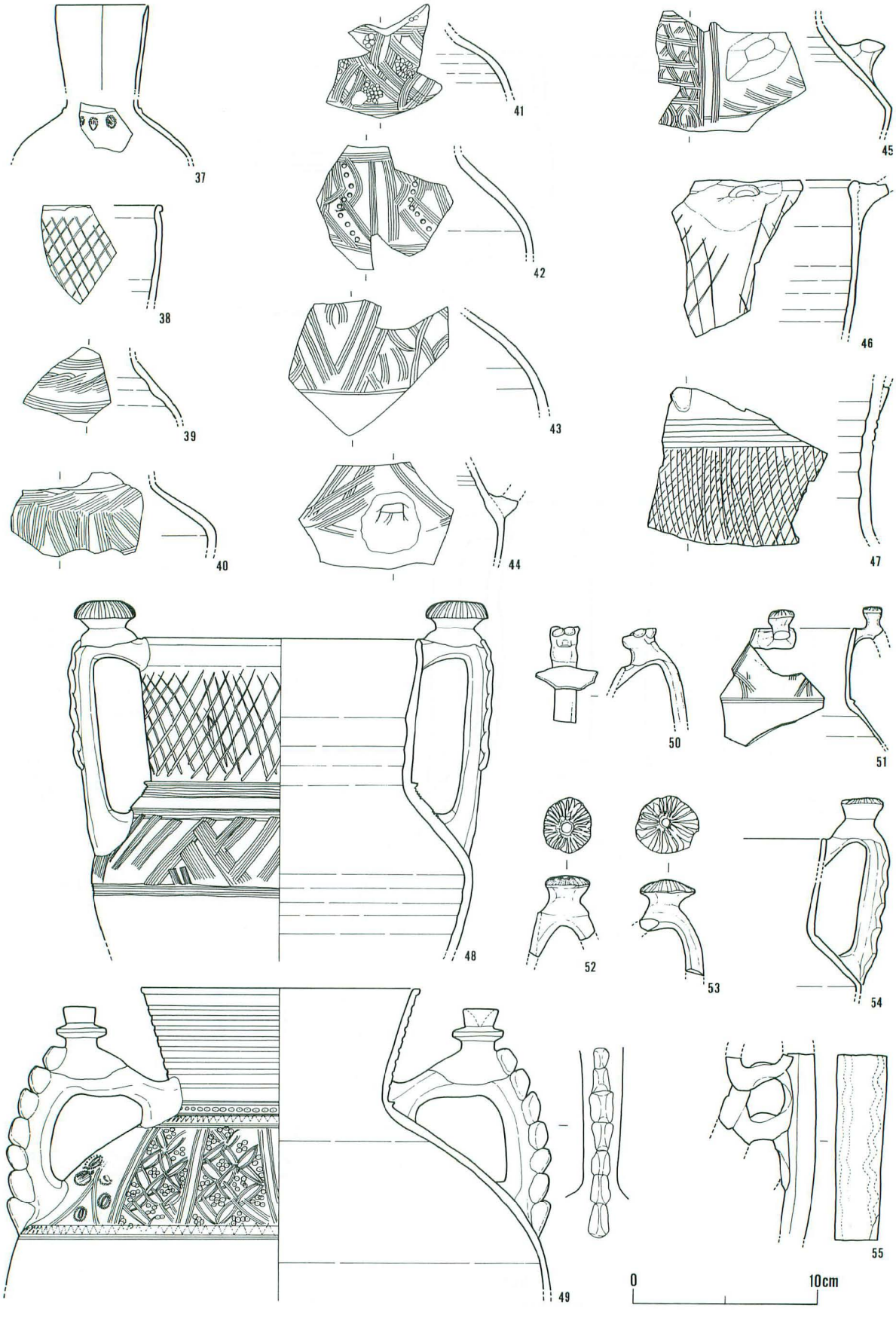


Fig. 14 Pottery from Trench 1—Part 3

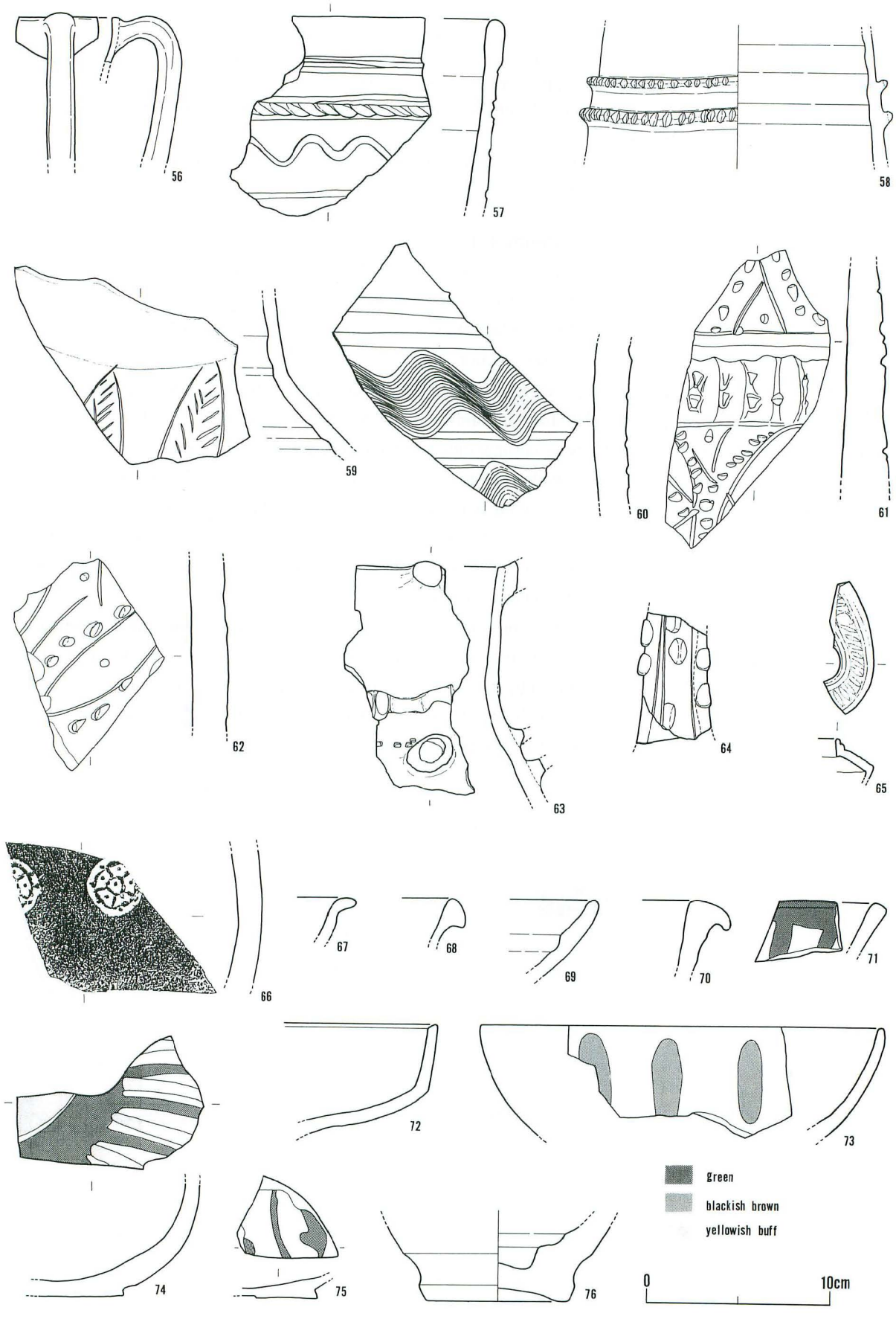


Fig. 15 Pottery from Trench 1—Part 4

rim with splash in green and blackish brown, exfoliate. Rim diam.: 21 cm.

74. Ditch. Base of glazed bowl, pinkish buff ware, heavy very fine sand temper, deteriorated lead glaze inside with splash in green and yellowish buff, no visible glaze outside.
75. West room, south. Base of glazed bowl, compact creamy white ware, lead glaze inside with blackish green splash, heavily efflorescent.
76. East room, south. Base of bowl/jar, creamy buff ware, heavy very fine sand temper, lead glaze inside and out, efflorescent. Base diam.: 8 cm.

Pottery from the lower strata of Room 3 (Fig. 16)

The lower strata, representing the earliest phase of the Fortified Building, yielded the following potsherds. No. 77 is a rim of a small bowl, of which the probable form is thought to be similar to Nos. 84 and 85. The size, however, is a little smaller and the fabric relatively finer. The rim and neck sherd No. 78, perhaps of a jar, with vertical comb lines shows a peculiar section of the rim. No. 79 is of a long-necked jar in a fine fabric, decorated with, on the shoulder, a zig-zag pattern band of a series of petaline combing motifs with circular dots filling the open spaces. The band is sandwiched between two horizontal comb lines. Both in the pattern and technique of design there is nothing different from the incised wares at Trench 1.

No. 81 is a jar in creamy buff ware with very fine matrix, showing a sylindrical but slightly concave body decorated with vertical lines lightly gouged out (Pl. 11–a). Nothing further of this type could be found in the series of trenches. Parallels were found at 'Ana, assigned to the Samarran period [Northedge 1988: 90 and fig. 40], but slightly different in the formation of gouged lines; each line of ours is tapering upward, while that at 'Ana is made with both ends rounded.

No. 80 is a jar base in a compact creamy-buff fabric with some vegetable temper, showing a distinctive type with a fairly upright body. No. 82 is a base of a common jar, but has a shallow and circular hollow, 3.8 cm in diameter, which must have been caused by rotation of a door post or the like. Only one glazed sherd (83) was found from these strata, a yellowish buff ware with opaque green glaze inside and out. The undulating ribbing of the upper body exterior produced a shading effect with a saved glaze thereon. Some

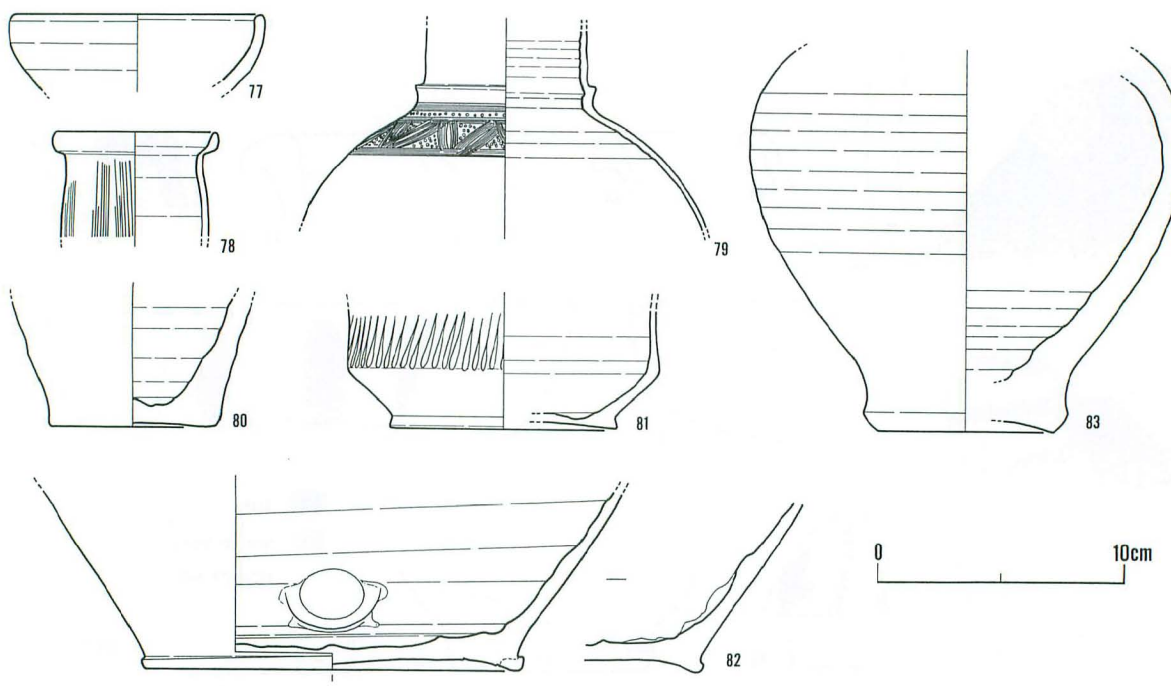


Fig. 16 Pottery from the lower strata of Room 3

other glazed sherds of the same type were also found from the later deposit (not illustrated).

Catalogue:

77. Rim of small bowl, creamy buff slip all over, buff core, no visible temper. Rim diam.: 10 cm.
78. Rim of incised Thinware jar, greenish buff, sparse fine sand temper. Rim diam.: 6.6 cm.
79. Neck and shoulder of incised Thinware jar, greenish buff surface, buff core, no visible temper.
80. Base of jar, greenish buff surface, creamy buff core, sparse fine vegetable temper. Base diam.: 6.8 cm.
81. Base of jar, compact creamy buff ware, no visible temper. Body decoration of lightly gouged lines. Base diam.: 9 cm.
82. Base of jar, greenish buff ware, heavy very fine sand temper. Shallow circular hollow inside possibly caused by rotation of a wooden post. Base diam.: 15.4 cm.
83. Body and base of green glazed jar, compact buff ware, green lead glaze all over, decolourized inside. Base diam.: 7 cm.

Pottery from Trenches 2 to 10 (Figs. 17 to 19)

Here we deal collectively with the pottery finds which comes from the deposits above the main plaster floors up to the surface layers, for the deposits are not always well-stratified and very few sherds could be ascertained exactly to be associated with the main floors. The variety of pottery types does not differ on the whole much from that at Trench 1.

Nos. 84 and 85 are small bowls with string-cut bases and slightly thickened rims, and have a vegetable and fairly heavy grit temper and a creamy buff surface, possibly slipped. A considerable number of bowl sherds of the same type were unearthed chiefly from the filling of Rooms 2 and 3. No. 86 is a rim of a medium-sized bowl with a buff slip and pinkish buff core. Below the lip is a horizontal line clearly gouged out.

The sherd No. 87 is of a low-necked small jar, characteristically with the everted flattened rim, in a fine fabric with a creamy slip inside and out. The rim sherd No. 88 of a high-necked jar has a yellowish buff fabric with a fairly heavy grit temper, and is characterized by its folded rim. Neither form of No. 87 nor of No. 88 is a prevalent style in our pottery vessels. The rim and neck sherd No. 89, similar in form to Nos. 15 and 22 from Trench 1, retains one handle, decorated with relatively broad combing bands. Nos. 90 and 91 are both Thinware jars in very fine greenish buff ware with comb lines. On the shoulder of No. 90 is a faint trace of a handle exfoliated. A high-necked jar of Thinware version such as No. 91 is not a pecurliar type in our materials. Beside these two examples are discovered a great number of incised Thinware sherds, not differing from those from Trench 1 at all. The one-handled plain jar No. 92, not a typical Thinware, has a pinkish buff fabric with a sand temper, lined with bitumen inside all over. Both Nos. 95 and 96 are bodysherds of relatively large jars with combing decorations on the shoulder. On the side body of No. 96 are some letters in black paint, which appear to be Arabic ones or the like.

Nos. 93 and 94 are Brittle Ware jars in a reddish brown fabric with a white fine sand temper. Both have a plain unribbed body. Only the exterior of No. 93 is stained possibly with ash or soot. In addition to these two examples, not a few Brittle Ware sherds, approximately of fourteen vessels, were picked up (not illustrated), which include a ledge-handled cooking pot with a ribbed exterior and a small bowl with a double incurved rim.

No. 97 is a flat-bottomed basin in a soft yellowish buff ware with a grit and vegetable temper, decorated with a wavy line incising on the rim and exterior and with a red slip on the exterior. It was found at the paved courtyard together with fragmentary pieces of fine plaster plaques with a geometric design to be discussed below, and moreover, another quite similar vessel was recovered from the filling of the sanctuary at Trench 10 (not illustrated). Thus, these basins may perhaps be associated with a certain sacred matter. The rim sherd No. 98 is similar to No. 97 both in section and incising decoration, but with a

buff slip or wet-smooth treatment inside and out. In the gouged wavy line on the rim still remains a black pigment. The possibility cannot be excluded that it may come out of a large water jar, i.e. *hebb*, since the ware is rather harder and the rim diameter is much larger than that of the former one.

The glazed wares include green glazed jars, bowls and lamps, blue-green glazed bowls occasionally with white slip, and polychrome glazed bowls and plates. Nos. 99 to 101 come from the upper accumulation at Trench 10, all in yellowish buff ware with a light blue-green glaze. The bowl No. 99 is applied with such a glaze all over except for the bottom interior, where a white slip is exposed. The lower interior of the rim sherd No. 100 is also lacking a glaze, but a slip is not visible. Of both examples the horizontal hollow lines present an ornamental effect through thickly saved glaze. No. 101 shows a peculiar form of a high ring base, of which the interior glaze is deteriorated probably by fire. No. 102 is the only one illustrative example of a green-glazed lamp, of which the configuration represents a traditional Mesopotamian product (Pl. 11–e). The body of filling-hole is seemingly formed by the use of wheel, then a long and broad nozzle attached. On the opposite side of the nozzle is a trace of a handle coming off. It was discovered from Room 2, accompanied with a holy-cross plaque, No. 141.

Apart from these illustrated examples of glazed wares, some other glazed sherds were unearthed. A few of them are presented on the plate (Pl.11–c and d). They do not differ much, both in form and glazing, from the sherds at Trench 1 mentioned above. One sherd of a plate bears Kufic letters under the lead glaze (Pl. 11–b). It is noteworthy that among these glazed wares together with those from Trench 1, neither a typical spotted splash decoration nor a lustre ware can be found.

All the illustrated pottery materials from Trenches 2 to 10 are catalogued below. The individual findspot is specified next to the number.

<Fig. 17>

84. Tr.2 surf. Small bowl with string-cut base, incomplete. Creamy slip all over, buff core, sparse grit and vegetable temper. Rim diam.: 10.6 cm, height: 4.9 cm.
85. Tr.2 surf. Small bowl with string-cut base, incomplete. Creamy buff slip all over, pinkish buff core, sparse grit and vegetable temper. Rim diam.: 10.8 cm, height: 5.3 cm.
86. Tr.5. Rim of bowl. Buff slip all over, pinkish buff core, sparse grit and vegetable temper. Rim diam.: 16 cm.
87. Tr.2 surf. Rim and shoulder of small jar. Creamy white slip all over, buff core, sparse fine sand temper. Rim diam.: 6 cm.
88. Tr.2 surf. Rim of jar, pinkish buff surface, creamy buff core, grit temper. Rim diam.: 9.5 cm.
89. Tr.2 surf. Rim of incised jar with handle. Creamy buff slip all over, pinkish biuff core, heavy very fine sand temper. Rim diam.: 7.4 cm.
90. Tr.2 surf. Incised Thinware jar. Greenish buff slip outside, buff core, no visible temper. Rim diam.: 5.9 cm.
91. Tr.2 surf. Neck and shoulder of incised Thinware jar. Greenish buff, sparse very fine sand temper.
92. Tr.4 surf. Handled jar, missing handle. Greenish buff surface, buff core, heavy fine sand temper, bitumen lined. Rim diam.: 8.4 cm.
93. Tr.2 surf. Rim and shoulder of jar. Reddish brown Brittle ware, heavy fine white sand temper. Rim diam.: 10.4 cm.
94. Tr.2, Room 3. Jar with handle. Pinkish brown Brittle ware, heavy fine white sand temper. Rim diam.: 11 cm.
95. Tr.2, Room 2, west. Bodysherd of handled jar. Greenish buff, heavy fine sand and sparse grit temper.
96. Tr.2 surf. Shoulder of incised jar, buff, heavy fine sand and sparse grit temper.

<Fig. 18>

97. Tr.7, on courtyard pavement. Rim of large bowl. Red slip outside, buff core, sparse grit and vegetable temper. Exterior decoration of wavy lines gouged out. Rim diam.: 27.4 cm.
98. Tr.7, on courtyard pavement. Rim of large bowl. Buff surface, pinkish buff core, sparse grit and vegetable temper. Decoration of gouged wavy lines on exterior and rim top. Rim diam.: 40.6 cm.

<Fig. 19>

99. Tr.10 surf. Glazed bowl, incomplete. Yellowish buff ware, heavy very fine sand temper, white slip, blue-green glaze inside and out except lower interior. Rim diam.: 24.8 cm, height: 11.9 cm.

100. Tr.10 surf. Rim of glazed bowl. Compact yellowish buff ware, aqua-blue glaze inside and out. Rim diam.: 26.4 cm.
101. Tr.10 surf. Base of glazed bowl, Compact yellowish buff ware, greenish-blue glaze inside and out. Base diam.: 6.8 cm.
102. Tr.2, Room 2. Glazed lamp, missing handle. Buff ware, green glaze outside all over. Length: 11.4 cm, height: 4.7 cm.

Glass (Fig. 20, Pls. 11–f and 12–a)

Of the samples from Trench 1, only three are worth illustrating (110, 124, 133). The others come from the areas excavated during the second campaign, chiefly from Trench 2, or Rooms 2 and 3. Though the final field work also brought a few sherds, we could not but neglect them due to the short term.

Of the corpus of glass finds, thirty-two samples illustrated here, eighteen belong to the dark brown ware, whether opaque or translucent tint. Translucent light blue or light green glass also appeared, but all weathered or devitrified. In any case, a quantity of glass finds unearthed does not seem to be less distinctive at all than that of glazed pottery wares, even if not a few glazed sherds left in the site would be taken into consideration. This recalls an interesting suggestion by Adams; "the intensity of glass use was conspicuously the highest during Early Islamic times..." [Adams 1970: 114]. According to his view, Tell Abu Sarifa has a peak of glass use in Level IV to be assigned to the provisional term of the late 7th to 8th centuries.

The illustrated materials are listed below; the description consists of the findspot, fabric and summary description in that order.[3]

103. Tr.2 surf. Translucent light blue? In-curving thickened rim of bowl, dm.: *c.*12 cm.
104. Tr.2 surf. Translucent light blue. Straight-sided beaker, or possibly lamp, with a looped-out rim, dm.: *c.* 9 cm.
105. Tr.2 surf. Amber tint. Rim sherd thickened inward with nearly vertical body, dm.: *c.* 7 cm.
106. Tr.2 surf. Opaque dark brown, nearly black. In-curving thickened rim of bowl with a body exterior obliquely undulating and with incised lines on the interior, dm.: *c.* 13 cm.
107. Tr.6 surf. Translucent dark brown. Rim sherd bulging at the end, probably from bowl with a vertical body, dm.: *c.* 9 cm.
108. Tr.2 surf. Opaque dark brown. In-curving thickened rim of bowl, dm.: *c.* 10 cm.
109. Tr.2 surf. Translucent light green. Slightly in-curving nipped-off rim of bowl, dm.: 8.6 cm.
110. Tr.1, cavity in the partition wall. Opaque dark brown, nearly black. Vertical-sided bowl with an in-turned thickened rim, dm.: 9.0 cm.
111. Tr.2 surf. Translucent light green. Mould-blown honeycomb bowl, nipped off at the rim, dm.: *c.* 8 cm.
112. Tr.2 surf. Translucent olive green. Mould-blown honeycomb bowl with a slightly kicked-up base, dm.: *c.* 9.5 cm.
113. Tr.2 surf. Opaque dark brown. Folded-in rim, probably from a window pane of the circular 'crown' type, dm.: *c.* 23 cm.
114. Tr.2 surf. Translucent light green. Folded-in rim of a bottle with a narrow neck, the so-called 'perfume flask' type.
115. Tr.2 surf. Translucent dark brown. Folded-in rim and narrow neck of a bottle.
116. Tr.2 surf. Translucent dark brown. Ring base with a pontil scar, possibly of a shallow dish.
117. Tr.2 surf. Transparent aqua-tint, heavily decayed. Ring base with a convex interior and a pontil scar underneath and with a wall curving up.
118. Tr.6 surf. Translucent dark brown. Pad base with a curving-up wall.
119. Tr.2 surf. Translucent dark brown. Eggshell thin bodysherd, dm.: *c.* 8 cm.
120. Tr.5 surf. Translucent green, bubbly fabric. Lower part of a thick body, dm.: *c.* 11 cm.
121. Tr.2 surf. Translucent dark brown. High looped base, possibly of a broad bowl, dm.: *c.* 14 cm.
122. Tr.2 surf. Transparent light green. Slightly kicked-up base with a pontil scar.

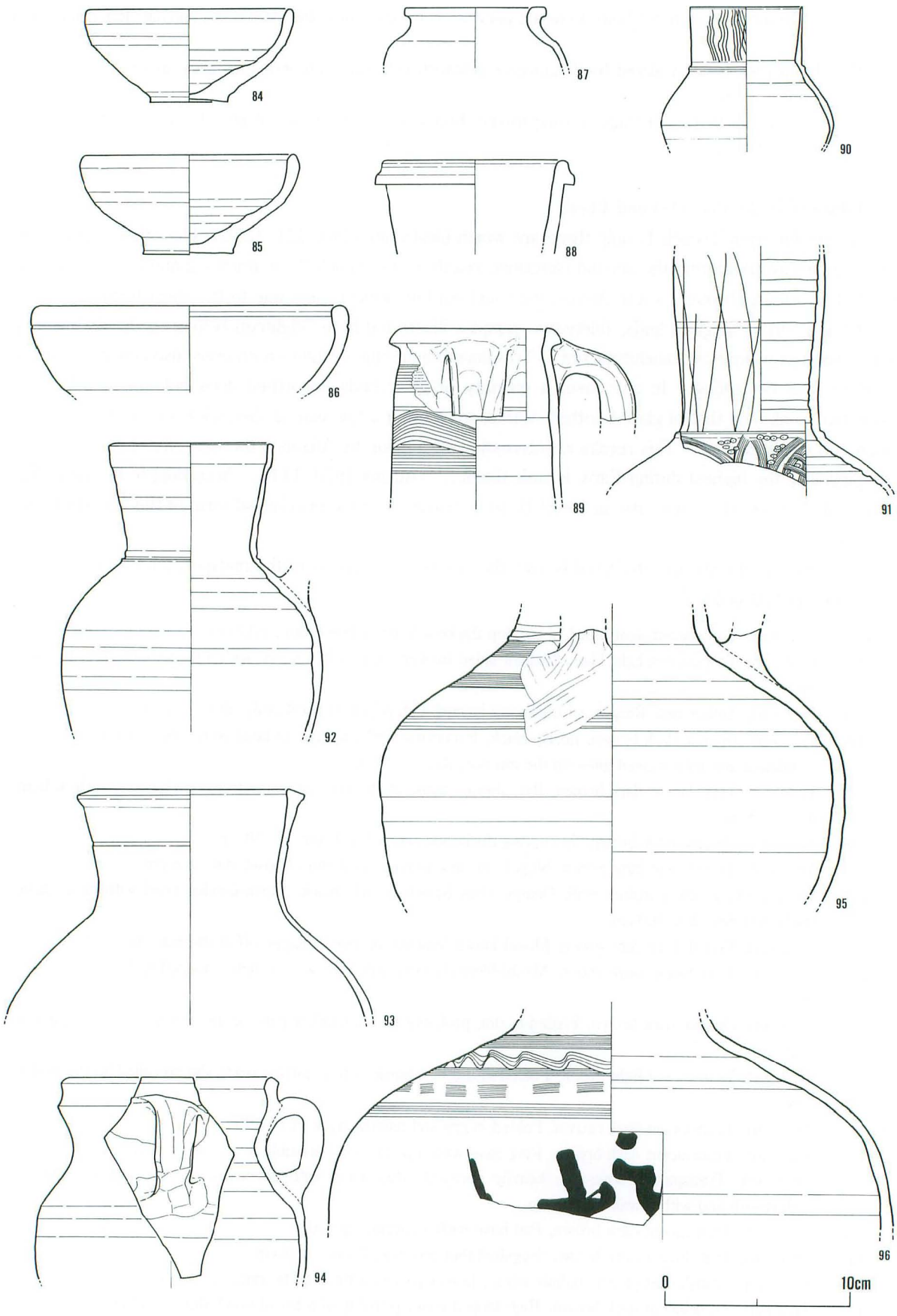


Fig. 17 Pottery from Trenches 2 to 9

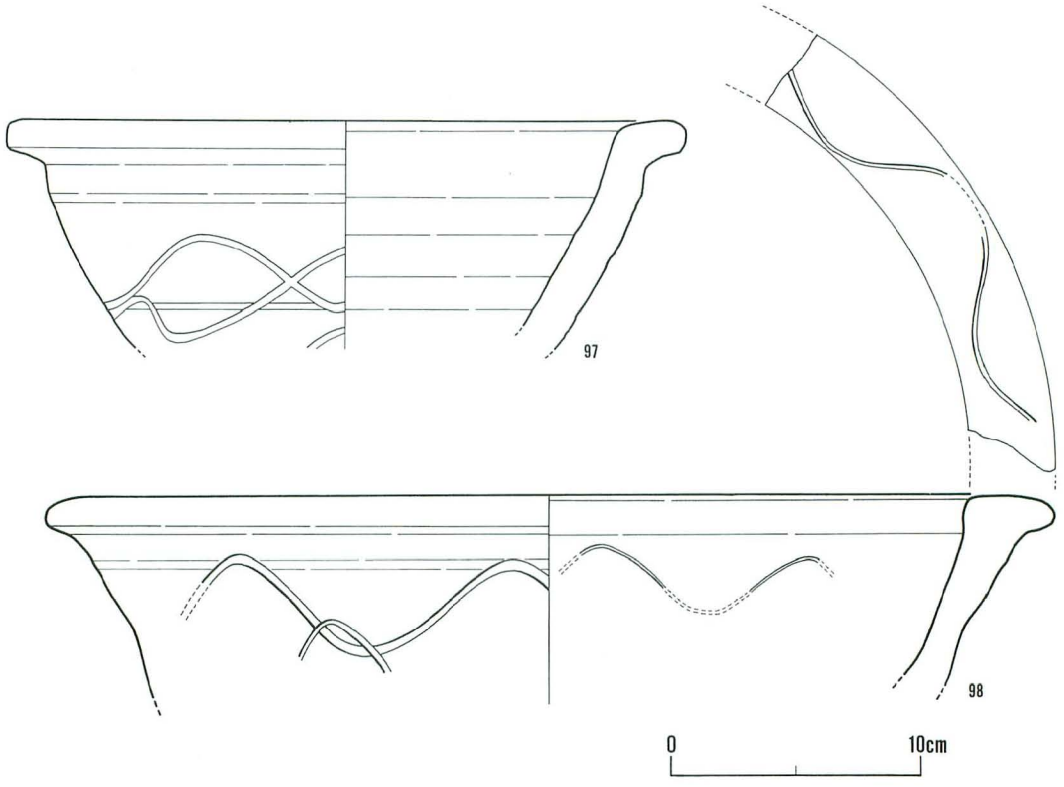


Fig. 18 Large bowls with wavy line incising

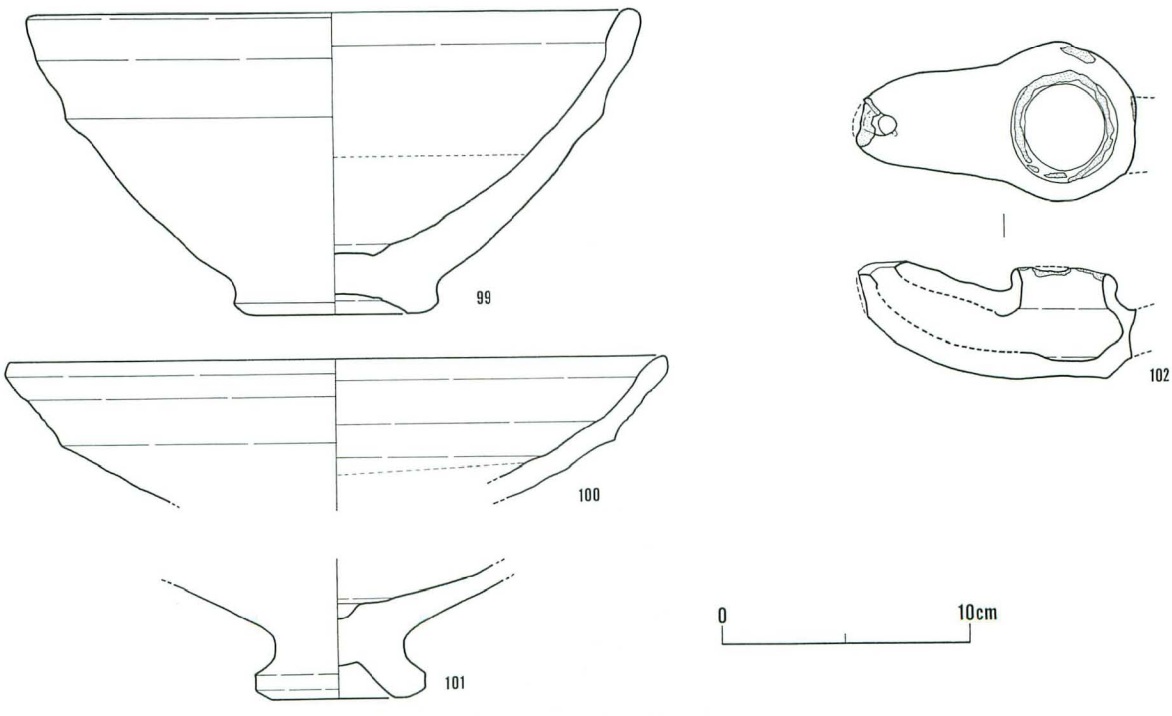


Fig. 19 Glazed bowls and glazed lamp

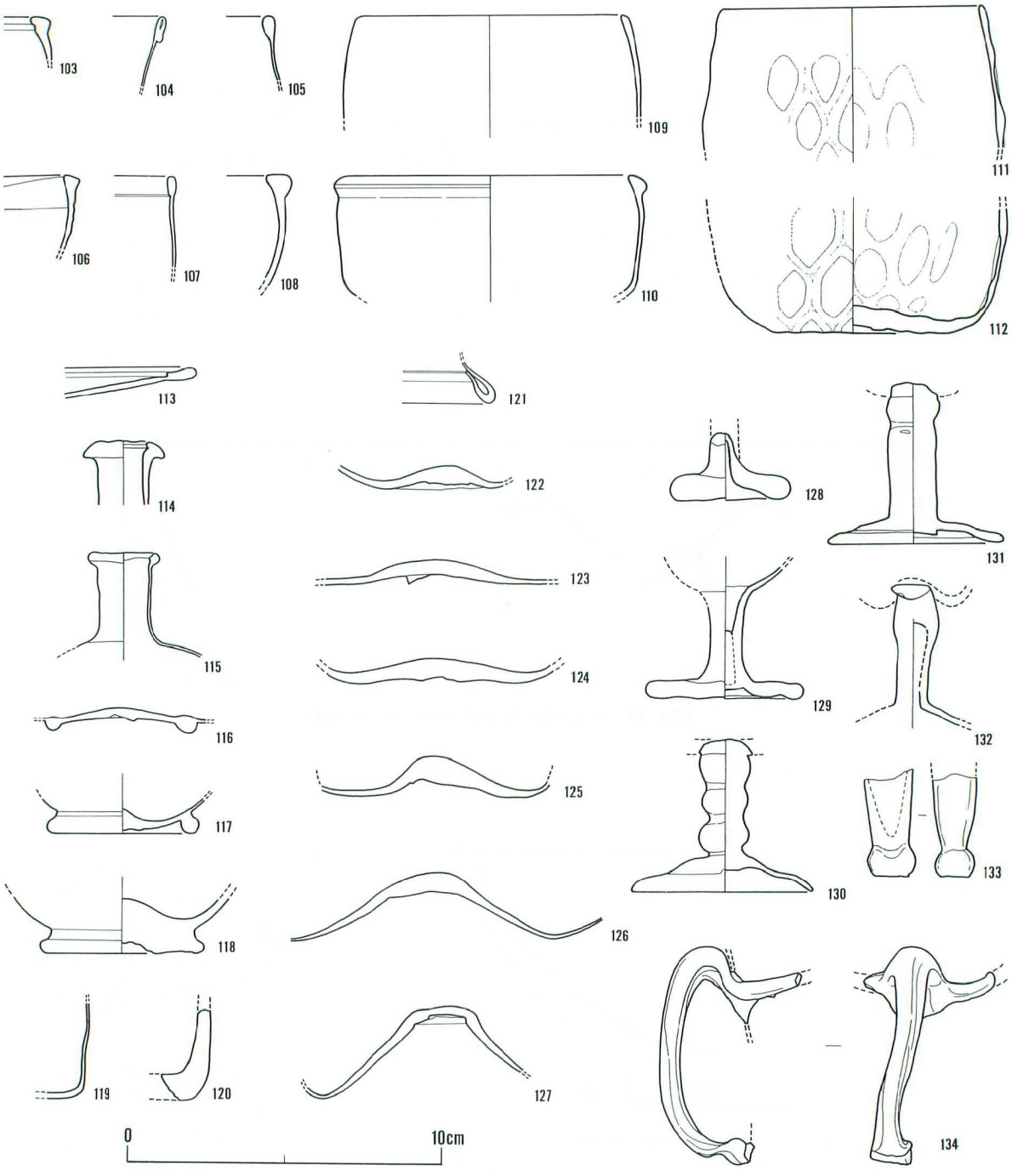


Fig. 20 Glass

123. Tr.2 surf. Translucent dark brown. Slightly kicked-up base with a pontil scar.
124. Tr.1, west room, lower ash layer. Opaque dark brown, nearly black. Slightly kicked-up base with a pontil scar.
125. Tr.2 surf. Opaque dark brown. Kicked-up base with a pontil scar.
126. Tr.6 surf. Opaque dark brown. Strongly kicked-up base.
127. Tr.3 surf. Translucent dark brown. Strongly kicked-up base with a pontil scar.
128. Tr.2 surf. Opaque dark brown. Hollow stem with a thickened flat foot of 3.8 cm in dm.
129. Tr.2 surf. Transparent aqua-tint. Stemmed goblet with a flattened foot of 5.0 cm in dm., retaining a pontil mark.

130. Tr.2 surf. Transparent aqua-tint. Beaded stem with a delicate foot of 5.8 cm in dm.
131. Tr.6 surf. Opaque dark brown. Solid stem with a delicate foot of 5.6 cm in dm.
132. Tr.5 surf. Translucent dark brown. Hollow stem with a delicate foot, otherwise lamp stem.
133. Tr.1, west room, lower ash layer. Uncertain fabric, silver weathering colour. Hollow stem, possibly from a stemmed lamp.
134. Tr.5 surf. Translucent dark brown. Handle and part of the rim seemingly with a trailed thread on. Rim dm. uncertain.

Metal objects (Fig. 21 and Pl. 12–b)

The metal objects unearthed include several sorts of copper or bronze work and iron nails. The spoon-shaped artifact No. 135 is of a slender form with a simple notching decoration on the joint of a square cross-section between the head and shaft. These characteristics suggest a certain cosmetic use. Parallels were found at Tell Mahuz in North Iraq, but in the Sasanian context [Ponzi 1971: 421, fig. 86]. Apart from this, a sewing needle (136), belt buckle (138) and twisted ring (140) are included here in the copper or bronze objects.

Room 3 at Trench 2 yielded a considerable number of rusted iron nails, though only one example illustrated here (137). Close by the western doorway in the same room, rusted fragments of an iron fitting in the loop shape, possibly for a door post, were found as well as carbonized wooden pieces, again possibly from a door leaf or frame. Consequently the iron nails should be thought to come from a door device.

The illustrated samples are listed below:

135. Tr.4, Room 5, south-west passage. Copper or bronze. Cosmetic or medical spoon, consisting of a long shaft, round in section, and a small spoon-like head with a notched joint, square in section, in between, l.: 12.0 cm.
136. Tr.2, Room 3, lower stratum. Copper or bronze. Sewing needle with an elliptical eye, l.: 8.8 cm.
137. Tr.2, Room 3. Iron. Door nail, heavily rusted, extant l.: 7.8 cm.
138. Tr.2 surf. Copper or bronze. Buckle, heavily patinated, l.: *c.* 4.0 cm.
139. Tr.1. Copper or bronze. Plain loop or hook of unknown use, 2 by 2 mm square in section, with a short stem attached.
140. Tr.1. Copper or bronze. Twisted ring with 0.8 mm thick threads. External dm.: 1.2 cm.

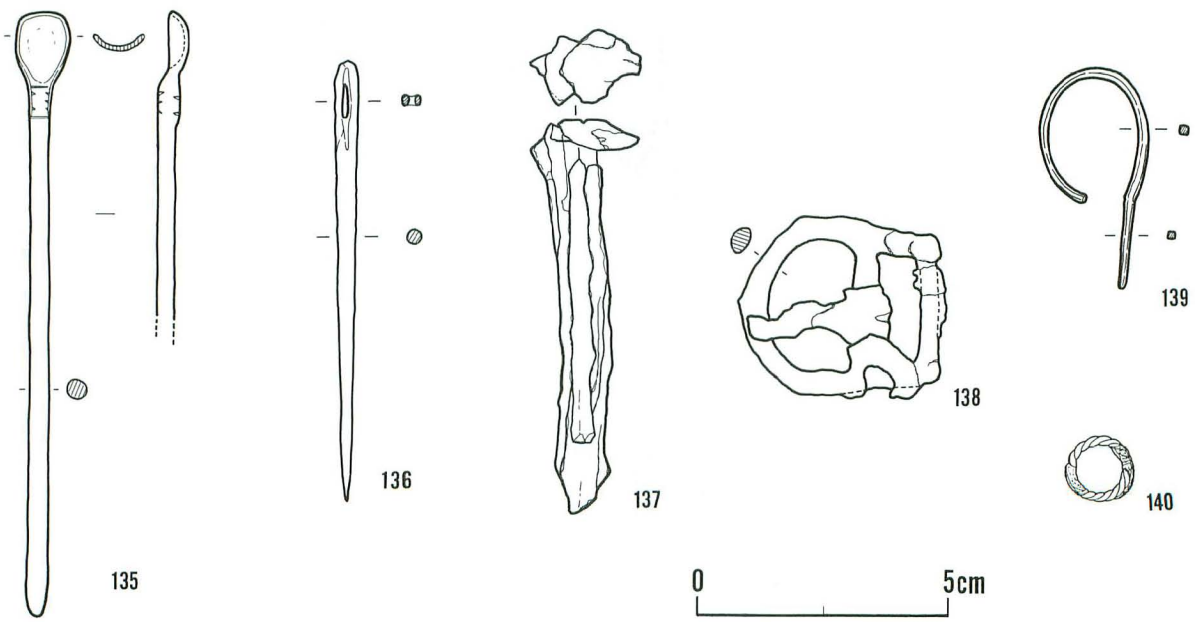


Fig. 21 Metal objects

Small plaques (Figs. 22 and 23 and Pls 13 and 14–a)

These plaques are considered to have been in the sacred use, quite similar to the small "icons" that were found from Mounds V and XI at Hira [Tarbot Rice 1932: figs. 3 and 4; 1934: 70–73]. There are four types ascertained here; the first is a mould-made plaster plaque with only the cross relieved (141), of which the material is the same as that of usual stocco work, the second a group of shallow but sharp incised ones of very fine plaster, partly coloured with red and blue pigments (142–148), the third a white stone plaque also with a shallow incising and red colouring (149), and the last is a fragile plaster plaque also coloured red but the smallest and thinnest sort, with a grit temper (150). The reason why the plaque No. 141 is thought to be mould-made is because several plaques with a relieved cross precisely of the same proportion were recovered in the rooms at Site B, Spot 17.[4] All types of these crosses are characterized with three circles on each end of the cross, of which the middle one is made distinctively large and seems to be slightly sticking out.

On the other hand, the plaques at Hira are all made of plaster, though including two types, with the design produced through the incising or engraving technique. In the report of the excavations, the importance of the "leafed cross" is emphasized in relation to the wide distribution of the "divided-sprig" design in the following centuries. At the same time, among the Christian materials at Qusair North, though not published yet in spite of the large-scale excavations by Iraqi scholars, much more elaborate plaques can be found.[5] Compared with the Hira and Qusair plaques, our samples are considered to be of slightly later production.

Catalogue:

141. Tr.2, Room 2. Plaster, relatively sandy. Moulded holy cross with survived three sides coloured wine red, probably produced as an icon or the like, no doubt through the same mould that produced some crosses at Site B.

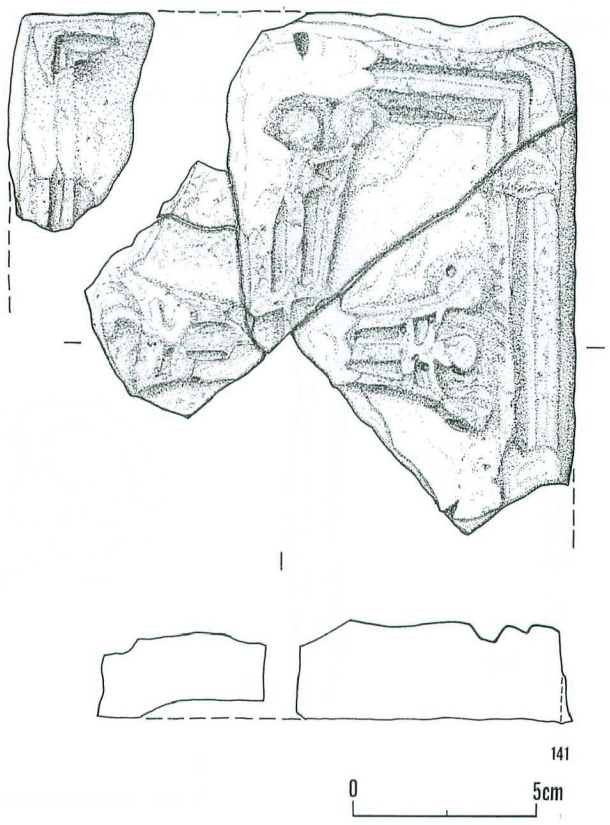


Fig. 22 Plaster plaque with the holy cross

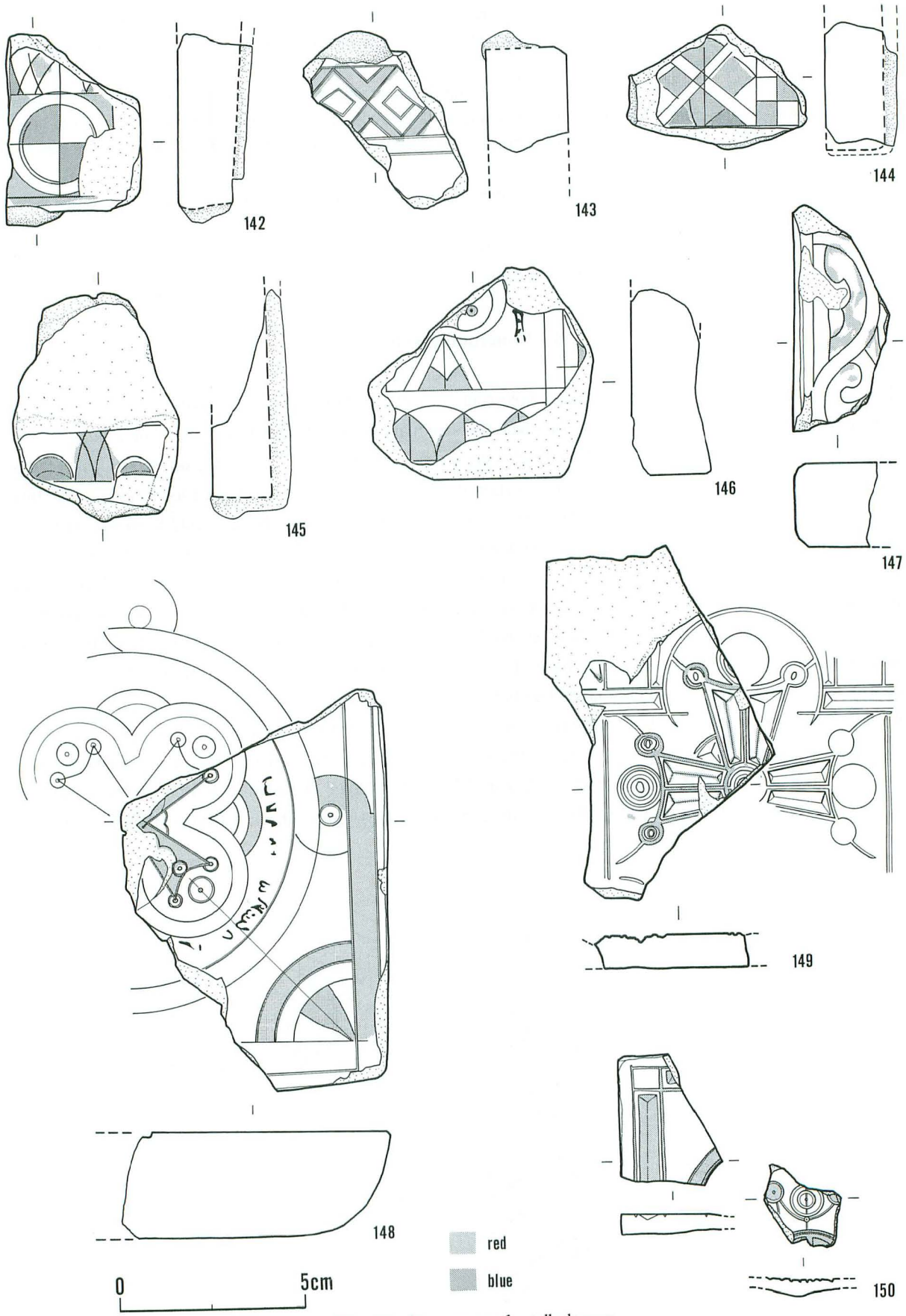


Fig. 23 Fragments of small plaques

142–146. Tr.7, paved courtyard. Pure chalky white gypsum. Parts of embellishment for a probable cross with geometric patterns of incised lines, partly coloured cinnabar red or cobalt blue, retaining plaster reinforcements on the back and edge.

147. Tr.4 surf. Pure chalky white gypsum. Part of embellishment with a vine scroll pattern, partially coloured red.

148. Room 4, upper filling. Pure chalky white gypsum. Probably an icon, with an incision of the holy cross coloured red, placed obliquely at 45 degrees to the plaque edge and embellished with geometric design and illegible inscription.

149. Room 16, upper filling. Milky white mudstone or marlstone. Engraved holy cross coloured red, with a linear frame incising.

150. Tr.7, paved courtyad. Chalky white gypsum with grit temper, very fragile. Fragments of an incised and red-coloured plaque probably with holy cross motif.

4 Concluding remarks

To sum up, it has been clarified that the whole ruins of fortifications undoubtedly used to be a monastery complex including a three-aisled church, of which the sanctuary was rectangular in plan and ornamented with splendid mural paintings as well as furnished with a square niche at the end instead of an apse of the western style (Fig. 24). A lot of Christian materials and Syriac inscriptions unearthed suggest that this complex may have been built for the Nestorian Christians. It can hardly be thought, however, that the central part remained still functioned as a Christian church in the final stage of the building. On account of the strutural alterations all over the place, it is quite difficult to tell the exact plan of a given level, but it can be roughly said that this huge complex might have three periods: the earliest, midst or main, and latest.

While the relief pottery is thoroughly excluded from the corpus of various wares unearthed, the incised ware is most prominent, paralleled at Kufa, Hira, Susa, Tulul al-Ukhaidhir, etc. Above all at the most nearby site, Dar al-Imara at Kufa, a large number of comb-incised potsherds have been recovered from the level of "the second period of the third layer," assigned to the time from "the first Abbasid epoch" down to "the end of the second half of the second century H." according to the excavator's view [Mustafa 1963: 62f.].[6] Provided that our main period would parallel the third layer at Kufa, such a chronological aspect does not contradict the sacred use of the delicate gypsum plaques, quite similar to those at Hira, as well as

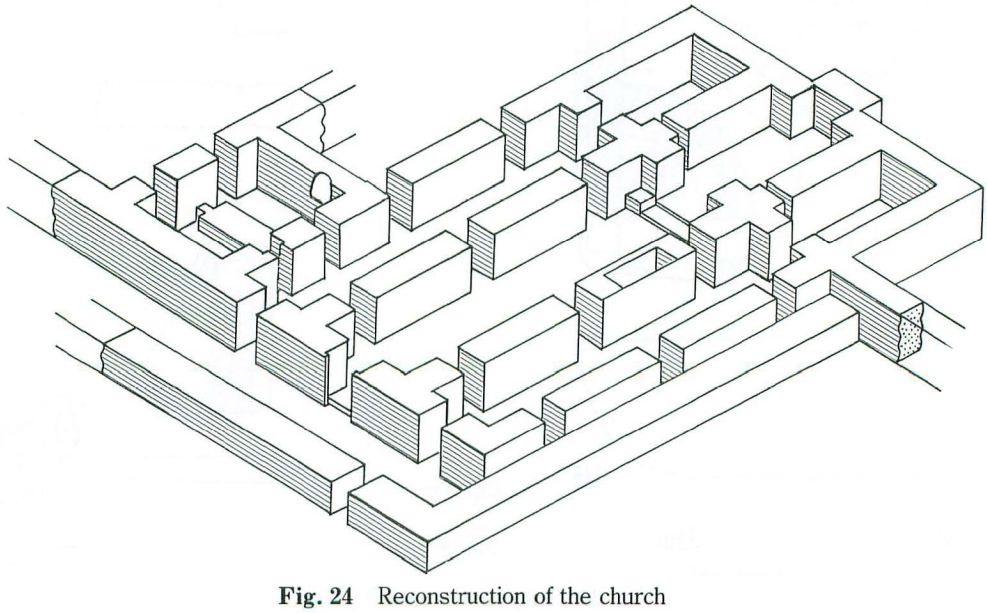


Fig. 24 Reconstruction of the church

the relatively high intensity of glass use. At the same time, however, our pottery finds other than the incised ware are seemingly comparable as a whole with Groups 3 to 6 of the 'Ana pottery to be assigned mainly to the Samarran Abbasid period [Northedge et al. 1988: 91–102]. Such a slight confusion suggests that there might be a significant time span between the cease of the initial occupation as a Christian monastery and the secondary use of the building ascertained in the latest phase, though the unearthed materials regrettably could not be well stratified.

Almost contemporary Christian monuments in the nearby sites are known at Hira, Qusair North and at Rahaliya. At Tulul al-Ukhaidhir also remains a sign of Christian occupation. The church at Ain Sha'ia resmbles Church A at Qusair North in the planning scheme, even though the latter is fairly larger in scale. As Church A was evidently present in the seventh century at the latest, it is probable that the plan of our church might follow that of Church A. From the viewpoint of building material, it doese not differ from the edifices excavated at Hira, Mounds V and XI. To compare the variety of our gypsum plaques, including the mould-made and rather simplified crosses, with those at Hira, our monastery cannot be thought to have been originated before the emergence of the crosses at Hira to be assigned to the eighth century [Talbot Rice 1934: 70–73].

To any one of these Christian monuments, however, the original name is not known, though the literature gives numerous Christian institutions in the territory of ancient Hira [Fiey 1968: 203–230; Trimingham 1979]. Fiey referred to more than fourty institutions in the probable Hira region together with their descriptive names, but strangely enough, none of them can be found to have originated during the seventh to eighth centuries nor later, but most of them far before.

The radiocarbon measurements of some charcoal samples have not produced much more acceptable results than those in the archaeological aspects as are mentioned above. The dates from samples are given as follows:[7]

GaK-14259 (AS 101) Charcoal from Room 16, upper ash layer.
1110±80 B.P. (A.D. 840)

GaK-14260 (AS 102) Charcoal from Room 3 east, main floor.
960±70 B.P. (A.D. 990)

GaK-14261 (AS 103) Charcoal from Room 3 west, lower stratum.
1260±80 B.P. (A.D. 690)

If such radiocarbon dates have any validity, part of the building, at least, might have originated as early as the late seventh century. The possibility of such a case cannot completely be excluded here, because the greater part of the ruins still remains intact. Further researches will be expected to reevaluate these radiocarbon dates some other time.

Notes

1) Preliminary studies on these inscriptions are reported in this issue by Dr. Erica C. D. Hunter.
2) The comparable designed cross on the plaque at Qusair North is stored in the Iraq Museum, with the registration number Qu 18.
3) Terminology and discription for glass finds have follow basically the discriptive mammer in Meyer's work [Meyer 1988].
4) For the plaques from Site B, see Section V.
5) These elaborate examples from Qusair North were found in the registration file owned by the Iraqi Museum through the courtesy of Dr. Bahija.
6) A hoard of the comb-incised sherds could be found at the Kufa branch office of the Iraqi Department, where we lodged during our field work, though very few examples have been illustrated in the published report.
7) The radiocarbon measurements were entrusted to Dr. Kunihiko Kigoshi, the Gakushuin University, Tokyo. It is based on the Libby's half-life, 5570 years.

IV. Qanat system — Site E

Katsuhiko OHNUMA*

Ever since 1972, we had recognized the importance to clarify the details of the site of Ain Sha'ia, where we had expected different types of structures which altogether used to function for the site on the whole.

In this view, we commenced excavations at a series of circular remains there in October 1986, supposing them to be wells utilized by people who once inhabited this site.

As the excavation proceeded, these circular remains actually proved to be wells, which initially had been cut down through sandstone stratum and connected with each other by underground water paths (Fig. 27 and Pl. 9–d).

It is belived that the deposits, circling these wells, were the by-products of several re-excavations of the wells, undertaken on later occasions most probably to repair them.

The deposits in the wells, on the other hand, were generally 2 to 3 m thick, and the water level appeared below them.

Nine trenches set to confirm archaeological levels revealed that this *qanat* water paths lead to open canals, which are directed to two areas near the fortified building or Site F (Figs. 25 and 26).

Pottery fragments were found from the ingredients of the circular remains as well as from the deposits in the wells, but we could not conjoin them to any complete form.

In the section of Trench 3, where the *qanat* is changed into the canal system, we unearthed pottery fragments from two groups of levels: Levels III, IV and V and Levels VII and VIII (Fig. 28 and Pl. 9–e). Objects other than pottery such as glass wares and earthen lamps, however, were not found at all.

The pottery fragments from Levels III, IV and V consist of rims, necks, bodies, and bases of jars (Fig. 29). It seems that the jars were medium in size. They are very characterized by high ring bases, of which the inner sides are arranged with scraping. The shape along the neck to rim portion is narrow and elongated, and takes the shape of a tube. Large bowls are glazed bluish green, generally on all of the inner surfaces, and the glaze extends to outer rim. They are supposed to have been more than 40 cm in the rim diameter. No pottery fragments bear any kind of motif. One thing particularly worthy of note is that the high ring bases of jars are strongly reminiscent of samples reported concerning glazed wares from the "Early Modern Occupation" at 'Ana [Northedge et al. 1988: 110–114].

Levels VII and VIII yielded pottery fragments consisting of bases of large and tough bowls, rims, shoulders and bases of jars and bowls with motifs arranged with incising or combing (Fig. 30). The motifs consist of straight lines, wave lines, cross hatched lines, abstract patterns, reed pressed patterns, and their combinations.

Judging from the pottery fragments from the lower levels (VII and VIII), which resemble those unearthed from the fortified building, it is believed that this water system of *qanat* and canals was made by the inhabitants of the building for several purposes. The pottery types recognized in these levels, however, are less varied than those from the fortified building, which strongly seems to suggest different natures of the two sites.

As to the final stage of this water system, it appears most probable that it was used until modern period, such as the "Early Modern Occupation" defined at 'Ana, if we take the features of the pottery

* ICSAI, Kokushikan University



Fig. 25 Location of the *qanat* of Ain Sha'ia

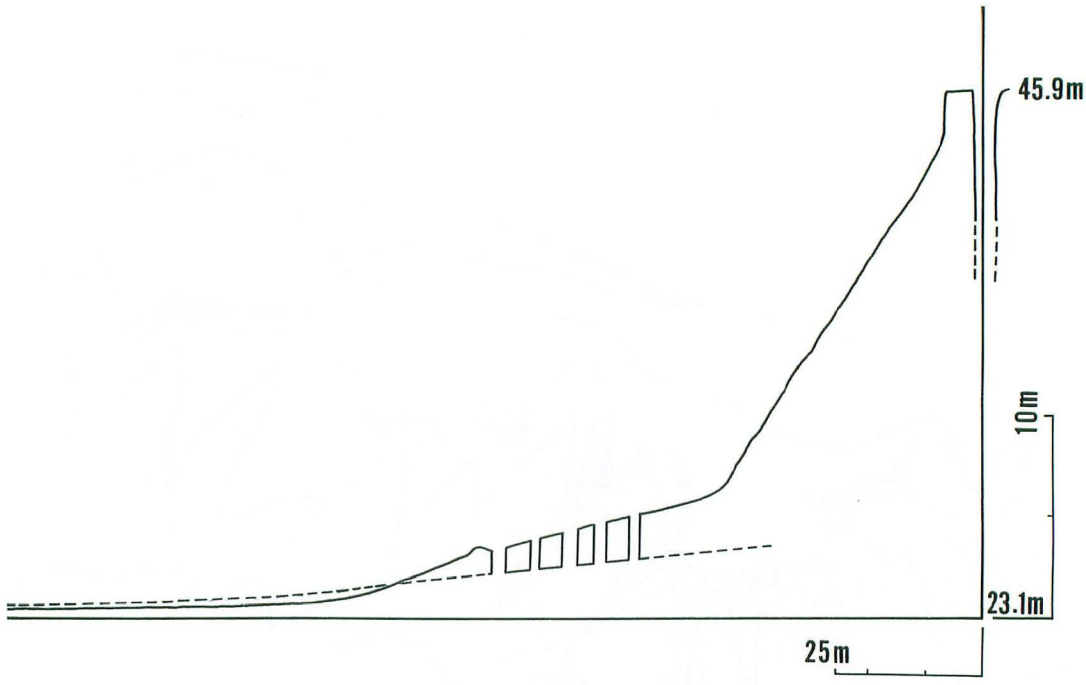


Fig. 26 Schematic section of the *qanat* of Ain Sha'ia (by H. Shibata)

fragments from Levels III, IV and V into consideration. We have not confirmed yet, however, either structural remains or archaeological objects datable to this period around Ain Sha'ia.

The illustrated materials are listed below with descriptions of main characteristics.

Fig. 29 Material from Level IV at Trench 3

1. Rim of bowl. Greenish slip on outer surface, buff core, fine sand and sparse grit temper, bluish green glaze on inner surface over to lip.
2. Handle. Greenish buff, very fine sand temper.
3. Neck of jar or bottle. Greenish white slip on outer surface, greenish buff core, fine sand temper.

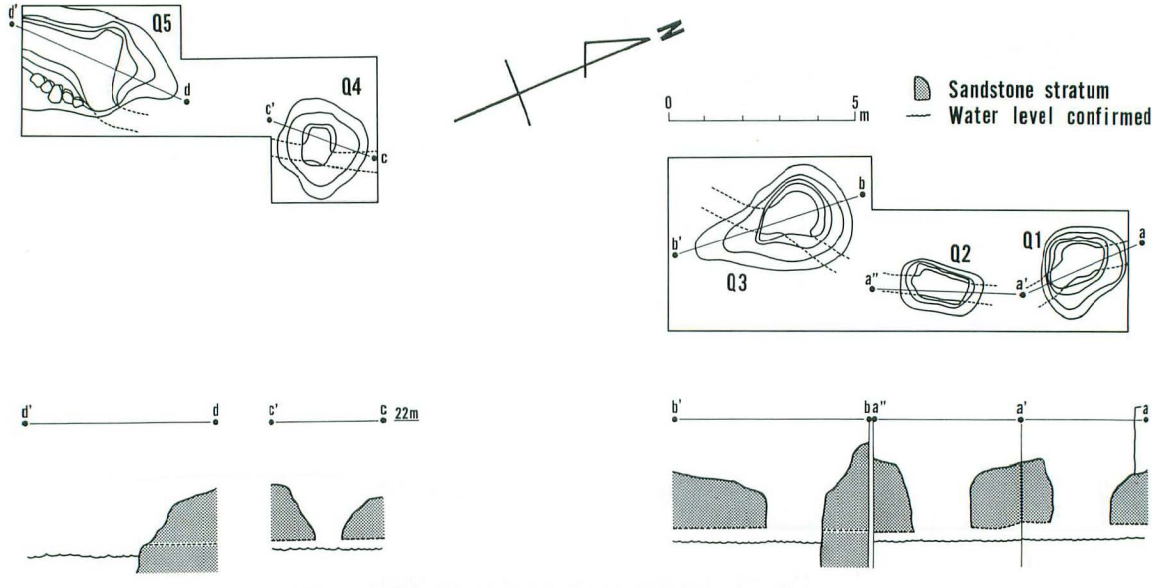
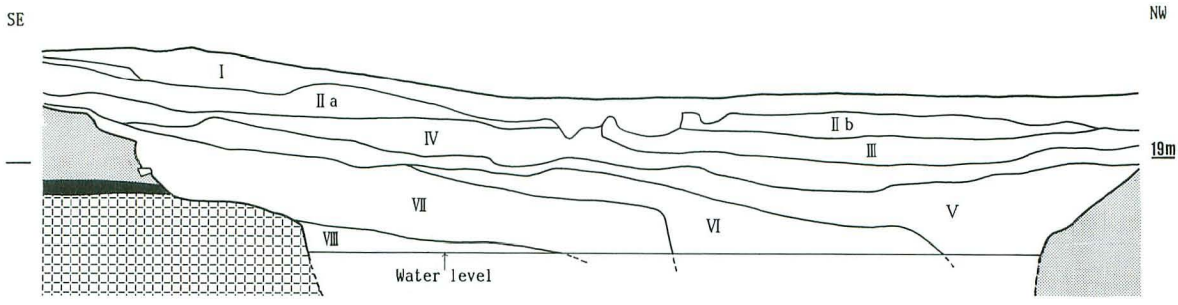


Fig. 27 Plans and sections of the *qanat* of Ain Sha'ia



Levels

I : Light brown sandy silt with few objects
II a: White gravel with few objects
II b: Hardened brown silt with few objects
III : Hardened brown silt coarser than II b in texture
IV : Soft light brown sandy silt which gradually hardens with white gravel towards south-east
V : Hardened brown silt
VI : Light green sand
VII : Watery light brown sandy silt
VIII : Hardened light brown silt

Sandstone stratum
Blue marl stratum
Brown marl stratum

Fig. 28 Section at Trench 3 of the *qanat* of Ain Sha'ia

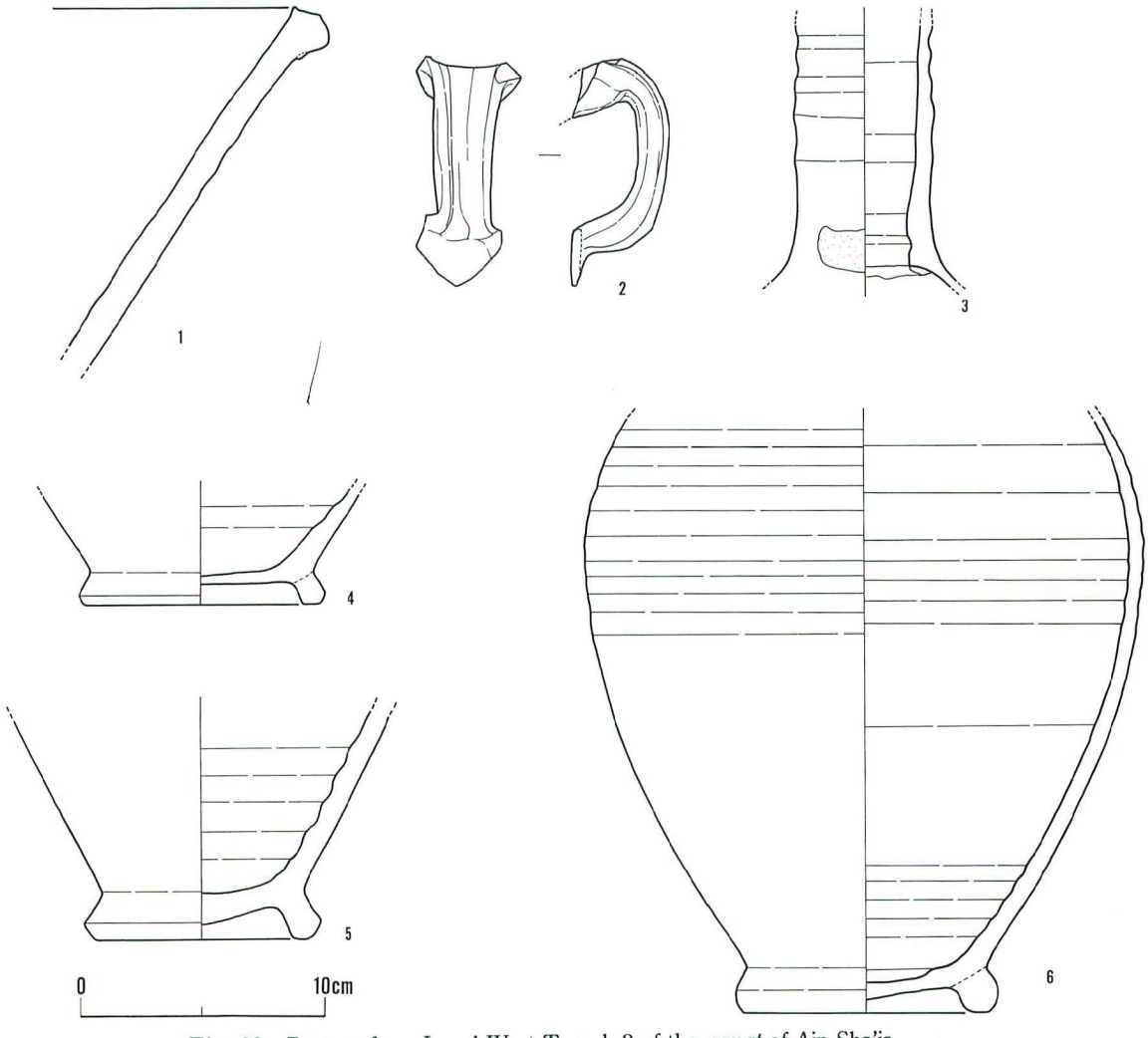


Fig. 29 Pottery from Level IV at Trench 3 of the *qanat* of Ain Sha'ia

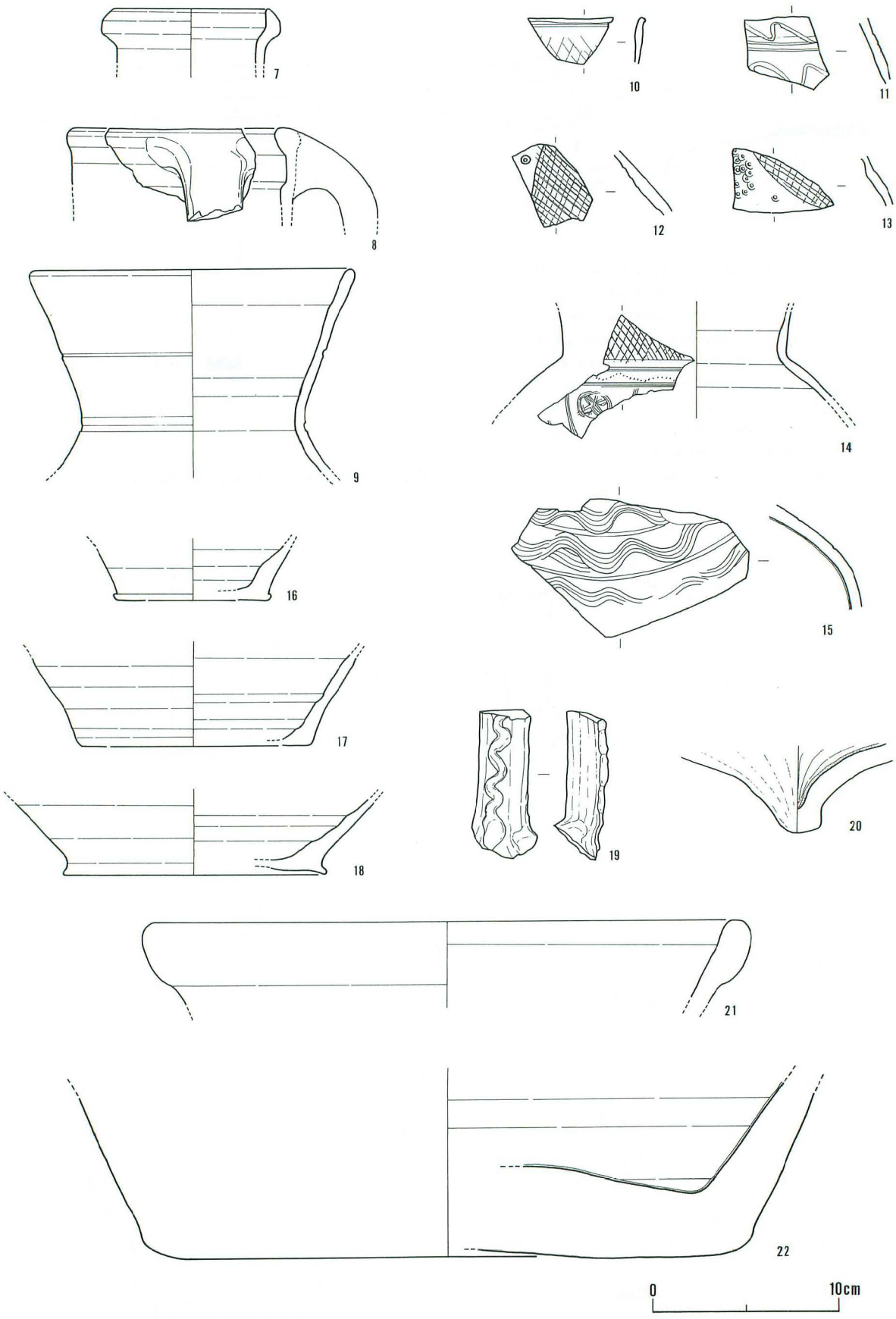


Fig. 30 Pottery from Level VII at Trench 3 of the *qanat* of Ain Sha'ia

4. Base of jar. Greenish white slip on outer surface, buff core, fine sand and sparse grit temper. Base diam.: 10 cm.
5. Base of jar. Greenish buff, fine sand and sparse grit temper. Base diam.: 8.8 cm.
6. Body of jar. Greenish buff, very fine sand and sparse grit temper. Base diam.: 10.5 cm. Extant height: 23.5 cm.

Fig. 30 Material from Level VII at Trench 3

7. Rim of jar (?). Greenish buff, fine sand temper. Rim diam.: 8.4 cm.
8. Rim of jar with handle. Greenish buff surfaces and pinkish buff core, fine sand temper. Rim diam.: 12 cm.
9. Rim of jar. Greenish buff surfaces and pinkish buff core, fine sand temper. Rim diam.: 17 cm.
10. Rim of incised jar. Greenish buff, fine sand temper.
11. Incised sherd. Greenish buff, fine sand temper, bitumen lined.
12. Incised sherd. Greenish buff, fine sand temper.
13. Incised sherd. Greenish buff, fine sand temper.
14. Neck and shoulder portion of incised jar. Greenish buff, fine sand temper.
15. Shoulder of incised jar. Greenish buff, fine sand temper, bitumen lined.
16. Base of jar. Greenish buff surfaces and pinkish buff core, fine sand temper. Base diam.: 8.2 cm.
17. Base of jar. Greenish buff surfaces and pinkish buff core, fine sand temper. Base diam.: 12.4 cm.
18. Base of jar. Greenish buff surfaces and pinkish buff core, fine sand temper. Base diam.: 14 cm.
19. Handle sherd. Greenish buff surfaces and pinkish buff core, fine sand temper.
20. Base of torpedo jar. Pinkish buff, grit temper, bitumen lined.
21. Rim of large bowl. Greenish buff surfaces and pinkish buff core, fine sand temper. Rim diam.: 31 cm.
22. Sherd of large base. Part of outer surface covered with pink slip, greenish buff core, grit temper, bitumen lined. Base diam.: 32.6 cm.

V. Site B

Ken MATSUMOTO*

1 Excavations

The archaeological site of Site B is situated approximately 200 to 400 m away from Site F in the north-west direction with the height of around 20 to 23 m above sea level, which covers the structures and finds from Spots 9 up to 20 (Fig. 3). Of them all, Spots 10, 17, 18, 19 and 20 (Fig. 31 and Pl. 15–a) were excavated with four workers during the period of December 15, 1987 to January, 1988.

Spot 17 (Fig. 31 and Pl. 15)

Prior to our excavation work, the existence of some kind of structural remains had already been anticipated at a point adjacent to a cliff at the end of a terrace, due to the exposure of some lines of plaster (juss) in the indented plan probably coming from the walls of ruins around there. A little quantity of potsherds have collected from the earth surface. Located to the south of Spot 17, there is a small mound of about 1.5 m in relative height, whose surface is scattered with baked bricks and refuse of kilns in disorder. From this, it has been presumed to be one of the structural remains related to the kilns for baking pottery or bricks. As it had been badly weathered, it was presupposed to be scarce of deposits.

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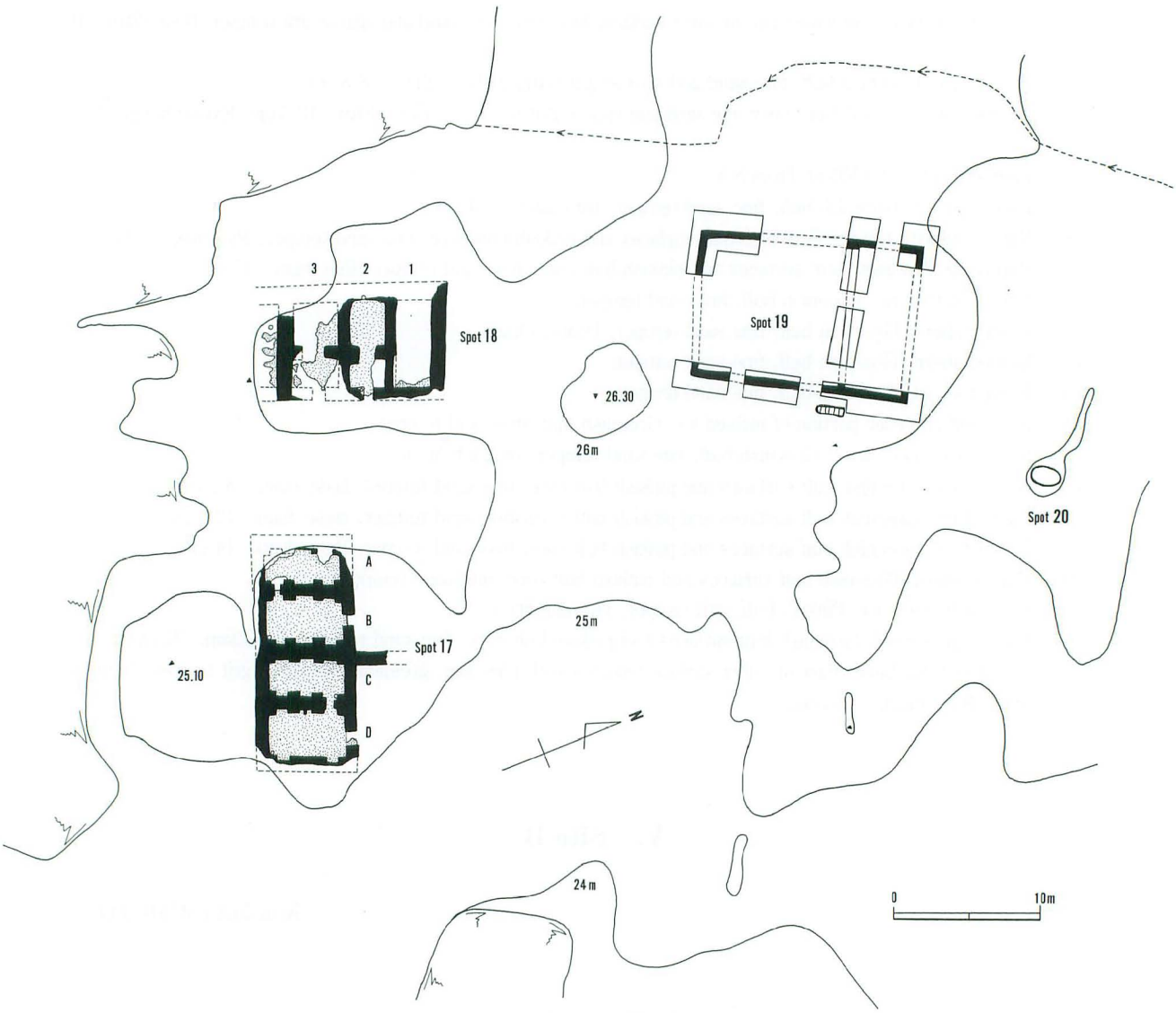


Fig. 31 Plan of Site B, Ain Sha'ia

Room A: The severe weathering here enabled us to identify a probable plaster floor before excavation. The very few deposits are of no more than 0 to 20 cm in thickness. Without a wall itself on the north-western end, the room is 4.99×1.87 m in dimensions, whose floor and walls are coated with *juss* plaster. It is linked with Room B at its south-east corner. And at the corner of the floor we see a round hole coated with plaster which is about 15 cm in diameter and 20 cm in depth. It seems to have been a container rather than a door socket. Having investigated the place under the floor coated with plaster by peeling it off at the north-west half of the room, we have found fine sand and marlstone chips lying in the thickness of 5 to 6 cm on the marlstone rock bed as they were intended for leveling. Also, there is a pit of about 50 cm in diameter and 70 cm in depth bored through the solid marlstone rock bed at the north corner. And inside the very pit, we have found a plaster plaque with a cross design (Fig. 35–4) and jar fragments. The plaster-flooring over the pit had been already peeled off. It may safely be assumed, however, that not only the pit but also the cross plaque and the jar fragments had been used together with this building in an identical period. At the portion beside the wall close to the pit, we have uncovered a plaster disk fragment in which the cross is arranged (Pl. 19–d).

Room B: Since the plaster floor had already been exposed at the south-western corner, we followed it as well as the plaster-coated wall surface for our research work. In result, we have found a plaster-coated hole of some 15 cm in diameter and 20 cm in depth at the south corner of the floor just as that in Room A. Beside the east wall, fragments of two kinds of the bead-designed plaster work (Fig. 35–1, 2 and Pl. 19–c, e) and two kinds of the cross-designed plaster work (Fig. 35–3) were unearthed as well as glassware fragments and potsherds. Here are two entrances, one of which is on the north-east short side of the room and the other links to the next room (Room A). Room B has the approximate size of 5.13 $\times$2.50 m with its indented wall faces. The deposits here are at most 20 cm in thickness.

Room C: Next, the place neighboring east on Room B has been investigated. We have found fairly large deposits of about 10 to 30 cm in thickness here. Nearly at its center, there are white glazed bowl sherds left behind (Fig. 33–1 and Pl. 20–a). Besides, plaster fragments from two cross-plaques (Figs. 34, 34–6 and Pl. 19–a) are unearthed at the south corner. They have probably stemmed from a single origin. Also around the north corner, another kind of the cross-plaque (Fig. 35–5 and Pl. 16–b) is discovered. Uncovered together with the cross-plaques are a large number of moulding fragments of plaster work which are considered to have been used for wall decoration. This room is of 5.05$\times$1.86 m in size, whose passage with a door socket linking to the next room (Room D) has been located at the north-east side. The wall between Rooms C and B is 94 cm in thickness. *Juss* plaster is applied to the wall as well as to the floor. To the north side of this building, the place between Rooms B and C, we see a wall stretching. Judging from this, though the traces of plaster application have been invisible, some kind of additional structure to them may have once existed here.

Room D: Although most of the west side wall here had disappeared by weathering, we were able to understand the plan. At the spot of some 10 cm upper than the plaster floor, ash has been found together with plaster lumps. It is probable that the ash has something to do with the kiln for baking *juss* plaster which is located next to the room in south-west direction. It is 5.06$\times$2.80 m in dimensions, whose wall and floor are coated with plaster just like other rooms. As is the case with Rooms A and B, this room has a plaster-laid hole of approximately 20 cm in diameter and 15 cm in depth. Inside the room, we have found cross-plaque fragments. Its entrance is open on the south-west short side at the width of 56 cm just as in Room B. And at the north corner, there is a passage of 73 cm in width to Room C. The wall on the south-west side is 96 cm in thickness, and the one on the north-west side is 95 cm in thickness. The mud-bricks used here are 27$\times$27$\times$8 cm each. The south-east wall of this room is badly weathered, which prevents us from identifying how thick it is. Furthermore, it is still uncertain as to whether such a sort of more rooms once existed. Viewed from the location of such a gradual downward slope as we see now, however, we have another reason for presuming that Room D had stood at the extreme end of them.

The principal finds uncovered at Spot 17 are as follows:

Room A: Fragments from two kinds of the cross-plaque.

Room B: Fragments from two kinds of the bead-plaque; two kinds of the cross-plaque.

Room C: Two kinds of the bead-plaque; white glazed bowl sherds; plaster moulding fragments.

Room D: One kind of the cross-plaque.

We carried out an investigation of the mound at point 25.10 m above sea level, where limestone lumps, baked bricks of 17.4$\times$18.0$\times$4.0 cm or 20.5$\times$20.5$\times$4.0 cm each and ash have been uncovered in quantities. It seems to have been a kiln for baking *juss*. Compared with the similar ash lying in Room D, it was perhaps used later than the above-mentioned structures.

Deduced from the fact that the cross-plaque have been discovered at the structures of Spot 17, it is evident that they have their casual connection with the Christians. Also, there is such a white glazed bowl, which is most probably from a Chainese-made porcelain ware, as seem to have been so expensive in those

days. All the floors and walls of this building are coated with plaster, whose two rooms with a similar plan are made into a pair by linking them together through a passage. Two pairs of rooms have thus been uncovered side by side, Rooms A and B and Rooms C and D. There are no such conveniences as kitchen inside the structures of similar plan and construction, which makes it difficult to consider them as ordinary dwelling houses. It is probably of a monastic use. It must have had something to do with Spot 18 as well.

Spot 18 (Fig. 31 and Pl. 16–a, b, c)

It is located about 13 m north-west of Spot 17. On the earth surface were rubble-mass arrangements and a small quantity of potsherds have been picked up. It seemed, however, that the structural remains were in poor state of preservation due to severe weathering.

Room 1: We started our investigation of the rubble-mass arrangements seen on the north-east side. The mass is not thick enough with only its small portion lying on the earth surface. Nevertheless, we have uncovered a wall built of mud-bricks of $27\times27\times8$ cm each in an arrangement of about 8 m in length and 1 m in width underneath. Then a room of 2.2×5.9 m, Room 1, came into view on the south-west side of the wall. On the floor of the south-eastern corner of the very room, partial traces of *juss* plaster coating have been evidenced. On the south-west side of the room, we have found a wall of 65 cm in width, where mud-bricks of $27\times27\times8$ cm each are arranged in two rows. Either short side of the room cannot be grasped because of their severe weathering. A single jar (Fig. 31–8) has been unearthed on the floor level of the presumable traces of the north-west wall.

Room 2: Just as in Spot 17, this building consists of three or more rooms in a row. Next to Room 1 is Room 2, 2.5×6.0 m in size, which is divided into two by the partition wall at the point of 1.6 m away from its entrance. The entrance of about 60 cm in width is at the center of the short side of the room on the south-east side. At the inside corner of the wall, we have found a door socket of a baked brick. But we failed to identify the north-eastern wall because of its bad weathering. Another door socket has been found at the inside of nearly the center of the wall on the north-west side. It is assumed that the floor and wall of this room was once coated with *juss* plaster all over.

Room 3: Moreover, another linking room has come uncovered, which is about 3.0×5.8 m in dimensions with its floor laid with *juss* plaster. At about 1.8 m farther than the entrance located on the southeast side, there is a partition wall, by which the room is divided into two, i.e., front-chamber and inner chamber. The entrance wall is 70 cm in thickness. The southwest wall of this room is composed of rubble-mass of some 1 m in width. Consequentry, it is likely that three rooms with a similar plan had been constructed between such rubble-mass walls.

To the south-west side of this building, a small portion of *juss* plaster-laid floor has been discovered in linkage. And at its north-west side, a jar presumably used for storage has turned up. It seems to us that signified something similar to the storage pit seen under the floor of Room A, Spot 17. Owing to the bad weathering, however, we failed to identify whether it was a room or not.

This building also holds some rooms of similar plan in the same way as in Spot 17, and is not so large in space. So, it dose not look an ordinary dwelling house. The wall and floor are coated with *juss* plaster. It is also regarded as monastery like Spot 17, but not a single cross-plaque has been uncovered here except for potsherds and glassware fragments.

Spot 19 (Fig. 31 and Pls. 17, 18)

It is situated 15m north of Spot 18 across a small natural mound of 26.30 m above sea level. Prior to our excavation work, we had already caught an eye on the baked brick fragments lying in a row in the length of some 1 m, so that we guessed it to have been a pottery-kiln or a plaster-kiln. Nevertheless, the structural

remains began to disclose themselves against expectation. First, a structure of 2 m in length and 55 cm in width which was surrounded with the baked bricks and limestone blocks came into view, which was deemed to be nothing but a simple grave. With the progress of our work, however, there appeared steps down into the underground one after another, and we finally got to the bottom at the sixth steps (Pl. 17–c). We have sighted no entrance to properly lead us to the next place anywhere. The walls on three sides and the bottom have been coated with ash-mixed mortar locally called *nura*, all of which have been found blocked up. The bottom has the area of 55×55 cm with the depth of some 160 cm below the ground surface of the present day. At the sight of the surviving walls in such a splendid state, we decided to stop breaking them for some time and carried out our excavation to search for some structure next to the stair-room, after installing grid of 3×2 m at the back of the rear wall. But there stood a marlstone rock bed, so that all we could do was to have our pickaxes damaged. Along the parallel line about 1 m north-west off the central axis of the center of the staircase, we have caught a transition in strata, where baked brick fragments are uncovered. We see a wall of 35 cm wide built of baked bricks in the size of 20×20×4 cm each stretching there, and then finally developing into a room-like structure of 4 m long a side (Pl. 17–b). Then, in order to confirm how large this is, we went on digging its estimated corner and found another wall piled up with limestone (Pls. 17–d, 18–a) which follows the room of baked bricks adjacent to the stair-room. There was a coat of *nura* among the limestone blocks, too, as just like the walls built of baked bricks. In the meantime, we tried examining the pile-up method of the bricks and stones on the walls while peeling the mortar off the wall in the stair-room for the purpose of identifying a linkage from the stair-room to the semi-underground structure. But neither the trace of its having been closed later nor that of the entrance has been ascertained. To our surprise, however, at the lowermost bottom of the wall we have found a pottery pipe (about 8 cm in diameter; 1.05 m in length) laid nearly in a horizontal direction for its connection to the semi-underground structure (Pl. 18–d). In this way, the archaeological remains have, at long last, revealed themselves. That is, the semi-underground structure built at the depth of 90–160 cm below the ground surface on north of the site is in the dimention of 4×10 m with the wall of the baked bricks of 20×20×4 cm each. And there are coats of mortar (nura) of 2–3 cm in thickness on the joints of the bricks and the tops of the walls and floors. At its south corner, this room is connected with the stair-room through a single pipe. Moreover, this semi-underground structure is linked to another semi-underground structure of 4.7×10.0 m in size which is piled up with limestone with mortar filled in. The baked bricks wall which functioned as partition wall between these structures came to be finally removed (Pl. 18–c), thus resulting in the appearance of a large space of the semi-underground structure of 15×10 m in dimensions. Here are alternate deposits of silt, clay and marlstone chips nearly in horizontal way (Pl. 18–b), where no finds have been witnessed.

When and why were these structures constructed ? At first, we thought that the structure had been an underground room with the downward staircase for avoiding heat, called *Serdab* as such sort of facilities are still in wide use today in this area. Now we would rather think that this semi-underground structure had been built for water storage, resting with the following reasons:

1. The deposits inside the structure constitute the horizontal heap of alternate layers of clay and sand. A root of a tree has remained from the surface to the bottom about height 1.2 m in the deposit of this structure. This fact gave that there were some water or humidity in the deposit of the structure which was abandoned. The root is dated by the Carbon 14 measurment at University of Gakushuin, Tokyo. It was B.P.1260±80, A.D.810 (Gak-14262).
2. The walls and floors inside the structure are coated with nura mortar, which is used for water facilities such as bathroom wall and floor. And the floor of the structure constructed with the heap of limestone blocks utilizes natural limestone rock bed without coating.

3. This is linked to the stair-room through a pipe. It seems that drawing water was conducted at the stair-room for fear that the water should be soiled. And the water quantity can be checked at the stair-room.

Nevertheless, the questions of what the origin of the water was and how water was brought in for storage still remain unsolved. It is not certain about them yet, but is assumed that Site D (Damming-up bank) (Fig. 3) had something to do with the above structures. This is probably because its installation on the cliff end had been useful for protecting the Site C facilities against the cliff collapse caused by rainfall at the Plateau; there is a possibility of the rain water brought together having been introduced to this water storage. Last of all, what puzzles us about the semi-underground structure which was so constructed as to occupy such large space of 15×10 m is the matter of its ceiling. Now it is deducible whether this was a genuine underground pool formed by simply digging the underground or it was a semi-underground pool which had been roofed over by using some separate supports inside, probably because the people of that time had much difficulty in obtaining the wood of over 10 m in length around there. With today's topography and geology taken into consideration, the latter seems to be more practicable than the former. As is the case with Dukakin Caves, which were formed by digging marlstone strata, its ceiling requires not less than 2 m in thickness. As the result of our excavation, however the traces of ceiling have already gone. No traces of the natural fall of the ceiling have seen among the deposits inside the structure.

Spot 20 (Fig. 31 and Pl. 16–d)

There is a small mound (about 26 m high above sea level) located approximately 10 m north-east part of the semi-underground structure, Spot 19. On the mound surface, some burnt-like marlstone blocks lie scattered.

It has an oval shape of 1.8×1.1 m in size whose marlstone bed rock has been dug down about 1 m deep. The upper part of its wall has turned blue or red under the strong influence of fire, while the lower part has scarcely shown burnt traces. The place inside has been accumulated with baked-brick fragments and plaster lumps as well as a few plants. It was probably a kiln in which plaster had been baked.

Spot 10 (Fig. 3)

Our investigation was first conducted here in anticipation of some sort of grave, since we had noticed an oval mass of 80×170 cm in dimentions including marlstone and limestone blocks. On removing them, however, we found them turning the natural deposits of sand and marlstone broken pieces before finally getting to the marlstone bed rock.

It is probable that they have been put together through the flow of wadi. Some other common phenomena are shown in Spots 1 to 11.

Spots 12, 13, 14, 15 and Spot 16 (Fig. 3)

Spots 12, 13, 14 and 15 are excluded from our current excavation work, but their wall lines of some structures have been clearly recognized even at the ground surface. Spot 16 may be a kiln.

2 Finds

Plaster works (Figs. 34, 35 and Pl. 19)

Beads-plaques: Probably it is part of a plaster work in the dimensions of 15 cm wide, 20 cm long and 2.5 cm thick (Fig. 35–2 and Pl. 19–e). The presumption is that the frame is decorated with a zigzag pattern and the description of several arcs of the beads-designed inside. The cross may have been arranged just in

center of the plaque (Fig. 35–5 and Pl. 19–b). In this way, the plaque was built in the wall. Some other resembling plaques have been discovered (Fig. 35–1 and Pl. 19–c) [Rosen-Ayalon 1974: Figs. 194–196].

Cross-plaques: The three separate crosses uncovered at Room A, Room D and Room C are a little different in their plaster qualities, but identical in type (Pl. 19–a). The restored one of their fragments has its outside frame of 15.0×26.5×3.5 cm and its inside frame of 11.5×23.5 cm (Fig. 34 and Pl. 19–a). Their features are that their four ends are divided into three and their bases are fixed with staged-pedestals. The cross unearthed at Room C (Fig. 35–5 and Pl. 19–b) is made of fine, good plaster, and is presumed to have been 7.5×12.0×2.0 cm in size, on which considerable wear traces by hand are observable. Its ends are divided into two. Besides, two kinds of the crosses (Fig. 35–3) discovered at Room B are too fragmentary to be completely restored. It is assumed, however, that they had been set just in the middle of the beads-plaque [Talbot Rice 1932: Fig. 3, e.g.]. Their ends are also divided into two. One of them has been colored bright red. The cross-designed in the plaster disk from Room A (Pl. 19–d) has its length and width made in the proportion of 1:1, and is fixed in the circle of outside diameter of 8 cm and inside diameter of 5.5 cm. And a radial pattern is applied to its outside border.

Pottery and glassware (Figs. 32, 33 and Pl. 20)

The pottery types are largely classified into jars and bowls. Many of the jars are thin with long necks and handles. Some are provided with incised patterns on them. Some are the thick jars with extremely short necks. Among them, there are jars called 'Honeycomb ware' and the ones decorated with continuous half-moon incised patterns. In the meantime, there are two types of bowls: one has a little everted rim with a base on the bottom whose whole body is white-glazed whereas the other has its rim slightly turned inside. As for the glassware, there are no entire shapes left behind, which are classified into bowls, bottles and goblet bowls. They are all nearly transparent, even if a small portions of them are found colored a little. Their material is of soda-lime-silica glass, which is manufactured by blowing. The above-mentioned finds seem to have dated from the late 8th century.

Fig. 32 and Pl. 20

1. Blue glazed jar. Locus: kiln at south of the spot 17, exterior: blue , core: buff interior: greenish buff, fabric: fine ware. [Finster & Schmidt 1976: Abb.88,K]
2. Jar with handles. Locus: surface of the spot 18, exterior: buff, core; buff, interior: buff, fabric: fine ware. [Rosen-Ayalon 1974: Fig. 23]
3. Dish ? Locus: Room 1 at the spot 18, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware.
4. Jar. Locus: Room A at the spot 17, exterior: buff, core: brownish buff, interior: brownish buff. (Pl. 20–c) [Finster & Schmidt 1976: Abb. 85, C]
5. Jar. locus: Room 1 at the spot 18, exterior: brownish buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware.
6. Bowl. Kiln at the south of the spot 17, exterior: buff, core: brownish buff, interior: bitumen-lined, fabric: fine ware with chaff temper.
7. Pot with handles. Locus: surface at the spot 17, exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: sandy ware. [Finster & Schumit 1976: Tf.49, g]
8. Incised pot. Locus: Room 1 at the spot 18, exterior: brownish buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware. (Pl. 20–d)
9. Incised Jar ? Locus: Room 2 at the spot 18, exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: fine ware. (Pl. 20–f)
10. Incised Jar ? Locus: Kiln at south of the spot 17, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: fine ware. (Pl. 20–f) [Rosen-Ayalon 1974: Fig. 63]

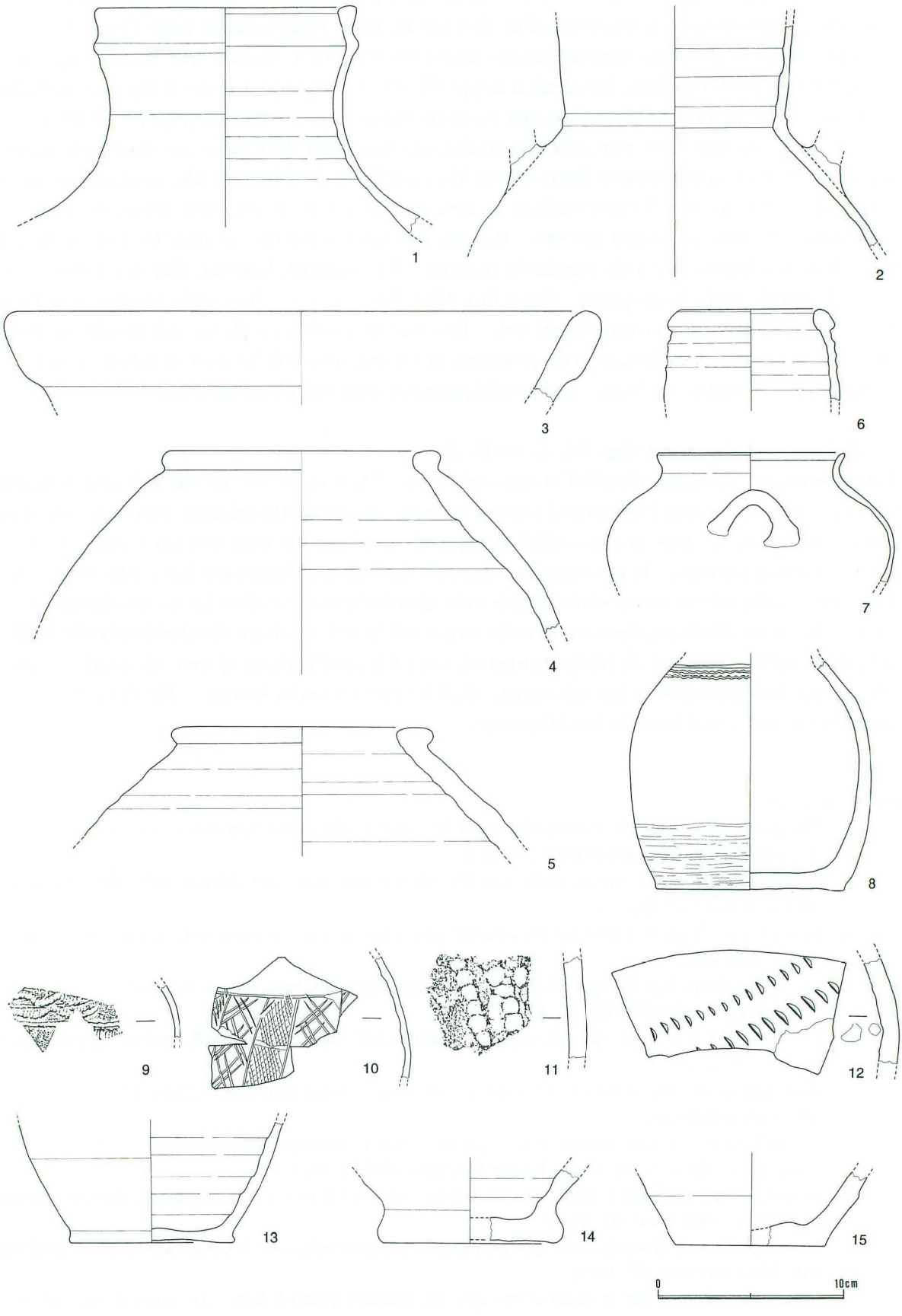


Fig. 32 Pottery from Site B, Ain Sha'ia

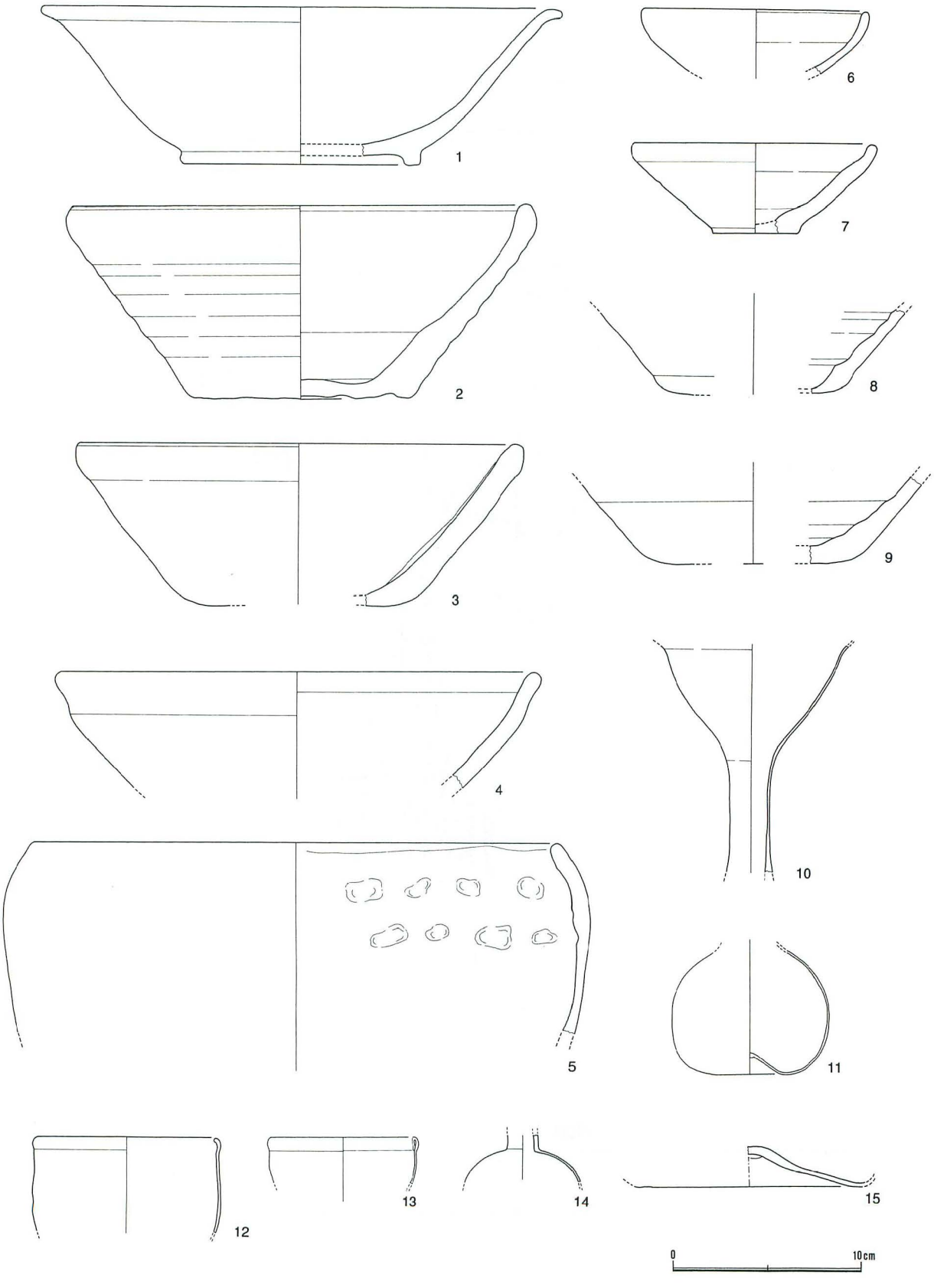


Fig. 33 Pottery and glassware from Site B, Ain Sha'ia

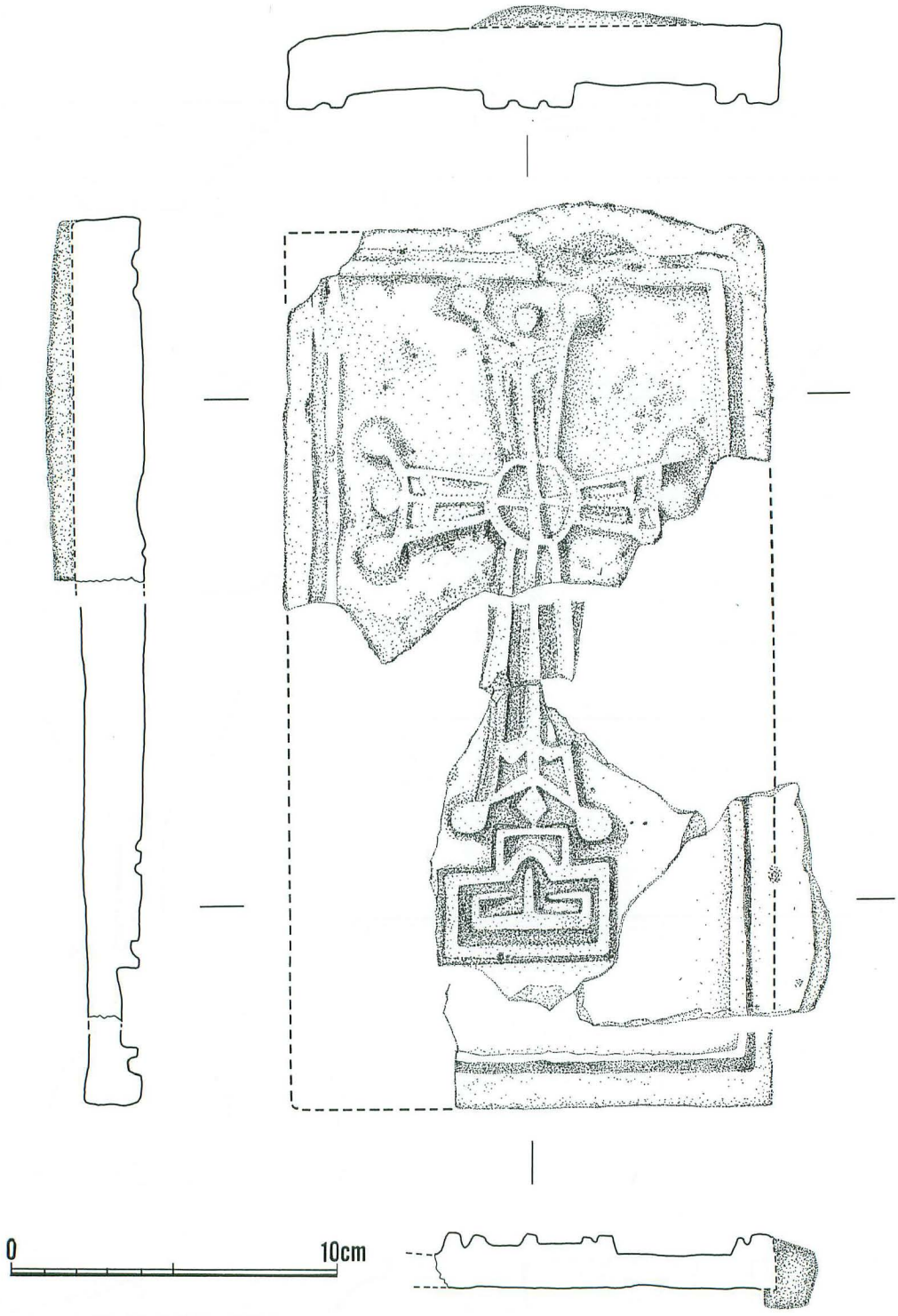


Fig. 34 Cross-plaque from Spot 17, Site B

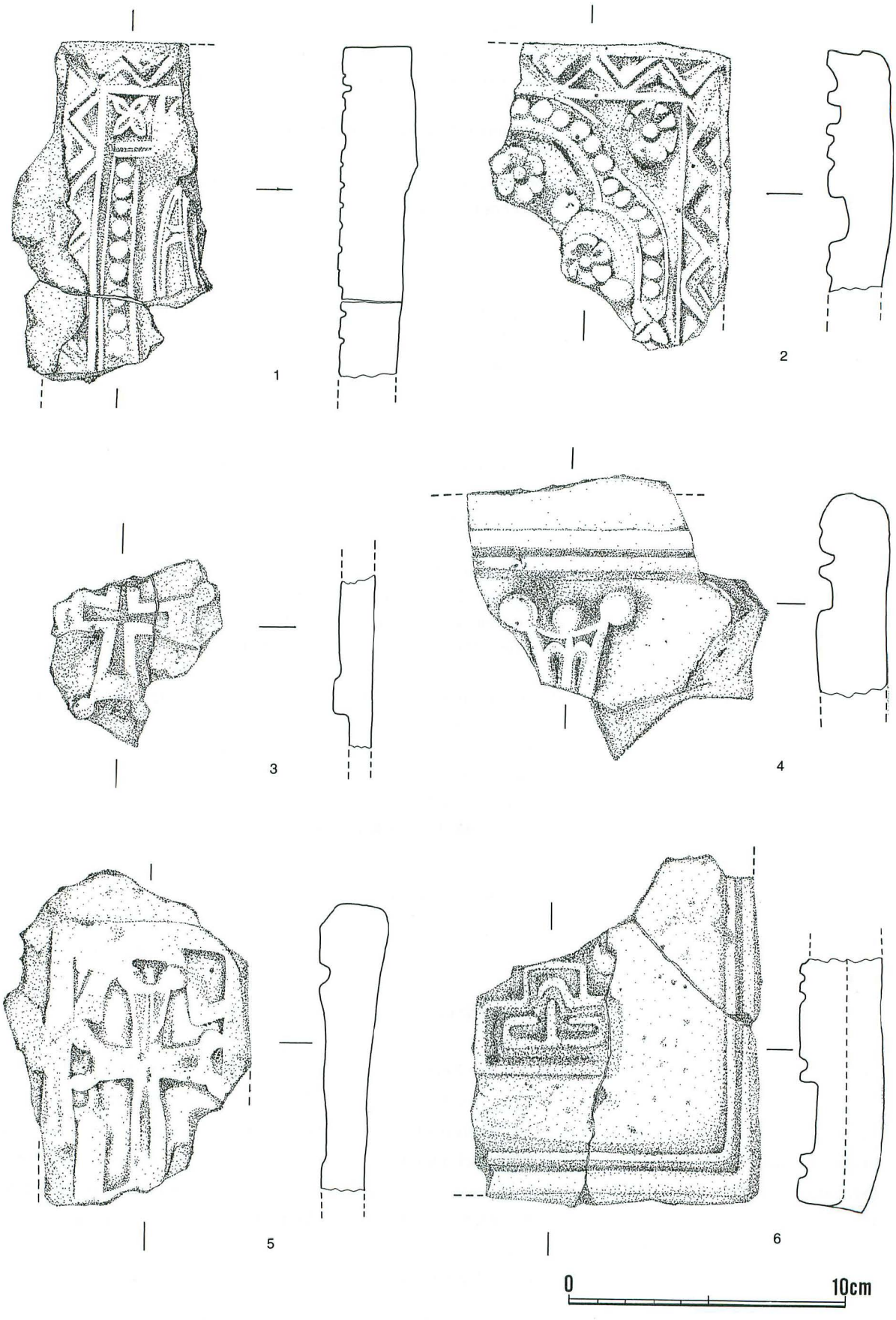


Fig. 35 Cross-plaques and Beads-plaques from Spot 17, Site B

11. Jar ? Locus: Room D at the spot 17, exterior: brownish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware, "Honeycomb ware". [Finster & Schmidt 1976: Tfn.52, a.e.f, 53, h]
12. Incided Jar ? Locus: Kiln at the spot 17, exterior: buff, core: buff, interior: buff, fabric: sandy ware. [Finster & Schmidt 1976: Tf.48, d]
13. Jar ? Locus: Room B at the spot 17, exterior: buff, core: brownish buff, interior: bitumen lined, fabric: fine ware.
14. Glazed Jar ? Locus: spot 19, exterior: blue, core: buff, interior: light green, fabric: fine ware.
15. Jar ? Locus: Room B at the spot 17, exterior: buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware.

Fig. 33

1. Glazed bowl. Locus: Room C at the spot 17, exterior: light grey, core: cremy, interior: light grey, fabric: sandy ware. (Pl. 20-a) [Mikami 1986: Plate 95]
2. Bowl. Locus: Kiln at the spot 17, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware. (Pl. 20-c)
3. Bowl. Locus: Spot 19, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware.
4. Bowl. Locus: Room D at the spot 17, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware.
5. Bowl. Locus: Room C at the spot 17, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware.
6. Bowl. Locus: kiln at south of the spot 17, exterior: buff, core: brownish buff, interior: buff, fabric: fine ware.
7. Bowl with carbon. Locus: Room 4 at the spot 18, exterior: buff, core: buff, interior: buff, fabric: sandy ware.
8. Bowl. Locus: spot 19, exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: sandy ware.
9. Bowl ? Locus: kiln at the south of the spot 17, exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: sandy ware.
10. Glass goblet. Locus: Room B at the spot 17, transparency. (Pl. 19-f) [Meyer 1988: Figs. 9,H and 11, H-K]
11. Glass bottle. Locus: Room B at the spot 17, transparency.
12. Glass bowl. Locus: kiln at south of the spot 17, transparency. [Finster & Schmidt 1976: Abb. 57, c]
13. Glass bowl. Locus: Room B at the spot 17, transparency.
14. Glass bottle. Locus: kiln at the south of the spot 17, transparency.
15. Greenish glass bottle. Locus: kiln at the south of the spot 17. [Meyer 1988: Fig. 12, D.E]

V. Site C

Ken MATSUMOTO*

1 Excavations

There is Site C at the depth of the ravine some 300 m distant from Site B after the walk along the wadi toward the cliff in the north-east direction (Fig. 3 and Pl. 21-a, d). To our regret, however, we found the site badly damaged by bulldozer in recent years probably because the people of these days had come here to take the baked bricks out, which resulted in such merciless exposure of its section. We were unable to excavated it at that time. But the sectional view of the very site and its surface collection have fully suggested to us that it was a site of great importance in this area. We realize from its section that the site has been largely classified into two levels (Fig.36 and Pl. 21-b, c):

level 1: The wall of some 1.4 m wide is piled with mud-bricks. A piece of the bricks is in the size of

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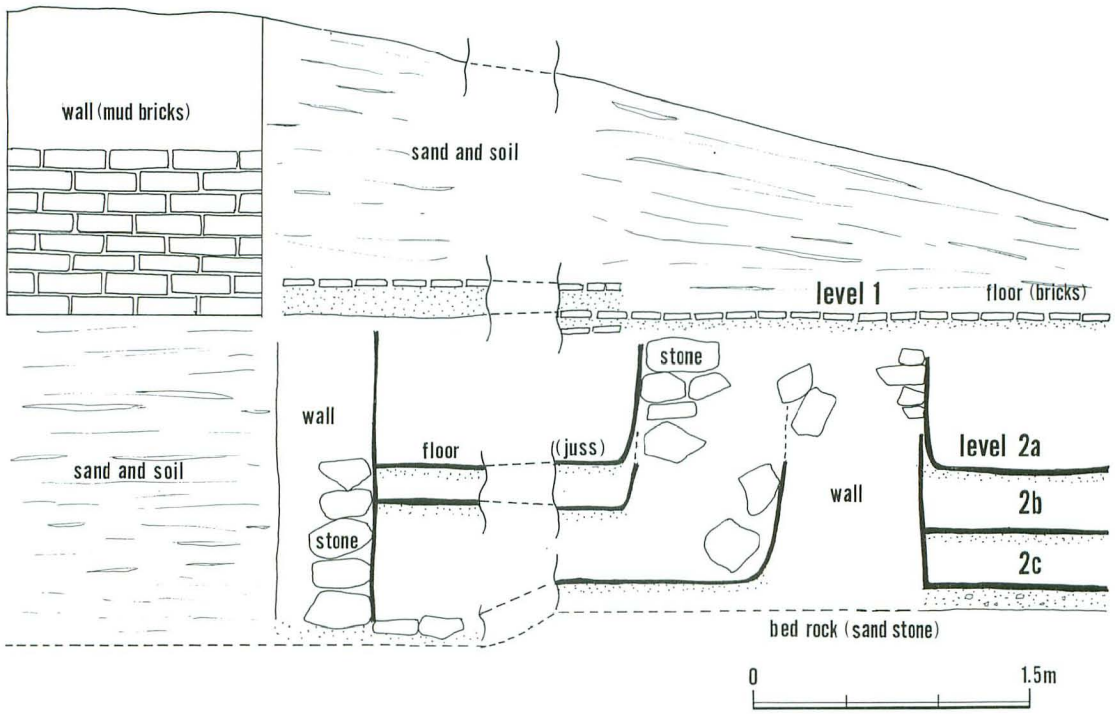


Fig. 36 Rough section of Site C, Ain Sha'ia

34×34×11 cm. Some portion of the floor are paved with baked bricks of 18.0–18.5×18.5×3.5–4.5 cm each. And others are laid with plaster. The wall is 1.6 m in surviving height.

level 2: This is a structure constructed on the sandstone bed rock, some parts of which are observed to utilize the bed rock of natural formation as wall. Most of the walls are piled up simply with rock, earth or sand-mixed earth, and the surfaces of the walls and floors are thickly finished with *juss* plaster (2–4 cm in thickness). The floor is sometimes pitched under the plaster. But in later generation, it must have been damaged several times. The traces of repair are seen two times (levels 2a, 2b and 2c). Each time the repair was practiced, the floor level gradually became 38 cm higher, then next 24 cm higher while the original wall of 80 cm thick turned into that of 156 cm in thickness.

2 Finds

Pottery and glassware (Fig. 37)

The finds listed above are of surface collection.

The lamp is a mold of clay, at the upper part and bottom of which some patterns are left behind. And we have uncovered a glass tumbler lamp (greenish cup with three lugs) whose body is hardened by plaster all around. It is deducible from this that the lamp had been originally stuck in the earth by hardening it with plaster. As for pottery, there are some jar fragments with stamps. Also, we see some small bowls, which are perhaps from the same age as the pottery from Site B.

Fig. 37

1. Brownish fine lamp with carbon (Pl. 22–c, d).
2. Bowl. sandy buff ware [Rosen-Ayalon 1974: fig. 23; Finster & Schmidt 1976: A..87, g].
3. Bowl. exterior: brownish buff, core: buff, interior: brownish buff, fabric: sandy ware.
4. Jar ? with stamp.
5. Jar ? with stamp [Adams 1965: Fig. 16.f].

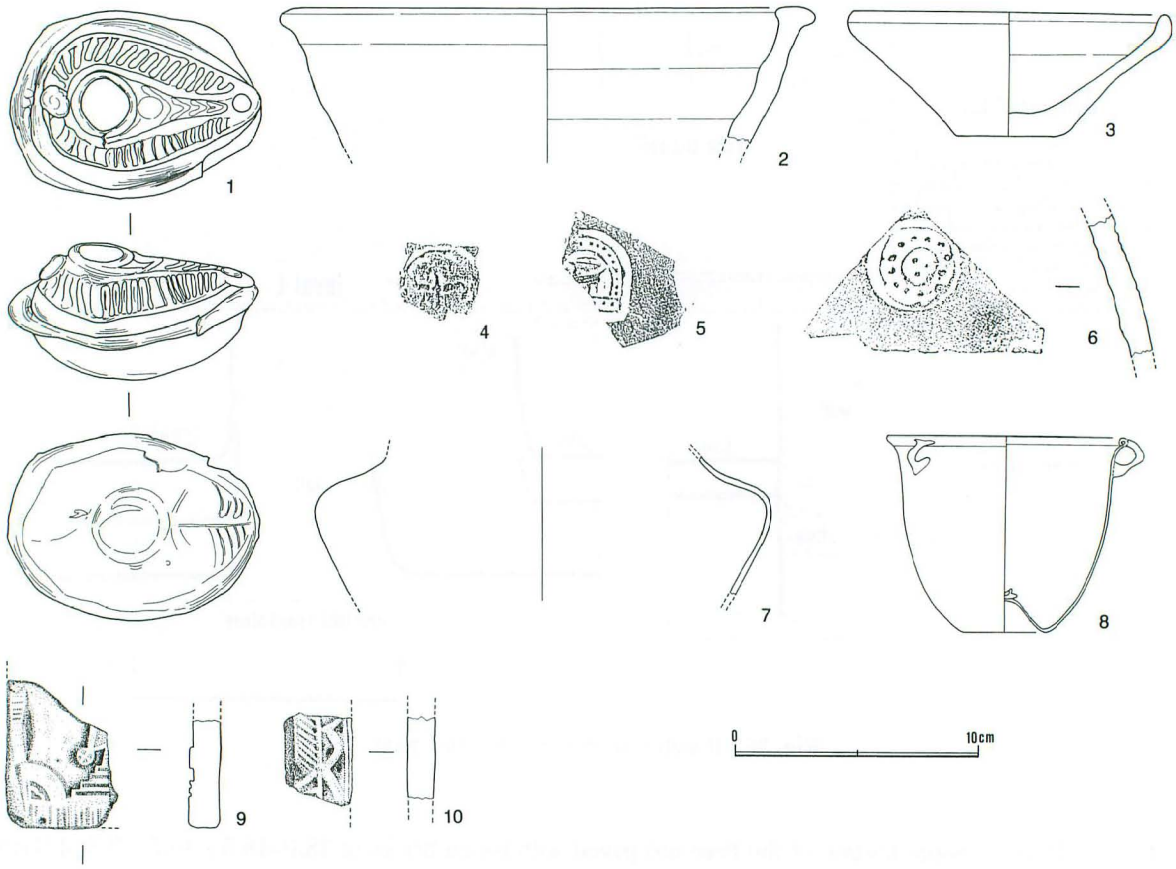


Fig. 37 Finds from surface, Site C

6. Jar ? with stamp. exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: sandy ware (Pl. 22–g) [Adams 1965: Fig. 16.f].
7. Greenish glass bottle.
8. Greenish glass tumbler lamp with three lugs (Pl. 22–a,b) [Meyer 1988: Fig. 12, P.R].

Plaster works

The cross-plaque (Fig. 37–9) (Pl. 22–e): This is a slightly cross-plaque, only the lower part of which has been unearthed. It is restored to the one of about 1.3 cm in thickness and 8 cm in width. This is a different type of stand of the cross from Spot 17.

The frame of the cross-plaque (Fig. 37–10) (Pl. 22–e): This is a part of plaque coming from the frame of the cross, where zigzag patterns have been decorated.

Besides, there appear a lot of *juss* plaster wall fragments which are painted blue and bright red.

The finds taken up from the surface of the site are the glassware, the earthen lamp, potsherds, the plaster fragments on which blue and red lines are drawn, and the cross-plaque fragment. The ravine through which we come to this site gets lower today eroded by wadi than it did in those days. Both sides of the ravine are dotted with buildings and pottery-kilns together with the fragments of pottery and glassware in disorder.

Our researches into this site have been chiefly focussed on the stratigraphical observation. Besides, its geographical condition must be taken into consideration. First, the choice of this site having been made, not at an urban place, but at the depth of a ravine along the cliff in the remote desert area matters a

great deal. This was probably for the purpose of defense. Nevertheless, it was in danger of frequent destructions, which seems to have been caused by natural disasters such as cliff collapse or something like that, judging from the deposits and a big rock of no smaller than 3×5×4 m in size left behind here still today. This is considered to be one of the structures related to the Christians because of the discovery of the cross-plaque fragments. There used to be not only a large building as a core at the fathermost spot of the ravine but also some buildings of the people concerned with it at the way out of the ravine (Spots 13, 14, etc.). The large structure must have functioned for public service such as church. It seems likely that such structures were at last abandoned through fraquent sufferings of cliff collapse inflicted upon them. Perhap Spots 17, 18 and 19 had once been related facilities. And the Dukakin caves may have also been utilized about that time. Thus, it has become apparent through our current researches that this was the residence area for the Christians to live in, and such related facilitied as church, monastery, dwelling house, pool for water storage, and kilns for baking pottery and plaster once existed here.

VI. Dukakin Caves

Ken MATSUMOTO*

1 Excavations

The cave groups which spread along the cliff line some 500 m northward from Site B at Ain Sha'ia are called Dukakin Caves (Fig. 3 and Pl. 23–a, b). The aim of our current researches was to clarify the following:

(1) Were the digging purpose and method of Dukakin Caves identical to those of Al-Tar Caves or not ? [Fujii ed. 1976; Ohnuma & Inaoka 1984/85: 28–36; Matsumoto & Wada 1984/85: 37–50; Ii 1986: 1–21; Fujii, Kasahara, Ohnuma, Takase & Sakamoto 1984/85: 246–251; Fujii & Sakamoto 1986: 37–54]

(2) Was their secondary use for graves just as that of Al-Tar Caves ?

(3) Did they have a close connection with their neighboring flatland sites such as Ain Sha'ia, etc. ?

To begin with, we had to select the caves enough to fill our needs, after investigating the cave distribution and observing the digging conditions of individual caves.

Cave No. 1 (Fig. 38 and Pls. 23–b, c, d, 24)

This is nearly in the middle of a peninsular cliff located at the center of Dukakin Caves. It is a part of the whole caves whose digging work was started from the east side of the peninsular cliff in a zigzag way up to the opposite side, the west side, occupying the east entrance. Around the entrance, several potsherds are seen scattered, and the inside cave is accumulated with aeolian sand almost up to the ceiling. Meanwhile, some traces of the final coating of chaff-mixed mud are seen on the wall and the ceiling (Pl. 24–a). Thus, we started our excavation, judging that there is a possibility of people having lived here even if it was only for a short time, and that it may leave some characteristics of the original digging time similar to those of others (including Al-Tar Caves). Excavation period: December 5–14, 1987. Workmen: four persons.

The deposits of aeolian sand, coarse sand and marlstone chips come up to 50 cm below the ceiling in alternate layers. Here and there among them, some marlstone blocks and animal bones lie in disorder. These animal bones were perhaps brought in by dogs and hyenas. There is every probability that some

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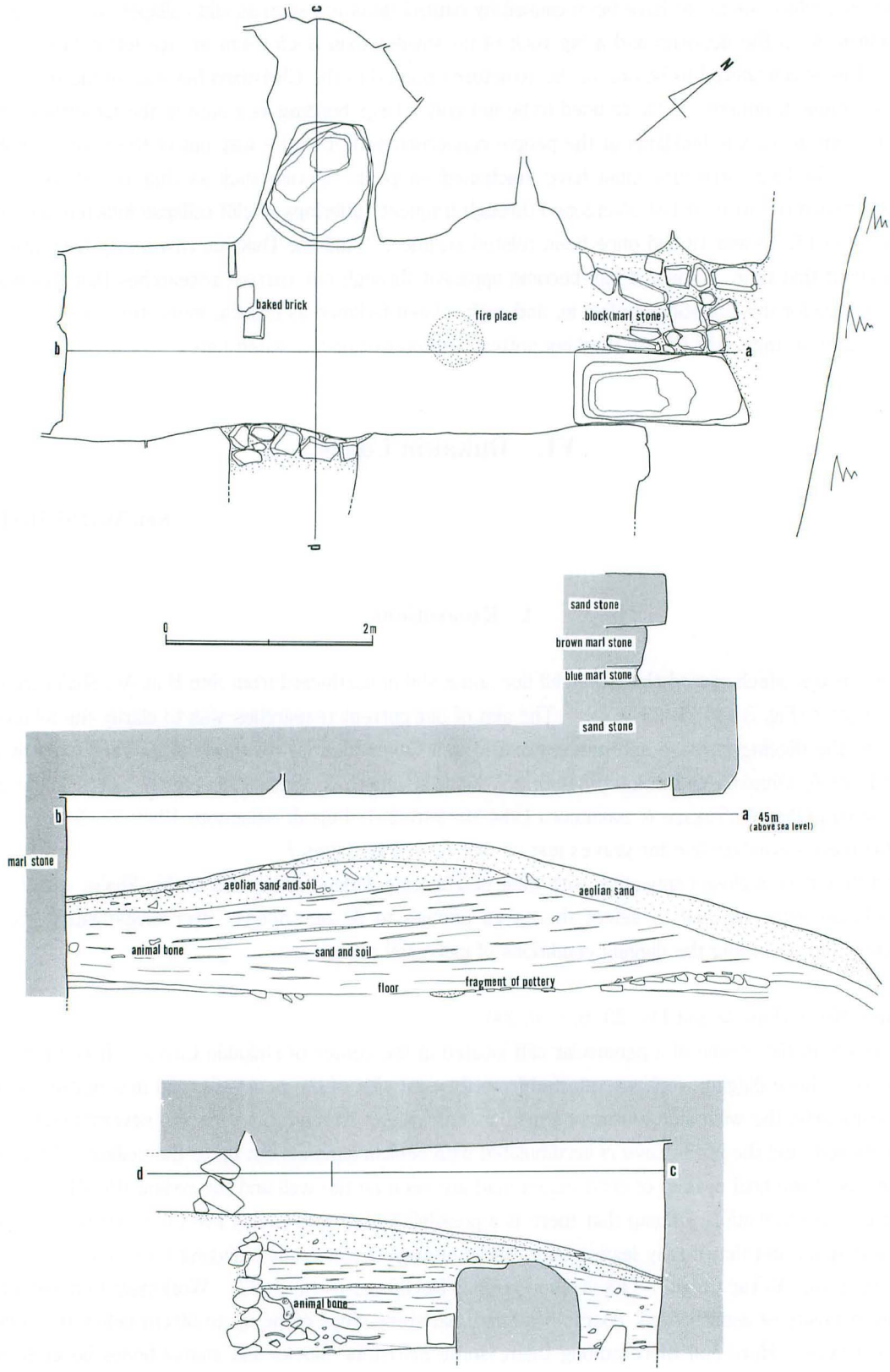


Fig. 38 Plan and sections at Cave No. 1, Dukakin Caves

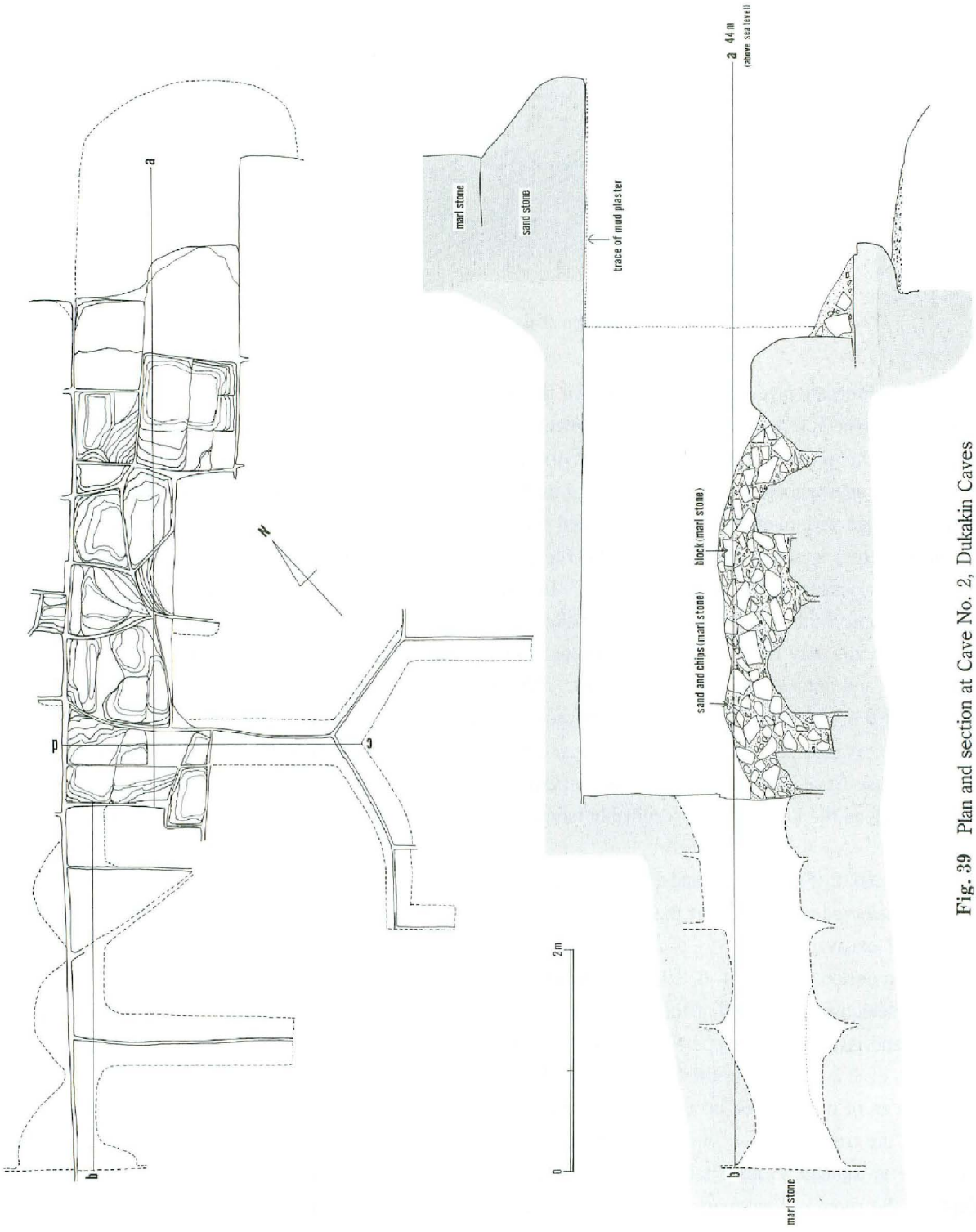


Fig. 39 Plan and section at Cave No. 2, Dukakin Caves

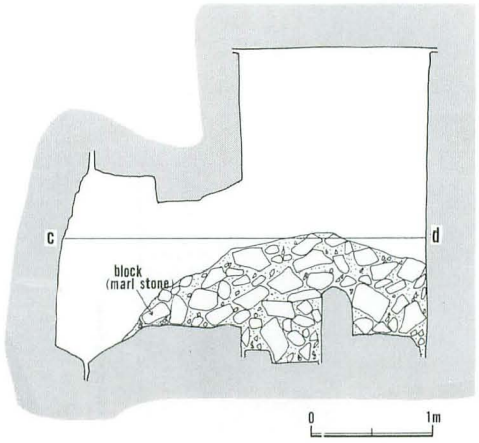


Fig. 40 Section at Cave No. 2, Dukakin Caves

deposits in alternate layers came into the cave through the ceiling around the entrance with the rain water, which is evidenced today from the gradual downward slope starting around the entrance toward the depth, along with the present natural condition of the aelian sand deposits. After removing the natural soil formation of approximately 1.4 m in maximum thickness, a living space came in sight. Its floor around the entrance is laid with marlstone chips and baked bricks (19.5×19.5×4.0 cm each), and a fireplace (about 55 cm in diameter) is set in the center of the room. We see the heap of marlstone and sandstone blocks function as blockade against adjoining caves. In order to fill up a lot of natural cracks noticed on the wall and the ceiling inside the cave, they are finally coated with chaff-mixed mud. The floor is littered with potsherds in the way they were laid on purpose, among which one bowl fragment bears Syriac letters on their inside and outside surface (Pl. 26–a, b). The living space is in the dimensions of 1.8 m wide, 6.5 m deep and 1.9 m high with an annex of 1.0 m wide, 2.2 m deep and 1.9 m high.

Our excavation schedule was to go further into the lower parts of these floors, which was finally kept intact because Cave No. 1 is in splendid preservation and seems to have a strong connection with Ain Sha'ia Site, as well as the lower layer presumably having the same deposits and structure as some other caves.

Cave No. 2 (Figs. 39, 40 and Pls. 23–a, 25)

This was selected to clarify what the aim of digging this cave had been, which we failed to pursue during our Cave No. 1 excavation.

Excavation period: January 4–6, 1989. Workmen: four persons.

Our selection was aimed at the cave which is piled with marlstone blocks inside, the sizes of which are of small and large mixture type. Cave No. 2 is situated opposite to Cave No. 1, on the west side cliff. The cave of 1.1–1.6 m in width and 5.0 m in depth is linked with a small tunnel-type cave. It also has some traces of mud coated on the wall and the ceiling from around the entrance up to the depth of 2 m, revealing the traces of its secondary use just as in Cave No. 1. However, the place around the entrance of that time is thought to have fallen down, where deposits are scarcely left behind. The deposits in the depth of the room contain marlstone blocks (about 50×30 cm in maximum size) and sand which constitute the very cave. After removing such deposits little by little, some cigarettes and matches of modern times are found thrown away, which proves the recent haunts of people there, though it is far away from towns and villages. The finds unearthed by us are two potsherds and a piece of broken glassware, which seems to have come from the period of secondary use. After all, we have grasped that the ceiling is smooth whereas the floor is rather rugged, but not extremely so. From the chisel traces, the digging method is

observed to be similar to that of Al-Tar Caves. Moreover, the small cave linking to the big cave is so small as to allow a man's passage by crawling with difficulty even if it is the place for gathering bats' feces. It is no more than 50 cm in width and 80 cm in height, but is fairly deep, at least 4–5 m in depth. On the way, we see the accumulation of blocks which were caused by the original cave-digging work.

2 Finds

Pottery and Glassware (Fig. 41 and Pl. 26)

Cave No. 1

1. Pot. Exterior: buff, core: buff, interior: buff, fabric: sandy ware with chaff temper.
2. Pot. Exterior: brownish buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware [Finster & Schmidt 1976: Abb.85, c].
3. Pot. Exterior: greenish buff, core: greenish buff, interior: bitumen lined, fabric: sandy ware [Finster & Schmidt 1976: Abb.85, c].
4. Pot. Exterior: greenish buff, core: greenish buff, interior: bitumen lined, fabric: sandy ware [Finster & Schmidt 1976: Abb.85, c].
5. Jar. Exterior: greenish buff, core: greenish buff, interior: bitumen lined, fabric: fine ware [Finster & Schmidt 1976: Abb.86, a].
6. Jar [Finster & Schmidt 1976: Abb.86, a].
7. Jar. Exterior: buff, core: brownish buff, interior: buff, fabric: sandy ware [Finster & Schmidt 1976: Abb.85, e].
8. Jar ? with incision. Exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: fine ware.
9. Jar ? with stamps. Exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: sandy ware (Pl. 26–e) [Adams 1965: Fig. 16.f].
10. Jar ? with stamp. Exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric:fine ware (Pl. 26–e) [Adams 1965: Fig. 16.f].
11. Jar ? Exterior: buff, core: brownish buff, interior: buff, fabric: fine ware.
12. Jar ? Exterior: brownish buff, core: brownish buff, interior: brownish buff, fabric: fine ware.
13. Jar ? with incision. Exterior: greenish buff, core: greenish buff, interior: greenish buff, fabric: fine ware (Pl. 26–d).
14. Jar ? with stamp [Adams 1965: Fig. 16.b].

Cave No. 2

15. Jar ? Exterior: brownish buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware.
16. Jar ? Exterior: brownish buff, core: brownish buff, interior: bitumen lined, fabric: sandy ware.
17. Fragment (base) of bottle ? greenish glass.

As the result of our distribution and excavation researches into Dukakin Caves, it has been unveiled that Dukakin Caves are crowded with a great multitude of large cave groups, presenting a spectacular sight of *suq* like large gathering of stores (Dukakin is the plural of dukkan in the Arabic language meaning 'store', which is also called Tokakin.). Along the cliff line stretching westward from Najaf, cave groups are found concentrating especially in Ain Sha'ia and Um al Ghalaf which lies farther west of Ain Sha'ia (Fig. 1). It has become known from the exterior surface investigation that the cliff line is also dotted with another type of caves, but they are small sized ones for the use of gathering bats' feces in later generation [Matsumoto 1984/85: 14–27], and that these cliffs have been more severely damaged than that of Al-Tar. The inside part of the cave is smooth in ceiling but its floor surface is up-and-down in zigzag way viewed from a plan, while utilizing lots of cracks which run freely on the marlstone of the cliff component. The cave usually deposits marlstone blocks on the floor, some parts of which have thick heap of aeolian sand. The scarcity of their related finds makes it difficult for us to follow when and why these structures were constructed in detail. Nevertheless, it is evident that Cave No.1 and Cave No. 2 had existed before some Christians

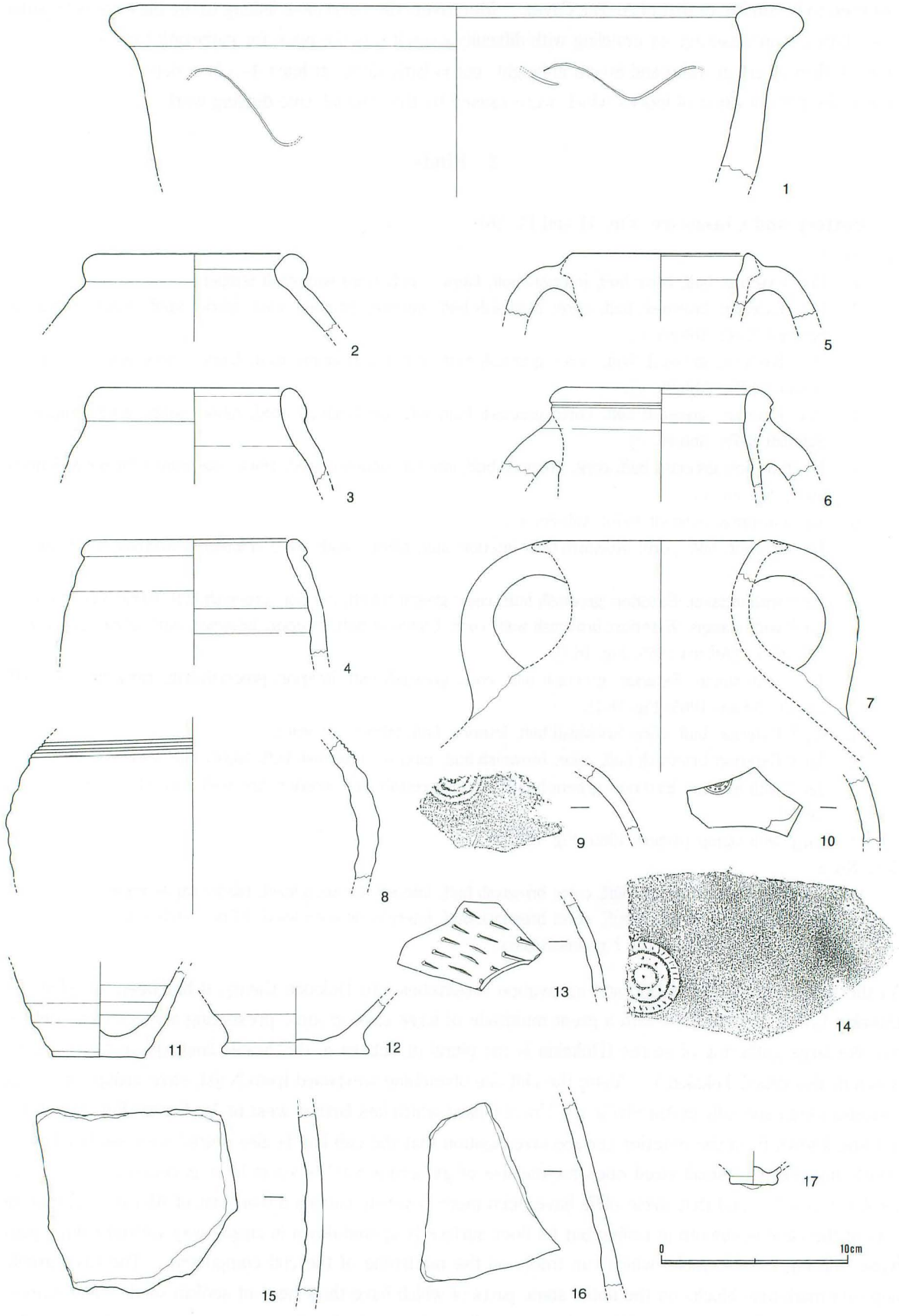


Fig. 41 Pottery and glassware from Dukakin Caves

came to utilize them, to say the least of it.

As for the matter of their secondary use period, there are some other caves which were utilized for dwelling just as in Cave No. 1 and Cave No. 2. Among them, identified so far are no less than five caves. They were used by the people related to Ain Sha'ia. What is more, they seem to have functioned as monastery-like facilities, resting on the peculiar features of the caves, their spacious rooms and the discovery of bowl fragment on which incantation is written in the Syriac letters (Pl. 26–a, b), whose details are given in Dr. Erica Hunter's report in this volume. Besides, all through our current researches, we were unable to grasp any other kind of cave utilization than we noticed that bats' feces gatherers of these days were temporarily using the caves. In addition, this happens to be the place where nomads pass to and from, accompanied by sheep and camels.

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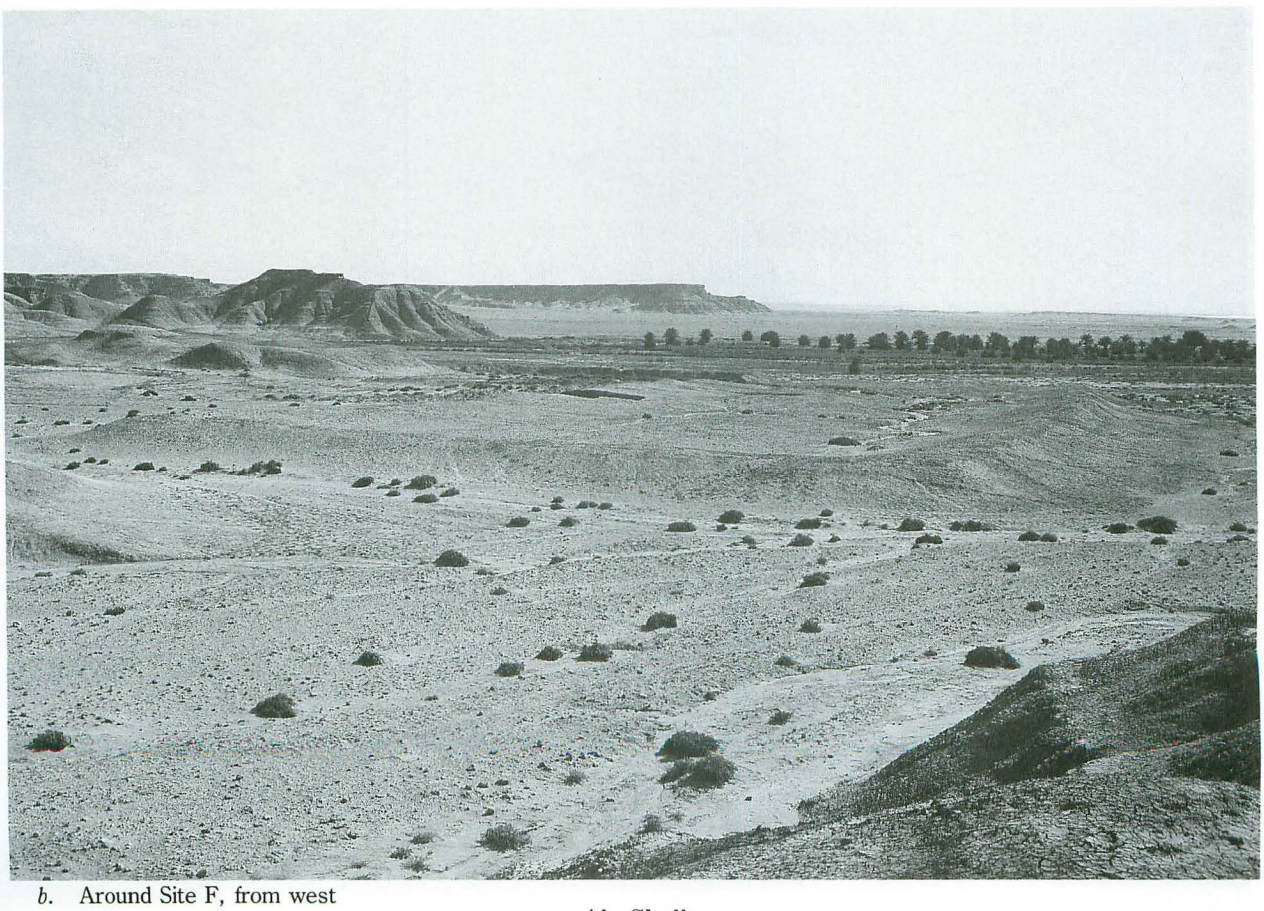
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a. Around Site E, from south



b. Around Site F, from west

Ain Sha'ia



a. Around Site F, from north-east



b. After the second season's excavations of the church area, from south

Ain Sha'ia Site F



a. Northern part of Rooms 5 and 6, from south



b. Southern corner of the fortification, from south-east

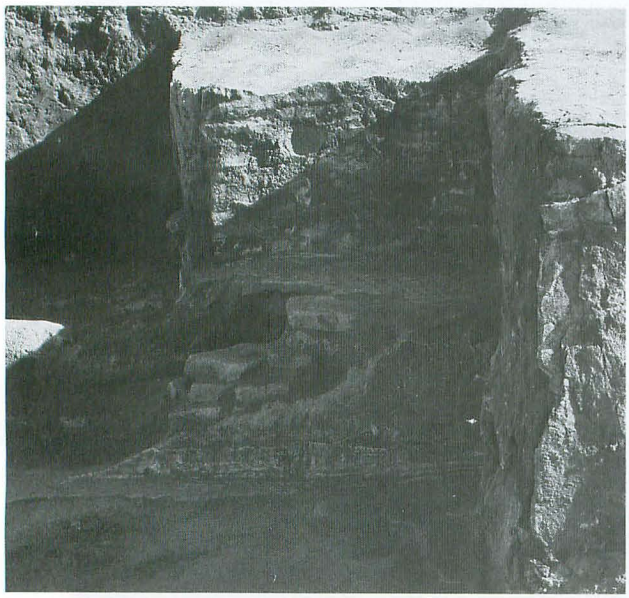
Ain Sha'ia Site F



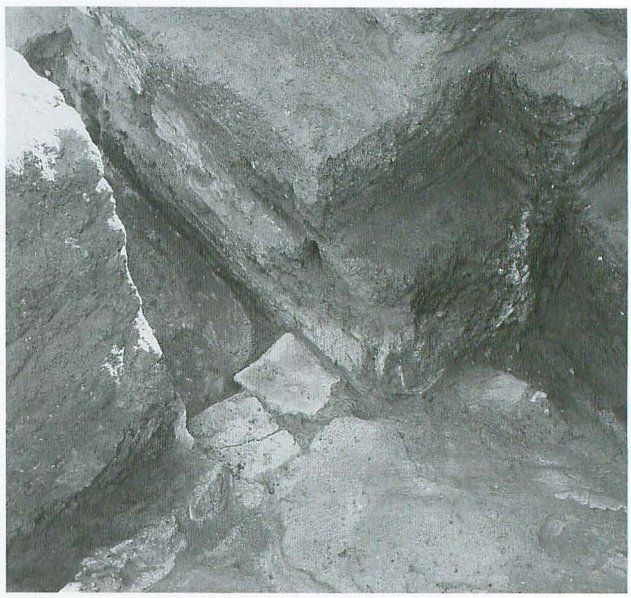
a. Plastering of the enclosure wall at Trench 1



b. Room 14



c. Podium in the coner of Room 5



d. Room 13 and the passage to Room 14



e. Passage from Room 6 to Room 5



f. Room 3, the earliest level

Ain Sha'ia Site F



a. Oven furnished in Room 2



b. Room 2, north-eastern corner



c. Room 16



d. Courtyard pavement at Trench 7



e. Courtyard pavement uncovered in the wadi

Ain Sha'ia Site F



a. Room 5, southern part, from east



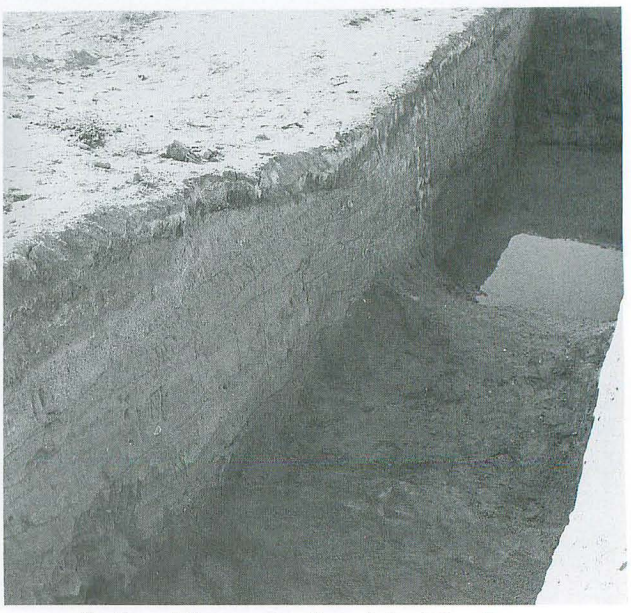
b. Brick-built furniture in Room 4



c. Outer foot of the enclosure wall at Trench 9



d. Well of the *qanat* (Q4) with underground water paths

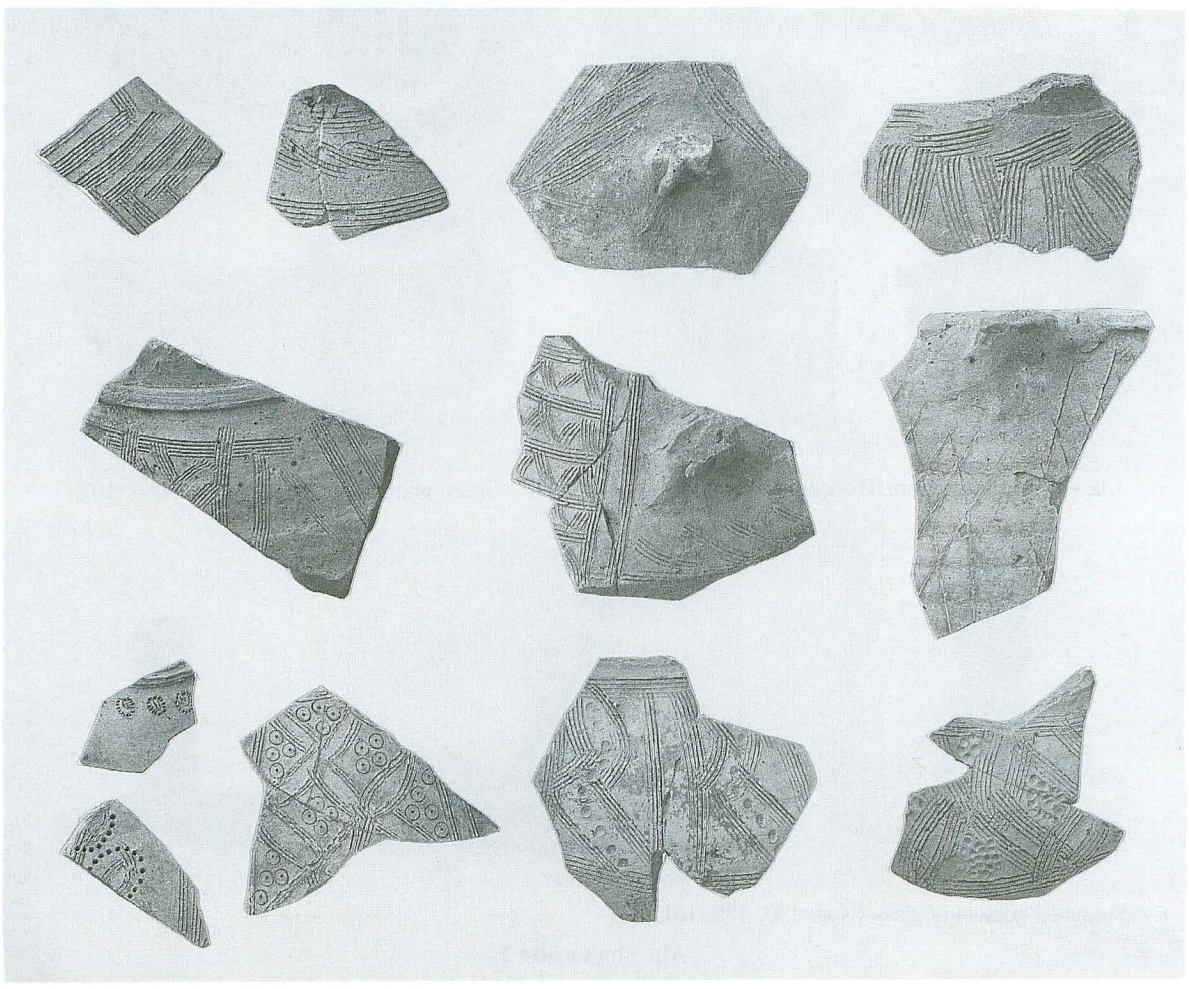


e. Section of the canal at Trench 3 of Site E

Ain Sha'ia Sites F and E

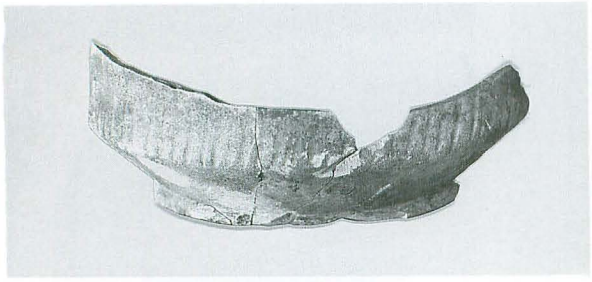


a. Three-handled jar with a cross mark incising (No. 22) from Trench 1



b. Incised potsherds from Trench 1

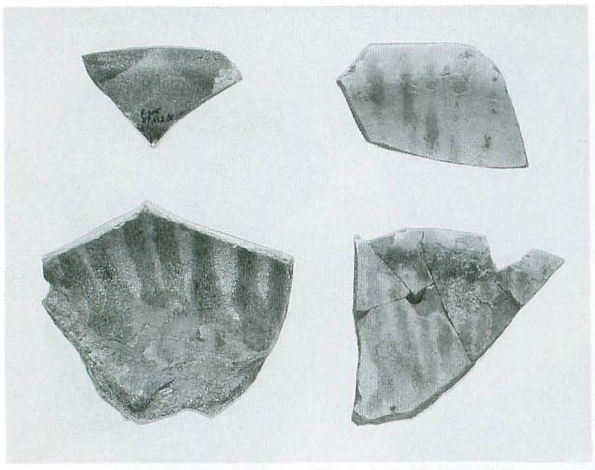
Ain Sha'ia Site F



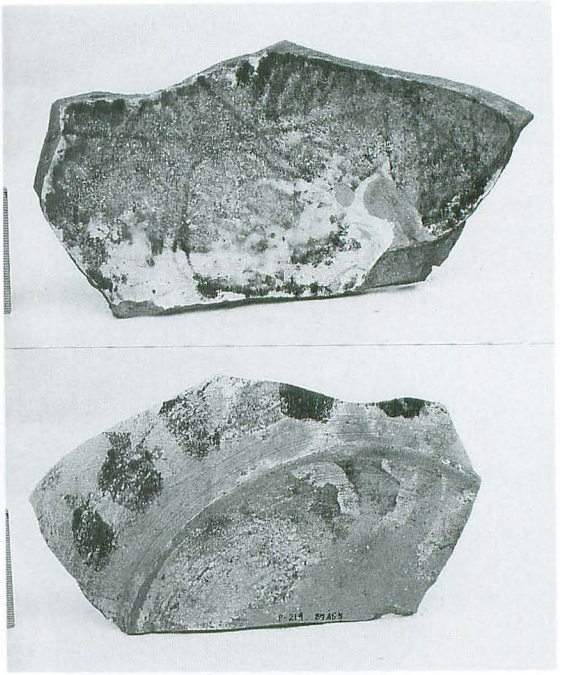
a. Jar base from Room 3 (No. 81)



b. Glazed base sherd from Trench 6



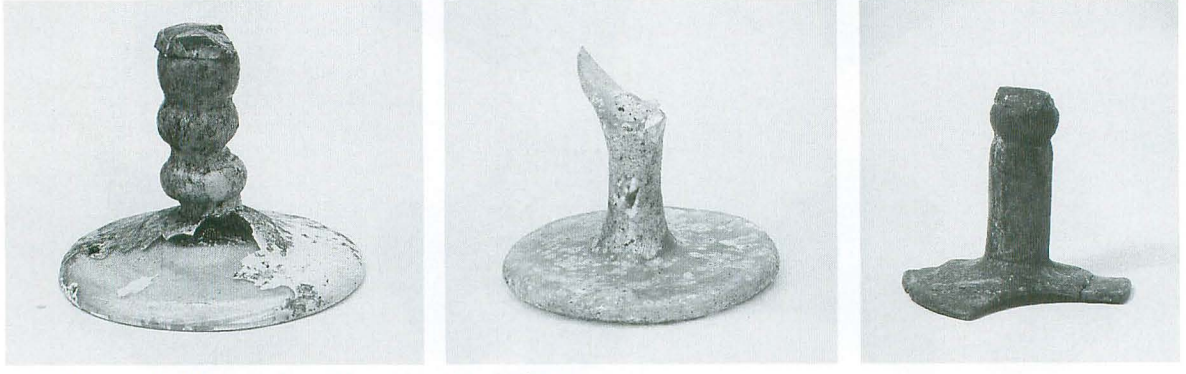
c. Glazed rim sherds from Trenches 2, 4 and 5



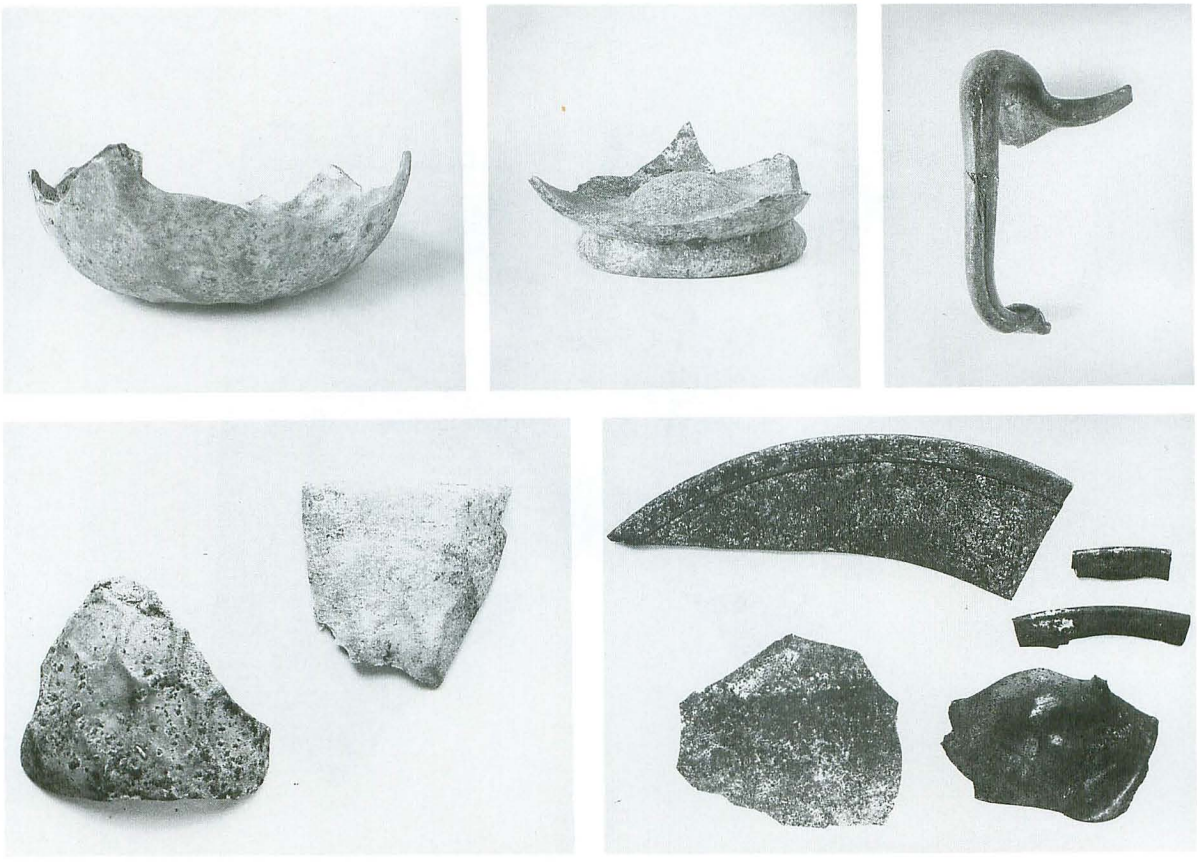
d. Glazed bowl base from Trench 5



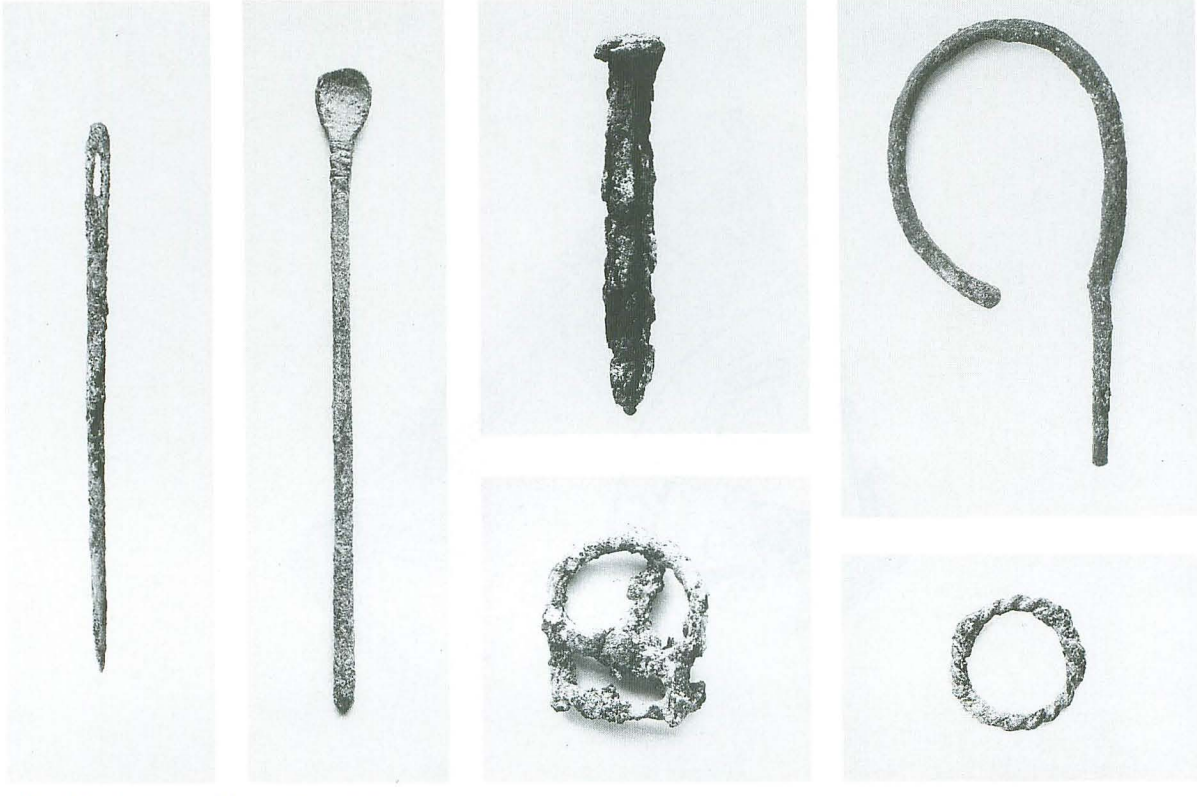
e. Green-glazed lamp from Room 2 (No. 102)



f. Stemmed goblets of glass (Nos. 130, 129, 131)



a. Variety of glass including Nos. 111, 112, 113, 118 and 134

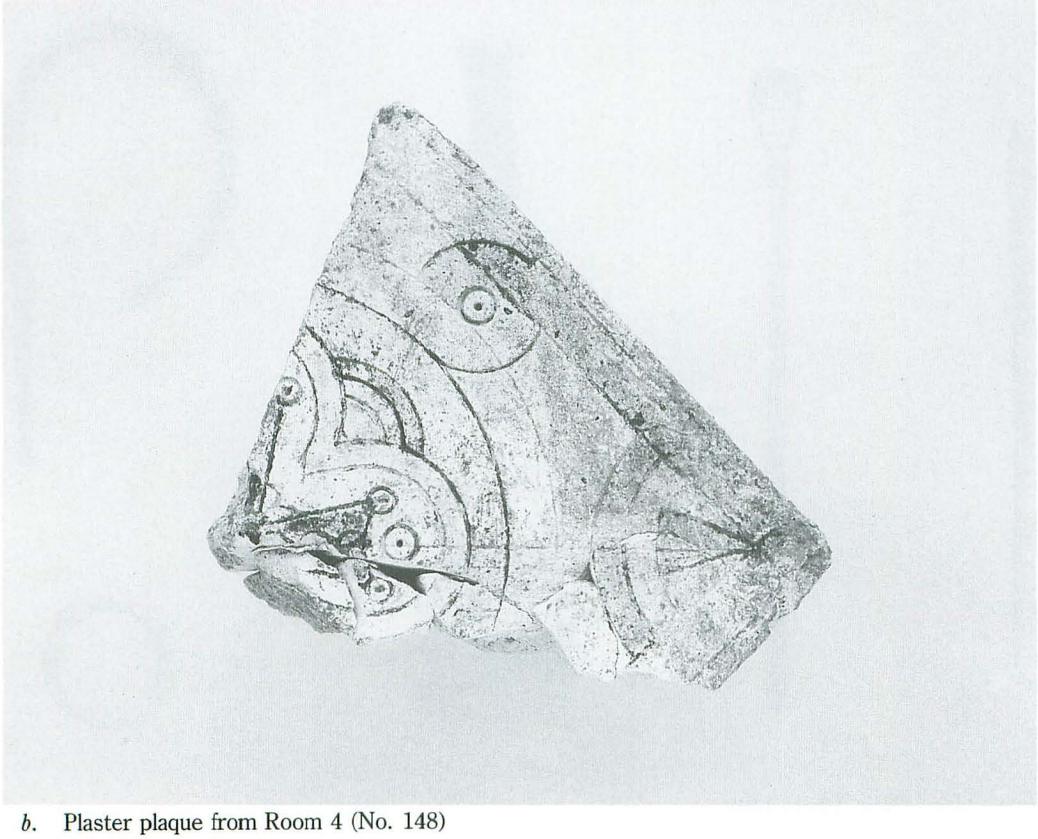


b. Metal objects (Nos. 135 to 140)

Ain Sha'ia Site F

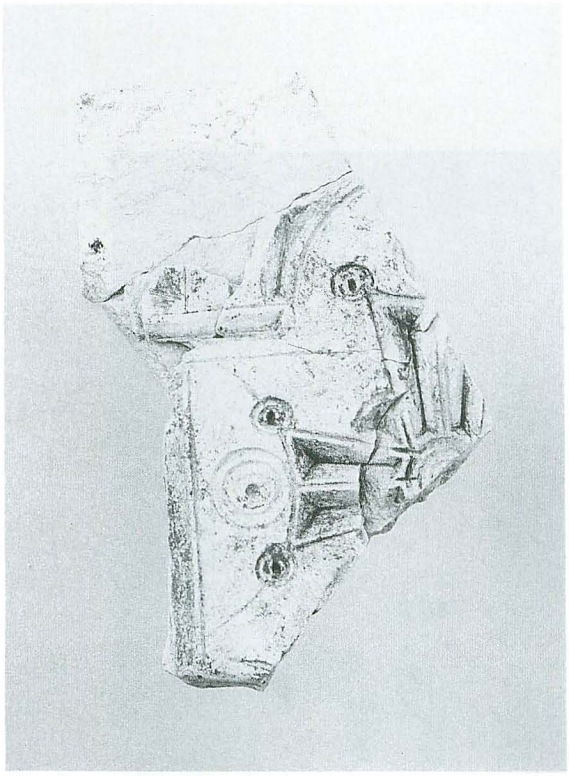


a. Plaster plaque from Room 2 (No. 141)

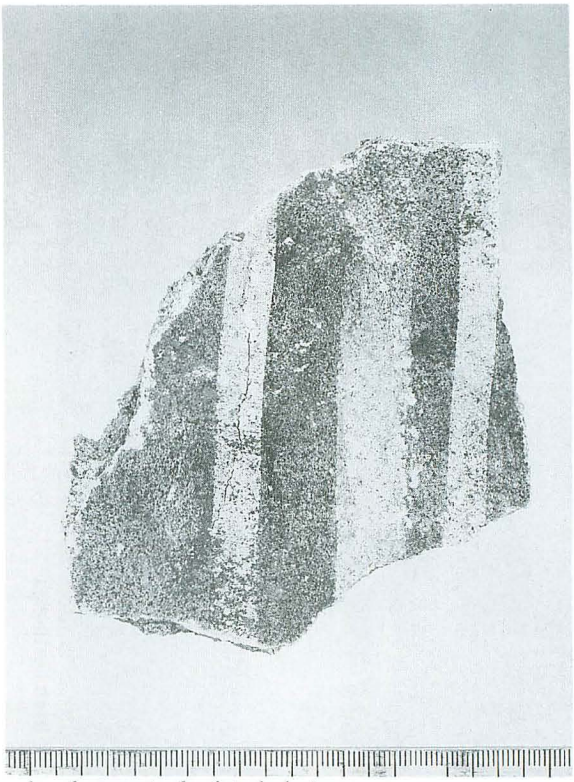


b. Plaster plaque from Room 4 (No. 148)

Ain Sha'ia Site F



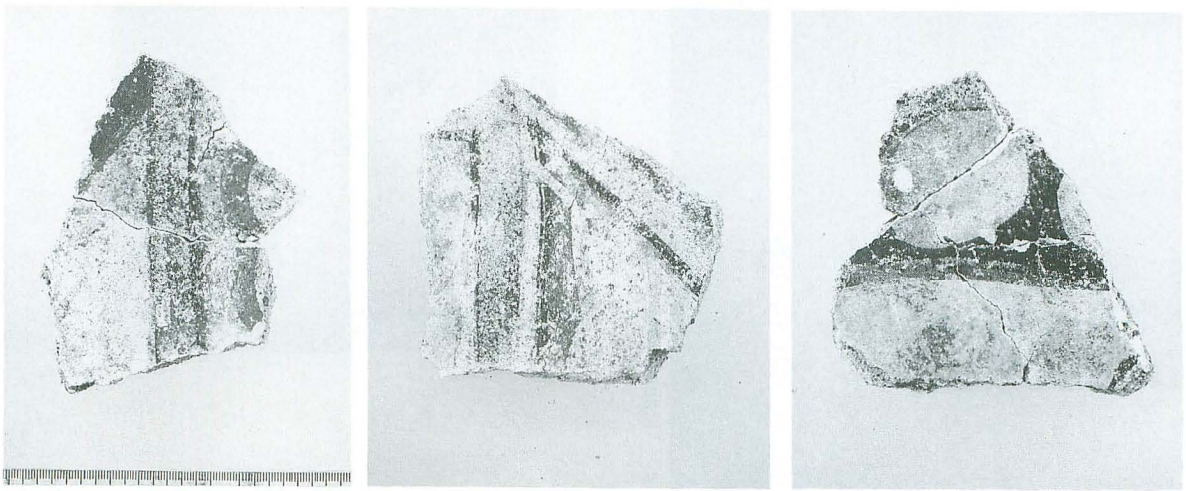
a. Stone plaque (No. 149)



b. fragment of painted plaster

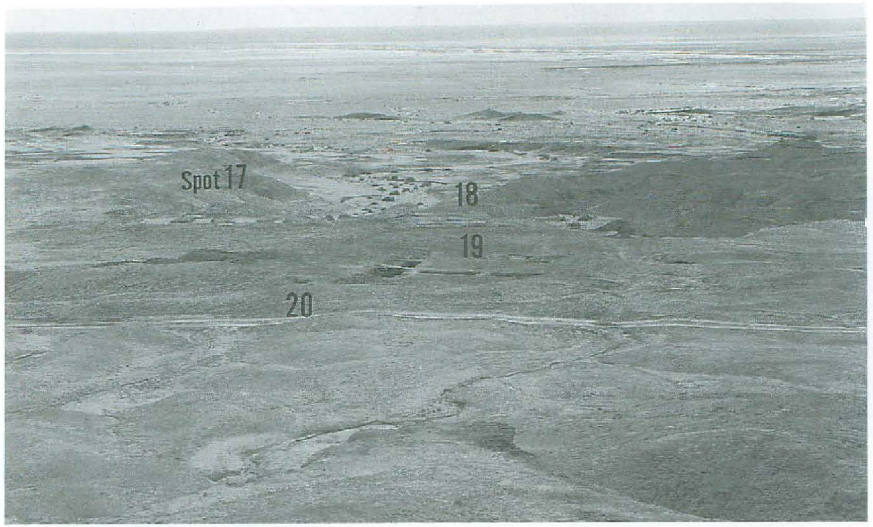


c. fragments of painted plaster



d. fragments of painted plaster

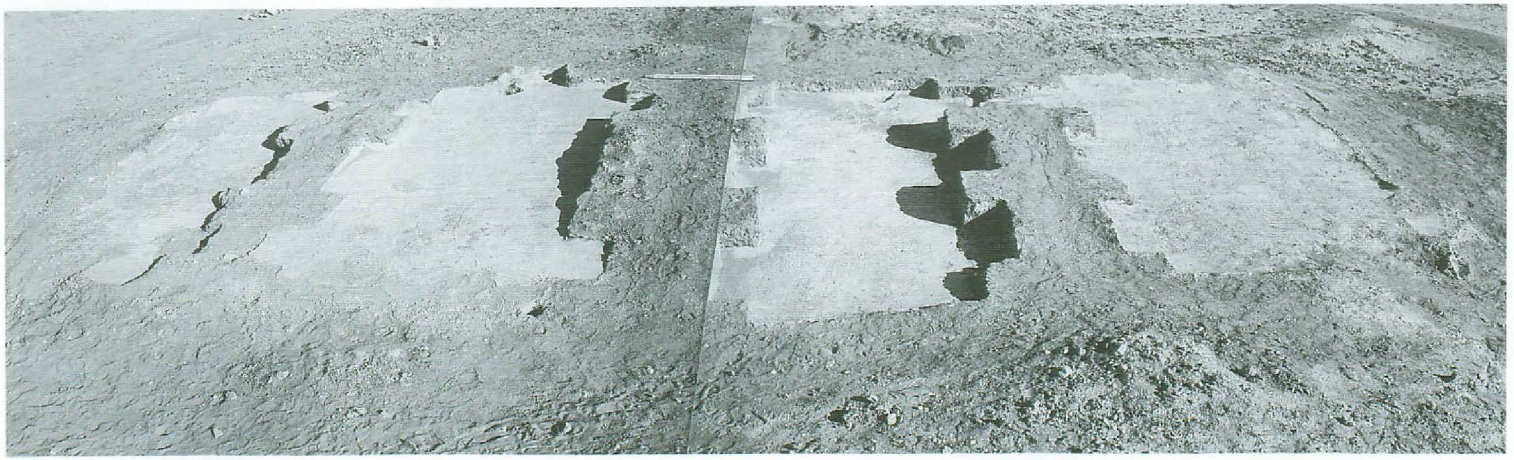
Ain Sha'ia Site F



a. General view of Site B



b. Spot 17 from north-east

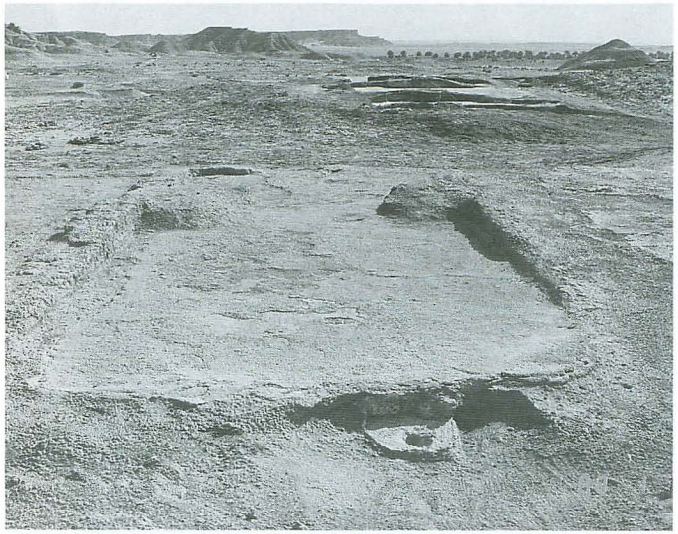


c. Building at Spot 17

Site B at Ain Sha'ia



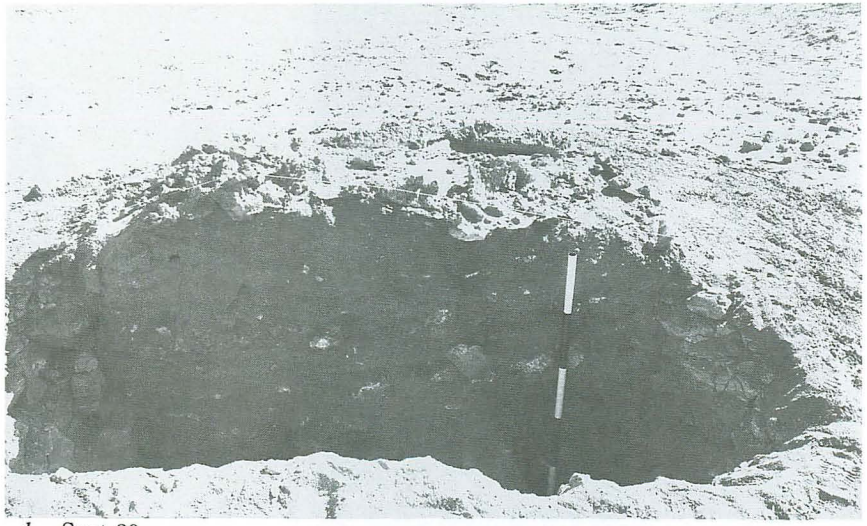
a. Spot 18 from north



b. Room 2 from west, Spot 18



c. Spot 18 from south



d. Spot 20

Site B at Ain Sha'ia



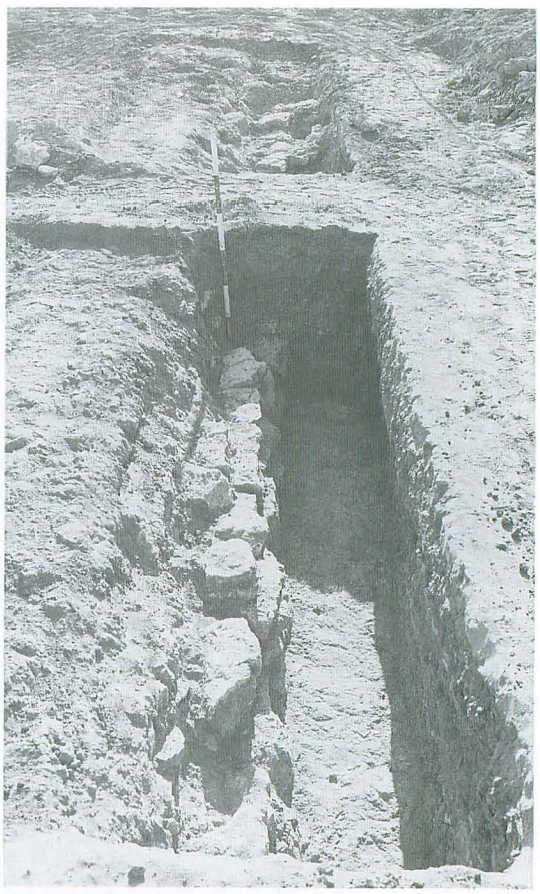
a. General view of Spot 19



b. Wall(bricks) of Semi-underground structure, Spot 19



c. Stair-room at Spot 19



d. Wall(stones) of Semi-underground structure, Spot 19

Site B at Ain Sha'ia



a. Wall(stones) of Semi-underground structure, Spot 19



b. Deposit in Semi-underground structure, Spot 19



c. Traces of wall(bricks) of Semi-underground structure

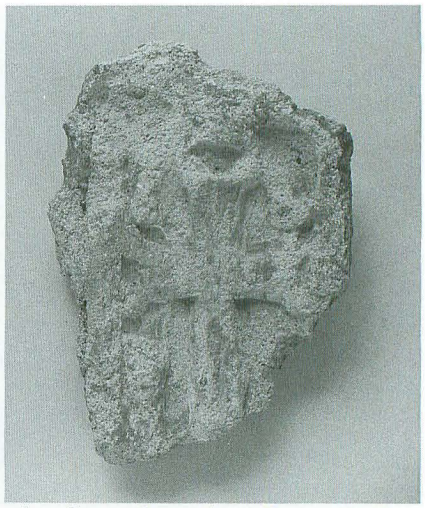


d. A pipe from Stair-room to Semi-underground structure

Site B at Sha'ia



a. Cross-plaques from Site B and Site F(left), Ain Sha'ia



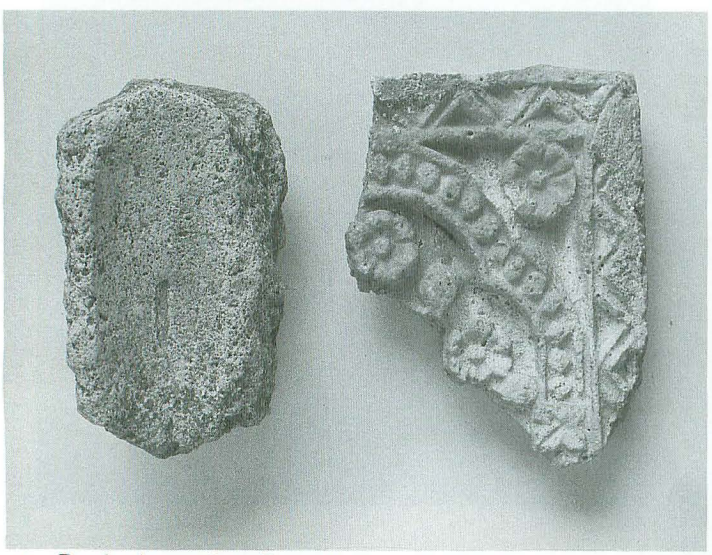
b. Cross-plaque from Room C, Spot 17, Site B



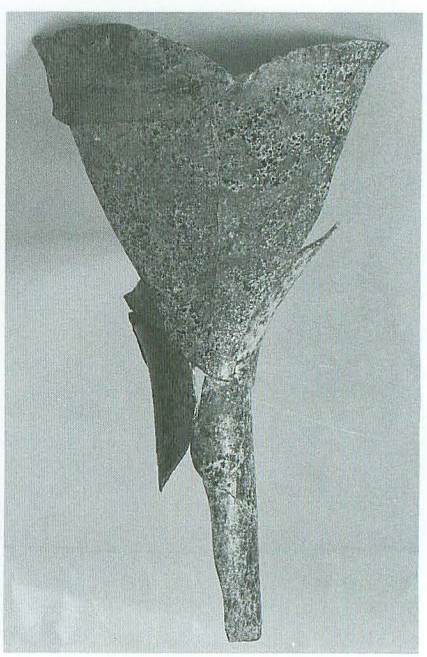
c. Beads-plaques from Room B, Spot 17, Site B



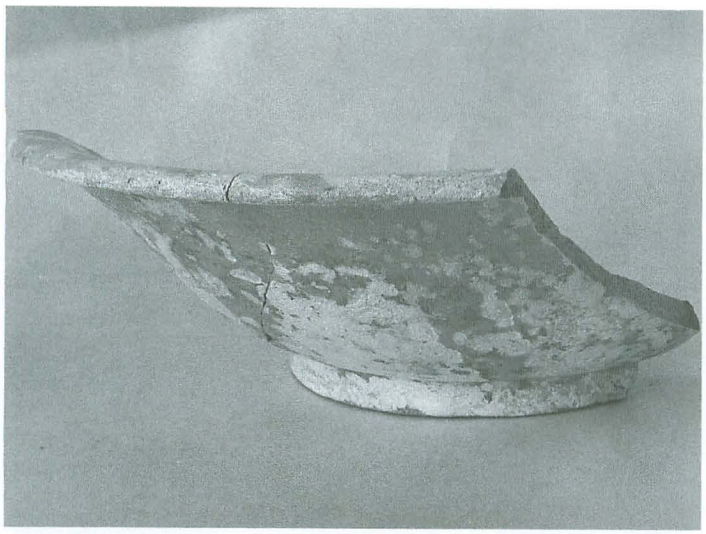
d. Cross-plaque from Room A, Spot 17, Site B



e. Beads-plaques from Room B, Spot 17, Site B



f. Glassware from Room B, Spot 17, Site B



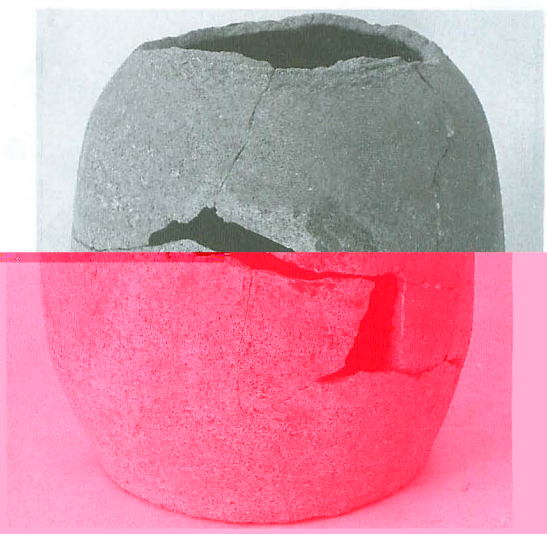
a. White glazed bowl from Room C, Spot 17, Site B



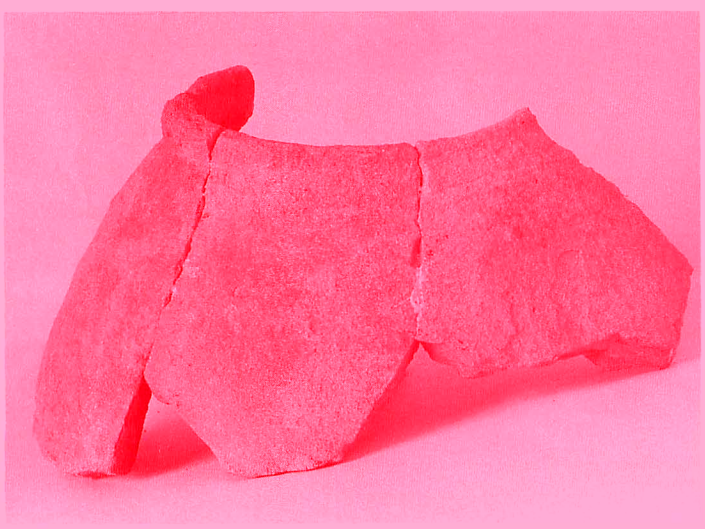
b. Jar from Spot 19



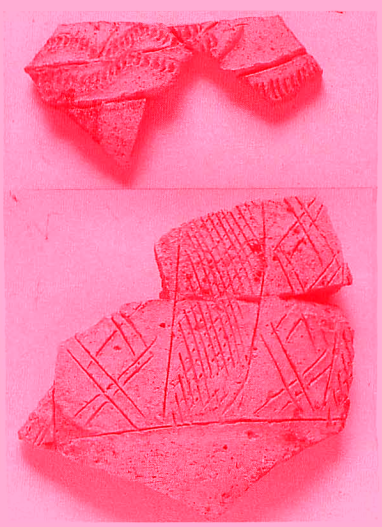
c. Bowl from south of Spot 17



d. Jar from Room 1, Spot 18



e. Jar from surface, Spot 18

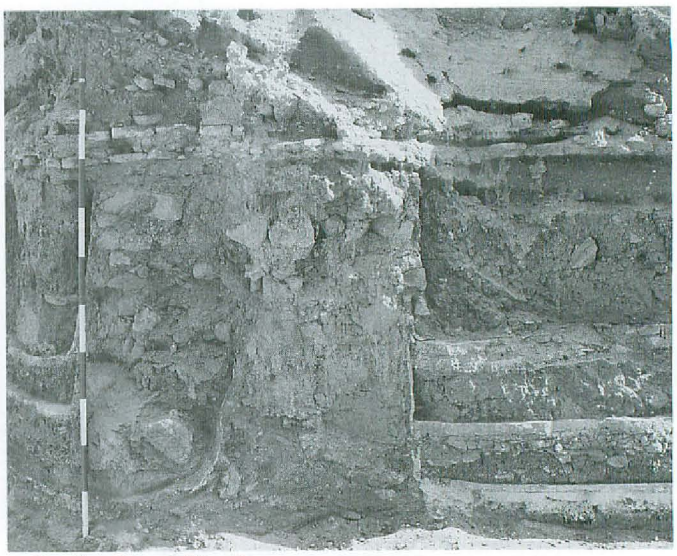


f. Sherds of incised jars ? Room C, Spot 17

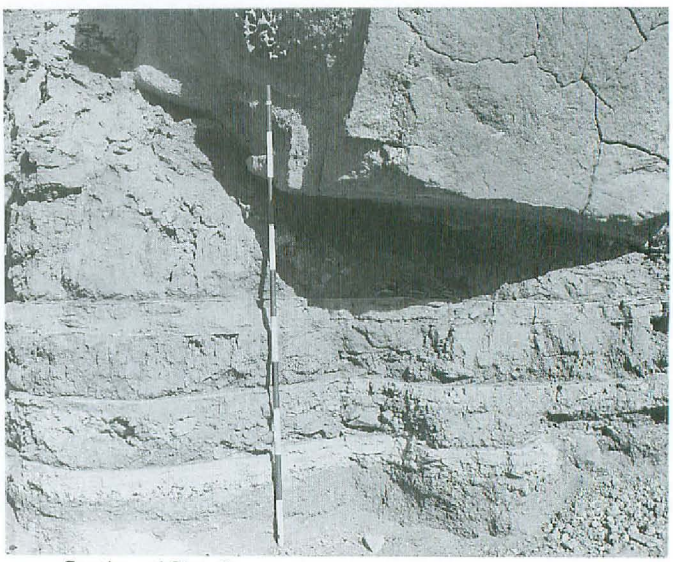
Site B at Ain Sha'ia



a. Site C



b. Section of Site C

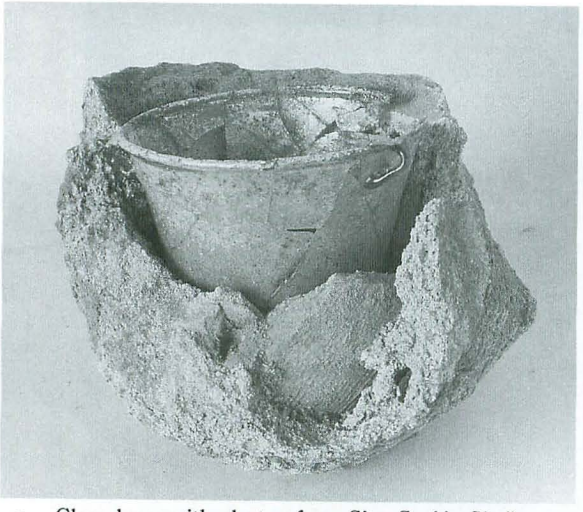


c. Section of Site C



d. Site C

Site C at Ain Sha'ia



a. Glass lamp with plaster from Site C, Ain Sha'ia



b. Glass lamp with three lugs from Site C



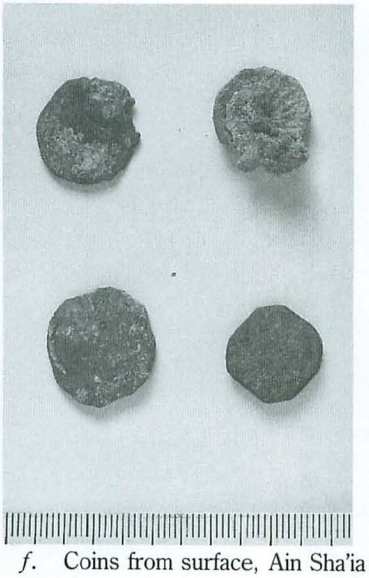
c. Lamp from Site C (top)



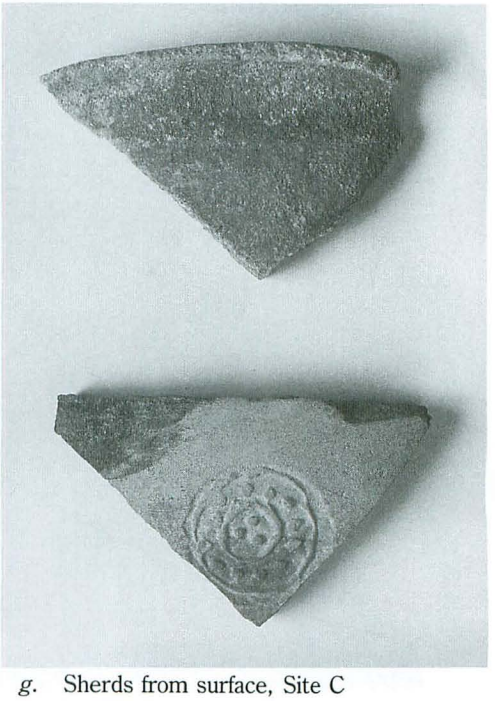
d. Lamp from Site C (bottom)



e. Plaster works from surface, Site C



f. Coins from surface, Ain Sha'ia

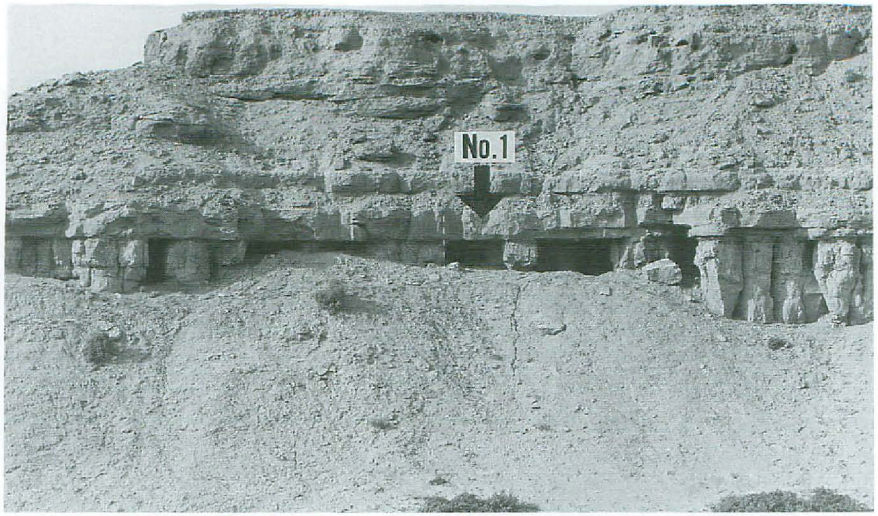


g. Sherds from surface, Site C

Site C at Ain Sha'ia



a. General view at Dukakin Caves (Cave No. 2)



b. General view at Dukakin Caves (Cave No. 1)



c. Entrance of Cave No. 1 (before Excavation)

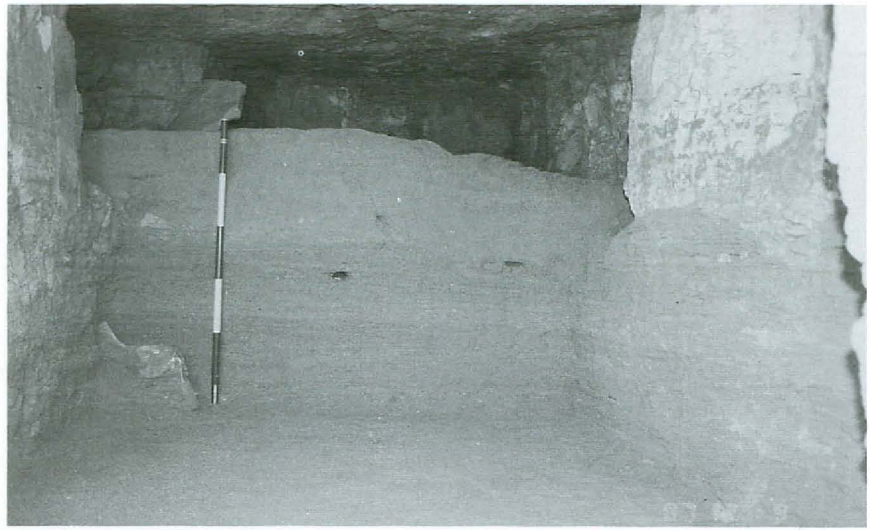


d. Inside of Cave No. 1 (before Excavation)

Dukakin Caves



a. Mud plaster on the inside Cave No. 1, Dukakin Caves



b. Section of Cave No. 1



c. Scattered sherds on the floor in Cave No. 1

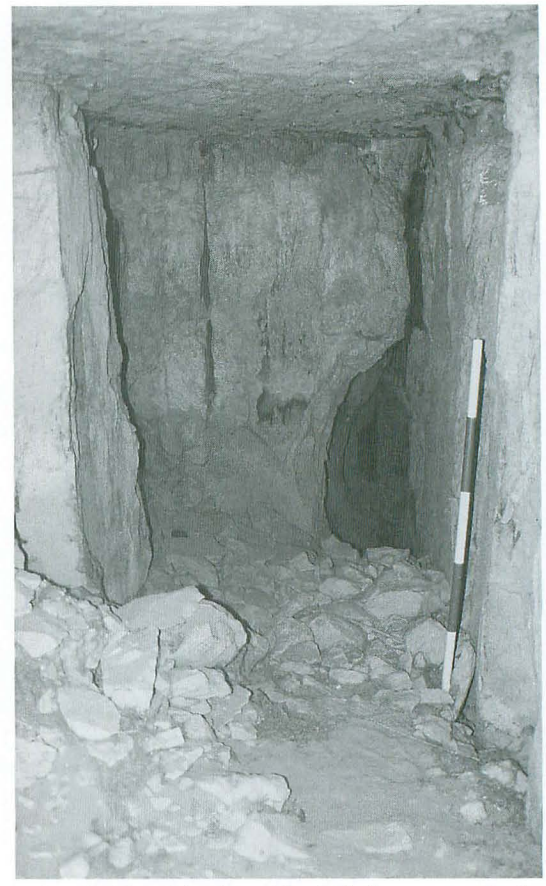


d. Inside Cave No. 1

Dukakin Caves



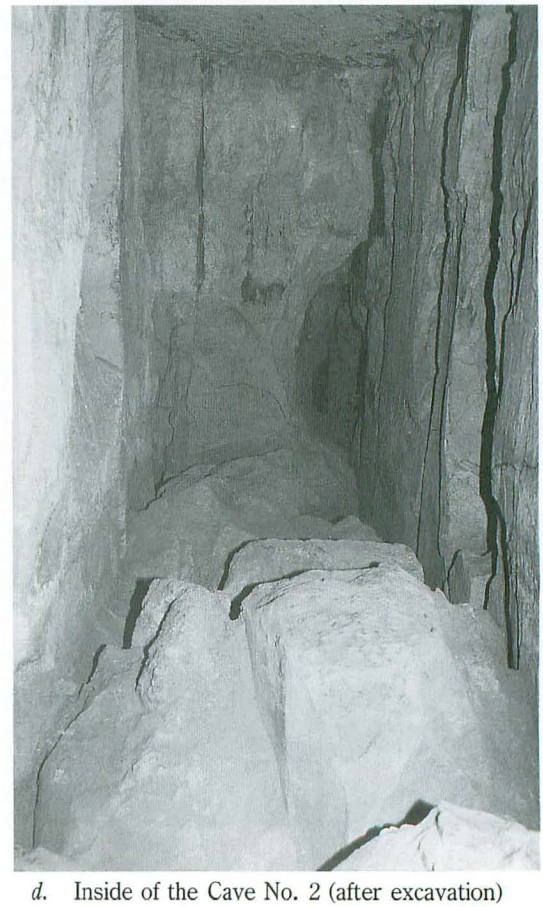
a. Entrance of the Cave No. 2 (before excavation)



b. Inside of the Cave No. 2 (before excavation)



c. Floor of the Cave No. 2 (after excavation)

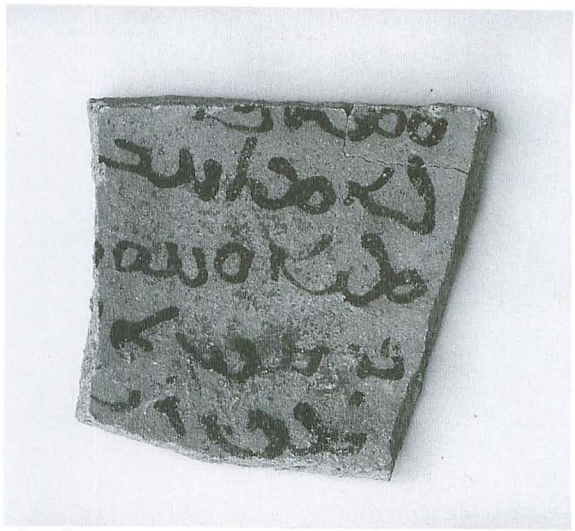


d. Inside of the Cave No. 2 (after excavation)

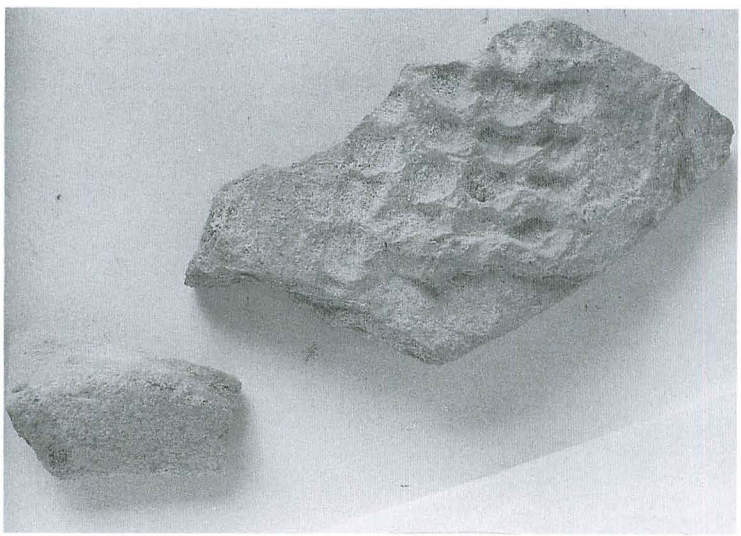
Dukakin Caves



a. Syriac inscription on the exterior of the sherd



b. Syriac inscription on the interior of the sherd



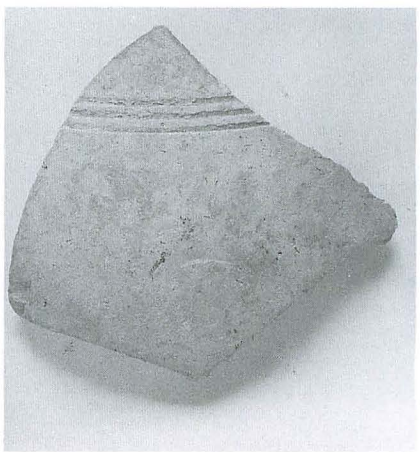
c. Sherds from Cave No. 1



d. Sherds from Cave No. 1



e. Sherds from Cave No. 1



f. Sherd from Cave No. 1

REPORT AND CATALOGUE OF INSCRIBED FRAGMENTS: AIN SHA'IA AND DUKAKIN CAVES NEAR NAJAF, IRAQ.

Erica C. D. HUNTER*

A: INSCRIPTIONS I–V

During the 1987–1989 seasons at Ain Sha'ia and Dukakin caves, a site at the edge of the Kerbala plateau, near Najaf, the Japanese Archaeological Expedition to Iraq excavated Site F (Fortified Building). In Spot 1, Room 5 of this 12 room complex, 48 fragments of gypsum were found, of which 45 bore traces of either script or decoration in black ink.

Whilst fragments 38–42 may be classified as "decorative", by far the majority of fragments, i.e. 1–37 can be termed "inscriptional". On the basis of palaeographic affinities, including style of character, thickness of stroke and, where possible, spacing between characters and/or words and/or lines, five inscriptions have been identified.

Inscription I

Composed of fragments 1–4, this inscription is the most important found at Spot 1, Room 5. Whilst fragments 3 and 4 consist of only a few sporadic letters, they augment the larger fragments 1 and 2, although the precise relationship cannot be determined. Similarly, the precise relationship between fragments 1 and 2 is unclear, even though both fragments are composed of 4 lines and appear to have been written by the same hand.

The script of Inscription I can be termed Nestorian. The closed Waw, the closed, rounded head of the He, the closed rounded form of the Mim and the Alaph, written with a single vertical stroke intersecting with a short horizontal base stroke to form a 'tail' are typically Nestorian characters. Hence, the Estrangela Alaph which is found in fragment 3 would appear to be exceptional.

Whilst the supplied transliterations and translations remain, in many instances, tentative, the contents of Inscription I enhance the Christian connections of Ain Sha'ia. The proper names, Jacob and Thomas, can be read in fragment 2–these being very common and reknowned in Syriac literature. In particular, that of Thomas was distinguished due to the evangelistic exploits of the apostle in India. Although neither name seems to be accompanied by an epithet which would distinguish it as belonging to a saint or, perhaps, an ecclesiastical dignitary, both Thomas and Jacob are Christian appellations.

The usage of 'bdyn "doing/making" in fragment 1 (l.1) suggests that Inscription I may be a dedication. Often the action 'BD is accompanied by a second verb, so that the pair which occur would seem to be appropriate. See, H. Pognon, *Inscriptions sémitiques de la Syrie, de la Mesopotamie et de la Mossoul,* (Paris, 1907), pp. 42, 73 and 100. The above suggestion would be enhanced if l.2 is deciphered as WB'DYH WL "both by his help and ...". However, it must be emphasized that the readings are, on the whole, speculative.

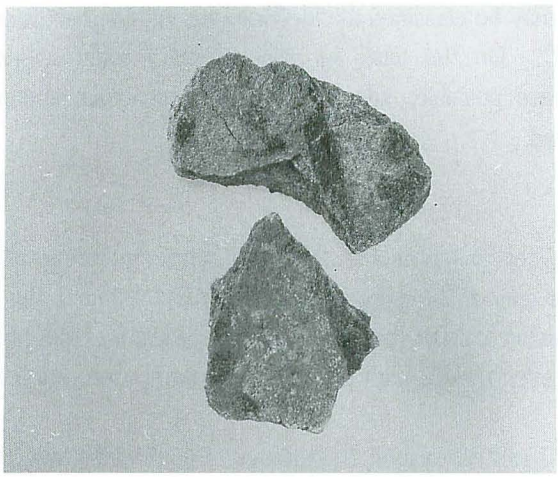
* Faculty of Oriental Studies, University of Cambridge, Sidgwick Site, Cambridge, ENGLAND

Inscription II

Composed of fragments 5–11, this inscription is also written in a Nestorian script. The closed rounded Waw, comma-shaped Dalath and Resh, as well as the rounded closed Mim are typical of Nestorian, but the Alaph is also written in the Estrangela style. See fragment 5 (l.1). Although the size of the fragments does not permit their precise relationships to be determined, fragments 5–8 and 11 are the product of the same hand. Furthermore, the letters are not ligatured, but their spacing is quite even. Fragments 9 and 10 have been included, tentatively, on palaeographic affinities.

Inscription III

Composed of fragments 12–32, this inscription incorporates the largest number of fragments. At best, only sporadic or groups of letters may be deciphered, hence the inter-relationship between the fragments is hazardous. However, the Beth in fragments 12 and 22 exhibits palaeographic similarities, as does the Alaph in fragments 22 and 25. And, fragments 16 and 17 may be grouped together in the following arrangement.



The Kaph/Beth type character which is seen in fragment 17 seems to occur in a number of the fragments, namely: 12, 14, 15, 17, 22, 28, 29 and 31, raising the possibility that these letters were *sigla* or some type of abbreviation.

Inscription IV

Composed of fragments 33–35, this inscription is only a tentative unit, for each of the fragments may form a separate entity. However, the thickness of the stroke and the style of the Qoph in fragments 33–34 may suggest that they were written by a similar hand. The combination QŠ in fragment 36 may be an abbreviation for QŠYŠ' "priest".

Inscription V

Fragments 36 and 37 can be grouped together on the basis of their common edge and also on stylistic features. It may be possible to decipher the characters Beth and/or Pe and, as in the previous inscription, they may be *sigla*. On the other hand, the black traces may be decorational rather than inscriptional– hence the classification of these fragments as an inscription is only provisional. However, the inscription is important, not only because of the edge, but also due to the drilled/bored hole which occurs in fragment 36. Its purpose is not apparent, possibly being used to secure the inscription, although the perforation does not continue to the back of the fragment.

B: INSCRIPTIONS VI–VII

During the 1987–1988 season at Ain Sha'ia and Dukakin caves, the Japanese Archaeological Expedition to Iraq excavated Site F (Fortified Building). In Spot 1, the paved courtyard, 4 fragments of gypsum bearing Syriac characters written in a black ink were found. They are the products of different hands and have been designated as AS013 880102 and AS014 880103 respectively.

Inscription VI (AS013 880102)
The three fragments which compose this inscription are related by their palaeography and their use of ligature.

Inscription VII (AS014 880103)
Only a couple of letters are visible, but the use of ligature and the closed, rounded Waw suggests that the script may be Nestorian. Furthermore, the gypsum medium is coarser than in the previous inscription.

C: INSCRIPTION VIII

During the 1987–1988 season at Ain Sha'ia and Dukakin caves, the Japanese Archaeological Expedition to Iraq excavated Dukakin Cave 1 in which an ostracon, with a Syriac inscription on both the recto and verso sides, was found. It has been designated as T-21 TOKAQIN.

Inscription VIII (Recto and Verso)
The potsherd appears to have already been broken when the Syriac inscription was written on it. Whilst the left and right-hand margins of the recto side are not able to be established, the right-hand margin formed by ll. 1–4 on the verso side is noteworthy. Furthermore, the spacing between l. 5 and the bottom edge of the recto side suggests the conclusion of the inscription on this side. Presumably, the ostracon was rotated through 90°, when it was turned over to continue the inscription on the verso side. Hence, the right-hand margin of the verso side corresponds with the bottom edge of the recto side. And, certainly, the fragment would have been larger than at present.

The script of both the recto and verso sides is defined as Nestorian from the comma-shaped Dalath and the closed rounded forms of the Waw, He and Mim. The Alaph is, however, suggestive of Estrangela and the examples show two different styles. The more complicated 'X' is created from the intersection of the upper and lower oblique strokes. In the simpler 'Y' type, the junction of the oblique stroke only produces a downward prong. Apart from several idiosyncracies (e.g. Alaph Recto l. 4, Mim Verso l. 5) which could be due either to the pottery medium or just chirographical, the script is regular and even. Indeed, the inscription is the product of the same hand, despite the larger spacing and dimensions of the characters which occurs on the verso side.

Inscription VIII appears to exhibit similarities with a Syriac incantation bowl, I. M. 59098 which was reputedly purchased in the Najaf area. The Taw is formed by the vertical stroke culminating in a right-hand loop. The Shin consists of the two arms of an open triangle, whilst the Alaph reproduces the afore-mentioned 'Y' type. The He is closed, although the head is more rounded than in Inscription VIII and the Mim has a flattened, rather than a rounded head as occurs in the ostracon. The Waw in I. M. 59098 is open. It may be possible that both the incantation bowl and the ostracon are examples of a regional Syriac, emanating from the areas west of Najaf.

Certainly the contents of Inscription VIII augment the Christian artifacts, such as the fragments of

stucco crosses, which have been excavated at Ain Sha'ia Site B, Spot 17 and Site F, Spot 1, Room 2. In monastic establishments, caves frequently were used as *cellae* by the monks and solitaries. Hence, Cave 1, may have been such a residence and, as its phraseology suggests, the ostracon may have been part of the devotional literature of its pious occupant.

INSCRIPTION I (fragments 1–4)

Fragment 1



≃10.0×7.5 cm

Inscription: 4 lines, covering 8.0×5.0 cm, right-hand margin fragmented

Spacing between lines: ll. 1–2 (1.5 cm), ll. 2–3 (1.3 cm), ll. 3–4 (1.2 cm)

Script: Nestorian

Transliteration & translation

l.1 r ' b d y̌ n w ř d̊ y n

l.2 w b (') d y h w l

l.3 y š l/'/r m' w b

l.4 l .. y d m k

l.1 ... doing and [instructing]

l.2 both by his help and .../both his pretence and ...

l.3 ... peace (?) and ...

l.4 ... that proscribed (?)

Palaeographic comments:

L. 1: At the right-hand edge of the fragment a Resh, determined by the upper diacritical point, is ligatured to a preceding letter. A faint oblique stroke suggests an 'E as the initial letter of the second word which may consist of either four or five characters. The second and third letters are Beth and Dalath respectively and the final letter may be interpreted as a Nun. The oblique stroke leading into the head of the final Nun may indicate a ligature with the preceding letter, possibly a Yodh although this is difficult to detect. The third word in the line may be indicated by the Waw, however the spacing between this letter and the preceding Nun is awkward. As is the case with the second word, it is difficult to determine whether the third word is composed of four or five letters. The final unattached Nun, with a tail of 2.2 cm, is clearly read, but the second, third and fourth letters are tentative. Resh and Dalath may be proposed on the basis of interpreted diacritical points and the Yodh may be postulated from faint black traces.

L. 2: The initial letter of this line, a Waw, may be the final character of the preceding word or may be prefixed to the following Beth. Only a trace remains of the letter directly to the left of the fissure, but it is clear that the letter is unattached to the following Dalath, which is indicated by the lower diacritical point. The penultimate letter would appear to be a Yodh, as suggested by the short vertical stroke which is ligatured, unusually, to the upper horizontal stroke of the final He. Written in the closed Nestorian style, the He is separated by 0.8 cm from the final letter, a Waw, which may commence the third word in this line. Traces of a possible letter are just visible beneath the head of the final Nun in l.1. A Lamadh may be suggested from the angle of an oblique stroke which would be ≃1.00 cm long. Although the fragment has badly deteriorated at this point, in terms of spacing, an even left-hand margin would result if a letter was supplied.

L. 3: The horizontal base-stroke of a possible Yodh can be read at the right-hand edge of the fragment. The first and second letters of the next word can only be conjectured, the Shin being proposed from traces perhaps forming the head of this letter. The oblique stroke of a Lamadh is suggested by the black traces, separated by 0.3 cm, whose combined length is 0.7 cm. However, other interpretations, such as an 'E or perhaps even a Resh may be considered. In contrast to the first and second letters, the penultimate and final letters are clearly read as a Mim and an Alaph respectively. The single vertical stroke of the Alaph which is ligatured to the preceding Mim is

Nestorian, as is the closed rounded form of the Mim. The third word, separated by a spacing of 0.7 cm, consists of only two letters, Waw and Beth. The latter is marginally squarer than the example which occurs in l.2, but likewise the horizontal base-stroke terminates in a slight upward flourish.

L. 4: Whilst the fragment is broken at the beginning of l.4, a Lamadh can be read from the partial oblique and horizontal base strokes. Apart from the evidence of black traces, the spacing between the Lamadh and the final Yodh suggests the possibility of two letters. The Dalath is identified by the lower diacritical point and whilst it might be suggested that this letter commences a new word, the spacing with the preceding Yodh is awkward. The Mim, in typical Nestorian style, has an oblique stroke of 1.0 cm and is ligatured to the following letter. The Kaph has an extended horizontal base-stroke that may be ligatured to a possible following letter or it may conclude in an upward flourish. The fragment has deteriorated at this point, but the left-hand margin of this line would appear to be in alignment with that of ll. 1–3 above.

Notes

L. 1: R 'BDYN WRDYN "... doing and [instructing]". The combination, 'BDYN and RDYN may, respectively, be read as the plural active participles of √'BD and √RD'. The former verb has a particularly wide application, ranging from the physical to the administrative. See, R. Payne-Smith, *Thesaurus Syriacus,* (London, 1879–1901), vol. II, col. 2765–2770 and J. Payne Smith, *A Compendious Syriac Dictionary,* (Oxford, 1903), pp. 395–7. The semantics of RD' are also broad, often incorporating a sense of motion in both the physical and metaphysical sense, but also including the concept of instruction. See, Payne-Smith, *op. cit.,* (1903), pp. 529–30.

L. 2: WB'DYH WL "both by his help and...". The double use of the conjunction Waw, leads to the translation "both... and" although the simpler "and... and" would also be suitable. The preposition Beth is prefixed to the substantive which appears to be derived from YD, 'YD' "hand", metaphorically, "assistance, help". Apart from the palaeographic difficulties surrounding the interpretation of the Aleph, the suffix H is problematic, for the combination WHY might be expected. However, the reading WB'DYH would be most appropriate contextually.

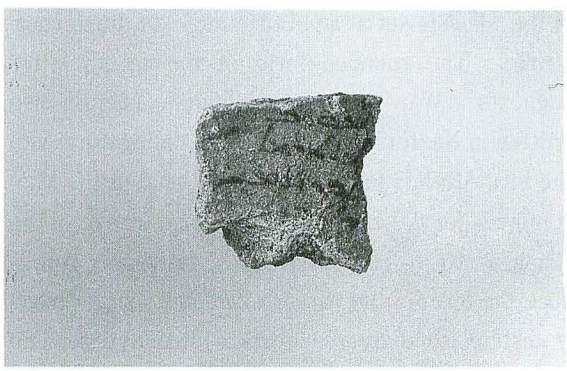
WBDYH WL "both his pretence and...". The third singular pronominal pronoun is suffixed to a substantive which may be derived from √BD' "feign, devise, pretend, speak falsely". See, Payne-Smith, *op. cit.,* (1903), p. 35 where the passive participle BDY' has the adjectival sense "spurious". The noun, BDY' "folly/fabrication" occurs, which as Payne-Smith has commented, is often used in regard to heretical teaching. WBDHY may signify "his pretence" since this idea is inherent in both the participial and substantive expressions.

L. 3: Y ŠL/'/RM' WB "... peace (?) and...". Although there are palaeographic uncertainties surrounding the reading, ŠLM' "peace" would seem to be the most appropriate reading. The conjunction "and" introduces the following word.

L. 4: L.. Y DMK "...proscribed (?)...". The reading of DMK... is proposed as the relative pronoun and the Pael or Aphel participle of √KRZ "proscribed, execrated, disinherited". See, Payne-Smith, *op. cit.,* (1903), pp. 225–6.



Fragment 2



Inscription: 4 lines, covering 5.5×3.5 cm, right-hand margin fragmented

Spacing between lines: ll. 1–2 (1.0 cm), ll. 2–3 (1.1 cm), ll. 3–4 (0.9 cm)

Script: Nestorian

Transliteration & translation

l.1 ' q w b

l.2 w t ' w m '

l.3 b y/š q/ y '

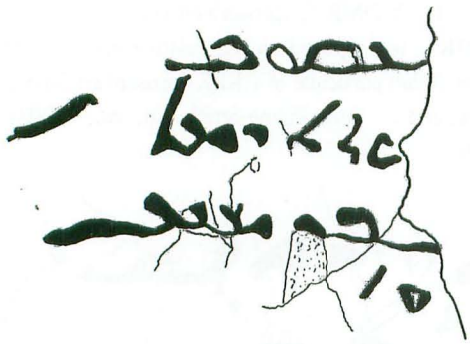
l.4 w ž

l.1 Jacob

l.2 and Thomas...

l.3 .../[stopped]...

l.4 and...



Palacographic comments:

L. 1: The initial 'E is ligatured to a square Qoph which is, in turn, joined to the third letter Waw. The fourth and concluding letter is a Beth with a horizontal base-stroke of 1.2 cm.

L. 2: Of the six letters which compose this line, the first four are unattached. The initial closed Waw is followed by a Tau which is characterised by the concave base-line. By contrast, the base-line of the Alaph is set at an obtuse angle to the vertical stroke. The rounded form of the fourth letter suggests a Waw and the penultimate Mim is also written in Nestorian style. Here, the ligature with the final Alaph is formed when the head of the Mim continues for 0.2 cm to meet the base-stroke of the Alaph at 90°. The Alaph does, however, reproduce the form of the earlier example, being similarly distinguished by the vertical stroke extending into a 'tail', as a result of the junction with the base-stroke. A spacing of 0.8 cm occurs between the Alaph and the elongated introductory stroke of the first letter of a proposed second word – but the fragment has broken at this point.

L. 3: A Beth, whose horizontal base-stroke culminates in a slight upward flourish is read as the first letter of the line. However, the ligature suggests that it is the final letter in a word, now lost. The second word appears to be composed of three letters, with the final 'E being distinguished by an elongated horizontal base-stroke 1.7 cm long. The first and second letters may be variously interpreted. On one hand, a Yodh-Qoph combination is proposed, on the basis of the vertical stroke that is connected to a square letter. Both the shape and the length of the upper horizontal stroke, 0.7 cm, compare with the example of Qoph found on l.1. On the other hand, the second word may be commenced by Shin, with the vertical stroke of the Qoph being read as the stem of a Shin and the upper horizontal stroke of the Qoph being interpreted as part of the open triangular head of the Shin. In this interpretation the Shin is ligatured to a Yodh which is, in turn, joined to the 'E. At first, it seemed that the oblique stroke of the 'E may have been read as belonging to a Mim. However, there are no traces of the stroke forming the head of the Mim, even though the fragment has a slight fissure at this point.

L. 4: A closed Waw begins the fourth line and a second letter is indicated by a short oblique stroke, 0.5 cm long, which is possibly a Zain.

Notes

L. 1: 'QWB "Jacob". A frequently attested name in Syriac; it may have been the third component in the concatenation of patriarchal names: Abraham, Isaac and Jacob, as occurs in a Syriac ostracon from Ctesiphon that was found, apparently, in the altar-space of the later church at Qasr bint al Qadi. See O. Reuther, "The German excavations at Ctesiphon", *Antiquity* III (1929), p. 450. A translation of the inscription occurs in J. Kröger, "Sasanidischer Stuckdekor", *Baghdader Forschungen*, Bd 5, (1985), p. 48, Plate 12.

L. 2: WT'WM' "and Thomas". Thomas is, of course, one of the most reknowned names in Syriac literature, the name being inextricably linked with the apostle who, by tradition, evangelised in India. In this inscription, however, the said person is not a saint or any type of

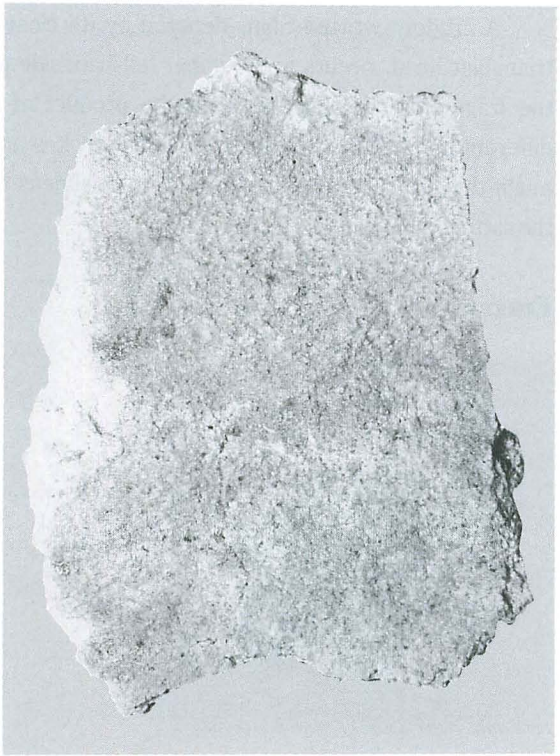
dignitary since the conjunction "and" would mitigate against the use of the accompanying epithet, *Mar.*

L. 3: B YQ "..."

B ŠY' "... stopped". The spacing between the Beth and the Shin suggests that the Beth is the final letter of a previous word and not the preposition of ŠY'. ŠY' may be conjugated from √ŠW' "daub, stop up, besmear", metaphorically "stop", possibly as a participial adjective in the absolute sense. Payne-Smith, *op. cit.*, (1903), p. 566.

L. 4: WZ "and..."

Fragment 3



≃5.8×7.5 cm, straight edge 3.8 cm long

3 letters, 2 lines. 0.8 cm between l.1 and l.2. Ll. 1, 2 3.00 cm from edge

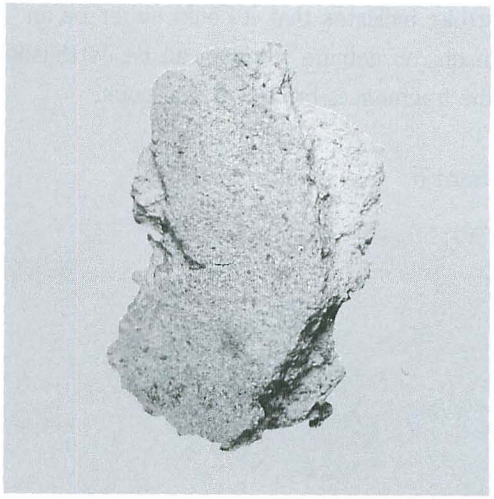
l.1 w h

l.2 '

L. 1: Traces of a closed Waw, followed by a He written in Nestorian style.

L. 2: Estrangela Alaph.

Fragment 4

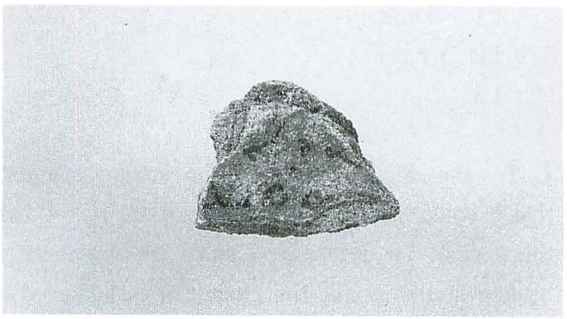


≃5.0×2.5 cm

1 letter – a closed He written in Nestorian style.

INSCRIPTION II (fragments 5–11)

Fragment 5



2 lines, 7 letters. 1.00 cm between l.1 and l.2

l.1 ' d '

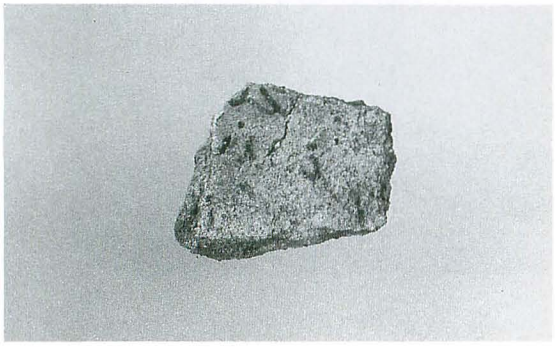
l.2 . s w '/l

L. 1: is distinguished by its first and third letters being Alaph. Two different styles occur, in the case of the first example the conjunction of the base stroke and the upper stroke suggesting the Nestorian script, in contrast to the third letter which is Estrangela. The lower diacritical point of the second letter indicates that it is a Dalath, whose comma-shape also denotes the Nestorian script.

L. 2: only traces of the first letter remain, although the alignment of the horizontal stroke with the top of the following Semkath suggests that it might be a Beth. Both the Semkath and the Waw are clear, whilst the fourth letter is introduced by an elongated base-stroke. The angle of the ob-

lique stroke indicates that it could either be an 'E or Lamadh; no definite reading can be established since the fragment is broken at this point.

Fragment 6



3 lines, 7 letters. 0.8 cm between l.1 and l.2, l.2 and l.3.

l.1 '/l w/s

l.2 r r .

l.3

L. 1: the angle of the oblique stroke suggests that it could be either a Lamadh or an 'E. Whilst this cannot be determined since the fragment is broken at this point, the character is ligatured to the second letter, whose curveture points to the possibility of it being several letters, including Waw or Semkath.

L. 2: the first letter appears to be an 'E and the upper diacritical point of the second letter distinguishes it as a Resh, written in the Nestorian style. A dot slightly to the left of the third letter may be the upper diacritical point of a second Resh. The upright stroke, 0.7 cm long, indicates a fourth letter which appears to curve into a base-line. However, at this point the fragment has broken.

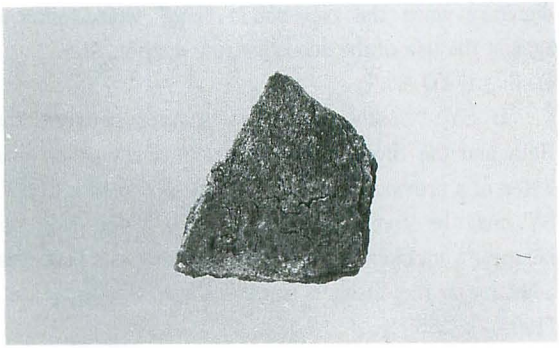
L. 3: can be inferred from the slightly rounded tip of a stroke 0.8 cm below the third letter of l.2.

Fragment 7

1 line, 4 letters.

w h l w

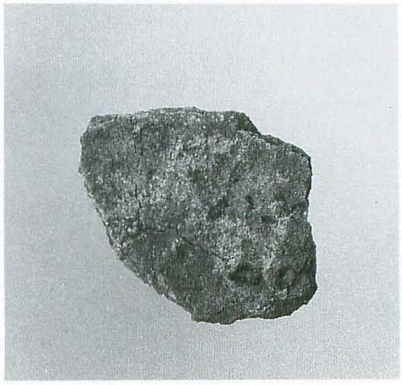
The first and fourth letters are Waw, written in the



closed Nestorian style. A Lamadh, with an upright stroke of 1.6 cm, is ligatured to the final letter, whilst the Ḥeth remains unattached.

A crudely written Shin, denoted by its closed triangular head, occurs in the upper left-handside of the fragment. It appears to be the product of a different hand to the 4 letters, since its strokes are much thinner in contrast to the 0.2 cm thickness of the latter.

Fragment 8



2 lines, 6 letters.

l.1 m r w

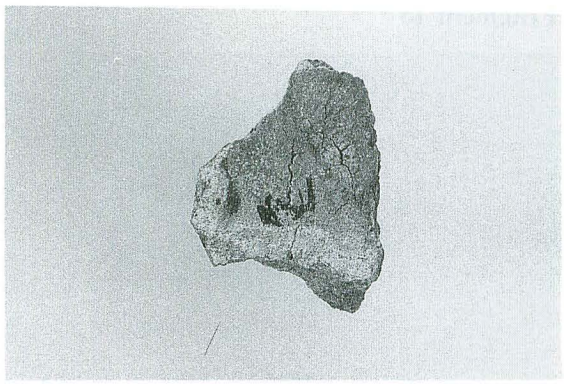
l.2 w/s q l

L. 1: a closed Mim in Nestorian style appears to be ligatured to a letter whose curved head may indicate that it is a Resh, particularly if the dot slightly to its left is the upper diacritical point. A closed Waw, again indicating a Nestorian script, follows.

L. 2: the first letter may be either a Waw or a Semkath. In the latter case, the fracture of the fragment allows only the left-hand loop to be read. The square shape of the second letter which is not

ligatured suggests that it may be a Qoph. 1.00 cm spacing occurs between the second and the third letter which is read as a Lamadh, with an oblique stroke of 1.2 cm.

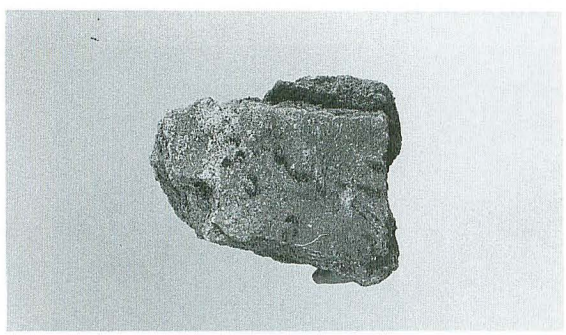
Fragment 9



1 line, 3 letters (?)

A vertical stroke of 1.2 cm leads into what may be a uniquely formed Waw. A space of 0.6 cm separates this letter from a vertical stroke, 1.2 cm long, at the edge of the fragment.

Fragment 10

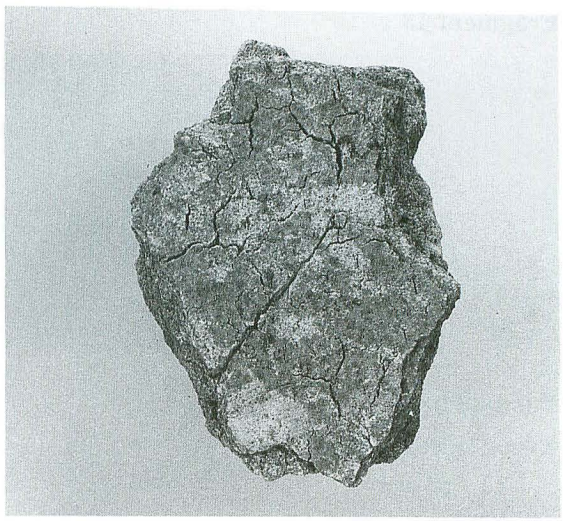


2 lines, undetermined number of letters.

L. 1: at the left-hand edge of the fragment, the ends of an upper and a lower horizontal stroke may suggest a Beth. A possible Mim may also be read, if the stroke which appears to be a continuation of the lower horizontal stroke of the Beth is interpreted as the upper part of a Mim. A faint base-line, 2 cm long, may be ligatured to a closed Waw. Further traces of black at the left-hand edge of the fragment may indicate another letter.

L. 2: the upper part of a loop and traces of black at the right-hand edge of the fragment indicate a possible second line.

Fragment 11



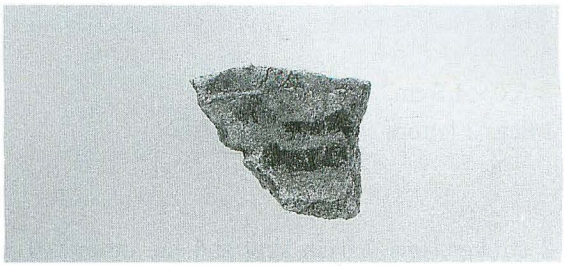
2 lines, 4 letters.

L. 1: in the top left-hand corner of the fragment, a Beth or a Qoph may be reconstructed from two vertical lines, 0.3 cm long and 0.8 cm apart, forming the corners of the upper horizontal stroke. 0.4 cm separates the upper right-hand stroke from a line, 0.2 cm long, which may suggest the junction of the vertical and base lines.

L. 2: the first letter, ⌒, remains unidentifiable. The second letter may be interpreted as a Beth, for the vertical line 0.3 cm long, may be a remnant of the upper horizontal stroke. A base line of 2.2 cm is joined to a vertical stroke 1.5 cm long which could be part of a He, the head of which may be reconstructed from fragmentary curved lines.

INSCRIPTION III (fragments 12–32)

Fragment 12

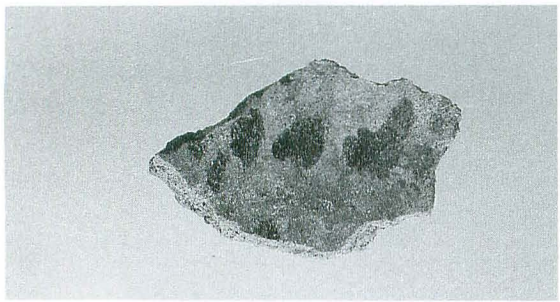


≃5.0×4.5 cm

Beth

Miniature Estrangela Alaph

Fragment 13



≃9.5×6.0 cm.

2 lines, 5 letters (?)

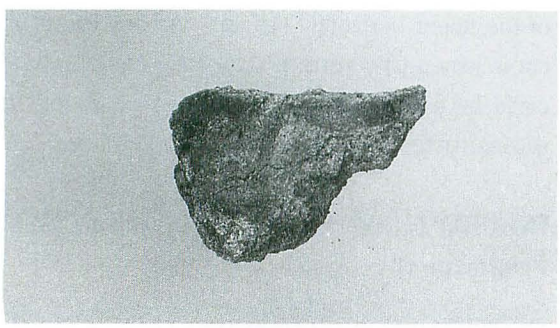
l.1 t/' w..

l.2 .

L. 1: the junction of the horizontal base-stroke and the oblique stroke may be read as either an Alaph, in Nestorian script, or a Taw, also in Nestorian script. The second letter may be a Waw, as could be the third. A possible fourth letter may also occur.

L. 2: a tip of a possible letter, at the edge of the fragment, is found 1.8 cm below the second letter of l.1.

Fragment 14



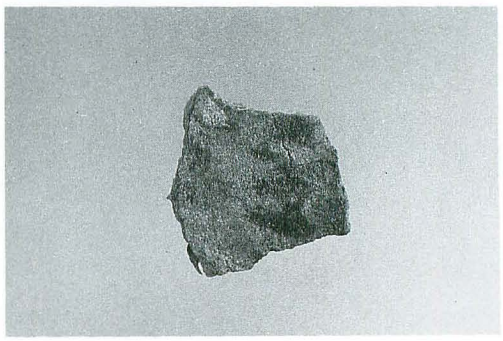
≃5.0×4.5 cm.

1 line, 2 letters (?)

b .

2 strokes, one 1.6 cm long and the other 0.9 cm long may form the upper and lower horizontal strokes of a Beth. At the left-hand edge of the fragment traces of a letter may be discerned, which is in alignment with the lower horizontal stroke of the Beth, but separated from it by 2.0 cm.

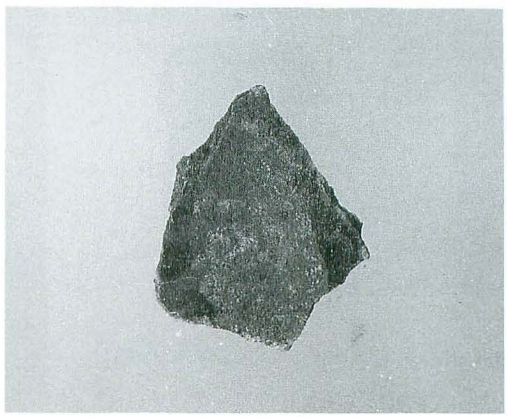
Fragment 15



≃6.1×6.0 cm

Traces of possible letters, including a suggested Beth in the lower right-hand corner of the fragment. At the left-hand edge of the fragment, parallel to this letter, but separated by 1.7 cm, are two strokes 0.5 cm long.

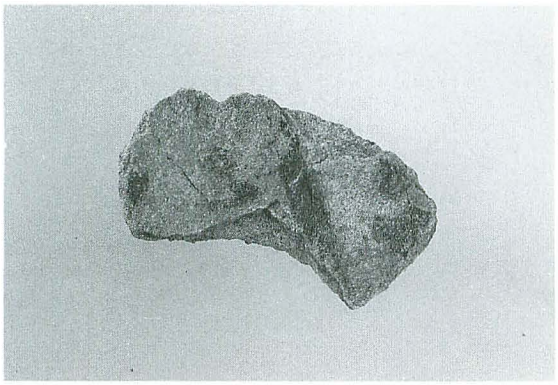
Fragment 16



≃6.5×7.5 cm

Traces of a vertical stroke, 5.0 cm long, occur on the right-handside of the fragment. Traces of 3 strokes may also be discerned on the left-handside of the fragment, being separated from the vertical stroke by 3.2 cm.

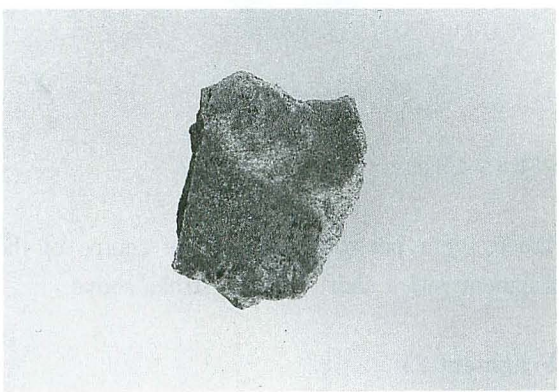
Fragment 17



≃9.5×2.0 cm (at centre)
1 line, 3 letters (?), vertical stroke (?)

Two similar letters, one at the right-handside and the other in the centre of the fragment may be interpreted either as a Kaph or as a Beth. The former is preferred since the oblique stroke, which is clearly visible in one of the examples, terminates in a rounded head. The two letters are separated by a distance of 3.7 cm, which is divided by a vertical stroke running from the upper to the lower edges of the fragment. Traces of a possible third letter may be discerned at the left-handside of the fragment, separated from the lower horizontal stroke of the Kaph by 1.5 cm.

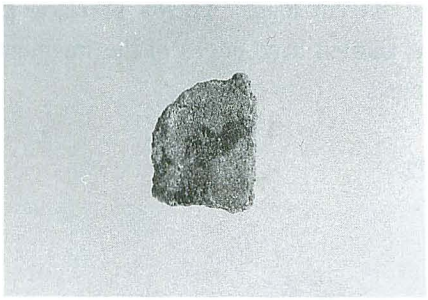
Fragment 18



≃4.7×5.0 cm

Single line, 0.7 cm thick, extending from the left-hand to the right-handside of the fragment.

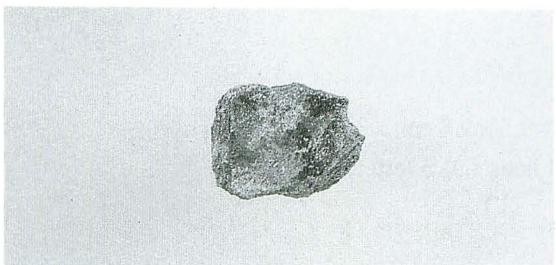
Fragment 19



≃3.0×4.0 cm

A possible Ṣadhe may be interpreted, although the stroke joining the head of the letter should be more oblique than vertical.

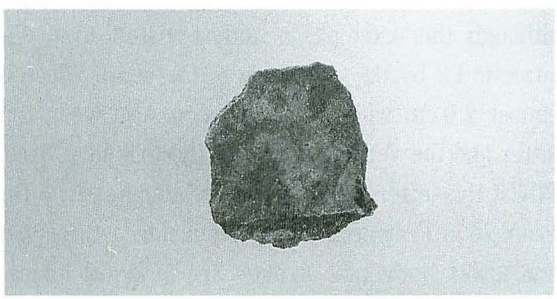
Fragment 20



≃3.7×3.0 cm

Traces of possibly two letters. Only a dot remains in the upper left-hand corner of the fragment, but in the lower right-handside an ʿE might be conjectured.

Fragment 21

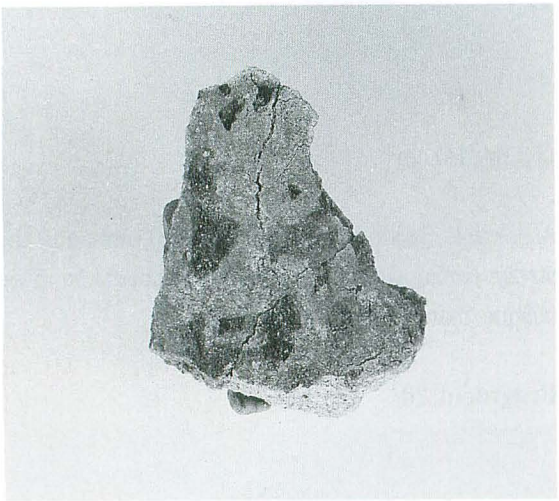


≃5.5×5.5 cm

Traces of possibly 4 letters may be detected in the lower half of the fragment. A vertical stroke, 2.0 cm long, may represent a Lamadh, which is fol-

lowed by a Kaph as conjectured from the short upper stroke, 0.6 cm long. Traces of black at both the right and left-hand edges of the fragment can also be found.

Fragment 22

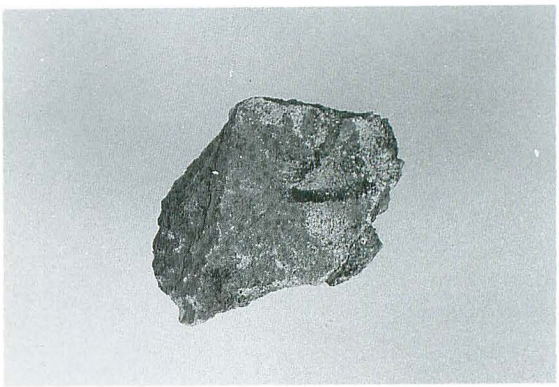


≃8.5×9.8 cm
4 lines (?), 5 letters (?)

l.1 .
l.2 ' .
l.3 ' b
l.4 .

L. 1: only traces of two strokes at the upper edge of the fragment remain.
L. 2: a vertical stroke, 4.0 cm long may be a Nestorian Alaph.
L. 3: another vertical stroke, similarly 4.0 cm long, may also be read as a Nestorian Alaph, although this example is differentiated from the latter in l.2 by the extension of the head, which is almost 2.0 cm wide. 0.9 cm occurs between this letter and the vertical stroke of the following Beth. Whilst this letter exhibits stylistic affinities with the example in Fragment 12, in this instance the upper and lower horizontal strokes are of equal length. The vertical stroke, 1.4 cm long, at the left of the Beth may belong to the fourth line.
L. 4: traces of a stroke at the bottom of the fragment suggest this line.

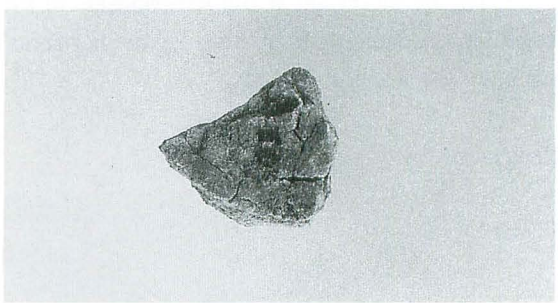
Fragment 23



≃6.5×5.0 cm

Traces of several letters, including a horizontal stroke of 3.0 in the centre of the fragment which is joined to a short vertical stroke with a head that may be a Kaph. Another curved stroke is found above, but may perhaps belong to another letter. In the lower left-hand corner of the fragment, traces of what may be a square-shaped letter can be found.

Fragment 24



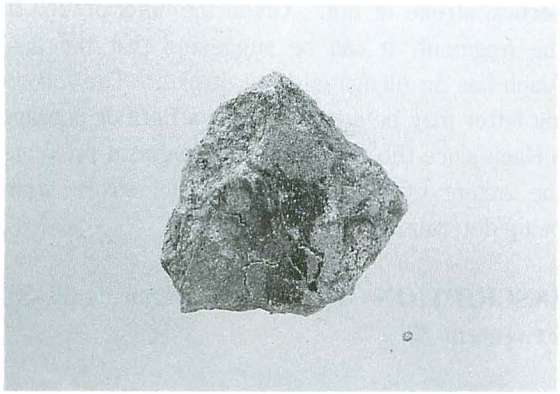
≃4.5×4.5 cm

Traces of a possible Beth in the centre of the fragment with a short, vertical stroke above.

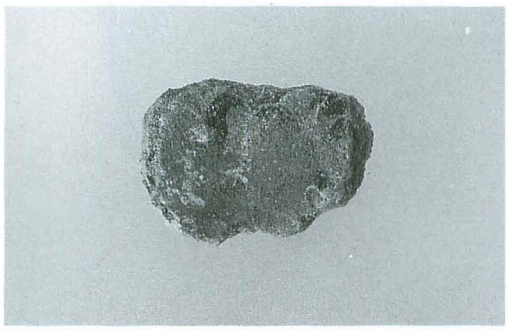
Fragment 25

≃5.5×5.5 cm

A possible Alaph may be deciphered from the vertical stroke of 3.8 cm, culminating in a head 2.5 cm wide.



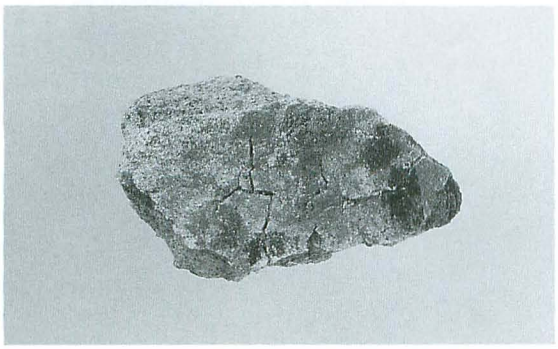
Fragment 26



≃4.5×6.5 cm

Traces of various letters and a vertical stroke extending across the width of the fragment. In the lower left-hand corner is the faint outline of a square letter, consisting of an upper horizontal stroke, 2.5 cm long, joining a vertical stroke of 2.0 cm. A lower horizontal stroke may be discerned, but the fracture of the fragment prevents its length from being determined. However, a Beth may be suggested, on the basis of the letter's stylistic similarities with examples in Fragments 12 and 22.

Fragment 27



≃9.0×4.0 cm

Traces of various letters and a vertical stroke, which may also be the upper part of an Alaph. In the lower left-hand corner of the fragment a possible Waw may be discerned, from the round shape of the letter. On the upper and lower edges of the fragment traces of letters occur.

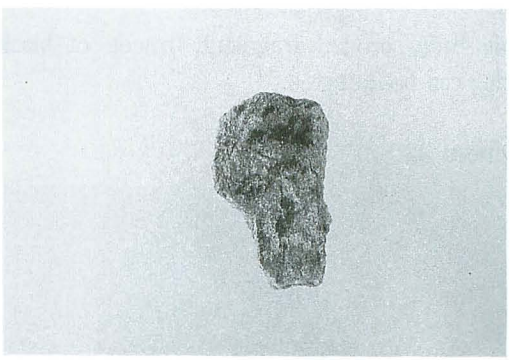
Fragment 28



≃1.5×2.5 cm

The angle of the short upper stroke suggests that the letter is Kaph. On the other hand, the letter may be a Beth since the extent of the upper horizontal stroke cannot be determined because the fragment is fractured at this point.

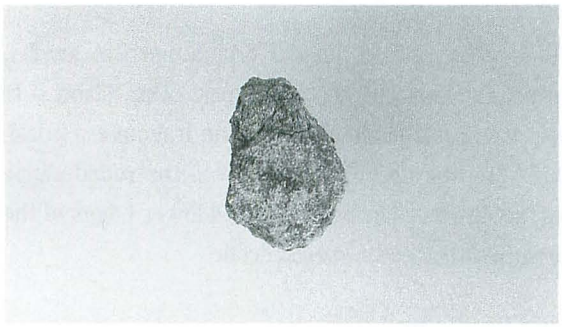
Fragment 29



≃3.5×6.2 cm

The upper edge of the fragment may be bounded by a thick, horizontal line below which a Beth may be read.

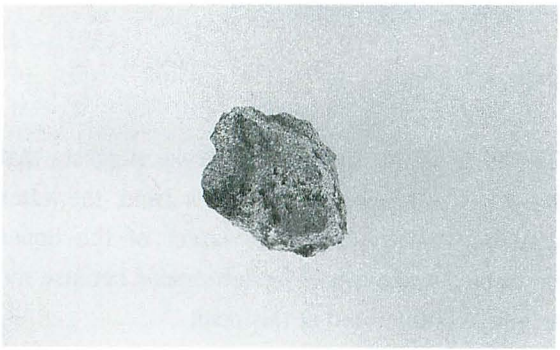
Fragment 30



≃4.0×5.0 cm

Traces of a horizontal line midway down the fragment on the left-handside. In the upper part of the fragment, traces of a square letter may be discerned, which might be a Qoph.

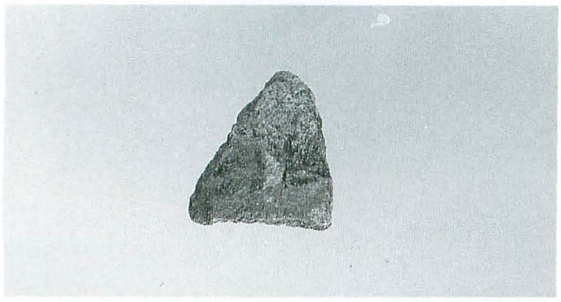
Fragment 31



≃3.5×5.0 cm

In this badly eroded fragment, traces of black lettering can be detected.

Fragment 32

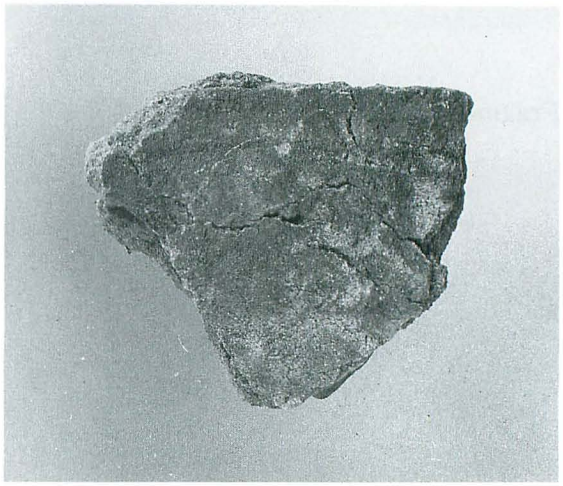


≃4.0×2.8 cm

Two or three letters may be read, depending on whether the horizontal stroke is connected to the vertical stroke or not. Given the deterioration of the fragment, it can be suggested that the final Alaph has an elongated base stroke. The following letter may be interpreted as a Beth or perhaps a Kaph since the fracture of the fragment prevents the extent of the upper horizontal stroke from being determined.

INSCRIPTION IV (fragments 33–35)

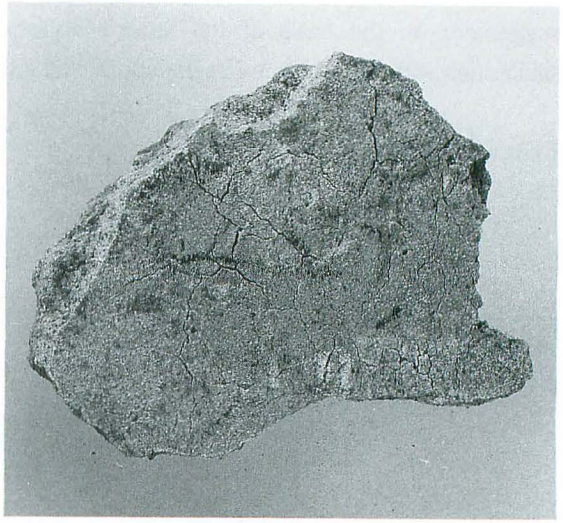
Fragment 33



≃12.0×10.0 cm

In the upper part of the fragment a square letter can be discerned which is interpreted as a Qoph. No ligature is visible between this letter and a possible 'E or Lamadh: either interpretation being possible since the oblique stroke is terminated at the upper edge of the fragment.

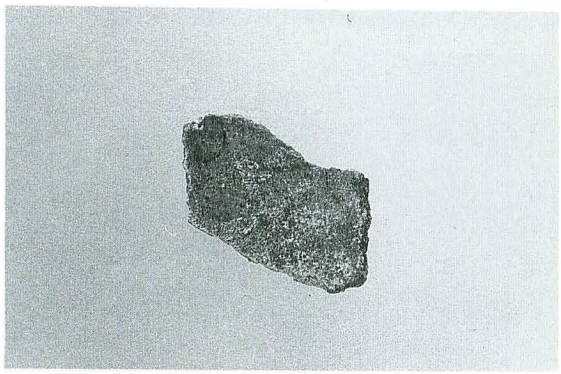
Fragment 34



≃16.0×10.5 cm

A square-shaped Qoph is ligatured to the following letter which may, on the basis of the triangular shape be a Shin. The juxtaposition of Qoph and Shin may suggest the substantive, QŠYŠ', priest or presbyter.

Fragment 35

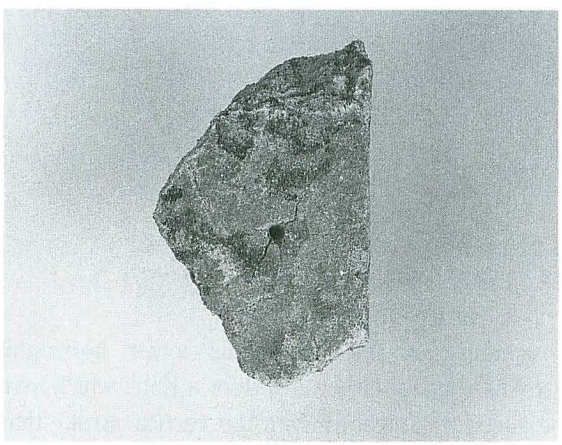


≃7.6×3.9 cm

Traces of a thin black line, 2.0 cm long, culminating in a curved stroke, 0.8 cm long. At the upper left-hand edge of the fragment the curved head and downward stroke of a Pe is visible.

INSCRIPTION V (fragments 36–37)

Fragments 36, 37



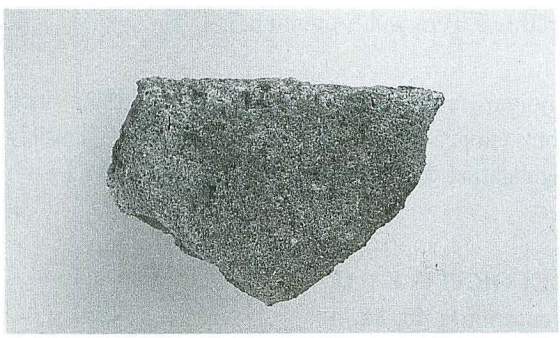
Fragment 36: 7.6×9.4 cm. Edge: ≃11.0 cm length, ≃3.00 width

The two fragments can be grouped together not only because both feature a straight edge, but also on stylistic features. It is possible that the black

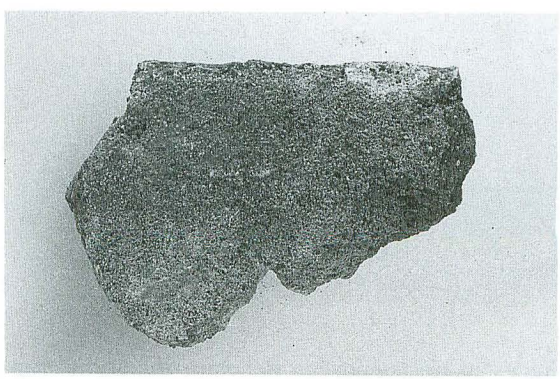


Fragment 37: 9.5×13.5 cm. Edge: ≃11.4 cm length, ≃4.00 width

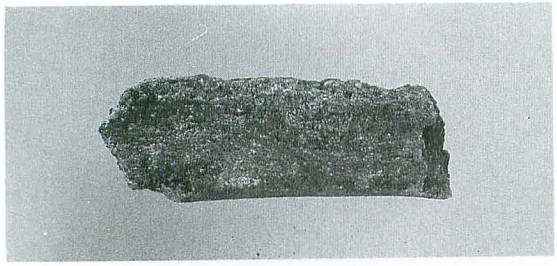
traces may be decorative, rather than being inscriptional. However, in the upper part of Fragment 36, it may be possible to discern two letters which may either be a Beth or a Pe. Similarly, a Beth or a Pe may also occur in the lower left-handside of Fragment 37. Furthermore, Fragment 36 is distinguished by the "drilled" hole, 0.67 cm wide and 1.82 cm depth, that occurs 3.00 cm from the edge.



Fragment 36 (VERSO)

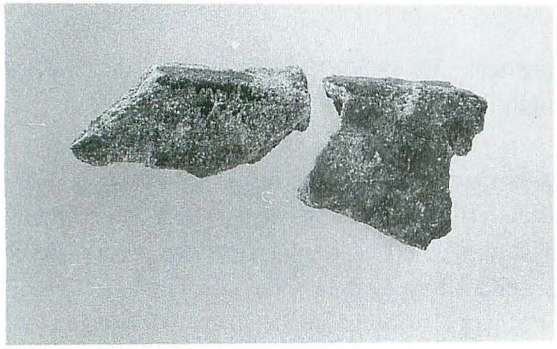


Fragment 37 (VERSO)



Fragment 36 (EDGE)

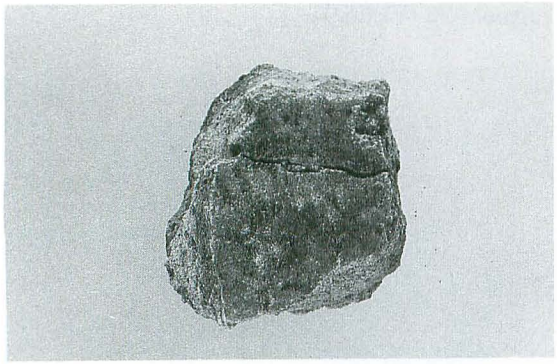
DECORATIVE I
Fragments 38, 39



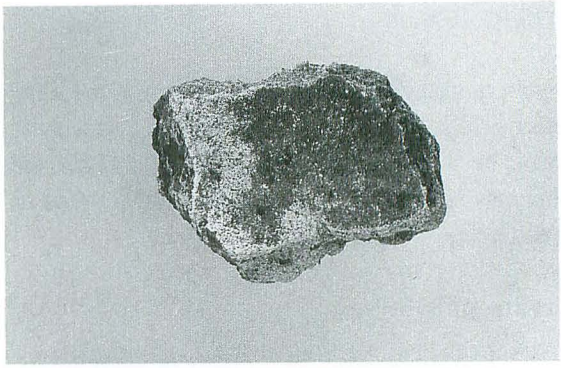
Fragment 38: 5.7 (edge length)×1.9 cm (edge width), 3.1 cm width fragment
Fragment 39: 5.8 (edge length)×2.4 cm (edge width), 5.0 cm width fragment

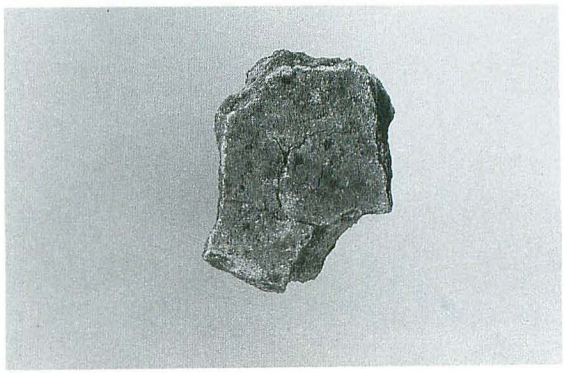
The two fragments can be grouped together since both exhibit traces of black decoration, possibly highlighting the straight edge which occurs in each case.

DECORATIVE II
Fragments 40, 41, 42

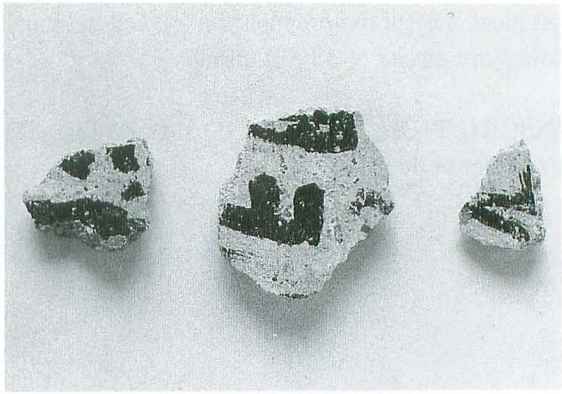


Traces of black stippling decorate the three fragments.





INSCRIPTION VI AS013 880102



3 fragments
(i) 1 line, 2 letters.
k ' or k
Fragments of the upper and lower horizontal strokes suggest either a Beth or a Kaph which may be joined by a ligature with the vertical stroke that is read as an Alaph. An alternative reading of the fragment as a Kaph, with the base stroke and fragments of an oblique stroke extending into the curved head may also be proposed.
(ii) 2 lines, 3 letters. 0.7 cm between l.1 and l.2.
l.1 q
l.2 . ḥ

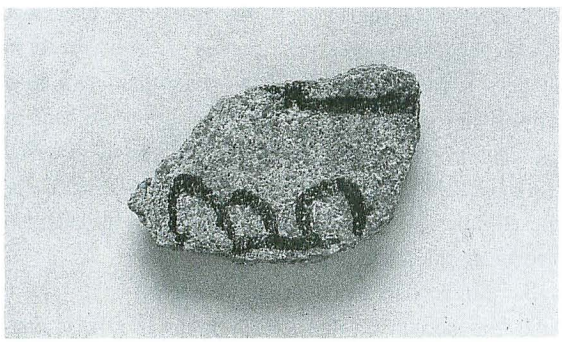
The extension of the base stroke of the Qoph suggests a ligature to the following character. The letter preceding the clearly defined Ḥeth is not able to be identified. Traces of black at the lower edge of the fragment may indicate a third line, separated from l.2 by 0.7 cm.

(iii) 1 line, 2 letters.

ʿ n

The oblique stroke of an ʿE, 0.9 cm long, is ligatured to a letter whose downward stroke is 1.1 cm long. It may possibly be a final Nun.

INSCRIPTION VII AS014 880103 AS7



1 fragment

2 lines, 3 letters. 1.2 cm between l.1 and l.2.

l.1 .

l.2 w s

A ligature to an unidentified letter which, by the curveture of the stroke connecting with the base line, might be a Waw. The ligature is written in a slight incision in the fragment. L. 2 consists of two letters, a closed Waw, which is ligatured to a Semkath, although the base-line of the left-hand loop is missing.

INSCRIPTION VIII T 21 TOKAQIN (RECTO)

≃5.5×5.0 cm

Inscription: 7 lines covering the entire surface of the ostracon

Spacing between lines: 0.7 cm

Script: Nestorian

Transliteration & translation

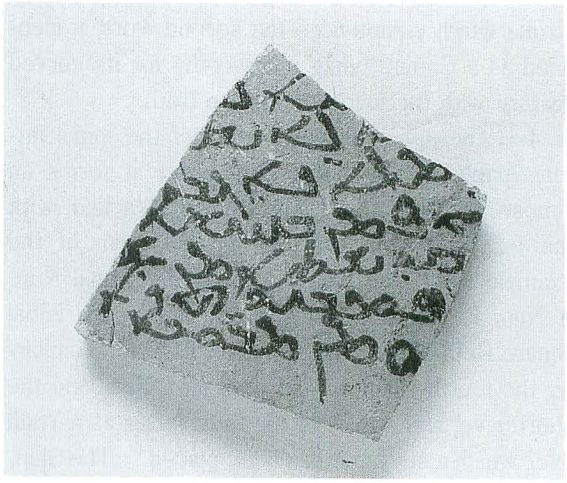
l.1 y/n ʾ ʿ/l/k

l.2 ʾ l ʾ y/n q

l.3 m l ʾ k ʾ g b

l.4 ʾ p m n b n y n š ʾ

l.5 q d y š t ʾ m n š



l.6 p w k b n w h r ʾ

l.7 w m n m b w ʿ ʾ

l.1 .....

l.2 ... lest he/we might.../...not consumed..."

l.3 elect/certain (?) angels

l.4 also from men

l.5 holy from...

l.6 ... as in the commentary/light

l.7 and from the sources

Palaeographic comments:

L. 1: The initial letter, interpreted as either a Yodh or a Nun, is ligatured to a final Alaph that is written in an Estrangela style. The commencing letter of the second word could be read as possibly an ʿE, Lamadh or a Kaph.

L. 2: Difficulties also surround the interpretation of the first letter in this line, due to the fracture of the ostracon. The junction of the two oblique strokes could suggest an Alaph, which would be a suitable reading at the end of a word. The Lamadh and Estrangela style Alaph are clear as is the following letter which may be either a Yodh or a Nun. The square Qoph is in a medial position, as suggested by the ligatures.

L. 3: The Mim, in closed rounded Nestorian form, joins the base-stroke to the following Lamadh at a 90°. By contrast, the ligature of the Lamadh with the following Alaph is curved as also occurs in l.2. A seyyame is placed between the Alaph and the Kaph which is distinguished by the termination of the oblique stroke in a triangular head. The fifth and final letter of the word is an Alaph, again written in an Estrangela style. The single oblique

stroke which commences the second word is identified as a Gamal, being noteworthy for its curved ligature with the following square Beth.

L. 4: The upper oblique stroke of the initial letter, Alaph, is also noteworthy since it forms an almost horizontal line. The Pe is unattached, with the following Mim reproducing the form of the example in l.3 and being ligatured to a final Nun. A Nun, in medial position, occurs after the initial square Beth of the third word in this line. Similarly, the fourth letter is also read as a Nun, and the shorter vertical stroke of the third letter as a Yodh over which a seyyame has been placed. The Shin, in penultimate position, exhibits an open triangular head and is ligatured to an Alaph whose form recalls the example in l.1.

L. 5: A square Qoph is joined to a comma-shaped Dalath with a lower diacritical point. The third letter, Yodh, is followed by a Shin whose head, although triangular in form, is more compact than the example in l.4. The medial Taw, consisting of a vertical stroke culminating in a right-hand loop, almost resembles the modern Arabic letter, Ta. The remaining four letters of this line are read respectively as Alaph, Mim, Nun and Shin and are standardly reproduced.

L. 6: The initial letter appears to be a Pe, having the rounded head of that character, yet its dimensions are much smaller than the example on l.4, being 0.5 cm high. Its head is level with the tip of the Kaph which is found after the closed rounded Waw to which the first letter is ligatured. The fourth and fifth letters in the line are Beth and Nun respectively, the latter being joined to a closed Waw. Distinguished by a closed triangular head, the He is unattached as is the next letter which is read as a Resh from the upper diacritical point. The form of the final Alaph reproduces that of the examples in l.1 and l.5.

L. 7: Of the eight letters in this line, only the penultimate 'E and the preceding Waw are noteworthy. The latter in that it is ligatured to the 'E and the former, in that its stroke is rounded. The remaining letters: Mim (2), Nun, Waw, Beth and Alaph are consistent in their formation with examples earlier in the ostracon.

Palaeographic summary:

The script is defined as Nestorian from the comma-shaped Dalath and the rounded closed forms of the Waw, He and Mim. However, the Alaph is suggestive of Estrangela and the examples show two different styles. The more complicated "cross" is formed by the intersection of the upper and lower oblique strokes. In the simpler "Y" type, the junction of the oblique strokes only produces a downward prong.

Notes

L. 1: Y/N'/L/K

L. 2: T L' Y/NQ "... lest he/we might..."/"... not consumes..." (?)/"for the honour..." (?)

Whilst the negative particle L' is clearly seen, uncertainties surround the remainder of the line. The Imperfect may be suggested, either in 3 person or, alternatively in 1st person plural. Or, the YQ combination may be a derivative of $\sqrt{YQD}$ "to be burnt up, set on fire" and in this context L' YQD "not consumed" or L' YQWD' "incombustible" may be fitting. See, Payne-Smith, *op. cit.*, (1903), p. 195. Finally, L may be a preposition introducing the noun 'YQR' "honour".

L. 3: ML'K' GB "elect/certain (?) angels"

Difficulties accompany the interpretation of GB, in contrast to the reading of ML'K'. Probably acting in an adjectival capacity, GB may either derive from $\sqrt{GB'}$ "to choose, elect, appoint" or from the substantive GBR' "man". See, Payne-Smith, *op. cit.*, (1903), pp. 58–9. This phrase occurs in I Timothy 5^{21}.

L. 4: 'P MN BNYNŠ' "also from men"

L. 5: QDYŠT' MN Š "holy from..."

QDYŠT' would appear to be acting in an adjectival capacity to a preceding feminine noun.

L. 6: PW KBNWHR' "... as in the commentary/light"

The combination of the substantive NWHR' together with the prefixes K and B would indicate Aramaic influence, since in Syriac "as" is written separately by 'YK. If NWHR' is translated as "commentary", rather than "light/brightness" then a *Zeqofo* would occur between the He and the Resh, in the vocalisation of this word.

L. 7: WMN MBW'' "and from the sources"

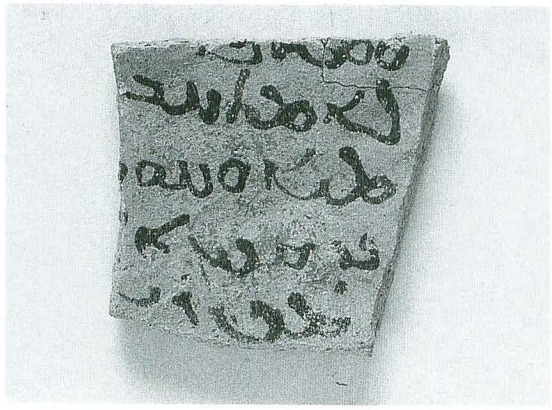
Although the palaeography of the penultimate letter is enigmatic, its reading as 'E to produce MBW'' "source/spring" would result in a suitable interpretation.

(VERSO)

$\simeq 5.5 \times 5.0$ cm

Inscription: 5 lines covering the entire surface of the ostracon

Spacing between lines: 1.00 cm. Right-hand mar-



gin even ll. 1–4.

Script: Nestorian

Transliteration & translation

l.1 w m t k

l.2 l' m t ḥ b

l.3 m y ' w ḥ w .

l.4 k d q r/w y '

l.5 m k̊ r y

l.1 and...

l.2 lest it be confounded (?)/corrupted (?)

1.3 water and...

1.4 whilst proclaiming

1.5 shortened/saddened/was displeased

Palaeographic comments:

L. 1: The closed rounded form of the initial letter suggests a Waw, whereas that of the second letter may be a Mim since the oblique stroke can be detected. A ligature connects letter to a possible Taw since the base of the vertical stroke can be detected and the curved right-hand loop. The fourth letter would seem to be a Kaph, since the clear example of a Beth in 1.2 exhibits a longer upper horizontal stroke.

L. 2: The six letters of this line are read respectively as: Lamadh, Alaph, Mim, Taw, Ḥeth and Beth.

L. 3: The six letters of this line are read respectively as: Mim, Yodh, Alaph, Waw, Ḥeth and Waw. Palaeographically little differentiates these letters, although the oblique stroke of the Mim is longer than the example in l.2 and the ligature to the Alaph is curved rather than straight. Traces of a seventh letter can be seen at the end of the line.

L. 4: The initial Kaph is ligatured to a comma-shaped Dalath, distinguished by the lower diacritical point. The square Qoph beginning the second word is attached to the next letter whose comma-shape may suggest a Resh. However, two factors mitigate against this interpretation. Firstly, the absence of an upper diacritical point although this may have been erased in the deterioration of the fragment. Secondly, the ligature to the following letter which has been read as a Yodh. On the other hand, the letter may be a Waw, but again the second objection which has been stated regarding the Resh would apply. Furthermore, the open form of the letter would be most unusual, particularly in the light of the three earlier examples of Waw in l.1 and l.3. An unattached Alaph, in typical Estrangela style, concludes the line.

L. 5: The flattened head of the Mim differentiates this letter from the examples in l.2 and l.3. The following Kaph, distinguished by the termination of the head of the letter in a wedge, exhibits a curved and extended base stroke. The upper diacritical point identifies the next letter as a Resh, otherwise the vertical stroke may have been read as a Zain. The fourth and final letter of the line is an unattached Yodh.

Notes

L. 1: WMTK "and...". The conjunction "and" is prefixed to the Mim-Taw combination which suggests the Ethpeal Participle of a verb whose initial radical is Kaph.

L. 2: L' MT "lest it be confounded (?)" ḤB "corrupted". The negative particle L' is clearly read and the recurring Mim – Taw combination again suggests an Ethpeal participle, possibly of √ḤBK "mix, mingle, confound, confuse" or, an Ethpael participle of √ḤBL "be corrupted". see Payne-Smith, *op. cit.*, (1903), p. 124.

L. 3: MY' WḤW "water and...". Whilst the word MY' is suggested by the clarity and spacing of the letters, the absence of the mandatory seyyame is perplexing. The conjunction Waw introduces another substantive.

L. 4: KD QR̊Y' "whilst proclaiming". Although the palaeographic difficulties surrounding the interpretation of QRY' have been outlined above, the reading would be suitable. Hence, QRY' may be the active participle Peal

$\sqrt{QR}$'.

L. 5: MK̊RY "shortened/saddened/was displeased". MKRY may be read as either the Pael or Aphel Passive Participle of $\sqrt{KRY}$. See, Payne-Smith, *op. cit.*, (1903), p. 224.

TEXTILES FROM AT-TAR CAVES
PART I: CAVE 12, HILL C

Hideo FUJII*, Kazuko SAKAMOTO**
and Mikizo ICHIHASHI***

Foreword

The archaeological site of at-Tar Caves is located some 30 km southwest of Kerbala, 15 km east-northeast of the Ukhaidhir Palace, lying about 80 km west of the ancient city Babylon (See Fig. 1 of p. 27 in this volume.).

Through several times of surveys since our discovery of this site in September 1969, we have confirmed here about 480 caves artificially hollowed out into a series of developed escarpments of marlstone strata which are stretching along the Bahr al-Milh lake. And we have divided them into four groups, i.e., Hill A, Hill B, Hill C, and Hill D [Matsumoto 1984/85: 14–27].

We see many wadis flowing into the neighboring land of these site groups all the way from the plateaus in Saudi Arabia lying further southwest. A large number of oases are seen along these wadis. These cave groups are situated on a junction of the Iraqi Southwestern Desert which links various coastal areas along the East Mediterranean with Mid-southern Mesopotamia, so that this seems to have been one of the important places utilized for certain purposes since the ancient times by many human groups that moved from west to east or in the reverse direction along the wadis or through the oases.

From March 1971 to December 1977, our party, Kokushikan University Expedition, was engaged in the excavation of Hill A and Hill C of at-Tar Site and also the survey into the natural environment and site distribution in its neighboring southwestern desert areas. According to the radiocarbon dating which was applied to the textiles, as well as leather goods and date seeds, unearthed here so far, it is believed that at-Tar Caves had been first dug out about 1200 B.C. probably for the purpose of self-defence and that they were reused as graveyard from the 3rd century B.C. up to the 3rd century A.D. [Fujii ed. 1976: 11]. In 1976 we examined the upper accumulation of the textile level and the state of burial in the slender corridor (0.7 m wide, 12 m deep) of cave 12, Hill C which leads up to the inner room by way of the existing entrance facing southwest [Ohnuma and Inaoka 1984/85: 28–36]. Next to the corridor, already mentioned, at our sixth excavation ranging from September to December 1984 we completed the observation of the deposits piled up to the primary carved face, which had been the target of ourselves in 1976, in the corridor of Cave 12, Hill C besides the excavation survey of the inner room. Also at this survey, we found various types of chisel traces left on the inside wall, which are similar to those observed on the inside walls of the other caves in Hill A and Hill C. Thus, we have come to the conclusion that this is an artificial cave as well. Among the sand layer above the crushed stones piled up on the primary carved faces of the corridor as well as the inner room, we have found some human mandibles and vertebrae accompanied with textile fragments and several pieces of leather with sewn traces on them. This state of accumulation coincides with those which have been observed in the previous excavations, respectively. It therefore signifies that the currently unearthed burial belongs to a certain period later than the caves had originally been hollowed out.

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The expedition has already published a preliminary report on the archaeological textiles discovered in the inner room of this cave [Fujii et al. 1984/85: 246–251]. And the analytical results and comments concerning these textiles were published in AL-RAFIDAN Vol. VII, 1986 in Japanese [Fujii and Sakamoto 1986: 37–54, Pls. 14–19].

On the occasion of publishing a standard of researches into the specimens uncovered at AT-Tar Caves, as shown below, we have decided to handle all the data from the inner room inclusive of its latest examination data here, since we feel it necessary to settle the correlation of the data from the inner room with those from the corridor for the full understanding of the characteristic feature of Cave 12, Hill C. The textiles to be reported here are the accompaniments for burials. Cave 12, Cave 16 and Cave 17, Hill C have yielded the textiles in which at-Tar features can be observed in nearly original state. Cave 12, Hill C consists of corridors and a inner room, where individual characteristic textiles have been uncovered. Cave 16, Hill C predominates over others in number of various sorts of textiles. Cave 17, Hill C contains the ones which are common to all these cave textiles. By means of our thorough investigation of the textiles coming from Cave 12, Hill C, we were able to grasp the characteristics of H-shape pattern, tree and flower design and Type A-2 pile textiles out of such representative textiles there as H-shape pattern, tree and flower design, human-pattern, chequered-pattern and Type A-2 pile textiles. We have attempted our efforts to the understanding of these outstanding Cave 12 textiles through the comparative studies of them with the other textiles from some other at-Tar Caves and the ones coming from some sites in the east coastal areas of Mediterranean Sea. Our report will deal with an overall comment covering all the textiles uncovered from the three caves, Cave 12, Cave 16 and Cave 17, Hill C, and all excavated caves, Hill A, at-Tar in order.

I. Methods of investigations

1. Identification and choice of representative specimen

In order to approximate the textile fragments unearthed as close to their original state as possible, The identification work was practiced by us that the fragments of the same origin were assorted and/or allocated in accordance with material, thickness, twist count, twist direction of the thread, structure, thread density, thread-spacing, production technique, color and design of the fabric with care taken to their state of excavation as well. Besides, pile textiles must be treated in the light of the specific conditions given below.

Among individual fragments of pile textiles, the following peculiar aspects different from non-knotted pile yarn textiles are observed:

(1) Some fragments are provided with warp threads of different twist directions in one piece.

(2) Some fragments have a great variety of warps and wefts in thickness, thus causing irregularity in ground density in one piece.

(3) Some fragments use two-plied warp threads twisted with same material and color, and other two-plied warp threads (grandrelle yarn)[1] twisted with different materials and colors in one piece.

(4) Some fragments sometimes use weft threads of different kinds of materials and colors in one piece.

The presence of the above (3) or (4) is not readily detectable at the finished appearance of the pile textile since it is concealed by the pile tufts and/or weft elements.

In trying to identify such small fragments while strictly checking their thread thickness, twist count, twist direction, thread density and thread-spacing, we may have to treat some textiles of supposedly the same origin as utterly the ones of different origins. In the meantime, if we go on identifying the pile textiles with attention concentrated on the above features peculiar to pile textiles, our concern over the matter is that we

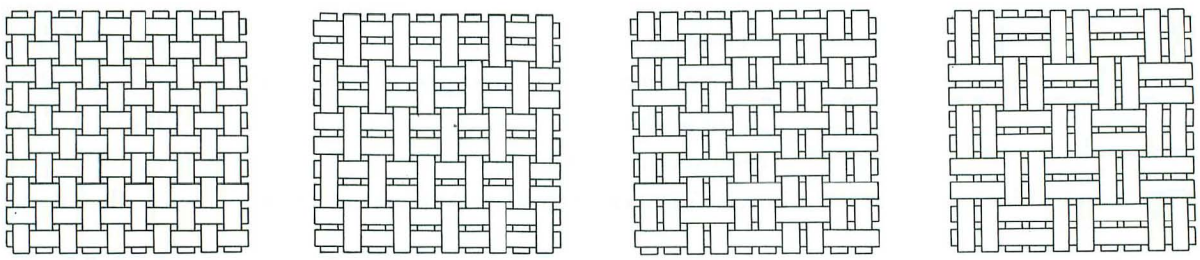
tend to identify resembling textiles or same-quality textiles of plural sources as a single fabric.

Every cave has its own consecutive 'Textile Numbers' given to each group of the individual fragmentary specimens which are identified as the same textile, respectively. From among the fragments thus identified so far, larger and better-preserved cloth pieces were picked up as individual representatives, the numerals of which resulting from measuring size, color, thickness, material, thread thickness, twist direction, twist count and thread density were recorded as data.

Hence, on 'Al-Tar I, AL-RĀFIDĀN Vol. I', we only mentioned the mere measurement and classification of the fragmentary specimens. So they are different from the reseaech method published here, since they had not been subject to the textile research method mentioned in this chapter. Ever since the examination of the textiles from the inner room, Cave C-12 [Fujii and Sakamoto 1986: 37–54, Pls. 14–19; Fujii and Sakamoto 1987: 215–231, Figs. 68–86; Fujii et al. 1987: 131–140], we have been examining all the specimens from at-Tar under the new research method.

2. Structure, tapestry weave and thread-spacing

There are three kinds of basic structures in textile weave such as plain weave(2), twill and satin. Further, they branch into various sorts of weave structures, where the way warps and wefts are intercrossed is altered. In the report already published [Fujii et al. 1982/1983: 91, Fig. 2], we used to have individual names on separate variations in classifying the structures of the uncovered textiles. From this time on, however, the basic structure of the cloth is to be given first. Its variation is to be described, if necessary, for example: Variation of plain weave, warp 1, weft 2 (Fig. 1).



Plain weave warp 1, weft 1 | Variation of plain weave warp 1, weft 2 | Variation of plain weave warp 2, weft 1 | Variation of plain weave warp 2, weft 2

Fig. 1 Structures of plain weave

Tapestry is a weave technique to produce a pattern by carrying repeatedly forth and back the weft threads in accordance with the pattern. So, the term 'tapestry' is not given to the one in which weft threads continuously pass from one selvage to the other in a horizontal way, even if it is weft-faced. In describing the tapestry weave technique, its basic structure and thread-spacing of the weft elements are to be denoted.

Thread-spacing: the interrelation among warps and wefts is the term to designate the state of thread created on the cloth surface when the cloth has been ready, since the value of 'thread density' only is not sufficient. This is because the state of warp or weft caused on the cloth surface has something to do with that of each thread diameter and thread density. So, we have to be attentive to the spacious extent of thread, i.e., from one warp to another or from one weft to another. To denote this, we have thus picked up the following three terms from among the I. Emery Terminology [Emery 1966: 76–7]: weft-faced type where the wefts predominate over the warps; balanced type where the warps and the wefts are well balanced; warp-faced type where the warps predominate over the wefts (Fig. 2). The cover factor value is to be added to them, if necessary [Fujii ed. 1980: 78].

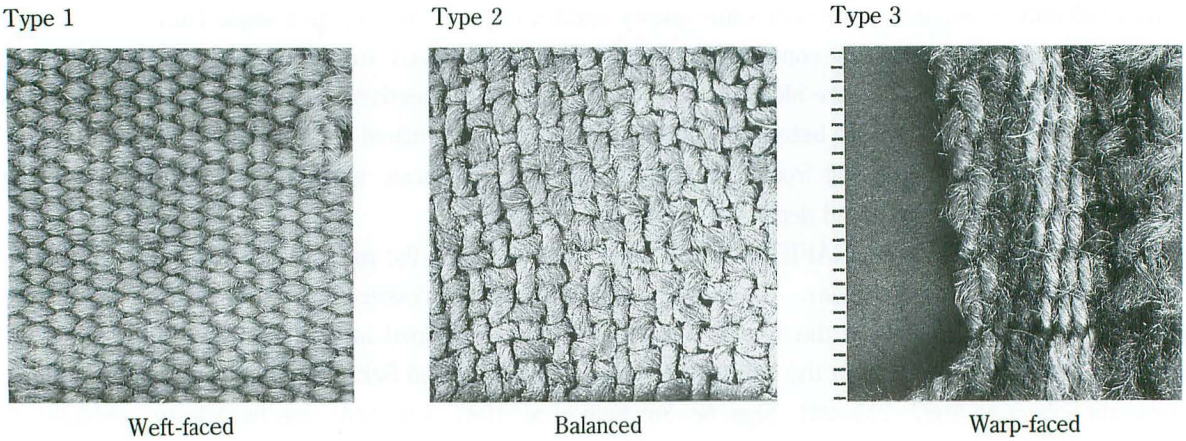


Fig. 2 Thread-spacing from at-Tar examples

II. Basic Characteristics of Weave Technique

1. Thread spinning

The threads constituting at-Tar textiles are mainly of wool and hair. Some others are of cotton and flax or hemp. In particular, wool thread spinning technique is excellent. Here, we have found the fabrics where surprisingly fine threads are used. One of the finest threads is 0.12 mm in yarn diameter (C-17, IV-MK-1428) on which considerably strong twisting of 10–14/cm is worked. Such fabrics as are composed of fine strongly-twisted warp and weft elements are not so fluffy, but are superior in airy quality. As for thin fabrics, their warp and weft threads range from 0.15–0.3 mm in diameter, among which the ones of 0.2 omm in diameter are very common. These thread thicknesses are all in uniformity. This is probably because the raw material of wool had been very good in quality. The microscopic examination (×500) has concluded that many of them are of about 15 μ fibers with some 30% mixture of 20 μ fibers in them (C-12, Textile 14, C-16, V-72-1).

The values which have been converted into the common yarn count (metric) use at the present time are shown below [Owari Textile Research Institute, Aichi Prefectural Government ed. 1985: 77–82]:

Yarn diameter	Converted Nm
0.15 mm	app. $1/72$
0.20 mm	app. $1/40$
0.30 mm	app. $1/18$

Notes: (1) The diameters of warps and wefts are obtained by 25-fold magnifier.
(2) The relation between yern diameter and yern count is given in the following equation:
Yarn diameter (mm) $= 25.4 \div D$
[Example: 0.15 (mm) $= 25.4 \div D$, D = 169.3 threads/1 inch]
$D = K\sqrt{840 \times Ne}$: Ashenhurst's equation
$Ne = Nm \times 0.591$: Conversion equation for yarn count
D: Number of threads placed tightly without overlapping in one inch
K: Constant decided by the type of fibers (worsted: 0.90)
Ne: English cotton count
Nm: Common yarn count

The frequent use of such fine threads as above quite naturally makes us consider that skilled craftsmen were engaged in spinning and weaving work. In the second place, there is the method of mixture-color spinning applied here for the production of neutral shades. The technique is to spin thread by changing the

ratio of the material wool which has been dyed into two different colors. Its mixed color change is more natural than that of separately dyed threads. Some caves have yielded the evidences in which we can learn various color gradation (Textiles 2 & 3 from the C-12 cave, C-82, C-301-1-a from the F-5 cave [*Fujii ed.* 1980: specimens 62, 66])

2. Weave alteration and warp crossing

Weave alteration means that in process of weaving on the loom, the weave system is turned from plain weave into its variation (warp 2, weft 1), from variation of plain weave (warp 1, weft 2) into its variation (warp 2, weft 1), or from twill into variation of plain weave (warp 1 or 2, weft 1) for some purpose, and sometimes vice versa. We often see warp threads cross on the alteration line of the weave system, which is termed warp crossing. This is frequently observed in altering the ground and pattern structures, which occurs in association with the warp lifting order. At-Tar has the following types of weave alterations. And Type A, Type B and Type C contain such warp crossing (Fig. 3).

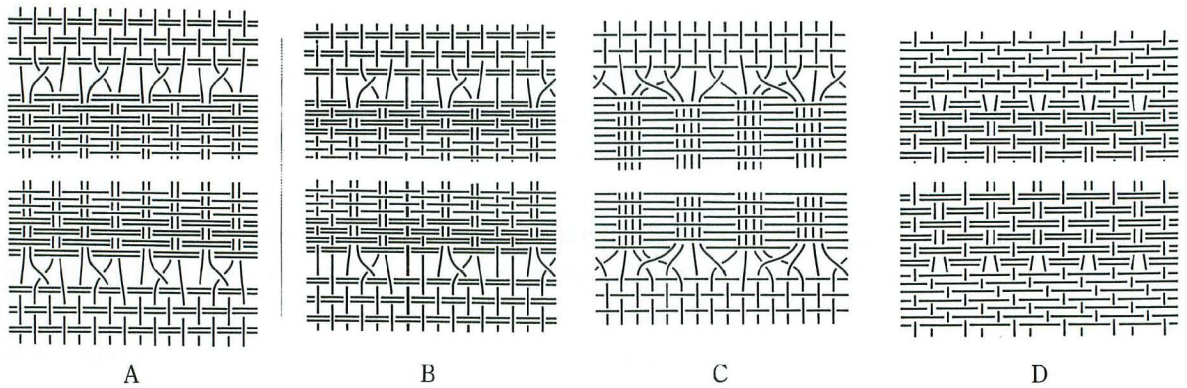


Fig. 3 Weave alteration

Given below is the presumable reason why they altered their weave procedures; textiles vary in weave technique according to their uses (tunic, mantle, veil or scarf) at the time when their production program has been drawn up: some fabrics require a smooth, soft feel, and others, a slightly hard feel. The mantle and the scarf must be good in soft, draping quality. It is essential that the pattern and ground textures are well balanced there. Passing of many weft threads into warp threads on the plain weave where a single warp alternately goes up and down will surely make the portion thicker and harder in touch. This is caused by the increase of intercrossing and interlacing points. Therefore, the adoption of two or more warps instead of a single warp, as it is often observed in pattern portion, will lessen the above problem, resulting in keeping balance between ground and pattern in texture and giving the cloth a soft feel. It seems that this is one of the reasons.

At-Tar is abundant in specimens which use warp crossing in weave alteration. That may be due to the following reason besides warp lifting order:

When the cloth is woven from gauze-like ground portion of less weft density with the use of thin warp and weft threads successively into the pattern portion of thick weft density, the weft threads worked into the beginning of the pattern portion will come to be very unstable, and finally get out of shape. To avoid its occurrence, it is necessary to take a certain readily stoppable measure at the first row of the pattern portion, that is, the measure of crossing system. This is the technique to be required when the difference between the weft density of the ground and that of the pattern is large.

3. Two-weft picking method

This is the method in which two weft threads are used at a single shed to give cloth a smooth, soft touch. Thus, the next several sorts of two-weft picking methods at the single shed are considerable:

(1) The weft threads which are wound around two separate shuttles in advance, are to be passed through twice in the same direction.

(2) Each weft thread is passed through from both sides of the fabric toward each opposite selvage.

(3) As preparatory work prior to weave operation, two weft threads in pairs are wound around a shuttle without their twisting together. And then paired wefts, which are unwound at proper length each time, are passed when the loom starts its operation.

Some other methods than the above are also presumable since the weave work was conducted by hand. Through closer examinations of these fabrics, however, we have come to deduce the following methods:

The methods, (1) to (3), usually require two or more weavers when a broad cloth is woven. It demands handing-over of the weft thread at halfway.

Method 1: The work of passing the thread ball or shuttle from side to side at a single shed twice would be troublesome. Quite naturally, it may take a lot of time to do this. The weft threads which are passed like this way are lying rather parallel to each other. Even if the weft of the second pick covers that of the first, it is easy to set them back to parallel by pulling them a little.

Method 2: The work of handing over the weft here takes less time than that of Method 1. Weft threads which have been passed often cross on the way [Bergman 1975: 25]. If the threads cross with others, they would never turn round. In Method 2, the weavers positioned side by side pass the threads from each opposite side at the same time: next the weavers who receive the threads pass to their own side, and then send them back to each opposite side again at the next opening. Here, a single weft thread will be returned. It means that each weft turns back at the selvage one by one. (However, in most of the uncovered specimens, we see the repetition of the weft threads paired together at the selvage.) Method 2 is different from most of the specimens uncovered here in this respect. Textile 14 of Cave C-12, the details of which we explain in Chapter IV, does not use Method 2.

Method 3: The weft threads in pairs are wound around the shuttle or into the thread ball during the preparatory work prior to weave operation. It can be easily handled by even unskilled weavers. The cloth made by Method 3 often has such twist (Pl. 30–b) as is not observable in those by Methods 1 and 2. We call Method 3 the paired weft technique. This twist was often observed in H-shape pattern cloth (for example Textile 14). The weft threads are ready for work in parallel condition while they are wound from two spindles into a thread ball or a board-shuttle. Then, weave operation will be started. The weavers are engaged in the weft passing after unwinding it from the thread ball or the board-shuttle as soon as the shed is opened on the loom. It seems to have been a customary work. The presumption is that the weavers had been watchfull about the tension or slack to be caused on the weft, but had not noticed the weft twist. From the textiles uncovered here, we can learn what they suggest to us about that.

When they wind the thread ball, the core is held by hand. And the thread makes a circle, going round the core. When it is unwound, the thread ball is also held by hand, but the thread to be unwound is usually pulled out without running along the former circle course. The work of its getting back along the former course is considered unnatural. Presumably, they had used some board-like shuttle notched at both its ends rather than the thread ball. It is probable that this sort of tool made it easy to pass the weft thread, thus resulting in the solution of the unwound direction of the thread which had already been wound as well as its twist condition. In this case, the tool operation is considered constant in direction, where it is certain by the experiment that the threads are twisted when they are unwound. The twist is so loose that

frequency of weft crossing is low. The twist direction of this sort is opposite to that of single yarns, and it is always constant. Consequently, such sort of twist never occurs in Methods 1 and 2.

4. Specific technique of starting border

Starting border has a specific technique (Fig. 4). Warp turns at the starting border.

It is not clear how this technique had been taken up. It seems to us that some device had been put on the loom, or some tool like a tablet had been applied to the starting border prior to the threads setting on the loom [Bergman 1975: 30, Fig. 25]. So, this is the technique different from that of the ground structure.

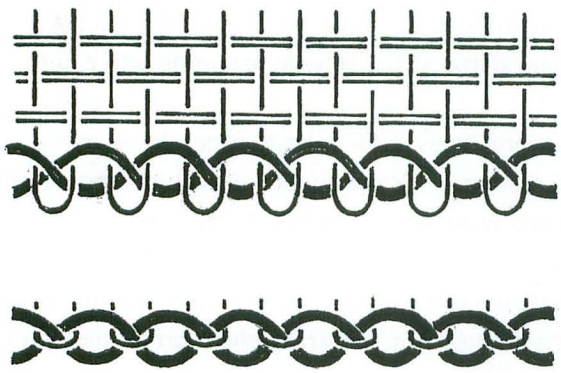


Fig. 4 Starting border

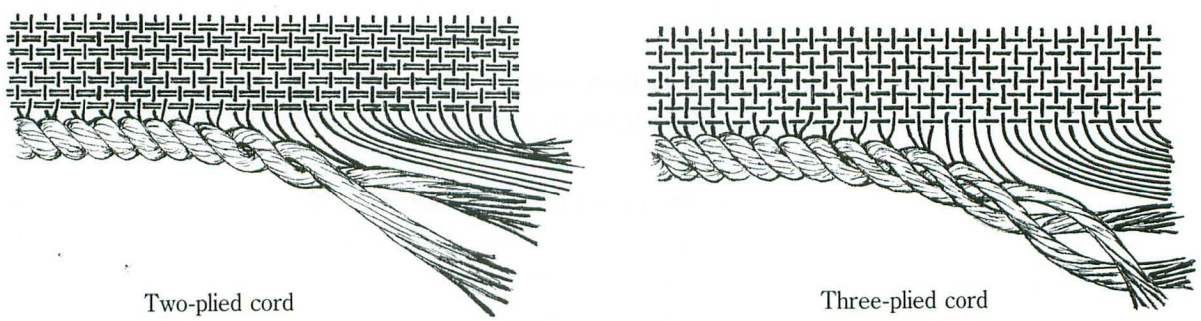
5. Warp finish

There are the following three methods in warp finish:

1) Fringe
2) Folding back and sewing up (hem)
3) Warp cord finish

The cord finish is one of the methods with which to treat the warp threads at the cloth edge when the cloth is still on the loom or after it is removed from the loom, which takes the cord shape along the weave end such as shown below (Fig. 5):

First, each set of the selvage cord and a few warp threads are twisted individually in the same direction; next, with the addition of two or three warp threads one after another, they are further twisted in the reverse direction gradually into a cord shape. Be sure to cut these warp threads preliminarily about 3–4 cm in length. With the progress of work, the selvage and warp threads go on twisting together, while gradually replaced by new threads one by one. Consequently the cord gets stable in proper thickness (about 3mm in diameter). At last, having been twisted together with the selvage threads placed on the other side of the cloth, the cord is bundled there with its end stuck into the cloth to have it fixed. The number of the warps to be added there depends properly upon the thickness of the large cloth. Some



Two-plied cord

Three-plied cord

Fig. 5 Warp finish

pieces of cloth uncovered from other caves have six or seven warps added together, whose diameter comes to no less than 5–7 mm. The warp cord finish is commonly composed of two-plied cord. But some cotton cloth is of three-plied cord finish (D-7 C-05-7).

6. Selvage

There are a variety of selvage techniques to fit for the cloth material, thickness and weft density as well as for their association with other portions. That is, the selvages vary one by one when they are used on both sides of the ground, or when they are applied on the edge of the pattern portions.

Given below are four basic types of selvage making methods (Fig. 6):

Type 1: Here, the weft merely turns back at the same weave system of selvage portion as that of the ground. The one in which several warps at the selvage are made into a cord is also included here.

Type 2: The wefts repeatedly turn back several times at the selvage edge where several warps are used, and then the wefts get back to the ground. Not only the adoption of a single selvage warp but also that of a cord into which several warps are set belong to this type.

Type 3: Here, in addition to the simple return of the weft at the selvage, additional threads are woven there to reinforce the selvage in more complicated manner. They are very thick, consisting of several numbers of warps or wefts put together, and are useful in preventing selvage damage and reinforcing weft turning-back portion.

Type 4: The additional weft threads at the decorative selvage portion do not continue to those of the ground, but are joined together by means of dovetailed tapestry. This sort of method functions as reinforcement and decoration of the selvage on the ground (C-12, Textile 2).

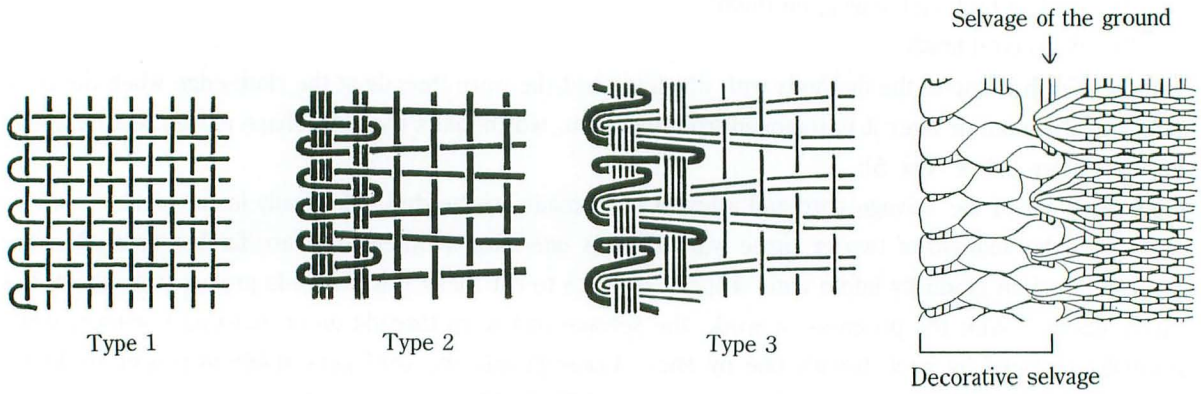


Fig. 6 Selvage types

7. Pile knot

The following five kinds of pile-knotting methods are to be seen among the pile textiles unearthed in at-Tar (Fig. 7):

A–1: In principle, a single or several pile threads encircle each adjacent warp as an axis and the resultant pile tufts come out on one surface from between each pair of warp threads, which is made into a unit.

A–2: In principle, a single or several pile threads encircle each adjacent warp as an axis and the resultant pile tufts appear on both surfaces from between each pair of warp threads, which is made into a unit.

B–1: In principle, a single or several pile threads encircle a single warp as an axis and are twisted on the other adjacent warp, thus leading the resultant pile tufts to appear on one surface from each same side of individual warp threads, which is made into a unit.

B–2: In principle, a single or several pile threads encircle a single warp as an axis and are twisted on the other adjacent warp, thus leading the resultant pile tufts to appear on one surface from each same side of individual warp threads, which is made into a unit. In addition, two units of knotting facing the same direction share a single warp. The ones of continuous pile tufts in the loop way are also included in this type[3].

C: A single or several pile threads are twisted on a single or several warps, thus resulting in the appearance of the pile tufts on one surface, which is made into a unit[3].

Double-faced pile: Double-faced piles have also been uncovered here. They are the ones of their pile tufts coming out on both surfaces of the fabric. We observed double-faced pile textiles knotted with Types B–2 and C. We do not limit them to the ones both surfaces of which can be used as the obverse; the ones whose other surfaces were intended for another use because of the irregular length and density of the pile tufts are also included here.

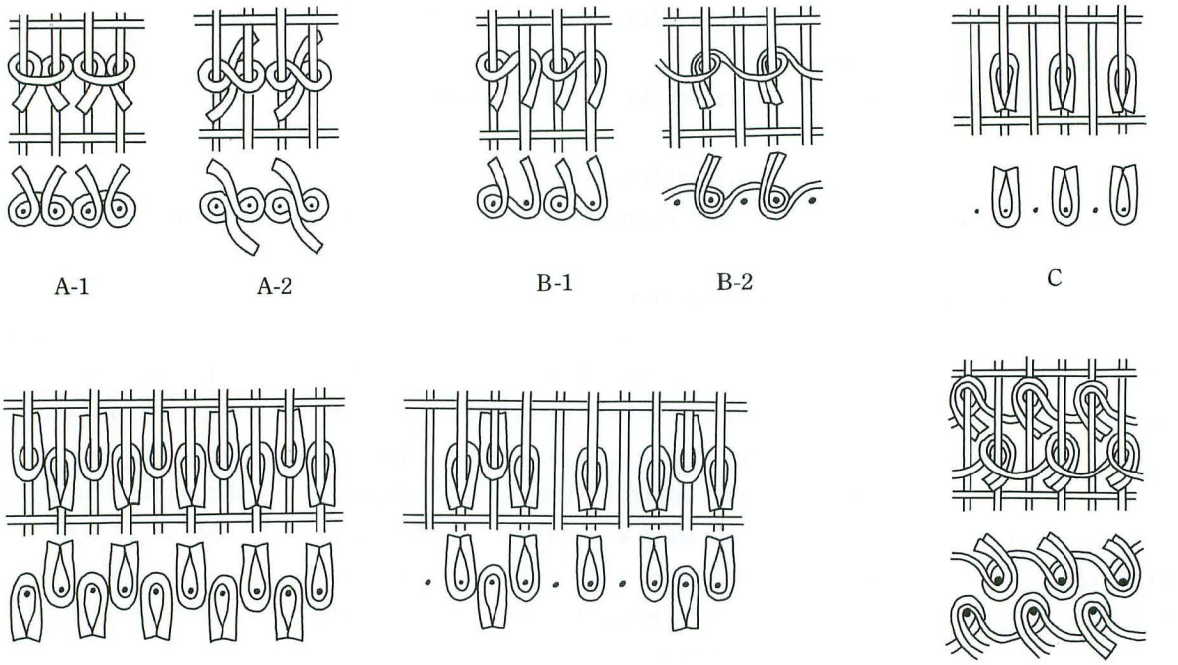


Fig. 7 Pile-knotting Types

III. Textiles from the inner room

The textiles unearthed here are all fragmentary owing to their having been buried in the sand for thousands of years, whose maximum one is in the dimensions of 150 cm×75 cm. After all, eleven textiles and a single cabled cord have been indentified from these fragments.

Textile 1: Small fragments of fine wool textile
Representative Specimen No. T-38 (Pl. 35–a)

Textile 2: Textile with a flower and tree design band
Representative Specimen No. T-103 (Pls. 27–a, b and 35–b, c)

Textile 3: Textile with tree design bands

Representative Specimen No. T-75 (Pls. 28–a and 35–d)

Textile 4–1: Textile with a dark purple band

Representative Specimen No. T-78 (Pl. 36–a, b)

Textile 4–2: Textile with black bands

Representative Specimen No. T-71 (Pl. 36–c)

Textile 5: Black coarse textile

Representative Specimen No. T–72 (Pl. 36–d)

Textile 6: Brown rough textile

Representative Specimen No. T-56 (Pl. 37–a)

Textile 7: Yellow brown textile

Representative Specimen No. T-59 (Pl. 37–b)

Textile 8: Gauze-like textile

Representative Specimen No. T-57 (Pl. 37–c)

Textile 9: Textile with purple oblong design

Representative Specimen No. T-107 (Pls. 28–b and 37–d)

Textile 10: Pile textile

Representative Specimen No. T-104 (Pl. 37–e)

CordTextile 11:

Representative Specimen No. T-54 (Pl. 37–f)

Now we have obtained the following results by means of careful examinations of the above twelve pieces.

1. Identification and design reconstruction

The identification work, which has been done according to Chapter I, is to be explained here in detail. Many of the fragments are deep yellowish red. This color is specially seen on the large and better-preserved pieces of cloth in Textiles 2 and 3. As the result of our examinations, it has been made known that the deep yellowish red area is woven with a single weft thread in Textile 2, while the same area in Textile 3 is mostly woven with paired weft threads. Thus, it has been proved that all the problematic small fragments of the same color are made of paired weft threads, which have been identified as Textile 3.

Fragmentary as they were, these uncovered cloth pieces still had their patterns and colors clearly preserved in the large and better-preserved pieces of cloth. So, it was rather easy for us to identify even very small fragments in relying on their patterns.

4–1 and 4–2 are the textiles with bands woven on the dull reddish yellow grounds. These two are the same binding systems in ground and pattern compositions, nearly equal in warp thickness, and their warp densities are all the same in average. Since 4–2 has a little thicker weft, and its color and width of the band are different from those of the band of 4–1, they have been divided into 4–1 and 4–2; but there is a possibility that they had the same origin.

The details of reconstruction are to be explained only concerning the textiles which were able to be reconstructed.

Textile 2

The reconstruction of the design in Textile 2 (Figs. 8 and 12) was then conducted with much care based on the weave structure and the textile pattern. Representative specimen T-103, which was taken up all together at the time of our excavation and identified into Textile 2, had originally been divided into four main large pieces of cloth, (1), (2), (3) and (4) (Fig. 8). The pieces of cloth (1), (3) and (4) have their selvages preserved behind. Their further study tells us that the selvages of (1) and (4) are different from that of (3) in direction (Fig. 9). That is, it has been proved that the selvages of (1) and (4) are on the same

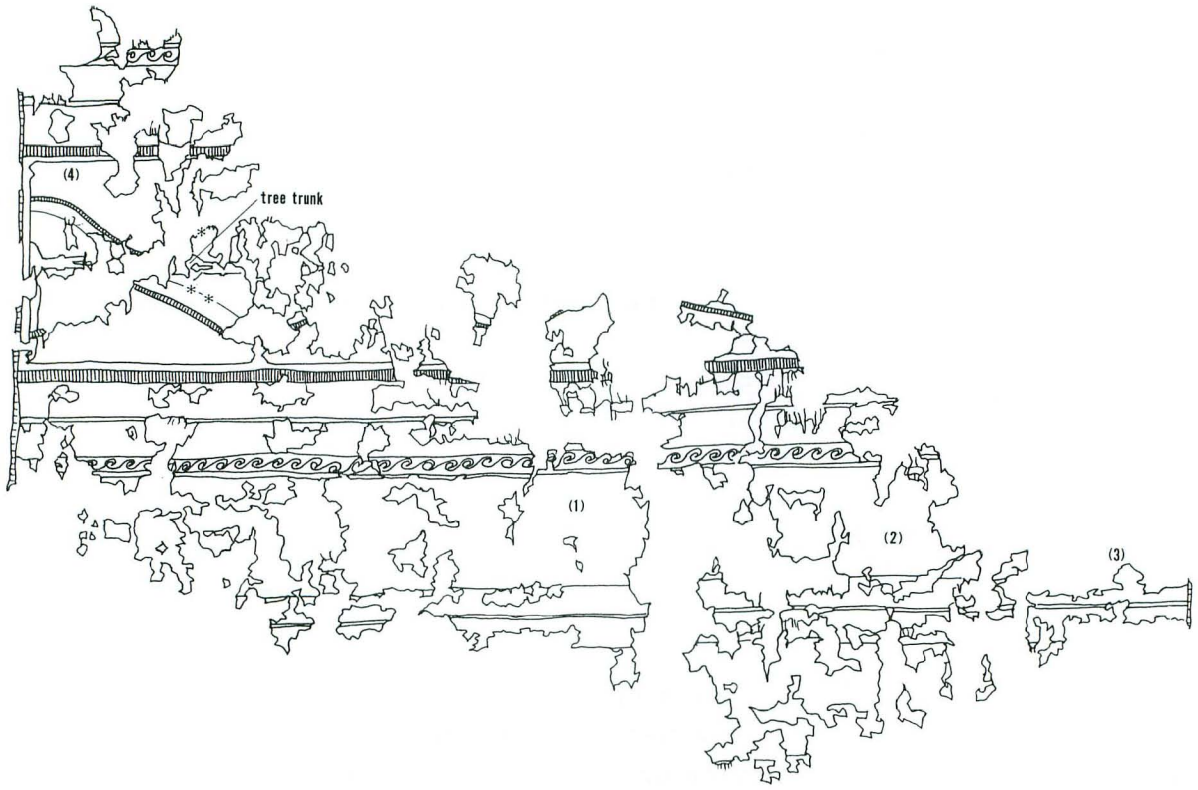


Fig. 8 Allocation of the textile with a flower and tree design band (Textile 2)

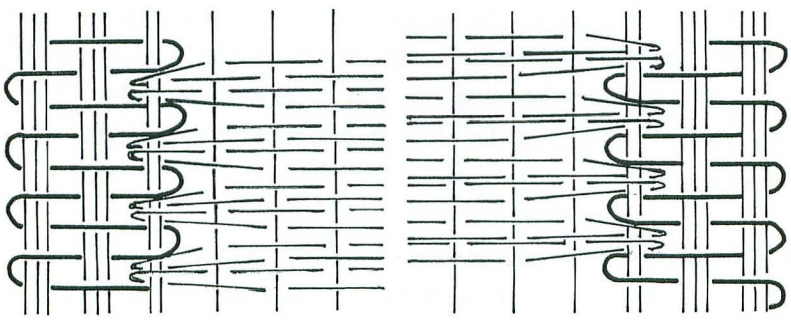


Fig. 9 Selvages of the textile with a flower and tree design band (Textile 2)

line, whereas that of (3) is on the opposite side of (1) and (4). The position of (2) was settled according to the pattern, stripe color, allocation and weft count of stripe. The position of (4) was the most important of all. To begin with, at a close observation of the cloth (1), it contains symmetrical arrangement of some patterns up and down with the central tree trunk pattern (Figs. 8 and 12) as their core placed in the middle (Pl. 27–a, b, 35–b). At the edge edge (*) of the cloth (Fig. 8) there remains an olive thread which is the same color (**) as seen in the wave line including comb (picket fence) pattern (Figs. 8, 12). Thus, it is presumable that the same wave line used to exist along the very edge (*). Second, it is observed that the warp threads in the cloth (1) begin their tilt to the ranges of 10° to 30° as they come closer to the comb-patterned wave line until they turn back inclined toward the reverse way immediately after their reaching the symmetrical axis of the tree trunk. (Pl. 27–a, b, Fig. 12). It is probable that the tilt of the warp threads has been caused by the use of many weft threads with the tapestry-weave technique for the purpose of trying to represent plenty of patterns on a limited area and the use of many non-horizontal wefts

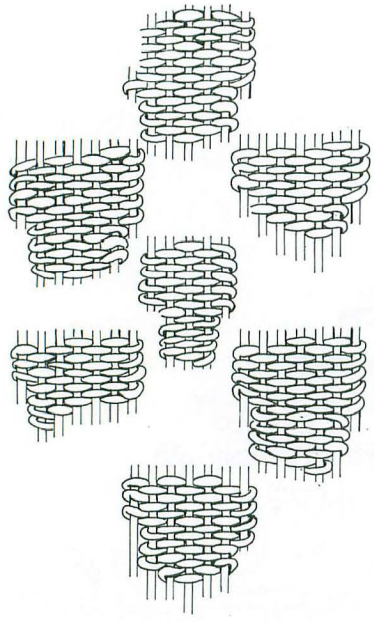


Fig. 10 Weave-method of the rosette (Textile 2)

with the tapestry-weave technique 'Nagashiori' in Japanese.

The warp threads thus go back to the normal position as soon as they reach the tree trunk pattern, from which it is presumable that the similar way of using the weft threads may have been practiced in the reverse order. Such slanting warp threads are seen on the cloth (4), too. Third, the cloth pieces (1) and (4) are both characterized by the representation of the yellow rosettes, that is, the usage of weft threading, where the rosette-weave method enables us to allocate both pieces properly toward a fixed direction. The feature of representing the petal is that the weft threads are always interlaced with the warp threads on one side more frequently than they are on the other side (Fig. 10, upper side each). Thus, in thinking of the aforementioned points so far observed in the some fragments in Textile 2, the cloth (4) may well be positioned as shown in Fig. 8.

Textile 3

As for this textile, two large and better-preserved pieces of cloth with tree design bands on them (Pl. 28–a, 35–d) are not brought into a line in the weft direction, but are so reconstructed as to have the two tree design bands arranged in two rows (Fig. 13). In this case, it was impossible for us to have the design bands continuously lined toward the weft direction, because of the disagreement of the number of the weft threads in the wave pattern bands placed on the both sides of the tree design bands.

Textile 9

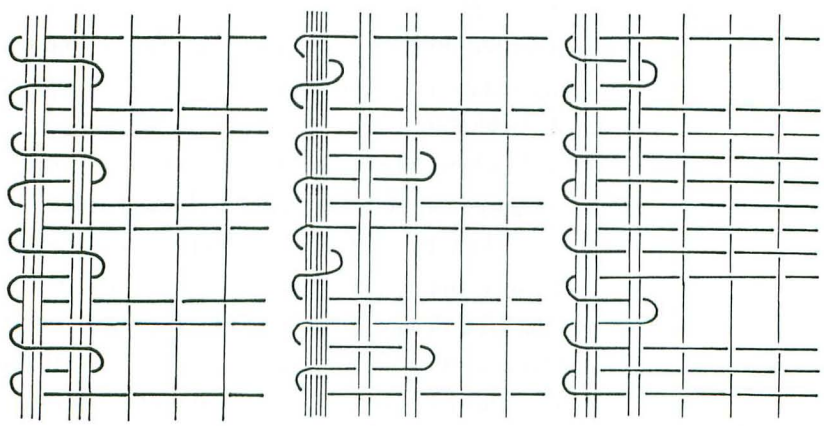
In this textile 9 (Pl. 28–b, 37–d), we observed the fragment, in which the remnant of turning weft threads of pale reddish yellow ground still remains along the edge of the dull red purple design area of 7.8 cm in width from the selvage, and the fragment (T-37) where the dull red purple design area with a vivid reddish yellow stripe continues to the ground area in the warp direction. This example coincides with the textiles composed of H-shape patterns and color combination which have ever been uncovered. The textiles with H-shape patterns on them were found accompanied with purple or the like square patterns along the selvages (Pl. 31) [Fujii ed. 1976: Color Fig. No. 47']. So, textile 9 is regarded as the fabric of a H-shape pattern type, whose reconstruction will, therefore, be feasible as its portion.

2. Weave structure

It has been detected by Mr. Ryuzo Onooka, ex-chief Researcher of the Agency of Industrial Science &

Technology, Ministry of International Trade & Industry that the raw materials of the textiles from the inner room are wool and hair only. (camel hair is used as grandrelle yarn[1].) Their structures are mostly of plain weave or its variation (warp 1, weft 2). Besides, only one instance of twill (warp 2, weft 2) has been discovered. The patterns have been provided with various kinds of tapestry-weave technique. The observation of the textile surface (thread spacing), according to the Emery's classification method, is that many of the textiles are weft-faced, apart from one warp-faced (Textile 1) and two balanced (Textile 8 and 9). These grounds are of balanced weave, but the pattern areas are of weft-faced. Now that the yarn is manually spun, not a few differences are observed on the yarn thickness and twist number, even if allowances are to be made for their long passage of age. As for the patterned textiles (Textiles 2, 3, 9), a single S-spun yarn each is used for both the warp and the weft. It is frequently observed that two thin weft threads are passed together. As regards thick textiles (Textiles 5, 6), in the meantime, two plied yarn is used for both the warp and the weft, and Textile 6 has grandrelle yarn adopted for both the warp and the weft. These thick textiles may have been used differently from the patterned textiles. Concerning the yarn used for the shaded color band, the unspun wool, which has been dyed as raw material, is then spun into the yarn of neutral shade with a proper color gradation, which makes the color shifting all the more natural.

There are selvages still preserved in Textiles 2, 3, 9 and 10. Unlike those discovered before, the selvage of Textile 2 has the addition of decorative selvage with red yarn applied to the ground selvage, which functions as both decoration and protection of the ground selvage. The ground selvage and the decorative selvage are joined together by means of dovetailed tapestry technique (Fig. 6 Type 4, Pl. 35–c). Such sorts of selvages as observed in Textiles 3, 9 and 10 (Fig. 11) have often been confirmed on those of textiles so far uncovered at at-Tar. This is the type in which the weft thread interlaces with the warp thread more frequently at the selvage portion. The selvage decorated with red yarn has been unearthed at a tomb (416/10) near Gamai, Lower Nubia (Meroitic Period (0–350 A.D.) or at X Group (350–550 A.D.)), where interlock tapestry technique has been adopted to make it. Likewise, such reinforced selvage has been cofirmed on the textiles unearthed at the tombs located between Faras and Gamai, Lower Nubia (Meroitic-Early Christian period (650–750 A.D.)) [Bergman 1975: 38, 39, Pl. 50]. Here, at the inner room are two types of warp finish: one is the warp cord finish and the other is the hem finish after the hem has been folded over. Textiles 3 and 8 take the cord finish for their warps (Fig. 5-left). Both of them have their ends twisted into cord with S-twisting and Z-plying. The pile textile (Taxtile 10) has an elementary warp finish that the cloth edge has been stitched up after having been turned over. The warp



A (Textile 3) B (Textile 9) C (Textile 10)

Fig. 11 Type-2 selvages

cord finish has been confirmed on the textiles uncovered at Pazyryk in Siberia, Noin-Ula in Mongolia [Sakamoto 1982/83: 34, 35], Palmyra [Pfister 1934: 33; 1940: 23–24] and Dura-Europos in Syria [Pfister 1945: 14, 17, 23], the Cave of Letters in Israel [Yadin 1963: 201–203], the aforementioned tombs, and Ballana and Qustul in Nubia [Bergman 1975: 32–33; Thurman 1979: 40], from which we have learned that this method had a wide range of use for ages.

3. Designs

Among the textiles discovered here, there are flower, tree, wave, comb (picket fence), oblong, triangle, stripe and shaded color patterns. In particular, Textiles 2 and 3 constitute horizontal stripes based on the combination of three kinds of flower and tree design band, wave pattern band and shaded color band. These main portions have a symmetry of these design units with the tree and flower design as the core placed in the middle of the wave pattern band and the shaded color band at its upper part and lower part, respectively.

And further outside of them, we see plain stripes woven. In Textile 2, there are two comb design bands arranged above and below the flower and tree design band as a main role. Moreover, we see two different comb design bands divide the whole into three, drawing waveforms in symmetrical arrangement (Fig. 12). In Division II, the central portion, there are tree trunks, which are the main motif of the whole pattern bands as well as the core of Division II, lying sideways in the weft direction. And hook-shaped leaves ('warabite' in japanese), flowers and fruits are seen with the tree trunk pattern inserted in-between. Division I and Division III, outer sides of the wave lines, contain the T-shaped linkage of threefold circles. And the threefold circles, provided with trifurcate figures (Pl. 27–b), respectively, look like pomegranate fruits to symbolize fruitfulness(4). On either side of the threefold circles, there is a symmetrical arrangement of rosettes and black circles inside of which have different color divisions. Below the black circles, knotted ribbons or the like are observed, but it is impossible to specify what they stand for. In the meantime, it is probably because of 'horror vaccua' that the spaces around them are filled with minute ovals. These circles and rosettes inside Divisions I and III are in bilateral symmetry with the T-shape pattern at their center. And, at the same time, they are so well-balanced as to produce an up-and-down equilibrium in Divisions I and III. In the whole design band, the patterns with the tree trunks as their core are adjusted in up-and-down proportion and are bilaterally symmetrical about the warps running through the top or the bottom of the wave lines. The repetition of such unit of pattern goes on in the weft direction. Fine gold and strong yellowish red stripes are put in among the shaded color band, dull green broad stripes, and wave pattern bands, whose color contrast makes the division of each stripe more clear. At the same time, such vivid fine stripes make an effective accent. The shaded color bands have their color gradually changed from light toward dark starting from the both sides of the design band as the core of the textile (Fig. 12, Pl. 27–a). This manner of representation is also common to Textile 3 and Specimen C-38-5 uncovered from Cave F-6, Hill A [Fujii ed. 1980: 148–150].

Textile 3 includes two rows of tree bands where trees lie in the weft direction. And there are leaves, fruits, and hook-shaped buds alternately arranged on both the upper and lower sides of the central tree trunks (Fig. 13, Pls. 28–a, 35–d). It seems likely that these trees signify 'arbor vitae' on which ancient people had made their wish for immortality and fruitfulness. Specimen C-38-5 consists of three kinds of shaded color band, wave pattern band, and tree design band combined together, with the symmetrical arrangement of them with the tree design band as their core inserted between. And the main design band has grapevine scroll patterns woven inside. This resembles the tree designs discovered at Cave 12 in the manner of representing grape leaves, fruits and hook-shaped buds placed on either side of the central grapevine. The same is also true of the ornamentalization of the leaves and fruits and the derivation of the

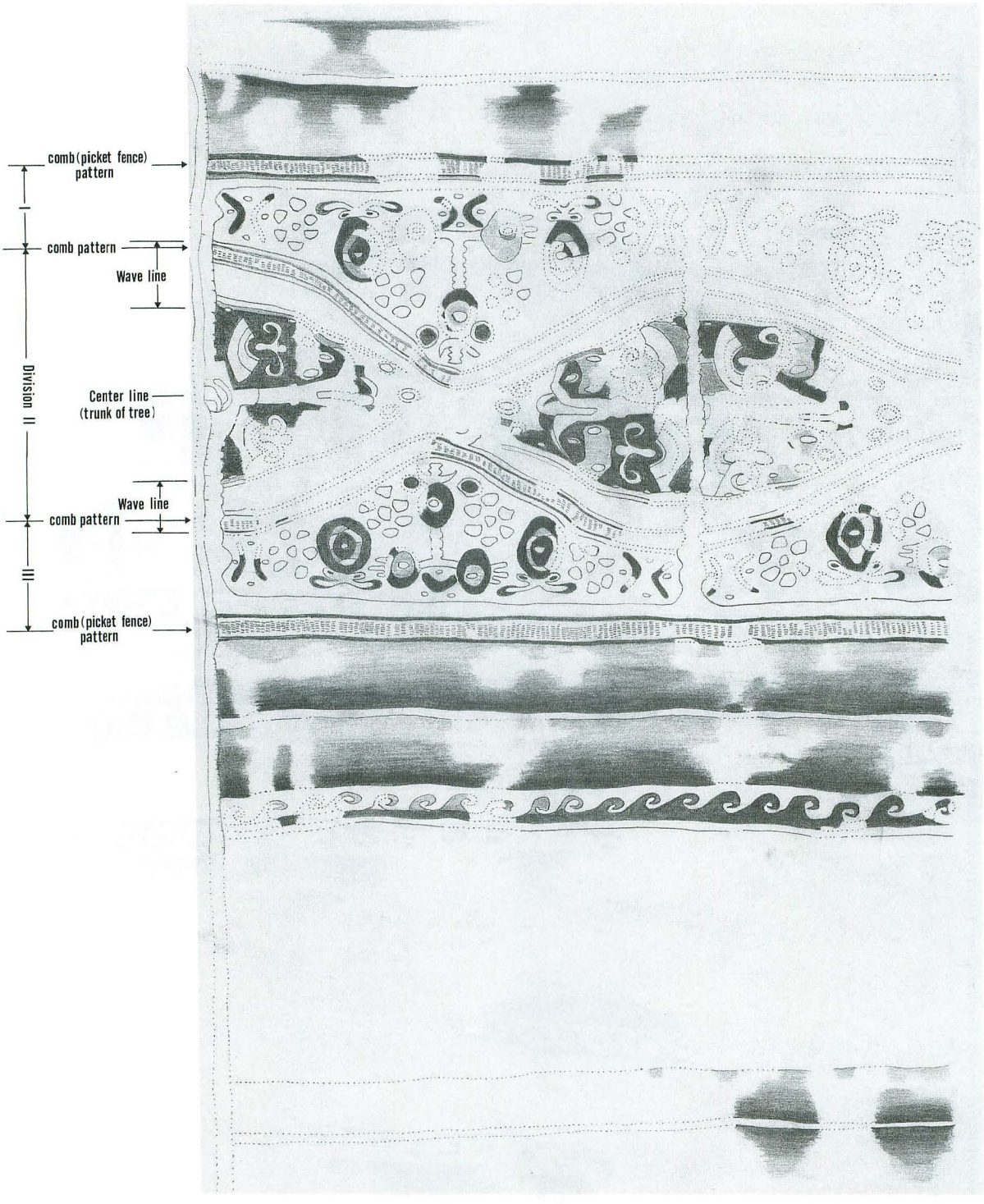


Fig. 12 Reconstruction of the textile with flower and tree design band (Textile 2), see Pl. 27–a, b

slender grapevine and tree twigs in a certain angle. Contrary to the evidence that the grapevine scroll pattern is slightly curved, the tree design patterns uncovered at the inner room are described utterly straight. It is probably suggested to us that this is because of its fidelity to an attribute of the subject itself in spite of its progress in ornamentalization of the leaves and fruits.

Such composition of the horizontal stripes as three different kinds of flower and tree design band, shaded color band and wave patten band are combined together while symmetrically spreading from the

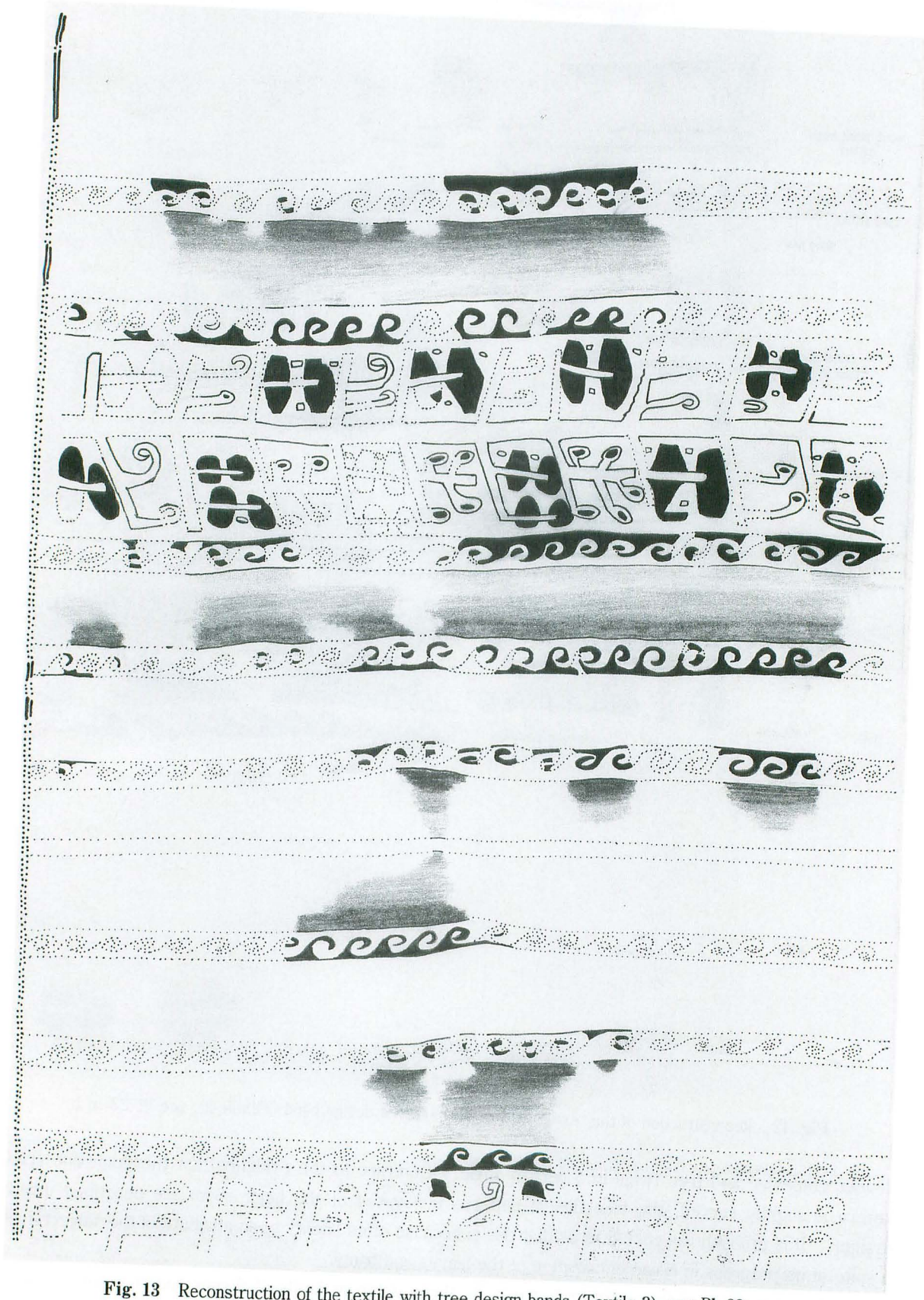


Fig. 13 Reconstruction of the textile with tree design bands (Textile 3), see Pl. 28–a

flower and tree design band placed in-between is also seen in the textiles excavated at Palmyra and Dura-Europos [Pfister 1940: 28, 29, Figs. 13, 14, PL.IX; Pfister and Bellinger 1945: 10, 35, 36, Fig. 2, PL. 3]. Moreover, the similar sort of weaving scheme as the above is also confirmed in the wool textiles uncovered at Noin Ula, North Mongolia [Руденко 1962: 108–110 рис. 74, 75 таб. LXVIII, LXIX]. However, the design bands observed in these textiles are much narrower in width and their patterns are smaller than those of the inner room, Cave 12, at-Tar. What is more, there we see no such straight-line representation as observed here in the at-Tar ones. The symmetrical wave line structure of the design bands in Textile 2 reminds us of the fabric with the flower and leaf scroll designs uncovered at Palmyra [Pfister 1940: Fig. 12, Pls. VII, VIII]. The Palmyra twig wave line is smaller with its twig unified into flowers and leaves, whereas the at-Tar wave line plays a role of dividing the design bands.

Besides, there are many examples of geometrical designs such as H-shape, gamma, square and stripe ones frequently evidenced among the textiles of geometrical patterns on the dull yellow ground as shown in Textiles 4–1, 4–2 and 9. Among these finds, Textile 4–1 has a triangle pattern as well as stripes. Textile 9 includes a fragment of square-like pattern which has apparently come from the portion along the selvage. It is most probable that is the rest of some H-shape pattern textile.

4. Descriptions

Textile 1:

Only two small pieces of wool are listed here. The thread used here is extremely fine for wool textile. At first sight, it looks like linen, but has been proved as wool by means of the photo-microscope and scanning electron microscope(5).

Textile 2:

Of all the uncovered textiles, this has been found in the best state of preservation with brilliant multiple color designs, so that there was a possibility of its being restored to a large piece of cloth. We understand that this used to be over 143 cm in its original width at the time of production. It still retains its original color or is slightly discolored. The beautiful dyed colors visible on the design bands are similar to the finds at F3, F4 and F6 Caves, Hill A. Plain weave is used in greater part of the cloth and the portion where rather slender wefts are passed together in pairs is of variation of plain weave (warp 1, weft 2). The designs are represented with tapestry technique, which is diagonally threaded for wave line formation. For the comb pattern weaving observed on the wave lines, and above and below the flower and tree band, two shuttles are passed there by turns for the use of different colors. The selvage threads on both sides of the cloth have the same color as that of the weft (1) (see data table), by which the selvage line has been made all the more clear while functioning as protection and decoration of the cloth edge (Type 4 in Fig. 6).

As already mentioned in the part of Designs, the whole design is composed of horizontal bands where the central axis, 25 cm wide flower and tree design band, has the arrangement of vertical symmetry. Inside the design band, there is a repetition of unit designs visible in vertical symmetry and bilateral symmetry. This seems to have been the garment of daily use, judging from the evidence of repair thread at the joint of the tapestry-weave portion.

Textile 3:

Unlike Textile 2, we have the impression that Textile 3 is rather sober in color, which is probably because of discoloration evidenced from the small portion of the fragment whose original color is still retained. Its structure is mainly of variation of plain weave with two paired wefts (warp 1, weft 2). Some parts are simply of plain weave where a single weft is used. The warp in Textile 3 is finer and a little higher in density than in Textile 2. Most of the warps are light yellow brown and about 0.35 mm in diameter, where some other different-quality warps are mixed together. The selvage is so reinforced that

every three warps are made into two cords, where wefts are interlaced in extra frequency (Fig. 11–A). T-131, a fragment of Textile 3, has such a cord finish as two 3–3.5 cm long warps are primarily worked into S-twisting with the addition of some supplementary threads which are the rest of the wefts, and then are Z-plied, thus resulting in the formation of 3 mm cord in diameter. Twist count is about 1.7 times per centimeter (T-91, T-131). Along this warp finish portion, we see a dull green border of 1.2 cm in width. Furthermore, the other two fragments include the same dull green stripes of 3.8 cm and 3.5 cm in width respectively as well, from which it is presumable that at least two border stripes had been either at the beginning or at the end of the woven fabric or at both sides of the woven fabric. We see two selvaged fragments seamed together in such way as one selvage comes into contact with the other, where only one evidence of sewing-thread is preserved (T-82). Just as Textile 2, this is also composed of horizontal stripes where the central axis of 9 cm wide design band is accompanied by the wave pattern band and the shaded color band spreading above and below with the addition of plain borders. There are two rows of tree design bands represented with tapestry-weave technique. The wave pattern bands recognized in Textile 3 are generally smaller and the stripes are narrower than those in Textile 2. Some evidence of a repair thread has been confirmed on the joint of the tapestry area.

Textile 4–1:

This has dark purple geometrical patterns on the dull yellow ground. The ground area is woven into variation of plain weave (warp 1, weft 2) while the pattern area is of plain weave by means of tapestry-weave technique. A dark purple stripe of 3 cm in width is recognized. We see a slit of 4.5 cm in length, which was made along a side of the dark purple triangle, again stitched into closure by another thread (T-79) (Pl. 36–b). The slit is so made that two warps are worked out into a cord on the ground side whereas on the pattern side, two warps are used as they are, thus finished like the reinforced selvage. Its joint portion with the dark purple triangle pattern is put together with dovetailed tapestry technique. The ground within the range of the slit is also of plain weave around the triangles represented with tapestry-weave technique. This portion is very closely threaded in, where the number of threads per centimeter is no less than 44 threads. Accordingly, in spite of its soft ground, the pattern portion is rather solid in texture. There is a fragment whose cut edge is folded in three and then stitched (T-79).

Textile 4–2:

A black band of 10 cm in width is seen on the dull yellow ground. Two pieces of cloth are seamed together in such way as the directions of their warps are arranged at right angles. The ground area is made of variation of plain weave (warp 1, weft 2), while the pattern is of weft-faced plain weave.

Textile 5:

This is a thick fabric produced with both plied warps and plied wefts, loosely woven with thick thread. As the texture of the cloth is very stiff, there is no possibility of its having been used as a garment. Three fractions of twill are stitched on the fabric with the same thread as that of the cloth on its edge. The twill fragments are in poor preservation.

Textile 6:

Grandrelle yarns are used as the warp and the weft. The torn portion in the weave is repaired with thick threads.

Textile 7:

This is a plain textile woven with variation of plain weave (warp 1, weft 2), which seems to have been used by tearing it up into a slender strip for binding.

Textile 8:

This is a very thin fabric produced with considerably fine threads in the openwork way. A fragment on which warp finish can be evidenced has been discovered (T-58, T-86). The warp finish here is that the

warps are cut out at about 2.5 cm from the woven edge; every three warps are S-twisted and then two boundles of them are Z-plied into a cord with the gradual addition of a set of three-warps, thus, the warp thread is worked into a cord of 3 mm in diameter. Twist count is about 1.5 times per centimeter. There is a dark red stripe of 5 mm in width located about 1 cm from the warp finish. Discoloration is severe on the cloth edge fragment and another one. All over the cloth zigzag stitches (2 mm–5 mm in length) are recognized.

Textile 9:

There is a pale purple square pattern woven in the width of 7.8 cm starting from the selvage edge. And a vivid reddish yellow stripe of 3 mm in width is visible between the ground and the square pattern (T-37). Both the ground and the pattern are of plain weave, whose pattern area is weft-faced. Here and there on the ground, paired and thick wefts can be seen. On a single fragment, there are evidences of a portion of selvage, a portion of the pale purple square pattern and a remnant of the ground. The selvage is so contrived that five warps, two warps and two warps each are bundled into three individual cords, starting from the cloth edge, where the selvage is strengthened with the return work of the weft (Fig. 11–B). The pale purple pattern area with the ground area is jointed together with dovetailed tapestry technique.

Textile 10:

This is a plain rug in the dimensions of 150 cm×75 cm which is the largest of all the excavated fragments in the inner room. The warps use grandrelle yarn of sheep and camel fibers. The pile threads are knotted in the way of Type B-1 (Fig. 7): the asymmetry knot at the interval of 1.2–2.2 cm apart, in some pile rows, a pile thread encircles around two warp threads and is twisted on the third warp. The pile length remaining up to now is around 5 cm. The density in the pile knotting is rather low. The selvage has been preserved on one side only, which is so constructed that three warps and two warps each are bundled into two cords, where the wefts turn back to produce a reinforced selvage (Fig. 11–C). The cloth edge is stitched into the ground fabric after folding it over. This is the cloth which was laid under a dead body wrapped with other fabrics at burial, which has been uncovered in the state of its being folded up due to the limits of the burial place. The radiocarbon dating reveals that it is the one of B.P. 2650±120: ca. 700 B.C.[6].

Textile 11:

This has been found to be on the process of carbonization.

Conclusion of the inner room

From the textiles uncovered here, it is possible to infer the burial state and the combination of the textiles used for the burial of a dead body. The dead person had been buried with the garment of textile with multiple color designs for daily use on (Textiles 2 and 3) and wrapped in the textile of purple geometrical patterns on the dull yellowish ground (Textiles 4–1, 4–2 and 9).

As we have already learned in the tunics from Dura-Europos [Pfister 1945: Fig. 7, Pl. V], some examples from the Cave of Letters [Yadin 1963: Fig. 70, Pls. 66, 77], the statues in Palmyra and Hatra (Pls. 34–b, c) and the wall paintings in the Palmyra temple [Ghirshman 1962: Pl. 59] and the synagogue in Dura-Europos [Pfister 1945: 11, Yadin 1963: 228], the textiles woven with the design of horizontal stripe containing some patterns and those of the weft-direction bands would be used as tunics of vertical stripes or bands (clavi) when they were worn as clothing. On the other hand, the textiles with H-shape and gamma-shape patterns on would be wrapped up over the tunic as mantle. In this way, judging from the evidences of such weave patterns, the uncovered specimens are that Textiles 2, 3, Textiles 4–1 and 4–2 are tunics while Textile 9 is a mantle. They are fastend together with cords. One of the cords is a broad twisted cord (Textile 11) and the other is a strip may be produced by tearing cloth (Textiles 5, 6, 7 and 8).

Under the body, there lies a piece of pile textile which was used as a rug (Textile 10). It was the one with Type B1 pile knotting method. Such burial examples as the pile textile was laid under the body are also confirmed at Cave F 6, Hill A, Cave 12 corridor, Hill C and Cave 17, Hill C [Fujii ed. 1976: 92, 93; Ohnuma and Inaoka 1984/85: 29, 32–33; Matsumoto 1984/85: 39, 42].

With regard to the textiles uncovered here, the radiocarbon dating reveals that the pile textiles date back around 700 B.C.(6). In the meantime, Textiles 2 and 3, which are regarded to be among the major finds, consist of horizontal stripes in which tree and flower design band, wave pattern band and shaded color band are combined together in symmetrical arrangement with the tree and flower design band as their core. This sort of weaving scheme has also been confirmed in the goods uncovered at Palmyra, Dura-Europos and Noin Ula, all of which are supposedly the ones belonging to the 1st–3rd centuries A.D.. Such resemblances are also seen in the goods excavated at Kerch located on the north coast of the Black Sea which are regarded as stemming from the 1st century B.C. to the 1st century A.D. [Герцигер 1973: 82, рис. 13, 14]. As far as we are concerned, such instances as the above cannot be cited among the finds belonging to the period later than the 4th century A.D..

And the 'Nagashiori-weave technique' has been adopted to represent flower and tree design. Such technique is clearly observable on the human images uncovered at Cave F3, Cave F6 and Cave 16. The motif of the human image uncovered before and its type of representation by means of the 'Nagashiori-weave technique' have many things to do with the mosaic technique in the Dionysos figure which has been confirmed on the mosaic pavement at Antioch [Fujii ed. 1976: Color fig. No. 84; 1980: 108–114]. Such being the situation, the newly discovered textiles are now believed as the ones dating to the Roman Period (A.D. 1–3 centuries).

(Hideo Fujii, Kazuko Sakamoto)

IV. Textiles from the Slender Corridor

The following are the six textile specimens identified from among lots of fragmentary textiles uncovered at the slender corridor, Cave 12:

Textile 12: Fragment with gamma pattern
Representative Specimen No. IV-OH-368-14-ⓐ (Pl. 29–a, –b)

Textile 13: Fragment with thin band
Representative Specimen No. IV-OH-124 (Pl. 30–a)

Textile 14: Large cloth with H-shape and square patterns
Representative Specimen No. IV-OH-368-13 (Pls. 30–b, 31, 32–b)

Textile 15: Fragments with wave pattern and horizontal stripe pattern bands
Representative Specimen No. IV-OH-368-3-①a,-①b, IV-OH-121 (Pl. 32–a)

Textile 16: Gauze-like thin cloth with horizontal stripe pattern
Representative Specimen No. IV-OH-368-10 (Pl. 32–c)

Textile 17: Pile textile with borders
Representative Specimen No. IV-OH-368 (Pl. 33)

1. Identification and design reconstruction

A great many fragments unearthed here have been classified into the above six with their weave structures, thread-spacing and patterns taken into consideration. Then, small fragments except for the remarkable ones in pattern and weave structure had to be carefully examined one by one.

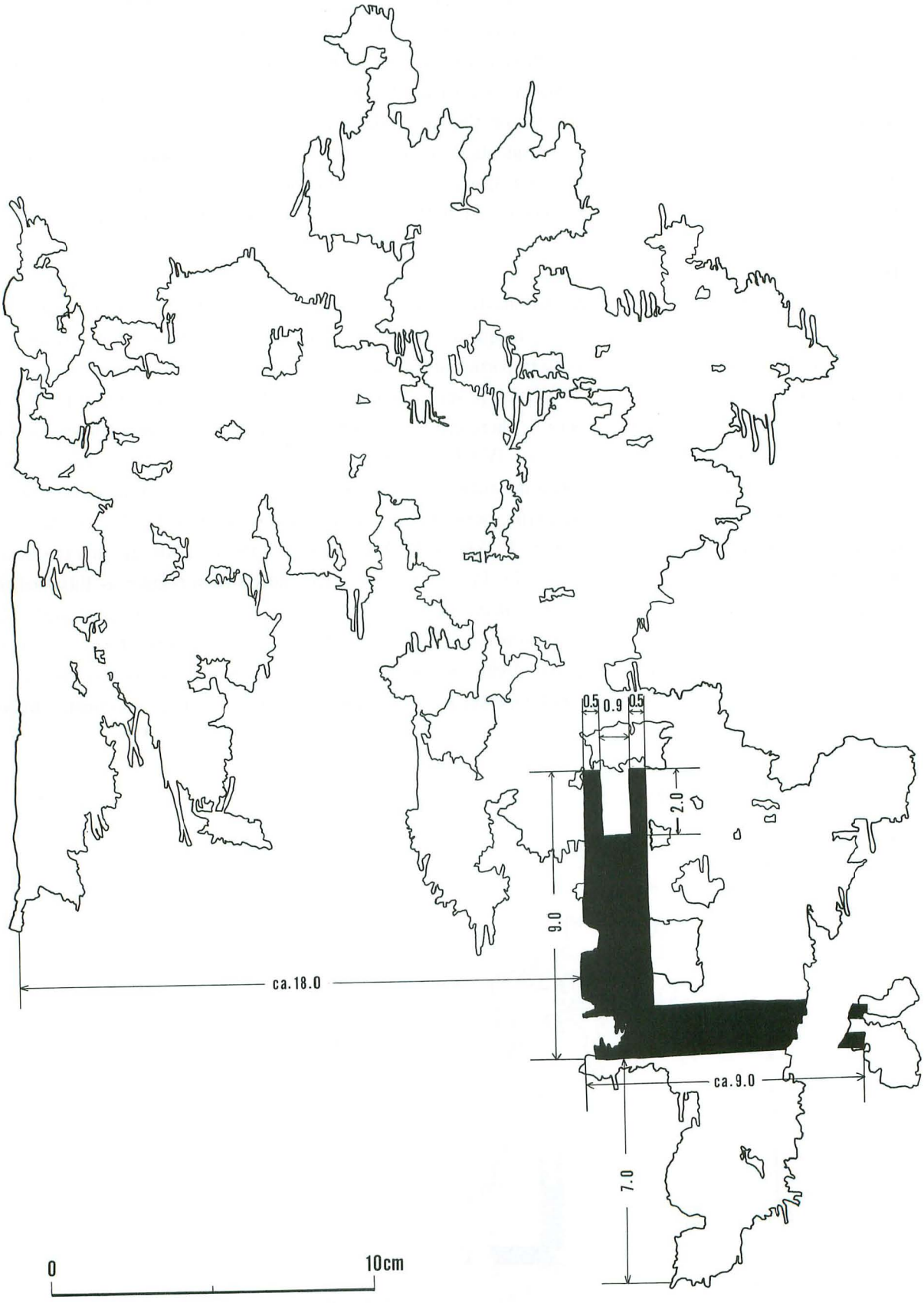


Fig. 14 Position of gamma pattern, Textile 12 (dimension: cm)

The common color of the ground of Textiles 12, 13 and 14 is dull reddish yellow and the like.
According to the systematic observations on their ground and design structures, Textiles 12, 13 and 15 are of plain weave (warp 1, weft 1), whose thread-spacing is weft-faced. Textile 14 is of variation of plain weave (warp 1, weft 2), whose thread-spacing is a balanced type on the ground, and its design parts are of variation of plain weave (warp 2, weft 1), whose thread-spacing is a weft-faced type.
The grounds of textiles 12, 13 and 15 are identical in weave structure and thread-spacing as mentioned above. As for the twist direction of the weft thread used on the ground, however, Textiles 12 and 13 are Z-plied whereas Textiles 14 and 15 are S-plied. From this, we can tell the difference between Textiles 12, 13 and Textiles 14, 15.

Textile 12

The Representative Specimen IV-OH-368-14-ⓐ is a fair-sized fragment (40.0×25.0 cm) with the gamma pattern woven in tapestry-weave technique about 18 cm inside the selvage (Figs. 14, 15) [Fujii ed. 1980: Pl. VII No. 204]. The gamma pattern portion still remains almost perfect, but its position relative to the weave start or weave finish, i.e., its vertical position, is unable to identify, to our regret. It is further impossible to allocate it from four corners. There are many fragments which are considered to be part of Textile 12, but none of them except Specimen IV-OH-368-14-ⓐ keep their original patterns. The textiles with the pattern of this sort have not been unearthed from the other caves of at-Tar Site than this. It is reported, however, that the other neighboring sites such as Nubia [Bergman 1975: Pls. 33, 60, 61, 62, 63], Dura-Europos [Pfister 1945: Figs. 1, 5, Pl. XI–25, Pl. XII], Palmyra [Pfister 1940: 21] and the Cave of Letters [Yadin 1963: 238–240, Figs. 75, 78, Pls. 80, 81, 82] have yielded such textiles as this kind of pattern on. From these reports, it is thus deducible that Textile 12 had also been provided with the individual gamma patterns near the four corners of the cloth. There are some other fragments with selvages such as (IV-OH-350) [Fujii ed. 1980: Specimen 88], (IV-OH-368-4) and so on (Fig. 15). Besides, there is a fair-sized fragment with tapestry-weave technique pattern on, which is estimated to be

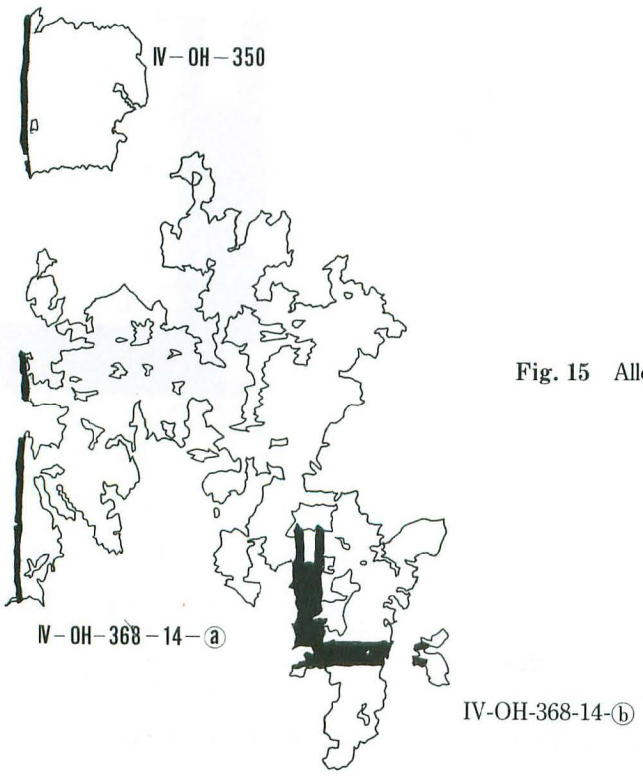


Fig. 15 Allocation of Textile 12

the weaver's mark (Pl. 29–b) located near the warp cord finish (IV-OH-368-5, 21.0×62.1 cm) [Fujii ed. 1980: 281, Specimen 202] (see left of Fig. 5). The examinations of their thread twist direction, thread density and thread-spacing have proved that they can be identified into Textile 12. But their original positions are not traceable.

Textile 13

This is a thin woolen fabric of plain weave, both the ground and pattern of which are weft-faced. It has been badly damaged with its excavated condition tattered into various small fragments. In resting on a number of data as to the ground and pattern portions, such as twist count, twist direction, density, thread-spacing and color of the thread, Representative cloth IV-OH-124 is very similar to Representative cloth IV-OH-368-14-ⓐ, Textile 12. On the contrary, there is a large difference between them in the widths of their pattern portions, i.e., 6.3 cm wide in the pattern of IV-OH-124, while 2 cm wide in the gamma pattern of IV-OH-368-14-ⓐ. It is, therefore, considered that IV-OH-124 has its origin different from that of Textile 12 whose representative cloth is IV-OH-368-14-ⓐ. So, the damaged fragment (IV-OH-312-② 23.5×15.8 cm) presumably coming from Textile 12 (IV-OH-368-14-ⓐ) is the one woven with deep red purple weft threads, which seems to belong to a part of pattern portion, but it is identified into Textile 13 because of the disagreement of its pattern width (about 4 cm) with that of Textile IV-OH-368-14-ⓐ. It is, therefore, considered that the specimen with the pattern width of over 2 cm does not belong to IV-OH-368-14-ⓐ, but belongs to IV-OH-124. This is why the small fragments which are regarded as belonging to IV-OH-124 have been grouped into Textile 13.

Textile 14

This is a mantle cloth with H-shape and square patterns on (IV-OH-368-13, 238.5×164.0 cm), [Fujii ed. 1980: 282, Specimen 203, Pl. No. 203]. The ground is variation of plain weave (warp 1, weft 2), which is different from Textiles 12, 13, 15 and 16 in weave structure. The pattern is variation of plain weave (warp 2, weft 1), where tapestry-weave technique is applied with the use of dark wine-clored weft threads.

Owing to its difference of ground and pattern structures from those of Textiles 12, 13 and 15, we can easily classify them even if they are similar colored small fragments (Fig. 16). The large cloth (A) (IV-OH-368-13) was unearthed with its weave start, weave finish and both the selvages kept intact in succession, so that we were able to examine carefully the individual pattern allocations, pattern sizes and weave techniques of individual parts on the large cloth with H-shape patterns and square patterns along the selvages. Thus, the very cloth has been the basis for the reconstruction and the study of other large fabrics with H-shape patterns uncovered from the other caves of at-Tar Site. The costume of a large cloth with H-shape patterns has been painted on the wall at the synagogue in Dura-Europos [Pfister 1945: 10–11]. Just as the textiles with gamma patterns, so are the textiles with H-shape patterns uncovered from Dura-Euopos [Pfister 1945: Figs. 18, 19], Palmyra [Pfister 1940: 22–24, 30], the Cave of Letters [Yadin 1963: 220–221, Fig. 74, Pls. 68, 83, 84, 87] and Nubia [Bergman 1975: 46, Pls. 59, 60]. In studying the patterns and allocations in the excavation reports from these sites, it is known that there are some similarities between them and these fabrics uncovered at at-Tar. We have learned that all the H-shape and gamma patterns are woven at four separate corners at equal intervals and their sizes properly fit for each cloth, and that the H-shape is accompanied with square pattern along the selvage, avoiding the center of the large cloth. Among the fragmentary textiles which perhaps belong to Textile 14, allocations of such small fragments as can be confirmed as weave start, weave finish and selvage have been almost settled as the result of our investigation. For instance, the fair-sized fragment (B) (IV-OH-100, 37.2×28.0 cm), [Fujii ed. 1980: 257, Specimen 153] can tell us its obverse and reverse from its selvage structure, and its selvage structure is proved to be the left side. This depends on the technique that the additional thread covering

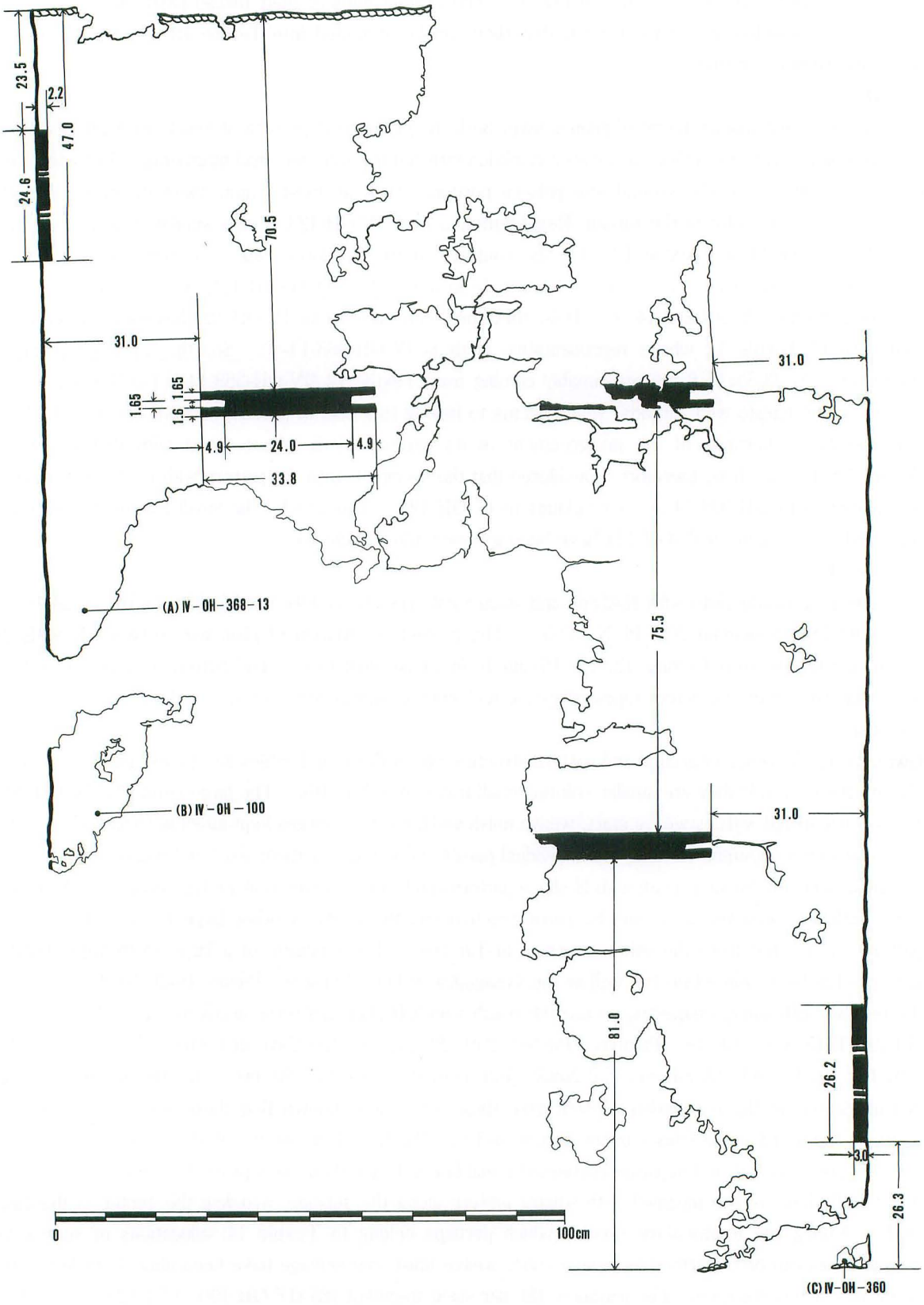


Fig. 16 Identification of Textile 14 (dimension: cm)

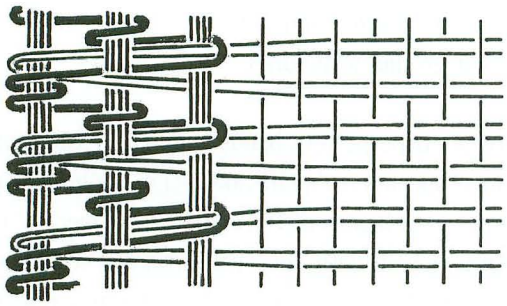


Fig. 17 Type-3 selvage at the ground of Textile 14 (left side)

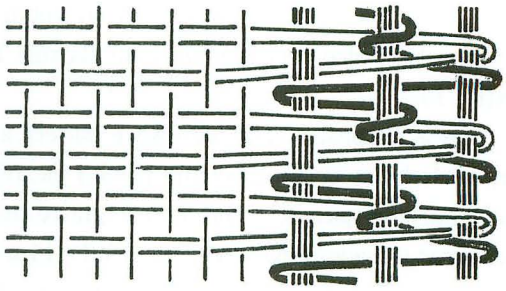


Fig. 18 Type-3 selvage at the ground of Textile 14 (right side)

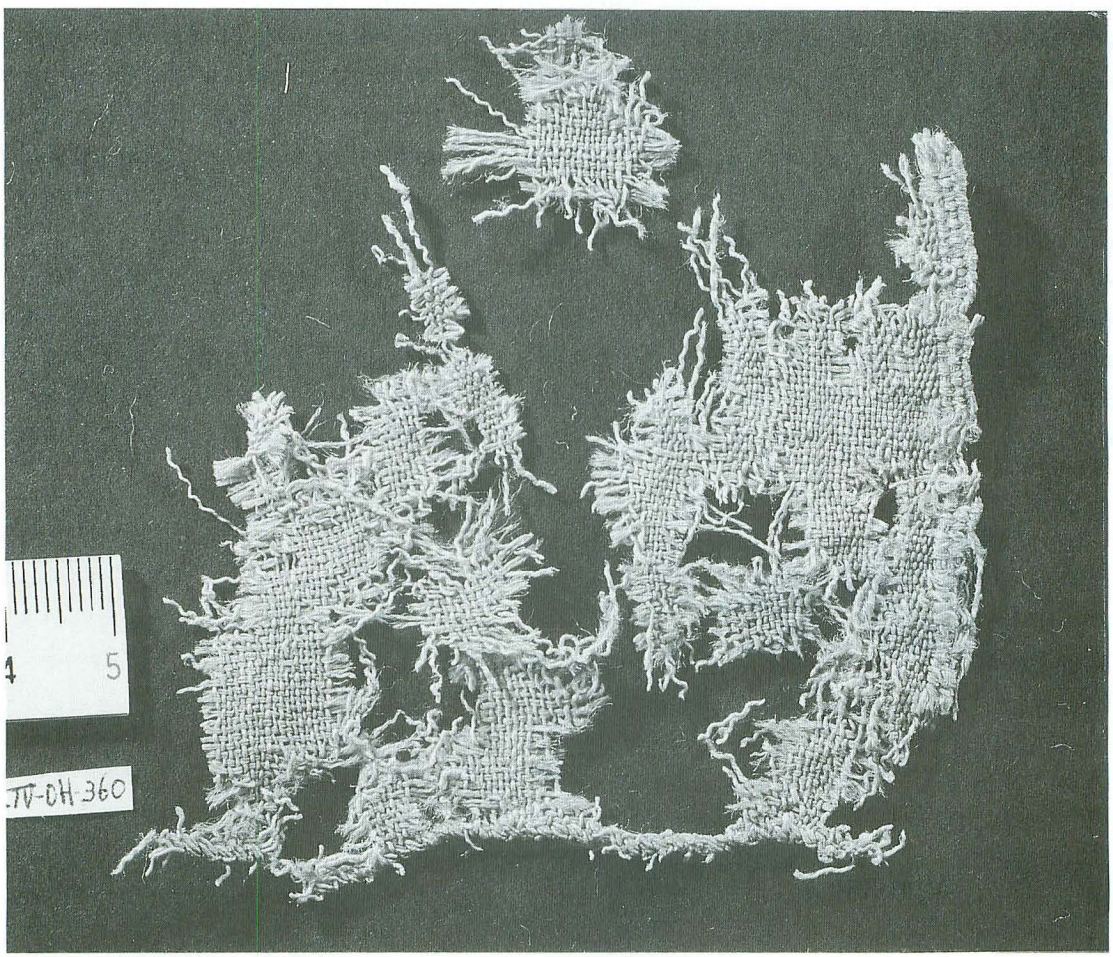


Fig. 19 Weave starting border of Textile 14 (IV-OH-360)

the turning weft on the first cord at the edge of the selvage repeats its rotation twice there, then once at the second cord, and finally turns back at the third cord. The left-side selvage of the large cloth (A) is also woven with the above-mentioned method in technique. Consequently, the selvage of the fragment (B) has the same structure as that of the left selvage, as seen from the weave start, of the large cloth (A) (Fig. 17). As for the selvage structure on the other side, the additional thread turns around the first cord only once (Fig. 18). Such differences in selvage structures as given above have made it feasible for us to allocate these fragments. The starting border-and-selvage-remaining fragment (C) (IV-OH-360, 7.8×7.3 cm, Fig. 19), [Fujii ed. 1980: 258, Specimen 155] has been classified into Textile 14 from its weave structure.

Moreover, its allocation has been found out from its starting border and selvage. Some other small fragments have also been identified into Textile 14 from their ground structures.

Textile 15

This is a tapestry cloth with wave pattern and horizontal stripe pattern bands (Fig. 20). Most of the fabrics which are probably identified with the representative specimen IV-OH-368-3-①a, -①b have gone into fragmentary pieces. The representative cloth is composed of 2 pieces, 1ⓐ and 1ⓑ: the piece 1ⓐ is a little larger selvage-remaining cloth (25.2×14.2 cm) which is woven with deep yellowish-red weft threads and of weft-faced plain weave (warp 1, weft 1), which is presumably the ground portion, where a horizontal stripe pattern band of about 3 cm in width is woven with dark blue weft threads; the piece 1ⓑ is also woven with the same ways as that of the piece 1ⓐ in weave structure and color. And its edge is decorated with a wave pattern band of about 1.5 cm in width, with the use of dark violet weft threads and dull reddish-yellow ones. Also, another fragment (IV-OH-121, 23.3×23.5 cm) presumably coming from a part of the same specimen contains two wave pattern bands of about 1.5 cm in width each in tapestry-weave technique on both sides, between which there is a horizontal stripe pattern band of about 13 cm in width with the use of deep yellowish-red weft threads. The dark violet heads of both the wave patterns are reversed each other, whose other portions are in the opposite directions, accordingly. A selvage survives on this fragment, too. The allocation of the selvages evidenced on Specimen IV-OH-121 and Specimen IV-OH-368-3-①a on the identical line proves that Textile 15 is composed of two rows of wave pattern bands with deep yellowish-red horizontal stripe pattern inserted in-between, and deep yellowish-red horizontal stripe band containing horizontal stripe patterns with the dark blue band placed in the middle, as is seen in the piece ①a. In addition, there are small fragments with wave patterns (IV-OH-412, 10.9×6.6 cm), (IV-OH-335, 9.1×8.2 cm), [Fujii ed. 1980: 281, Specimen 201, Pl. IV No. 201]. These two fragments

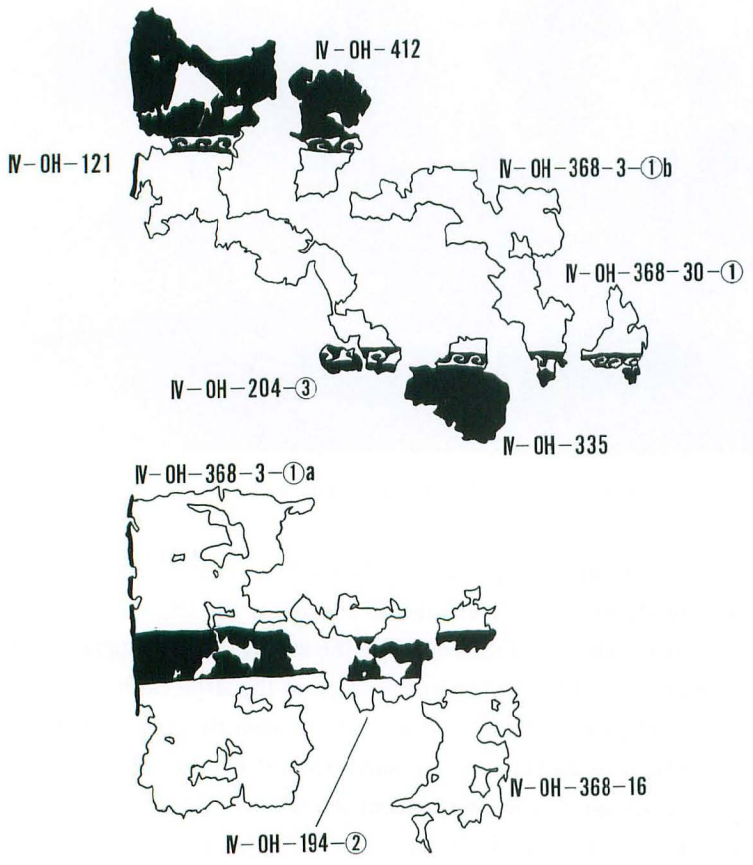


Fig. 20 Allocation of Textile 15

may be allocated as shown in the Fig. 20 from the correlation of the pattern bands.

Textile 16

This seems to be a band-like cloth of about 13 cm in width, probably torn from a veil or a scarf or something like that in the warp direction. It is 121 cm long in the warp direction without any starting or finishing border, whose original size is unknown. The textile includes one more small fragment (IV-OH-222-②) and no more else. It may have been a veil or a scarf of high-quality, whose ground is very thin like gauze, and three rows of horizontal stripe patterns are presumably woven with deep purplish red weft threads near its cloth edge. It may safely be assumed that such horizontal stripe bands had been symmetrically allocated, as similar materials are unearthed from Nubia [Bergman 1975: Pls. 3, 8]. However, we cannot grasp the information of the original cloth because we have not found anything else.

Textile 17 (Fig. 21)

A large cloth (A) of a pile textile has been preserved (IV-OH-368, 86.0×109.0 cm). Part of the deep red plain weave (1) is observable on one edge of this fragment. Between the deep red plain weave and the dark brown pile field, there was a dull blue green thread remaining only a little (2). The portion in which the thread once existed has the gap which is just equivalent to 3–4 weft threads, from which the warp is visible. It seems that some dull blue green stripe pattern used to be here, accordingly. Another selvage-remaining deep red plain weave fragment (B), whose specimen number is equal to that of the large fragment, has an evidence of one edge having been folded over and stitched up, where a thread for sewing is left. This fragment has been uncovered joined together with the large cloth (A). In the meantime, the deep red plain weave cloth (C) (IV-OH-368-11) looks like a long belt in the weft direction. On one of the long sides, we see a portion which is folded over and then stitched up. This is the warp finish of the pile

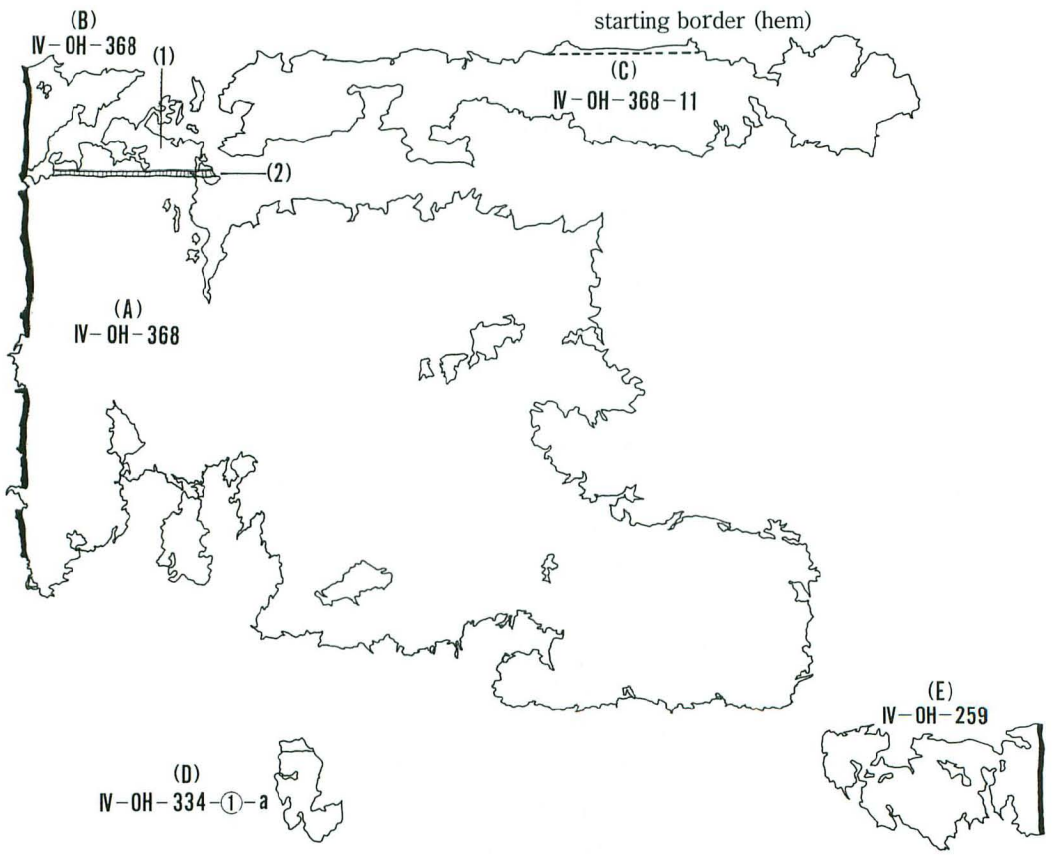


Fig. 21 Allocation of Textile 17

textile, which constitutes a starting border decoration of the textile edge together with the above-mentioned selvage-remaining deep red plain weave (B).

The fragment (D) (IV-OH-334-①-a) is of a deep red plain weave cloth, one edge of which has a portion of dull blue green variation of plain weave in succession. We see ten weft threads remaining there. It does not fit the above-mentioned dull blue green stripe patterned one, so that they cannot connect with each other. So, this is the border placed on the opposite side of the cloth (C). Moreover, the structure of fragment (D) (warp 2, weft 2) suggests to us that it directly continues to the field portion (A) (warp 2, weft 1) and it is a symmetrieal border decoration on the other side of the cloth (B) and cloth (C). This is also true of the pile rug from Cave 17, Hill C (IV-MK-1382) [Fujii ed. 1980: 305, 306, Specimens 249, 250; Sakamoto 1985: 10–13, Fig. 6] from its composition. The selvage of the selvage-remaining deep red plain weave cloth (E) has its weft turning direction contrary to that of the large fragment, so that this seems to have been the selvage on the other side. In spite of our discovery of the selvages on both sides, it is unknown as to the size of the original fabric because it is impossible to properly allocate the individual fragments. It is considerable that this was the pile rug with dull blue green and deep red border decorations along the weave start and weave finish.

2. Weave Structure

The fibers of the textiles except for a pile textile uncovered from the slender corridor, Cave 12 are all made of high-quality wool. In reconstruction work of Textile 14, the fibers of the uncovered specimens were carefully examined. The microscopic examination proves that very fine fibers are adopted here, where warps are mostly 16–18 μ while wefts are mostly about 22 μ [Fujii ed. 1984–85: 68–81]. Among the finds from Cave 12, majority of them are actually measured at 0.15–0.35 mm in diameter by 25-fold magnifier. Such fine threads have been frequently observed in the textiles coming from individual caves of at-Tar Site. Very fine threads are used for the weft threads of the pattern in Textile 12 (0.18–0.28 mm), for both the warp threads (0.17–0.30 mm) and weft threads (0.18–0.40 mm) in Textile 14 and for the warp threads (0.20–0.35 mm) and weft threads (0.30–0.40 mm) on the ground and the weft threads (0.12–0.30 mm) on the pattern in Textile 16.

Concerning the weave structure, Textiles 12–16 use plain weave and variation of plain weave. The grounds and the design parts of textiles 12, 13 and 15 are of warp 1 and weft 1, whose thread-spacings are of weft-faced type. The ground of Textile 16 is of warp 1 and weft 1, whose thread-spacing is of balanced type and its pattern is variation of plain weave (warp 2, weft 1, weft-faced type). Textile 14 gives its ground variation of plain weave (warp 1, weft 2) and its pattern is of variation of plain weave (warp 2, weft 1). Its thread-spacing is balanced type on the ground while it is weft-faced type on the pattern. Warp crossing can be seen in Textiles 14 and 16. Such warp crossing technique is visible in some other fragments with H-shape patterns uncovered from the other caves such as C-1006, C-1022 from Cave F5 [Fujii ed. 1980: 188, Specimens 15, 16], C-31 from Cave F4 [Fujii ed. 1976: 160, Specimens 47, 47', Pl. No. 47'] and V-65-1, V-98-1, IV-W-59 from Cave C16 [Fujii ed. 1980: Specimens 208, 212, 283, 205]. So too is in the other supposed-to-be fragment with H-shape pattern IV-MK-469 from Cave C17. The warp crossing technique is also used on some other thin fabrics except for the ones with H-shape patterns. One of the instances is a portion which is shifted into pattern of the thin plain weave cloth with chequered patterns on (Cave C17, IV-MK-1362) [Fujii ed. 1980: 289, Specimen 217], and the other is a cloth fragment with horizontal stripe pattern band which is woven with woolen weft threads on hemp plain weave cloth (Cave C16, V-71-1) [Fujii ed. 1980: 182, Specimen 4].

As one of the weave finish techniques, Textiles 12 and 14 have the method (Fig. 5-left), where two pairs of bundles of 2–3 warps each twisted together are plied into a cord. The cord warp finish method is a

technique often observed in woolen mantles. Such things have been uncovered from other caves of at-Tar Site. The only specimen from Cave D7 (C-05-VII) [Fujii ed. 1980: 183, Specimen 5, Fig. 5-right] takes three-plied finish method. This is a method used in a cotton fabric.

We see the weave starting border evidenced in Textile 14, where the warp edge is the form of U-turn (Fig. 4). It means that warp threads have been arranged with an endless method. The specimen similar to this has been uncovered from Cave F6, Hill A (C-25-3) [Fujii ed. 1980: 254, Specimen 147]. Also such resembling things have been discovered at Nubia [Bergman 1975: 29–30, Figs. 24, 25].

The selvages of Textiles 12 and 14 belong to Type 3 with the use of additional threads. But here, such method of using additional threads as are fit for the ground texture is adopted (Textile 12, Fig. 23; Textile 14, Figs. 17, 18). Textile 15 takes Type 2, i.e., a weft thread turns back after rotating twice around a single cord selvage (four warps) (Fig. 22).

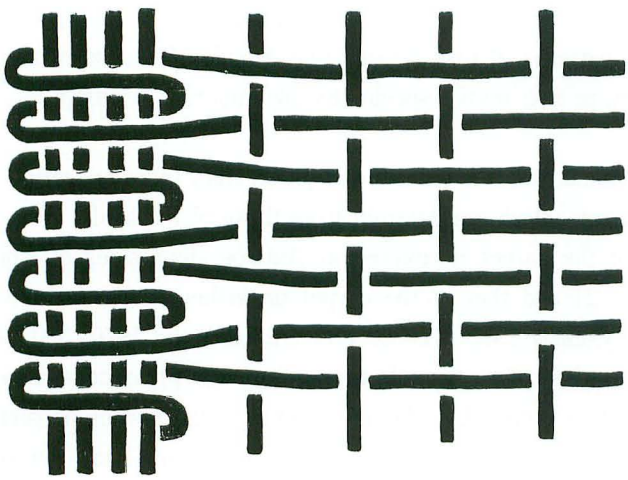


Fig. 22 Type-2 selvage of Textile 15

With regard to the weave marks, a fragment of Textile 12 (IV-OH-368-5), [Fujii ed. 1980: 281, Specimen 202] has its presumable weaver's mark: ⬅ pattern, with red weft thread in tapestry-weave technique about 5 cm inside the weave end. The pattern similar to this can be found on a fragment of the large cloth with H-shape pattern from Cave C16 (V-77-2), [Fujii ed. 1980: 273, Specimen 185].

As for Textile 17, sheep and camel fibers are used for a pile rug. The sheep fibers are 18–40 μ while camel fibers are 20–150 μ in thickness[(5)]. Some camel fibers are very thick. These fibers are separately spun into a single wool thread and a single hair thread. For the warp, both of them are put together into two-plied yarn (grandrelle yarn)[(1)], whereas for the weft, each single wool thread and hair are used separately at random. All the warp, weft and pile threads are made thick. The pile field of the rug is made of variation of plain weave (warp 2, weft 1); its dull blue green border decoration, variation of plain weave (warp 2, weft 2); its deep red border decoration, plain weave. When the plain weave is shifted into the variation of plain weave (warp 2, weft 2), such warp crossing as some H-shape patterned textiles contain is not recognizable here.

From this, it is considered that four heddle rods had been separately applied here. Just as most of the pile rugs from at-Tar Caves, so is this a weft-faced rug. The selvage is of Type 2 (Fig. 6), where the weft threads are repeatedly turned back to make it thicker and harder than the field portion. The pile knot takes Type A-2 (Fig. 7), where three to four pile threads are put together and then tied. But no piles are knotted together at its border decorations.

3. Design

The six textile specimens coming from Cave 12 have all simple geometrical patterns. Textile 12 seems to have had gamma patterns on its four corners, whose ground is colored dull reddish yellow while the pattern is deep red purple. Textile 13 has horizontal thin bands, colored deep red purple. Textile 14 has H-shape and square patterns which are woven in the similar colors as those of Textiles 12 and 13. Unlike the preceding two, the principal colors of Textile 15 are dark, i.e., deep yellowish red, dark violet and dark blue. With the adoption of the pale dull reddish yellow on the background of the wave pattern bands, the dark violet wave patterns are clearly represented. The whole cloth is red in predominant color, probably aiming at a strong effect on the pattern portion with the use of the dark blue stripes and the tints of the wave patterns.

Textile 16 is a very thin cloth whose ground uses dark blue green warp and weft threads. Three deep purplish red rows of weft-faced horizontal stripes contrast with the dark blue green ground. It is assumed that as a design, another horizontal stripe patterns had been symmetrically arranged near the opposite side. Just as in Textile 15, the textile with wave patterns, it may be said that Textile 16 is also rich in colors evidenced from the remaining designs. These five textile specimens are superior in design as well as weave technique.

As for Textile 17, along the weave start and the weave finish of a pile textile, there are stripe border decorations with the use of colored weft threads which are different from those of the field. This way of border decoration here differs from that of the carpet uncovered at Antinoe, four sides of which are bordered [Dimand 1933: 151–161, Figs. 1, 2] and that of the carpet unearthed at Pazyryk, which is surrounded with borders in fivefold way [Руденко 1968: 41–55, илл 31; Rudenko 1970: 300–302, Pl. 174]. Among the specimens from Dura-Europos, there is a pile textile fragment provided with separate colored border decorations whose pile threads are untied. This is common to the border-remaining pile textile from at Tar in production technique. So it seems likely that the specimen from Dura-Europos also had borders along both the weave start and the weave finish [Pfister and Bellinger 1945: 48, 49, Pl. IV].

4. Description

Textile 12

Textile 12 has been unearthed rather in good state of preservation, which contains in one piece the survival of the gamma pattern on one portion and one side of the selvage which is linked together with the gamma pattern portion (Fig. 15). The gamma pattern is woven in tapestry-weave technique about 18 cm inside the selvage. The gamma pattern is 9 cm in length each with its width of 2 cm in dimensions, and its edge is formed into a notched shape. The dull reddish yellow color ground is about 7.0 cm long below the horizontal portion of the deep red purple pattern. Its original cloth from the weaving start to the weaving end is so fragmentary that we cannot confirm its size. Therefore, it is impossible for us to set an exact allocation of the pattern. The discoveries of the textiles with gamma patterns on have been reported also at the neighboring sites. The Cave of Letters, Nubia, Palmyra and Dura-Europos have yielded large fabrics with such similar patterns arranged on four corners. They are explained as mantles for female use.

Textile 12 has only one spot of gamma pattern identified. On the analogy of some other excavation reports coming from the above-mentioned sites, it is considered that such gamma patterns used to be on four separate corners. The small fragment of the deep red purple weft weave (IV-OH-368-14-ⓑ) is regarded as an end part of the notched band in horizontal direction. As for the several fragments woven with deep red purple weft threads, their patterns and allocations are not traceable. In particular, concerning the pattern which is regarded as the weaver's mark, the ⬅ pattern on fair-sized fragment (IV-OH-368-5, 21.0×62.1 cm) has been woven about 5 cm inside the warp cord finish application. Cave

16 has a specimen which is very similar to this in pattern and allocation. It is considered as part of a large cloth with the H-shape and square patterns along the selvage (Cave C16 V-77-2), [Fujii ed. 1980: 285, Specimen 210, Pl. VIII, No. 210], where the weaver's mark-like ⌐¬ pattern is woven about 3.5 cm inside the warp finish. In addition, there is a small tapestry-weave technique fragment which seems to be the weaver's mark (Cave F5 C-201-d), [Fujii ed. 1980: 273, Specimen 185], but its allocated position is obscure. Among the specimens coming from the Cave of Letters, there are some patterns which are described as the weaver's marks. Some are allocated about 2 cm inside the weave finish. Others are woven near the square pattern which is arranged along the selvage [Yadin 1963: 225, Figs. 73, 76, Pls. 69, 85]. Nevertheless, we have another assumption that they had been the marks of the persons who ordered the textile production.

Textile 12 has its ground in plain weave of warp 1 and weft 1, whose thread-spacing belongs to Type 1. The selvage is composed of 3 cords, where 3–5 warps are made into a single cord, each. Further, additional threads which are made of three threads each are used to avoid weft thread damage while resting on Type 3 selvage structure (Fig. 6). As the result of our research into selvage-remaining fragments which are identified into the same textile, we have learned that some selvages are composed of the different number of warps which are bundled into a single cord in spite of their same structure. The number of warps in individual three cords is from the selvage side: 4, 5, 3→ground, 5, 4, 3→ground 3, 4, 5→ground, 4, 4, 3→ground, etc.. Like this way, each composition of warp threads is different in number. In our thinking, the reason is due to warp threads damage at the selvage or such simple errors of various techniques as the error in calculating the warp number when the warps are got together or the error in taking up the warps when they are set for operation. Such errors are apt to cause when weave work is conducted by hand. Therefore, we cannot jump at the conclusion that the fragments should be taken for another origin, evidenced from the existing difference of selvage composition in number. The selvages standing for Textile 12 have usually the alignment of three cords of 4, 5, 3→ground. Such sort of alignment is frequently seen in other fragments. The figure of selvage structure has been drawn according to the representative cloth (Fig. 23). The system of the additional threads on this figure is often used for the fabrics of Type 1 in thread-spacing as just as in Type 2 selvage, but Type 3 selvage like Textile 12 is observed on the elaborate fabrics. For example, the system of the additional threads on the square patterns in Textile 14 (Fig. 24) resembles Fig. 23 of Textile 12, which is different from that on the ground of Textile 14 (Figs. 17, 18). And the specimen from Cave C16 (V-21-1) has its ground woven with plain weave technique, warp 1 and weft 1 while its thread-spacing is Type 1. Its weav structure is similar to that of Textile 12 from Cave C12. Both of the selvage structures are similar to each other (Fig. 25).

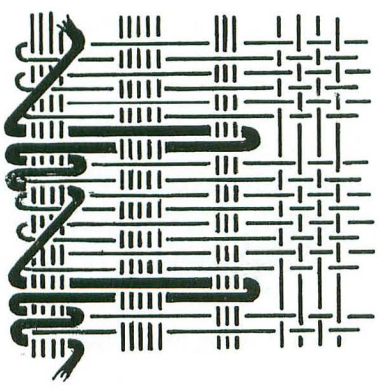


Fig. 23 Type-3 selvage at the ground of Textile 12

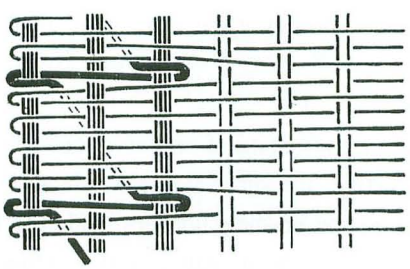


Fig. 24 Type-3 selvage at the square patterns of Textile 14

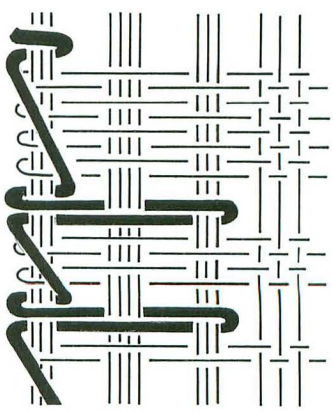


Fig. 25 Type-3 selvage at the ground of C-16 cave, V-21-1

Textile 13

Textile 13 is a thin plain weave, weft-faced cloth. Its ground portion has been woven with a number of fine warp and weft threads, compared with that of textile 12. Its warp twist is strong, and the number of warp twist is a little larger than that of weft twist. The arrangement of more twisted fine warps with rather less twisted wefts has given the cloth an even surface, thus resulting in smooth feeling in touch.

Moreover, the horizontal bands are woven with the wefts predominating on them through the strong application of twisting the deep red purple fine threads. As the result of such device as fine threads are used there, the pattern portion avoids becoming thick.

This is utterly the same weave technique with that of the mantle with the gamma pattern in Textile 12. Viewed from such similarity of ground and pattern portions in weave structure between Textile 12 and Textile 13, we presume that both were woven in a set while using identical color threads at a single workshop at the same time.

The above presumption is based on the following:

(1) Dyeing: In observation, their warps, ground wefts and pattern wefts are equivalent in color and color grade to each other, so that both seem to have been dyed with a same kind of dyestuff almost at the same time on the initial stage of their raw woolen material dyeing.

(2) Spinning: Both are similar in quality, thread thickness, twist direction, twist count and thread uniformity.

(3) Density: There is a close resemblance between the two in all the numeral values of warp density, weft density and thread-spacing.

It is thus considered that Textile 12 and Textile 13 were originally produced as a set with their modification given only on the pattern shaping.

Textile 13 is regarded as a thin tunic with simple horizontal bands. In at-Tar Caves, majority of tunics uncovered are of about 1.5mm medium-thick in cloth thickness. In this connection, Textile 13 is believed to be among good-quality thin fabrics. In observing the garments of persons on the wall painting at the synagogues in Dura-Europos, some are wearing the matle with H-shape or gamma shape patterns over the left shoulder down around the lower right half of the body, inside of which we see them wearing tunics (the Roman tunica) with vertical bands (clavi) down from both shoulders (Pl. 34–c and cf. Pl. 27), [Pfister 1945: 10～11; Yadin 1963: 228; Ghirshman 1962: 42].

In the case of Textile 13 used as clothing, it may correspond to such kind of tunics with vertical bands. There are no grapevine scroll, wave, flower-and-tree patterns in Textile 13. Several fragments of horizontal band patterns only still survive there. Judging from this, there is a possibility that they may be parts of several bands. As shown in the passage of Inner Room, tunics were woven with their patterns in horizontal direction, whereas as garments they were worn with their stripe or band patterns arranged in vertical direction.

Textile 14

Textile 14 has been uncovered in good state of preservation and is the largest of all the at-Tar finds. Although a part of the pattern is defective, the survival is good enough for us to study thoroughly its pattern allocation, pattern size, weave starting and finishing borders, and both the selvages. Therefore, evidently this textile will be an important data to throw light on the solution of weave techniques in ancient Mesopotamia.

Various sorts of analyses to reconstruct the textile turn out that most of the woolen fibers used in the uncovered specimens are superior in quality, as already mentioned in the reports [Fujii ed. 1984–85: 68–80]. Thread spinning technique is excellent with fine threads of uniformity used for both the warp and weft threads. The finest of all are the threads for warp and weft of the fabric unearthed from Cave 17

(IV-MK-1428), which are 0.12–0.23 mm in diameter and are in good quality with uniformity. In Textile 14, the warps are mostly 0.17–0.3 mm in diameter, where rather thick threads are sometimes observed here and there. The wefts are about as thick as the warps. Its ground composition is of variation of plain weave (warp 1, weft 2), whose thread-spacing belongs to Type 2. A single thread each is paired together for the weft thread (Pl. 30–b). This technique is taken up to make the cloth soft in Method 3 of Two-weft picking method in Chapter II, and it is a case where the paired weft threads turn round in the same direction at irregular intervals as indicated in the circle mark in Pl. 30–b. And at at-Tar Site, this is the method frequently used for the large cloth with H-shape patterns. For example, it seems likely that the fragments C16-V-77-2 [Fujii ed. 1980: Specimen 210], C16-V-98-1 [Fujii ed. 1980: Specimen 212] and C17-IV-MK-469 [Fujii ed. 1980: Specimen 165] are the fragmentary cloth pieces with H-shape patterns woven with the similar variation of plain weave as this.

Secondly, the weave structure of the pattern portion is of variation of plain weave (warp 2, weft 1), whose thread-spacing is Type 1. A single warp is used on the ground, but at the shifting point from the ground to the pattern, paired warps each are used after the adoption of warp crossing. The integral point of the weave alteration and warp crossing is indicated in Fig. 3–A. As already mentioned in Chapter II, it is known that the weave technique of altering weave structures by the warp crossing like this way had been aimed at giving better touch to the pattern portion.

In Textile 14, the ground is composed of warp 1 and weft 2 while the pattern is, warp 2 and weft 1 (2.2.2.2/repeat). However, the warp composition of the pattern portion in the specimen (C16-V-98-1), [Fujii ed. 1980: Specimen 212] is an irregular type (2.2.1.1/repeat) (Fig. 3–B). This is a peculiar type unparalleled to anything else.

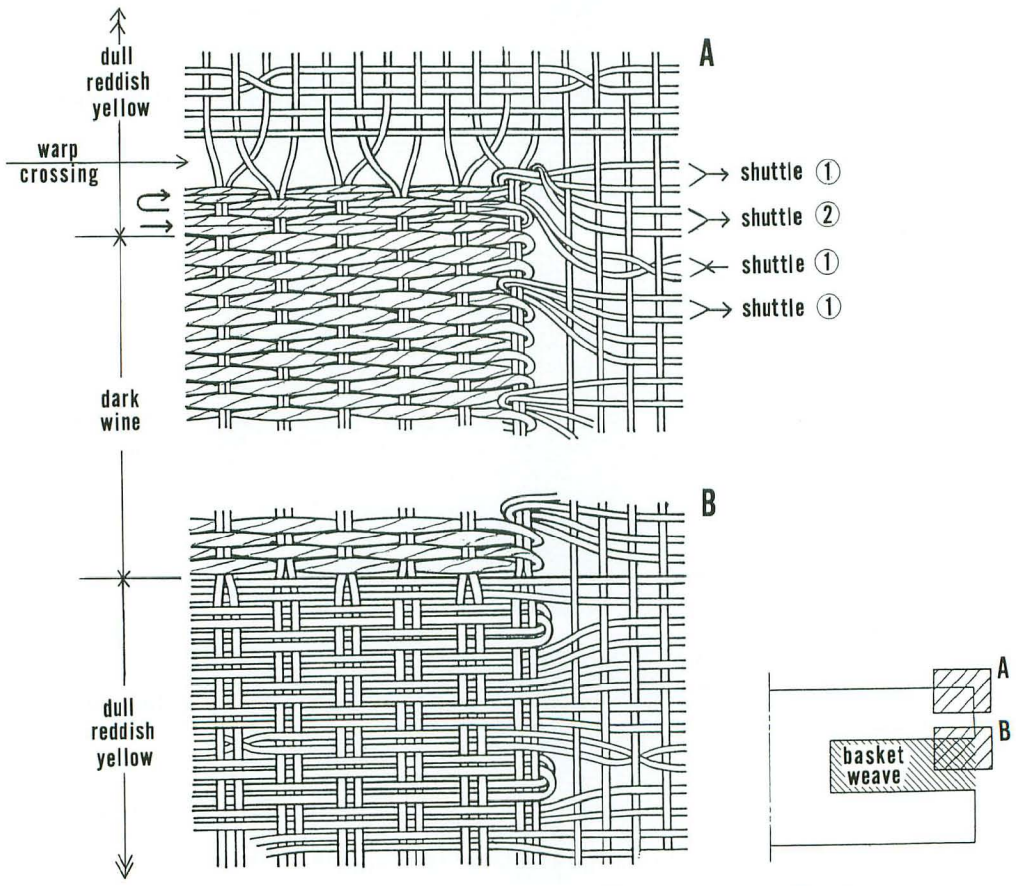


Fig. 26 Structure making around corners of H-shape pattern, Textile 14

In Textile 14, the joint part which consists of mutual U-turn work of the ground weft and the pattern weft at the end of H-shape pattern is so devised that the ground weft and the pattern weft are jointed with dovetailed tapestry technique. And while shifting from the ground woven with the variation of plain weave (warp 1, weft 2, balanced type) to the H-shape pattern, at first, the narrow ground part comes to be woven with the variation of plain weave (warp 2, weft 2) by altering the warp composition into paired warps through warp crossing technique and then, H-shape pattern is woven with a single weft (warp 2, weft 1). Next, when the pattern gets to the shifting part into the notched part, the warp without any alteration of its composition is well interworked with the paired wefts which constitute the ground wefts. In effect, the ground weft threads in the notched part are in the state of paired wefts just as in other ground portions. So, the notched part is composed of the variation of plain weave (warp 2, weft 2), (Basket weave, balanced type). Then, when the notched part comes to the point where it is shifted back to the pattern portion, the pattern is woven with a single weft without altering the warp composition, getting back to the variation of plain weave (warp 2, weft 1). Lastly, at the ending point of the pattern, it goes into the ground woven with the variation of plain weave (warp 1, weft 2) by using warp crossing technique through the narrow ground part (warp 2, weft 2) (Fig. 26).

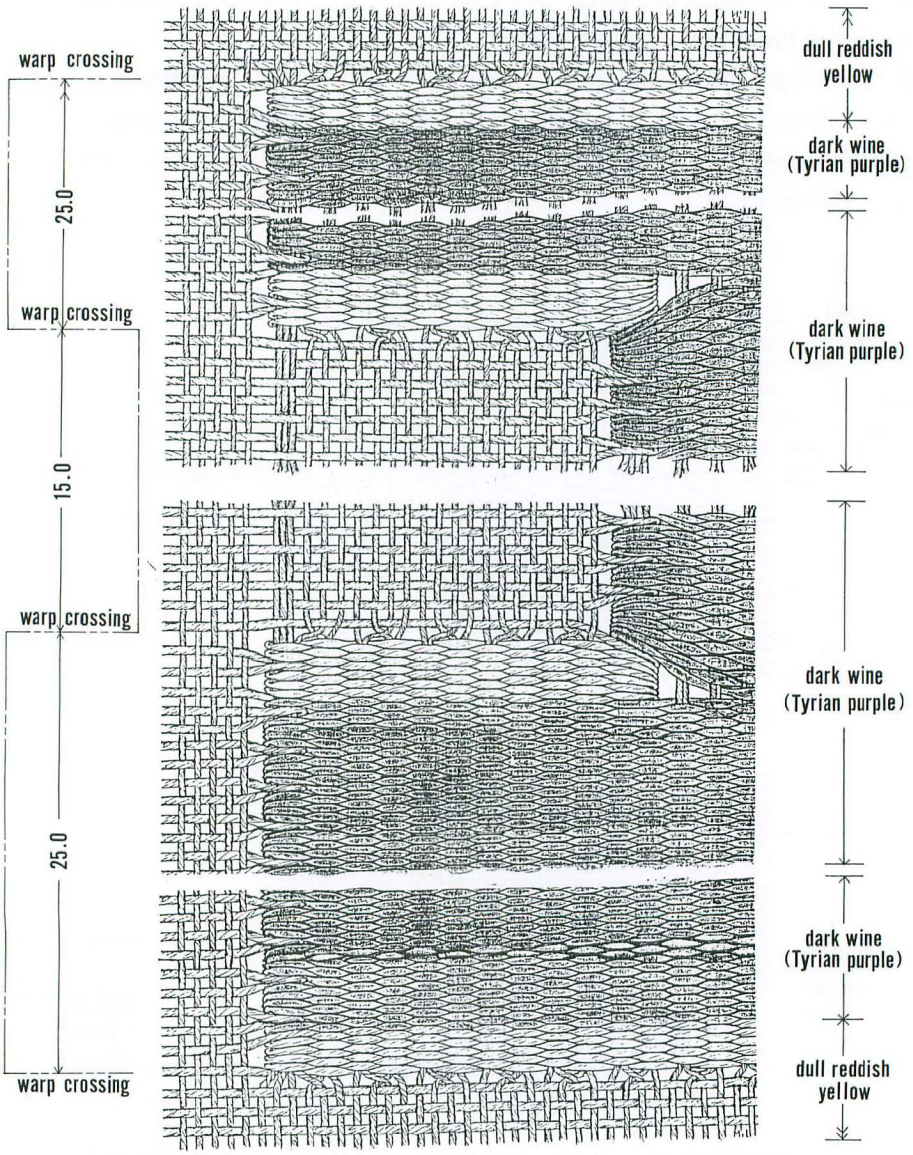


Fig. 27 Structure of H-shape pattern, Specimens F4-C-31, 31′

On the other hand, the specimen with especially wider H-shape pattern (F4-C-31, 31'), [Fujii 1976: Specimens 47, 47', Pl. TEXTILE 47'] also has a wider notched part than the ones of Textile 14. In this specimen, the narrow portion shifting from the ground of the plain weave into the pattern of the H-shape part is woven with the paired warps which are altered by warp crossing to represent the pattern of the variation of plain weave (warp 2, weft 1). Next, at the end of the pattern portion shifted to the notched part, it is altered into plain weave by using warp crossing technique again. Third, at the beginning of the shifting part changed from the notched part into the pattern again, the pattern is woven with the variation of plain weave with its composition altered by warp crossing technique. And then, finally, at the ending of its shifting from the pattern, plain weave is applied on the ground again through the reuse of warp crossing technique (Fig. 27).

Moreover, in Textile 14, we see the evidences of structure alteration by warp crossing technique on the starting and finishing borders of the square pattern portion.

It is assumed that such square patterns had been arranged at four corners. Due to the cloth deterioration, Textile 14 has such patterns surviving only on two portions. In the left of the two, on the thired square pattern from the weave finish, structure alteration can be detected inside the pattern portion unusually (PL. 30–b). The presumption is that the weaver failed to alter the warp structure in shifting to the pattern portion, so that structure alteration was practiced by warp crossing method at the weaving point of about 1.3 cm from the beginning of the pattern. After that, warp 2 composition continues up to the end of the square pattern and then it is altered back to a single warp thread again. Such evidence cannot be traced on the square pattern on the opposite side. The evidence makes us consider that different persons had been engaged in the work at the right and left selvages, respectively.

As shown in the figure of selvage structure Figs. 17, 18, the selvages in Textile 14 are of very elaborate make. They are composed of Type 3 with the adoption of additional threads. The selvage constitutes three cords, each of which is set with four warps. The woven selvage generally feels rather flat and thick. The selvage on the face makes triangle in shape at first sight, with the central cord mounted on both the side cords (Pl. 32–b). It is thinkable that the idea of such shape started from the skillful additional thread binding of the selvage and its actual making has not resulted from the product of chance. It seems to have been due to the weavers' conception to make the selvage portion closer to the starting and finishing borders in shape for the balance of the whole cloth. The interpretation is that such weave technique had been brought about by the idea that all the large cloth should be woven in soft touch with its four sides functioning as a roundish frame. This is probably because the necessity of wearing soft large cloth and representing properly the patterns had led to the production of such uniform hard borders, if the mantle had been the wearer's symbol of social class and dignity.

As for the selvage structure in Textile 14, it slightly differs with individual weavers in charge. But this is the left side selvage which seems to make basic structure, seen from the starting border, because the right side selvage is partially different. On the other hand, the remaining left side selvage is all of the same structure (Fig. 17).

The additional thread on the square pattern is different from the ones of the ground in structure owing to the situation of weft density (Fig. 24). At the square pattern, the number of wefts over which the additional threads stretch is usually 6–10 threads, which is properly changed by the weft thread density of the pattern.

As the result of our careful examination of complete survival of H-shape pattern, we have learned that there are some spots in which two shuttles are used as shown in Fig. 26. At the warp crossing spot in the structure figure, the pattern and the ground are joined together while handling two shuttles ① and ②

skillfully. The shuttle ② seems to have been mainly used between the right and left H-shape patterns, which had been handled by the weaver in charge of the central portion of the cloth. It is, therefore, presumable that two weavers had been enough to weave the ground portion except for the H-shape pattern. For somewhat wider range of work, however, it seems likely that two workers had been needed to take charge of the systematically complex both-side selvage making, in addition to one worker at the central portion.

Textile 15

This is a cloth including horizontal stripe pattern band and wave pattern band which is woven by tapestry-weave technique. It may have functioned as a tunic. The whole cloth is a pretty thick one of plain weave (warp 1, weft 1) whose thread spacing is in Type 1 (weft-faced weave). The weft on the portion which is presumed to be a ground is deep yellowish red in color, where a wave pattern band of about 1.5 cm in width is woven in the colors of dark violet and dull reddish yellow. There are two rows of wave pattern bands whose dark violet colored heads are reversed each other. The space between the two rows is about 13 cm wide, which is woven with deep yellowish red threads. Outside of the two rows of the wave pattern bands, we see dark blue horizontal pattern bands, the width of which is obscure (IV-OH-121). There is another fragment with wave pattern band, dark blue portion and deep yellowish red portion on it (IV-OH-335, 9.1×8.2 cm), [Fujii ed. 1980: Specimen 201: Pl. IV No. 201]. And a little larger selvage-remaining fragment (IV-OH-368-3-①a, 25.2×14.2 cm) includes a dark blue horizontal stripe band of about 3 cm in width. Both sides of the band are presumed as the ground portions woven with deep yellowish red weft threads. The selvages are composed of Type 2, where 4 warps are bundled into a single cord. The other fragment has a part of wave pattern band, a dark blue portion and a deep yellowish red portion on it (IV-OH-412).

The specimen coming from the other cave contains a wave pattern band (black and dull reddish yellow color) and fine horizontal stripes (C16-V-65-6), [Fujii ed., 1980: Specimen 209: Pl. VII No. 209]. The ground is supposed to be brown while the deep yellowish red horizontal stripe band is divided with fine black stripes, further outside of which there are wave pattern bands arranged. It closely resembles Textile 15 in the representation of the wave pattern bands. This is also too fragmentary to grasp the whole information of the patterns.

Textile 16

This is an extremely thin fabric of dark blue green warp and weft plain weave (balanced plain weave) on the ground, one end of which has three rows of horizontal stripe patterns with deep purplish red wefts, using variation of plain weave (warp 2, weft 1) and Type 1 (weft-faced weave). It may safely be assumed that this cloth had been a cord to be used for preventing the fabrics for the use of wrapping the dead body from dispersing away, which had been prepared for use with a portion of a large cloth torn off. This is a torn strip of 121.4 cm in warp direction and 12.8 cm in weft direction. It has numerous fine folds, i.e., wrinkles, in warp direction, where discoloration and damage have been observed. Warp crossing for structure alteration is observed on the part shifting from the ground onto the pattern portion near the cloth edge. But the technique is not applied to the narrow space (about 4 mm) between the 2nd row and the 3rd row of the stripes.

The ground is composed of high density of fine warp threads which are predominant in twist count (thread diameter: 0.20–0.35 mm, twist direction and twist count: S 14.0–16.7/cm, warp density: 22.0–24.0/cm). The weft threads are smaller than warp threads in twist count, and are rather thick with low weft density (thread diameter: 0.30–0.40 mm, twist direction and twist count: S 3.0–4.5/cm, weft density: 17.0–19.0 cm). The ground is of plain weave (warp 1, weft 1, balanced type weave).

The pattern is of variation of plain weave, using warp crossing technique for warp structure alteration

at the turning part from the ground to the pattern (warp 1→warp 2) (Fig. 28). The weft is deep purplish red fine thread of low twist count (thread diameter: 0.12–0.30 mm, twist direction and twist count: S 7.8–14.3/cm). The weft density is very high (72.0–76.0/cm). Because of its weft-faced weave, warp threads are completely hidden behind, so deep purplish red stripes very clearly appear. As for the horizontal stripe pattern making, a deep purplish red horizontal stripe is woven about 10.7 cm wide with the structure change at the part shifting onto the first row from the bottom of figure; next, turning the structure into plain weave again, the ground is woven about 4.6 cm in dark blue green color; then it is switched into the deep purplish red horizontal stripe weave for about 1.2 cm width, next, dark blue green horizontal stripe of about 4 mm in width is woven with the use of the ground weft; again the horizontal stripes of about 1.3 cm in width are woven with deep purplish red weft threads; then, it eventually gets back to the plain weave with warp crossing technique. That is, four times of structure alterations by warp crossing method have been conducted in the space of about 18 cm until three rows of deep purplish red horizontal stripes are completed. There is no occurrence of disorder in the warp crossing, all of which has been kept in a regular manner. Warp density of the ground is very high, 22.0–24.0/cm. It is, therefore, considered that even an ordinary opening operation was not so easy. It is further conceivable that the opening operation must have been much more difficult when the warp crossing technique was applied there. In this connection, it

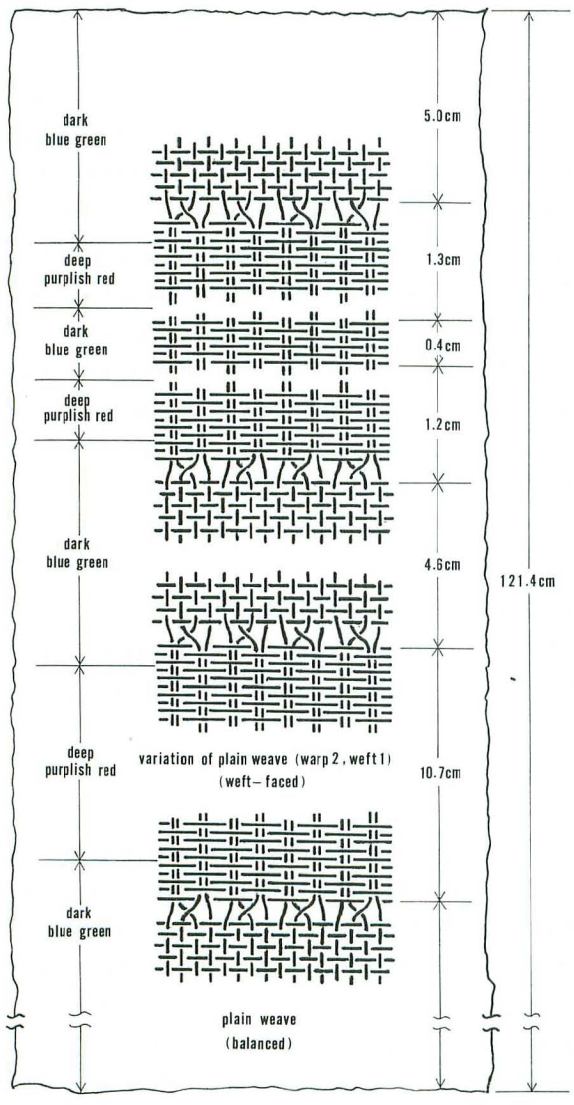


Fig. 28 Pattern composition of Textile 16

can be said that Textile 16 is rich in helpful suggestion for our further study, because we are very inquisitive about what sort of weave technique had been applied to this fabric. Moreover, we must investigate such finds from the neighboring sites.

We have already mentioned that this specimen probably comes from a part of a large cloth. Supposing its original use had been intended for a veil or a scarf, such similar horizontal stripes had been symmetrically arranged near the opposite side. But we cannot determine the size between them. None of the specimens of this sort have been uncovered from the other caves of at-Tar. But there is a specimen from the other site which is regarded as a veil very similar to Textile 16 in design in spite of its large difference in quality. This is a fabric uncovered at Nubia [Bergman 1975: 15, Pl. 8]. Both edges, full length, and pattern band near them still remain on this specimen. It has a symmetrical arrangement of three rows of horizontal stripes on either edge. The size of the fabric uncovered is 135×85 cm. The horizontal size is not its full width, but its remaining width. The ground seems to be a veil-like fabric. It is, therefore, estimated from this fabric that Textile 16 has been over 150 cm in rough size, maybe from the starting border down to the finishing border, including the horizontal stripe pattern bands on both sides.

There is another fabric from Cave C17, which is of plain weave ground of chequered pattern with pattern in tapestry-weave technique (IV-MK-1362-①, -②) [Fujii ed. 1980: 289, Specimen 217], which is different from Textile 16 in pattern. But it is similar to Textile 16 in cloth touch. It looks like a decorative wear rather than a veil.

Textile 17

This is a fairly well preserved cloth of large size. The dark grayish brown pile tufts on the field and the deep red and dull blue green border designs are also kept. It is a thick pile rug with border design. The deep red portion of the border design is of plain weave, and paired warp threads start from the dull blue green portion, where a paired weft is running. There are no pile threads knotted together on the border design. The weft on the border design is finer than that of the field. The field is composed of warp 2 and weft 1, where pile threads are tied with Type A-2 at an interval of 0.8–1.5 cm. This knotting method makes a double-faced pile textile, on both sides of which pile tufts come out. This textile is thick and rough since three or four threads of double plied pile are tied on individual paired warp threads in addition to its thick field threads. To the best of our knowledge, Type A-2 knotting method was peculiar to at-Tar in ancient times. Examples of this sort have been unearthed from Caves B8, D3 and C16. With the application of Type 2 selvage-making method, both selvages of the rug have been thickly and tightly strengthened. The pile tufts are generally long, the longest one of which is no less than 14 cm in length. As for its weave start, the cloth is folded over and stitched up after the rest of warps are cut off. The slender deep red colored plain weave cloth with hem (C) is presumed to have been used as a rope which had been doubled over and to have functioned as binding one edge of the dead body wrapped up in the very rug at burial, which is deduced from the excavated situation. It is said that such a thick, rough finish is typical of Type A-2 rug.

5. Conclusion of the slender corridor

(1) On analysis, it is proved that about ten pieces of the human bones which have been found dispersing among the textiles belong to a female [Fujii et al. 1980: 170–171]. Under the excavated situation, the textiles were not in so dreadful confusion. And all the six uncovered specimens are good-quality fabrics for the most part. In particular, Textile 14, the fabric with H-shape patterns, gives us the information of the cloth size. As the result of our detailed analyses onto the cloth, we have learned that very fine threads and the weave technique to give the whole cloth flexible touch had been applied there. For example, on the ground part, we see the system of a single warp interlacing with two fine weft threads; at the part of

shifting onto the tapestry-weave on the pattern part, the warp crossing technique brings about the change in the warp structure into two warp arrangement, thus resulting in the formation of such prominent pattern parts.

The appearance of weft-faced type on the pattern part is produced by numerous interlacings of a single fine weft passing over the warp threads. It is probable that this technique is a way to give the cloth the pattern texture in accordance with the ground softness.

The problem as to whether or not such technique had been applied to other fabrics with H-shape patterns uncovered at some other sites must be left to the forthcoming comparative researches. At any rate, it is true that such technique has been often used on the pattern portions of not only the textiles with H-shape patterns but also other thin ones at at-Tar Caves.

Deduced from the wall painting of the costume with H-shape pattern band seen at a synagogue in Dura-Europos and the textiles of this sort, uncovered at Dura-Europos [Pfister and Bellinger 1945: 5, 11, Pls.X(18), XI(19)], the Cave of Letters [Yadin 1963: Pls. 68, 83, 84] and Nubia [Bergman 1975: 46, Pls. 59, 63(3)], they are regarded as a mantle for male use.

As regards the H-shape pattern, however, the report from the Cave of Letters says that it is a notched band [Yadin 1963: 220–221, 223], while the report from Palmyra that 'la band fourchue dans les bouts', giving examples of T35 and T36. Furthermore, they correspond to an ornament for male mantle by comparison with the plaster bust of a boy (3rd century A.D.) exhibited in the Cairo Museum [Pfister 1937: 14, 16]. Then, after due consideration, it is assumed that the purple pattern on L92, is H-shape pattern, which corresponds to the design on the Conon figure of a fresco shown at the Palmyra Temple in Dura-Europos (1st century A.D.), [Pfister 1940: 22–30].

At Palmyra, Specimen L19 has been uncovered. This is a woolen fabric with square patterns which presumably consist of a set of three 'pourpre' square patterns in tapestry-weave technique along the selvage [Pfister 1934: 35]. Furthermore, it is reported that L105, L108, L110 and L111 also contain square patterns (in purple color) along their selvages [Pfister 1940: 23–24].

At at-Tar Caves, the existence of the square patterns woven along the selvage on a large fabric coincides with that of H-shape patterns as shown in Textile 14. At at-Tar, Cave F4 also yielded a large cloth with H-shape pattern, named F4-C31, with a set of three square pattern bands along the selvage [Fujii ed. 1976: 160, Specimen 47', TEXTILE No. 47' in color plate]. This is a thin cloth of good quality whose patterns are woven with the weft threads dyed in Tyrian purple(7). It is presumed from these textiles that all the textiles with H-shape patterns uncovered at at-Tar had been with a set of three square pattern bands along the selvages. It is, therefore, probable that the specimens L19, L105, L108, L110, and L111 from Palmyra also contained H-shape pattern bands just like Textile 14 and F4-C31 from at-Tar Caves. Just as in the case of Palmyra, No.24 and No. 28 [Yadin 1963: 224, Fig. 76] uncovered at the Cave of Letters also contain a set of three square patterns each along the selvages. Thus, these specimens are considered to belong to the textiles with H-shape patterns on, deduced from the specimens coming from at-Tar. Textile 9 discovered at the inner room of Cave 12, at-Tar Caves has a square pattern along the selvage, too. So, it can be regarded as a cloth remain of H-shape patterns.

(2) At at-Tar Caves, the fabric with 'gamma' pattern designs has notched parts in the vertical and horizontal directions. This is also common to the ones at Nubia, the Cave of Letters and Dura-Europos, and to the specimen L73, woolen cloth from Palmyra [Pfister 1940: 21]. Another specimen T89, 'toile', has its brown woolen pattern portion woven in tapestry-weave technique [Pfister 1940: 16]. If the figure had been drawn in the warp direction, this specimen could have had a 'gamma' pattern, since a notched part should be quite naturally at the end of the pattern in the warp direction. On the contrary, however, if the fine lines in the pattern had represented rib, the figure could have been drawn in the weft direction.

Accordingly, there may be no reason to say that the resultant one is a 'gamma' pattern. Sometimes, it may rather be a H-shape pattern.

In spite of fragmentary state, Textile 12, accompanied with gamma pattern, is a little thicker cloth than Textile 14, and its pattern is clearly evidenced. The textiles of such patterns have also been unearthed at the Cave of Letters, Dura-Europos, Palmyra and Nubia. The interpretation is that the gamma pattern on the pattern portion is originated in a mantle for female use, resting on the wall painting at a synagogue, Dura-Europos.

The thin large textiles with H-shape and gamma patterns which are unearthed at at-Tar Caves have their weavers' marks beside the weave finish portions. There is no example of their weavers' marks having been discovered anywhere near the selvages. In the meantime, it has been identified that the specimens from the Cave of Letters have such marks located beside the weave finish or close to the inside of a set of three square patterns woven along the selvage.

(3) Textile 15 seems to be a tunic style textile. It is presumable that its patterns had a symmetrical arrangement of wave pattern band and horizontal stripe band. It has been woven into a beautiful stripe fabric, since light orange warp threads are interlaced with deep yellowish red weft threads on the ground and with dark blue weft threads and dark violet ones on the pattern. We can see such similar designs containing wave patterns on the fabrics (V-65-6; IV-OH-2) from the caves, C16 and C7 respectively, and on the textiles unearthed at Dura-Europos [Pfister and Belinger 1945: Pl. XVII (126, 127)].

(4) The ground of Textile 16 is densely composed of fine warp threads of more twist count than those of Textile 14, whereas fine weft threads of less twist count than the warp threads are well balanced into warp threads, thus resulting in the formation of gauze-like finish. It makes the cloth agreeable to the touch. In addition, it is thinkable that, near the cloth edges, there are more than six rows of clear red horizontal stripe pattern bands woven on the dark blue green ground, caused by the warp crossing structure alteration.

(5) We can understand that the discoveries of the brilliant colored textiles, Textile 15 and Textile 16, accompained with the gamma patterns of supposedly female use quite naturally correspond to the female dead body unearthed there. Nevertheless, it is all the more interesting to notice that the textiles with H-shape patterns of supposedly male use have been found covering all over the fabrics which wrapped up the dead body. It is evidently true from the several excavation reports mentioned above that there was a wide distribution of H-shape and gamma patterns for several centuries during the Roman Empire, ranging from East Mediterranean coastal areas down to Egypt. Under the circumstances, we can hardly refrain from putting much more questions as to the real significance of the H-shape and gamma patterns. For example, one of the questions is why they had notched parts on both edges, and the other is why the straight use was intended for male, while the right angle use, for female.

(6) Furthermore, a pile textile of Type A-2 knotting method has been found lying directly under these five specimens. The textile of Type A-2 pile knotting method is peculiar to at-Tar, which is unparalleled to any other site, as far as the researches up to the present day are concerned. This is a very interesting problem viewed from the diffusion and formation of cultural trait. For it is little known as to what has caused such unique Type A-2 pile knotting as is quite strange in any other site to appear here in at-Tar, though all the discoveries of knotting types are clarified as mentioned in Chapter I.

In addition, the fabric V-79-5, which is similar to Textile 17 from the slender corridor in both the knotting type and ornamental border, has been found at Cave C16. It also has Type A-2 knotting, and the borders with horizontal stripe patterns, correspondoing to weave start and weave finish parts, are of plain weave without any pile knotting. Most of the pile textile from at-Tar with borders have a marked feature that these borders have been evidenced only along the weave start and weave finish, no matter what kind of pile knotting their fields may have. It attracts our attention since they can be compared with the specimen

from Dura-Europos mentioned before. For reference, the *tatami-facing*-like rush mats which seem to have been used as floor mat are uncovered at Caves F6 and C16. Their borders along the weave start and weave finish are made of wool with colorful chequered patterns [Fujii ed. 1980: 313]. In this respect, it is considered that the pile textiles with borders had been produced mainly for floor use.

We have already mentioned about the marked features of the textile specimens uncovered at the slender corridor. In comparative studies, the result is that Dura-Europos and Palmyra have yielded the textiles with H-shape patterns, the textiles with gamma patterns, the textiles with square patterns and the textiles with a set of wave pattern and horizontal stripe patterns; The Cave of Letters and the sites of Nubia have the large fabrics with H-shape and gamma patterns, but not the ones with a set of wave patterns and horizontal stripe patterns; they have the fabrics with mere stripe patterns. Needless to say, therefore, further study will be necessary mainly focussed on pattern and material. All the specimens from the slender corridor are similar to the ones of Palmyra and Dura-Europos. However, our overall observation leads us to the view that they are closer to the ones from Dura-Europos in the combination of their characteristic elements.

V. Conclusion of the unearthed textiles from Cave 12, Hill C

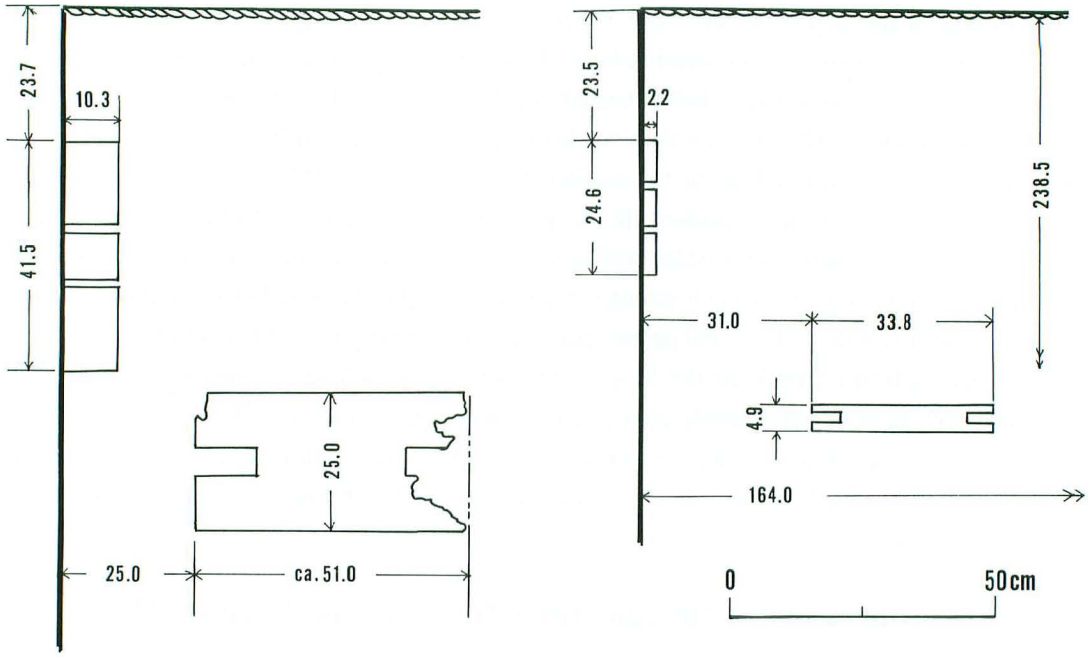
In examining all the specimens uncovered from the two areas of Cave 12, this corridor has the mantles with H-shape and gamma-shape patterns, the tunics with wave and stripe patterns, and a piece of torn cloth for binding, all of which are together with the pile rug with A2 Type knotting. In the meantime, the inner room has yielded the tunics with flower-and-tree design, tree patterns and bands, the mantle with square patterns, several pieces of band-like cloth and a cord, all of which are also followed by the pile rug with B1 Type knotting. The existence of their associated relation is of great importance.

The other at-Tar Caves also, have a considerable number of pile textiles with B1 Type, A2 Type, A1 Type, B2 Type and C Type knotting methods. How should we understand such differences of pile knotting methods as we have observed? Basically speaking, we think that this may have arisen from the differences of technical inheritance in the pile knotting methods relevant to the custom of dwelling life in those days. In addition, it is generally observed that every cave has been associated with the clothing materials of such similar patterns and weave structures and the pile textiles of several types of pile knottings, as already mentioned in the case of Cave C12. Therefore, in the future, it will be necessary for us to solve the question of why such an associated relation should exist there. In this point of view, such features on the patterns, weave structures and pile knotting ways as already dealt with in this report are the matters worthy of note. Henceforth, it is expected that our thorough study for clarifying the associated relationship between the combination of clothing specimens and dwelling specimens (pile knotting methods) already unearthed at individual caves will certainly lead to the classification of their characteristics peculiar to every cave. Moreover, this will also facilitate our comparative research between our data and those from the other sites in the above-mentioned surrounding area, which will further help us contribute to the progress of comparative studies of cultures.

To our regret, however, the fact is that the detailed report on pile knotting methods has only been limited to that from Dura-Europos and the sites of Nubia. Thus, it seems all the more necessary for us to make careful investigations into the knotting methods of pile textiles unearthed around there in the future.

There are some kinds of specimens with H-shape patterns among the ones uncovered at at-Tar Caves. The lengths of the H-shape patterns in the warp direction so far identified have roughly two kinds of types in dimensions: (Fig. 29). The typical examples, are shown below.

1) about 25 cm length (Cave F4: C-31)



F-4 cave C-31 C-12 cave IV-OH-368-13

Fig. 29 Lengths of H-shape Patterns

2) about 4.9–6 cm length (Cave C12; IV-OH-368-13 (Textile 14), Cave F6: C38-19-a, Cave C16: V-126-3, IV-W-59, Cave F5: C1006...cotton)

In the above mentioned C-31 and Textile 14, we have confirmed that the sizes of a set of three oblong patterns are in propotion to the sizes of the H-shape patterns.

Of them all, dominant in number are the specimens with H-shape patterns of about 5 cm length. There is only one evidence (Cave F4: C-31) whose H-shape pattern is the longest, and according to Prof. Tsuneo Yoshioka's analysis, its weft threads on the pattern portion are dyed presumably with Tyrian purple [Fujii ed. 1980: 106]. On the other hand, Prof. Yoshioka and Prof. Yutaka Takagi assumed that Textile 14 is dyed with a compound of Kermes or Madder and indigo. In this connection, some examples of H-shape patterns whose bands are rather long and others whose bands are rather short can be observed on the wall paintings of Dura-Europos. Belonging to the former case are the mantles which priests are wearing in the shrines VI, X and XI, Hatra (Pl. 34–C shows an example of the shrine VI) and the Conon figure of a fresco, in the Palmyra temple, Dura-Europos [Ghirshman 1962; Pl. 59], while the wall paintings of the synagogue in Dura-Europos belong to the latter case. It is likely that the evidences similar to these two kinds of mantles with H-shape patterns depicted on them will be the ones from Cave F4: C-31, the former, and Textile 14 (Cave C12, OH368-13), the latter.

Hence, our pursuit of long-short relation of the H-shape pattern bands in connection with that of those uncovered at other sites such as Dura-Europos, Palmyra and the Cave of Letters will certainly furnish one of the keys for the solution of the cultural complex lying in the religious and social back grounds of groups of ancients that had been buried at at-Tar Caves in old days.

Accordingly, it is pointed out that they bear striking resemblance to the finds from the East Mediterranean coastal areas in quality and design. They show some unique features resulting from acculturation. This is also true of the other articles from some other caves of at-Tar. We wonder how such features had occurred. Is it impossible to consider that a new culture was born here, greatly influenced by the stream that with the eastward advance of the Hellenism and the Roman Empire culture

out of the Mediterranean coastal areas, the cultural traits (design compostion) of the Syrian district, which had been gradually formed as the result of cultural change, further went on advancing eastward through the desert road, and that the Mesopotamian cultural trait turned out to join with the Syrian cultural trait? In particular, not to speak of such peculiarity as seen in Type A2 pile knotting method, we have found here the articles of superior quality in material, weave structure and design representation such as the large cloth with H-shape patterns and gamma pattern, the tapestry combined with flower and tree design, wave pattern and shaded color band, all of which are considered as belonging to the 1st-3rd centuries A.D., and are similar to or slightly different from the ones of the Syrian district and the Levant coastal area. From these evidences, it may safely be assumed that a group of people settled somewhere in an oasis near at-Tar Caves, leading a fair-scale of social life, and engaged in spinning, dyeing and weaving such textiles at some independent workshop. In this connection, therefore, we can hardly recognize that the discovery of the rush mat with woolen chequered pattern woven on the starting and finishing borders just like '*tatami facing*' had merely resulted from the production activity of some nomads or the carrying of caravans.

As mentioned at first, at-Tar is geographically located on the border between the Iraqi Southwestern Desert and the fertile land along the Euphrates. In this neighborhood, there is a concentration of numerous wadis running into this area from the southwestern desert. All along these waids, there are lots of oases with the rush growing in, most of which are regarded as archaeological sites [Fujii 1973: 61–86]. By infererence, therefore, it is not until these archaeological sites have been thoroughly investigated that the cultural formation of these at-Tar textiles and their historical significance will come to be finally clarified.

Notes

(1) According to the Japanese Industrial Standard, grandrelle yarn is defined as a sort of decorative thread which is produced by twisting two or three threads of different colors together. In this report, however, grandrelle yarn means a plied yarn where a single thread of different quality is twisted together with the other, not used as decorative thread.

(2) Plain weave is also called 'tabby'. However, the term 'tabby' stems from Attāb, great-grandson of Omeyya. It was a textile woven at attābiy, name of a quarter of Baghdad in which his family used to live. And this stuff was manufactured there. The striped silk taffeta was originally called Attabiya, afterwards applied also to silks of uniform color waved and watered.
In considering the above origin, therefore, we have decided not to use here the term 'tabby' for woolen textiles.
—The Oxford English Dictionary, 1961
The Oxford Illustrated Dictionary, 1978—

(3) I. Emery calls this type slip-loop.

(4) Advised by Dr. A. Jerusalimskaya, Hermitage.

(5) Detected by Mr. Ryuzo Onooka, ex-chief Researcher of the Agency of Industrial Science & Technology, Ministry of International Trade & Industry.

(6) Studied in Kigoshi Laboratory, Gakushuin University.

(7) Analyzed by Dr. Yutaka Takagi, Professor of Ōsaka Kyoiku University.

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List of the data of textiles from the Cave 12, Hill C

Explanatory Notes

The following textile data indicate the analyses based on the research method specified in Chapter I.

1. The number shown below **'Textile Number'** indicates the representative specimen of the identified fragmentary specimens whose numbers were given at the time of the excavations.
2. 'Size' is determined by "the maximum length of warp direction × the maximum length of weft direction".
3. 'Thickness' is given by "Peacock dial thickness gauge, H 0.01–10 mm (OZAKI MFG. Co., Ltd.)".
4. The color of the all 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 colored 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 yarn 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 paired weft; '×3' means three wefts. And the multiplied value is equivalent to the actual number.
7. The thread number of selvage cord is so arranged as to start from the selvage edge in regular order.
8. When a selvage or an edge is observed in the fragmentary specimen, its detail and specimen No. are additionally written.
9. The figures and photos shown here all accord with the warp direction, and textiles with edges are positioned with their weave finish up and weave start down in the warp direction except for Fig. 21.

The data taken up here in the case of the slender corridor are the figures resulting from the re-examination of the data shown in AL-RAFIDAN Vol.I, with some more addition to insufficient ones as well as with some corrections made in the wrong measurement values.

[Inner room]

Textile 1 Small fragments of fine wool textile
Representative specimen No. T-38
Size (cm): 3.5×0.4
Structure: Variation of plain weave: warp 1, weft 2, warp-faced
Thickness (mm): 0.535

	Warp	Weft
Raw material:	Wool	Wool
Color:	Dull reddish yellow 2.5Y7.5/6	Dull reddish yellow 2.5Y7.5/6
Diameter (mm):	0.25–0.30–0.35	0.15–0.20–0.25
Twist, Twist No. (/cm):	−S(10.0–12.5–14.3)	−S(10.0–10.5–12.5)
Density (/cm):	23.8	11.3×2
Selvage:	none	
Edge:	none	

Fragmentary specimens
T-38 T-120

Textile 2 Textile with flower and tree design band

Representative specimen No. T-103

Size (cm): 93.5×143.0 [(1)54.0×74.0 (2)52.0×38.0 (3)12.0×25.5 (4)31.5×26.0] (Fig.8)

Structure: Ground Plain weave, weft-faced

Design Plain weave and variation of plain weave: warp 1, weft 2, weft-faced, tapestry-weave technique

Design: Flower, Tree, Comb, Wave, Stripe patterns and Gradation

Thickness (mm):

Ground	1.07–1.20-1.46
Design	
flower and tree design bnad	0.95–1.37–1.64
comb pattern	1.07–1.11–1.14
wave pattern	1.16–1.44–1.70
stripe pattern	1.08–1.10–1.11
gradation	0.92–1.08–1.27

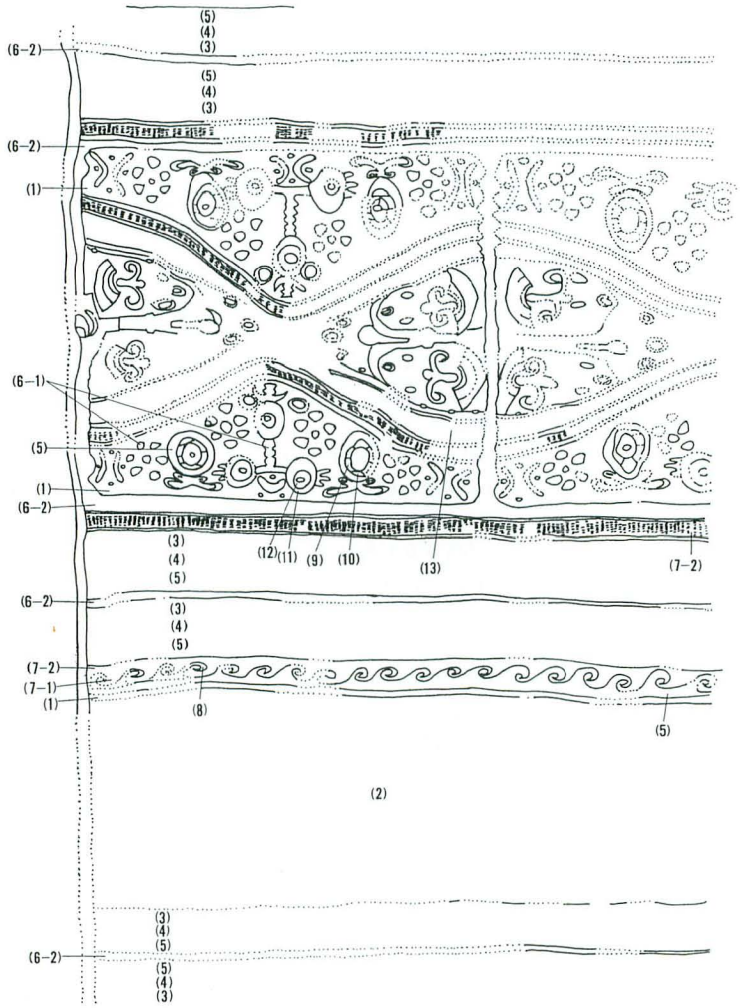
	Warp	Weft (1) flower and tree design band, stripe pattern, selvage	Weft (2) ground	Weft (3) flower and tree design band, gradation
Raw material:	Wool	Wool	Wool	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6	Strong yellowish red 7R 4.5/12	Dull green 5G 5/4	Deep yellowish red 7R 4/10
Diameter (mm):	0.35–0.48–0.60	0.30–0.52–0.70	0.35–0.50–0.60	0.35–0.50–0.70
Twist, Twist No. (/cm):	—S(7.0–9.9–14.3)	—S(5.0–6.3–10.0)	—S(3.3–3.7–5.0)	—S(3.3–4.7–8.3)
Density (/cm):	6.0–6.8–8.0	24.0–26.0–28.0	22.0–25.9–29.0	24.0–25.2–26.0

	Weft (4) gradation	Weft (5) flower and tree design band, comb, wave pattern, gradation	Weft (6–1) flower and tree design band, stripe
Raw material:	Wool	Wool	Wool
Color:	Dark red 4R 2.4/5	Dark greyish brown 5YR 2/1.5	Gold 2.5Y 6/8
Diameter (mm):	0.30–0.46–0.55	0.40–0.50–0.70	0.50–0.64–0.80
Twist, Twist No. (/cm):	—S(3.3–4.4–6.2)	—S(3.3–4.1–5.0)	—S(5.0–6.7–10.0)
Density (/cm):	24.0–24.8–25.0	24.0–25.6–28.0	20.0–22.5–26.0

	Weft (6–2) flower and tree design band stripe pattern	Weft (7–1) wave pattern	Weft (7–2) comb, wave patterns	Weft (8) flower and tree design band, wave pattern
Raw material:	Wool	Wool	Wool	Wool
Color:	Gold 2.5Y 6/8	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6	Olive 5.5Y 4/4
Diameter (mm):	0.25–0.30–0.35	0.40–0.55–0.70	0.20–0.33–0.45	0.40–0.53–0.70
Twist, Twist No. (/cm):	—S(4.2–4.6–6.2)	—S(3.8–5.1–8.3)	—S(3.8–5.2–6.2)	—S(3.3–4.2–5.0)
Density (/cm):	(17.5–19.5–21.0)×2			

	Weft (9) flower and tree design band	Weft (10) flower and tree design band	Weft (11) flower and tree design band	Weft (12) flowr and tree design band
Raw material:	Wool	Wool	Wool	Wool
Color:	Deep greenish blue 5B 3/8	Yellow pink 10R 7.5/7	Dark bluish green 10G 2.4/3	Deep yellow green 5GY 5/8
Diameter (mm):	0.35–0.49–0.60	0.40–0.50–0.55	0.40–0.46–0.50	0.45–0.53–0.60
Twist, Twist No. (/cm):	—S(4.5–5.5–10.0)	—S(5.0–5.7–7.1)	—S(5.0–6.0–7.1)	—S(4.5–5.0–5.5)

	Weft (13) Flower and tree design band	Thread for repairing
Raw material:	Wool	Wool



Color: Light reddish brown 10R 5.5/6
Diameter (mm): 0.40–0.46–0.55 0.70–0.80
Twist, Twist No. (/cm): —S(3.3–4.4–5.0) S—Z(2.5–3.3)—S
Gradation Weft(3)—(4)—(5)
Selvage: Type 4, cord (3, 3, 2) T-103
Edge: none
Fragmentary specimens
T-30 T-39 T-41 T-42 T-53 T-77 T-81 T-89 T-90 T-92 T-95 T-96 T-99 T-101 T-102
T-103 T-105 T-106 T-111 T-112 T-121 T-122 T-123 T-124 T-125 T-126 T-127 T-128 T-129

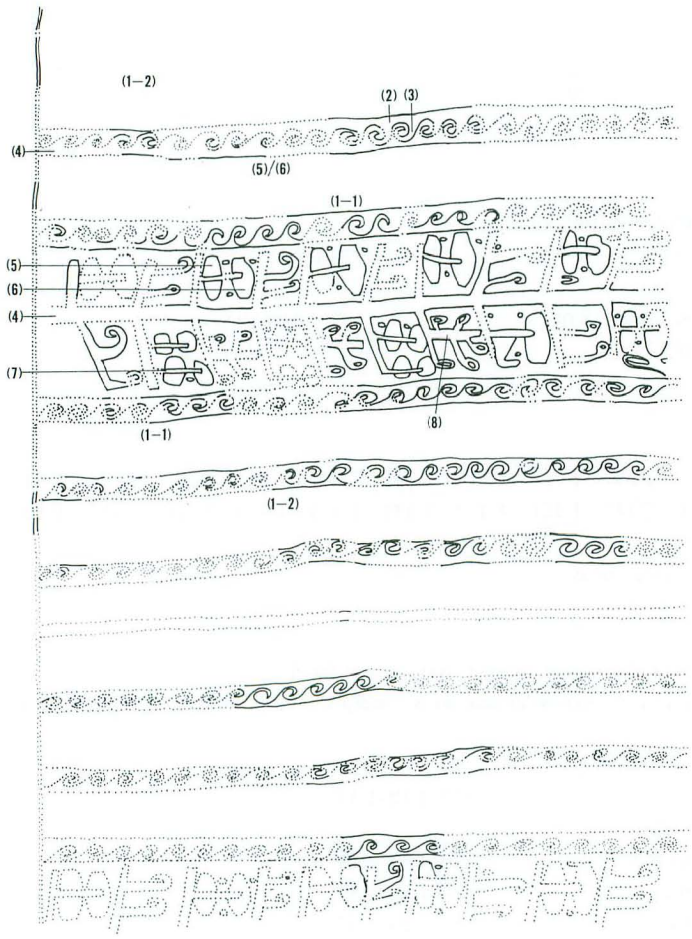
Textile 3 Textile with tree design bands
Representative specimen No. T-75
Size (cm): 40.0×38.3
Structure: Ground Variation of plain weave: warp 1, weft 2, weft-faced
Design Plain weave and variation of plain weave: warp 1, weft 2, weft-faced, tapestry-weave technique

Design: Tree, Wave patterns, Gradation
Thickness (mm): Ground 0.97–1.19–1.49
Design
tree design band 1.20–1.47–1.69
wave pattern 0.82–1.37–1.59
horizontal band 0.87–1.24–1.57

	gradation	1.03–1.15–1.66		
	Warp	Weft (1–1) tree design band, gradation	Weft (1–2) ground	Weft (2) wave, stripe patterns
Raw material:	Wool	Wool	Wool	Wool
Color:	Light yellowish brown 9YR 6.5/5	Deep yellowish red 7R 4/10	Deep yellowish red 7R 4/10	Black N1
Diameter (mm):	0.30–0.40–0.55	0.40–0.46–0.60	0.25–0.36–0.50	0.25–0.33–0.40
Twist, Twist No. (/cm):	—S(10.0–11.3–15.1)	—S(2.5–3.9–5.0)	—S(3.3–5.0–6.2)	—S(4.0–6.8–10.0)
Density (/cm):	6.0–7.0–8.5	28.0–31.0–32.0	(21.5–23.1–24.0)×2	

	Weft (3) tree design band, wave pattern	Weft (4) tree design band, wave pattern	Weft (5) tree design band
Raw material:	Wool	Wool	Wool
Color:	Dark brown 5YR 2.4/4	Dull reddish yellow 2.5Y 7.5/6	Dark blue green 5BG 2.4/3
Diameter (mm):	0.20–0.24–0.30	0.25–0.29–0.30	0.25–0.34–0.40
Twist, Twist No. (/cm):	—S(5.0–5.5–6.2)	—S(5.0–6.4–8.3)	—S(5.0–7.1–10.0)
Density (/cm):	Unmeasurable	Unmeasurable	Unmeasurable

	Weft (6) tree design band, stripe pattern	Weft (7) tree design band	Weft (8) tree design band
Raw material:	Wool	Wool	Wool
Color:	Dark yellowish green 10GY 3/4	Brownish gold 9YR 5.5/8	Pale reddish yellow 2.5Y 9/2
Diameter (mm):	0.50–0.59–0.70	0.20–0.32–0.40	0.45–0.57–0.70



Twist, Twist No. (/cm):	—S(4.3–4.8–5.0)	—S(4.5–4.9–5.5)	—S(4.5–5.1–6.2)
Density (/cm):	Unmeasurable	Unmeasurable	Unmeasurable
		Thread for repairing (1)	Thread for repairing (2)
Raw material:		Wool	Wool
Diameter (mm):		0.80–0.90	0.60
Twist, Twist No. (/cm):		S/S—Z(2.5)	Z/Z—S(2.5)

Gradation Weft (1)—(5) and, or (6)
Selvage: Type 2, cord (3, 3) T-75, T-82, T-83, T-110
Edge: Weave start none
Weave finish cord S/S—Z T-91, T-131

Fragmentary specimens
T-1 T-2 T-6 T-11 T-12 T-16 T-17 T-20 T-22 T-24 T-25 T-33 T-44 T-62 T-64
T-65 T-75 T-82 T-83 T-84 T-85 T-87 T-88 T-91 T-93 T-94 T-98 T-100 T-108 T-110
T-130 T-131 T-132 T-133 T-134 T-135 T-136 T-137

Textile 4–1 Textile with a dark purple band
Representative specimen No. T-78
Size (cm): 13.5×20.0
Structure: Ground Variation of plain weave: warp 1, weft 2 and plain weave, weft-faced
Design Plain weave, weft-faced, tapestry-weave technique
Design: Triangle pattern, Horizontal band
Thickness (mm): 0.84–0.99–1.14

	Warp	Weft (1) ground	Weft (2) pattern
Raw material:	Wool	Wool	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6	Dark purple 7.5P 1.5/4
Diameter (mm):	0.20–0.41–0.50	0.25–0.28–0.35	0.30–0.39–0.50
Twist, Twist No. (/cm):	—S(8.3–12.6–20.0)	—S(5.5–6.7–7.1)	—S(5.0–7.4–10.0)
Density (/cm):	10.0–10.7–12.0	(13.0–15.8–20.0)×2	32.0–36.0–38.0

Thread for sewing
Raw material: Wool
Diameter (mm): 1.00–1.50
Twist, Twist No. (/cm): S/S—Z(2.0)
Selvage: none
Edge: none
Other: A slit in 4.5 cm length along the triangle pattern, again stitched into closure
Fragmentary specimens
T-28 T-46 T-50 T-69 T-70 T-76 T-78 T-79 T-80 T-97 T-138 T-139 T-140 T-141

Textile 4–2 Textile with black bands
Representative specimen No. T-71
Size (cm): 8.0×22.8+19.0×16.0
Structure: Ground Variation of plain weave: warp 1, weft 2, weft-faced
Design Plain weave, weft-faced
Dsign: Horizontal band
Thickness (mm): 0.81–0.10–1.17

	Warp	Weft (1) ground	Weft (2) horizontal band
Raw material:	Wool	Wool	Wool

Color:	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6	Dark greyish brown 5YR 2/1.5
Diameter (mm):	0.30–0.42–0.50	0.30–0.33–0.40	0.35–0.39–0.45
Twist, Twist No. (/cm):	—S(8.3–12.6–20.0)	—S(7.1–8.5–10.0)	—S(5.5–7.0–10.0)
Density (/cm):	10.0–10.7–12.5	(16.8–17.3–18.0)×2	30.0–33.0–36.0

Thread for sewing
Raw material: Wool
Diameter: 2.0
Twist, Twist No.: S/S—Z(2.0)
Selvage: none
Edge: none
Other: Two pieces of cloth are seamed together.
Fragmentary specimen
T-71

Textile 5 Black coarse textile
Representative specimen No. T-72
Size (cm): 68.0×12.0
Structure: Plain weave, weft-faced
Thickness (mm): 3.29–3.58–4.20

	Warp	Weft
Raw material:	Hair	Hair
Color:	Dark greyish brown 5YR 2/1.5	Dark greyish brown 5YR 2/1.5
Diameter (mm):	1.40–1.78–2.10	1.30–1.70–2.00
Twist, Twist No. (/cm):	S/S—Z(0.9–1.5–1.8)	S/S—Z(1.5–2.0–2.1)
Density (/cm):	2.5–2.6–2.7	5.7–5.8–6.0
Selvage:	none	
Edge:	none	

Fragmentary specimen
T-72

Piece of cloth sewn on this textile

Size (cm): 6.0×2.0
Structure: Twill (2:2), Balanced
Thickness (mm): 1.71

	Warp	Weft
Raw material:	Wool	Wool
Color:	Brownish gold 9YR 5.5/8	Brownish gold 9YR 5.5/8
Diameter (mm):	0.60–0.70–0.90	0.45–0.50–0.60
Twist, Twist No. (/cm):	—Z(6.7)	—S(6.7)
Density (/cm):	8.0	9.0–10.0–11.0
Selvage:	none	
Edge:	none	

Textile 6 Brown rough textile
Representative specimen No. T-56
Size (cm): 51.0×12.0
Structure: Plain weave, weft-faced
Thickness (mm): 3.05–4.02–4.70

	Warp (grandrelle yarn)	Weft (grandrelle yarn)
Raw material:	Wool and camel	Wool and camel
Color:	Dull reddish yellow 2.5Y 7.5/6 Brown 5YR 4/4	Dull reddish yellow 2.5Y 7.5/6 Brown 5YR 4/4
Diameter (mm):	1.40–1.73–2.00	1.50–2.10–2.50
Twist, Twist No. (/cm):	Z/Z—S(2.0–2.3–2.8)	Z/Z—S(1.0–1.3–1.7)
Density (/cm):	3.0–3.3	6.5–7.0

	Thread for repairing
Raw material:	Wool and camel
Diameter (mm):	2.00–2.50–3.00
Twist, Twist No. (/cm):	Z/Z—S(1.5–2.0–2.5)
Selvage:	none
Edge:	none

Other: The torn portion in the weave is pieced with thick thread
Fragmentary specimen
T-56

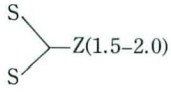
Textile 7 Yellow brown textile
Representative specimen No. T-59
Size (cm): 4.5×39.5
Structure: Variation of plain weave: warp 1, weft 2, weft-faced
Thickness (mm): 1.29–1.46–1.73

	Warp	Weft
Raw material:	Wool	Wool
Color:	Brownish gold 9YR 5.5/8	Brownish gold 9YR 5.5/8
Diameter (mm):	0.30–0.44–0.55	0.30–0.40–0.50
Twist, Twist No. (/cm):	—S(8.3–10.0–12.0)	—S(5.0–7.0–10.0)
Density (/cm):	6.5–7.1–7.6	(12.5–14.0–16.0)×2
Selvage:	none	
Edge:	none	

Fragmentary specimens
T-40 T-52 T-59 T-60 T-61 T-142 T-143

Textile 8 Gauze-like textile
Representative specimen No. T-57
Size (cm): 69.0×12.0
Structure: Ground Plain weave, balanced, cover factor: warp 35% weft 35%
Design Plain weave, weft-faced
Design: Stripe pattern
Thickness (mm): 0.75–1.01–1.37

	Warp	Weft (1) ground	Weft (2) horizontal band	Weft (3) horizontal stripe
Raw material:	Wool	Wool	Wool	Wool
Color:	Brownish gold 9YR 5.5/8	Brownish gold 9YR 5.5/8	Reddish brown 10R 3/5	Dark red 4R 2.4/5
Diameter (mm):	0.25–0.35–0.40	0.25–0.35–0.40	0.25–0.41–0.50	0.40–0.50
Twist, Twist No. (/cm):	—S(8.3–10.7–14.3)	—Z(3.3–4.1–5.0)	—Z(2.0–2.9–3.3)	—Z(3.3–5.0)
Density (/cm):	8.0–10.0–11.5	8.0–10.0–13.0	8.0–11.0–12.0	12.0

Thread
Raw material: Wool
Diameter (mm): 0.6–1.0
Twist, Twist No.(/cm): 

Selvage: none
Edge: Weave start, none
Weave finish, cord 

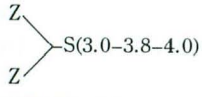
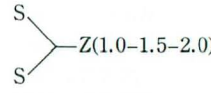
Other: Zigzag stitches are recognized
Fragmentary specimens
T-55 T-57 T-58 T-74 T-86

Textile 9 Textile with purple oblong design
Representative specimen No. T-107
Size (cm): 17.0×14.5
Structure: Ground Plain weave, balanced
Design Plain weave, weft-faced, tapestry-weave technique
Design: Oblong, Stripe patterns
Thickness (mm): Ground 1.31–1.39–1.49
Design 1.78–1.95–2.13

	Warp	Weft (1) ground	Weft (2) oblong pattern	Weft (3) stripe pattern
Raw material:	Wool	Wool	Wool	Wool
Color	Pale reddish yellow 2.5Y 8.5/3	Pale reddish yellow 2.5Y 8.5/3	Dull red purple 7.5RP 4.5/6	Vivid reddish yellow 2Y 8/14
Diameter (mm):	0.70–0.86–1.30	1.00–1.27–1.90	0.70–0.82–0.90	0.90–1.00
Twist, Twist No. (/cm):	—S(4.0–6.7–10.0)	—S(2.0–2.4–2.5)	—S(2.5–2.8–3.3)	—S(2.5)
Density (/cm):	4.5–5.0–5.5	6.4–7.0–8.0	16.6–17.1–18.0	13.2

Selvage: Type 2 cord (5, 2, 2) T-107
Edge: none
Fragmentary specimens
T-10 T-35 T-37 T-107 T-113 T-144

Textile 10 Pile textile
Representative specimen No. T-104
Size (cm): 150.0×75.0
Structure: Ground Plain weave, weft-faced
Pile knot Type B-1 open to the right
Thickness (mm): Ground 2.61–3.40–3.72 7.25–7.85 (with pile)

	Warp (grandrelle yarn)	Weft	Pile
Raw material:	Wool and camel	Wool	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6 Dark brown 5YR 2.5/4	Dull reddish yellow 2.5Y 7.5/6	Dull reddish yellow 2.5Y 7.5/6
Diameter (mm):	1.0–1.2–1.5	0.9–1.2–1.7	1.8–2.6–3.0
Twist, Twist No. (/cm):		—Z(2.5–2.6–2.9)	
Density (/cm):	3.7–3.9–4.0	12.0–14.2–18.0	(5–7)×(13–20) (pile knot/dm)

Hem-stitched thread

Raw material: Wool
Diameter (mm): 2.0–2.5
Twist, Twist No. (/cm): S / S — Z(2.0)
Selvage: Type 2, cord (3, 2) T-104
Edge: Weave start, warp finish (hem), T-104
Weave finish, none
Other: Longest pile thread 5 cm Space of pile knotting row 1.2–2.2 cm
Fragmentary specimens

T-3	T-4	T-7	T-9	T-13	T-14	T-18	T-19	T-21	T-23	T-26	T-27	T-29
T-31	T-32	T-34	T-36	T-43	T-47	T-48	T-49	T-51	T-63	T-66	T-67	T-68
T-104	T-109	T-114	T-115	T-116	T-117	T-118	T-119					

Textile 11 Cord
Representative specimen No. T-54
Length (cm): 16.7
Raw material: Hair
Color: Dark yellowish brown 9YR 3/3

Diameter (mm): (1) 0.4–0.5 (2) 0.6–0.8 (3) 1.0–1.4
Twist, Twist No. (/cm): Z(0.5) / Z(0.5) — S(0.7); Z(0.5) / Z(0.5) — S(0.7); S(0.7) / S(0.7) — Z(0.4)
Fragmentary specimens
T-5 T-45 T-54

[Corridor]
Textile 12 Fragment with gamma pattern
Representative specimen No. IV-OH-368-14-ⓐ
Size (cm): 40.0×25.0
Structure: Ground Plain weave, weft-faced
Design Plain weave, weft-faced, tapestry-weave technique
Design: : Gamma pattern
Thickness (mm): Ground 1.13–1.19–1.24
Design 0.89–0.97–1.11

	Warp	Weft (1) ground	Weft (2) gamma pattern
Raw material:	Wool	Wool	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6,	Dull reddish yellow 2.5Y 7.5/6	Deep red purple 7.5RP 3/9
Diameter (mm):	0.25–0.35–0.45	0.45–0.55–0.63	0.18–0.22–0.28
Twist, Twist No. (/cm):	—S(8.5–9.2–14.0)	—Z(1.0–1.1–1.5)	—S(15.0–16.4–20.0)
Density (/cm):	10.0–10.2–11.0	32.0–36.8–42.0	48.0–53.3–60.0

Selvage: Type 3, cord (4, 5, 3) VI-0H-368-14-ⓐ, (5, 4, 3) IV-OH-368-15-①, (4, 5, 3) IV-OH-368-1, (3, 4, 5) IV-OH-368-31-②, (4, 4, 3) IV-OH-368-15-②, (5, 5, 5) IV-OH-350
Edge:
Weave start none
Weave finish cord S / S — Z IV-OH-368-5, IV-OH-350, IV-OH-261-2
Other: Weaver's mark (arrow ⇦) IV-OH-368-5 (about 5 cm inside the weave finish)
Fragmentary specimens
IV-OH- 34-① IV-OH- 56 IV-OH- 65-① IV-OH- 77-② IV-OH- 96 IV-OH- 98

IV-OH-101	IV-OH-102	IV-OH-107-①	IV-OH-108	IV-OH-115	IV-OH-120
IV-OH-122	IV-OH-130-②	IV-OH-132	IV-OH-146-②	IV-OH-146-④	IV-OH-147-②
IV-OH-156	IV-OH-175-①	IV-OH-175-②	IV-OH-192-③	IV-OH-196-①	IV-OH-199-③
IV-OH-202-①	IV-OH-203-②	IV-OH-203-③	IV-OH-210	IV-OH-213-③	IV-OH-218-④
IV-0H-222-④	IV-OH-235-②	IV-OH-238-②	IV-OH-257	IV-OH-261-②	IV-OH-263-②
IV-OH-266	IV-OH-284-①	IV-OH-288-①	IV-OH-300	IV-OH-307-①	IV-OH-315
IV-OH-332	IV-OH-336	IV-OH-341-②	IV-OH-343-③	IV-OH-350	IV-OH-357-②
IV-OH-357-③	IV-OH-368-①	IV-OH-368-4	IV-OH-368-5	IV-OH-368-14-ⓐ,ⓑ	IV-OH-368-15-①
IV-OH-368-15-②	IV-OH-368-31-①	IV-OH-368-31-②	IV-OH-376	IV-OH-377-②	IV-OH-389-②
IV-OH-395-①	IV-OH-398-②	IV-OH-407-①	IV-OH-419-②	IV-OH-423-③	IV-OH-424-②
IV-OH-428-②					

Textile 13 Fragment with thin band

Representative specimen No. IV-OH-124

Size (cm): 13.7×12.7

Structure: Ground Plain weave, weft-faced

Design Plain weave, weft-faced

Design: Horizontal band

Thickness (mm): Ground 1.13–1.29–1.40

Design 1.05–1.11–1.20

	Warp	Weft (1) ground	Weft (2) horizontal band
Raw material:	Wool	Wool	Wool
Color:	Dull reddish yellow 2.5Y7.5/6	Dull reddish yellow 2.5Y7.5/6	Deep red purple 8.5RP3/9
Diameter (mm):	0.27–0.35–0.40	0.35–0.39–0.43	0.20–0.28–0.35
Twist, Twist No. (/cm):	—S(7.7–9.8–11.8)	—Z(1.0–1.1–1.4)	—S(12.5–14.3–15.0)
Density (/cm):	8.7–9.3–10.0	28.0–33.2–38.0	50.0–55.6–60.0

Fragmentary specimens

IV-OH- 34-③	IV-0H-104	IV-OH-124	IV-OH-168	IV-OH-296	IV-OH-299
IV-OH-312-①	IV-OH-312-②	IV-OH-362	IV-OH-368-2-①	IV-OH-368-2-②	IV-OH-368-3-②
IV-OH-401-①					

Textile 14 Large cloth with H-shape and Square pattern

Representative specimen No.IV-OH-368-13

Size (cm): 238.5×164.0

Structure: Ground Variation of plain weave: warp 1, weft 2, balanced

Design Variation of plain weave: warp 2, weft 1, weft-faced, tapestry-weave technique

Design: H-shape and Square patterns

Thickness (mm): Ground 0.58–0.65–0.74

Design 0.97–1.02–1.05

	Warp	Weft (1) ground	Weft (2) H-shape and Square patterns
Raw material:	Wool	Wool	Wool
Color:	Dull reddish yellow 2.5Y7.5/6	Dull reddish yellow 2.5Y7.5/6	Dark wine 7.5RP2.4/5
Diameter (mm) :	0.17–0.22–0.30	0.18–0.25–0.35	0.25–0.32–0.40
Twist, Twist No. (/cm):	—S(12.0–14.4–15.0)	—S(10.0–13.6–16.0)	—S(12.0–14.0–15.0)
Density (/cm):	16.0–16.9–18.0	(12.0–12.9–13.5)×2	44.0–48.0–52.0
Selvage:	Type 3, cord (4, 4, 4) IV-OH-368-13	IV-OH-100	

Edge: Weave start, cord-like (U-turn warp) IV-OH-368-13

Weave finish, cord S/S—Z IV-OH-368-13, IV-OH-131

Remarks: Notched part of H-shape pattern: Variation of plain weave, warp 2, weft 2 (basket weave), balanced

Fragmentary specimens

IV-OH- 34-④	IV-OH- 51	IV-OH- 52	IV-OH- 54-②	IV-OH- 55	IV-OH- 57
IV-OH- 65-②	IV-OH- 77-③	IV-OH- 79-②	IV-OH- 81-③	IV-OH- 81-④	IV-OH- 91
IV-OH-100	IV-OH-107-③	IV-OH-112	IV-OH-130	IV-OH-130-④	IV-OH-146-⑤
IV-OH-147-①	IV-OH-150	IV-OH-158	IV-OH-159	IV-OH-192-②	IV-OH-218-③
IV-OH-222-①	IV-OH-262	IV-OH-263-⑤	IV-OH-298	IV-OH-307-④	IV-OH-341-③
IV-OH-343-④	IV-OH-348	IV-OH-357-④	IV-OH-360	IV-OH-361-①	IV-OH-364
IV-OH-365	IV-OH-367	IV-OH-368-13	IV-OH-371-②	IV-OH-377-④	IV-OH-395-④
IV-OH-423-②					

Textile 15 Fragment with wave pattern and horizontal stripe pattern bands

Representative specimen No. IV-OH-368-3-①a, -①b, IV-OH-121

Size (cm): IV-OH-368-3- ①a 25.2×14.2 (horizontal band)
IV-OH-121 22.3×23.5 (wave pattern)

Structure: Ground Plain weave, weft-faced
Design Plain weave, weft-faced, tapestry-weave technique

Design: Wave and Stripe patterns

Thickness (mm): Ground 1.18–1.25–1.34
Design
Horizontal band, 1.10–1.29–1.50
Wave band, 1.53–1.61–1.68

	Warp	Weft (1) ground	Weft (2) stripe pattern
Raw material:	Wool	Wool	Wool
Color:	Light orange 5YR 7.5/8	Deep yellowish red 7R 4/10,	Dark blue 3PB 1.5/4
Diameter (mm):	0.30–0.42–0.53	0.30–0.34–0.40	0.50–0.56–0.65
Twist, Twist No. (/cm):	—S(7.0–7.1–7.5)	—S(4.5–5.6–7.2)	—S(2.5–3.1–3.5)
Density (/cm):	7.0–7.1–7.0	44.0–48.0–52.0	32.0–34.0–36.0

	Weft (3) wave pattern	Weft (4) wave pattern
Raw material:	Wool	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6	Dark violet 9RB 1.5/4
Diameter (mm):	0.40–0.53–0.65	
Twist, Twist No. (/cm):	—S(0.5–0.5–1.0)	—S(1.0–1.2–1.5)
Density (/cm):	18.0–19.0–20.0	16.0–20.0–24.0

Selvage: Type 2 cord (4) IV-OH-368-3- ①a, IV-OH-121

Fragmentary specimens

IV-OH- 34-②	IV-OH- 65-⑧	IV-OH-103	IV-OH-110	IV-OH-117	IV-OH-118
IV-OH-121	IV-OH-130-①	IV-OH-144	IV-OH-146-③	IV-OH-157	IV-OH-176
IV-OH-181	IV-OH-192-①	IV-OH-194-②	IV-OH-199-②	IV-OH-203-①	IV-OH-204-③
IV-OH-218-②	IV-OH-221-①	IV-OH-227-①	IV-OH-229-②	IV-OH-263-③	IV-OH-284-②
IV-OH-312-③	IV-OH-319-①	IV-OH-326	IV-OH-328	IV-OH-335	IV-OH-339
IV-OH-343-②	IV-OH-353-①	IV-OH-356	IV-OH-368-3-①a	IV-OH-368-3-①b	IV-OH-368-16
IV-OH-368-30-①	IV-OH-377-①	IV-OH-383	IV-OH-389-①	IV-OH-395-③	IV-OH-405-①
IV-OH-407-②	IV-OH-412	IV-OH-428			

Textile 16 Gauze-like thin cloth with horizontal stripe pattern

Representative specimen No. IV-OH-368-10

Size (cm): 121.4×12.8

Structure: Ground Plain weave, balanced, Cover factor: warp 6.2%, weft 6.3%
Design Variation of plain weave: warp 2, weft 1, weft-faced

Design: Stripe pattern

Thickness (mm): Ground 0.48–0.53–0.56

Pattern 0.61–0.65–0.69

	Warp	Weft (1) ground	Weft (2) stripe pattern
Raw material:	Wool	Wool	Wool
Color:	Dark blue green 5BG 2.4/3	Dark blue green 5BG 2.4/3	Deep purplish red 1R 3/10
Diameter (mm):	0.20–0.27–0.35	0.30–0.36–0.40	0.12–0.21–0.30
Twist, Twist No. (/cm):	—S(14.0–15.3–16.7)	—S(3.0–3.7–4.5)	—S(7.8–9.4–14.3)
Density (/cm):	22.0–22.8–24.0	17.0–17.6–19.0	72.0–74.4–76.0

Fragmentary specimens

IV-OH-368-10 IV-OH-222-②

Textile 17 Pile textile with borders

Representative specimen No. IV-OH-368

Size (cm): 86.0×109.0

Structure: Field Variation of plain weave: warp 2, weft 1, weft-faced

Border (dull blue green) Variation of plain weave: warp 2, weft 2, weft-faced

(deep red) Plain weave, weft-faced

Pile knot Type A-2, double-faced, 3-4 pile yarns together

Design: Stripe border

Thickness (mm): Ground 3.74–4.19–4.61 7.25–8.32–9.58 (with pile)

Border 1.70–2.07–2.55

	Warp (grandrelle yarn)		Weft (1) field
Raw material:	Wool	Camel	Wool
Color:	Dull reddish yellow 2.5Y 7.5/6	Yellowish brown 9YR 4/4	Dull reddish yellow 2.5Y 7.5/6
Diameter (mm) :	1.00–1.30–1.70		1.50–1.83–2.30
Twist, Twist No. (/cm):	Z/Z—S(2.5–3.1–3.5)		—Z(1.3–1.4–2.5)
Density (/cm):	border 2.5–3.5–3.8	field(1.3–1.7–1.9)×2	5.0–7.5–9.0

	Weft (2) field	Weft (3) border	Weft (4) border	Pile
Raw material:	Camel	Wool	Wool	Wool
Color:	Dark brown 5YR 2.4/4	Deep red 4R 3.5/10	Dull blue green 5BG5/4	Dark grayish brown 5YR2/1.5
Diameter (mm) :	1.50–1.83–2.30	0.80–0.96–1.15	0.80–1.03–1.30	1.70–2.01–2.60
Twist, Twist No. (/cm):	—Z(1.3–1.4–2.5)	—Z(1.7–2.1–2.5)	—Z(1.5–1.9–2.5)	S/S—Z(1.6–1.9–2.8)
Density (/cm):	5.0–7.5–9.0	18.0–20.0–22.0	18.0–20.0–22.0	(5.0–5.6–6.0)×(7.5–8.1–9.0) (pile knot/dm)

Hem-stitched thread

Raw material:	Wool
Color:	Light orange 5YR 7.5/8
Diameter (mm):	1.00
Twist, Twist No. (/cm):	S/S—Z(2.0)

Selvage: Type 2, cord (3, 2), IV-OH-259, IV-OH-368, IV-OH-368-17, IV-OH-368-20-①

Edge: Weave start, warp finish (hem), IV-OH-368-11

Weave finish, none

Other: Space of pile knotting row 0.8–1.4–1.5 cm. Longest pile yarn 14 cm

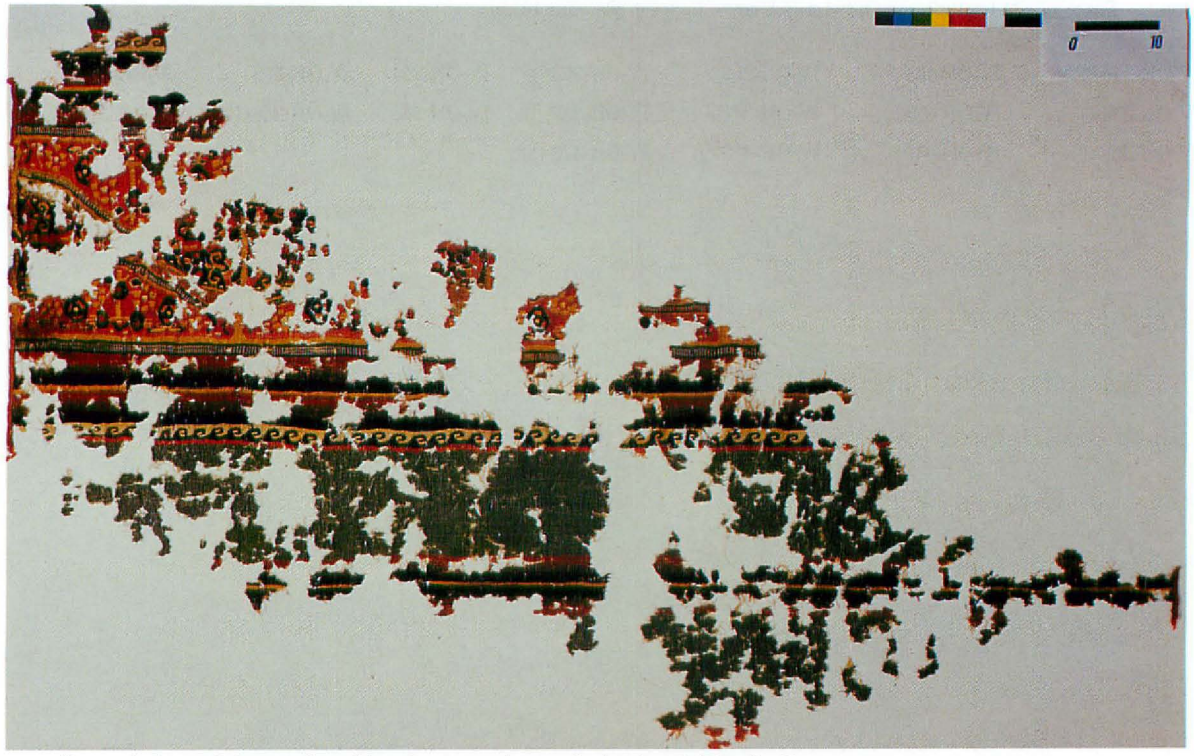
Fragmentary specimens

IV-OH-116-①	IV-OH-119	IV-OH-259	IV-OH-263-①	IV-OH-264	IV-OH-305	IV-OH-312-①
IV-OH-334-①-a	IV-OH-334-①-b	IV-OH-342	IV-OH-357-①	IV-OH-368	IV-OH-368-11	IV-OH-368-17
IV-OH-368-20-①	IV-OH-418	IV-OH-419-①	IV-OH-423-①			

Condolences to Prof. Dr. Phil. Leo Trümpelmann

On the 21st of August in 1989, I received the notice that Dr. Phil. Leo Trümpelmann (1931–1989), Professor of the Institut für Vorderasiatische Archäologie, Ludwig-Maximilian Universität, passed away. I am sorry and grieve to hear of his death as one of his friends. I have various memories about him. Particularly impressive is that Dr. Trümpelmann took a deep, enthusiastic interest in the structural remains from the Parthian Period, Tell Abqa, which he was in charge of in 1978–79 when the Iraqi and some other expeditions from abroad were carrying on their excavation researches in the sites which were planned to be sunk under water in the Himrin Basin. To add to this, in November, 1988 when I visited at his institute for the purpose of making joint researches into the subject of 'The Archaeological Research on the 2nd Millennium B.C. in Mesopotamia', Dr. Trümpelmann said during the intermission of our debate that he was eager to make his own opinion open to the public in 1989 regarding the subject of the reconstruction of the Central Structure, Level VII, Tell Gubba which had been investigated by ourselves. To my sorrow, however, one of our expectations is gone away forever. Please accept our deepest condolences and we only pray for the soul of the late Dr. Trümpelmann.

(Hideo Fujii)



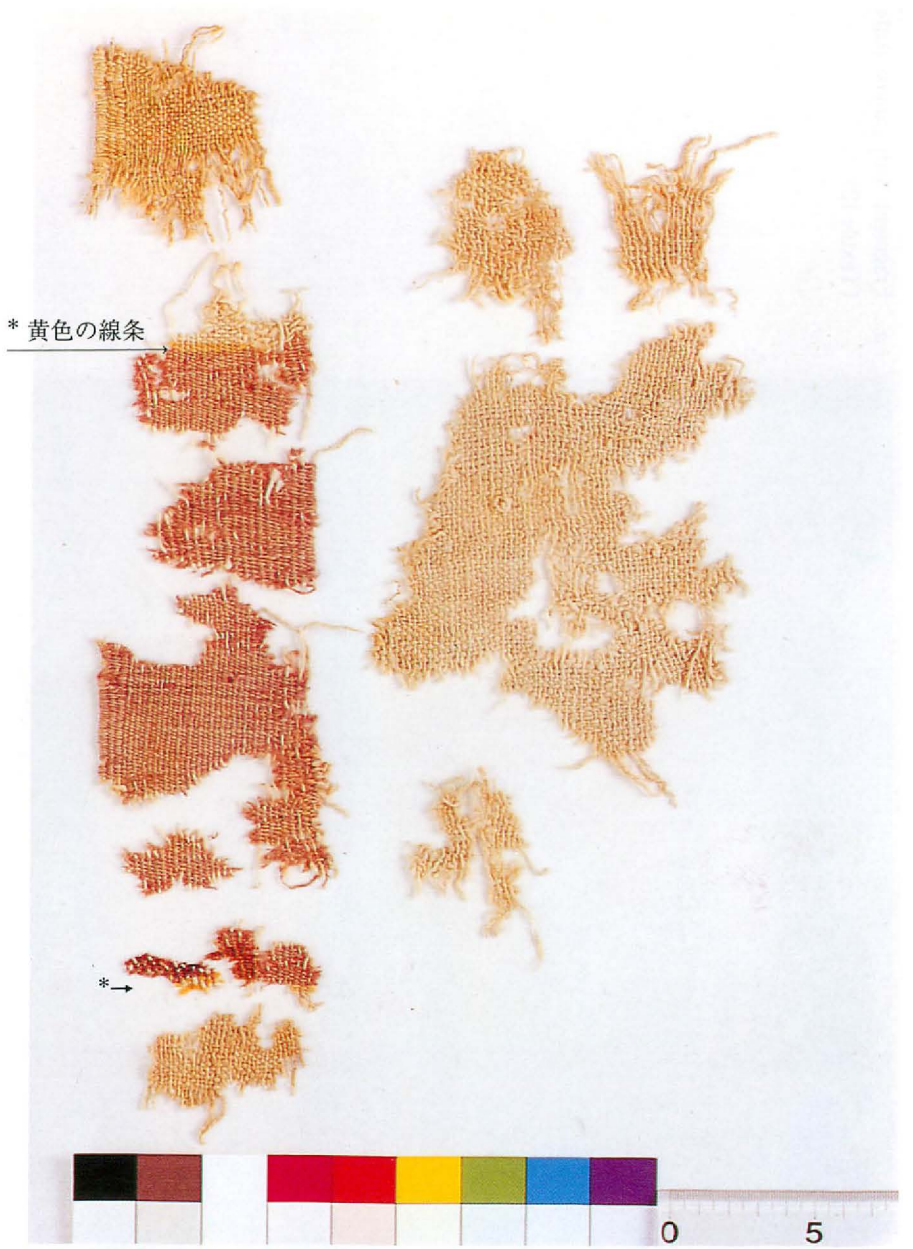
a. General view of the textile with a flower and tree design band (Textile 2)



b. Pattern portion of the textile with a flower and tree design band (Textile 2)



a. Textile with tree design bands (Textile 3)



b. Textile with purple oblong design (Textile 9)
* Vivid reddish yellow stripe



a. Fragment with gamma pattern (Textile 12)

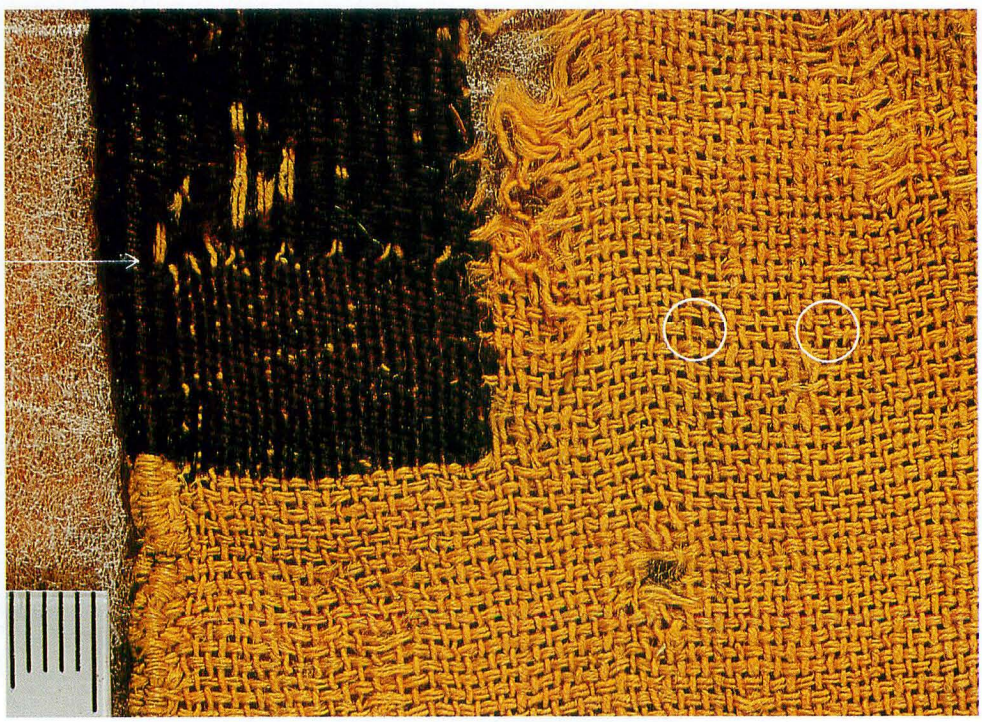


b. Warp cord finish (two-plied cord) and weaver's mark (Texlile 12)



a. Fragment with thin band (Textile 13)

line of warp crossing



b. Twist portion of weft thread (near the square pattern of Textile 14)

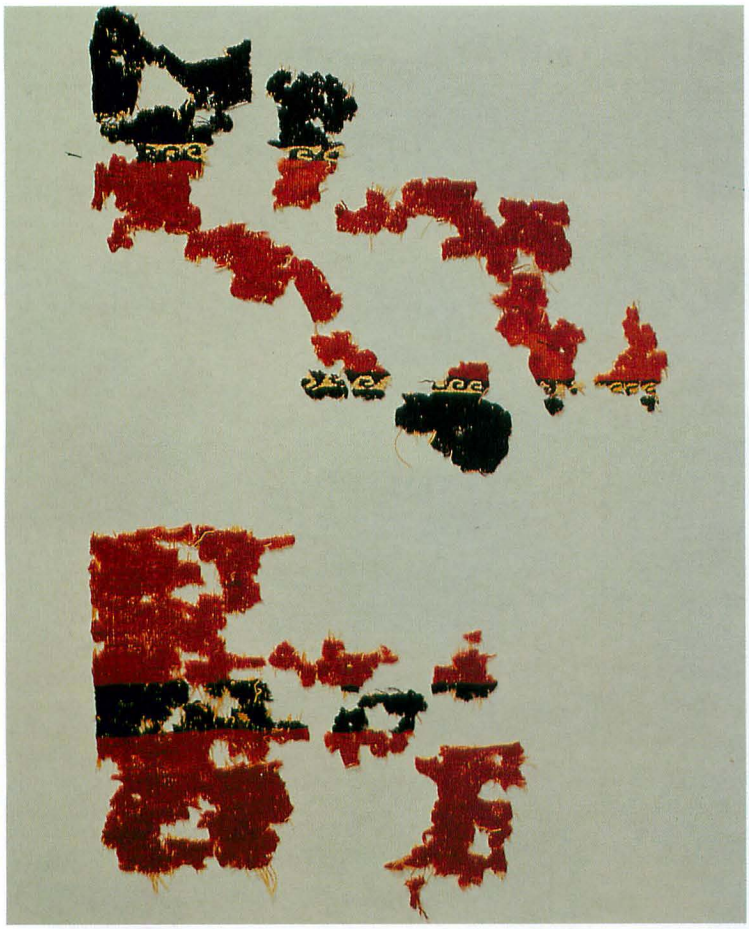
Pl. 31

weave finishing border

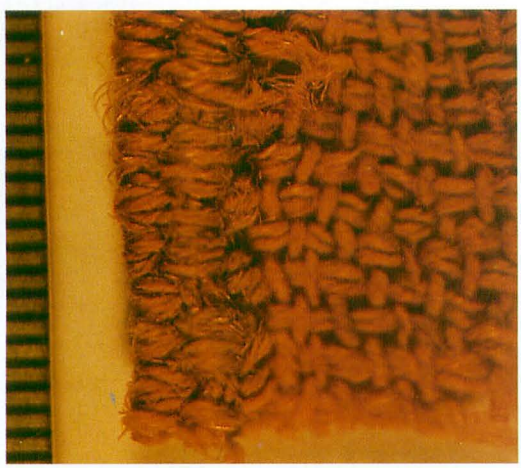


Large cloth with H-shape and square patterns
(Textile 14)

weave starting border



a. Fragments with wave pattern and horizontal stripe pattern band (Textile 15)



Plan



Section

b. Selvage of Textile 14



c. Gauze-like thin cloth with horizontal stripes (Textile 16)

Pl. 33



Pile textile with borders (Textile 17)



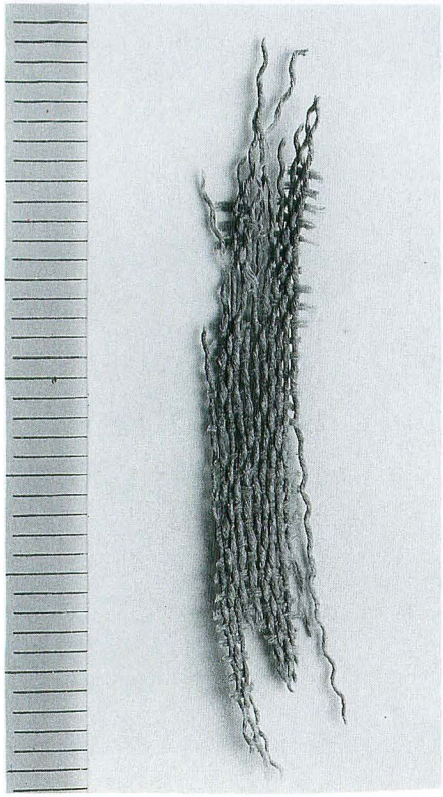
a. General view of Hills A(left) and C at Tar Caves



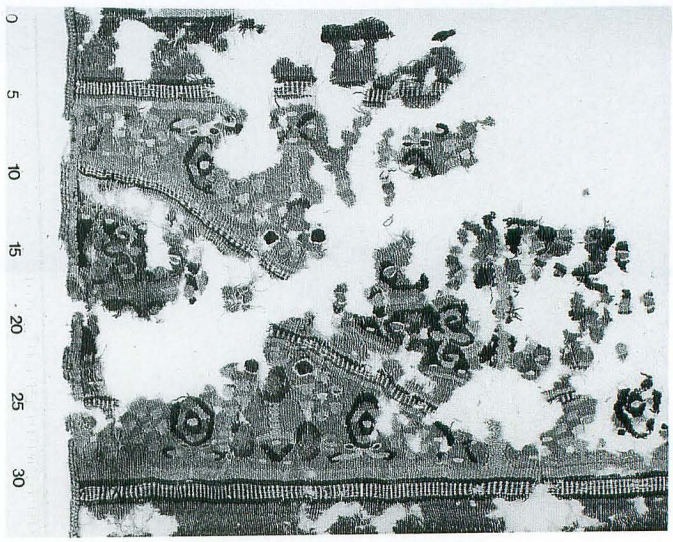
b. Wearing the tunic with grape vine scroll pattern, Hatra (NIHRA; second son of SANATRUQ I, Iraq Maseum, IM73001)



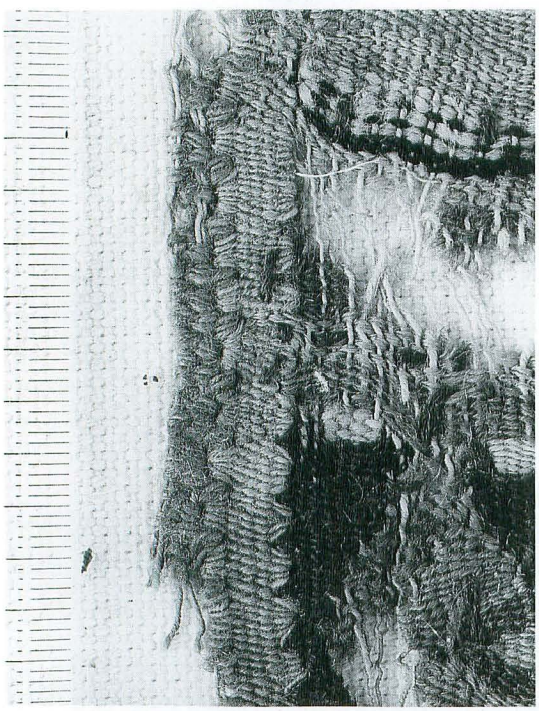
c. Priest wearing the mantle with H-shepe pattern, Hatra (No. Six, Shrine, Iraq Museum, IM 58085)



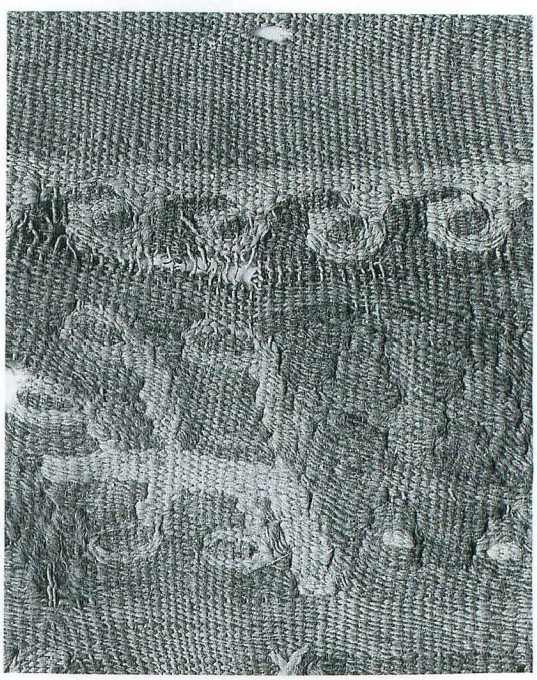
a. Small fragments of fine wool textile (Textile 1)



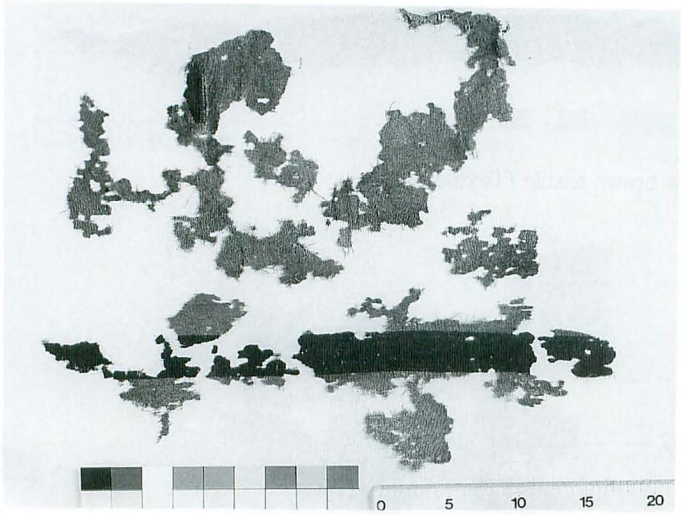
b. Central pattern portion of the textile with a flower and tree design band (Textile 2)



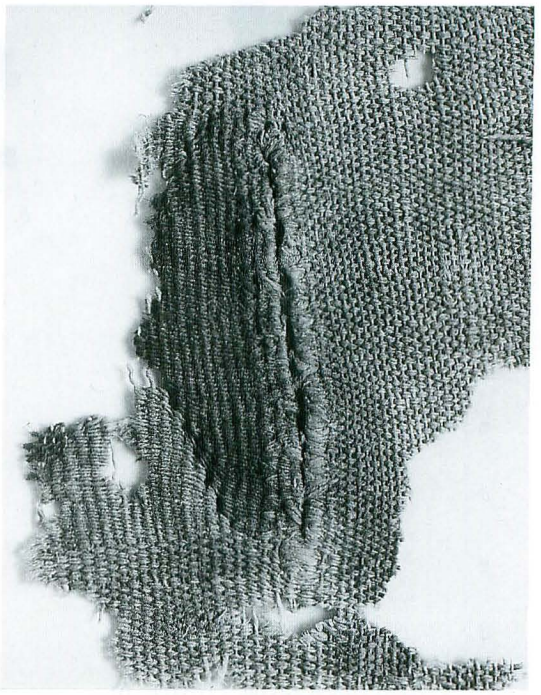
c. Selvage of Textile 2



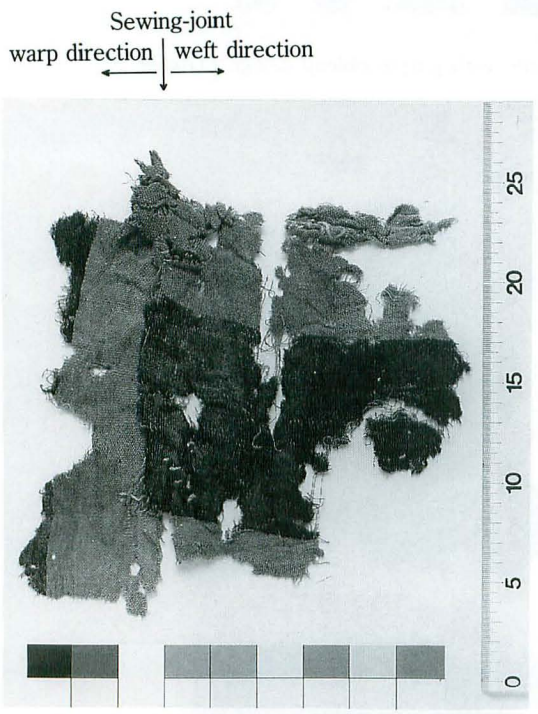
d. Textile with tree design bands (Textile 3)



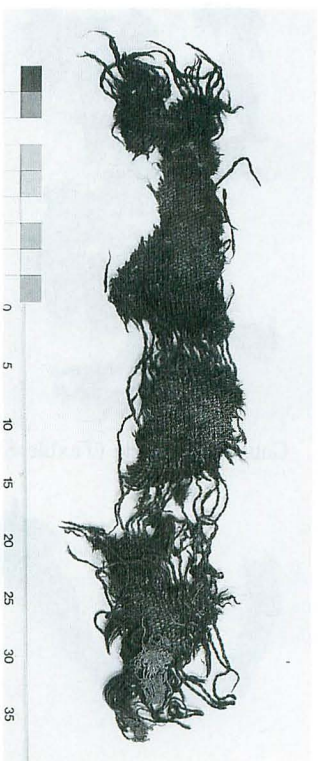
a. Textile with a dark purple band (Textile 4–1)



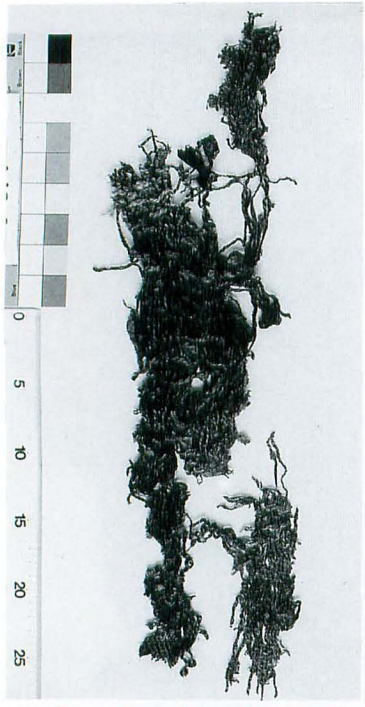
b. Textile with a dark purple band (Textile 4–1)
Slit with tapestry-weave techmique



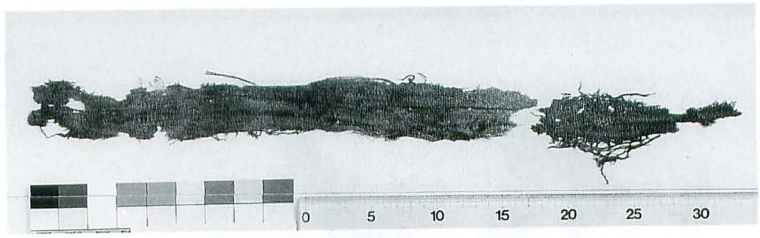
c. Textile with black bands (Textile 4–2)



d. Black coarse textile (Textile 5)



a. Bround rough textile (Textile 6)



b. Yellow brown textile (Textile 7)



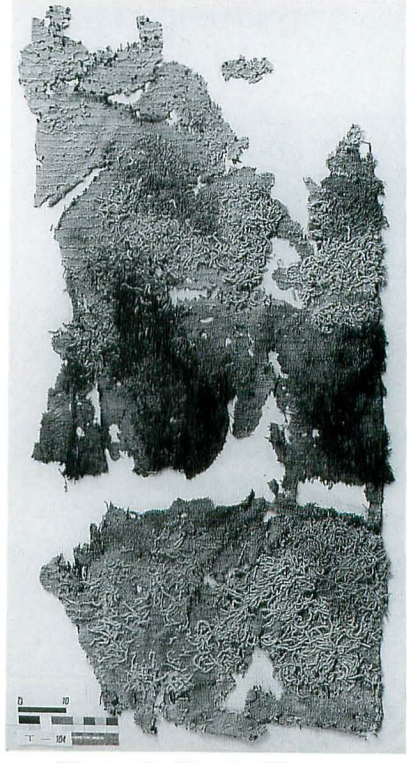
d. Textile with purple oblong design (Textile 9)



c. Gauze-like textile (Textile 8)



f. Cord (Textile 11)



e. Pile textile (Textile 10)

テル・グッバ出土の遺物：
ビーズ・ペンダント・環，ガラス製品，紡錘車，金属製品，骨製品

井　博幸*

はじめに

以下に記述する遺物は，テル・グッバの発掘調査によって出土した小遺物（Small finds）の一部である。この中からビーズ，ペンダント，ガラス製品，紡錘車，金属製品，骨製品などについてのべる。

掲載した遺物の整理，および作業分担は以下のとおりである。

遺物整理は小谷仲男（富山大学），八木和美（国士舘大学），川又正智（国士舘大学）井の共同作業である。

遺物の実測は井が中心に行い，八木の補助を受けた（八木測図：Nos. 67～71，73，75～82）。

遺物写真撮影は小谷が担当し，一部を井が補足した。

挿図トレースおよび版下作成は井が行った。

文字貼込みには村田晋一，加藤毅（国士舘大学学生）の協力を得た。

使用した出土状況図，墓実測図などはおもに筆者が作成したが，このうち Fig. 5 の実測図，Fig. 13 中の土器実測図は八木によるものである。

遺跡の発掘調査には上記した以外にも，多くの調査員の協力があった[1)]。出土遺物に関する出版は，国士舘大学イラク古代文化研究所の了解のもとになされたものである。ここに関係者に感謝を申し上げる。テル・グッバの基本的年代観を以下に示す。このほかにも，小谷・井〔1981〕，および井〔1988〕を参照されたい。なお，本文中ではジャムダト・ナスル期を JN 期，初期王朝期を ED 期と略記する。

Chronological Terminology of Gubba

Period	Level	Date	Related sites
Jamdat Nasr：Uruk III (Protoliterate c-d ?)	VIId-VIIc	C. 3300-3000 B.C.	
	VIIb (Late)		Khafajah：Sin Temple IV
	VIIa (Transitional)		Suleimeh ?
Early Dynastic I	VI (Early)	C. 3000-2750 B.C.	Abu Qasim ?
	V		
	IV (Late)		Madhhur ?
	IIIb		
Early Dynastic II (?)	IIIa and/or big well	C. 2750-2600 B.C.	Razuk?
Gap			
Early Dynastic III/Akkadian	Interstratification of pottery deposit.	C. 2400-2300 B.C.	
Gap			
Achaemenid Persian	II	C. 539-330 B.C.	
Seleusid to Recent	I	C. 330 B.C.-1977 A.D	

* 国士舘大学イラク古代文化研究所

I　ビーズ・ペンダント，環，他

グッバの発掘調査では，極めて多量の装身具を発見する幸運に恵まれた。様々の材質や形をもつビーズ，ペンダント，アミュレット（？），環などで，総出土量は2543点以上に達する。このうちJN～ED I期の層に伴う遺物が2479点を数え，全体の95%以上を占める。JN～ED I期層から出土したビーズ類を層位毎にみると，VII層：2321点以上，VI層：5点，V層：91点，IV層：27点，IIIb層：1点，帰属不明：7点となる。

1．JN～ED I期

出土状況

VII層　円形建物に伴うビーズ，ペンダントなどの出土地点は広範囲に及ぶ（Fig. 1）。図中の黒点は出土地点を，黒点に伴う数字は遺物番号を示す。遺物番号は通し番号とし，挿図および写真図版中の番号に対応する。なおGを冠した番号は，イラク考古庁への登録品であるが，実測図を伴わないもの。遺物名のみを記したものは図，写真，登録を行わなかった製品である。

回廊3以内　中央基壇やそれに伴う回廊1：C1〔小谷・井　1981〕からはビーズ類の出土はない。その外側に位置する回廊（C2）からは19点（3，54，55）が出土した。ここは中央基壇に達する階段の下にもうけられた狭いスペースで，人一人がかろうじて通れるほどの狭い空間である。調査の都合上，回廊と称したが，その機能は回廊や部屋と呼ぶにはふさわしくない。遺物は厚く堆積した灰層中―ほぼ純粋な灰に近く，炭化物の混入は少なかった―に混在しており，VIIb～VIIc層に伴うと推定できた。3回に分けて遺物を採集したが，本来はこの19点が一つのセットを成していたとみなしうる。管玉形の銅製ビーズ，環節形ビーズ，大型管玉など特異な例が多く出土した。ファイアンス製ビーズの出土を2点としたが（Table 1参照），このほかにも白く粉末状となった遺物（？）が存在した。ファイアンス製ビーズの破壊したものと推測される[2)]。

R3の南側から中央基壇に達する階段の基部付近では4点のビーズ，環（41，46，51，67）を散発的に発見した。円形建物の終末期に近い時期（VIIa層）に伴うと考えられる。R2と称した狭い部屋状の凹み（？）の前面には，初期床面に伴う径80 cm，深さ60 cmほどのピットが存在し，その周辺には径5～8 cmほどの天然の円礫が密に敷き詰めてあった。礫敷面にほぼ接して巻貝製品（64e）と貝製環（79）が出土した。このほか中心部の回廊からはビーズ，ペンダント5点（5，26，32，37，71）を発見したが，いずれも単独出土であり，出土の層位も異なる。巻末のリストを参照されたい。

建物の中心部から，上階もしくは屋上に達すると考えられる階段（ST2）のステップ上と，その基部からもビーズの出土があった。ステップ中では4点（64c，G338）を発見したが，場所が場所だけに層位を確定することが困難である。階下のおどり場には20～40才と推定される男性の頭骨〔Ikeda et al.　1984/85〕が，VIIa層の床に接していたことから，この人物とビーズを関係づけることも不可能ではないように思う。

階段のおどり場では，壁面に接して，総数625個以上のビーズが出土した（60）。ビーズは壁に沿って垂直方向に分布しており，あたかも壁面に沿って生じた隙間（クラック）に落ち込んだような状態であった。出土の位置は，ほぼVIIb層の床面と同レベルとなるが，前述のような出土状況も手伝って，直ちに層位を確定できない。上方約30 cmのVIIa層で発見した人骨に伴ったものが，隙間に落ち込んだ，と見なすことも可能である。いずれにせよ，VIIaもしくはVIIb層に伴うことは確実であり，オリジナルに近い組合せを知ることができる貴重な資料といえる。なおFig. 3（P. 180）に示した出土状況図は立面図である。

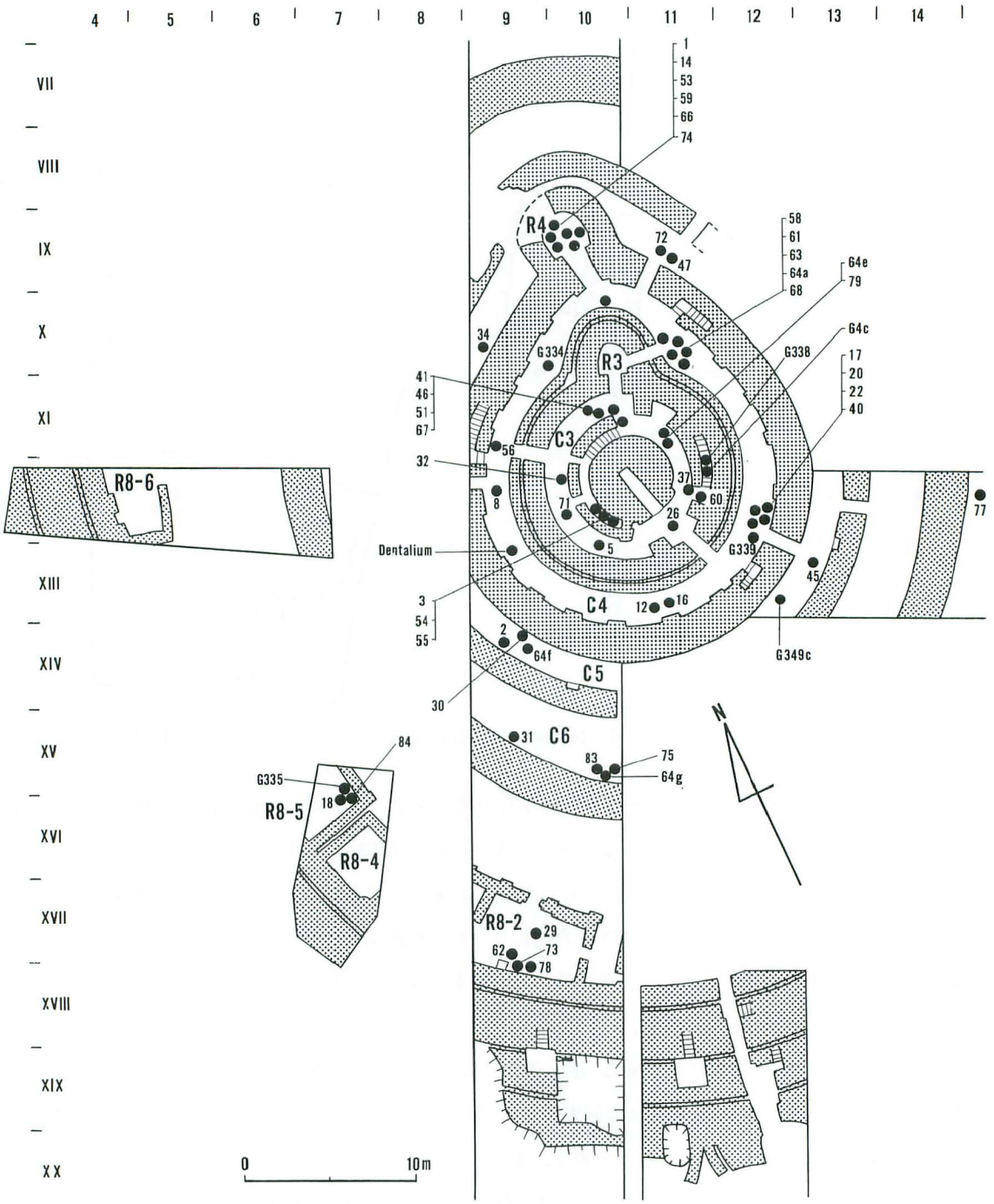


Fig. 1　Findspots of beads, pendants and shell rings of Level VII.

回廊 4（C4）　楕円形（卵形）プランでめぐる回廊の北側には，円形の張り出し部（R4）があり，その中心に井戸が掘られていた。C4 は比較的広い空間を有しており，ここではビーズ類に限らず極めて多くの遺物が出土した。C4 には，VIIc と VIIb 層に伴う二度の大火の痕跡が顕著に残っており，床面の上昇も他の部所に比べて大きくはっきりしている。ビーズ類は R4 と，R3 の入口前面付近，および東南側入口付近に比較的集中していた。

R4 にある井戸は VIIc 層期と同時か，もしくはそれ以前に存在していたと考えられ，VIIb 層期までは使用されていたと推定される。部屋内の自然堆積は薄く，床面の上昇は他の部所に比べ小さい。出土ビーズ類の総数は

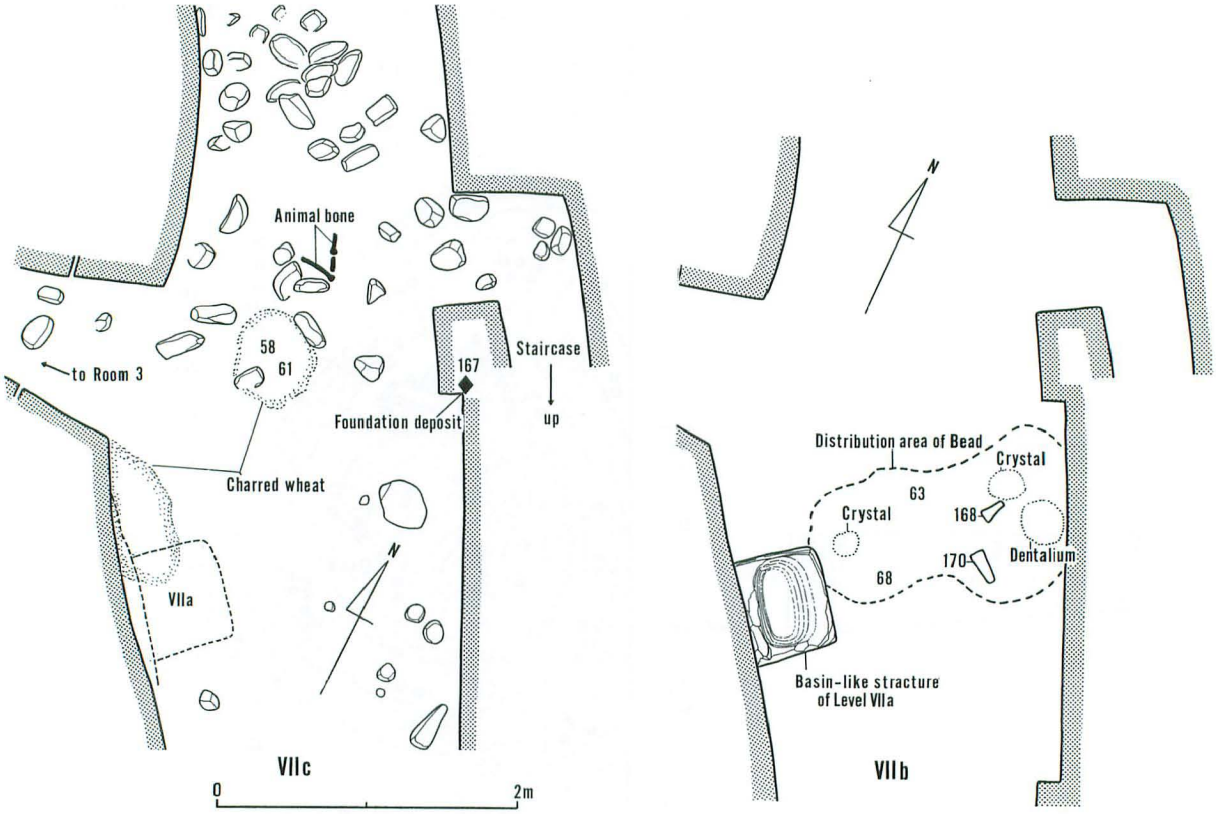


Fig. 2　Findspots of beads, pendant and other objects in corridor 4 of Level VII.

114点で，このほかにも数に加えなかった貝製品の小片が多くある。VIIc 層期の床面にほぼ接して貝製大型管玉 (1) が出土したが，他は VIIb 層の火事以降に伴うと考えられる崩壊層，およびそれに付随する埋土（堆積）に混在していた。R4 への流入土にはビーズと共に，甚だしい量の炭化小麦や土器片，焼けて焼成煉瓦状となった日干煉瓦片などを含んでいた。室内の埋土が人為的になされた形跡はなく，すべて上部方向（より高い位置）から急傾斜で流入した状況を示していた。出土遺物のうち貝製品などは直接火を受け，もろくなったり，灰色や黒色を呈するものが存在した(Pls. 41, 42)。

R3 の前面における出土状況も特異である (Fig. 2)，ここでは VIIc，VIIb 層の火事に伴う焼土層が，間層をはさんで明瞭に区別できる。VIIc 層ではほぼ回廊の全面にわたって，人頭大の円礫多数と，焼成煉瓦状となった日干煉瓦が多量に遺存しており[3]，それらの直下，もしくは混って，ビーズ，貝製品 (58, 61, 64a) などが狭い範囲から出土した。総数は125点で，本来，一連の首飾を形成していたと考えられる。このほかにも10点の小型の骨角器，石製紡錘車 (Fig. 7, 15)，銅器 (183, 194) などがビーズ付近から出土した。骨製品や貝製品では R4 出土例と同様に火を受け，灰～黒色に変色したものが存在する。なお出土地点の床面は，階段のおどり場付近を基点として，なだらかな扇状地状のスロープを示す堆積が認められた。

VIIb～a 層に伴う遺物 (63, 68) は，厚い灰層直上から VIIa 層の直下までにある，約 15 cm 厚の日干煉瓦片を含んだ茶褐色土層中より出土した。出土地点は VIIc 層例より僅かに南側にずれ，およそ 2 m^2 ほどの範囲に広がっていた。ここではビーズ類と銅器 (168, 170) が水平，垂直方向に不規則に分布する。ビーズは連結されていたと思われるものがなく，多くは分離していた。このなかにあって，水晶製ビーズとツノガイ製品は，図中の円で囲んだ周辺からやや固まって発見された。円形建物に伴うビーズの過半数をこの部分のみで占めているが，

なぜここにかくも多量の遺物が集中するのか，はっきりと説明できない。多くの可能性が考えられるが，現時点では推測の域を出ない[4]。なお，ここにはVIIa層期に高さ40 cm，幅70×55 cmほどの方形の台がW4に接してしつらえられ，この上面は深さ10 cmほどの楕円形の凹みとなっていた。

東南入口部付近では11点（17，20，22，40，G339）が出土した。No 40はVIIc層期のピット中からで，他はVIIa層に伴う。VIIa層期，ここは物を貯蔵する場所として利用されたと推測され，大型の粗製土器3個が回廊を横断して並べられていた。そのうちの一つは印影土器〔井　1988：Fig. 4-87〕である。遺物は粗製土器付近の床面から出土した。

G334はNo 60と同質の緑色黒耀石である。VIIc層の床面上から計62点が出土し，数点は連結された状態で発見された(Pl. 43)。

回廊4に伴う他の装身具（8，12，16，56，ツノガイ）は単独出土である。VIIc層に伴うもの（8，56，および番号なし：ピット9中）が多く，VIIa層からは2点（12，16）が出土した。

回廊5（C5）　屋根で蔽われていた空間（部屋・通路？）で，VIIb層期に増築された。調査範囲が限定されているため，出土点数も少ない。6点（2，30，34，45，47，64f，72，G349c）が出土したが，いずれも単独である。

回廊6（C6）　ここには天井が架けられていなかった。遺物は4点あり，3点がピット16—VIIb層以前に掘られた井戸と考えられる深い竪穴で完掘していない—の上部埋土付近から出土した（64g，75，83)。ここは穴のくぼみを利用して，石器製作等の工房として利用される。

No 77はVIIb層以前に存在した周濠の堆積中に混在した貝環2点である。

部屋R8-2，5　外周壁と推定できる壁（W8）の内側には，VIIb期頃に方形の部屋が連続してしつらえられており，調査では6部屋（R8-1～8-6）を確認した。このうちビーズ，ペンダントはR8-2と8-5から出土し，他の部屋には伴なわなかった。

R8-2は長方形の部屋で，外周壁と同時に築かれていた。初期には，戸および入口は3方向に開いており，8-1，8-3と連絡する。部屋の正面の壁（中心側）には4箇所にバトレスがつく。部屋の中央には長さ210，幅70，高さ35 cm，の方形の台があり，この台の北側に接して方形の炉状施設が存在した。また，背後の壁（W8）に接して小さな祭壇状の方形の台（聖台・供物台？）があった。ビーズ類は祭壇状の台と，部屋の中心にある台周辺から出土し，いずれも床面下に敷き込まれたような状態で発見された。出土数は僅か8点にすぎないが，大理石製ペンダント，カーネリアン，ノシガイなど，当時としては比較的貴重な製品と考えられるものがあった。このほか部屋内からはテラコッタ製動物像も出土した。

R8-5は全体のプランを明らかにしておらず，部分的な確認に留まる。部屋はR8-2に近い大きさと想定され，壁のコーナー部にはバトレス状の突起が付く。内部は数回の改築が行われたことが判明しており，初期には薄い壁で細かく仕切って使用されていた。その点R8-2と部屋の利用形態が異なる。ビーズ類はJN期の最終床面と考えられる層から出土した。部屋のコーナー付近に存在したピット中から，32点のテラコッタ製品を発見し，他はその周辺に散布していた，総数は46点でテラコッタ33点，ノシガイ1点，水晶1点，黒色の石1点，テラコッタ製スペーサービーズ1点である[5]。R8-2に比べ相対的に質の劣る製品を組み合わせていたが，ノシガイの発見は注目された。ちなみにノシガイ製のビーズ（？）はR8-2，8-5のみで出土し，円形建物の中心施設では発見されていない。

VI層　6点（6，35，49，64d，65，76）を発見した。VIb層のピット中より貝製品（64d）が出土したが，他はすべて単独である。

V層　91点（7，11，15，36，39，43，44，52，57，69，70，80，G349d）を発見した。No 57はVa層に伴い，床下に通気孔（ベンチレーション）をもつ小建物の，孔内の埋土に混じって出土した。78個で構成され，連ねると首に巻けるほどの長さとなる（Pl. 39a）。テルの中心部から放射状に延びる狭い通路：C1中（36）と，通路2（7，70）からも出土があり，さらに公共の建物と考えられるRoom 14から1点が出土した。XII–12区では水晶製管玉2点（11，15）と貝環（80）を発見したが，遺構に伴うとは考えられない。ここは穀物倉庫と考えられる小建物間にある空き地であった。

IV層　27点（13，19，21，24，25，27，28，33，81，G349a，G349b，G349e）が出土した。テルの南東側，即ちグリッドXIV～XVI–11，12区付近（Fig. 1）に比較的遺物が集中した，ツノガイで18点あった。

Table 1　Composition analysis of beads, pendants and rings.

Number	Level	Total number	Limestone	Marble	Limestone/marble(?)	Rock crystal	Agate	Carnelian	Hematite	Granite	Steatite	Miscellaneous stones	Unknown stones	Terracotta	Glazed/burnt steatite	Faience/frit	Glazed	Glass	Dentalium	Gastropod	Bivalve	Unknown shell	Copper/bronze	Bone
Single bead		71	5	4	2	3	2	3	3	1	2	5	5	11	1	3	2			16	1	1		1
53	VIIc	16				1						Alabaster: 1			13	1								
54	VIIc-b	9													7	1+							1	
55	VIIc-b	9													7	1+							1	
57	V	78		63					1	8	1		Green: 1 Black: 1						2			1		
58	VIIc	103	1	17	1	10	1		5	1		Amber?: 1	Green: 1	29	32				2		2			
59	VIIc	94	7			14	2		1	4	18		Black to gray: 23	19	2				2	1				1
60	VIIa-b	625	2									Obsidian(?): 561			48+	11+			1	2				
61	VIIc	21				6		12		3														
62	VII	5		1	1			1												1		1		
63	VIIa-b	1314	11			107					1081		Black: 43	3	1	10			23	24+	1	5	4	1
84	VII	37				1								35						1				
G334	VIIc	62										Obsidian(?): 61							1					
G335	VII	8		4									Black: 1	3										
G338	VII	3									1	Flint(?): 1		1										
G339	VIIa	7									7													
G349	IV-VII	20						1											19					
85	II-III	4										Serpentine: 1 Lapis Lazuli: 2	Black: 1										
86	I	3																		1			2	
87	I	10																10				(Iron: 1)		
88	I	9																9						
89	I	19					1										3	14				1		
G343	I	16																16						
Total		2543	26	89	4	142	6	17	10	17	1110	633	76	101	111	27	5	49	50	46	4	9	8	3

IIIb 層　カーネリアンの平玉形ビーズ 1 点を発見したが，図示していない。以上の ED I 期に伴うビーズ類は，No 57 を除きすべて当時における遺失物と考えて良いだろう。

材質

金属製，石製，貝製，骨製，焼成品に大別できる（Table 1，3）。

金属製では銅と，鉄製（前一千年紀以降）がある。石製では凍石，石灰岩，大理石，水晶，瑪瑙，赤鉄鉱，花崗岩，石花石膏，方解石，黒耀石，蛇文岩，ラピスラズリ（ED 期以降），カーネリアンのほか，不明の石が利用される[6]。貝製は二枚貝，巻貝，角貝および淡水産と考えられる貝である。骨製はすべて獣骨である。焼成品，すなわち熱処理の施された製品には，テラコッタ，ファイアンス/フリット，焼いたか施釉した凍石 Glazed/burnt steatite（以下，焼凍石という），施釉，ガラスなどがある。このほか現代に近い遺物ではプラスティックと考えられるものも出土した。

凍石は灰色を中心として，黒色に近いものや，焼けたためか，白灰色を呈するものまで色調は変化に富む。石灰岩についても白色や乳白色が主流ではあるが，赤色がかった例，灰色などが存在する。黒色系で石灰岩質の石は “bitumenious limestone” に相当すると推測されるが，ほとんど不明とした。大理石にもヴァリエーションが多

Table 2　Classification of illustrated beads, pendants and rings.

Shape (Type)	Numbers
Tubular	1, 2, 3, 10, 11, 12, 13, 54a, 55a, 56, 57c, 57d, 59a, 59b, 63a, 63b, 63c, 63y, 63qq, 89h, 89i.
Cylindrical	15, 39, 43, 45, 49, 54b, 57f, 59c, 60h, 60i, 60k, 61a, 63l, 63n, 63rr, 63ss, 84b.
Disc	24, 26, 27, 28, 29, 33, 35, 41, 42, 57e, 57h, 57i, 57j, 57k, 58b, 58d, 58e, 58f, 58g, 60a, 60b, 60c, 60d, 60e, 61b, 61c, 61d, 63d, 63e, 63r, 84a.
Discoid	23, 25, 31, 34, 36, 37, 38, 40, 44, 47, 48, 52, 53a, 55c, 57g, 57l, 57m, 57n, 57o, 57p, 58c, 58h, 58k, 59g, 59i, 59j, 60j, 61b, 62b(?), 63f, 63g, 63h, 63i, 63k, 63o, 84c, 84d, 84e, 89e, 89j.
Flanged discoid	62e, 63p, 63s, 63t, 85d.
Biconical	21, 50, 51(faceted), 57b(?), 58i, 58j, 60l, 60m, 85c.
Elongated biconical	16, 63x(?), 85a(?), 89g(?).
Flattened biconical	14, 58a, 85b.
Barrel-shaped	22, 46, 58l, 59h, 63m, 63q, 88c, 88d, 89b.
Spherical	30, 32(?), 60f, 60g, 63j(?), 89f, 92(?).
Flattened oboid	87a, 87b, 87c, 89c, 89d, 90(?).
Diamond-shaped	59e, 60n, 63v.
Triangular	63u.
Spacer bead	17, 18, 60o, 60p, 60q, 63w.
Segmented bead	53b, 55b.
Double-hole bead(?)	9, 63cc, 65.
Cut bead	88a, 88b, 89a, 91.
Other shaped bead	57a(biconvex), 62d, 89k, 89l(hand-shaped), 90.
Right angle perforation pendant/bead	4, 5, 59d, 62a.
Pear-shaped pendant	6.
Shell pendant/bead	bivalve: 58m, 63z, 64f, 64g; gastropod: 60s, 62c, 63aa, 63bb, 64e.
Shell bead/button(?)	63ll, 63mm, 63nn, 63oo(?).
Bell-shaped pendant	63dd, 64a, 64b, 64c, 64d.
Animal-shaped pendent	19.
Long pendant	8, 59f.
Other shaped pendant	20(square?), 58n(hemispherical), 63pp(unknown shaped).
Unfinished bead/pendent	7, 21.
Ring	60r, 63ee(?), 63ff, 63gg, 63hh, 63ii, 63jj, 63kk, 66(open ring), 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 86a, 86b, 86c.

く，黄緑色（これはオニックスの可能性もあるが），黒灰色，黒色と灰色のストライプ，白色などが観察された。水晶は全て透明なものを使用する。瑪瑙には苔瑪瑙と称されるものがあった。花崗岩とした石は火成岩で，白色の地に黒色の斑点が存在する，黒斑は点状を成すことが多いが，筋状で白色の地に貫入することもある，白色と黒色の割合はおよそ2：1であり，硬度４～５程度の比較的固い石である。黒耀石製では薄緑色を中心として，淡緑色，黄緑色，緑褐色などの僅かな色調変化が観察できる。しかし文中ではすべて緑色黒耀石で統一した。蛇文岩は硬度の低い淡緑色の石をさす。不明の石には紺黒色の石（スレート/頁岩？）や，ヒスイ状の淡い緑色で白濁を伴うものなどが存在した。

JN～ED I 期における材質ごとの出土傾向を見ると（Table 1），加工しやすい凍石製ビーズが最も多く，緑色黒耀石がこれにつづく。水晶も好まれた材質・製品の一つで，大理石やカーネリアン，石灰岩も比較的多い。詳しくは Table 1 を参照願いたい。

形態分類

研究者間でも名称の統一を得るまでにはいたっていない。基本的に Woolley〔1934〕，Mallowan〔1947〕などを参考とし，その名称を使用する。

ビーズでは管玉形 Tubular，円筒形 Cylindrical，平玉形 Disc，臼玉形 Discoid，算盤玉形 Flanged discoid，双円錘形 Biconical，長双円錐形 Elongated biconical，扁双円錐形 Flattened biconical，樽形 Barrel-shaped，球形

Table 3　Material of illustrated beads, pendents and rings.

Material	Numbers
Copper/bronze	54a, 55a, 56, 63a, 63b, 63c, 86a, 86c(Iron).
Bone	10, 59d, 63cc(?).
Terracotta	43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 58j, 58k, 63q, 84a, 84b, 84c, 84d, 84e
Faience/frit	2, 17, 30, 53b, 54b, 55b, 60f, 60g, 60h, 60i, 63h, 63i.
Glazed	89j, 89k, 89l, 90, 92.
Glass	87a, 87b, 87c, 88a, 88b, 88c, 88d, 89a, 89b, 89c, 89d, 89e, 89f, 89i.
Glazed/burnt steatite	32, 55c, 58i, 59e, 60j, 60k, 60l, 60m, 60n, 60p(?), 60q(?), 63v.
Steatite	31, 34, 57h, 59b(?), 59c, 63j, 63k, 63l, 63m, 63n, 63o, 63p, 63r, 63x(?).
Limestone	3(?), 9, 26, 28(?), 29, 58c, 59i, 60o, 63d, 63e, 63u, 63w, 82, 83.
Marble	4, 8, 33, 35, 42, 57i, 57j, 57k, 57l, 57m, 57n, 58e, 58f, 59f, 62a.
Limestone/marble(?)	5, 7, 58n, 62b.
Rock crystal	6, 11, 15, 58b, 61d, 63s, 63t.
Agate	13, 27, 58d, 89g.
Carnelian	23, 24, 25, 61c, 62e.
Hematite	16(?), 36, 37, 57f, 58h, 58l.
Granite	38, 57o, 57p, 61a, 61b.
Alabaster	12.
Calcite/gypsum	20, 21, 53a.
Obsidian(?)	60a, 60b, 60c, 60d, 60e.
Serpentine	22, 39(?), 85b.
Lapis lazuli	85c, 85d.
Unknown stones	14, 19, 40, 41, 57a, 57b, 57g, 58a, 58g, 59g, 59h, 59j, 63f, 63g, 85a.
Bivalve	58m, 63z, 64f, 64g(?), 65.
Gastropod	1, 59a, 60r, 60s, 62c, 63y, 63aa, 63bb, 63dd, 63ee, 63ff, 63gg, 63hh, 63ii, 63jj, 63kk, 64a, 64b, 64c, 64d, 64e, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 86b.
Dentalium	3, 57c, 57d, 59a, 63qq, 63rr, 63ss.
Unknown shell	57e, 62d, 63ll, 63mm, 63nn, 63oo, 63pp, 89h.
Unknown material	91(Plastic?).

Sherical，扁楕円形 Flattened oboid，菱形 Diamond-shaped，三角形 Triangular，スペーサービーズ Spacer bead，双孔形ビーズ Doubl-hole bead，環節形ビーズ Segmented bead，カットビーズなどの用語を使用する。

管玉形と円筒形の区別は，高さが径の２倍以上あるものを前者とし，１～２倍未満を後者とする。平玉形と臼玉形は，高さが径と同じかそれ以下で，側面が垂直に整形され，かつ上・下面が平行なものを平玉形と呼ぶ。同じ高径比をもつものでも，側面形が平行でなくややいびつな例は臼玉形となす。臼玉形のなかで側面の中央が稜状に張り出したものを算盤玉形とする。算盤玉形と双円錐形の区別は，高さと径の比率をもって行い，1：1以上の高さのものを後者とする。様々なヴァリエーション，たとえば有面双円錐形 Faceted biconical などは基本分類，即ち双円錐形の範疇に含めた。

孔が製品の中軸線上を貫通していない例や，著しく偏在して穿たれていて，垂れ下がった状態で使用されたと推測される製品を，ペンダントと呼び，ビーズと区別する。ペンダントについても多くの形がある。円筒形で上小口面と側面に孔を穿ち，孔を L 字状に連結させたものを直角孔形ペンダント Right angle perforation pendant と称する。このほか洋梨形 Pear-shaped，二枚貝製，巻貝製，釣鐘形 Bell-shaped，半球形 Hemispherical などがある。両端が丸くなって終わる長い製品を長形ペンダント Long pendant と称する。一部の製品（特に貝製品）については，ビーズであるのかペンダントか類別の困難なものが存在したが，ここでは説明の都合上どちらかに組み込んだ。なお，用語の混乱をさけるため，大きさを表わす際にのみ「型」を使用する。

石製品他

管玉形ビーズ　20点以上が出土した（Table 2 参照）。径高比1：2以上と規定したため，径に影響され，個体差が著しく大きくなる。総じて巻貝の軸を原料とした製品（1，59a，63y）は，著しく大型で，最大長 99 mm に達する例（59a）が存在する。貝製品の模倣品と考えられるファイアンス/フリット製？（2）や石灰岩製（3），および凍石製（63x）も，径は 10 mm を超える大型である。このうち No 63x の側面には浅い螺旋状の溝が刻まれており，貝製品を忠実に模して製作されたことが判る。また，No 3 の側面には径 4 mm，深さ 2.5 mm ほどの浅く不規則な円孔が存在する。これら大型の製品は，いずれも中央付近に最大径を有し，両端が僅かに細くなって終わる。そのため長双円錐形ビーズとの区別が難しい例（63x）が存在する。ちなみに最大径に対する端部径は，平均で67％に減少する。大型製品では完形品が少ないが，ほとんどが 60～70 mm 以上の長さを有していたと推測して良いだろう。

長さ 35～45 mm の中型の製品も比較的多く出土した（10～13，59b）。形態は大型と同じように中央部が僅かに膨れている。小さい管玉形製品では長さ 10～20 mm 前後が多い。なお，銅製，ツノガイ製，環節形ビーズも，基本的には当該種の範疇に含まれる。穿孔はほとんど両面から成されたようである。

円筒形ビーズ　管玉形と平・臼玉形の中間形態を示す。このため出土数はさほど多くなく，おもに小・中型の製品で占められている。石製品が主であり，貝製（ツノガイ），ファイアンス，テラコッタ製などを含む。基本的には側面が直線状をなすものが多いが，樽形に近い形のものもある。水晶や花崗岩などの固い素材を利用した製品はすべて両面穿孔，テラコッタや凍石などは片面穿孔が多い。最大例は 20 mm（15），最小例は 3 mm（63l）であった。

平玉形ビーズ　円筒形ビーズよりさらに短く平らな製品で，出土量は比較的多い。しかし臼玉形や算盤玉形との区別が難しい例が多かった。ほぼ小型の製品に限られており，材質は多岐にわたる（Table 2，3）。出土品中での最大径は 15 mm（42，84a），最小径は 3 mm にすぎない（60a，60b，63e）。高さは 1～7 mm の範囲にあ

る。概観すると径 6～10 mm，高さ 3～4 mm のものが多い。穿孔は固い材質の製品はすべて両面から，比較的柔らかい凍石や大理石製では一方向からなされている。No 60 の緑色黒耀石製平玉を例にとると，径は 3～5 mm，高さ（厚さ）は 1～2 mm のものがほとんどで，側面形は僅かに丸味をもたせて仕上げてあり，平面形は正円をなすものは少なく，なだらかな稜を残したものが多い，穿孔は例外なくすべて二方向からなされ，1～2 mm の細い孔をなす。

臼玉形ビーズ　厳密に平玉形ビーズと区別できないものが多い。球形ビーズとの中間形を呈する例（32, 63j, 63k）や，紡錘車に類似する形態をもつ貝製品（63ll～63oo），石製品（62b），さらには仕上工程が雑なため，側面に面もしくは稜のある製品（faceted）など，多くのヴァリエーションがあり，出土量は最も多い。側面を丸く整形した石製品の平面形は丸く整っている。一方，側面の整形が雑な製品の平面図は整わず，方形に近いものもある。特に後者は大理石製や白と黒色の花崗岩製品に多く観察された。球形との中間形を呈する製品は，凍石などの柔らかい材質で，比較的丁寧に製作されており，ほとんど小型ビーズに限られる。テラコッタ製品は比較的大きい。法量や穿孔方法は平玉形ビーズとほぼ同じである。なお紡錘車状の製品については p. 178 を参照願いたい。

算盤玉形ビーズ　臼玉形ビーズのうち側面の中央が稜状に張り出し一周したものをいう。しかし ED III 期頃の製品に比べ稜はなだらかである。その点，前アケメネス朝期の墓から出土したラピスラズリ製品（85d）は，典型的な算盤玉形ビーズといえる。JN～ED I 期では僅か 4 例の出土で，カーネリアン（62e），水晶（63s, t），凍石（63p）がある。径は 5～10 mm，高さは 2～3 mm である。

双円錐形ビーズ　一部の製品では樽形ビーズとの区別が難しい。テラコッタ製（50, 51, 58j）と，焼凍石製（58i, 60l, 60m）に，この形をもつものが多かった。石製では未完成品（21），黒色の石（57b）などがある。テラコッタ製品には面取を行ったものも存在した。No 21 の稜は鋭いが他はゆるい。小型の製品はなく，最も小さい例でも 7 mm ほどの高さがある。さほど普及した形とはいえない。

長双円錐形ビーズ　4 例を挙げたが典型的な例は存在しない。管玉形ビーズのうち，胴部がふくれた例（2，3）などを長双円錐形に分類する研究者もいる。グッバの JN～ED I 期の製品にはあまり多くない。

扁双円錐形ビーズ　2 例（14, 58a）が出土したが，No 57a もこの変形といえる。比較的大形の製品が多く，首飾の中心飾として配されていたようだ。材質も当時としては貴重な石が使用されたと考えられ，緑白色の石（14），マーブル/オニックス？（57a），ヒスイ状の淡緑色の石（58a）などがある。整形は丁寧で，穿孔は両面からなされている。JN～ED I 期に特徴的なビーズの一つであるが，出土数は少なかった。

樽形ビーズ　JN～ED I 期の製品 6 点を図示したが，No 58 に伴うテラコッタ製ビーズ29点のほとんどは高さ 6～8 mm の樽形である（Pl. 40–b）。No 59 にも10点以上の樽形が含まれ（Pl. 40–b），No 63 にも 3 点のテラコッタ製品が伴う（Pl. 40–a）。つまり JN 期の樽形ビーズの大部分はテラコッタ製なのである。

球形ビーズ　JN 期では 6 点を図示した。いずれも小型で（径 2～4，高 2～3 mm）凍石，焼凍石，ファイアンスなどの柔らかい素材を使用し形成する。特に No 63 の首飾（？）に伴うビーズの大部分は球形に近い臼玉形で構成されていた（Pl. 40–a）。

菱形ビーズ　3 点（59e, 60n, 63v）が VII 層から出土した。素材はすべて焼凍石で白色を呈する。形は一辺が 8～10 mm を計る平行四辺形で表・裏面は平ら，断面形は台形に近いものがある。表・裏面には整形時に付いた浅く並行する擦痕が残っている。孔は長い対角線方向に沿って，辺の中心付近の 4 箇所から45度の角度で穿

たれていた。結果的に対角線方向に平行する2孔を形成する（Pl. 39-b)。

三角形ビーズ　灰白色の石灰岩製である。著しく小さく，4面の三角形をもつ。このうちの2面にはドリル技法による3個の装飾が施してある。孔は装飾のない2面から穿ち連結する（63u)。ビーズとすべきかペンダントとすべきか疑問である。

スペーサービーズ　すべてVII層に伴って出土した。材質はファイアンス/フリット，焼凍石，石灰岩，テラコッタである。以下に一覧を示す。

Table 4　Detail of spacer beads.

No	Material	Color	Shape	Size(mm)	Decoration	Perforation
17	Faience/frit	White	rectangular	22×8×5	encircled dots (10+10)	4
18	Terracotta	gray	elongated ovoid	30×8×5.5	none	6
60o	Limestone	white	rectangular	15×5×4.5	drillings (6+6)	3
60p	Glazed/burnt steatite	white	rectangular	17×7×3.5	encircled dots (10+10+1)	4
60q	Glazed/burnt steatite	white	rectangular	17×7.5×4	encircled dots (9+8+1)	4
63w	Limestone	white	rectangular	17×6.5×4	drillings (6+6)	3

色調は白色系が多く，形は長方形が主である。長さは最大30 mm，最小15 mmで比較的小さい。装飾を施す例が多く，ドリル技法による円文，コンパスによる円（圏）点文が表裏と小口部（60p，60q）にある。コンパスによる施文は1 mmほどの深さに達する例が在存する。No 60pの施文は全体の形を整える以前に施されていた。孔は石灰岩製では二方向から，凍石やファイアンス/フリット，テラコッタ製は片側から穿つ。No 63wは長期間使用されたためか，孔の周辺がすれ凹んでいた。

環節形ビーズ　2例がVII層に伴って出土した（53b，55b)。ともにファイアンス製で脱色し白色となっている。No 53bには孔に直交して四つの環節を認める，しかし55bは痕跡程度しか残っていない。このほかにもVII層出土のファイアンス製品では，調査時点においては明らかに環節を看取できるものがあったが，採取に際して破存することが多かった。それらは小型で管玉形もしくは円筒形に限られていた。色調は白色が多いが，数点表面に薄い青色が被膜状となって遺存している例も存在した。

双孔形ビーズ　石灰岩（9)，骨？（63cc)，貝（65）製がある。いずれもビーズとしては比較的長く（35～72 mm)，両端近くに大きめの孔が存在する。No 9は自然石（？）を利用したため断面は厚いが，他の2点は薄く，板状である。ビーズやペンダントと組み合わせて利用したと考えられるが，どのように展開するのか明らかでない。なお直角孔形ペンダント/ビーズ（4，5，59d，62a)の一部についても，当該種と同じように双孔形の製品があることが，ソンゴルA遺跡出土例〔Kamada and Ohtsu 1988〕から明らかとなっている。

銅/青銅製ビーズ　6点が出土した。いずれもVII層からである（54a，55a，56，63a～c)。形態はすべて管玉形である。叩いて薄く延した板を巻き込んで製品となす。首飾などの部品として石製ビーズとともに使用される。No 63cの小口にはツノガイが挿入してある。技術的にも稚拙で，グッバでは中空の鋳造品を形成する技術が未発達であったことを示唆している。

骨製ビーズ　3点が出土した（10，59d，63cc？)，いずれもVII層に伴い，管玉形（10)，直角孔形ペンダント/ビーズ（59d)，薄い双孔形ビーズ（63cc？）がある。3例とも石製品に似せた形をもつ。

半成品　ED I期の層からは2点の未完成品が出土した（7，21)。No 7にはゆるい8角形の面取りがあり，孔は3 mmの深さまで達している。穿孔が完了したのち側面の稜を取り除くのか，あるいはこのまま残すの

か不明である。No 21 もビーズと考えられるが，孔は穿たれていない。

直角孔形ペンダント/ビーズ　4点が出土した，層位不明の No 4 を除き他はすべて VII 層に伴う。

No	Material	Color	Length/height (mm)	Diameter	Remarks
4	Marble	gray	31	6.5–8	
5	Marble/limestone	white	32	7–9	
59d	Animal bone	dark gray	ext. 6	3.5–4.5	blackened by fire
62a	Marble	white	ext. 33	6–8	broken in antiquity

白色系の素材を使用し，丁寧に磨いて整形する。径は孔付近が小さく下部はやや太くなる。No 4 と 5 は下部が丸く仕上がっており，ほぼ完形品と思われるが，他の2点は下部を欠失するため，どのように展開するかわからない。ソンゴル A 出土例を参考にすると，双孔形ビーズのごとく，横位置に釣り下げることもあったようだ。グッバの JN 期に特徴的な製品である。

洋梨形ペンダント　水晶製品1点が VI 層から出土した（6）。整形は丁寧とはいえず，面が残る，穿孔は二方向からなされている。

動物形ペンダント/アミュレット　平滑な紺黒色の石（ストレート？）を使用し四足獣を象る，頭部を欠失する（19）。孔は胴の中央に両面から穿つ。IV 層出土。

長形ペンダント　VII 層から2点出土した（8，59f）。ともに大理石製で，両端がなだらかに丸まって終わるよう丁寧に整形されている。孔は両面穿孔である。

方形（？）ペンダント　石膏の結晶もしくは方解石を利用した製品で大半を欠く（20）。孔は大きく装身具か否か不明である。

半球形ペンダント　白色の石灰岩/大理石を利用する，側面に2孔が水平方向に穿たれている（58n）。

貝製品

二枚貝，巻貝，ツノガイ，淡水産二枚貝（？），およびその製品が出土した。しかし専門家による材質鑑定は行っていないので"種"不明のものもある。

二枚貝　貝殻本体をそのまま利用した例（58m，63z，64f）と，部品を加工したと推測されるもの（63ll～oo，64g，65）が存在する。このうち No 63ll～oo は二枚貝製であるのか，あるいは巻貝の一部を利用したのか判然としない。さらに No 64g が鹹水産か淡水産かについてもはっきりしない。貝殻をそのまま利用した例は，殻頂から縁部に達する放射状の条線と溝を特色とする貝（ザルガイ *Cardiidae* もしくはサルボウガイ *Anadora* ？）である。殻高は最大 42 mm（64f），最小 26 mm（58m）であった。いずれも殻頂付近に径 4～6 mm の孔を穿ち，ビーズもしくはペンダントとして利用する。なかでも No 58m は長期間の使用のためか，孔の周辺は擦れ滑らかになっている。このほかテルの端部で発見した ED III 終末期頃に比定できる墓からは，内部に化粧用の黒色顔料が詰った完全な二枚貝を発見した（次号ラーフィダーン XI 巻参照）。

紡錘車に類似する平面形をもつ製品（63ll～oo）の径は 26～15 mm，厚さは 1～3 mm で，断面はカーブしている。表面は殻表を取り除き平滑に仕上げてある。No 63 mm と 63oo には殻表を取り除いた際の擦痕がついている。つまり完成品は陶器質の表面をもっていたのである。用途は明らかでないが，ビーズと同じか，環と同様の使用形態を想定することができる。あるいはボタンとしての使用である。なお No 63pp が巻貝か二枚貝製かは不明である。このほか VII 層からは，明らかに未加工と認めうる二枚貝が出土した。淡水産と推定されるカラスガイ？（Pl. 42-g，h）と鹹水産のカキ（*Dstreidae/Crassostrea*？：Pl. 42-e，f）である。

巻貝　玉，垂飾，環などに利用される。最大の巻貝製品は長さ 99 mm，径 13 mm の管玉形（59a）で，グッバの JN 期を特徴づけるビーズの一つである。貝製大型管玉のほとんどはイトマキボラガイ *Fasciolaria trapezium* を素材としているとされ〔Gensheimer 1984：69〕，製品の側面に沿って，浅い螺旋状の凹みやヒビ割れが観察できる（1，59a，63y）。いずれも表面は滑らかに仕上げられ，中央付近に最大幅を有し，両端は少し細くなって終わる。孔は両方向から穿たれ貫通している。孔内にヤカドツノガイを挿入した 2 例を，貝製（59a）とその模倣品である石製品（3）で確認した。端部の磨滅を防ぐための配慮とみられる。なお No 1 はカーブしているが，これは二次焼成により変形したためである。

小玉（57e：平玉形，62d：扁円筒形）は丁寧な作りである。厚い殻もしくは軸部を利用しており，今日なお真珠光沢を残す。

小型の巻貝製品では貝殻に大きな加工を施さず，穿孔を行うのみでビーズやペンダントとして利用された。側面を穿孔したタカラガイ Cowrie shell（60s），ノシガイ *Engina mendicaria*（62c，84：Pl. 43 参照），不明の貝（64e）や，殻頂をたいらに擦り切り，そこに孔を穿った種不明の巻貝（63aa，bb）などである。このほか特異な例として釣鐘形を呈する一群の垂飾（63dd，64a～d）がある。これらは巻貝を横方向に半截して製品と成す。すべて頂部から 5～10 mm 下方に，径 4～5 mm の小孔の痕跡があるが，孔が完存するものはない。このうちの No 64d には孔と共に一条の沈線が配してある（Pl. 42）。形態的には殻軸を残すもの（63dd，64b，64c）と，軸を取り除いたと考えられるもの（64a）がある。

環は鹹水産巻貝を輪切りとし，軸部を取り除いて整形したものであり，多くはフデガイ Conus shell を素材としているとされる〔Gensheimer 1984：69〕。グッバではおもに VII 層を中心として，ほぼ ED I 期を通じて30点以上が出土した。右に数値の明らかな環の計測値をしめす（Table 5）。

法量についてみると，外径は 20～30 mm の範囲にあり，平均値は 24.5 mm となる。内径は外径に比べ偏差が大きい。最小内径は 3～4 mm，最大内径は 18 mm に達し，おおむね 11 mm 以下と 15 mm 以上に二極化するように思われる。高さは 4～10 mm の範囲にある。側面は平行な例と，片側が反対側の 2 倍に近いものがある。内径が大きな値を示すグループでは，総じて丁寧な整形（みがき）が行われており，断面も薄く，稜は取れ，丸みをもつ（63hh，ii，kk，67～70，73，75）。一方，内径の小さい例（60r，63ee～gg，63jj，72，74，76～81）の断面は厚く，しかも不定形である。つまり，前

Table 5　Measurement of rings.

No	External diameter	Internal diameter	Height
60r	24	3–8	5
63ee	23	3–4	8–10
ff	26–28	11	9
gg	30	9(?)	5
hh	23–25	16	6–9
ii	27(?)	17(?)	10
jj	28	17	7
kk	25	16–17	8
66	22	12	4
67	21	15	5
68	23	18	7
69	22(?)	17(?)	6
71	27	17	6
72	22–23	9–10	5
73	22–23	14–15	7
74	27	11	7
75	22–23	15	5
76	21	12	4
77	20–21	10–11	4–6
78	24–25	15–16	6–9
79	24–26	13	8
80	21–23	13	3–7
81	20×26	6–8	7
82	28–29	15–16	5
83			4
86a	26	17	3–5
b	24–25	17–18	6–7
c	28–30(?)	17	5–8

者と後者では，明らかに製作工程に差が認められるのである。これは使用形態の差異を示唆しているのであろうか。なお，No 63ee は特異な例で，内面の加工は行なわれていない（Pl. 41）。

VII 層出土の石製環（83）と層位不明品（82）は貝製品の模倣品とみなしうる。玦状の貝製品（66）は環と同じ技法で極めて入念な整形がなされている。断面は方形，両端は尖り気味に終わり，浅い一条の沈線が各端部付近に施されていた。環と異なる使用目的の製品と考えられる。このほか未加工（？）の巻貝（Pl. 42-c，d）も出土したが種は不明である。

角貝　　グッバ出土のツノガイ製ビーズの多くは，殻頂から縁部に向って放射状に走る 8 本の丸い肋がある。ヤカドツノガイ *Dentalium Octangulatum* で，インド洋，ペルシア湾に多産するとされている〔アボット・ダンス著 1985；Beck 1931〕。数点ではあるが，種が異なると思われる表面が滑らかな例（63rr）が出土した。総出土量は約50点に達し，おもにVII層に集中していた。製品はいずれも管玉形をなし，比較的長いものには僅かな反りがある。最長例は 31 mm（57c），最短例は 4 mm（63ss），平均的な長さはおよそ 15～20 mm である。径は一端がやや大きく，他端は僅かにすぼまる。平均すると 4 mm ほどの径をもつ例が多い。小口部分は水平に切り，なめらかに仕上げてある。多くは首飾などの構成品として他のビーズと組み合わせて機能したようだ。前述したが大型ビーズの孔の補強を目的として利用されることもあった。

構成

グッバ出土の JN～ED I 期のビーズの多くは，遺失物もしくは不慮の事故に伴うと考えられ，オリジナルな使用形態の判るものが少ない。この中にあたって，No 60 は比較的原形に近い姿を留めた遺物であった。出土状況は異例で（Fig. 3），図化にも限界があるが，組合せ方法などの一端を知ることができた。総出土数は625個。構成は緑色黒耀石製平玉561点，焼凍石製の臼玉や双円錘形玉45点以上，菱形玉 1 点，スペーサービーズ 2 点。ファイアンス製玉11点以上，ツノガイ 1 点，巻貝製環 1 点，タカラガイ 1 点，石灰岩製臼玉 1 点，スペーサービーズ 1 点と，数に加えることができなかった白色のパウダー状ビーズ多数よりなる。全製品の現在の色調は淡緑色と白色，および貝製品の真珠色が加わるが，シンプルで白と緑のあざやかなコントラストを演出する（ファ

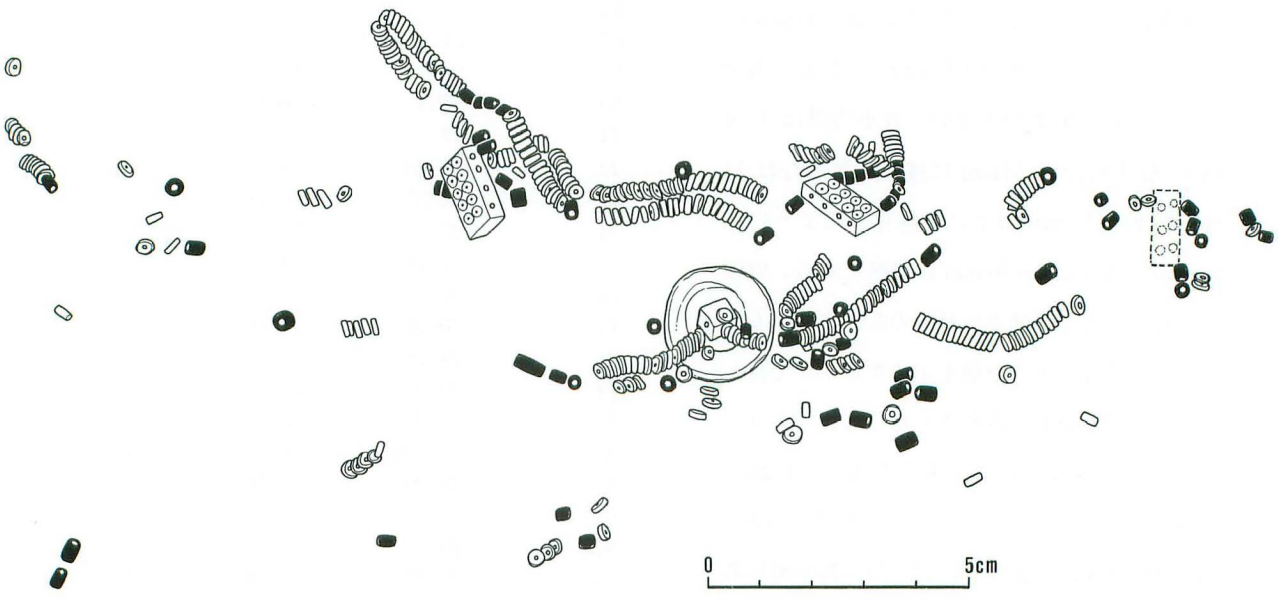


Fig. 3　Sketch plan of No. 60 beads *in situ,* solid blacks indicate white-coroled small beads.

イアンス製ビーズに薄い青色を呈するものが数点存在した：60g，60i，カタログ参照)。出土状況から知られる組合せは，スペーサービーズをほぼ等間隔に3個配し，間を小型の玉で充塡する。スペーサービーズ間には77個以上が配されており，まずスペーサービーズに接して両側に白色を呈するファイアンス玉か焼凍石を3～5個連続させ，白色の区画をつくる。つぎに緑色玉16個，あるいは21個を連続させ[7]，さらに白色玉数個を配し，これをくりかえす。即ち，各スペーサービーズ間は白―緑―白―緑―白―緑―白の区画となっていたと考えられる。菱形ビーズと貝環および角貝がどのように使用されたか明らかでないが，出土時点では貝環の上に菱形ビーズが乗り，緑色ビーズのラインが菱形ビーズの一つの孔に接していた。あくまでも推測であるが，菱形ビーズや環はこの首飾の端部仕末用の製品ではないかと考えられる。なお Pl. 39–b に示した連結状態での写真はあくまでも参考である。写真では白色ビーズが著しく少ないが，それは，ファイアンスや焼凍石が連結にたえないほど脆化していたためである。また写真では3重連となっているが，これは石灰岩製スペーサービーズには孔が三つしかないためであり，この石灰岩製品は後補の可能性が強く，オリジナルは4重連であったと考えられる（Fig. 19a 参照)

No 57 も首飾として使用されたと考えられる。中心飾と思われる玉は 25 mm 以上の幅と長さがある。平玉や臼玉は微妙に大きさを違えており，これをたくみに組合せていたと推察される。角貝2点が伴うが，あるいは端部仕末用であったかもしれない（Pl. 39–a)。

No 63 は総数1314個以上，連ねると 4 mにも達する。出土状況でも触れたが，これがすべて同一の首飾，もしくは他の飾りに帰属するか否かは不明である。写真（Pl. 40–a）でも判るように，この一括遺物の中心を占めるのは凍石製の小玉（臼玉形）である。あるいはこれらの小さい玉のみでもって，一連の飾りを形成していたのかもしれない。またスペーサービーズが伴うことから，重連の首飾（？）が存在した可能性も否定できない。

このほか No 58 や59は，連ねると首飾として使用できるだけの長さと数がある（Pl. 40–b)。ともに大型の玉を中心に配していたと思われる。

総数が少なく連ねてもその径が 10 cm にも満たない一括出土品は，腕輪として使用された可能性がある。ディヤラ河流域の ED I 期の墓や，シュメール地域の墓には腕輪を伴う埋葬が発見されていることも，その可能性を強める[8]。

なお，グッバ出土の印章に関しては，すでに前号で紹介したが〔井　1988〕，円筒・スタンプ印章とビーズとの共伴関係は，JN～ED I 期を通じて確認されなかった。それは，印章の保持形態を間接的に示しているといえるかもしれない。

2．ED I 期以降

ED I 期以降，現代までを包括するが，出土遺物は少ない。遺物の説明を行う前に，本論の主旨には沿わないが，ビーズおよび指環を発見した二つの墓：墓1と墓2に関して，その概略と共伴遺物について記述しておきたい。

墓1（Fig. 4）　土壙墓，主軸方向は略東南を示す。壙は長さ 190 cm，幅 80～100 cm の長方形で2段に掘り込む。棺に相当する2段目の掘り込みも隅丸長方形で，上辺が狭く，下辺が僅かに広く掘削してある。内法は 156 cm で成人を伸展・屈肢葬するスペースはある。蓋は 39～42×39×9 cm の日干煉瓦製で，それぞれ片側に4枚を配し，中央で合掌形に合せており，部分的に3枚厚の日干煉瓦で被覆した箇所も存在した。目詰は灰色の練

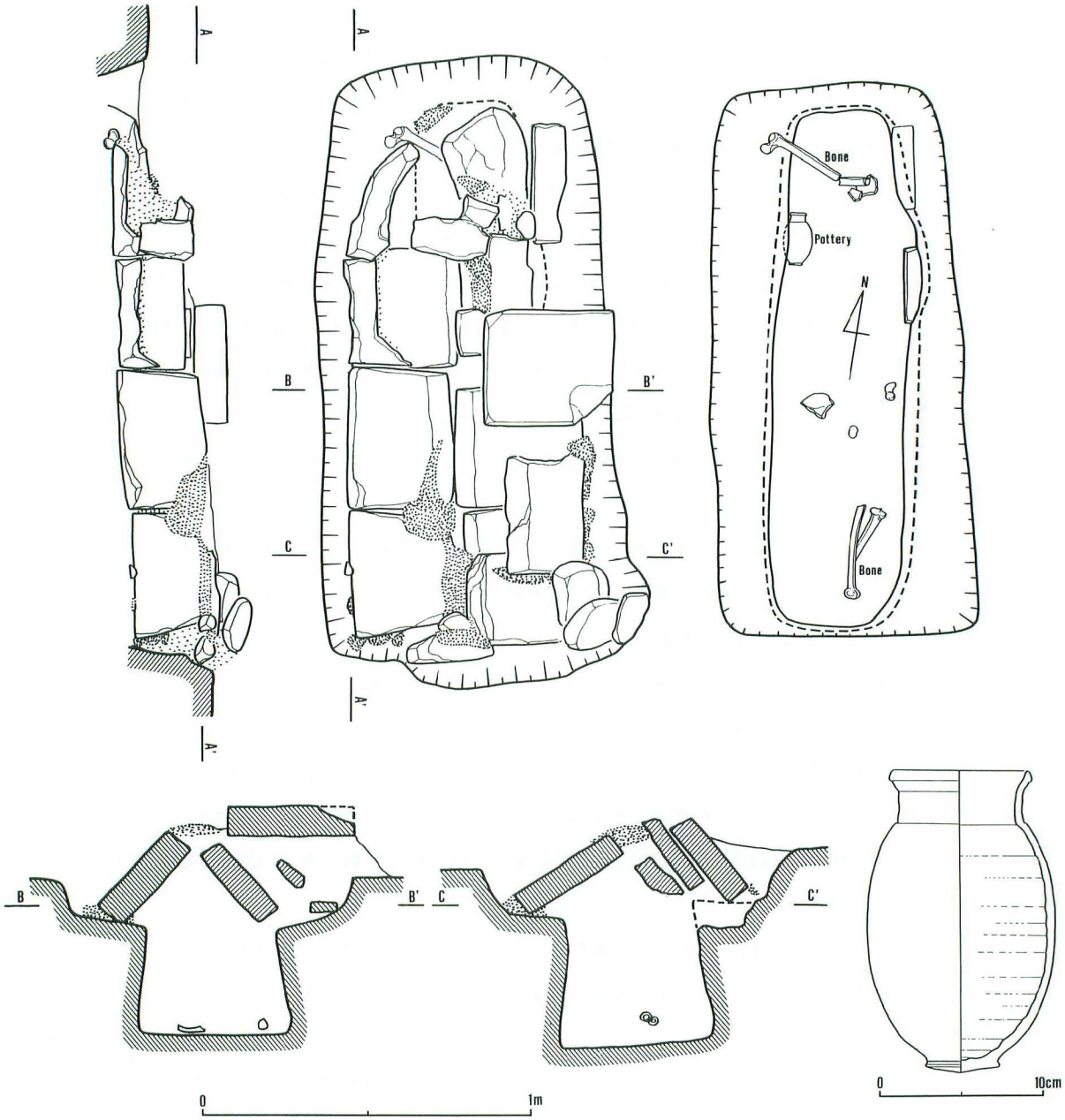


Fig. 4　Grave 1: plan, section and content.

土が使用され（図中の濃いドット部分）煉瓦間を丁寧に覆う。被葬者は成人と推定されるが，墓の内部を棲家とした小動物のため，著しい撹乱を豪っており，人骨は遊離していた。従って被葬者の頭位や，埋葬の状態は不明である。このような状況にあって，土器のみはほぼ現位置を保つ遺物と見なしうる。壙内の埋土はすべてフルイ作業を行い，小遺物の検出にあたったが，4点のビーズ（85a～d）を発見したにすぎない。伴出した土器は，僅かに外反する口縁部，直立する頸部，ラグビーボール形の胴部，削り出されたボタン状底部を特色とする。色調はピンク色がかったクリーム色で，胎土は水ごしした精良なもの，焼成は堅緻である。整形は胴部外面の下半から底部にかけ丁寧な篦削りを行う。外面には薄いスリップがかかっており，底部付近はリザーブ・スリップ状となる。この土器と同じ特徴をもつ遺物はグッバからは発見されなかった。一応，墓の構築年代をカッシート期以降でアケメネス朝期以前であると想定している[9]。墓の位置については次号ラーフィダーンXI巻参照。

伴出のビーズはラピスラズリ（85c，85d），サーペンタイン/クロライト？（85b），黒色の石（85a）製で，いずれも両面穿孔されている。形態は，扁双円錐形（85b），双円錐形（85c），算盤玉形（85d）などである。ラピスラズリの色調は深く濃い藍色を呈する。グッバ出土のラピスラズリ製ビーズはこの2例のみである。

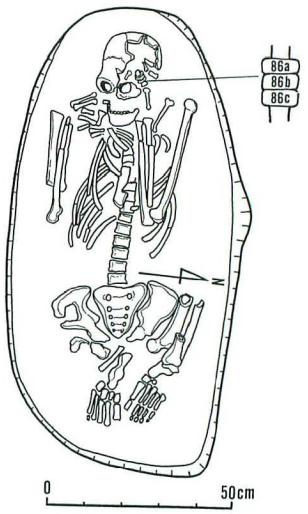


Fig. 5　Grave 2: plan of contents.

墓 2（Fig. 5）　主軸方向を略東西にとる土壙墓。墓壙は楕円形で，長軸125 cm，短軸約 60 cm を計る。壙の残存は悪く，底面はほぼ平らである。被葬者は仰臥屈葬の成人（女性？）であった。両手，両足を強く折り曲げ，手のヒラで顔を覆っているように見える。副葬品は右手の指に嵌められていた指環3個のみで，内側から鉄，貝，銅/青銅の順に並ぶ。墓の時代は不明であるが，鉄製環の出土を見たことから，前一千年紀以降の造営になると考えられ，イスラム期以前の可能性が強い。後述する墓3，4に近い時期（パルティア/ササン朝期）に比定できそうだ。

銅製環は鍛造になると考えられ，断面が細くなる部分に合せ目が残っている（86a）。貝製環（86b）は丁寧に製作され，断面も丸く滑らかに仕上げてある。外面には波状に連なる列点が施されていた。この環はより古い時代の遺物を再利用した可能性もある。鉄製環（86c）は一部を欠失する，断面は丸く厚い。

No 87～92はイスラム墓および表層出土の遺物で，中世から現代に属すると考えられる。No 87 は赤紫色を呈する扁楕円形のガラス製ビーズ10個で構成される。No 87b は最大例，87e は最小例である。長さは 9～14 mm，幅は 8～10 mm を計る。もろくこわれやすい（Pl. 43）。

No 88 は表層付近で出土したが，イスラム墓にともなう遺物とみなしうる。9個出土し，カットビーズ4個（白色2点，青色2点）と，樽形および球形のガラス製ビーズで構成される。ガラスの色調は青色3点，白色3点，赤色1点，灰色2点である。比較的小さいビーズを組み合わせており，No 88a が最大例である（Pl. 43–88）。

No 89 は現代と考えられる小児墓からガラス製の輪（107）と共に出土した。これらのビーズには現在も悪臭が残っており，極めて新しい遺物であることがわかる。総数は19個，ガラス製を中心として施釉，貝，瑪瑙製品で構成される。施釉ビーズはあざやかな青色を呈していた。円形で七つの孔をもつビーズは“7つの目”と称され，カルバラなどの門前町では現在も販売されている。また手の形をしたビーズ（89l）も同じで，これらはイスラム教徒にとって護符の意味をもつとされる。ガラス製ビーズの色調は青，黄，白，緑色がある。瑪瑙製（89g）は，8角形の面取があるユニークな製品である。この中のいくつかについては古い時代の製品を再利用したように思われる（Pl. 43）。

No 90 も悪臭を発する青色の施釉ビーズである。現代の製品であろう。

No 91 は表層出土品，材質は不明であるが著しく軽いことからプラスティック製品と推定される。

No 92 は薄緑色の施釉ビーズ。表面の一部は銀化している。

G343（Pl. 43）は表層に近いイスラム墓より出土した。総数は16個で樽形3個と，球形のガラス製品で構成される。ガラスの色調には黄色と緑色がある。7点の黄色ガラスは高さ 5～8 mm，径は 7 mm を計る。緑色ガラスは9点あり前者とほぼ同じ法量を示す。

小結

VII層の円形建物に伴うビーズ・ペンダントはすべて完成品のみで，半成品や製作工程を示す遺物は存在しない。さらに玉磨き砥石，マイクロドリル，原料のくずなども発見されなかった。調査区域が円形建物の中心部に集中したため，工房を発見することができなかった可能性もあるが，調査範囲内では攻玉施設は存在しなかった。全面調査を行っていない以上，あくまでも推測の域を出ないが，グッバ出土の玉類や装身具の多くは，完成品が輸入された，といえそうだ。ただ，貝製品の一部については未加工のカキや二枚貝，巻貝が輸入され，貯蔵されていたとみられることから，一部の製品はここで加工されたと考えてよい。銅製品や焼凍石，ファイアンスなどについても，その工房を発見することができなかった事実から，自給していたとすることはできない。しかしテラコッタ製品についてはその限りでない。回廊C6に存在したピット16（井戸？）の上部の窪みからは，石製環の破片や紡錘車破片，接合可能な石器製作工程を示す剝片などが出土しており，簡単な石器関係の作業場として利用されていたらしいが，ビーズの製作は行われていない。

VII層出土の装身具は2300点以上に達する。出土状況でも触れたが，極めて不自然な状態で発見されることが多く，人物に伴う可能性が強い遺物はNo 60のみで，他はすべて遺失物，もしくは不自然な状態で散乱していた。なぜ，かくも大量のビーズが検出されたのか興味がもたれる。円形建物には二度の大火災の痕跡が残っていた。火災が失火によるとは考えられず，むしろ攻撃・略奪などを想起させるものであった。建物内では，VIIb層の火事によって死亡したと考えられる，17～18人を一括して埋葬(？)した竪穴を発見したが，どの人物もビーズ等の副葬品は伴っていなかった。このような状況にあって，ビーズは，円形建物中心部への入口の一つであるR3の前面付近を中心に，他の遺物と共に散乱していた。ここではVIIc期と，VIIb層直後に2度の散乱があるのである。推測をたくましくすれば，VIIc層期の散乱は，火事直後に建物の中心部に保管されていた貴重品を，R3を経由して運び出したが，ここに散乱してしまった，と解釈することもできるし，VIIb層直後の散乱は建物の上部に保管されていた製品が，ここに降りそそいだとみることもできる。また，すべてを火事直後の混乱に起因する，とすることも不可能ではない。推測は興味が尽きないが，現時点では真実は不明といわざるをえない。

このように多量のビーズが発見された例としてテル・ブラクと，ニネヴェをあげることができる。ブラクではいわゆる“Gray Eye Temple”層から，日干煉瓦等に混じって極めて大量のビーズが出土したとされ，報告者は聖地を清める意味をもっているのでは（一種のfoundation deposit）と考察した〔Mallowan 1947〕。一方，ニネヴェでは，クユンジュクのイシュタル神殿付近より約10000個のビーズが発見され，これらの遺物を“Vaulted Tombs”と関係させようとする報告がある〔Campbell-Thompson and Hutchinson 1931：82; Campbell-Thompson and Hamilton 1932：79〕。さらに，この建物に関係して，単なる墓ではなく巨大な収蔵庫で，その時代も前ニネヴェ5期に遡るとする研究もある〔Algaze 1986〕が，時期や性格をめぐっては賛否がある[10]。この2例はともにグッバVII層に近い年代が提示されており，当時，多量のビーズが墓以外から出土することが知られている。回廊4に集中していたビーズ類のうち，二度目の散乱について，テル・ブラクの解釈を当てはめると，納得いく結果が得られるようにも思えるが，現時点では肯定も否定もできない。

材質からグッバのJN～ED I期のビーズを観察すると，金属製品は銅のみが使用され，すでにVII層期以前に存在したとされる金[11]を発見することはできなかった。さらに，ラピスラズリ，トルコ石も出土せず，当時の

交易と対外関係に一石を投じる結果となった[12]。

VIIc 層期の遺物中に琥珀と考えられるビーズ（58g）が存在した。正式な材質鑑定を経たものではないが，琥珀であるとすれば，小アジアを経由して，間接的に北ヨーロッパからもたらされたと考えられる[13]。いずれにせよ専門家による材質鑑定のまたれる資料である。

瑪瑙質の製品では，カーネリアンは多用されているが，ED I 期よりやや遅い時期にメソポタミアで好まれる縞瑪瑙は一点も出土しなかった。また苔瑪瑙に関しても分析の結果をまちたい。緑色黒耀石は VII 層から出土した，これはアナトリア/アルメニア方面からの輸入品と推測され，同じ材質の製品はテル・アハメド・ハッチョーの ED I 期の墓地からも発見されたというし[14]，テペ・ガウラ VIII 層の報告例もある〔Speiser 1935：134〕。水晶は比較的多く出土したが，赤鉄鉱の使用は少ない，これもグッバの特徴といえそうだ。

ファイアンス製ビーズは VII 層に集中して出土した。形態には環節形のほか，円筒形，球形，臼玉形などがあり，形のヴァリエーションはテル・ブラクの “Gray Eye Temple” 層出土例に類似する〔Mallowan 1947：Pl. 84；Stone 1956：Pl. 5〕が，ブラクほどの形の多様性は認められない。

焼凍石製品も VII 層に集中していた。これは円筒印章におけるいわゆる “Glazed/burnt steatite Seal” もしくは “Piedmont Jamdat Nasr Style” の流行期と合致しており興味がもたれる。最近この焼凍石製印章およびピードモント様式を ED I 期に帰属させようとする議論があるが〔Willson 1986；Roaf and Killick 1987：225〕，筆者は JN 後/末期に特徴的な遺物であり，ED I 期まで継続して使用され，むしろ ED I 期が中心であると考えている。従って Frankfort〔1955〕等が提唱した JN から ED I 期にかけての編年を変更する必要は，現時点ではないと考えている。

貝製品の一部については種の不明なものがあり，現状では不確実な点が多いが，グッバ出土の貝製品の多くはペルシア/アラビア湾や，オマーン湾周辺にその産地が求められそうである。JN 期におけるメソポタミアと湾岸地域との交易は，極めて緊密であったことが，多彩文土器 Polychrome ware の存在からも良く知られている〔Potts 1986〕。グッバは現在の海岸線から 500 km 以上も内陸に位置するが，より内陸に存在するニネヴェやブラクからも，ペルシア湾産の貝製品が出土したとされており〔Beck 1931; Mallowan 1947〕[15]，これらはラピスラズリやカーネリアンなどと同じように，その交易路をたどって，内陸へ供給されたものと推測できる。大型巻貝の殻軸を原料とした管玉形ビーズは，当時の貴重品と考えられ，その形，大きさや色調を模して，様々な材質での模倣品が作られていることは，ビーズ中に占める貝製品の役割が大きかったことを示唆する。これらの大型の管玉形ビーズは ED I 期まで好んで使用された。キシュ遺跡 “Y” 墓地の ED 期に伴う埋葬状態を参考にすると，それらの巻貝製品は，“ガードル”として腰にまかれていた可能性が強いようだ〔Watelin 1934：28〕[16]。しかしながら当時の首飾や腕輪，あるいはガードルのすべてが，貴石や貝製品で構成されていたのではないことは，テラコッタ製の質素なビーズが出土することからも明らかである。

貝製品の多くが，本来の真珠色ではなく，黒色や黒灰色を呈していた。大多数については，明らかに二次焼成を受け，構造が脆化したとみなしうるものであるが，数例，貝の構造はしっかりしているにもかかわらず，芯まで黒く変色したものが存在した（Pl. 41，42参照）。これら黒色・黒灰色を呈する貝製品のすべてが，火事などの二次焼成によって黒変したのか，あるいは Beck が推測したように，人為的な黒色処理が施されたのか〔1931：432〕現時点でははっきりとしない。ここでは黒色の貝製装身具が存在する事実のみを指摘するに留め，その解釈については後にゆずりたい。なお，巻末のリスト中ではすべて火により黒変したとしている。

Table 6　Specific types and decoration of beads

	Gubba	Jamdat Nasr	Diyala sites
Spacer bead	VII: 17, 18, 60o 60p, 60g, 63w	Pl. 74–14	Khafajah: Sin II, III, IV(?)
Diamond-shaped bead	VII: 59e, 60n 63v		Khafajah: Gr. 3(?), Gr. 25 Agrab: Shara Temple
Segmented bead	VII: 53b, 55b	Pl. 72–5, 13	
Long tubular shell bead and imitation	VII: 1, 2, 3, 59a, 63x, 63y	Pl. 71–13, 14, 16, 17, 18	Khafajah: Sin III (?), IV(?), VIII(?)
Right angle perforation pendant/bead	VII: 4, 5, 59d, 62a		
Motif of encircled dot	VII: 17, 60p. 60q		Khafajah: Sin II, III, IV-(on cylinder seal)

グッバのJN～EDI期に特徴的と考えられるビーズ・ペンダントを，他遺跡出土例と対比させ，上の表で示す[17]。

大型巻貝製管玉形ビーズに関しては，Willson〔1986〕とMartin〔1988〕の正鵠を射た指摘があり，この二人の研究者は“その模倣品を含めて，共にJN期の指標となる遺物と見なしうる”とする[18]。筆者もその見解にはおおむね賛成であるが，使用期間はJN期に限られず，少なくともED II期頃までは流行したと推測している。グッバからは巻貝製品3点（1，59a，63y）と，模倣品3点（2，3，63x？）が出土した。模倣品では貝製品を忠実に模して整作されており，側面に螺旋を刻んだり，小さな円孔を穿ったりしていた。No 3と同じように端部に近い側面に円形の小孔を穿つ例がウルク〔Heinrich 1936：Taf. 31〕，ファラ〔Martin 1988：No 287〕，ウチ・テペ〔Gibson ed. 1981：Pl. 50–1〕などでも発見されており，JN～ED期にかけて比較的頻繁に行われたことが判る。側面の孔は本来，像嵌用の穴と考えられるもので，それは動物形彫像における像嵌の流行期にも重なる〔Behm-Blancke 1979：Table 3〕，ともに同じ発想に基づいていると推定してよいだろう[19]。

スペーサービーズでは，焼凍石製にコンパスによる円（圏）点文を施した例や，ドリル技法による石灰岩製品が存在しており，同時代の印章の材質や，施文方法に共通点が認められる。円点文はファイアンス，焼凍石（凍石）や，石膏/方解石〔深井・堀内・松谷 1974：Pl. 38–2; 沼本 1988：Fig. 39–480〕などの硬度の低い石や貝などの小型製品に限って，金属器を使用して施文されたと考えられる。円点文の出現状況をみると（Table 6），類例はウルク後期以降頃に集中しているように思われるが，テペ・カウラXVI層例はやや先行する年代を示している。報告者は“菱形ビーズ.....白色のペースト状の材質.....ドリル（円点文）によるデコレーション.....”〔Tobrel 1950：193〕とした。この帰属年代が当を得たものとすれば，円点文はウバイド期には出現していたとせねばならない。さらに，この白色ペーストに関してStoneはファイアンスであろうと推定する〔1956：41〕。より古い年代を示すものとしてジャルモのJ-I.7層出土例〔Braidwood and others ed. 1983〕や，ヤリム・テペII号丘下層例〔Merpert and Munchaev 1987：Fig. 11–6〕なども知られており，すでに新石器時代の比較的早い時期には，円点文が装飾文様の一つとして確立していたのかもしれない。

菱形で2つの孔を側面に穿った製品は，出土数が少なかったが，スペーサービーズの一部と同じ材質で成形さ

and pendants from Gubba Level VII with related sites.

Brak	Susa	Fara	Other sites
Gray Eye Temple: Pl. 84–16, 17	Acropolis: 17 Ville Royale: 18b	233 235	Ur: 13745, 19254; Hassak Höyük; Kheit Qasim; Songor A; Gawra: VIIIb
	Acropolis: 14b, 15.		Uruk: Taf. 33(VA 11107–11109); Jgan B: Grave 15; Nineveh: Beck 47
Gray Eye Temple: Pl. 84–2, 9. Pl. 85–2, 16		236	Gawra: VIII; Nineveh: Beck 17–19; Jigan B: Gr. 16
		231 232	Ur: 12766, 14480, 14929(?), 19577, 19973; Kish "Y": Grs. 370, 430, 463, 478, 527, 686, 687; Abu Salabikh: Fig. 317; Uch Tepe: Vb Grave; Uruk: Taf. 31
			Songor A; Uch Tepe: Karim Shahir: I, G (20–40 cm)
Pl. 14–16, 27. Pl. 15–10, 14. Pl. 25–8(?). Pl. 26–5	Acropolis: 16, 17, 17a		Grwra: VIII, XI, XII, XVI : Songor A; Thalathat 5; Fisna: VI; Kheit Qasim; Jarmo: J-1.7; Yarim Tepe II

れていた。基本的には菱形のみ，もしくは他のビーズと組合せて使用され，好例をテル・アグラブのシャラ神殿出土例に求めることができ〔Delougaz and Lloyd 1942：Fig. 198〕，ウルク後期～JN 期頃に盛行するモザイクの技法にも共通点が多い〔Heinrich 1936：Taf. 33; Lenzen 1959：Taf. 15〕。

スペーサービーズや菱形ビーズは，重連の首飾や腕輪に使用され，前者は隙間調整用（もしくは確保用の挿入ビーズ）として機能するもので，ウルク後期頃から ED 期以降まで好んで使用された。ほぼ時期的にも近いスーサやブラク，ジャムダト・ナスル遺跡などでも出土をみたが（Table 6），円点文を伴うスペーサービーズは，管見の限りではハムリン盆地内の 3 遺跡に限定される。

No 60 の首飾を出土状況の観察から本来の姿に復元すると，Fig. 19a のように復元が可能と思われる。緑色と白色がたくみに組み合わされ—ファイアンスおよび焼凍石の表面が着色されたとすれば他の色となるが—当時の人々の美意識のほどが窺えるものである。この首飾は初期王朝 III 期に属するウルの墓地から多量に出土した "dog collar" タイプ首飾〔Woolley 1934：369〕の先駆をなすものであり，極めて重要な意味をもっているといえる。つまり，スペーサービーズの出現が "dog collar" の形成に重要な役割を果たしたと考えられるのである。その意味からも，スペーサービーズの初源の追求は今後の課題といえそうだ。

双孔形ビーズとした 3 点については，その使用形態を特定できない。若干時代の降るウルの墓地出土例を参考にすると，頭飾板 "Frontlet/fillet"〔Woolley 1934：Pl. 219〕に類似した形をもつ。特に，側面が僅かにカーブする 2 点（63cc, 65）は，ウル出土例の先行形態を示しているように思われるが，グッバ例は著しく小型である。テペ・ガウラではグッバの VII 層より遡る層位から，数例の双孔形の製品が出土しており，様々な使用形態が考えられるとする〔Tobler 1950：198, Pl. 175〕。

扁双円錐形もしくは亀甲形ビーズは新石器時代以降，長期間使用されるが，この形は，JN 期頃まで続く同形のスタンプ印章の発展形とすることもできるが，はっきりしたことはわからない。このほかグッバのビーズでは，算盤玉形ビーズが定形化しておらず使用量が少ない。有面（faceted）のビーズが少ないなども一つの特色といえる。

いつの時代でもそうであるが，手軽に製作できる平玉，臼玉形が最も普及しており，樽形はテラコッタ製を除

くと顕著ではない。また直角孔形ペンダント/ビーズも，現時点ではハムリン盆地のJN～ED I期を特徴付ける製品といえそうだ。

当時のビーズのほとんどが石製品であり，連ねると相当量の重さに達する。これに加えて，穿孔法がさほど発達しているとはいえないため，小型のビーズなどでは特に孔の径が不安定となる。たとえばNo 60 ビーズの黒耀石製品を例にとると，ほとんどが1～2 mm 未満の孔径しかない。このことはビーズを連絡する糸の径が著しく細かったことを示している。今日ほど強くかつ丈夫な素材のない当時にあっては，おのずから身近にある細く強い物質に頼らねばならない，たとえば毛髪，馬/オナゲルの毛，山羊・羊の毛，もしくは麻などである。従ってビーズの自重と連結材の弱さも相俟って，切断や失うことが多かったと推察される。それらが単独で，あるいは数個単位で出土したのではないかと考えている。No 60 ビーズと同一材質によるビーズが，およそ 20 m ほど離れた異なる層から61点も出土した（Fig. 1-G334; Pl. 43)。それは上記のような理由によると推測するのは早計であろうか。

以上，出土のビーズを中心に前四千年紀終末から三千年紀前葉の装身具を観察した。結論的なことを申せば，グッバのJN～ED I期のビーズはNo. 60 をのぞきラピスラズリ等の貴石を伴わず，比較的質素な素材を中心としており，ややローカルな色相が濃いといえるのではなかろうか。とりわけJN 期に伴うビーズの材質や形態はテル・ブラクの “Gray Eye Temple” 層およびファラのJN～ED I期層出土例〔Martin 1988：59-62〕に多くの共通点が求められるといえそうだ。なお，ほぼ同時代に属するデイヤラ河流域の神殿などからは，多量のビーズやペンダントが出土したとされるが〔Delougaz and Lloyd 1942; Delougaz and Others 1967〕，詳細については不明な点がおおく，おしまれる。

II　ガラス製品　—腕輪・容器—

グッバの調査では500～1000基にも及ぶイスラム期の墓を検出した。これらの墓はテルの頂部を中心として，裾部に至るまで密に分布しており，場所によっては約100 m^2 の範囲に，およそ50基が集中するほどであった〔小谷・井 1981：Fig. 4 断面図参照〕。これらの墓は中世から近世・現代にかけて営まれたと推定でき，調査開始の10年ほど前まで，乳・幼児はここに葬ったとのことであった。調査開始時点での我々の調査計画は５ヶ月間であり，遺跡の水没時期は迫っていると知らされていた。従って，これらの墓に対し十分な時間を割く余裕は無く，一部の墓を除いて実測や写真撮影は行なっていない。

掲載した腕輪の多くは（Fig. 23)，テルのほぼ中央部において，表土層からマイナス 30 cm 付近に集中し，しかも被葬者に伴わず，むしろ遊離し，破片状態で検出されることが多かった。特に深い位置に埋葬面を持つ墓には遺物が伴わない傾向が強かった。これは，テルの中心部では，比較的古いと考えられる墓ほど埋葬面が浅く，新しい墓は深く掘り込まれていることと関係する。つまり，墓地の造営期間が比較的長期に及んだため，風化や浸食作用により，古い墓の埋葬面が次第に上部に出現したのである。このようなことから，新たな墓壙の掘削によって，人骨はもちろん，本来副葬品であった腕輪も被葬者から離れ，破片状態で出土したのである。

腕輪　法量についてみると，大きく３つのグループに分けられる。第一は径 8 cm を超え成人用と推測できるもの（113, 114)，第２は径 5.5～7 cm を計るもの（93～96, 99～103, 112)，第３は明らかに小児用と考えられるもの（97, 98, 104～111）である。

形態は，外縁の稜上に小さな突起をほぼ等間隔に配した例（93～100）と，突起装飾を伴わない例（101～

114）に大別できる。後者には緩くヒネリ（1回）を加えた例（105，107）と，4条の線でもってヒネリを加えて成形した例（112），および外縁に沿って細線を螺旋状に張り付けた例（108，109，111）が存在した。

輪の断面形は，二等辺三角形状を呈するものが最も多く（93～100，104，107～109），このほかB状（103，110），四葉状（112），および三角形の辺の中央部に小さな段をもつ例（113）などがある。概して手の擦れる部分は滑らかに整形されている。

色調は，透明に近い薄青色：水色（104～106）や，薄い黄色（107）も存在したが，多くは不透明黒色ガラスであった。黒色ガラス芯の製品では，この上に様々な色ガラスを薄く張り付け（かぶせ），あざやかな色彩効果を演出する。それには黄色，緑色，青色などが多用されていた。特異な例では赤色帯を配し，この上に黄色でもって樹状モティーフを描き，さらに緑色の点を配した例（101）や，黄色帯の上に茶色の重弧文を配した例（102），黄赤色の螺旋状バンド（108），緑色の螺旋状バンド（109，111）などを認めた。なお，外縁にある小突起の色調はNo 98を除きすべてあざやかな黄色である。

ガラス製容器（115～117）　　ササン朝期に属すると考えられる小児墓：墓3（Fig. 6）から，後述の青銅製指環（Fig. 28-209）と共に出土した。話が横道にそれるが，ここで墓3の概略と遺物の出土状況について触れておきたい。墓は主軸方向を南西―北東にとる土壙墓である。墓壙は長楕円形で長軸方向約80 cm，最大幅35 cm，壙底はほぼたいらである。被葬者は南頭位仰臥屈肢葬されており，下顎に認められた乳歯の状況から5才以下と推定された。副葬遺物はガラス製容器が頭付近（117）と足付近（115，116）から出土し，指環は胸付近で発見した。ガラス製容器は3個体あり，No 116が完形で他は破片である。いずれも細長い頸部，低い張付高台，一旦外反し内側に強く折り返された口縁部を特色とする。器肉は底部が1.2～2 mmを計るが，胴部や頸部は1 mm以内の厚さしかない。現在の色調は風化により黄白色を呈する例と青緑色がある。ともにもろい。

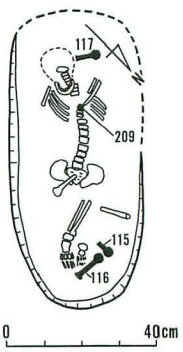


Fig. 6　Grave 3: plan of contents.

小結

同様のガラス製腕輪は，付近の廃村や，グッバに近いテル・フバーリ，ハメディヤートでも表採することができたし，ソンゴルA〔Kamada and Ohtsu 1988：Fig. 17〕や，北イラクのテル・フィスナ〔沼本 1988：Pl. 18-194〕などでも報告されている。比較的類似する形態をもった腕輪が，ウチ・テペにおいても出土しており，イスラム後期に伴うことが良く知られている〔Gibson ed. 1981：81〕としてある。ただ，ウチ・テペ出土例とグッバのそれでは，多少形態に差がある。これは，あるいは若干の時間差を示しているのかもしれない。地域は異なるが，ジョルダンのジェラシ遺跡からは，多量のガラス製腕輪が報告されており，マムルーク朝（1250-1516）頃に最も普及する〔Meyer 1988：216〕としてある。いずれにせよ中世から近世・現代に属する遺物と考えられる[20]。さらに墓の構造や埋葬方位，方法はイスラムの慣例にかなっており，ここに葬られた集団はイスラム教徒であったとみなしうる。現代の使用例などを参考にするかぎり，これらの腕輪は婦女子の副葬品であったと見て大過ないだろう。あまり漠然としたことは控えねばならないが，出土状況の観察によれば，どちらかといえば突起装飾のついた黒色ガラス製の腕輪が，無いものに比べ僅かに古いように思われる。

墓3出土のガラス容器は，ササン朝期頃に特徴的な器形をもつ。類似品がグッバに比較的近いテル・マッフー

ズ〔Ponzi 1968/69：Fig. 153〕や，ヌジ〔Starr 1937：Pl. 140-k〕などから報告されており，マッフーズではガラス容器に伴ってŠapur I 世やŠapur II 世のコインが共伴したとされる〔Ponzi 1968/69〕。グッバのガラス器は，底部の形状が上記遺跡例とやや異なることから，同時期とすることは出来ないまでも，さほど隔たらない時期に比定することは可能と思われる。

III　紡錘車

50点以上の紡錘車が出土した。これには石製，テラコッタ製，および土器片の再利用がある。このうち石製品については，破片を含めほぼ全製品を所収した。しかし土器片再利用や，テラコッタ製品については，すべてを掲載してはいない。このほかにもアケメネス朝期と考えられるII層の建物からは，球形や扁球形の土玉（Clay-ball, もしくはLoomweightと称される）が多量に出土したが，今回は記述を行なわない。さらに，JN期～ED期の層では，いわゆる車輪形土製品“chariot wheel”と称されるものを若干発見し，一部の製品は紡錘車に類する形態をもつものが存在したが（Pl. 45-b左上），それについても，次回にテラコッタ製品でまとめて述べる。

出土状況

VII層　円形建物に伴う紡錘車，及びその機能を有したと考えられる遺物は28点である（Fig. 7）。石製とテラコッタ製があり，土器片を再利用したものは発見されなかった。図でも明らかなように，出土地点が比較的集中する傾向が窺える。しかしながら，出土地点＝利用・保管場所という図式は成立しそうにない。既に「ビーズ」でも触れたが，たとえばNo 118，120，141は回廊4（C4）の北東部で，中心建物への入口部前面付近に集中していたが，ここで使用されたとはとうてい考えられない。なんとなれば，ここでは他にも多量のビーズ，銅/青銅製品，骨角器などが集中し，しかも混在しており，明らかに別の要因を考慮しなければならない。また，No 135，142は井戸を伴う部屋から出土し，このほかにも図示はしていないがタイプ4（Fig. 8）のテラコッタ製品を発見した。ここでもビーズやその他の遺物が不自然な状況で出土しており，現位置を保つ遺物とは考えられない。さらにNo 119，122，144についても覆土中に混在しており，厳密な意味で，現位置を保つ遺物とすることはできない。

No 121，123，150は床面上から出土しており，層に伴う遺物とみなしうる。ここはVIIa層期には回廊が仕切られ，貯蔵庫的な利用をされた。No 127，128は井戸（？）の上部埋土に混って出土した。ここではこのほかにも石器の製作工程を示す破片や，半製品が出土しており，石製品の工房として一時的に利用されたようだ。図示した他の紡錘車は床面に伴い，ほぼ現位置を動いていないと推定してよい。

VII層以降　出土場所，状況については，とりたてて述べることはない。多くは土器を廃棄したピット中や，通路上，室内の床面から散発的に発見された。この中で注目できるのは，VIb層に伴う貯蔵庫と考えられるピット出土品（136，143，146）で，このピットからは紡錘車に限らず，多くの土器や，銅/青銅製品，7点の印章関係遺物〔井　1988〕などが伴出した。

形態分類

出土した紡錘車はその形態（特に断面形）によって，凸レンズ形（タイプ1），円盤形（タイプ2），半球形（タイプ3），截頭円錐形（タイプ4），双円錐形（タイプ5），曲盤形（タイプ6），およびここでは触れないが，両面の中心部が軸受け突起状に膨らんだ車輪形Wheel-shaped（タイプ7）に分類できる（Fig. 8）。しかしながらすべての製品が，この分類で正確に区別できるのではなく，中間形を示すものも多く存在した。特にタイプ1

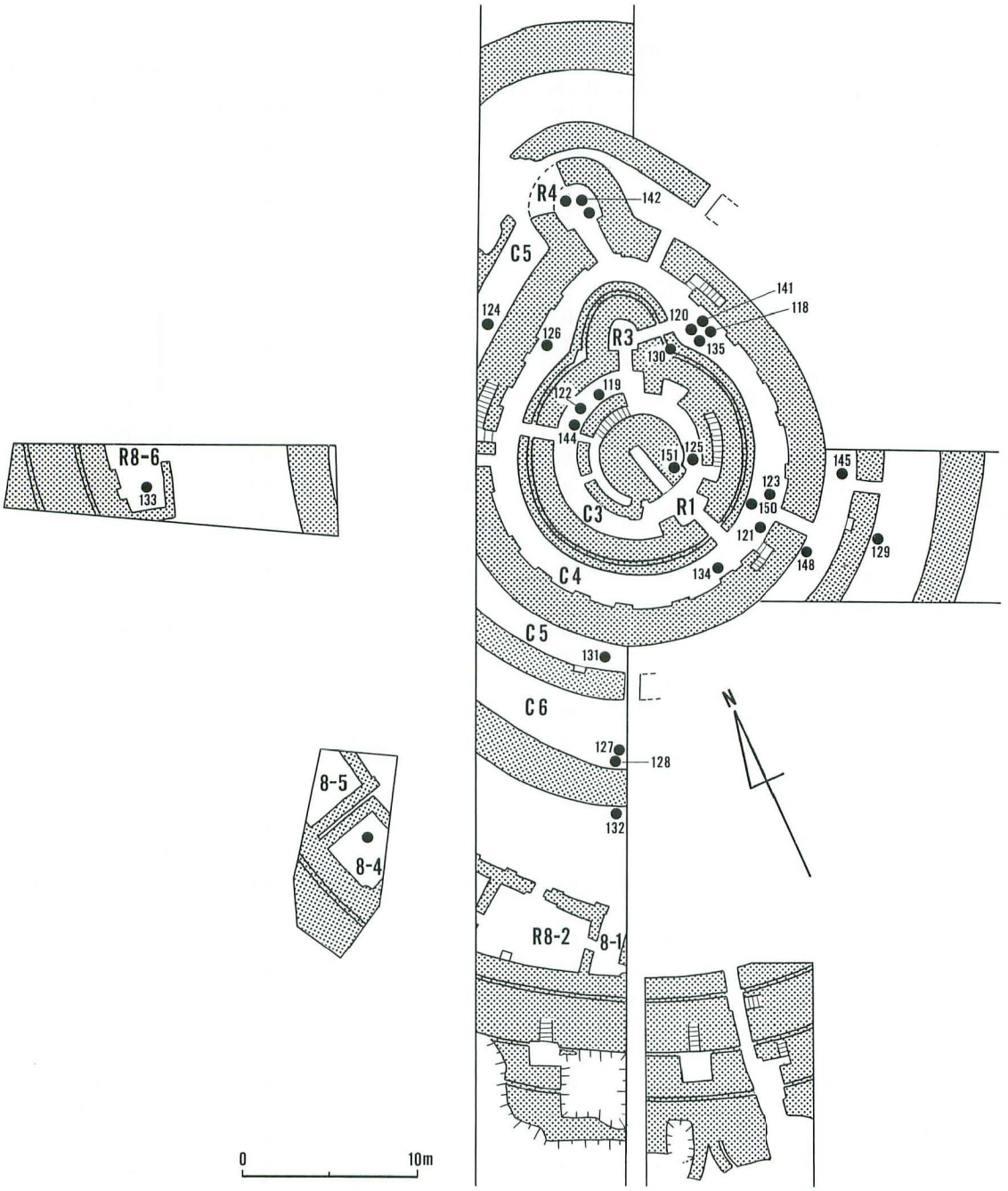


Fig. 7　Findspots of spindle whorls of Level VII.

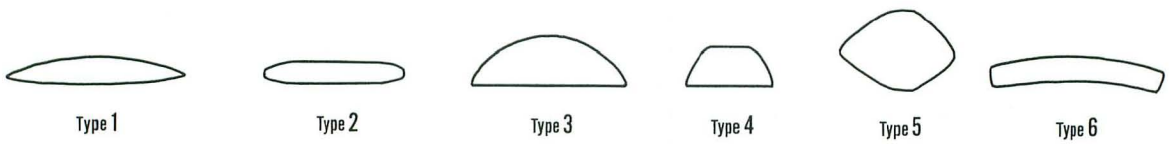


Fig. 8　Types of spindle whorl from Tell Gubba.

と2において分類の困難な例が多かった。

タイプ1　15点が出土した（118～128，130，131，135，136？）。石製に限られる。出土層位はNo 136を除きすべてVII層に伴う。径高比は1：0.12～0.19で，出土品中で最も薄い。

Table 7 Measurement of spindle whorls.

No	Level	Material	Type	Diameter (mm)	Height (mm)	Diameter of perforation	Weight (garm)	Ratio of diam:height	Remarks
118	VIIc	marble	1	44	6	4	(9)	0.14	fragment, mending holes.
119	VIIc	marble	1	42	6		(10)	0.14	fragment
120	VIIc	marble	1	47	8	5	23	0.17	
121	VIIb-c	limestone	1	25	4	3	4	0.16	
122	VII	marble	1	47	7	4	24	0.15	
123	VIIa	marble	1	37	5	3	10	0.14	
124	VIIa	white stone	1	45(?)	6	5	(6)	0.13(?)	fragment
125	VIIb	marble	1	51(?)	7	5	(7)	0.14(?)	fragment
126	VIIa?	limestone	1	33	4	3	9	0.12	
127	VII	limestone	1	?					fragment
128	VII	marble	1	39	5	5	(5.5)	0.13	fragment
129	VIIa-b	black stone	2	31	6	6	9	0.19	
130	VII	marble	1	26	5	3	5	0.19	
131	VIIb	marble	1	28(?)	4		(2)	0.14	fragment
132	VIIa?	frint(?)	2	38	8	5	18.5	0.21	
133	VII	limestone(?)	2	48	9	9	30.5	0.19	
134	VIIa	limestone	2	35	6	4	13	0.17	
135	VIIb-c	marble	1	18	3	4	(0.5)	0.17	fragment, "button"?
136	VIb	black stone	1/2	47	7	8		0.15	
137	VI?	limestone	2	28	6	5	7.5	0.21	
138	VIa	limestone(?)	2	46	10	10	29	0.22	
139	Vb	limestone	2	46	8	9	24.5	0.17	
140	IVb	limestone	2	32	7	6	11	0.22	
141	VIIc	white stone	4	22	9	5.5	6	0.41	
142	VIIc	limestone(?)	4	27	11	5.5	10	0.41	
143	VIb	black stone	3	32	12	5	(12)	0.37	four drill-holes
144	VIIa	terracotta	4	27	17	5	14	0.63	incised decorations
145	VIIa-b	marble	3	72	18	11	121	0.25	
146	VIb	limestone(?)	3	40	12	6	26.5	0.30	
147	VI?	terracotta	3/4	45	16	9	24	0.36	
148	VIIb	terracotta	4	23	13	7	4.5	0.57	
149	IIIa	terracotta	5	28	19	5	11	0.69	
150	VIIa	gray stone	6	45	8	5	(10)	0.18	
151	VII	marble(?)	6	39	10		14.5	0.26	unperforated
152	Surf.	marble							unknown object
153	V-VI	potshard	6	40	7	8	8	0.17	
154	Vb	potsherd	6	59	10	8	30	0.17	
155	V	potsherd	6	58	10	10	27	0.17	
156	V	potsherd	6	55	13	9	33	0.24	
157	V	potsherd	6	59	10	12	(20)	0.17	
158	V	potsherd	6	64	12	9		0.19	"scarlet ware"
159	V	potsherd	6	67	13	4	49	0.19	
160	IVa	potsherd	6	43	7	10	12	0.16	
161	IVa	potsherd	6	105	13–25	16	(122)	0.18	
162	IV	potsherd	6	79	15	11	(46)	0.19	
163	III-IV	potsherd	6	63	10		31	0.16	unperforated
164	II	potsherd	6	96	25	13	(156)	0.26	
165	III	potsherd	6	57	15	14	49	0.26	
166	?	potsherd	6	54	9	9	24	0.17	

( ): extant gram

タイプ2　8点が出土した（129，132～134，137～140）。出土層位はVII層（129，132～134），VI層（137，138），V層（139），IV層（140）である。特にVIIa層に4点が集中していた。このほかビーズでのべたNo 62bはこのタイプに属する（Fig. 19参照）。径高比は1：0.16～0.22の範囲にあり，タイプ1についで薄い。

タイプ3　石製（143，145，146）とテラコッタ製（147？）が存在する。出土層位はNo 145がVII層で，他はED I期の層に伴う。No 143にはほぼ等間隔にドリル技法で穿った浅い孔が4ヶ所にある[21]。No 145は石製品としては最大・最重量である。径高比は1：0.25～0.37である。

タイプ4　石製（141，142）とテラコッタ製（144，148）が出土した。出土層位はおもにVII層で，タイプ1に共伴する。No 144の側面には，縦方向の2条の浅い線刻が4ヶ所に配してある。径高比は1：0.41～0.63である。

タイプ5　テラコッタ製でIII層から出土した（149），紡錘車か，あるいは他のもの（車輪）であるのか判断に迷う。径高比は1：0.68，出土品中で最大の値をしめす。

タイプ6　石製容器を再利用した例（150，151）と，土器片を再利用した例（153～166）がある。石製容器利用の2点はVII層に伴い，他はED I期（153～162），およびED I期の終末からED II期頃と推定されるIII層に伴う。径高比は1：0.16～0.26で，ほぼタイプ2と同じ数値を示す。

No 152は極めて良質の白色大理石製であるが，どのような形となるのか，紡錘車であるか否か不明である。中心側に比較的径の大きい孔の痕跡があり，ここから縁部に向って浅い溝が延びている。断面形はタイプ1にちかい。

法量

出土紡錘車のうち径と高さの数値が明らかなものを，図中にプロットする（Fig. 9）。縦軸は高さを，横軸は径を示す。図中の黒塗りは数値が明らかなもの，白ヌキは不確定要素を含むものである。また，円は石製，三角はテラコッタ製，四角は土器片を再利用したものである。この表現はFig. 10についても同じである。

径高比より大きく5つの群（A～E）に区分できる。

A群　紡錘車状の形態をもつ最小グループで，径は20 mm以下しかない。

B群　テラコッタ製と石製の一部を含む。形態分類のタイプ3～5で占める。高さのばらつきは比較的少

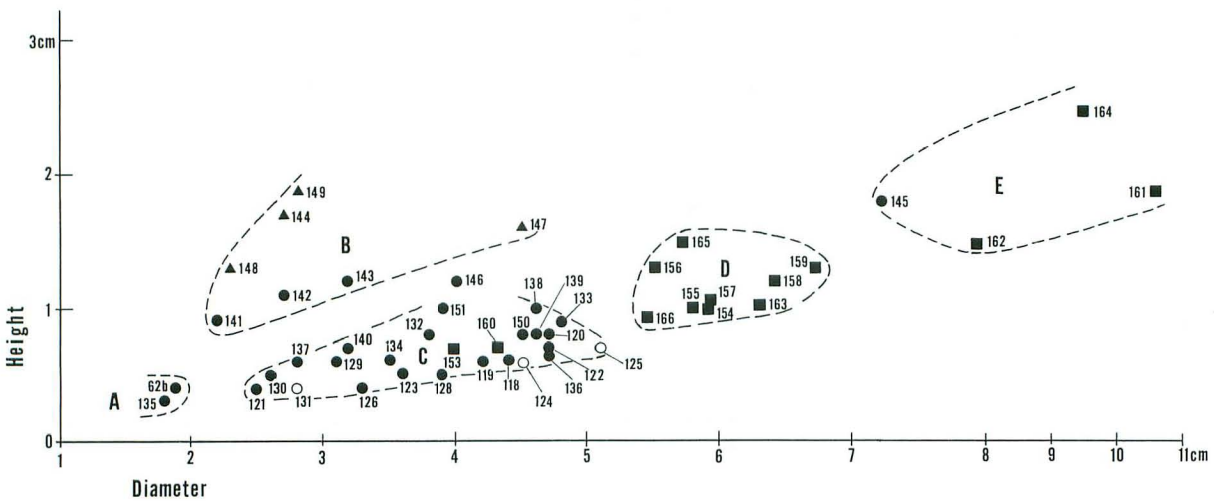


Fig. 9　Chart to show spindle whorl dimensions (height and diameter).

ないが，径のばらつきは大きい。

C 群　おもに石製で，若干の土器片利用を含む。径は 25～50 mm，高さは 4～10 mm である。タイプ 1 と 2 および 6 で構成される。No 146 は B 群と C 群の中間付近に位置する。値が大きい付近（径 45～47 mm，高さ 6～8 mm 付近）に集中する傾向がある。

D 群　土器片利用の製品で，明瞭なグループを成す。数値のばらつきは他の群ほど顕著でない。

E 群　最大の径と高さを示すグループで，100 mm 以上の径を計るものが存在する。

重量

紡錘車の最も重要な要素の一つで，回転力や回転運動の連続性と深く関わる。形態や法量（高さ，径）に関係するが，使用された材質により大きな差をもつ。Fig. 10 に重量分布をプロットしたが，形態と同じように集中化傾向を見せることがわかる。大きく 6 類（a～f）に大別でき，わずか 1gr 前後の f 類では，紡錘車の機能は果せなかったのではないかと推察され，この No 135 は紡錘車以外の可能性が強くなる。a 類は僅か 4 gr から 8 gr ほどの重さしかなく，径も 30 mm 以内である。紡錘車として機能したとすれば，特に細く厳選された糸を紡ぐために使用されたと考えられる。b 類はばらつきの幅が比較的大きいが，これは材質による差であり，重量分布は 8 gr 以上 18 gr までにある，出土量も多いことから，最も好まれた大きさといえそうだ。c 類はほぼ統一された規格で（C 群中の大型のグループがこれに当る），このうち径が 46～47 mm の製品では，重量差も少なく（19

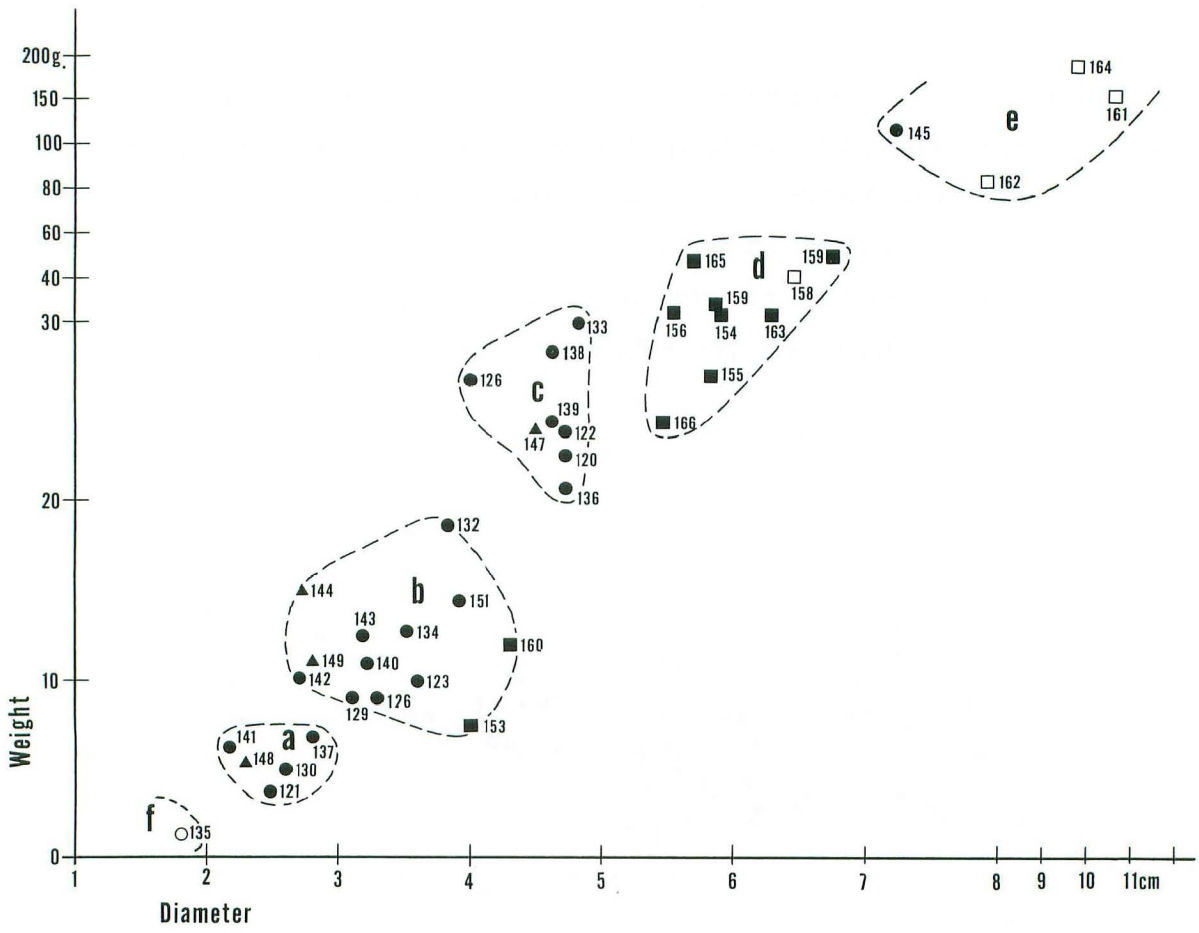


Fig. 10　Chart to show spindle whorl dimensions (weight and diameter).

～24.5 gr)，何らかの統一規格が存在していたのではないかと思わせるふしがある。それはタイプ1において顕著であった。

材質

石製，テラコッタ製，土器片製がある。石製では，大理石（118～120，122，123，125，128，130，131，135，145，151，152），石灰岩（121，126，127，133，134，137～140，142，146），黒色の石：頁岩？（129，136，143），フリント？（132），不明の石（124，141，150）などが使用されていた。色調は白色もしくは灰白色を呈するものが多い。なかでもVII層出土の石製では，大理石製の占める割合が大きい。このほか可能性として貝製品や木製品を利用することも考えられる。

製作上の特色

VII層出土の製品では製作工程を示す遺物は少なく，完成品がほとんどであった。製品の表裏面は極めて滑らかに仕上がられており，整形時にあらわれる擦痕さえも認められなかった。このことは使用のためばかりでなく，極めて入念な製作が行なわれたことを示唆している。特にタイプ1の紡錘車においてそれは顕著である。

タイプ2は1ほど入念な仕上がなされておらず，製作時の擦痕を残すものが多く，製作工程をうかがうことができる。まず円盤状に整形され—穿孔が先であったか後であったかは判らない—つぎに縁部を両方向（表裏）から磨いて薄くし，全体として車輪状の断面形をなす製品に仕上げられていた。孔は両方向から穿たれることが多かったようだ。またNo 119は補修孔をもつ例で，大理石製の紡錘車が大事に使用されたことを示唆する。No 151は石製容器片を再利用しており，曲面を円盤状に擦り切り，縁部に微調整を加えたのち，穿孔を始めているが，孔は貫通していない。

芯棒と紡輪の固定には歴青（bitumem）が使用されたようだ。実際，No 138の内外面と孔内には，ビチュメンの付着が確認されたし，より古い前ハッスーナ期頃から，同じようにビチュメンが接着・充填剤として使用されている〔松谷 1976：285〕。

小結

出土の紡錘車では多くのタイプが観察されたが，VII層出土例にかぎると，タイプ1，2が超勢を占めており，テラコッタ製はさほど顕著ではない。このことはグッバの特徴といえよう。タイプ1，2とした薄手の石製紡錘車の出土例は，同時代のメソポタミアの遺跡では少なく，ファラから11点〔Martin 1988：196，197〕，スーサのアクロポリス13層において2点〔Le Brun 1971〕が報告されているにすぎない。ファラ遺跡の製品はおもに石灰岩とサーペンタインで製作されており，薄手の石製紡錘車はJN期には存在せず，ED I–II期に限って発見されたという〔Martin 1988：55〕。グッバでの出土傾向が主にJN期であったことと比べ好対称をなしている。一方，スーサでは，報告者は紡錘車との特定を慎重にさけ，石製有孔円盤とした〔Le Brun 1971：Fig. 69–1，2〕が，この2点はグッバやファラ出土例からみて紡錘車を疑う余地はないと思う。

同時代から若干時代の降るED III期頃の遺物に“button”とされる装飾（主に刻文）の施された円盤形や円錐形の製品がある〔Le Brun 1971：Fig. 70–6～8; Postgate ed. 1985：43，56; Reade 1973：Pl. 67–b〕。これらがどのような根拠に基づいて紡錘車と区別されているのか，報告書は説明していないが，おそらく，装飾が伴う，径が小さい，複数の孔を持つものが存在する，などを判断基準としていると推考される。“ボタン”が当を得た解釈とすれば，グッバ出土の石製品中の最小グループ：f類やa類などがまさにこれに相当する。さらに貝製品でのべた63ll～63oo もこの範疇に含まれることになる。あるいはビーズとしての使用である。

すでに松谷氏の指摘があるように，石製有孔円板と紡錘車，ボタンなどの区別は形態のみからではむずかしく，極めて慎重に判断を下すべきである〔1976〕。その際，重量は一つの決定要素たりうるのではないだろうか。

このほか軸受凸起をもつ，いわゆる車輪形のテラコッタ製品が，紡錘車であるか否かの問題もある。これはチャリオット問題とも関係しており，慎重な対応を余儀なくさせる。すでに触れたが，グッバではVII層期に車輪形の土製品が出現する。

軸は紡輪の孔径に左右される。3 mmほどの孔径から推測される軸は，著しく細いものとなる。植物質の材料を使用したとすれば，さほどの強度があったとは考えられない。したがって，これらの小孔径をもつ石製紡錘車には，骨製，あるいはキシュA墓地で発見された例〔Mackay 1929：43〕のように，銅製品の使用を想定することも可能である。

以上，紡錘車について観察した。形態による分類ではさほど明瞭に画することはできないが，重量分布は明らかな集中化を示すことが判明した。そのことは紡錘車が，重量を第一に考えて製作されたことを暗示しているのかもしれない。さらに使用者も対象となる糸の太さによって，異なるものを使い分けしていた可能性もないとはいえない。またC群c類では何らかの統一規格を窺わせるような数値を示す例があり，あるいは専業（半専業）工人によって一括製作された可能性もすてきれない。特にタイプ1における統一された形態は，それを十分に暗示しているのではないだろうか。グッバでは直径46～48 mmが集中顕著な数値である[22]。グッバにおける紡錘車の形態的変遷は，VII層期に平らなものが，VI層期には甲高な例が，V～IV層期では土器片再利用製品が主流を占め，時代により若干の形態差をもつことを確認した。

IV　金属製品—銅/青銅，鉄—

グッバ出土の銅/青銅製品は58点であるが，これには前項「ビーズ」で触れた管玉形製品6点を含む。層位別ではVII層37点（167a～d，168～170，174～176，178，180～184，189～201，およびNo 54a，55a，56，63a～c），VI層5点（185～188，204），V層3点（177，202？，203），IV層1点（173），III層なし，II層6点（205，207，208？，212～214），表層および墓に伴うもの5点（206，209～211，232），帰属不明1点（172）である。JN～ED I期に限っての出土傾向を見ると，VII層出土例の占める割合が圧倒的に多く，およそ全体の80%に達する。

出土状況（Fig. 11）

図でも判るように，出土場所がビーズや紡錘車の出土地点に重なる（Fig. 1，2，7参照）。これは，前項でも述べたが，本来の位置を保っているのではなく，建物の崩壊，もしくはその他の要因でここに集中したためである。

ただ，VII層では，本来の位置を保っていると考えられる遺物が少なからず存在した。たとえば，No 167a～dは第5円周壁（W5）の壁中に設けられた小さなスペースの中に，先端を壁中に向け，組合せて納められていた（Fig. 12）。ここは丁度，壁本体の内側に設けられた控壁（バトレス）の基部にあたり，VIIc層の床面より約10 cm高い位置である。埋納方法を見ると，壁中に日干煉瓦約1丁分ほどのスペースが確保され，この中にやや黒色を帯びた純粋な砂質土が詰められ，この上にノミを納め，次に2本の斧を十字形に組み，最後に鋸状の平板な道具を乗せていた。調査時点で，これら銅器の茎部は僅かに壁面の外に出ていたが，壁に上塗りが施されていた

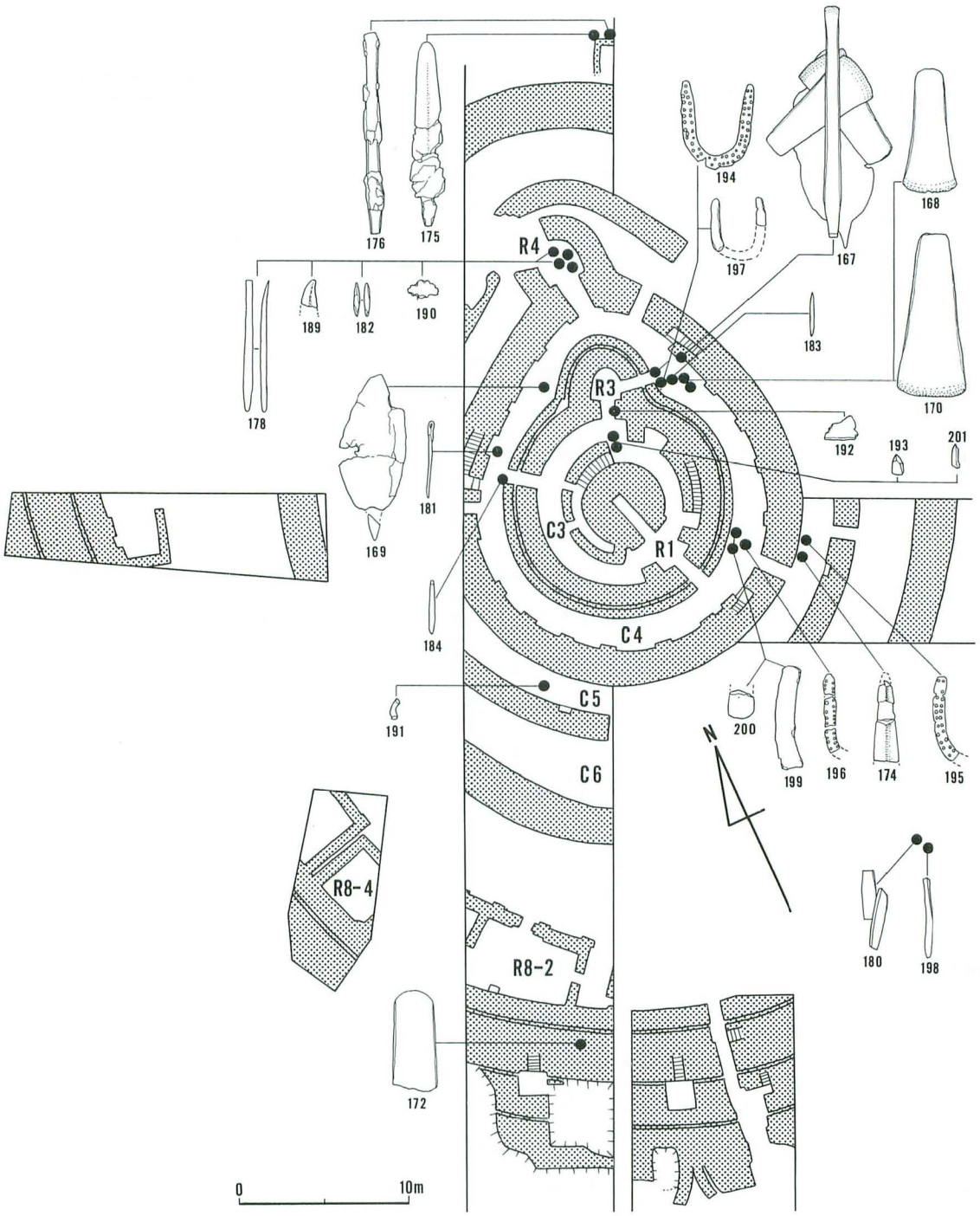


Fig. 11　Findspots of copper/bronze objects of Level VII (172 is uncertain).

とすれば，これは壁中にあり，外部からは見えなかったと考えられる。これらの工具セットは，後に定型化する，鎮壇具あるいは埋納物 “foundation deposit” の意味を有していたと考えられ，工事の安全と建物の護持を祈念して壁中に奉納されたものと推定する。

また，No 175 と176は上記と同じような性格をもつと考えられる出土状況であり，No 175 は穀物倉庫と推定される日干煉瓦造建物の外側コーナー付近に，先端を下に向け，ほぼ全体が床面下に刺さっていたし，No 176 はそれからおよそ 1 m 離れて，同じように先端を下に向け，壁面に接して床面下に差し込まれていた。このほ

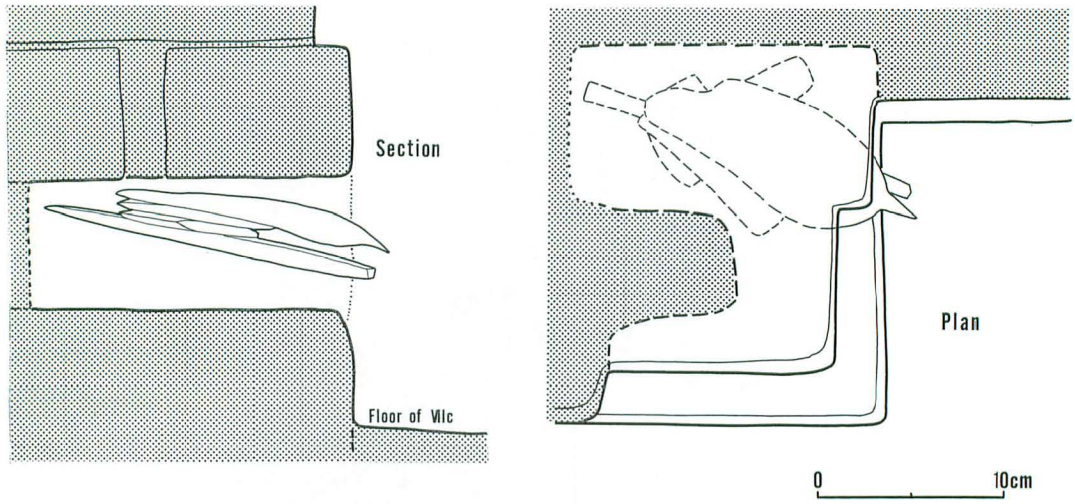


Fig. 12　Sketch plan of copper/bronze objects as a "foundation deposit" of Level VIIc.

かにも，円形建物の中心部では，入口部の壁中より小型の銅製品（192）が刺さった状態で出土した[23]。

馬蹄形金具が，どのように使用されたか推測の域を出ないが，これらはいずれも入口部に近い位置に集中して出土した（194～197）。利器の出土状況をみると，ほとんどが回廊 C4 とC5 に集中しており，C3 より内側からの出土はなかった。このことは，この建物の使用状況や性格を暗示しているのかもしれない。

いずれにせよ VII 層出土の銅/青銅製品は，回廊 C5 より内側の円形建物中心部に集中しており，ここが極めて特殊な区画で，重要な機能を有していたことは言及するまでもないであろう。

VIb 層ではピット（貯蔵穴）から多くの破片が出土した。このほか V 層より上部の層での出土状況は散発的で，これといった特色や傾向は認められなかった。

銅/青銅製品

a) JN～ED I 期

撥形斧（167b，167c，168，170～172）　帰属不明の 1 点と No 171 を除き，4 点が VII 層に伴う。いずれも鋳造品で，先端はするどく砥出されている。基部は狭く，先端に向って次第に幅を広げ，ハマグリ刃状の刃をもつ。最大厚は中央よりやや先端側にあり，基部と先端部の幅の比率はおよそ1：2の割合である。基部の形状は，たいらな例（167c，170）と，やや丸みをもった例（167b，168，171，172）が存在する。先端部付近の開き加減も，ほぼストレートに刃に達する例（170）と，弧を描いて開く例（167b，167c，168，171）がある。重量は No 170 が 275 gr で最も重く，No 168 は 117 gr である。No 167b，c もほぼ No 168 に近い重量と思われる。

No 168，171 には使用による刃こぼれが観察でき，特に171の刃の状態は，相当の強い力が刃部に加わったことを示している。No 172 はほぼ中央部から折れており，相当の外力が働かない限りこのような破存は生じないと考えられる。刃こぼれの状態より見る限りでは，これら撥形の製品は，斧のような作業に使用されたと推測できる。なお No 193 は同種の斧，もしくは大型ノミの破片と考えている。

鋸形製品（167a，169）　薄く大きな身部と短い形式的な茎部をもつ製品である。両例とも平面形はほぼ類似するが，No 167a の左側面はわずかにくぼむ。ともに先端から 2.5 cm 付近で欠けたようになっており，ここに段が付く。167a は欠けた部分を砥ぎなおし，刃付けをしていた。刃は身部の全面に付けられ鋭い。No 169 の片側の刃部（右側）はわずかに凸凹があり，あるいは目立てを行なっていたのかもしれないが，錆のため明らか

にできない。身部の厚さは1～1.5 mm しかなく，身の中央付近が最も厚い。ほぼ同時代の出土遺物を参照するかぎり，鋸として利用されたようにも思えるが，刃付（目立）が明瞭でなく，かつ茎部が著しく貧弱であり，使用目的を特定できない。断面形や刃の状態からは“Saw-edged Knife”〔Postgate ed. 1985：14〕とも推測される。もちろん槍先などの武器とも考えられなくもないが，工具とセットであることから，工具とみなす方が妥当なようである。しかし，現時点では用途不明の製品としておきたい。

剣（173～175，189）　いずれも両刃で先端が尖り，明瞭ではないがわずかな鎬がある。刃部は関付近に最大幅を有し先端に向って幅が狭くなり，先端は丸みを帯びて終る例（173，175）と，反りをもつ例（189）が存在した。関はなだらかで茎部に続く。茎部は長方形断面で，残存部が短いためか，目釘および目釘穴のたぐいは認められない。形態はウル出土例〔Woolley 1934:Pl. 228〕や，キシュ出土例〔Mackay 1929:Pl. 17〕に共通する，しかしグッバの製品は小型に限られていた。

ノミ　法量から大型：全長 15 cm 以上，中型：約 10～15 cm と考えられる例，小型：10 cm 以下の3タイプに分類できる。

大型ノミ（167d，176，180，186，187）　いずれも鋳造になると思われるが不明な点もある。刃は両刃で，片側がわずかに凹んだ断面を見せる例（167d，176）があった。身部は方形断面で，叩いて面取を行なった例（167d，176）が存在する。茎部は短く方形断面で，端部に向って次第にすぼまる。茎部の先端は直接たたかれ，僅かにつぶれている。このことは，このノミには柄が伴わず，直接茎の端を敲いて使用したことを示唆している。No 180a は176とほぼ同種のノミの茎部付近の破片，180b も身部の破片である。No 187 は敲打による衝撃で先端部が欠けたものと考えられる。

中型ノミ（178，179，185）　身部の断面形は方形（178）と円形（179，185）がある。刃の形状も両刃（179，185）と，片刃（178）が存在する。No 178 の側面形はゆるく弧を描いており，特殊な用途に使用されたようだ。茎部の形状は大型ノミと同じで短く，基部に向ってすぼまる。No 179 の端部は曲っている。

小型ノミ（184，188？）　No 184 の形状は大，中型のそれと変らない。刃は片刃で鈍い。No 188 もノミの破片と推測されるが，その確証はない。

刺突具（177）　方形断面の身部と茎部からなる。先端は円みをおびた断面で尖っている[24)]。

針（181）　長さ 5.6 cm を計る。先端が細く，円形断面，中心部よりやや上は方形に近い断面を呈する。針の穴は地金（身）を折り返して形成する。

両頭製品（182，183）　両例とも著しく小さい製品で，No 183 でも 3.5 cm の長さしかない。いずれも身部中央付近の断面は方形，両端が円形断面となり，尖り気味に終る。使用目的のはっきりしない製品である。直線釣針，もしくはキリの可能性もあるが，現時点では不明といわざるを得ない。

馬蹄形金具（194～197）　U 字形の平面形をもつ板状の製品で，このうちの3例には円形の打出し装飾が施してある。装飾のある3例はほぼ同じ大きさと幅，厚さをもつ。これは同時に，しかも同一工人の手によって製作された蓋然性が大きい。No 197 には装飾が伴わず，前記の3例に比べ僅かに小型であるが，同じ使用目的であったと見て大過ないだろう。すべて厚さが 1 mm 以内で，工具であったとは考えられない。特殊な装身具，もしくはその他の装飾品と考えられる。

板状製品（192，199，200）　なんらかの製品の破片であるが，その本来の形を知ることはできない。No 199 は全体がゆるくカーブしており，あるいは大型の馬蹄形金具の破片であるのかもしれない。No 200 は端部

破片で，丸みのある小口をもつ。なおNo 200の現断面形はややレンズ状であるが，これは錆による膨張で，本来は板状であったと考えられる。

棒状製品（198，202，203）　方形断面をもつ例（198）と円形断面（202，203）がある。いずれも工具の破片と考えられる。No 203には木質の付着があり，木製品に挿入して使用されていたらしい。No 198はノミの破片とも考えられる。

釣針（204）　外アグをもつ大型釣針の破片で，軸の上半部と先端を欠失する。アグは痕跡程度しか残っていないが，断面の形状からも，ここが細く，かつ鋭く整形されていたことがわかる。フトコロは比較的狭い。

不明製品（190，191，201）　No 190は平滑な面をもつ製品で，残存部は半月形もしくはニワトリのトサカ状の形態をもち，端部の全面に浅いキザミが施してある。使用目的は不明。No 191は「く」の字形で円形断面をもつ，これで完結していたのか，あるいは何かの破片であるのか判らない。No 201は三角形の断面をもつ製品で一端は鋭く尖る。

b）アケメネス朝期以降

鏃（205，206）　ソケット付の三翼鏃で鋳造品である，刃は鋭く砥出されている。両例とも形態は極めて類似するが，刃の角度や厚さなどは微妙に異なる。いずれも建物に伴わず，表層近くで採集したが，II層建物に伴う遺物とみなしうる。

座金物（207）　鋲もしくは釘の座となる。鋳造品である。半球形で12弁花文状を呈する。肉は比較的厚く，頂部にはいびつな円孔が穿ってある。

フィブラ（208）　三角形に近いU字形の形状をもつ製品で，先端は薄く延され，身に対し約90度の角度で折れ曲る。他端は丸みをもっており，ここから針が延びていたと推定できる。アケメネス朝期の遺物と考えている。

指環（209）　小児墓（Fig. 6）からガラス器と共に出土した。上下に方形のキザミがほぼ等間隔に配してある。断面は方形。この環に錆着して別の環の破片も出土した。

耳環（211）　環本体は円形断面，平面形は楕円形に近い。装飾部は小環16個からなり，2段に配されている（上部に11個，下部に5個）。付着していた布は綿と考えられ，織密度は12×9条/cm^{2}でやや荒い。イスラム期の墓より出土した。

鈴（210，232？）　No 210はイスラム期と考えられる墓からビーズと共に出土した，2つの半球形を溶接して形成してあり，頂部につりさげるための突起と孔がある。孔には綿と考えられる紐が遺存していた。全体に薄く（1～1.5 mm），頂部のつりさげ突起のみやや厚い（3.5 mm）。鈴の内部には径6 mmほどの自然石が入れてある。両側面には文字とも文様とも区別できない浅い線刻が存在する。

No 232は墓4から出土した。鈴もしくはボタンと考えられる遺物である。著しく小さく，半球形を上下方向でつなぎ製品となす，この合せ目が帯状に隆起し一周する。頂部には著しく薄い銅板が溶接されており，これがかっては環状をなしていたと思われる。球体部は薄く1 mm以下の厚さである。

首輪（214）　一本の銅線から一体形成されており，装飾部は三日月形を呈する。棒状部はほぼ装飾部と同じ長さをもち，両端が折り返され連結できるように加工してある。断面形は装飾部のみ平らで他は丸い。II層建物の床面より出土した。

板状品（212，213a，213b）　厚さ1～1.5 mmの薄板2点がII層から出土した（212，213b）。No 212は幅

の広い板の破片で一側面は直線状をなし，内側に曲げられている。No 213b はこれで完結する製品(？)と考えられる。全体がカーブしており，幅はほぼ一定に保たれ，両側面の端がわずかに内面に折れ曲る。表面は平滑であるが，内面にはかすかな凸凹を認める。No 213a は I 層と II 層の中間付近より出土した。3 例とも使用目的は不明である。

鉄製品

多くはアケメネス朝期と考えられる II 層建物中と，グリット IX–14区に営まれていたパルティア/ササン朝期頃と推定される土壙墓：墓 4 (219～227, 229)，およびイスラム墓？ (230, 231) から出土した。ここで墓 4 の概略と遺物出土状況について触れておきたい (Fig. 13)。墓 4 は主軸方向を略東西にとる土壙墓である。墓壙は楕円形を呈し，長軸方向 140 cm，最大幅 100 cm を測る。壙の掘り込みは比較的急になされ，壙底はほぼたいらである。被葬者は西頭位で，仰臥屈葬された成人（男性？）である。この人物は革製品を敷いたか，くるまれて埋葬されたらしく，左肩や胴および足付近に炭化した革製品の薄い断片があった。足首付近と，足の甲部分には交差する幅 1 cm ほどの革紐が認められ，被葬者が革製サンダルを履いていたことを示している。副葬品は土器，砂岩製砥石，および鉄製品 (219～229)，銅製品 (232) で，被葬者の右側の腰付近に集中していた。しかし剣 (223) のみは他の遺物からやや離れた位置から出土した。土器は金属製品から離れ，立てられていたようであるが，発見時には大腿骨上に倒れていた。高さ 32 cm 以上，胴部径約 23 cm を計る中型の把手付壺で，頸部から肩部には 3 箇所に配された平行線間に，それぞれ浅く広い波状の刻文を施す，内面の全面にはビチュメンと考えられる黒色物質が塗付してある。

鎌刃 (215, 216, 224)　明らかに鎌と判るものは墓 4 出土の No 224 のみである。II 層建物に伴って出土した No 215 と216は，僅かに内反が認められることから鎌刃と推定した。No 216 は全体が逆 S 字状の形態をなし，柄の部分は方形断面である。3 例とも刃の断面は二等辺三角形状で厚い。

ナイフ：刃子 (217, 225～228)　長さ 10 cm 前後の破片が多く，完形品は存在しない。刃部と茎部の区別

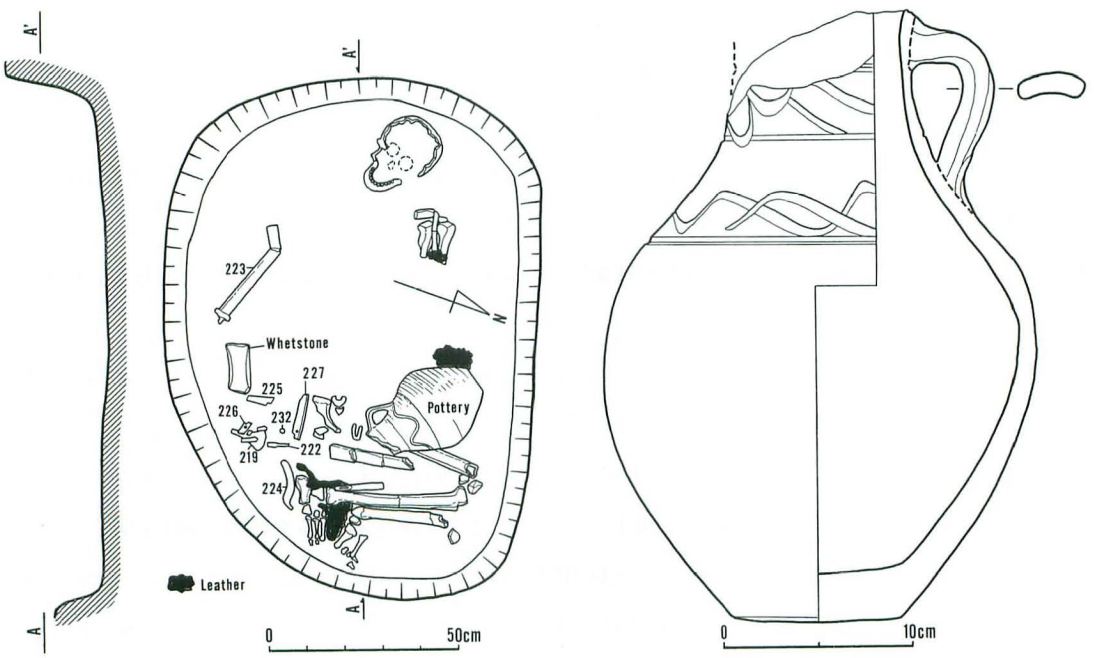


Fig. 13　Grave 4: plan, section and contents.

が明瞭でなく，関の認められるのは No 225 のみである。目釘は 3 例に認められ（217，226，227），二つ（217，227）と，一つ（226）がある。No 227 のそれは 2 個の銅釘である。身の断面は三角形で，比較的厚い。鞘のわかる例は No 225 のみで，鉄製の鞘尻金具を伴う木製鞘に収められていたらしい。茎部には木質の痕跡を残すもの（217，226）と，革と思われる痕跡が認められる例（227，228）があった。

飾り釘（218）　II 層建物中央室の床面付近から出土した〔小谷・井 1981：Fig. 10〕。大型の釘もしくは鋲である。半球形の頭と方形の座がある。錆のため身部はふくれている。断面は円形であったと思われる。

剣（223）　刃渡り 22 cm を計る剣で錆のため剣身がふくれ，正確な厚さが判らない。断面を著しく厚く図化したが，これは現状の断面状態である。剣身には布の圧痕（織密度は経11～12，緯 11～12/cm^2）と柾目の木質が，茎部にも木質の付着がある。茎部の残存状態は悪く目釘は残っていない。剣身に残る痕跡から，鞘は木製で内面に布が張られていたか，あるいは剣身を布に巻き鞘におさめていたことが判る。関付近には鍔状の鉄製金具が残っていた。

小結

JN 期に属する VII 層の建物は 2 度の大火災を蒙っているため，極めて多くの遺物を発見することができた。銅/青銅製品もその例にもれず，多くが遺存しており，初期銅/青銅製品（たぶん銅であろう）の貴重な実例を示すことができた。発見された製品は，工具を中心として，武具とその他の金具，もしくは装身具に大別できる。この中でも，工具には多くの種別があり，銅/青銅が広く活用されていたことが判る。ノミは種類も豊富であり，大，中，小型の製品を，その使用目的に即して使い分けしていたと推測できる。大型のノミは製品を直接手にもち，小口を直接たたいて使用したらしい。しかし小型や中型の製品には柄に類するものが伴ったと思われる。また 1 点ではあるが，側面がカーブするものがあり，曲面の加工（特に石製容器の内面調整など）に使用されたと思われる。このほか片刃の製品も存在しており，今日のノミの基本的な姿がすでに揃っていたといえる。同様なノミは ED I 期でも生産，使用されるが，JN 期のノミの断面形が方形であったのに対し，ED I 期では円形断面をもつものが出現する[25]。

銅/青銅は様々な用途に使用されたと考えられる。しかしながら小片のため使用目的のはっきりしない遺物が多かったのも事実である。この中で馬蹄形を呈する一連の製品は注目できるが，どのように使われたのか推測の域を出ない。これらはすべて小型で著しく薄く，装飾を施したものも存在することから，特殊な使用形態を考慮せねばならない。貝製品の中に U 字/馬蹄形に復元しうる薄手の製品の破片があるが（Fig. 20-64g），両者を関連づける証拠はいまのところない。“三日月形ペンダント”と称される製品とも考えられなくもないが，孔および吊り下げるための突起は存在しない。現時点では類似する例は存在せず，今後発見されるであろう類例が，その使用目的を特定してくれると期待している。

メソポタミアにおける漁撈活動は極めて営んであったとされ〔前川　1984：479〕，グッバでは漁師を描いたと考えられる彩文土器が ED I 期中葉の層から出土した（Fig. 14）。この土器には漁師のほか，舟，水鳥，魚なども描かれており，それはグッバ付近の環境をも暗示しているといえるものである。ED I 期前葉ころの層からは，この時期に典型的な外アグをもつ釣針が出土した。メソポタミアではウルク後期～ED I 期を通じ外アグ式の釣針が一般的で，内アグをもつ釣針の出現は ED III 期頃までまたねばならない[26]。グッバの製品を復元すれば，ほぼジャムダト・ナスル出土例〔Mackay 1931：Pl. 75-4〕や，ハブーバ・カビーラ例〔Strommenger 1980：Abb.40〕に近い大きさとなろう。

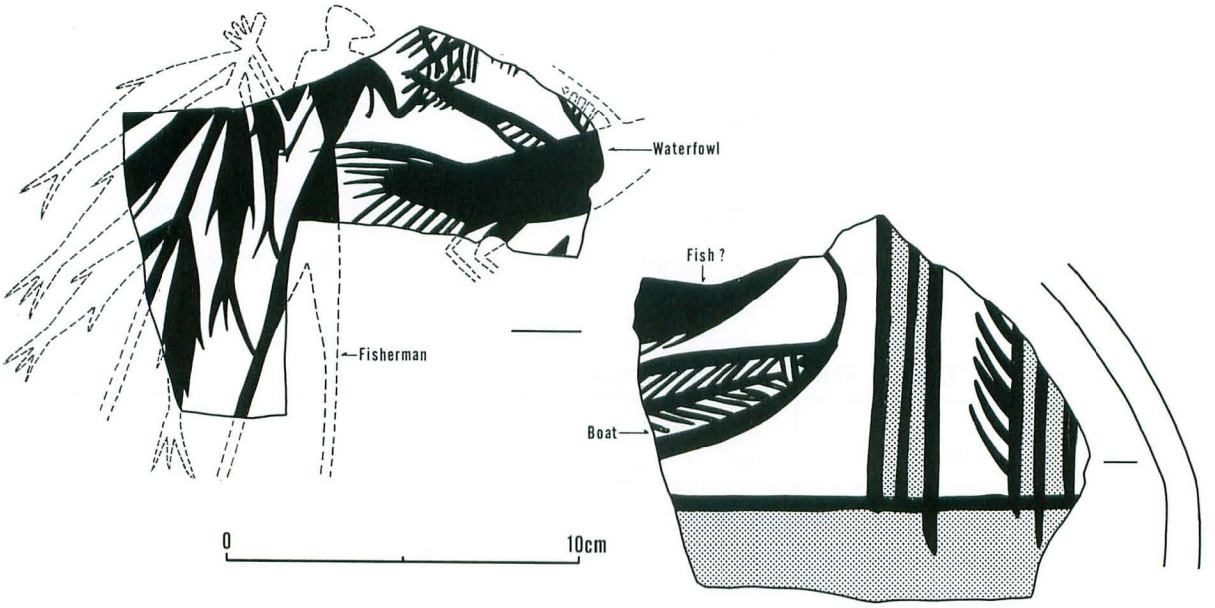


Fig. 14　Fisherman on painted pottery from Level V (GPP. 235).

特筆すべき事例として JN 期における "foundation deposit" の発見があった。時代が降ると，銘文や彫像，その他を伴って埋納されるようになるが，グッバのそれは明らかに初源的な様相を呈していた。我々は幸運にもその事例を検出することが出来たのではあるが，このほかにも建物の数箇所で，同じようなことが行われていた可能性は否定できない。特にこのようなモニュメンタルな建物にあっては，調査に際して留意する必要があるといえそうだ[27]。

出土傾向については最初に触れたが，JN 期に続く ED I 期層では著しく出土数が減少する。それには副葬品として墓へ埋納されたりするなどの，二次的な要因も加味せねばならないが，それにも増して，この地域におけるグッバの地位や，影響力が低下したことが主な原因とせねばならないだろう。

現在 JN～ED I 期の製品の科学分析は進行中であり，その結果がまたれる。すでに完了した No 175 の鉛同位体比法による分析では，鉛成分はウル遺跡出土遺物に極めて近い値を示すことが判明しており，ウルとの交易の可能性，もしくは同一産地由来が示唆されている〔Hirao 1981：216〕。

フィブラは層に伴う遺物ではないが，その形態は Stronach 分類の III1 タイプに類似しており，アケメネス朝期頃に比定しうる〔1959：194〕。三翼鏃もアケメネス朝期頃の特徴を良く示す遺物といえる〔Stronach 1978：Fig. 94〕。アケメネス期の建物に伴って出土した鎌刃は時期的にも近いヌーシ・イ・ジャン遺跡に類例が求められる〔Curtis 1984：Fig. 5〕。

墓 4 の被葬者は革製のサンダルを履く成人であったが，性別を特定するまでにはいたらなかった。しかしその副葬品は鈴状の製品を除き，ビーズ等の装飾品を伴わず，武具と工具によって占められていた。これは被葬者の生前の職業を暗示すると共に，男性の可能性を強く示唆しているように思う。S 字状の柄を伴う鎌は，若干先行するシアルク B 墓地から多数出土しており〔Chirshman 1939〕，この形態の鎌が長い伝統をもつことがわかる。副葬されていた剣と同様の鍔状金具をもつ例は，ほぼ同時代と考えられるノールズマハレ A–I，II 号墓より出土しており，詳しい考察がある〔江上・深井・増田 1966：55〕。

V　骨製品

グッバ出土の骨角器および加工痕のある骨製品（？）は59点に達する。これには前項「ビーズ・ペンダント」でふれた3点（10，59d，63cc）が含まれる。

製品の破片，および使用・加工痕のある骨製品（？）を含む層位毎の出土数は，VII層41点，VI層5点，V層2点，IV層5点，III層なし，II層6点であり（Table 8），VII層出土例が全体の半数以上を占めている。

Table 8　Classification and apperrance frequency of bone objects.

Type	Level						Total number
	VII	VI	V	IV	III	II	
Pin	2						2
Needle	1						1
Awl (Type 1)	7	1					8
Awl (Type 2)	7	1		4			12
Awl (Type 3)	3		1				4
Awl (Type 4)	3	1					4
Awl (Type 5)	4	2	1				7
comb/beater (?)	6						6
Polisher/spatula	1(?)			1			2
Spatula in form						5	5
Worked bone	4					1	5
Bead/pendant	3						3
Total number	41	5	2	5	0	6	59

出土状況

VII層　円形建物に伴う出土地点と製品を図中にプロットした（Fig. 15）。出土地点を概観すると，回廊C3とC4，および壁8の内側に連続してしつらえられたR8-1～8-5と，その前面の周濠中からの出土が多い。反面，回廊C5やC6では比較的出土が少ない。

以下，タイプ別（Table 8）に出土状況・地点をみる。

ピン・針は回廊4の東南入口付近より2点（233，235）と，回廊C6（234）から出土した。No. 233，235付近ではVIIa層に伴ってビーズや紡錘車なども出土している（Fig. 1，7参照）。

錐タイプ1は出土地点に統一性がなく，C3において1点（242），C4の入口前面に存在したピット中から1点（241），R4の埋土に混じって2点（239，243）が出土した。同一タイプの破片と推測されるものはC5より1点（237），R8-2（236）からも出土をみた，周濠の埋土中に混在した1点（240）も製品と考えた。

錐タイプ2は円形建物の中心部にはなく，VIIc層に伴う回廊C4にて2点（246，250）が出土し，他は周濠埋

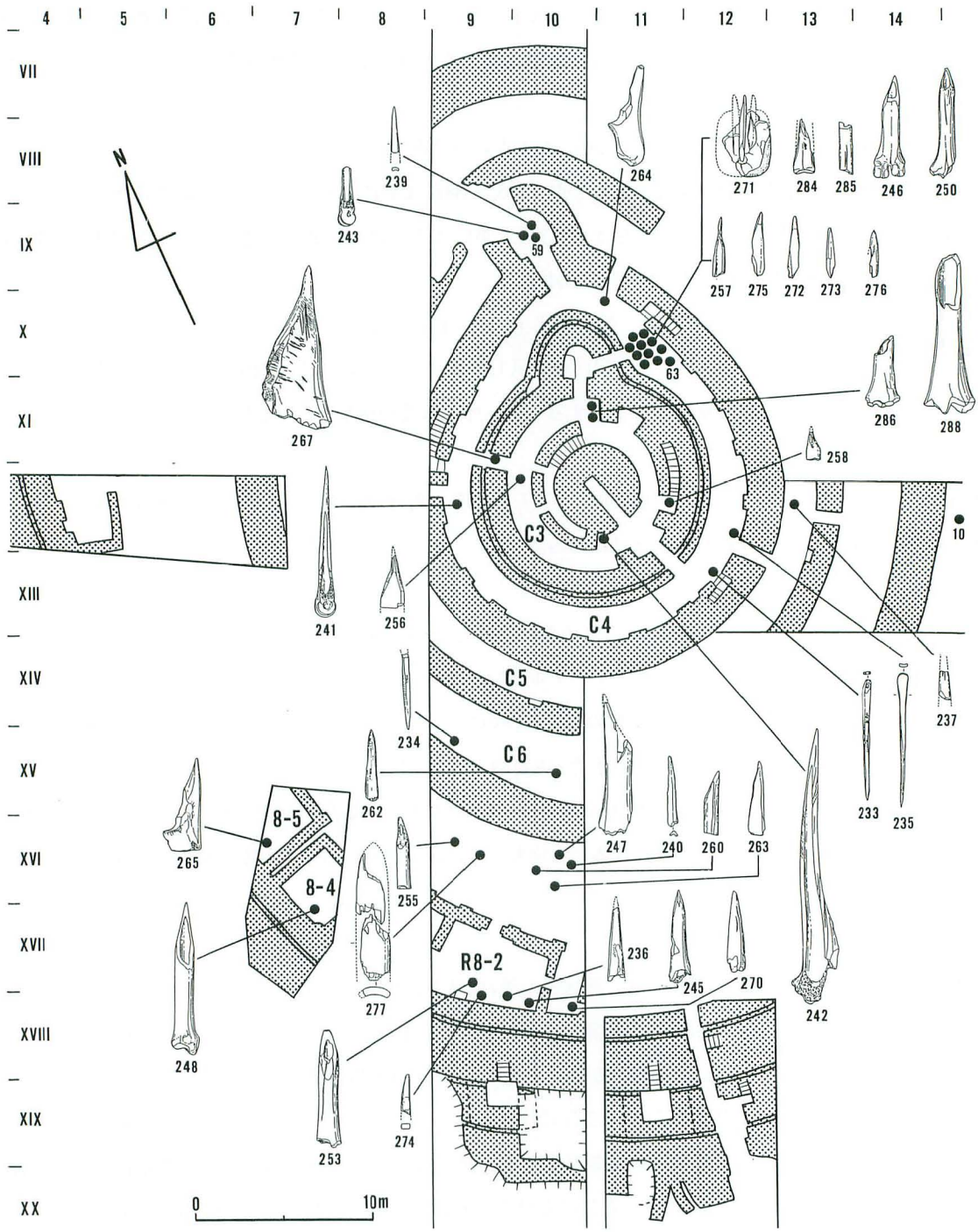


Fig. 15　Findspots of bone objects of Level VII.

土中より2点（247，255）と，R8-2から2点（245，253），R8-4より1点（248）を発見した。他のタイプに比べ出土地点が限定されているように思われる。

錐タイプ3は円形建物中心部：C3とC4に限って出土した（256～258）。

錐タイプ4は，オープンスペースである回廊C6（262）と周濠中（260，263）から出土した。

錐タイプ5は回廊C4に存在したピット中より1点（264），回廊C3に達する框上から大型製品（267）が出土した。このほかR8-5より1点（265），R8-1に伴う破片（270）もこのタイプと考えた。

櫛状具およびそれに伴う歯は，R3 前面の回廊 C4 に集中していた。ここには No 271 と酷似する形態の製品が，他にも 1 点以上存在していたとみなしうる。R8-2 でも同様の製品・道具（274）が使用されていたと推定して良いだろう。

篦状の製品（277）は周濠の埋土中から発見した 1 点のみである。

加工・使用痕のある骨製品は回廊 C3 より 2 点（286，288），C4 にて 2 点（284，285）が出土した。

VI 層　　錐 5 点が出土した。このうち 3 点（251，261，269）は，貯蔵穴と考えられる竪穴中から他の遺物（ビーズ，紡錘車，銅器片，印影土器など）に共伴した。

V層　　錐 2 点（259，266）が伴うが，特異な出土状況や傾向は示さない。

IV層　　5 点（244，249，252，254，278）を発見した。このうちの 3 点（249，252，278）はグリット XII-7 区に集中しており，ここに骨角器を必要とする生産・加工施設が存在した可能性は高い。

III 層　　出土をみなかった。

II 層　　6 点（279～283，287）が回廊中に存在した方形の貯水槽/ピット〔小谷・井 1981：Fig. 10 参照〕から出土した。不要品が廃棄されたものと思われる。

材質

すべて動物の骨が使用され，角と考えられる例は存在しない。種別では，ヒツジもしくはヤギ（264，268，269），シカ？（248，249），ウシもしくはオナゲル/ロバ/ウマ（267），トリ？（280）と考えられるものがあった。このほか種別の判然としない長管骨製の製品についても，多くはヒツジ/ヤギなどの中型動物の骨を使用したと考えられる。部位の明らかな骨は中手骨/中足骨（241，243，246），脛骨（242，248，249，286），尺骨（264～269）があり，これに肋骨と推測される例（281）が存在した。製品に加工された骨の大部分は長管骨であり，それには骨体のみを利用した例と，骨体と近位もしくは遠位（端）のいずれかを残して製品とした例があった。

形態分類

基本的にピン/針，錐（タイプ 1 ～ 5），櫛状具，篦/磨き具，篦状具，ビーズ/ペンダント，加工・使用痕のある骨に分類可能である（Table 8）。なお，錐の細分は骨の加工状況に加え，特に全体の形状を重視した。

ピン/針　　VII 層から 3 点（233～235）が出土した。No 233 は上端付近に両面穿孔になる径 2 mm の孔があり，針として使用されたと推定できる。No 235 には孔がなく，基部はたいら，端部は丸味をもって終わる。いずれも長管骨を裂き，これを丁寧に磨いて製品となす。長さは，完存しない No 234 が 56 mm と短く，他の完形の 3 点は 90 mm 以上を計る。中部から先端にかけての断面は丸く，平均厚は 5 mm ほどである。3 例とも先端付近は使用により滑らかになっており，僅かながら光沢を認める。中央から基部にかけては，製作時の擦痕が身に直交してついている。

錐　　長管骨利用の製品（タイプ 1 ～ 4）と，尺骨を利用した製品（タイプ 5）に大別できる。長管骨を使用した製品では縦方向に半截した例（タイプ 1）と，長管骨をそのまま利用した製品（タイプ 2）がある。後者には近位もしくは遠位端をそのまま残し，握りあるいは把状とした例と，骨体のみを使用した管状の製品がある。なおタイプ 3 と 4 も基本的には長管骨の破片を利用した製品であり，タイプ 1 のヴァリエーションとみることも可能である。以下タイプ別に説明する。

タイプ 1：8点（236～243）出土した。No 240 は VI 層出土，他はすべて VII 層に伴う。完形および完形に近

い製品は3点（238，241，242）で，他は破片となっている。中型動物の中手骨/中足骨を縦方向に半截して造形した例（241，243）と，右脛骨を利用した例（242）がある。これには近位端（241，243）を残して把状としたものがあるが，それ以外は破片となっているため，当初から近・遠位端が存在したか否かは判然としない。

製品の側面形は骨の中心線に沿っていることから，中心線に沿ってすり切るか，あるいはクサビ等を使用して裂いたのちに，整形（磨き）が行なわれと思われる。完成品を参照すると，ほとんどの製品が基部（近・遠位）に最大幅を有し，先端に向って次第に細くなり，先端は針状に鋭く尖る。特にNo 241は丁寧な加工の認められる精製品である。No 242は長さ20 cmに達する大型品であるが，形や製作工程はNo 241と同じである。破片となっているNo 236，237，239，243も同一形態とみなしうる。このタイプに共通することは極めて丁寧な磨きが行なわれた点で，いずれも使用による光沢をもつ。たとえばNo 241では，使用による光沢の範囲は先端から8 cmまで及んでいる。これは，タイプ1の錐が深く刺す作業に使用されたことを示唆しているといえる。

タイプ2：12点（244～255）が出土し，VII層とIV層に集中していた。径12～25 mmの長管骨を使用しており，近・遠位端を残す例（246，248，249，250）と，それらを取り除いたか，あるいは遺存しない例（244，245，247，251～255）がある。このほか後述のタイプ3に分類したNo 260は当タイプの可能性もある。現状での最長例は130 mm（249），最短例は55 mm（255）で，12点の平均値は83 mmであった。

先端はタイプ1に比べ総じて鈍い。先端の造形は，長管骨を石などに打ちつけて折ったのちに行なわれたらしい。このために，尖った先端の基部付近に不規則な割れ目（折れ目）を残した例（248，249，251，253，254）があった。最終調整は砂岩などを利用して荒く磨き，尖らせる。使用による光沢は三角形の先端部のみに限られ円形断面部には及んでいない。

タイプ3：長管骨の破片を使用して整形されており，先端の形状はタイプ1に近く，比較的鋭い。4点（256～259）をこのタイプとしたが，No 258はタイプ2の先端部分の破片とみることもできる。出土の層位はVII層から3点，V層に1点（259）が伴う。造形方法はタイプ1，2に類似し，特に先端のみを入念に加工する。使用による光沢は鋭い先端部のみに限られ，たいらな部分には及んでいない。タイプ3とした4点はいずれも短く(20～44 mm)，本来の形状を留めているとは考えられない。形態はタイプ1と2の中間形といえるもので，使用形態も中間的であったと推測される。

タイプ4：長管骨の破片を利用する。典型的な例はNo 262，263で，小型でやや鈍い先端を特徴とする。他の2点（261，266）はこのタイプとすることもできるし，タイプ2や3の破片とみることもできるが，便宜上ここに含めた。使用による光沢は先端から2 cmほどの範囲に認められる。

タイプ5：中型動物（ヒツジ・ヤギ？）の尺骨を利用し，先端のみを鋭く尖らせて製品となす。近位端をそのまま加工せずに残し，これを把として利用する。把部分は長さ約40 mm，幅約20 mm，厚さ約10 mmで，手のひらにすっぽりおさまる手頃な大きさである。把尻が破存したようにみえる2点（265，269）があるが，調整によるものか，あるいは近位端が分離・欠落したのか判然としない。先端の形状はタイプ1と2の中間形態を示す。しかし使用による光沢は顕著ではない。完形品のNo 268は長さ77 mm，最大幅は26 mmで，他の破存品もほぼ同程度の大きさを有していたとみなしうる。

No 267はウシ/ウマもしくはオナゲルなど大型動物の尺骨を利用した製品であり，長さ123 mm，幅は46 mmを計る。形態や使用状況はヒツジ/ヤギの尺骨利用製品と同じであったとみなしうる。整形はあまり丁寧とはいえず，基部は打ち欠きのみで，先端や中央部付近を荒く磨く。先端や中央付近には磨きに伴って現出した擦痕に

くわえ，タガネ状具により付けられたと思われるキズが観察される。先端は使用により滑らかになっているが，光沢はない。No 270 は錐の先端部分の破片と考えられる。中実であることや，形の特色から No 267 に類似する形態と判断した。

櫛状具および歯　土製の把に骨製の歯を埋め込み製品となす，この組合せが櫛状の形態をとる，これを一種の櫛と推測した。歯は長管骨の破片を利用し，先端のみに微調整を加え，丸みをもたせるが，錐ほど鋭く尖っていない。完形品は No 271 に遺存する 1 点と，272，275で，ほぼ統一された長さ（46～49 mm）をもち，幅と厚さもほぼ揃っている。また，先端が中軸線上になく，僅かに偏しているのも共通する特徴といえる。

No 271 には完存する 1 本と，先端部を欠く 1 本，および圧痕が残っており，本来，骨製の歯 3 本を並列していたことがわかる。把中への歯の埋込みは深く，外部に出ていた部分はおよそ 10 mm ほどであったと思われる。従って，使用による光沢も，先端から 10 mm ほどの部分に限られている。No 274 も櫛状具の歯と推定され，先端の形状などは共通する。しかし，側面の整形は，他の出土例に比べより丁寧であり，断面は長方形に整えられていた。No 276 は角もしくは歯状であり，若干趣の異となる製品であるが当該種とした。なお，No 271 の把は微砂粒を含む胎土で成形されており，高さ約 50 mm，幅約 40 mm，厚さ約 30 mm の楕円形に復元可能である。

篦もしくは磨き具　VII 層より 1 点（277），IV 層から 1 点（278）が出土した。No 277 は長管骨を半截し製品となす。側面が並行し，一端は尖っていたと思われるが，破片となっているため正確にはわからない。側面はなめらかになっており，断面は僅かにカーブする。No 278 は部位不明の薄く平らな骨を利用していた。表・裏面は平滑で，弧を描く部分は使用により滑らかとなっている。

篦状具　いずれも II 層ピット中より出土した。大型動物の骨（肋骨の可能性がある）を利用し表・裏を丁寧に磨いて製品となす。完形品は少ないが，平滑な板状の製品で一端が尖り，他端は丸みをもって終わっていたと推定される。完形に近い No 279 は現存長 101 mm，幅 21 mm である。幅は，破片で残る他の製品も含め 18～21 m であり，ほぼ揃っているといえる。厚さは 1.5～2.2 mm しかなく，側面は僅かに反っている。使用によると思われる光沢が表・裏と全小口部に認められる。No 281 は同種の製品（？），もしくは製作途上の破片で，表面には擦痕を認めるが，内面は調整を行なっていないようである。

使用・加工痕のある骨　No 284 は錐の破片と考えられる，近/遠位が残り，表面には使用によると思われるかすかな光沢がある。

No 285 は火を受け黒灰色を呈する。長管骨を半截しており，表面には人為的な二条の加工痕を残す。

No 286 は道具との確証はない。脛骨の遠位が残り，骨体はなめらかで使用されたように見えることから，何らかの道具の破片と判断した。

No 287 には人為的な調整痕がある。その本来の形は明らかではないが，おそらく錐状の製品であろう。

No 288 は関節部分を残している。骨体の中央付近が滑らかになってはいるが，道具として使用されたか否かは判然としない。

ビーズ・ペンダント　VII 層から 3 点が出土した。詳しくは前項「ビーズ・ペンダント」および巻末のリストを参照されたい。

小結

VII 層の円形建物に伴って41点の骨角器が出土した。銅石併用期の遺跡とはいえ，通例の出土傾向に比べ，異

状に多い出土数といえるかもしれない。これはグッバ VII 層の特色でもあり，骨製品が依然として多くの用途に利用されていたことがわかる。

Table 8 からも知られるように VII 層では，錐を中心として様々な形態を持つ骨製品が製作されていた。錐は細分が可能なほどのヴァリエーションがあり，使用目的に即した形態に加工されていたと考えて良い。ED I 期での骨製品の使用状況をみると，一点の例外（282）を除き，錐に限って利用される。特に IV 層ではタイプ2のみが残存し，他のタイプは製作されなかったようにみうけられる。このことは，骨製品に変る，新たな材質の道具の出現があったことを間接的に示しているのかもしれない。いずれにせよ ED I 期のグッバでは，骨製品の使用が極端に減少することは確かである。

ところで骨製錐の使用目的については，比較的柔らかい材質の製品に穴を開ける「穿孔/刺突具」との解釈が一般的である。この場合の対象物は織物，皮革，網物などであったと推測される。もちろん武器として使用可能な大きさと鋭さをもつ製品も存在したが，出土は数点にとどまる。錐の出土地点をみると，部屋内やオープンスペース，比較的広い回廊からであり，これらの回廊や部屋が，錐を必要とする軽作業の場として供されていたことがわかる。円形建物の中心部に限っていえば，出土地点が紡錘車の発見地点に重複している，といえなくもないが（Fig. 7参照），両者を結ぶ決定的な証拠はいまのところない。土製の把をもつ櫛状の製品についても，整髪具とするよりは，むしろ上記した軽作業の一担をになっていたと推測される。たとえば，織物や敷物を製作する際の“ビーター”としての使用である。

アケメネス朝期と考えられる II 層のピットからは，一端が尖り，他端が丸くなって終わる篦状の製品を発見した。同様の形態をもつ篦状品はニネヴェ〔Campbell-Thompson and Hamilton 1932：93〕，ヌーシ・イ・ジャン〔Curtis 1984：Fig. 13〕，パサルガタエ〔Stronach 1978：236〕，キシュ〔Moorey 1978：fiche 1-CO2〕などでも発見されており，前一千年紀以降の西アジア世界に通有の遺物である。その使用目的については判然としないが，織物生産にかかわる道具ではないかと推定されている〔Curtis 1984：45〕。

なお，巻末のリスト中で登録 No を有する遺物はすべてバグダッドのイラク博物館に，ナンバーのないものはハムリン盆地内バヒーザに所在する考古局の倉庫に収蔵・保管されている。

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2) ファイアンス製のビーズは残存状態が悪く，発見時には本来の形状を留めているが，取り上げに際してパウダー状になる例が多い。さらに，二次焼成を受けた貝製ビーズや，焼凍石にも著しく脆弱な例があり，数に加えることのできないものが多かった。

3) Fig. 2 中の VIIc 層平面図には礫のみを図化し，焼煉瓦状となった日干煉瓦はこの図から省略してある。

4) VIIb と VIIc 層では出土状況が異なる。可能性として 1：内部に貯蔵されていた製品を火事の際に取りだし，ここまで運んだ。2：屋根の崩壊と共に天井（2階）から落下した。3：清めの意味をもたせて，ここに奉献した。4：ここで焼け死んだ人がいるなどである。

5) 那訳すれば間隔調整用もしくは確保用ビーズとでもいえるが，本文中ではスペーサービーズをそのまま用いた。

6) 極めて特徴的な色調や硬度をもつ製品については，問題があるとは思われないが，例えば石灰岩と大理石，ステアタイト，クロライト，サーペンタインなどや，“Bitumenious limestone” とされる黒色の石，ディオライト，あるいはジェードなどは不明な点が多い。さらに施釉したか，もしくは焼いた凍石 “Glazed/burnt steatite”（本文では焼凍石で統一する），焼いたか焼けた石灰岩，フリットとファイアンスの区別など，例を挙げれば限りがない。多くが原産地に関係し，交易問題にも拘わってくるので，慎重な判断を下したいが，はっきり申し上げて管見の及ぶ範囲をこえた例が多く存在した。従って，ここに記した一部の材質については，変更の余地を十分に残している。参考までに本文および巻末の遺物リストにおける記載上の注意点を記すと，二つの材質を並記した例はどちらとも決定しかねるもの，材質の後に（?）を付記した例は多少の不確定要素をもつもの，石の色のみを記した例は材質不明を示す。

7) 緑色ビーズが35個連続したように見える部分もあったが，出土状況からは連続していたのか，あるいは別のラインがここに接していたのか明らかに出来なかった。側面や背面では，緑色ビーズが21個以上連続して配されていたようにも見える。

8) デイヤラ河流域の ED I 期の遺跡では，ビーズを連ねて腕輪とした例や，ガードルと考えられる使用があったことが判明している〔Delougaz and others 1967〕。また，シュメール地域の初期王朝 III 期の墓でも同様の使用形態が明らかとなっている〔Postgate ed. 1985〕。

9) 調査概報ではこの土器について，II 層と同時か，もしくは多少遡る可能性を示唆するに留め，正確な時期の言及をさけていた〔小谷・井 1981：41〕。極めて特徴的な“ボタン状底部”をもつ土器は，カッシート期に盛行し〔Starr 1937; Boehmer and Dammer 1985〕，新アッシリア期頃まで連綿と生産されるが，カッシート期の土器の底部は，グッバ出土例に比べ相対的にやや高く，むしろ脚に近い形状をもつ例が多い。一方，新アッシリア期のそれは著しく形骸化しており〔Oates 1959：137; Mallowan 1966〕，グッバ出土例のようにやや偏平な宝珠形に近い例は少ない。つまりグッバのこの土器は，底部の形状から判断すると，両方の特色を兼ね備えているといえそうなのである。かかる点から筆者は，墓 1 および土器の年代を，カッシート期の後半以降，もしくは新アッシリア期の前半頃に推定したい。即ち前一千年紀初頭頃である。

10) 発掘者はこの建物のはっきりした年代を示しておらず，出土遺物中にはラピスラズリ製の像があり，前三千年紀の特徴をもっているとし，その性格については墓であろうと想定した〔Campbell-Thompson and Hutchinson 1931：82〕。一方，出土のビーズを研究した Beck は，古い形態をもつビーズも存在するが，ウル の王墓より多少先行するものの，当時の編年で2900 B.C. を遡ることはないと考えた。さらに出土状況についても疑問視しており，多くの残屑の存在から，工房に伴ったものが小さな小川，または谷筋に沿って推積したのであろうと推定し，“Vaulted tomb” との関係を間接的に否定した〔Beck 1931：427，436～7〕。最近この巨大なヴォルト/アーチ構造に注目した Algaza は，ほぼ同時代と考えられる時期に大規模なアーチや，ドーム状構造物があるとし，その例としてグッバ，ウチ・テペ，アブカーシム，ガウラ VIII 層のアーチの家とされるものを示し，構築時期も前ニネヴェ 5 期（ウルク後期）まで遡ると示唆した〔1984〕。しかしながら，彼が例示したハムリンの建造物は全て追出穹窿構造で，ニネヴェのヴォルト/アーチ〔Campbell-Thompson and Hamilton 1932：Pl. 48-2，3〕とは根本的に異なっている，彼がこの事実を知らないはずはない。昨年，Roaf はこの建物の立地および日干煉瓦のサイズ等から見て，この建物が，アルガゼのいうように前ニネヴェ 5 期まで遡る可能性は少ないと指摘した〔in press〕。

11) テペ・ガウラでは，金製のビーズや他の装身具が，グッバ VII 層よりはるかに遡るとされる墓から多量に出土している〔Speiser 1935〕。またグッバとほぼ同時代と考えられるテル・ブラクの「目の神殿」では，祭壇のフリーズに金の延板が使用されていた〔Mallowan 1947〕。この時代，極めて重要な建物や，豊富な副葬品を伴う墓には金製品が共伴するのである。

12) ラピスラズリの交易を問題とした G. Herrmann のすぐれた研究がある〔1968〕。彼女によれば，メソポタミアへの最初のラピス・ラズリの輸入はガウラ XIII 層期に遡るという。しかしながらメソポタミア底地での初現はやや遅れ，ジャムダト・ナスル期頃までまたねばならない。この間に交易路の変更や，何らかの政治的，社会的な動きがあったと考え

られている。なお，メソポタミア低地の遺跡でも，ラピスラズリを伴う遺跡（ウルク，ウル，ファラ）と，発見（出土）されない遺跡（ジャムダト・ナスル）が存在しており，グッバも後者に属する。

13) 琥珀であるとすれば極て重大な問題となるが，積極的に肯定する根拠をもち合わせていない。前二千年紀の中頃になると，琥珀が錫と共にシリアやメソポタミア（？）までもたらされたらしい〔クレンゲル著，江上・五味訳 1982：192，228〕。しかしながらそれより1000年以上も昔から，交易があったかどうかは判らない。多くの人・地域を経て間接的に搬入されたとすれば，可能性はないとはいえない。

14) ハイデルベルク大学 D. Surenhagen の教示による。

15) 貝製品のすべてがペルシア/アラビア湾・インド洋産であるか否かは判らない。遺物はバグダットに保管されているので，専門家による鑑定を希望してやまない。ちなみにニネヴェ出土の貝製品では，インド洋・ペルシア湾より：マクラガイ，ヤカドツノガイ，ツノガイ，ソデガイ，イモガイ，ミダレシマヤタテガイ，ニシキアマオブネガイ，ノシガイ，ウミニナなど9種。地中海より：アフリカタモトガイ，ゾウハゲタカラガイ，タカラガイ，シロハラヨフバイ，チレニアイモガイ，トヤマガイ，ブドウタマキガイなど8種，これに淡水産の貝の存在が判明している〔Beck 1931〕。

16) キシュ遺跡の "Y" 地区の深堀では，洪水層の下層から ED 期に伴うと考えられる多くの墓が検出された。このうち貝製の大型管玉は墓370，430，463，478，527，686，687に伴う。これらは地表下 4.5 m から 6 m 付近に営まれており，おもに 6 m 付近に検出された ED I 期頃の墓に比較的集中していた〔Moorey 1978：fiche〕。このほかウチ・テペの小児墓でも，被葬者の腰付近から一点の貝製管玉が出土した〔Gibson ed. 1981：Pl. 50〕。

17) 表は以下の出典による。Beck 1931; Mackay 1931; Watelin 1934; Heinrich 1936; Delougaz and Lloyd 1942; Mallowan 1947; Tobler 1950; Frankfort 1955; Woolly 1955; Delougaz et al. 1967; Le Burn 1971; 深井・堀内・松谷 1974; Moorey 1978; Forest 1979; Carter 1980; Behm-Blanche 1981; Gibson ed 1981; Braidwood ed 1983; Howe 1983; Postgate 1983; 井・川又 1984/85; Willson 1986; Kamada and Ohtsu 1988; Martin 1988; 沼本 1988.

18) Willson 1986 によれば，Long tubular shell bead の模倣品がガウラにあるとされているが，ガウラのそれは〔Speiser 1935：Pl. 83-29〕螺旋状というよりは，むしろ twisted に近い形態を示す。Postgate はアブサラビーク西丘の調査において出土したテラコッタ製品に注目し，他遺跡出土例を列記し，注意を喚起した〔1983：91〕。

19) 側面に小孔を穿つビーズは，出土例も少なく不明な点が多い，類例の増加がまたれる。また，直角孔形ペンダント/ビーズは，基本的には貝製管玉の模倣を出発点とした，と解することも可能である。特にソンゴル A 出土例〔Kamada and Ohtsu 1988：Fig. 19-17〕は，その可能性を強く示唆しているように思われる。つまり長さ 10 cm にもおよぶ孔を穿つ苦労から開放され，かつ側面に一つの孔を穿ったように見せる方法が，直角孔という解決策を見出した，といえるのではないだろうか。しかしながら現時点では，直角孔形ペンダント/ビーズの出土は，カリムシャヒル例〔Howe 1983：Fig. 11-13〕を除き，ハムリン内の遺跡のみに限定されており不明な点が多い，今後の類例の増加を待ちたい。

20) ユーフラテス河中流に存在するアナ島の遺跡から，5点のガラス製腕輪が報告されている。多くは層に伴わず出土したが，コイル状の外観をもつ1点は中イスラム期の層から出土したとあり，同様の輪は8～14世紀頃まで中近東の遺跡から出土すると述べられている〔Northedge et al. 1988：125〕。また，ジョルダンのジェラシ遺跡出土のガラス器を研究した Meyer は，螺旋状のガラス製腕輪が，すでにローマ時代に存在し，長期間盛行するが，出土層位のはっきりした例が少ないと述べる〔1988：216-7〕。

21) 孔はおよそ 2 mm ほどの深さをもつ。おそらくこの孔には，色の異なる別の材質が像嵌されていたのであろう。

22) 偶然にもジャムダト・ナスル遺跡からも径 46～48 mm を計る製品3点と，その2倍の径：94 mm をもつ大型の石製紡錘車が報告されている〔Mackay 1931：267〕，それはあまりにもできすぎた数値の類似である。より拡大解釈を行うと，グッバの No 145 が示す径 72 mm は 47～48 mm のおよそ1.5倍であり，これらの数値を統一された規格と見ることもできる。ファラでも 42～50 mm を計るテラコッタや石製品が多量に出土しているが，法量や重量に関する正確な記述がないのはおしまれる〔Martin 1988：196-7〕。しかし資料が乏しい現状では早急な判断は下せない。今後出現するであろう多くの例証がそれを決定してくれると思う。統一規格が存在しないとしても，いわゆる"手頃な大きさ"はあったと思われる。それが前記した数値ではないだろうか。なお紡錘車の観察には，重量をも加えた細かいデータの提示が必須であると痛感する。

23) 円形建物の完全な解体を行えば，類例はさらに増えたと考えられる。

24) ウチテペ出土例〔Gibson ed. 1981：Pl. 50-12〕や，ウル出土例〔Woolley 1934：Pl. 227〕に類似し，槍先と解釈されている。

25) グッバでは円形断面をもつノミが JN 期に存在しなかっただけであり，他の製品（No 181，191）では円形を採用している。

26) 報告例が少なく不明な点が多い。現時点で最古に近いと推定される内アグ式の釣針は，テロー〔Parrot 1948：Pl.21〕，キシュ A 丘〔Mackay 1929：Pl. 39-4〕，ニップール〔Gibson 1975：Fig. 96-21〕，アスマル〔Frankfort and others 1940： Fig. 106-9〕などから出土しており，大略2600 B.C. 頃を境として外アグから内アグ式への変換がおこったらしい。なおデイヤラ河流域の調査ではハファジェの House 8期以降，数点の出土が知られているが，その詳細は不明であ

る〔Delougaz et al. 1967〕。メソポタミアの漁師および漁具については別の機会に論じる予定である。

27) やや時期は降るが，JN～ED I 期の過渡期頃に営まれたテル・アブカーシムの，外周壁の内面コーナーには，壁中に小さな方形のスペースが確保されており，発掘者はそれを foundation deposit を納めるための施設と解釈していた。

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Catalogue of Finds from Tell Gubba

Beads, Pendants and Shell Rings

Descriptions are as follows : Registration number of Gubba. Iraq Museum number(IM.) Level : findspot. Material, color, shape or type of bead/pendant, height/length : h/l, maximum diameter : maxϕ (in millimeter). Description and remarks.

1. G314. VII : IX-10 room 4. Shell, *Fasciolaria trapezium*(?), gray, long tubular, h/l : 81, maxϕ : 13, blackened by fire.
2. G313. VIIa～b : XIV-9 corridor 5. Faience(?), white core and gray surface, long tubular, h/l : 80, maxϕ : 13, blackened by fire.
3. G311. VIIb : XII-10 corridor 2. White stone (burnt limestone?), tubular, h/l : 38, maxϕ : 12. inserted a *Dentalium octagulatum* into a perforation, side-hole near to the end.
4. G316. Unstratified. Pendant, marble, gray, cylindrical, h/l : 31, maxϕ : 8.5. right angle perforation from top to side.
5. G315. VIIb : XIII-10 corridor 3. Pendant, marble/limestone, white, cylindrical, h/l : 32, maxϕ : 9, shape and perforation as in No. 4.
6. G309. VI : VII-9 small room. Pendant, rock crystal, transparent, pear-shaped, h/l : 20, max. width : 13, roughly cut.
7. G305. IM.89938. V : X-12 corridor 2. Unfinished bead or pendant, creamy-white stone (marble/limestone?), faceted cylindrical, h/l : 33, maxϕ : 9.
8. G317. VIIc : XII-9 corridor 4. Pendant, marble, black with white-gray strip, cylindrical with rounded end, h/l : 46, maxϕ : 9.
9. G312. V/VI : X-9 on the round wall 5. Limestone, creamy-gray, tubular with rounded end, h/l : 72, maxϕ : 14, perforation near to the both ends.
10. G205. VII : XII, XIII-15. Animal bone bead, tubular, h/l : 44, maxϕ : 9.
11. G306. V : XII-12. Rock crystal, transparent, tubuler, h/l : 42, maxϕ : 14. Together with No. 15.
12. G307. IM. 89939. VIIa : XIII-11. Alabaster, yellowish-white, tubuler, h/l : 38, maxϕ : 10.
13. G304. IM.89937. IV : XVI-9. Moss agate or Mocha agate, semitransparent light gray, tubuler, h/l : 38, maxϕ : 10.
14. G355. VII : IX-10 room 4. Whitish-green stone(Jade?), flattened biconical, h/l : 13, max. width : 12.
15. G308. V : XII-12. Rock crystal, transparent, cylindrical, h/l : 18, maxϕ : 9.5.
16. G356. VIIa : XIII-11. Hematite(?), dark brown, elongated biconical, h/l : 20, maxϕ : 8.
17. G323. VIIa : XII-12 corridor 4. Spacer bead with encircled dots, four perforations, faience/frit, grayish-white, rectangular, L : 22, Wd : 8, Th : 5.
18. G324. VII : XV-7 room 8-5. Spacer bead, terracotta, dark gray, six perforations, elongated ovoid, h/l : 30, max. width : 8.
19. G318. IM.89940. IVa : XIV-11. Animal-shaped amulet, bluish-black stone (slate/shale?), max. width : 32.
20. G325. VIIa : XII-12 corridor 4. Unfinished pendant/bead or amulet(?), calcite or gypsum, transparent, ext. width : 27.
21. G354. IV : XII, XIII-9,10. Unfinished bead(?), calcite, transparent, biconical, h/l : 20, maxϕ : 20. unperforated.
22. G361. VIIc : XII-11 corridor 4 pit 4. Serpentain, greenish, barrel-shaped, h/l : 8.5, maxϕ : 7.5.
23. G374. Unstratified. Carnelian, discoid, h/l : 4, maxϕ : 7.
24. G366. IVa : XIV-12. Carnelian, disc, h/l : 3, maxϕ : 6.
25. G367. IVb : IX, X-9, 10. Carnelian, discoid, h/l : 4, maxϕ : 7.5
26. G370. VII : XII-11 room 1. Limestone, reddish, disc, h/l : 2.5, maxϕ : 7.
27. G375. IVb : XIV-12. Agate, reddish, disc, h/l : 4, maxϕ : 11.
28. G373. IVb : XII, XIII-9,10 room 6. Limestone(?), creamy-yellow, disc, h/l : 2, maxϕ : 8.
29. G378. VII : XVII-10 room 8–2. Limestone, white, disc, h/l : 5, maxϕ : 11.
30. G363. VIIb : XIV-9 corridor 5. Faience, white, spherical, h/l : 2, maxϕ : 2.5.
31. G362. VII : XV-9 corridor 6 pit. Steatite, whitish-gray, discoid, h/l : 2, maxϕ : 3.
32. G364. VIIa? : XII-10 corridor 2～3. Glazed/burnt steatite, whitish-gray, spherical(?), h/l : 2, maxϕ : 3.
33. G377. IVb : XVI-9. Marble, gray, disc, h/l : 5, maxϕ : 10.
34. G379. VII : X-9 corridor 5. Steatite, gray, discoid, h/l : 5, maxϕ : 11.
35. G368. VI : XV-10. Marble, gray, disc, h/l : 3, maxϕ : 9.
36. G386. V : VIII-12 corridor 1. Hematite, dark brown, discoid, h/l : 10, maxϕ : 13.
37. G369. VIIb : XII-11 corridor 2. Hematite, dark brown, discoid, h/l : 1～3, maxϕ : 9.
38. G376. Unstratified (Probably Level VII). Granite, black and white, discoid, h/l : 7, maxϕ : 11, roughly made.
39. G357. V : XVI-9. Serpentine(?), dark green, cylindrical, h/l : 5, maxϕ : 4.
40. G382. VIIa : XII-12 corridor 4. Gray stone, discoid, h/l : 7, maxϕ : 11.

41. G365. VII : XI-10 corridor 2. Gray with reddish-striped stone, disc, h/l : 2, maxϕ : 7.
42. G383. Unstratified. Marble, dark gray with white-stripe, disc, h/l : 7, maxϕ : 15.
43. G371. V : XVII-12. Terracotta, gray, cylindrical, h/l : 5, maxϕ : 5.5.
44. G372. V : XVI-12. Terracotta, gray, discoid, h/l : 7, maxϕ : 9.
45. G381. VII : XIII-13 corridor 5. Terracotta, dark gray, cylindrical, h/l : 7, maxϕ : 7.
46. G358. VIIa? : XI-10 corridor 3. Terracotta, creamy-gray, barrel-shaped, h/l : 8, maxϕ : 7.
47. G380. VII : IX-11 corridor 5. Terracotta, gray, discoid, h/l : 7, maxϕ : 10.
48. G385. Surfase : XXIII, XXIV-10. Terracotta, gray, discoid, h/l : 10, maxϕ : 13.
49. G384. VI : XV-10. Terracotta, gray, cylindrical, h/l : 11, maxϕ : 9.
50. G360. Unstratified. Terracotta, dark gray, biconical, h/l : 11, maxϕ : 9.
51. G359. VII : XI-10 corridor 3. Terracotta, creamy-gray, biconical (faceted), h/l : 11, maxϕ : 10.
52. G387. V : XII-11 room 14. Terracotta, dark gray, discoid, h/l : 12, maxϕ : 18.
53. G336. VII : IX-10 room 4. (total 16)
    a. Gypsum, white, discoid, h/l : 7, maxϕ : 8.
    b. Segmented bead, faience, white, h/l : 8, maxϕ : 3.
54. VIIb～c : XII-10 corridor 2. (total 9)
    a. Copper/bronze(probably copper), tubuler, h/l : 10, maxϕ : 4, hammer-made.
    b. Faience, white, cylindrical, h/l : 5, maxϕ : 3.
55. G350. VIIb～c : XII-10 corridor 2. (total 9)
    a. Copper/bronze, tubuler, h/l : 9, maxϕ : 4, hammer-made.
    b. Segmented bead, faience, white, h/l : 4.5, maxϕ : 2.5.
    c. Glazed/burnt steatite, white, discoid, h/l : 2.5, maxϕ : 4.
56. G156. VIIc : XI-9 corridor 4. Copper/bronze, tubuler, h/l : 17, maxϕ : 5, hammer-made.
57. G333. V : XVII-9. (total 78)
    a. Marble/onix?, yellowish, biconvex/flattened double conoid, h/l : 23, max.width : 28.
    b. Unknown dark brown stone, biconical, h/l : 25, maxϕ : 15.
    c. *Dentalium octagulatum*, tubuler, white, h/l : 31, maxϕ : 6.
    d. *Dentalium octagulatum*, tubular, h/l : 14, maxϕ : 4.
    e. Sea shell, pearl-white, disc, h/l : 3, maxϕ : 6.
    f. Hematite, silver-brown, cylindrical, h/l : 13, maxϕ : 8.
    g. Unknown greenish stone, discoid, h/l : 5, maxϕ : 7.
    h. Steatite, gray, disc, h/l : 2.5, maxϕ : 9.
    i. Marble, gray and white, disc, h/l : 3, maxϕ : 8.
    j. Marble, gray and whitish-gray, disc, h/l : 4, maxϕ : 8.5.
    k. Marble, blackish-gray, disc, h/l : 4, maxϕ : 10.
    l. Marble, grayish, discoid, h/l : 3～5, maxϕ : 10, roughly made.
    m. Marble, grayish, discoid, h/l : 4～6.5, maxϕ : 10, roughly made.
    n. Marble, blackish-gray, faceted discoid, h/l : 5～4, maxϕ : 10, roughly made.
    o. Grnite, black and white, faceted discoid, h/l : 6, maxϕ : 12, roughly made.
    p. Grnite, black and white, faceted discoid, h/l : 8, maxϕ : 13, roughly made.
58. G327. VIIc : X-11 corridor 4. (total 103)
    a. Jade-like stone, greenish, flattened biconical, h/l : 23, max.width : 23.
    b. Rock crystal, transparent, disc, h/l : 3, maxϕ : 7.
    c. Limestone, creamy-white, discoid, h/l : 4, maxϕ : 7.
    d. Agate, reddish, disc, h/l : 3.5, maxϕ : 8.
    e. Marble, dark gray, disc, h/l : 2.5, maxϕ : 8.
    f. Marble, dark gray, disc, h/l : 3, maxϕ : 8.
    g. Amber(?) or retinite(?), yellwish-brown, disc, h/l : 5, maxϕ : 10.
    h. Hematite, silver-brown, discoid, h/l : 4, maxϕ : v7.5.
    i. Grazed/burnt steatite, white, biconical, h/l : 7, maxϕ : v4.
    j. Terracotta, blackish-gray, biconical, h/l : 9, maxϕ : 9.
    k. Terracotta, creamy-gray, discoid, h/l : 7, maxϕ : 9.
    l. Hematite, silver-brown, barrel-shaped, h/l : 9, maxϕ : 10.
    m. Sea shell, bivalve (Anadora/Cardiidae?), max.width : 26.
    n. Pendant(?), limestone/marble, whitish-gray, h : 12, maxϕ : 18, two horizontal perforations.
59. G328. IM.89941. VII : IX-10 room 4. (total 94)

a. Sea shell, *Fasciolaria Trapezium*(?), dark gray in surface, long tubular, h/l : 99, maxϕ : 13, blackened by fire, inserted a dentalium into perforation.
b. Steatite(?), creamy, tubular, h/l : 28, maxϕ : 12.
c. Steatite, grayish, cylindrical, h/l : 7, maxϕ : 5.
d. Pendant(?), animal bone, dark-gray, ext.h/l : 6, maxϕ : 4.5, blackened by fire, similer shape and perforation as in Nos. 4 and 5.
e. Glazed/burnt steatite, whitish, diamond-shaped, h/l : 11.5, thickness : 3.5, two perforations (perforated diagonally).
f. Pendant, marble, creamy-white, h/l : 25.5, maxϕ : 8.
g. Blackish stone, discoid, h/l : 6, maxϕ : 14.
h. Unknown gray stone, barrel-shaped, h/l : 9.5, maxϕ : 10.
i. Limestone, creamy-white, discoid, h/l : 5, maxϕ : 9.
j. Blackish stone, discoid, h/l : 10, maxϕ : 15.

60. G331. IM.89942. VIIb(?) : XII-11 corridor 3. (total 625)
a. Obsidian(?), semitransparent light green, disc, h/l : 1, maxϕ : 3, smallest bead of green obsidian.
b. Obsidian(?), brownish-green, disc, h/l : 1, maxϕ : 3.5.
c. Obsidian(?), light green, disc, h/l : 2, maxϕ : 5.
d. Obsidian(?), light green, disc, h/l : 1.5, maxϕ : 5.
e. Obsidian(?), light green, disc, h/l : 2, maxϕ : 5, biggest bead of green obsidian.
f. Faience, white, spherical, h/l : v2, maxϕ : 2.5.
g. Faience, light blue surface and white core, spherical/discoid, h/l : 2, maxϕ : 3.
h. Faience, white, cylindrical, h/l : 4, maxϕ : 3.5.
i. Faience, light blue surface and white core, cylindrical/barrel-shaped, h/l : 4.5, maxϕ : 3.5.
j. Glazed/burnt steatite, white, discoid, h/l : 2.5, maxϕ : 3.
k. Glazed/burnt steatite, white, cylindrical, h/l : 5, maxϕ : 3.5.
l. Glazed/burnt steatite, white, biconical, h/l : 7, maxϕ : 3.5.
m. Glazed/burnt steatite, white, biconical, h/l : 7, maxϕ : 4.
n. Glazed/burnt steatite, white, diamond-shaped, max.h/l : 12.5, thickness : 4, perforated diagonally.
o. Spacer bead, limestone, white, h/l : 15, width : 6, six drillngs on obvers and revers, three perforations.
p. Spacer bead, glazed/burnt steatite(?), white, h/l : 17, width : 7, ten encircled dots on obvers and revers, and one on upper-end, four perforations.
q. Spacer bead, glazed/burnt steatite(?), white, h/l : 17, width : 7.5, nine encircled dots on obvers, eight encircled dots on revers and one on upper-end, four perforations.
r. Shell ring, gastropod, pearl-white, maxϕ : 24, height : 5.
s. Beads/pendant, sea shell (Cowrie shell), h/l : 25, ext.width : 11, broken.
t. *Dentalium octangulatum D*, h/l : 15, maxϕ : 4, (not in figure see Pl. 39–b)

61. G329. VIIc : X-11 corridor 4. (total 21)
a. Granite, black and white, cylindrical, h/l : 11.5, maxϕ : 6.
b. Granite, black and white, disc, h/l : 3, maxϕ : 7.
c. Carnelian, red, disc, h/l : 3, maxϕ : 8.
d. Rock crystal, transparent, disc, h/l : 3, maxϕ : 8.

62. G330. VII : XVII-9, 10 room 8-2. (total 5)
a. Pendant, marble, white with light gray strips, cylindrical, h/l : 33, maxϕ : 8, shape and perforation as in Nos.3, 4 and 59d, broken.
b. Bead or spindle whorl, marble/limestone, white, maxϕ : 19, height : 4.
c. Shell bead, *Engina mendicaria*/*Engina zonalis*, banded stripes of white and dark red colors, h/l : 10, width : 6.5.
d. Shell, gastropod/bivalve, creamy-white, biconvex, h/l : 7, width : 6.
e. Carnelian, red, flanged discoid, h/l : 3.5, maxϕ : 7.5.

63. G332. VIIb～a : X-11 corridor 4. (total 1289+24)
a. Copper/bronze, tubular, h/l : 20, maxϕ : 5, hammer-made.
b. Copper/bronze, tubular, h/l : 20, maxϕ : 4.5, with steatite bead of 4 mm long and 3 mm in diameter, hammer-made.
c. Copper/bronze, tubular, h/l : 18, maxϕ : 5; h/l : 14, maxϕ : 3, hammer-made, a dentalium inserted into bigger one.
d. Limestone, white, disc, h/l : 1, maxϕ:4.
e. Limestone, white, disc, h/l : 1.5, maxϕ : 3.
f. Reddish stone, discoid, h/l : 2.5, maxϕ : 7.

g. Blackish stone, discoid, h/l : 2, maxϕ : 3.5.
h. Faience, blackish surface and white core, discoid, h/l : 3, maxϕ : 4.
i. Faience, white, discoid, h/l : 2～2.5, maxϕ : 3.
j. Steatite, gray, spherical(?), h/l : 1.5, maxϕ : 2.5, smallest steatite bead.
k. Steatite, discoid, h/l : 2, maxϕ : 3.5.
l. Steatite, cylindrical, h/l : 3, maxϕ : 3.
m. Steatite, barrel-shaped with triangural section, h/l : 3.5, maxϕ : 2.5.
n. Steatite, cylindrical, h/l : 6, maxϕ : 3.
o. Steatite, discoid, h/l : 4, maxϕ : 6.
p. Steatite, flanged-discoid, h/l : 2, maxϕ : 5.
q. Terracotta, barrel-shaped, h/l : 5, maxϕ : 6.
r. Steatite, disc, h/l : 2.5, maxϕ : 7.5.
s. Rock crystal, transparent, flanged-discoid, h/l : 3.5, maxϕ : 8.
t. Rock crystal, transparent, flanged-discoid(?), h/l : 3, maxϕ : 10.
u. Pendant/bead, limestone, grayish-white, triangular, h/l : 8, max. width : 5, three drillings on two faces.
v. Grazed/burnt steatite, white, diamond-shaped, max.h/l : 14.5, thickness : 3.5, two perforations (perforated diagonally).
w. Spacer bead, limestone, grayish, h/l : 17, max. width : 6.5, six drillings on obvers and revers, three perforations.
x. Steatite(?), grayish, tubular/elongated biconical(?), h/l : 30, maxϕ : 12, spiral-grooving, imitation of long tubular shell bead, broken.
y. Shell, *Fasciolaria Trapezium*, dark gray, tubular, h/l : 27, max : 8, blackened by fire.
z. Pendant/bead, sea shell, Anadara(?), ext. width : 17.
aa. Pendant/bead, sea shell, gastropod, dark gray, h/l : 12, maxϕ : 9, blackened by fire.
bb. Pendant/bead, sea shell, gastropod, dark gray, h/l : 15, maxϕ : 12, blackened by fire.
cc. Bead(?), animal bone(?), gray, h/l : 44, max. width : 8, slightly curving in section, perforation near to the both ends, blackened by fire.
dd. Pendant, sea shell, gastropod, ext. height : 31, blackened by fire.
ee. Shell ring or bead, gastropod(Conus shell?), gray, maxϕ : 23, height : 10, blackened by fire.
ff. Shell ring, gastropod, gray, maxϕ : 28, height : 9, blackened by fire.
gg. Shell ring (fragment), gastropod, dark gray, maxϕ : 30, height : 5, blackened by fire.
hh. Shell ring, gastropod, dark gray, maxϕ : 25, height : 6～9, blackened by fire.
ii. Shell ring (fargment), gastropod, dark gray, maxϕ : 27(?), height : 10, blackened by fire.
jj. Shell ring (fargment), gastropod, dark gray, maxϕ : 28, height : 7, blackened by fire.
kk. Shell ring, gastropod, gray, maxϕ : 25, height : 8, blackened by fire.
ll. Shell bead/button(?), gastropod/bivalve, dark gray, disc-shaped, maxϕ : 26, height : 4.5, blackened by fire.
mm. Shell bead/button(?) (fragment), gastropod/bivalve, gray, disc-shaped, maxϕ : 22?, haight : 3.5, blackened by fire.
nn. Shell bead/button(?) (fragment), gastropod/bivalve, dark gray, disc-shaped, maxϕ : ?, height : ?, blackened by fire.
oo. Shell bead/button(?) (fragment), gastropod/bivalve, dark gray, disc-shaped, maxϕ : 15, height : 3, blackened by fire.
pp Pendant, sea shell, gastropod/bivalve, gray, h/l : 13, width : 6, blackened by fire, broken in antiquity.
qq. *Dentalium octangulatum*, gray, tubular, h/l : 13, maxϕ : 4, blackened by fire.
rr. Dentalium, dark gray, cylindrical, h/l : 4.5, maxϕ : 2.5, blackened by fire.
ss. Dentalium, gray, cylindrical, h/l : 4, maxϕ : 3, blackened by fire.

64.
a. VIIc : X-11 corridor 4. Bell-shaped pendant, sea shell, gastropod, gray, h/l : 30, maxϕ : 27, blackened by fire.
b. VII : round building. Bell-shaped pendant, sea shell, gastropod, pearl-cream, h/l : 34, maxϕ : 23.
c. VII : XI-11 staircase. Bell-shaped pendant, sea shell, gastropod, unknown color, h/l : 21. maxϕ : 15.
d. VIb : XV-9 in the pit. Bell-shaped pendant (fragment), sea shell, gastropod, creamy-white, h/l : 26, max. width : 18, incised line surrounded near to the upper end.
e. G348. VIIb : XI-11 corridor 2. Pendant or bead, sea shell, gastropod, pearl color, h/l : 34. maxϕ : 26.
f. G347. VIIb : XIV-9 corridor 5. Pendant(?), Anadora(?), creamy-white, max. width : 42.
g. VII : XV-10 pit 16. Fragment of inlay or "crescent-shaped pendant"(?), fresh-water shell(?), white, h/l : 18, width : 9～10.

65. G310. VI : XV-10. Bead(?), Sea shell (bivalve?), creamy, perforation near to the both ends, length : 34, similar shape

to No.9 and 63cc.

66. G320. VIIb : IX-10 room 4. Shell open-ring (ear ring?), creamy-white, maxϕ : 22, height : 4, grooved lines near the both ends.
67. G322. VIIa : XI-10 corridor 2～3. Shell ring (fragment), gastropod, creamy-white, maxϕ : 21, height : 5.
68. G332. VIIa～b : X-11 corridor 4. Shell ring (fragment), gastropod, creamy-white, maxϕ : 23, height : 7.
69. G322. Vb : XV-10. Shell ring (fragment), gastropod, white, maxϕ : 22, height : 6.
70. G322. V : IX-12,13 corridor 2. Shell ring (fragment), gastropod, maxϕ : ?, height : 4.
71. G322. VIIb : XII-10 corridor 3. Shell ring (fragment), gastropod, pearl-white, maxϕ : 27, height : 6.
72. G319. VIIb : IX-11 corridor 5. Shell ring, gastropod, creamy-white, maxϕ : 23. height : 5.
73. G322. VIIa～b : XVIII-9 room 8-2. Shell ring, gastropod, creamy-white, maxϕ : 23, height : 7.
74. G321. VIIb : IX-10 room 4. Shell ring, gastropod, black, maxϕ : 27, height : 7, blackened by fire.
75. G322. VII : XV-10 pit 16. Shell ring, gastropod, creamy-white, maxϕ : 23, height : 5.
76. G322. VIb : XIV-9. Shell ring (fragment), gastropod, creamy-white, maxϕ : 21, height : 4.
77. G322. VII : VII15 in the moat. Shell ring, gastropod, creamy-white, maxϕ : 20, height : 4～6.
78. G322. VIIa～b : XVII-10 room 8-2. Shell ring, gastropod, pearl-white, maxϕ : 24, height : 6～9.
79. G322. VIIc : XI-11 corridor 2. Shell ring, gastropod, creamy-white, maxϕ : 26, height : 8.
80. G322. V : XII-12 between room 11 and 14. Shell ring, gastropod, creamy-white, maxϕ : 23, height : 3～7.
81. G322. IVb : XIV-9 room 5. Shell ring (nearly square in shape), gastropod, creamy, h/l : 26, width : 20, height : 7.
82. G322. Unstratified. Limestone ring, creamy-white, maxϕ : 28, height : 5, imitation of shell ring.
83. VII : XV-10 pit 16. Limestone ring (fragment), white, height : 4.
84. G351. VII : XV-7 room 8-5. (total 37)
    a. Terracotta, dark gray, disc, h/l : 6, maxϕ : 15.
    b. Terracotta, gray, cylindrical, h/l : 13, maxϕ : 13.
    c. Terracotta, brownish-gray, discoid, h/l : 9～10, maxϕ : 11.
    d. Terracotta, gray, discoid, h/l : 6, maxϕ : 8.
    e. Terracotta, gray, discoid, h/l : 5, maxϕ : 6.
85. G337. Grave 1 : XV-11. Under the Achaemenian lavel. (total 4)
    a. Black stone, elongated-biconical/cylindrical, h/l : 14, maxϕ : 6.
    b. Green stone (probably serpentain) flattened biconical, h/l : 15, width : 12.5.
    c. Lapis lazuli, dark blue, biconical, h/l : 9, maxϕ : 5.
    d. Lapis lazuli, blue, flanged-discoid, h/l : 2.5, maxϕ : 5.
86. Grave 2 : XV-13. Iron age grave. (total 3 probably Parthian/Sasanian period)
    a. Bronze finger ring, maxϕ : 26, height : 3～5.
    b. Shell finger ring, gastropod, white, maxϕ : 25, height : 6～7, wavy incision of dots along the outside.
    c. Iron finger ring, (fragment), maxϕ : 30, height : 5～8, broken.
87. G346. I : XIV-8 (total 10 : probably Medieval Islamic).
    a. Glass, violet-red, flattened ovoid, h/l : 11, width : 8.
    b. Glass, violet-red, flattened ovoid, h/l : 14, width : 9.
    c. Glass, violet-red, flattened ovoid, h/l : 9, width : 7.
88. G344. I : VIII, IX-11,12. (total 9 : probably Islamic).
    a. Glass, whitish, cut bead, h/l : 6, maxϕ : 7.
    b. Glass, bluish, cut bead, h/l : 5, maxϕ : 5.
    c. Glass, gray, barrel-shaped, h/l : 5.5, maxϕ : 6.
    d. Glass, reddish, barrel-shaped, h/l : 5.5, maxϕ : 3.5.
89. G345. IM.89944. Islamic infant grave, XIII-7. (total 19) Together with No.107.
    a. Glass, blue, cut bead, h/l : 7, maxϕ : 9.
    b. Glass, yellowish, barrel-shaped, h/l : 13, maxϕ : 10.
    c. Glass, bluish, flattened oboid, h/l : 12, width : 9.5.
    d. Glass, whitish, flattened oboid, h/l : 12, width : 8.
    e. Glass, red, discoid, h/l : 6, maxϕ : 10.
    f. Glass, greenish, spherical, h/l : 7, maxϕ : 9.
    g. Agate, creamy-white, faceted elongated biconical, h/l : 22, maxϕ : 8.
    h. Sea shell, creamy-white, tubular, h/l : 13, maxϕ : 5.5.
    i. Glass, bluish, tubular, h/l : 15, maxϕ : 5.
    j. Glazed, blue, discoid, h/l : 6, maxϕ : 15.
    k. Glazed, blue, so called "Seven-eyes" for Moslem peoples, h/l : 5, maxϕ : 17.

l.		Glazed, blue, hand-shaped with four perforations, max.width : 16.
90.	G341.	Islamic grave : X-9. Glazed bead, blue, flattened oboid with two perforations, h/l : 4, max.width : 12.
91.	G342.	Surface. Islamic or modern, unknown material (plstic?), black, faceted (mold-made?), h/l : 11.5, maxϕ : 9.
92.	G340.	Islimic grave : IX-13. Glazed bead, greenish, spherical(?), h/l : 11, maxϕ : 13.
	G334.	VIIc : X-10 corridor 4. Total 62 (green obsidian? : 61, dentalium : 1), see Pl. 43.
	G335.	VII : XV, XVI-7 room 8-5. Total 8 (gray terracotta : 3, grayish marble : 4, black stone : 1), see Pl. 43.
	G338.	VII : XI-11 steircase of corridor 3. Total 3 (creamy terracotta : 1, gray steatite : 1, black stone : 1), see Pl. 43.
	G339.	VIIa : XII-12 corridor 4. (total 7 : whitish-gray steatite), see Pl. 43.
	G343.	IM.89943. Islamic grave : XX, XXI-9. Glass bead, total 16 (yellow : 7, green : 9), see Pl. 43.
	G349.	(total 20)
a.		IVa～b : XVI-12. Dentalium, total 3, see Pl. 42 center of third row.
b.		IV : XVI-12. Dentalium, see Pl. 42 center of second row.
c.		VIIa : XIII-12 corridor 5. Dentalium, see Pl. 42 center of second row.
d.		V : IX, VIII-12, 13. Dentalium, see Pl. 42 center of second row.
e.		IVa～b : XVI, XVII-11 south corner. total 14 (dentalium : 13, carnelian: 1) see pl. 42 right of second row.
none	No.	IIIb : XVI-11. Carnelian, discoid, h/l : 4, maxϕ : 8.

Glass bottole and glass bracelets

93.		XIII-9. Black core with light green band, yellow projection, fragment, maxϕ : 65～70(?).
94.		XVI-10. Black core with yellowish-green, yellow projections, fragment, maxϕ : 68～70.
95.		XIII-9. Black core with light green, yellowish projections, fragment, maxϕ : 62.
96.		XIII-9. Black core with blue color, green band, yellow projection, fragment, maxϕ : 60～62.
97.		Surface. Black core with yellow color, yellow projections, fragment, maxϕ : 50.
98.	G296.	IM.89933. Black core with green color, eleven projections of brown color, complete, maxϕ : 46.
99.		XIII-9. Black core with red color, yellow projections, fragment, maxϕ : 68.
100.		XIII-9. Black core with blue color, yellow projections, fragment, maxϕ : 65～70.
101.		XIV, XV-9, 10. Black core with red band, yellow and green colors of tree-like motif, fragment, maxϕ : ?.
102.		XIII-9. Black core with yellow color, concentric semicircle motif of brown color, fragment, maxϕ : 73(?).
103.		XIII, XIV-10. Black, fragment, maxϕ : 66(?).
104.	G300.	XIV-8. Light blue, complete, maxϕ : 40.
105.	G295.	IM.89932. XIV-8. Together with No.104, blue, complete, maxϕ : 40.
106.	G301.	IM.89935. XII-10. Infant grave, blue, complete, maxϕ : 38.
107.	G302.	XIII-7. Islamic infant grave, light yellow, complete, maxϕ : 44, together with No. 89.
108.		XV-9. Black core with three bands of reddish-yellow color, fragment, maxϕ : 44.
109.	G299.	IM.89934. XV-10. Black core (now silver-black) with two green bands, complete, maxϕ : 50.
110.	G298.	VIII-9. Black, complete, maxϕ : 42.
111.	G297.	VIII-9. Together with No.110, black core with three rows of green spiral bands, complete, maxϕ : 42.
112.	G303.	IM.89936. XIII-11,12 Grave. Black core (silver surface), twisted, complete, maxϕ : 58.
113.	G352.	VII-9,10. Adult grave, black core (now silver surface), complete, maxϕ : 85.
114.	G353.	IM.89945. VII-9, 10. Together with No. 113, black core silver surface, complete, maxϕ : 85.
115.		Grave 3 : XII-6. Infant grave of the Sasanian(?)period, bottle, silver color, ext.height : 63, maxϕ : 31.
116.	G294.	IM. 89931. Grave 3:XII-6. Bottle with fragile ring-base, height : 107, maxϕ : 32.
117.		Grave 3 : XII-6. Bottle, height : 95～100(?), maxϕ : 30.

Spindle whorls ( ) : extant gram

118.		VIIc : X-11 corridor 4. Marble, white, fragment, maxϕ : 44, h : 6, holeϕ : 4, weight : (9gram), smooth surface from use.
119.		G278. VIIc : XI-10 corridor 3. Marble, grayish-white, fragment, maxϕ : 42, h : 6, weight : (10gr), smooth and shiny surface from use, two mending holes.
120.	G273.	VIIc : X-11 corridor 4. Marble, white, maxϕ : 47, h : 8, holeϕ : 5, weight : 23gr, well polished surface.
121.	G266.	VIIb～c : XII-12 corridor 4. Limestone, white, maxϕ : 25, h : 4, holeϕ : 3, weight : 4gr, smooth surface from use.
122.	G265.	VII : XIII-11 corridor 4. Marble, grayish, maxϕ : 47, h : 7, holeϕ : 4, weight : 24gr, smooth surface from use.
123.	G262.	VIIa : XI-10 corridor 3. Marble, white, maxϕ : 37, h : 5, holeϕ : 3, weight : 10gr, smooth and shiny surface from use.
124.		VIIa : X-9. White stone, fragment, maxϕ : 45(?), h : 6, holeϕ : 5, weight : (6gr), damaged surface.

125. VIIb : XII-11 corridor 2. Marble, grayish, fragment, maxϕ : 51(?), h : 7. holeϕ : 5, weight : (7gr), well polished.
126. G263. VIIa? : X-10 corridor 4. Limestone, pinkish, maxϕ : 33, h : 4, holeϕ : 3, weight : 9gr, smooth surface from use.
127. VII : XV-10 pit 16. Limestone, white, fragmant, maxϕ : ?, ext.h : 5, well polished.
128. VII : XV-10 pit 16. Marble, white, fragment, maxϕ : 39, h : 5, holeϕ : 5, weight : (5.5gr), smooth and shiny surface from use.
129. G260. VIIa～b : XIII-13 corridor 6. Shale(?), black, maxϕ : 31, h : 6, holeϕ : 6, weight : 9gr, smooth surface from use.
130. G261. VII : X-11. Marble, white, maxϕ : 26, h : 5, holeϕ : 3, weight : 5gr, smooth surface, "button"/bead(?).
131. VIIb : XIV-10 corridor 5. Marble, grayish-white, fragment, maxϕ : 28(?), h : 4, weight : (2gr), damaged by fire, traces of copper rust on obverse.
132. VIIa? : XIV-10 well. Flint(?), gray, maxϕ : 38, h : 8, holeϕ : 5, weight : 18.5gr, shiny surface from use, traces of rubbing.
133. VII : XII-5 room 8-6. Limestone(?), gray, maxϕ : 48, h : 9, holeϕ : 9, weight : 30.5gr, traces of rubbing.
134. G264. IM.89928. VIIa : XIII-11 corridor 4. Limestone, whitish-gray, maxϕ : 35, h : 6, holeϕ : 4, weight : 13gr, smooth surface from use.
135. VIIb～c : IX-10 Room 4. Marble, white, fragment, maxϕ : 18, h : 3, holeϕ : 4, weight : (0.5gr), well polished surface, "button"/bead(?).
136. G274. VIb : XV-9 pit. Shale/slate(?), black, maxϕ : 47, h : 7, holeϕ : 8, weight : (not measured), traces of rubbing on both sides.
137. G259. VI? : XVIII-10. Limestone, white, maxϕ : 28, h : 6, holeϕ : 5, weight : 7.5gr, smooth surface from use, traces of rubbing.
138. G272. VI : XV-10 corridor. Limestone(?), dark gray, maxϕ : 46, h : 10, holeϕ : 10, weight : 29gr, coated by bitumen.
139. G270. Vb : XV-9. Limestone, pinkish, maxϕ : 46, h : 8, holeϕ : 9, weight : 24.5gr, traces of rubbing on both sides.
140. G258. IM.89927. IVb : XIV-9 room 7. Limestone, white, maxϕ : 32, h : 7, holeϕ : 6, weight : 11gr, smooth surface from use.
141. VIIc : X-11 corridor 4. Creamy-white stone, maxϕ : 22, h : 9, holeϕ : 5.5, weight : 6gr.
142. G268. VIIc : IX-10 room 4. Limestone(?), yellowish, maxϕ : 27, h : 11, holeϕ : 5.5, weight : 10gr, smooth and shiny surface from use.
143. G277. VIb : XV-9 pit. Black stone (shale?), maxϕ : 32, h : 12, holeϕ : 5, weight : (12gr), smooth and shiny surface from use, four drilled-holes.
144. G269. VIIa : XI-10 corridor 3. Terracotta, blackish, maxϕ : 27, h : 17, holeϕ : 5, weight : 14gr, incised decorations on obverse.
145. G275. VIIa～b : XII-13 corridor 5. Marble, grayish-white, maxϕ : 72, h : 18, holeϕ : 11, weight : 121gr, smooth surface from use.
146. G276. VIb : XV-9 pit. Limestone(?), reddish, maxϕ : 40, h : 12, holeϕ : 6, weight : 26.5gr, smooth surface from use.
147. G267. IM. 89929. Probably level VI : XXIII, XXIV-10 deep sounding. Terracotta, gray, maxϕ : 45, h : 16, holeϕ : 9, weight : 24gr.
148. VIIb : XIII-12 corridor 5. Terracotta, brownish, maxϕ : 23, h : 13, holeϕ : 7, weight : 4.5gr.
149. IIIa : XI-11 big well. Terracotta, biconical, maxϕ : 28, h : 19. holeϕ : 5, weight : 11gr.
150. VIIa : XII-12 corridor 4. Gray stone, maxϕ : 45, h : 8, holeϕ : 5, weight : (10gr), reusing from fossil-shell, smooth surface from use.
151. G271. VII : XII-11 corridor 2. Marble(?), creamy, maxϕ : 39, h : 10, weight : 14.5gr, unperforated, reusing from stone vessel.
152. Surface : XII, XIII-9, 10. Marble, white, fragment of unknown object, a shallow and wide grooving from center to edge, probably two holes, smooth surface.
153. V～VI : XIV-9 in the room. Potsherd, maxϕ : 40, h : 7, holeϕ : 8, weight : 8gr, not for long use.
154. Vb : X-9. Potsherd, maxϕ : 59, h : 10, holeϕ : 8, weight : 30gr, not for long use.
155. G280. V : room 41. Potsherd, maxϕ : 58, h : 10, holeϕ : 10, weight : 27gr, smooth edge from use.
156. G279. V : IX-12,13 corridor 2. Potsherd, maxϕ : 55, h : 13, holeϕ : 9, weight : 33gr, smooth edge from use.
157. V : XII-12 room 16. Potsherd, fragment, maxϕ : 59, h : 10, holeϕ : 12, weight : (20gr), smooth edge from use.
158. V : XVI-9. Potsherd, maxϕ : 64, h : 12, holeϕ : 9, reusing from "Scarlet ware".
159. V : XVI-10 well. Potsherd, maxϕ : 67, h : 13, holeϕ : 4, weight : 49gr, temporary use(?).
160. IVa : XVI-11. Potsherd, maxϕ : 43, h : 7, holeϕ : 10, weight : 12gr, temporary use/unused(?).

161. IVb : XIV-13. Potsherd, coarse pottery fragment, maxϕ : 105, h : 13～25, holeϕ : 16, weight : (122gr), smooth edge.
162. IV : XIV, XV-7. Potsherd, fragment, maxϕ : 79, h : 15, holeϕ : 11, weight (46gr), slightly smooth edge from use(?).
163. III～IV : XIII-13. Potsherd, unfinished, maxϕ : 63, h : 10, weight : 31gr.
164. II :X, XI-9,10. Potsherd, fragment, maxϕ : 96, h : 25, holeϕ : 13, weight : (156gr), smooth edge from use.
165. III : XI-11 big well. Potsherd, maxϕ : 57, h : 15, holeϕ : 14, weight : 49gr, smooth edge.
166. Unstratified : XII, XIII-11,12. Potsherd, maxϕ : 54, h : 9, holeϕ : 9, weight : 24gr, not for long use(?).

Metal objects (length : L, maximum width : Mw, thickness : Th, maximum diameter : Mϕ, weight : Wt)

167. G136. VIIc : X-11 in the round wall 5. (total 4, total weight : 433gr). as a "foundation deposit".
a. Copper/bronze, unknown (knife?), L : 157, Mw : 58, Th : 0.5～1, parterely broken.
b. Copper/bronze, axe/adze(?), L : 94, Mw : 42, Th : 7.
c. Copper/bronze, axe/adze(?), L : 93, Mw : 41, Th : 6.5.
d. Copper/bronze, chisel, L : 182, Mw : 14, Th : 11.
168. G135. IM.89908. VIIb～a : X-11 corridor 4. Copper/bronze, axe/adze, L : 97, Mw : 43, Th : 7, Wt : 117gr.
169. G138. VIIc : XI-10 corridor 4. Copper/bronze, sow or knife(?), extant L : 130, Mw : 52, Th : 1.5, Wt : 33gr, similar shape to No.167a.
170. G137. VIIb～a : X-11 corridor 4. Copper/bronze, axe/adze, L : 128, Mw : 55, Th : 9, Wt : 275gr.
171. G139. Surface soil : XIII-9 north-east corner. Copper/bronze, axe/adze, L : 116, Mw : 48, Th:8.5, Wt : 187gr.
172. G140. V～VII(?) : XVIII-10 -140cm. Copper/bronze, axe/adze, extant L : 81, Mw : 43, Th : 11, Wt : 109gr, broken.
173. G142. IVa～b : XV-10 northeast corner. Copper/bronze, dagger/knife, extant L : 79, Mw : 20, Th : 1～1.7, Wt : 6gr.
174. G141. VIIb : XII-12 corridor 5. Copper/bronze, dagger, extant L : 63, Mw : 19, Th : 3, Wt : 8gr.
175. G143. VII : VI-10 outside corner of the mud brick stracture(granary). Copper/bronze, dagger, extant L : 144, Mw : 27, Th : 5, Wt : 25gr.
176. G144. VII : VI-10 against the mud brick stracture. Copper/bronze, chisel, L : 156, Mw : 12, Th : 16, Wt : 86gr, square section.
177. V : XIV-9 southwest. Copper/bronze, unknown (pointed object), L : 140, Mw : 6, square section, pointed in upper end.
178. G146. VII : IX-10 room 4 in the well. Copper/bronze, curved chisel, L : 103, Mw : 7, Th : 5, Wt : 22gr, square section, single edge.
179. G145. IM.89909. Vb : X-10 in the baulk. Copper/bronze, chisel, L : 11, Mw : 7, Mϕ : 5.5, Wt : 22gr, round section, double-edged.
180. G149. Probably VII : XVI-14 -50cm. Copper/bronze, two chisel fragments, a) extant L : 40, Mw : 10, Th : 7. b) extant L : 47, Mw : 9, Th : 8, Wt : 39gr (together with a and b), square section.
181. G150. VIIc : XI-9 corridor 4. Copper/bronze, needle, L : 59, Mw : 4, ϕ : 1～3, Wt : 3gr, round section, hole near to the upper end.
182. VIIc : IX-10 room 4. Copper/bronze, unknown (nail or fish hook?), L : 26, Mw : 5, Wt : 1.5gr, square section, rounded section at each ends.
183. G155. VIIc : X-11 corridor 4. Copper/bronze, unknown (nail/drill or fish hook?), L : 35, Th : 2.5, Wt : 1gr, square section, rounded section at each ends.
184. G154. VIIa : XI-9. Copper/bronze, chisel, L : 42, Mw : 5, Wt : 3gr, square section, single edge, smallest chisel.
185. VIb : XV-9 in the pit. Copper/bronze, chisel fragfment, extant L : 24, Mw : 5, round section, double-edged.
186. G153. VIa : XVII-9. Copper/bronze, chisel fragment?, extant L : 23, Mw : 8, Wt : 7gr, square section.
187. VIb : XV-9 in the pit. Copper/bronze, chisel fragment, extant L : 14, Mw : 10, double-edged.
188. VIb : XV-9 in the pit. Copper/bronze, chisel fragment, extant L : 28, Mw : 5, square section.
189. G151. VIIc : IX-10 room 4. Copper/bronze, dagger fragment, extant L : 22, Mw : 12, Th : 3, slightly curved end.
190. VII : IX-10 room 4. Copper/bronze, unknown cristated object, extant L : 14, Mw : 22, Th : 3.
191. VIIb : XIV-9,10 corridor 5. Copper/bronze, unknown (fragment?), L : 17, Mϕ : 4, L-letter shaped object with rounded section.
192. VII : XI-10 room 3 in the wall. Copper/bronze, fragment of flat object, extant L : 20, extant Mw : 26, Th : 1～3, Wt : 5gr.
193. VII : XI-10 corner of corridor 2 to 3. Copper/bronze, unknown objects, extant L : 12, extant Mw : 10, Th : 7, probably fragment of axe/adze.
194. G147. VIIc : X-11 corridor 4 beside the entrance to room 3. Copper/bronze, horseshoe-shaped object, L : 68, Mw :

55, Th : 0.5～0.75, Wt : 6gr, unknown purpose "crescent-shaped pendant"?, two rows of embossed circle decorations.

195. G148. VIIb : XII-12 corridor 5 entrance. Copper/bronze, horseshoe-shaped object fragment, extant L : 66, Mw : 10, Th : 0.75, Wt : 2gr, similar shape and decoration as in No. 194.

196. VIIa : XII-12 corridor 4. Copper/bronze, horseshoe-shaped object fragment, extant L : 60, Mw : 9, Th : 0.7, Wt : 2gr.

197. VIIb : X-11 entrance of room 3. Copper/bronze, horseshoe-shaped object fragment, extant L : 42, Mw : 7, plain.

198. G152. VII : XVI-14-50cm. Copper/bronze, chisel(?) fragment, extant L : 65, Mw : 5, Wt : 6gr, square section, slightly twisted.

199. VIIa : XII-12 corridor 4. Copper/bronze, flat bord with slightly curverd shape, L : 81, Mw : 17, Th : 1.5, Wt : 10gr, rounded in one end.

200. VIIa : XII-12 corridor 4. Copper/bronze, unknown object, extant L : 23, Mw : 21, Th : 4, Wt : 3gr, rounded end.

201. VII : XI-10. Copper/bronze, unknown object fragment(?), extant L : 19, Mw : 5, triangular section, pointed one end(?).

202. V? : VII, VIII-11,12. Copper/bronze, chisel(?) fragment, extant L : 36, Mϕ : 5, rounded section.

203. V : XIII-11. Copper/bronze, nile(?) fragment, extant L : 23, Mϕ : 4, rounded section, remains of wood.

204. VI : X-14 room 35. Copper/bronze, fishhook fragment, extant L : 48, extant Mw : 30, Mϕ : 10, Wt : 11gr, head and point missing.

205. G157. II : XVI-8 surface. Bronze, socketed trilobate arrowhead, L : 31, Mw : 13, Wt : 4gr. Probably Achaemenian period.

206. G215. XVII-6 : surface. Bronze, socketed trilobate arrowhead, L : 32, Mw : 12. Probably Achaemenian period.

207. G158. IM.89910. II : XVII-7. Bronze, nail/stud-head decoration(?), Mϕ : 35, H : 11, Wt : 13gr, hemisphrical shape of twelve petaled pattern, rivet hole at the center, mold-made.

208. Unstratified : X-15. Bronze, fragment of fibula, extant L : 32, Mϕ : 6, rounded section, spring and clasp missing. Probably Achaemenian period.

209. Grave 3 : XII-6. Bronze, finger ring, Mϕ : 20, H : 5, together with No. 115～117. Probably Sasanian period.

210. G159. IM.89911. XIII-7 Islamic grave. Bronze bell with suspension loop, H : 35, Mϕ : 29, Wt : 33gr, remains of cotton string, small stone in the bell, incised decoration on both sides.

211. G159. IM.89912. XVII-11 Islamic grave. Bronze, earring with cotton taxtile, ϕ : 26 by 34, Wt : 2gr, circle decorations.

212. II : XII, XIII-8 near the entranse. Bronze, unkown object(flat boad), L : 60, Mw : 45, Th : 1, Wt : 9gr.

213.a. I/II : XII-7-50 cm. Bronze/copper, plain flat boad, L : 68, Mw : 16, Th : 1, Wt : 5gr.

b. G162. II : VII-8 floor. bronze, flat boad, L : 105, Mw : 31, Th : 1.5, Wt : 24gr.

214. G161. IM.89913. II : XIV-8 floor. Bronze, necklace, L : 187, Mw : 145, Wt : 77gr.

215. G212. II : XIII-8 -220 cm. Iron, sickle blade, L : 158, Mw : 26, Th : 6.

216. G213. II : XII-10 east corner -300cm. Iron, blade fragment (sickle?), extant L : 110, Mw : 19.

217. G207. II : XII-7. Iron, knife, extant L : 94, Mw : 13, remains of wood at grip portion, two iron rivets.

218. II : XV-10 central room. Iron, stud/nail(?) of hemisphrical head with square iron sheet, extant L : 56, Mw : 37, rounded section.

219. G209. Grave 4 : VIII-14. Iron, chisel or axe/adze, L : 95, Mw : 44, remains of wood. Probably Parthian period.

220. Grave 4 : VIII-14. Iron, fragment of pointed object, extant L : 38, rounded section.

221. Grave 4 : VIII-14. Iron, fragment of unknown object, extant L : 27, Mw : 14, square section.

222. Grave 4 : VIII-14. Iron, awl(?), L : 64, Mw : 10, remains of wood, square section.

223. G206. Grave 4 : VIII-14. Iron, dagger with iron guard, L : 250, Mw : 35, remains of textile and wood.

224. G214. Grave 4 : VIII-14. Iron, sickle, L : 141, Mw : 27.

225. G208. Grave 4 : VIII-14. Iron, knife, L : 78, Mw : 21, remains of wood, and sheath-end object.

226. Grave 4 : VIII-14. Iron, knife, L : 104, Mw : 15, remains of wood and iron rivet.

227. G210. Grave 4 : VIII-14. Iron, knife, extant L : 96, Mw:17, skin trace at grip portion, two bronze rivets.

228. G211. Surface. Iron, knife, extant L : 108, Mw : 23, skin traces at grip portion. Probably Pre-Islamic Period.

229. Grave 4 : VIII-14. Iron, unknown object, L : 20, Mw:23, flat boad with slightly curved section, remains of wood.

230. XII-10 Grave. Iron, blacelet with rounded terminals, Mϕ : 52, rounded section, period unknown.

231. XII-10 Grave. Iron, fragment of blacelet, Mϕ : 55(?), together with No. 230.

232. G216. Grave 4 : VIII-14. Bronze, bell or button(?), extant h : 9, Mϕ:15.

Bone objects

No.	Level	Findspot	Type	L.	max. W.	Th.	max. Dia.	Remarks and registration number
233	VIIa	XIII-12 C4	Needle	89	6		5	Complete, round in section, perforation near to the upper end(dia: 2 mm), smooth and shiny surface. G196. IM89916.
234	VIIb	XV-9 C6	Pin/needle	56			5	Fragment, round in section, polished surface.
235	VIIa	XII-12 C4	Pin	100	8		5	Complete, flat and round in section, smooth surface. G195.
236	VII	XVII-10 R8-2	Awl (Type 1)	54	13			Fragment, polished surface from use.
237	VII	XII-13 R8-2	Awl (Type 1)	22	9			Fragment, polished from use, blackened by fire.
238	VI(?)	XII-4	Awl (Type 1)	90	85			Complete(?), polished surface from use G197.
239	VIIb-c	IX-10 R4	Awl (Type 1)	35	3			Fragment, polished from use.
240	VII	XVI-10 moat	Awl (Type 1)	53	8			Fragment, Splinted bone, pointed top, not for long use.
241	VIIc	XII-9 C4 pit	Awl (Type 1)	113	16			Complete, *metacarpi/metatarsi,* polished from use, blackened by fire. G194. IM89915.
242	VIIc	XII-12 C3	Awl (Type 1)	204	26			Complete, right tibia, smooth surface from use. G193.
243	VIIb-c	IX-10 R4	Awl (Type 1)	45	13			Fragment, *metacarpi/metatarsi,* whitish-gray color by fire.
244	IVb	XI·XII-11·12	Awl (Type 2)	69			12.5	Fragment, round in section.
245	VII	XV11-10 R8-2	Awl (Type 2)	69			16	Nearly complete.
246	VIIc	X-11 C4	Awl (Type 2)	77			24	Complete, *metacarpi/metatarsi,* traces of rubbing, smooth point from use. G200.
247	VII	XVI-10	Awl (Type 2)	100			25	Fragment.
248	VIb/VIIa	XVI-7 R8-4	Awl (Type 2)	113			26	Complete, deer(?), right tibia, shiny and polished surface from use.
249	IVb	XII-7	Awl (Type 2)	130	24		15	Complete, deer(?), right tibia, polished from use. G198.
250	VIIc	X-11 C4	Awl (Type 2)	82	20		12	Nearly complete, polished from use.
251	VIb	XV-9 pit	Awl (Type 2)	79			13	Fragment.
252	IVb	XII-7	Awl (Type 2)	74			17	Complete/fragment, dark gray, shiny surface, blackened by fire. G199.
253	VII	XVII-9	Awl (Type 2)	88			17	Fragment, traces of rubbing near to the point.
254	IVb	XVI-10 room	Awl (Type 2)	62			14	Complete(?), traces of rubbing.
255	VII	XVI-9 moat	Awl (Type 2)	55			15	Complete/fragment, gray, traces of rubbing, polished from use, blackened by fire.
256	VIIa	XII-10 C3	Awl (Type 3)	40	17	8		Fragment, black, polished from use, blackened by fire. G204.
257	VIIc	X-11 C4	Awl (Type 3)	44	9			Fragment(?), polished from use.
258	VIIb	XII-11 C3	Awl (Type 3)	20	11			Fragment, black, polished from use, blackened by fire.
259	Vb	XV-9	Awl (Type 3)	39	13			Fragment, light brown, shiny surface from use.
260	VII	XVI-10 moat	Awl (Type 4?)	46	10			Fragment(?).
261	VIb	XV-9 pit	Awl (Type 4)	54	10			Fragment, polished from use.
262	VII	XV-10 C6	Awl (Type 4)	53	10			Complete.
263	VII	XVI-10 well	Awl (Type 4)	55	13			Complete, polished from use.
264	VIIc	X-11 C4 pit	Awl (Type 5)	76	24	11		Nearly complete, sheep/goat(?), right ulna.
265	VII	XVI-7 R8-5	Awl (Type 5)	70	28	15		Complete, *ulna.*
266	V	XVI-7	Awl (Type 5)	58	16	18		Fragment, *ulna.*
267	VIIb	XI-9 entrance	Awl (Type 5)	123	46	31		Complete, cattle or ass/onager(?), *ulna,* traces of rubbing, polished from use. G201.
268	VI	XI-12	Awl (Type 5)	77	26	19		Complete, sheep/goat, *ulna,* polished from use. G202.
269	VIb	XV-9 pit	Awl (Type 5)	67	22	15		Nearly complete, sheep/goat(?), *ulna.* G203.
270	VII	XVII-10 R8-1	Awl (Type 5?)	61	13			Fragment, solid bone, polished from use.

No	Level	Findspot	Type	L.	max. W.	Th.	max. Dia.	Remarks and registration number
271	VIIc	X-11 C4	Comb/beater(?)					Comb in form, splinted bone teeth set in a clay haft, oval clay haft (L: 50, W: 40, Th: 30 mm) made of straw tempered fabric, bone tooth (L: 49, max.W: 8, Th: 5 mm) with polished point from use, presumably comb/beater for mat/textile-weaving.
272	VIIc	X-11 C4	Tooth of Comb(?)	46	8			Complete, polished top from use, identical to No 271,
273	VIIc	X-11 C4	Tooth of comb(?)	37	6	3		Complete(?), not for long use.
274	VII	XVII-9 R8-2	Tooth of comb(?)	30	7	4		Fragment, smooth surface.
275	VIIc	X-11 C4	Tooth of comb(?)	46	8	3		Complete, polished top from use.
276	VIIc	X-11 C4	unknown	34	6			Fragment, shiny and polished surface, blackened by fire.
277	VII	XVI-9 moat	polisher/spatula(?)	34	26	6		Fragment, unknown use.
278	IVb	XII-7	Polisher(?)	58	37	2-7		Fragment, curved edge, polished surface from use.
279	II	XV-12 pit	Spatula(?)	101	21	2.5		Nearly complete, spatula in form, flat bone, polished on both side, pointed one end. G190. IM89914.
280	II	XV-12 pit	Spatula(?)	55	10	1.5		Fragment, bird bone(?), spatula in form, highly polished on both side, pointed end. G 192.
281	II	XV-12 pit	Unknown	57	11	1.5		Fragment, rib bone(?), probably shape as in No 279 or unfinishied bone object.
282	II	XV-12 pit	Spatula(?)	36	19	1.5		Fragment, polished on both side, rounded end. G191.
283	II	XV-12 pit	Spatula(?)	40	18	2		Fragment, polished on both side, rounded end.
284	VIIc	X-11 C4	Unknown	42	17			Fragment, probably awl.
285	VIIc	X-11 C4	Unknown	39	10			Fragment of splinted bone, polished surface, blackened by fire.
286	VIIc	XI-10 C3	Unknown	59	26			Fragment, *tibia*, shiny surface from use(?).
287	II	XV-12 pit	Unknown	82	22			Fragment of worked bone, traces of rubbing.
288	VIIc	XI-10 C3	Unknown	119	28			Fragment, partially polished(?).

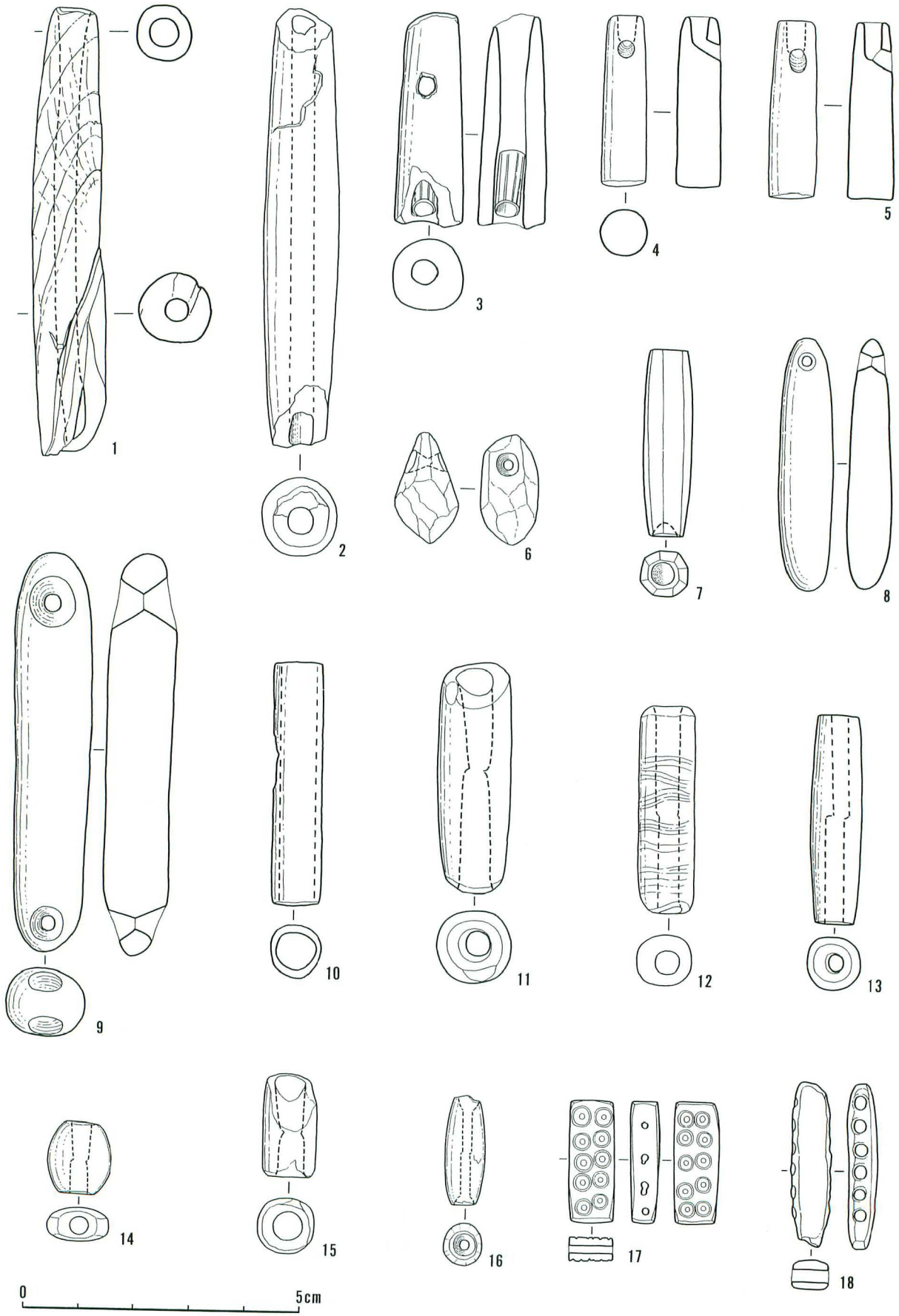


Fig. 16 Beads and pendants from Tell Gubba.

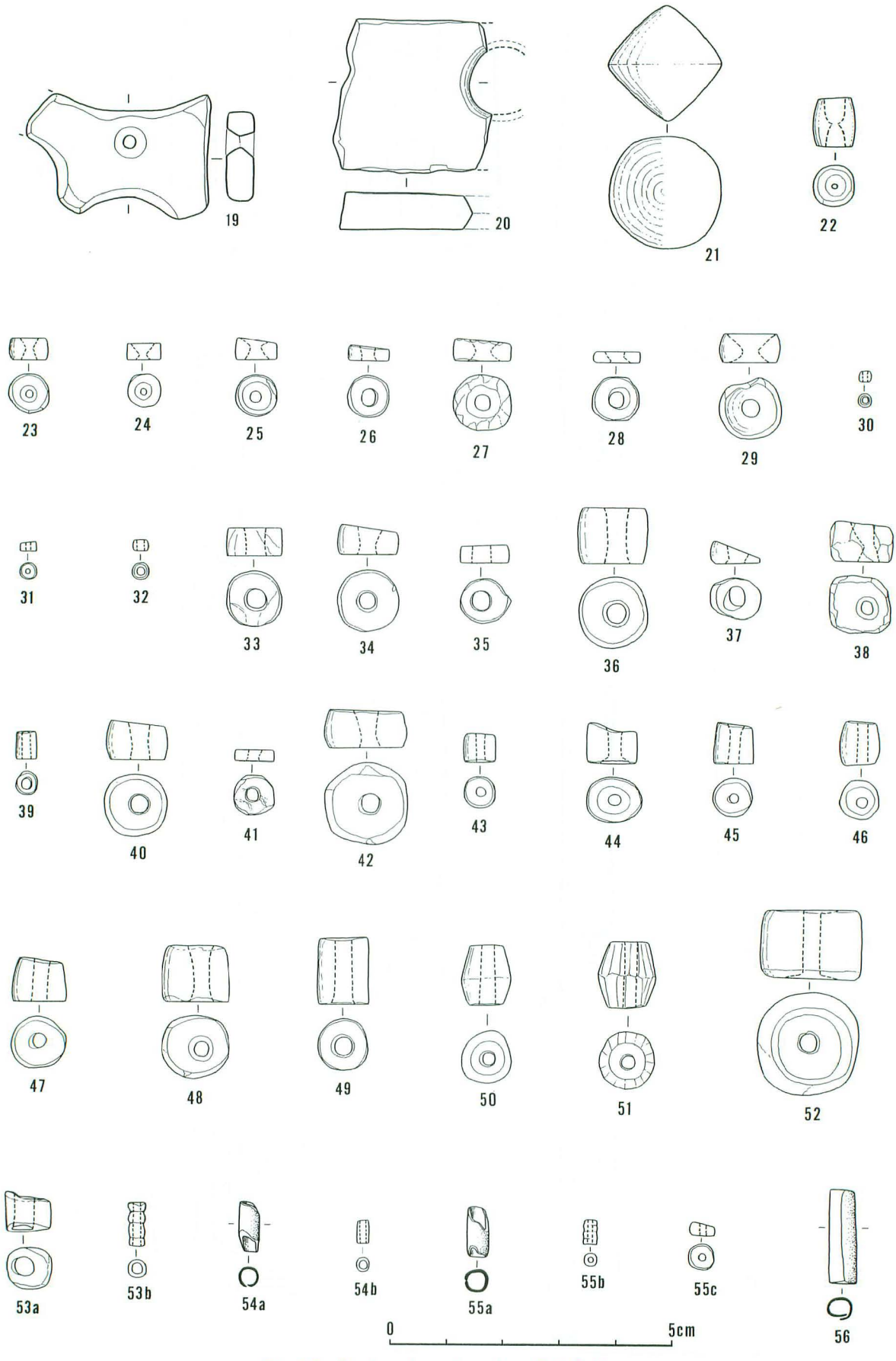


Fig. 17　Beads and pendants from Tell Gubba.

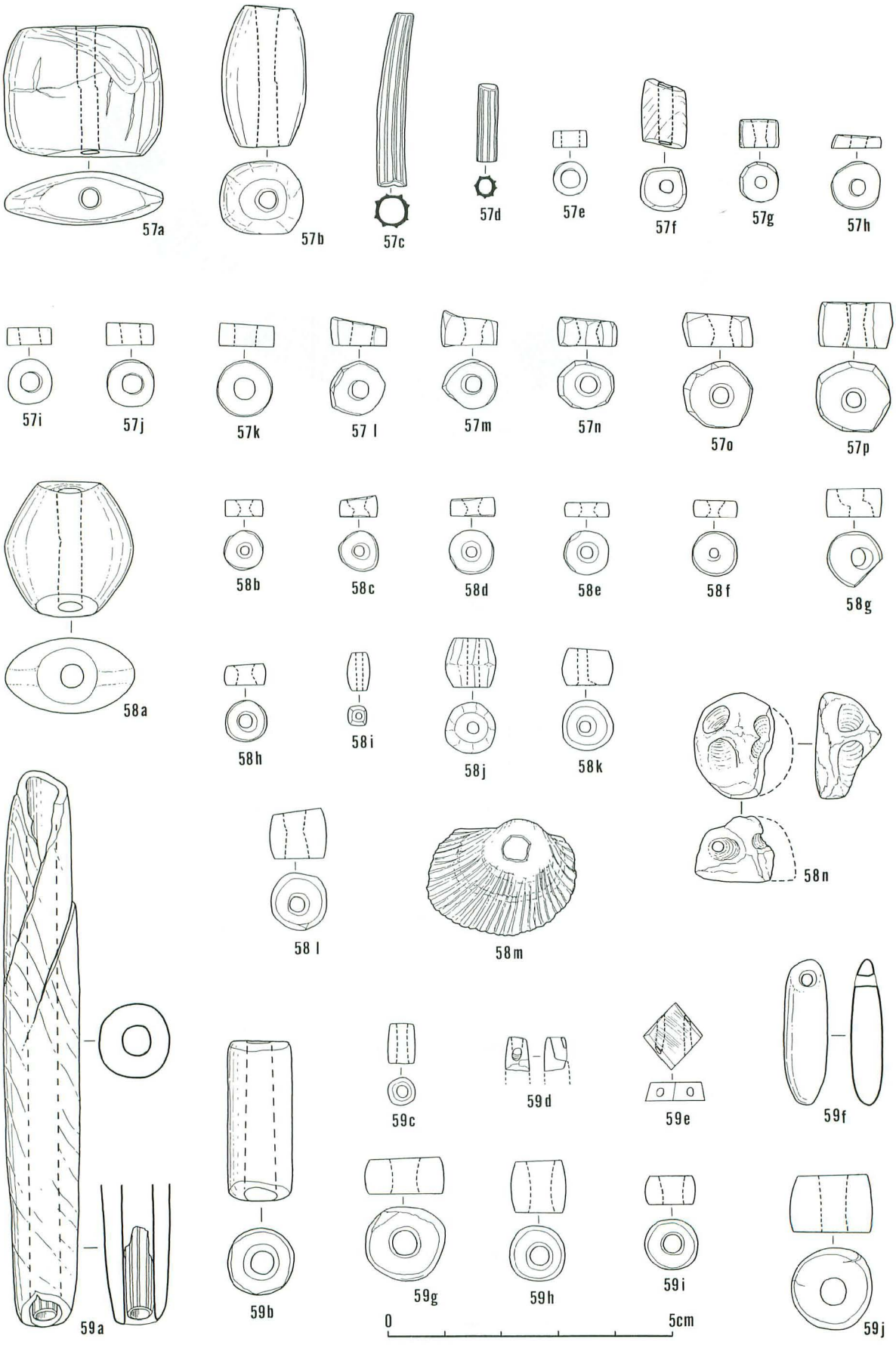


Fig. 18　Beads and/or pendents from Tell Gubba.



Fig. 19a Reconstraction of No. 60 beads (necklace).

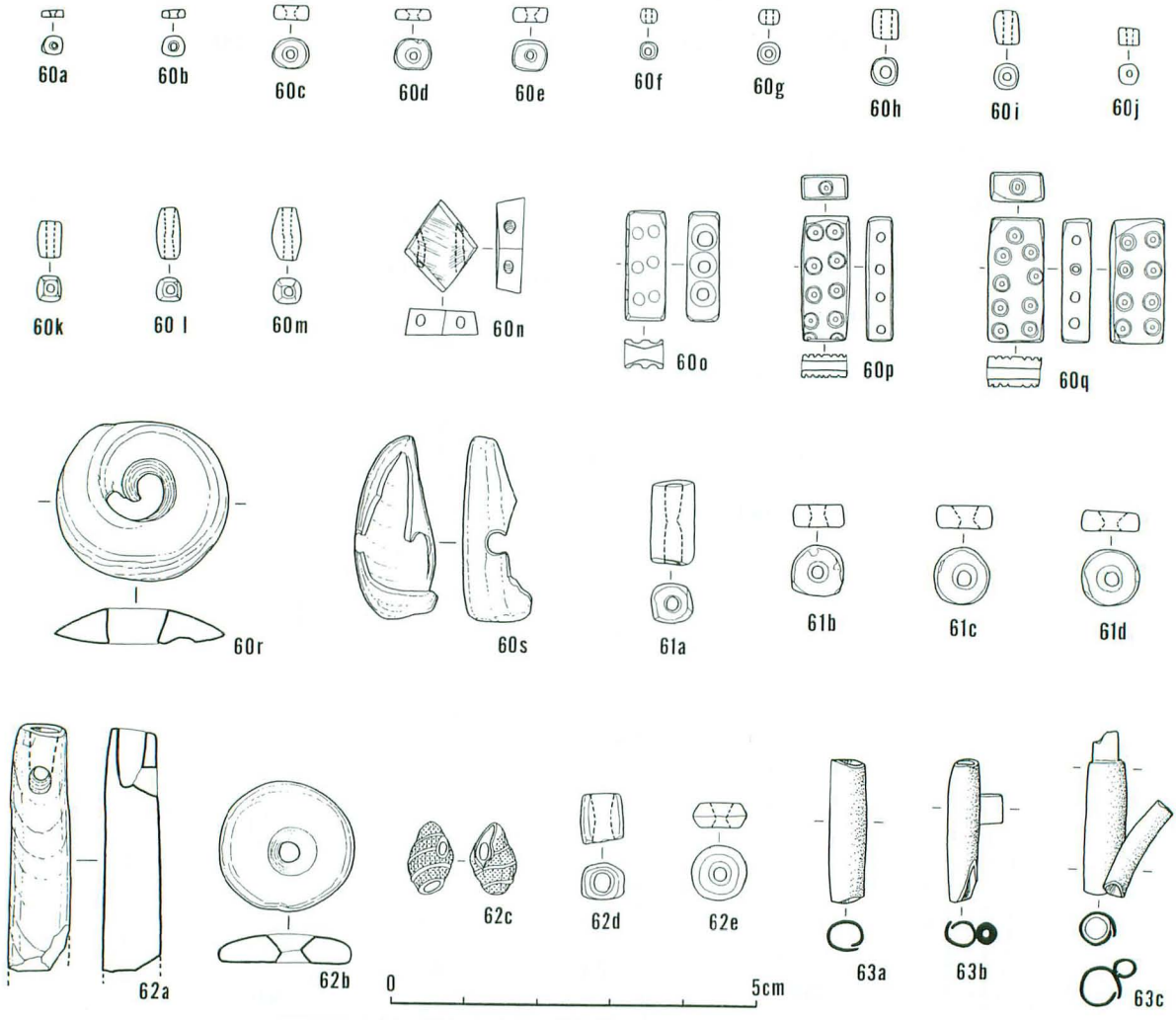


Fig. 19b Beads, pendants and shell ring from Tell Gubba.

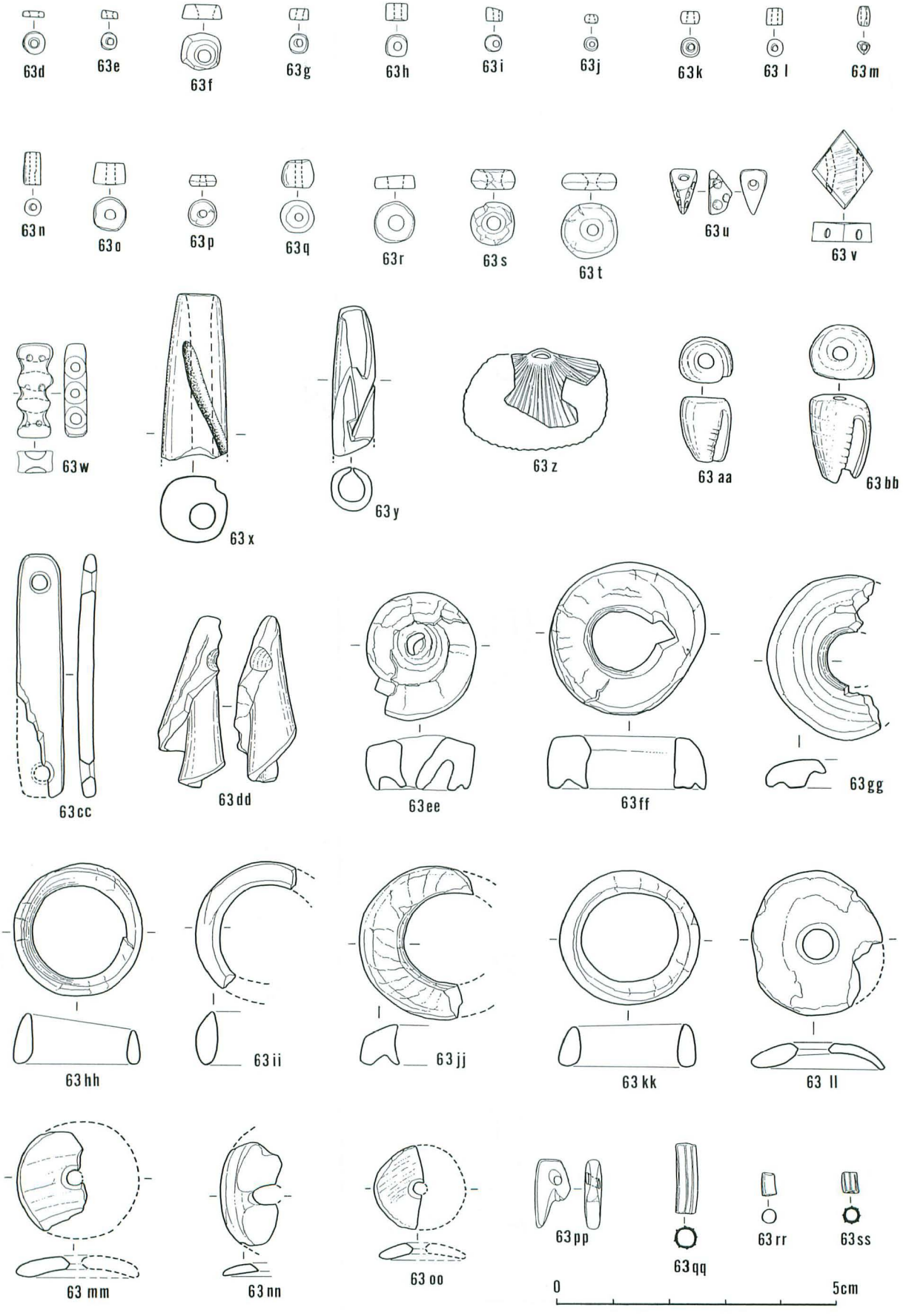


Fig. 20 Beads, pendants and shell rings from Tell Gubba.

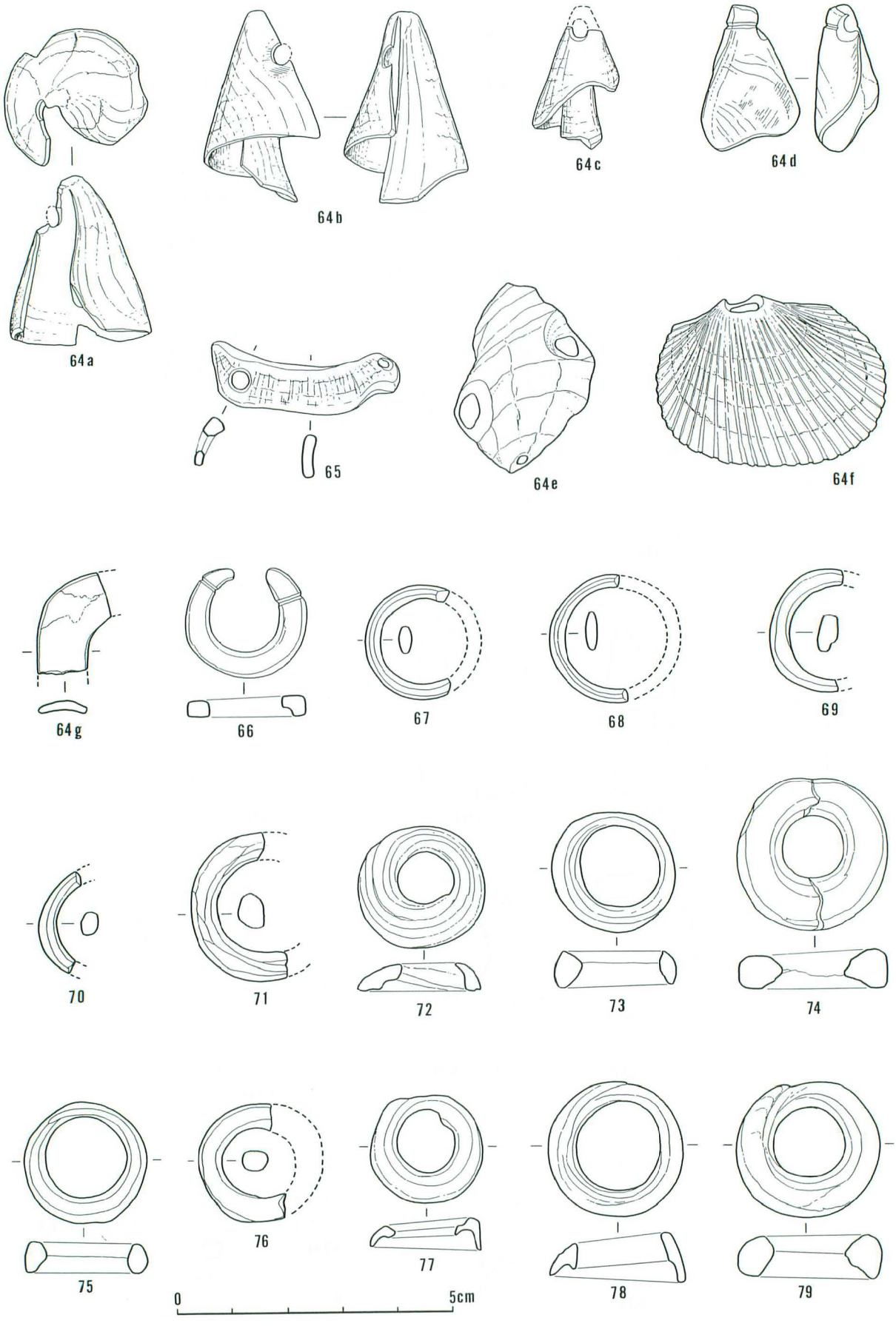


Fig. 21　Beads(?), pendant and rings of shell from Tell Gubba.

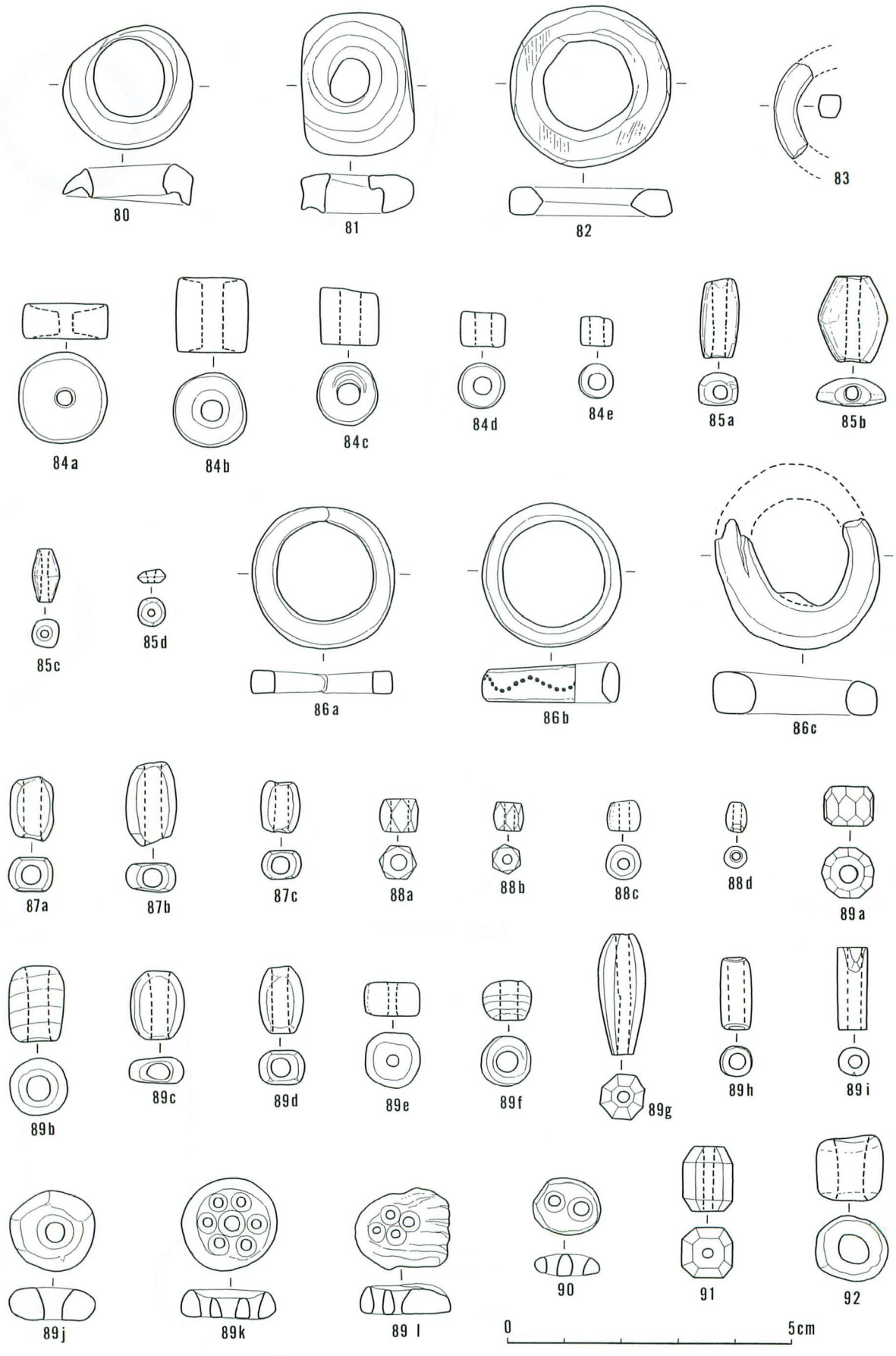


Fig. 22　Beads and rings from Tell Gubba.

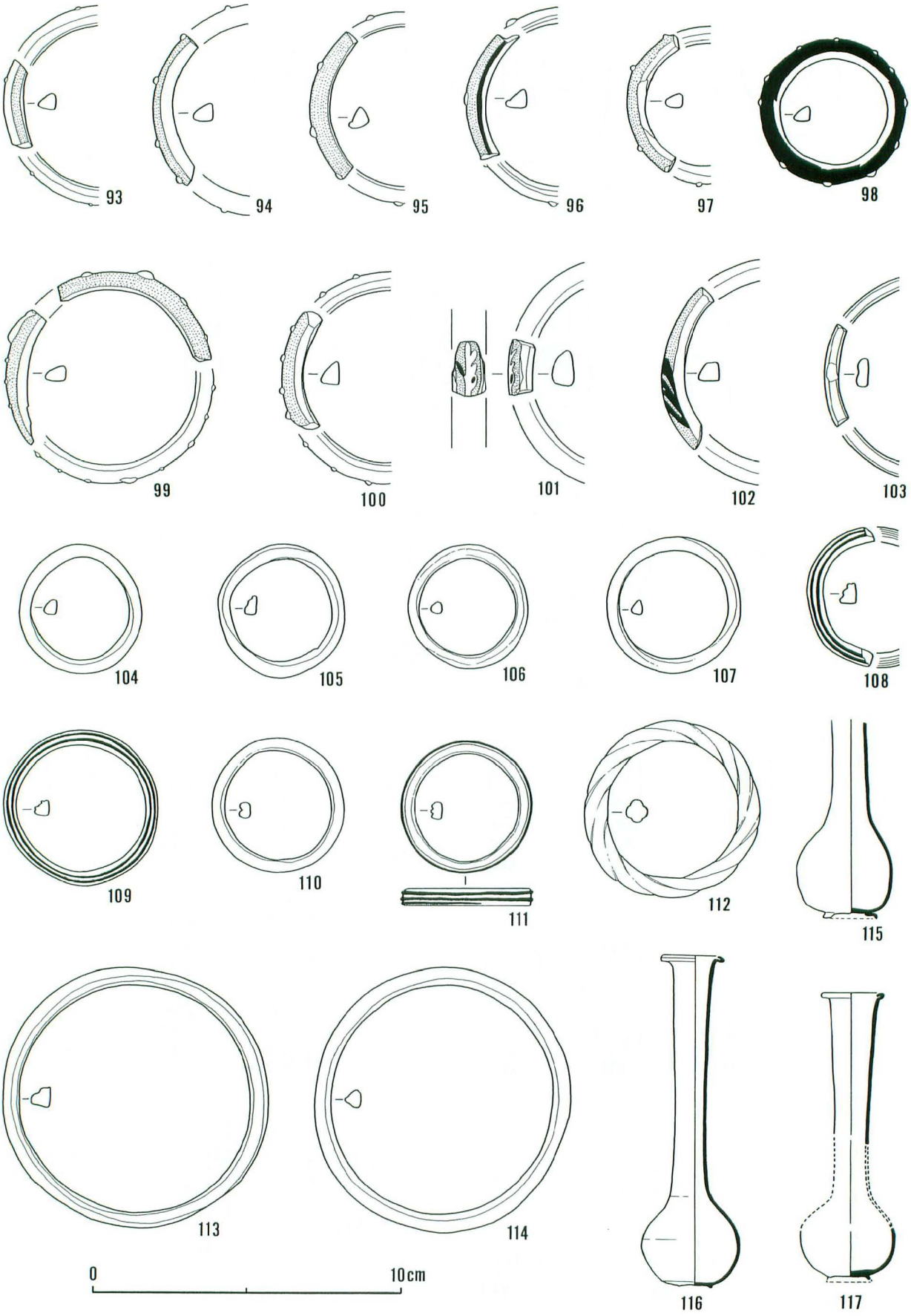


Fig. 23　Glass objects from Tell Gubba.

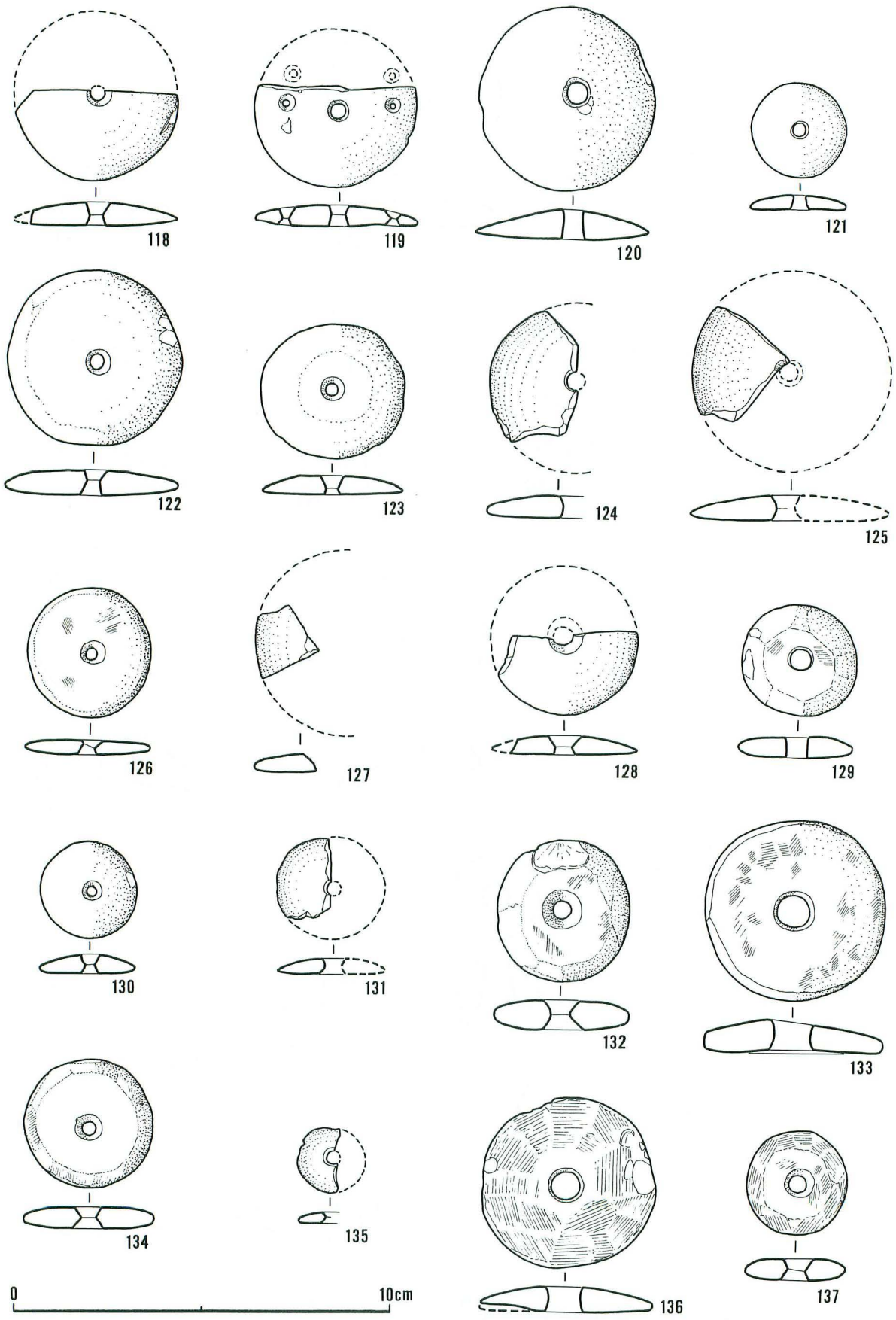


Fig. 24 Stone spindle whorls and/or "button" /bead from Tell Gubba.

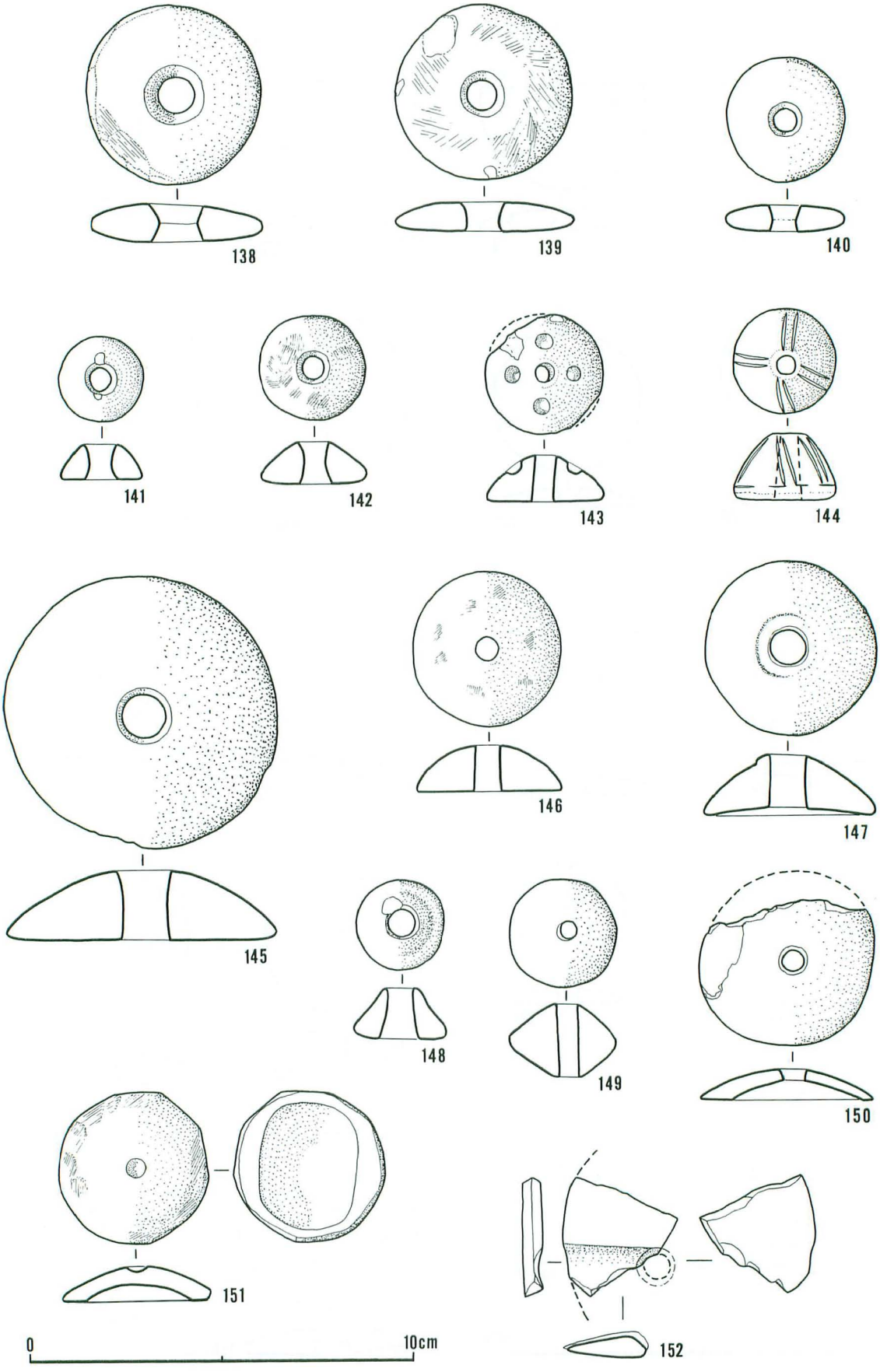


Fig. 25 Stone and terracotta spindle whorls, unknown stone object (152) from Tell Gubba.

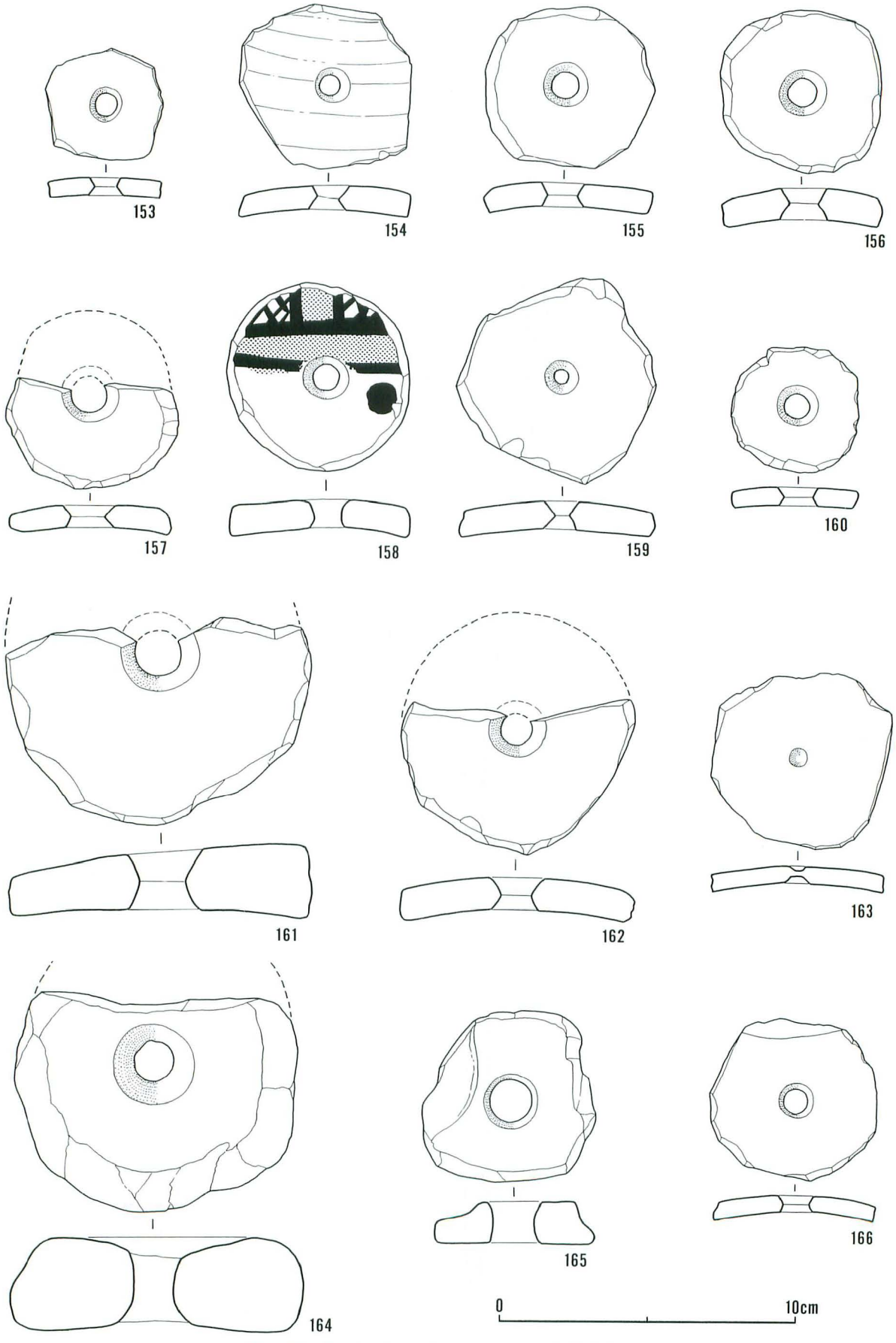


Fig. 26 Potsherd spindle whorls from Tell Gubba.

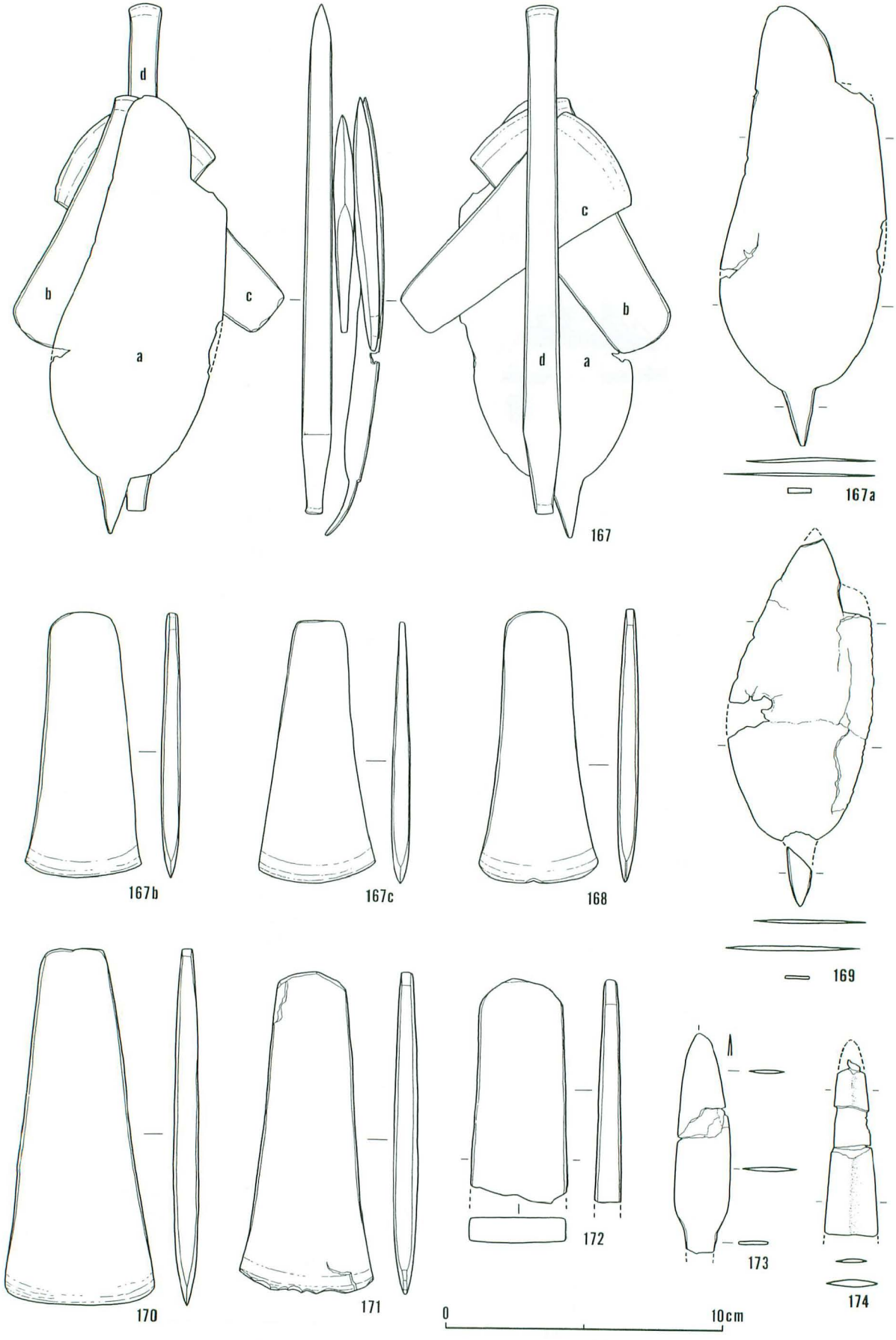


Fig. 27　Copper/bronze objects from Tell Gubba.

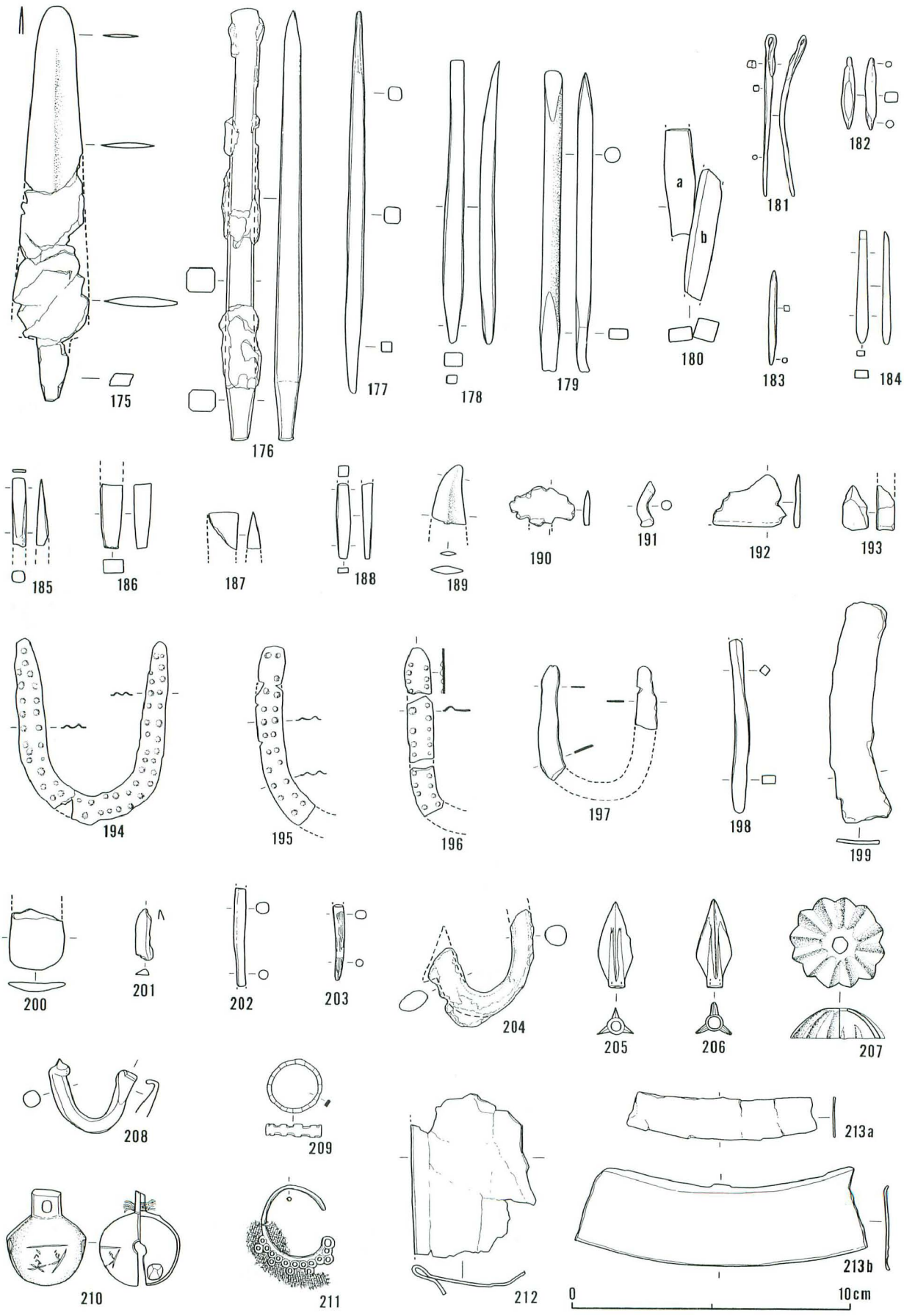


Fig. 28　Copper/bronze objects from Tell Gubba.

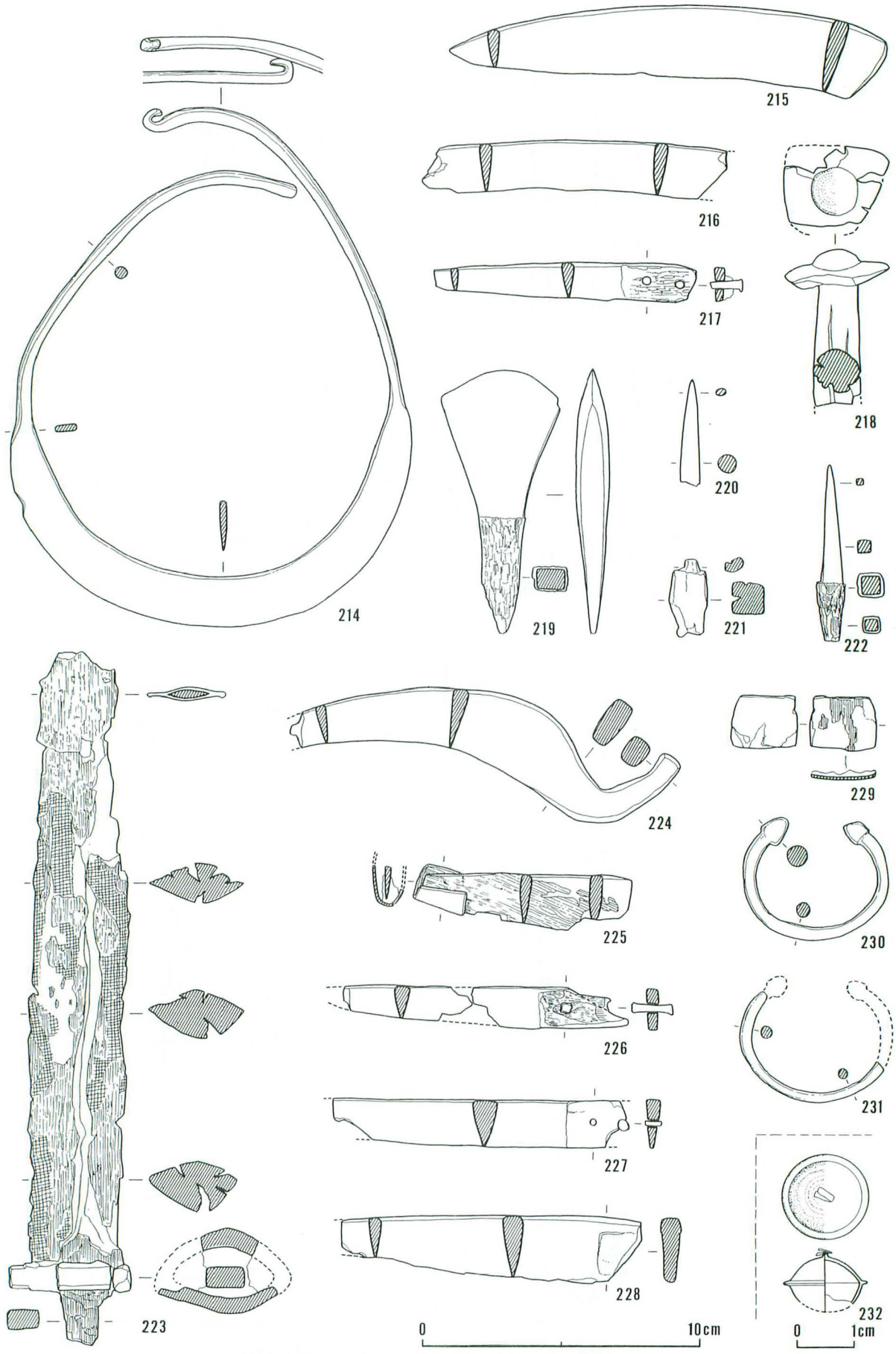


Fig. 29 Copper/bronze (214, 232) and iron objects (others) from Tell Gubba.

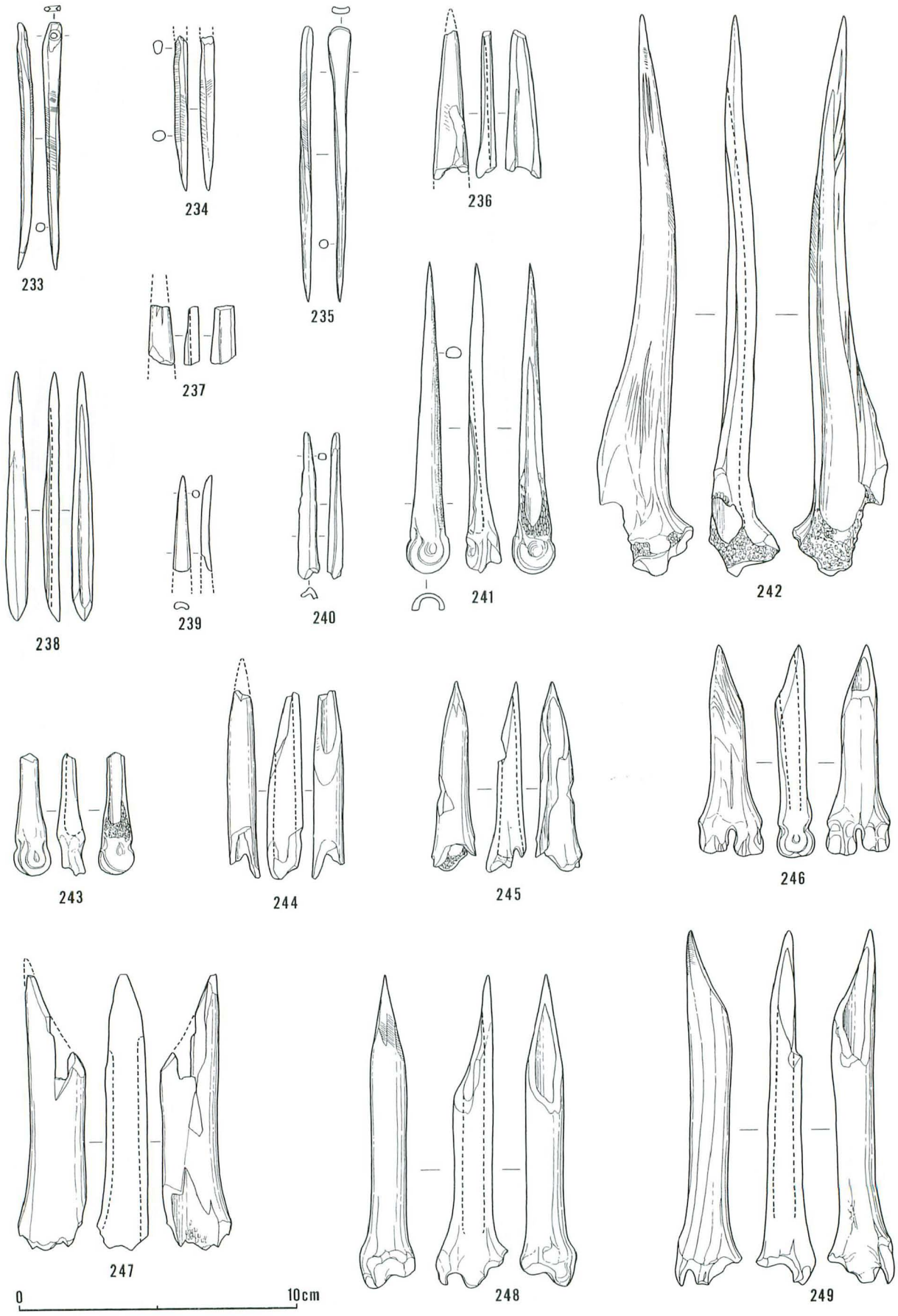


Fig. 30　Bone objects from Tell Gubba.

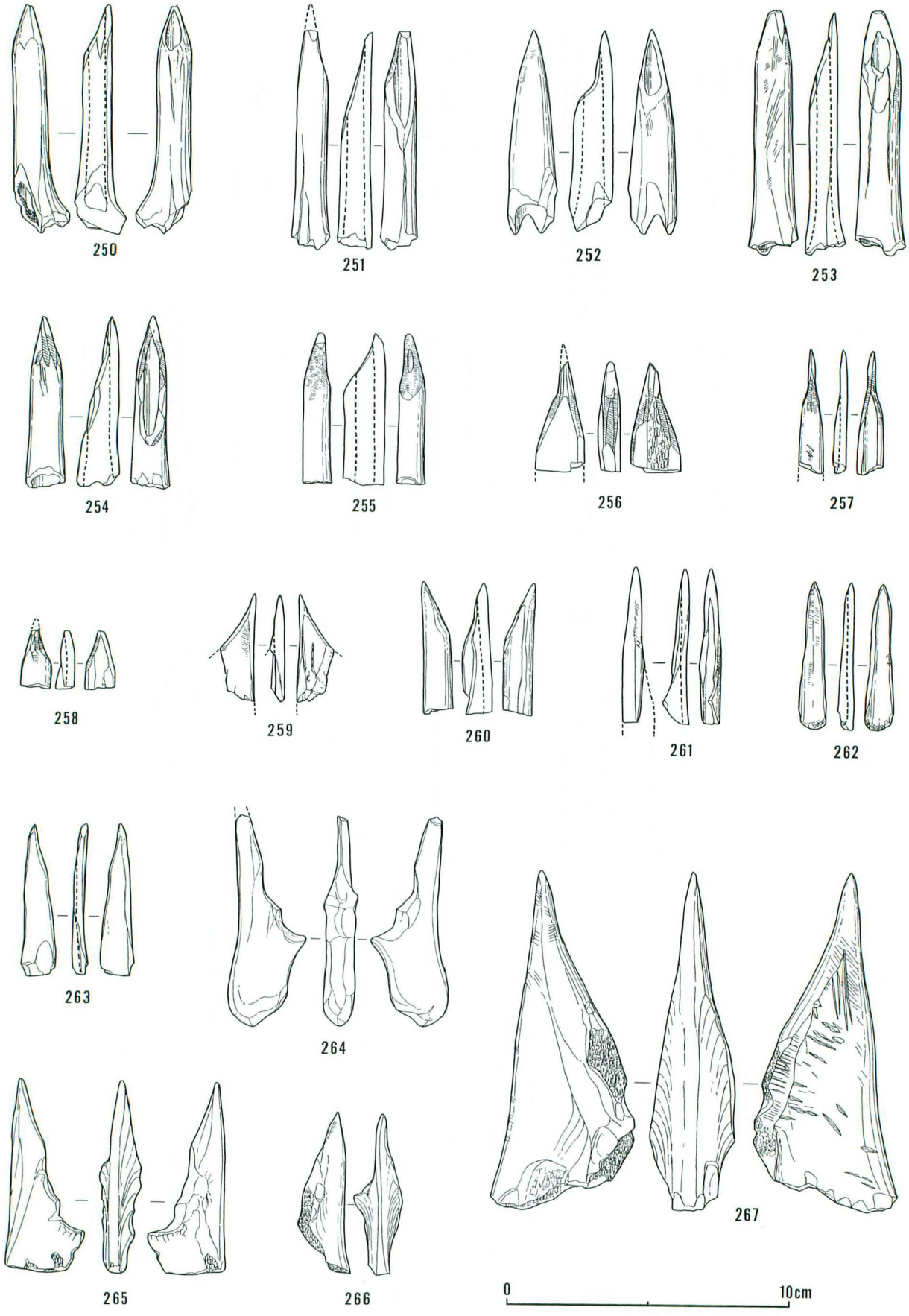


Fig. 31　Bone objects from Tell Gubba.

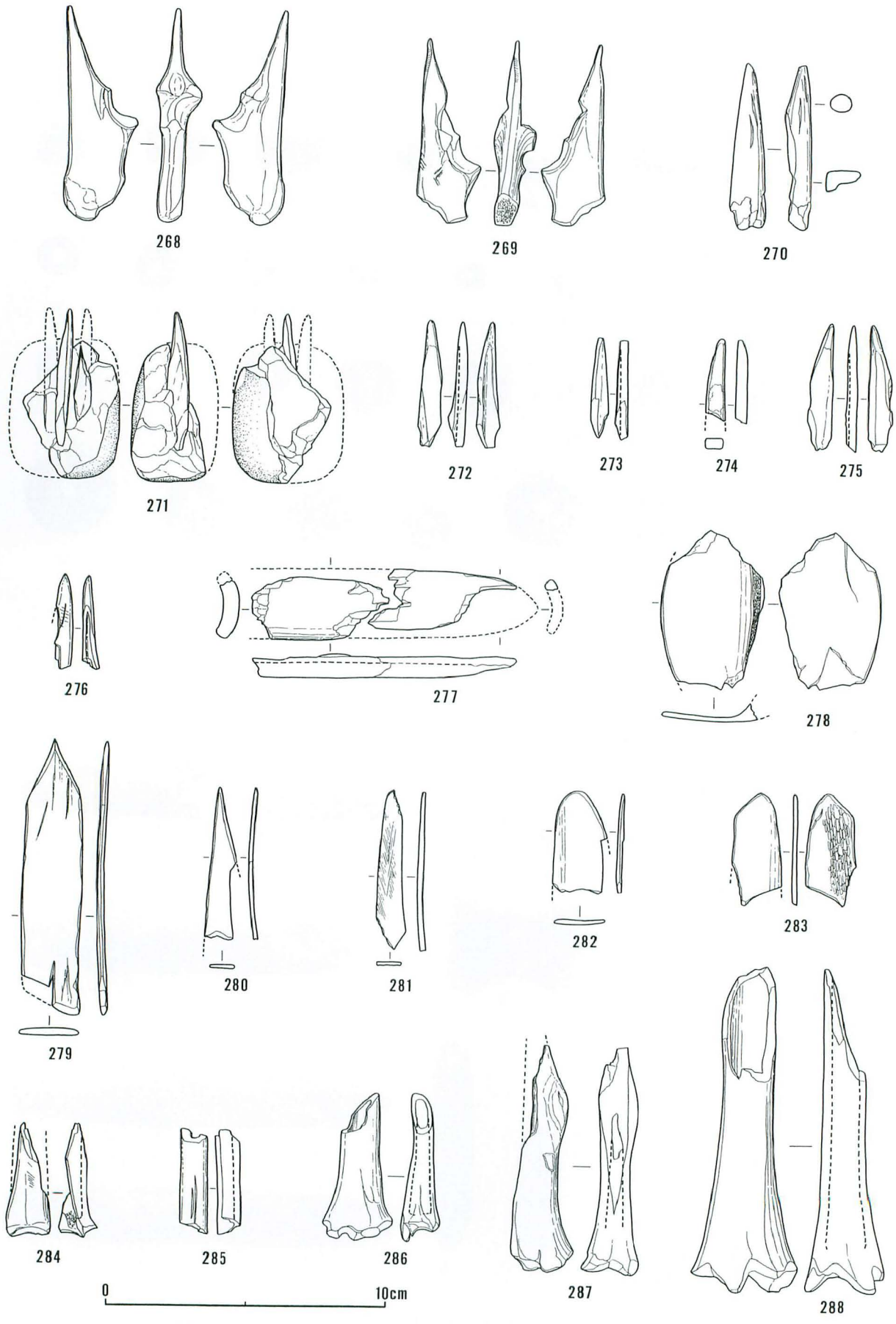
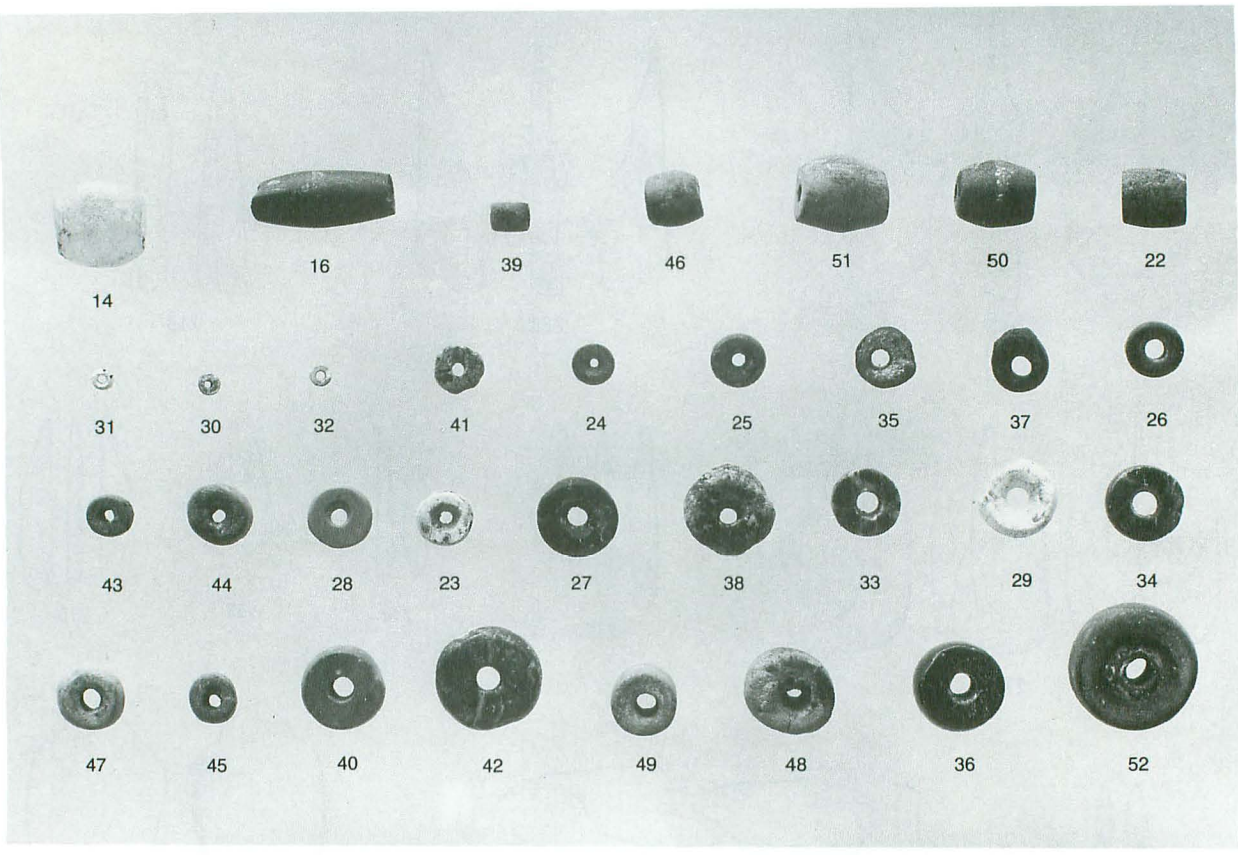
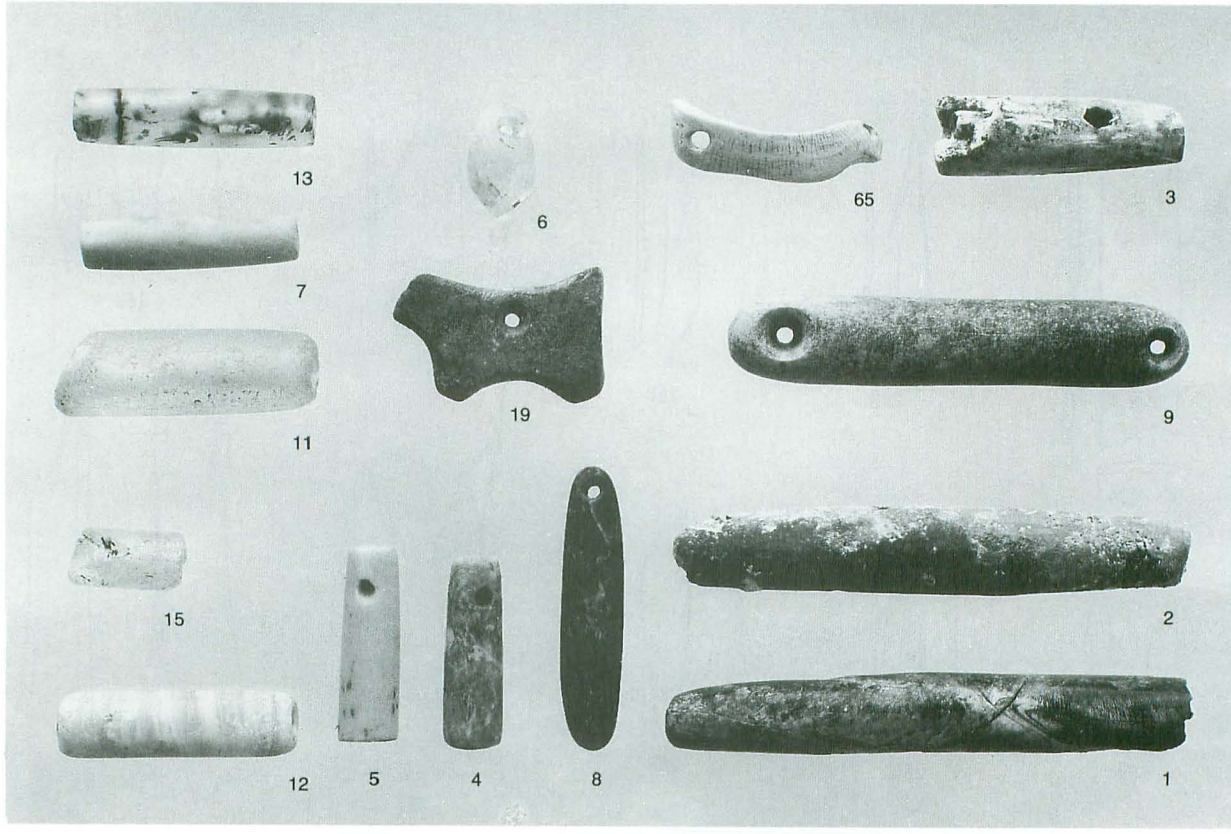


Fig. 32 Bone objects and worked bone (284–288) from Tell Gubba.

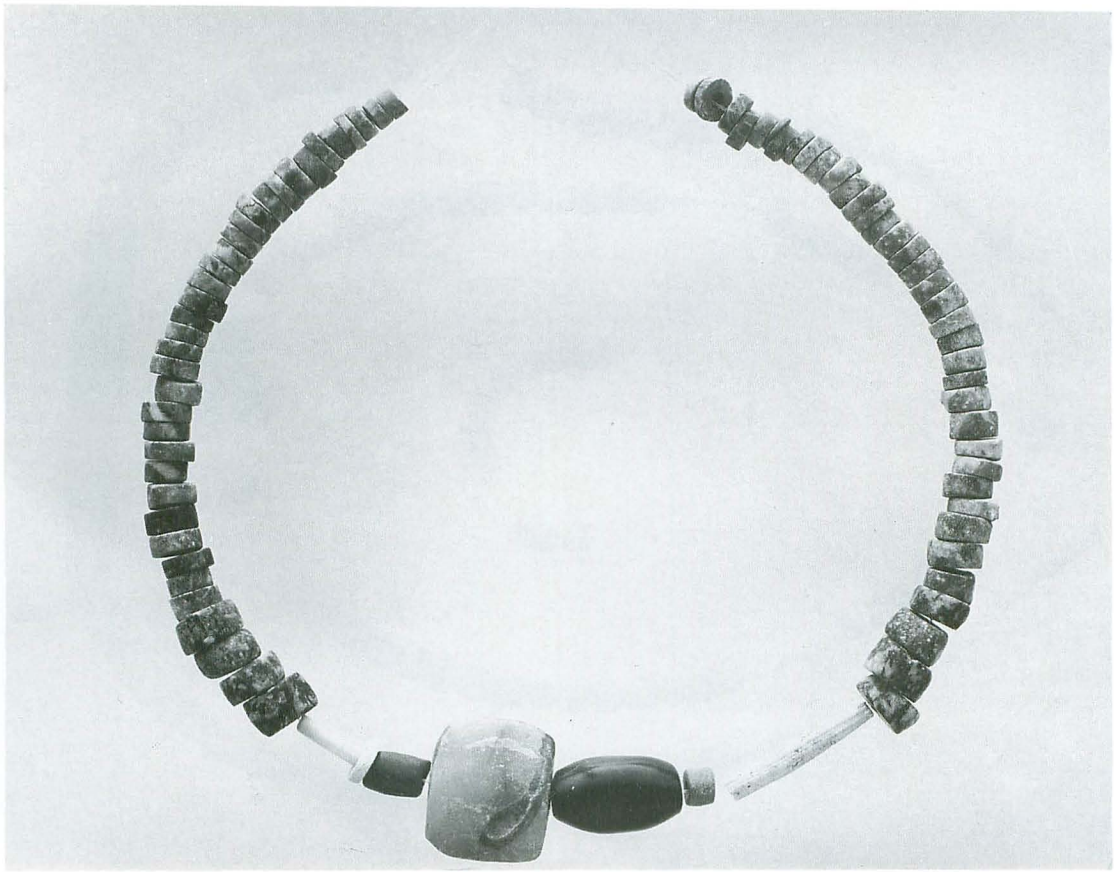


a. Beads of the Jamdat Nasr-Early Dynastic I period

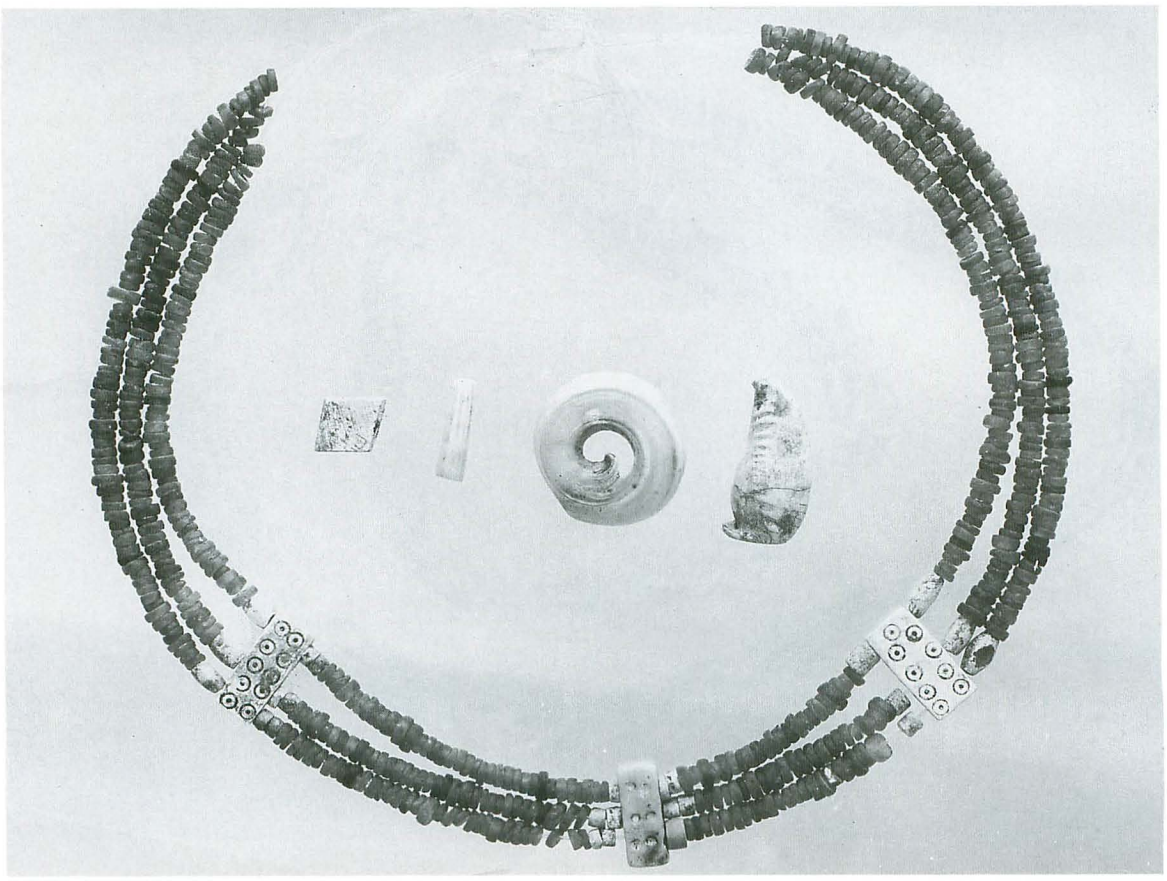


b. Beads and pendants of the Jamdat Nasr-Early Dynastic I period.

Tell Gubba



a. No. 57 beads, Early Dynastic I period.

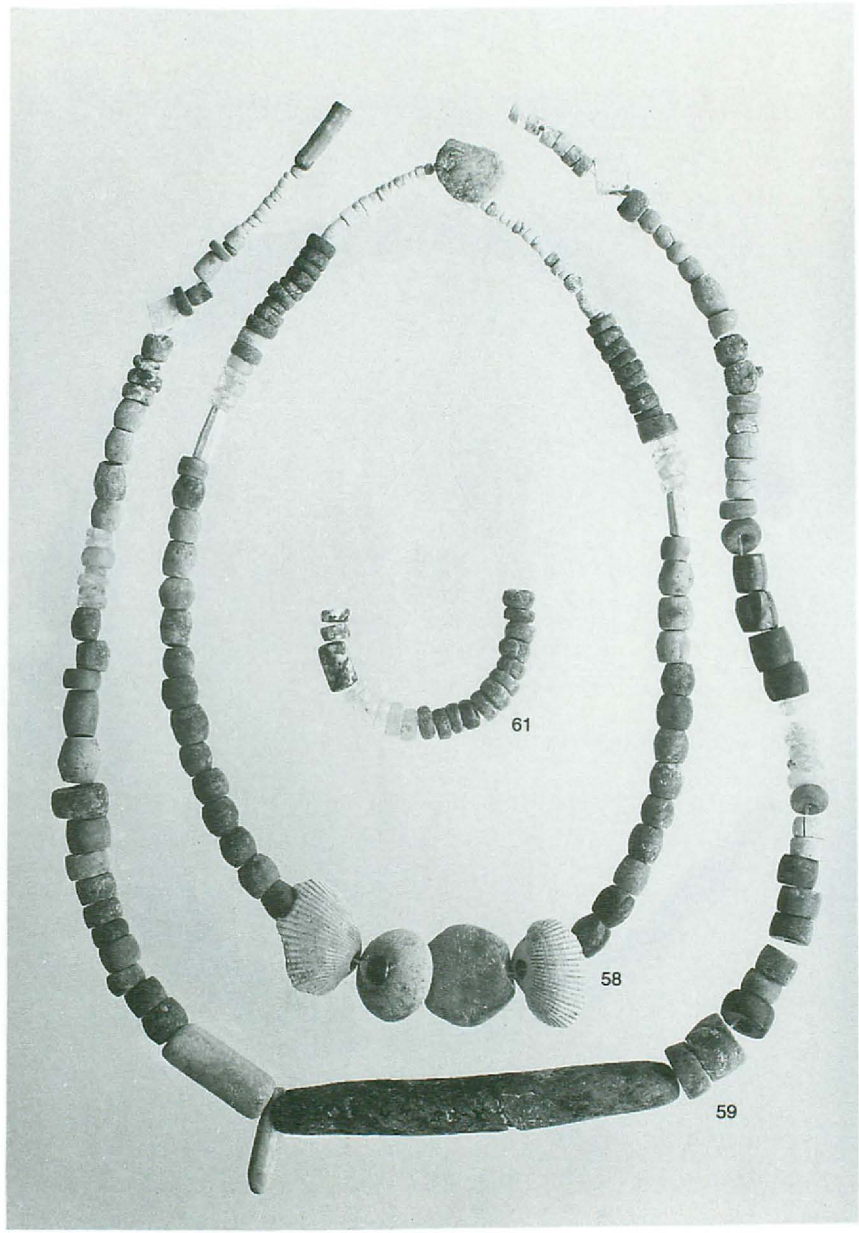


b. No. 60 beads, Jamdat Nasr period.

Tell Gubba

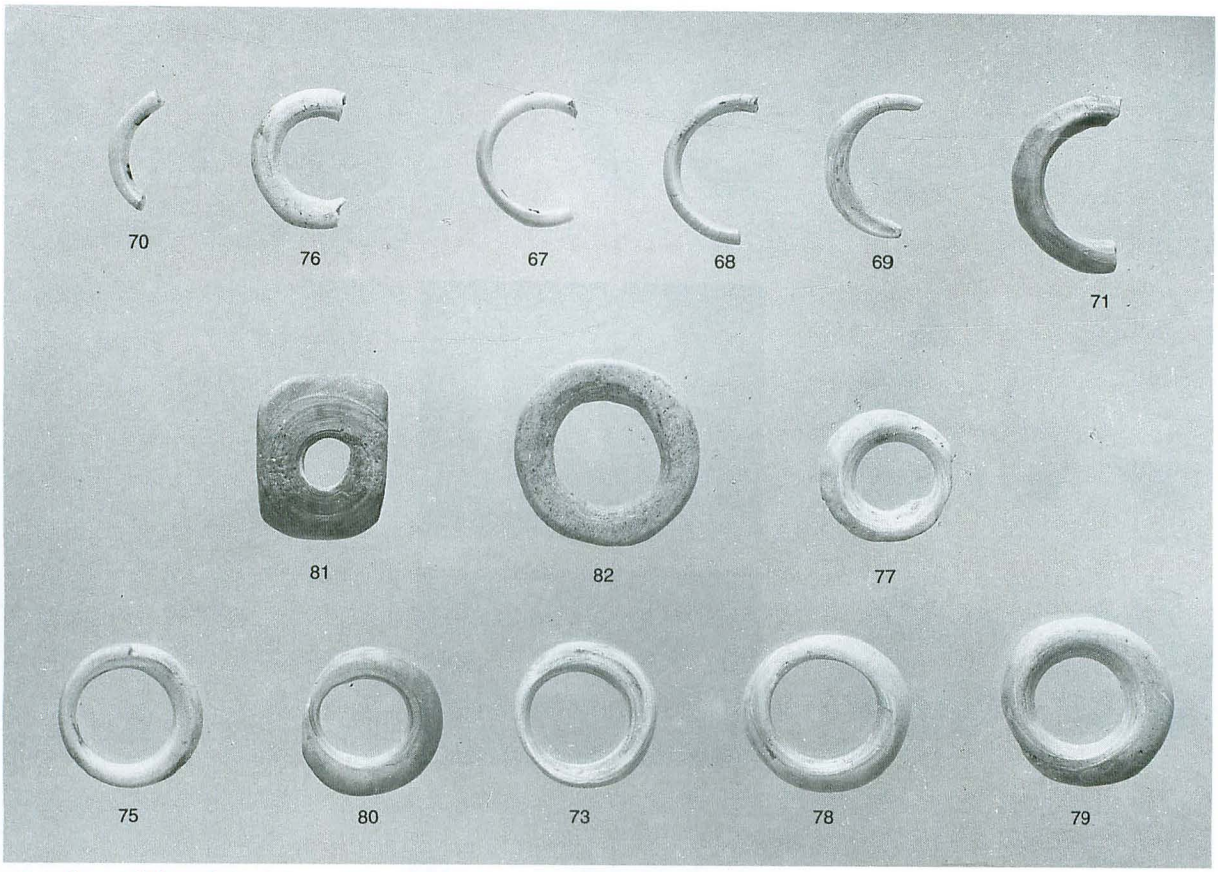


a. No. 63 beads, Jamdat Nasr period.

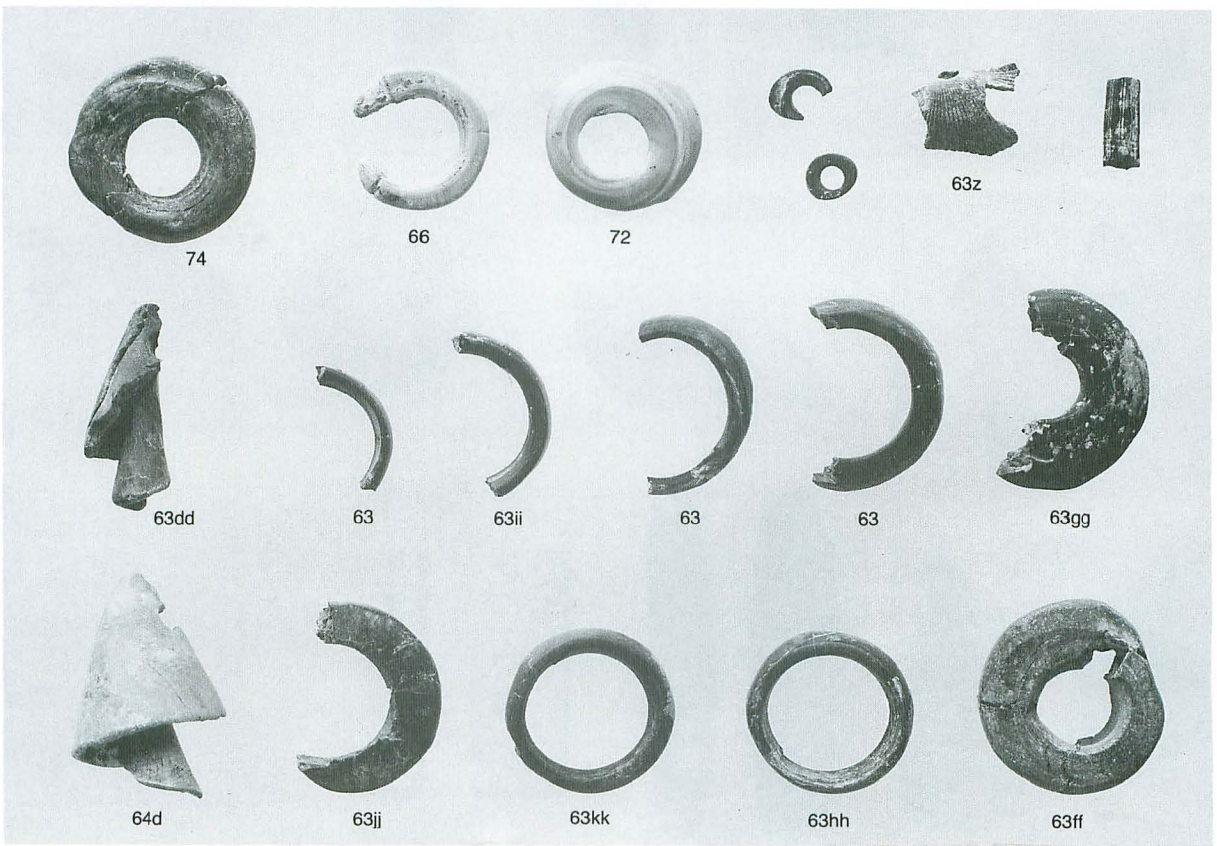


b. Beads of the Jamdat Nasr period.

Tell Gubba

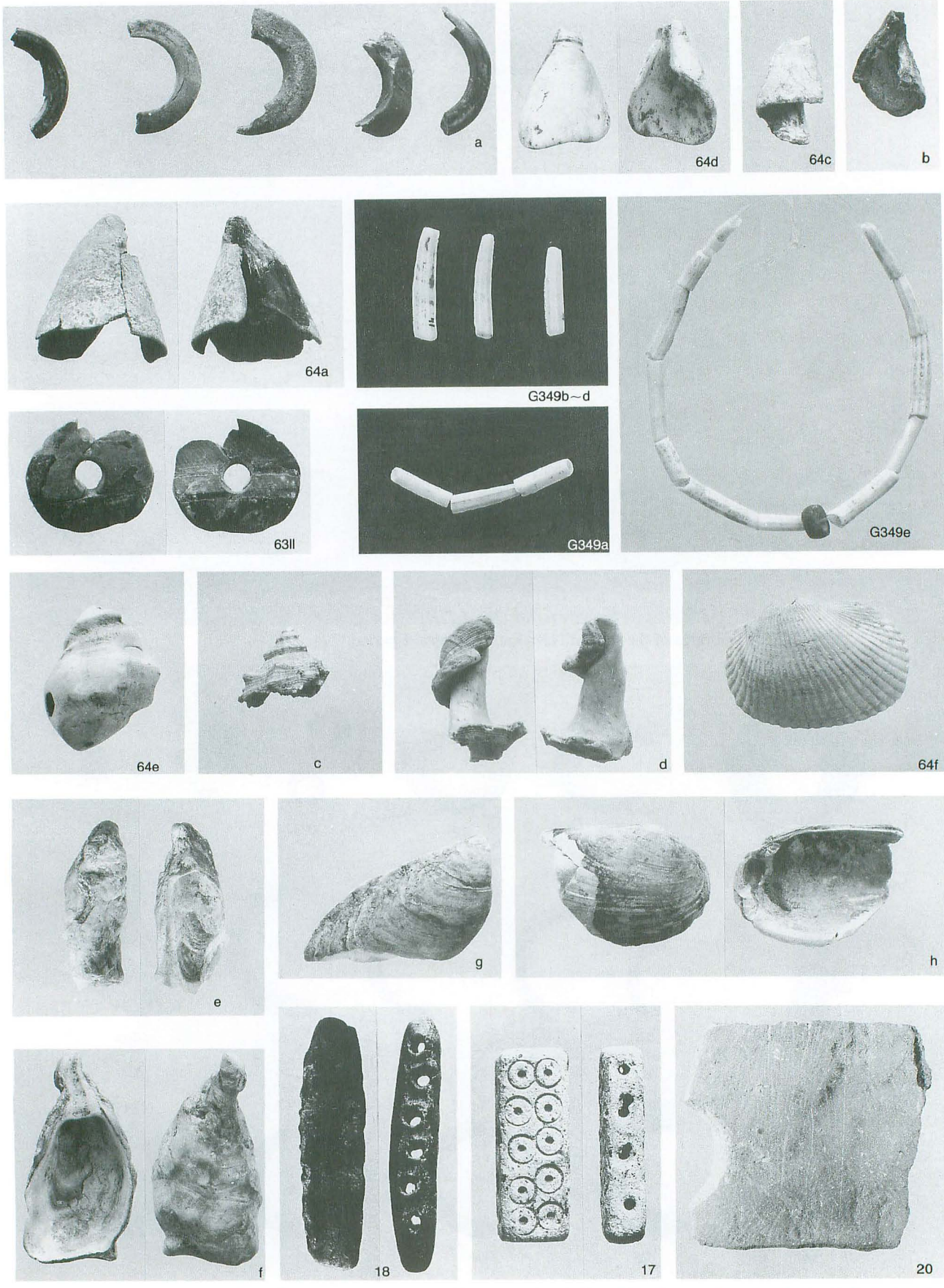


a. Stone (82) and shell rings of the Jamdat Nasr-Early Dynastic I period.



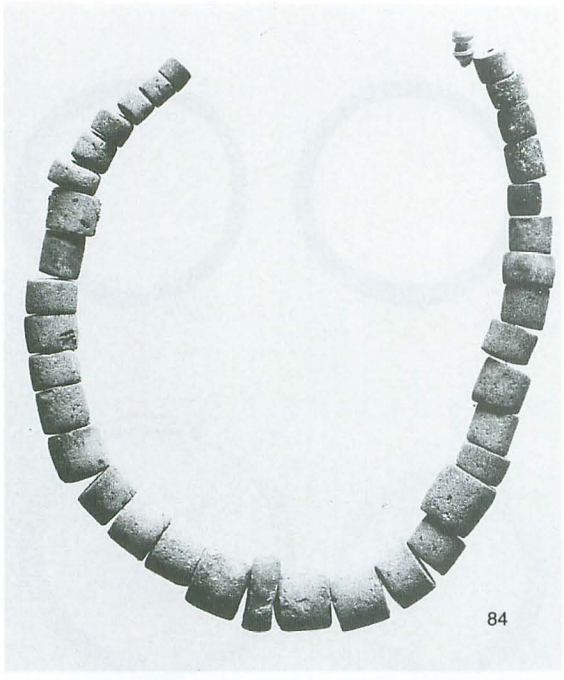
b. Shell objects of the Jamdat Nasr period (mostly blackened by fire).

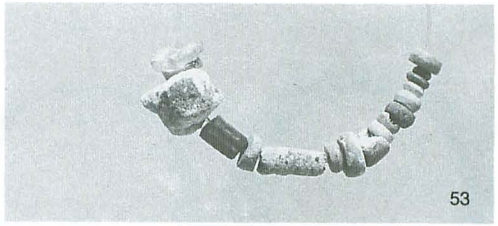
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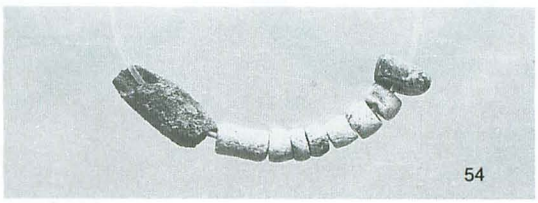


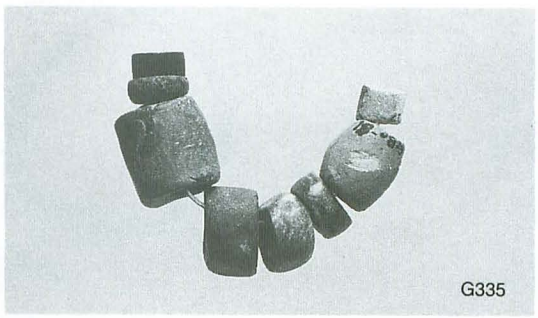
Shell objects and unworked shells, spacer beads (17, 18) and pendant? (20) of the Jamdat Nasr-Early Dynastic I period.

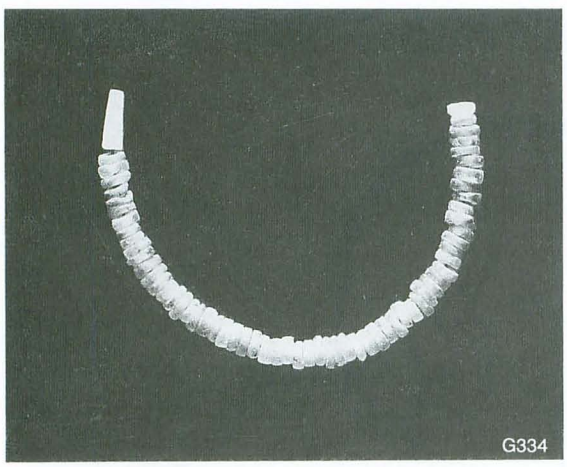
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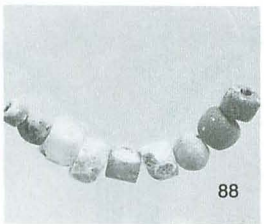


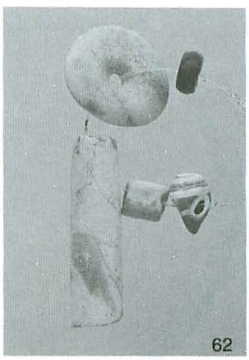




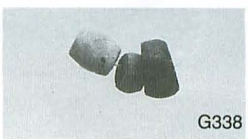


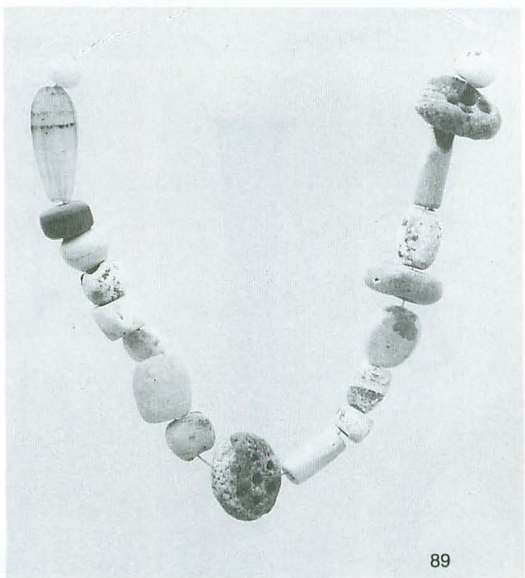


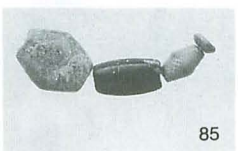


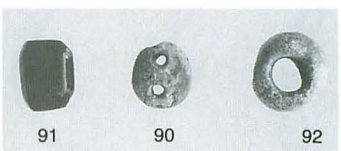


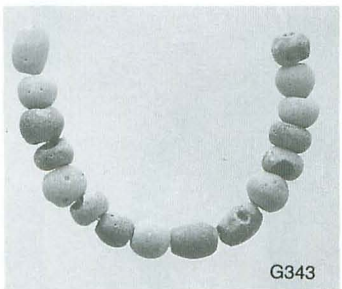








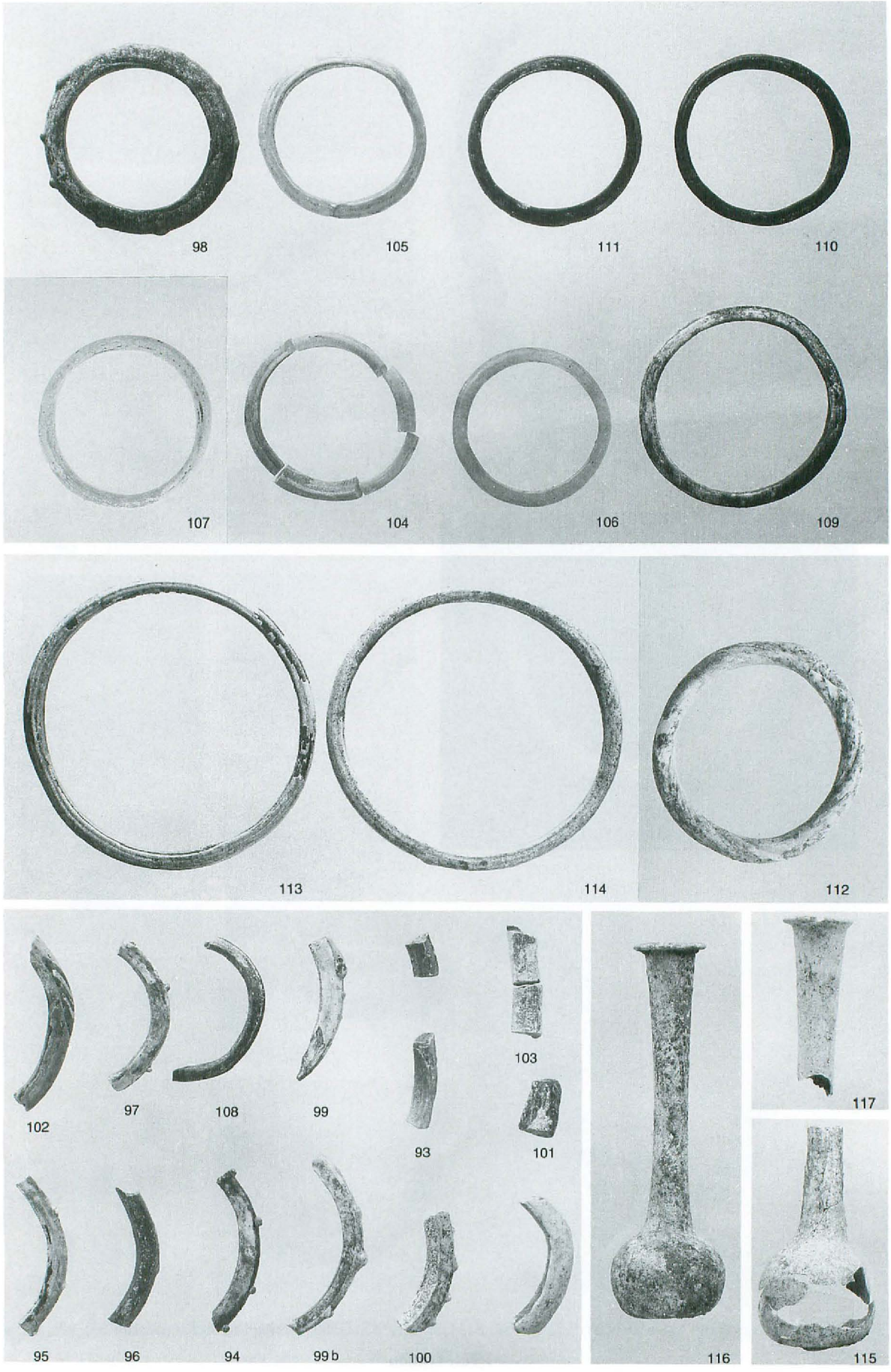






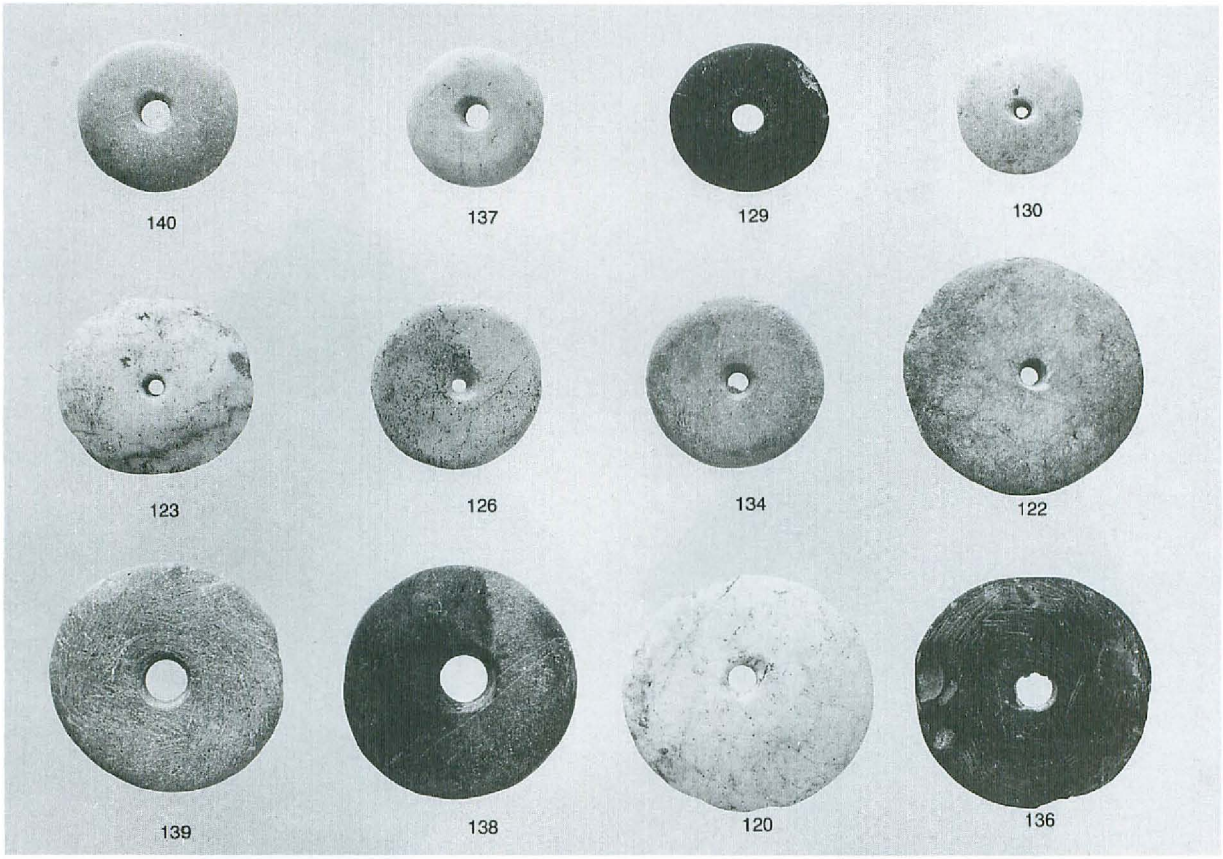
Beads from various spots (Jamdat Nasr: 53, 54, 62, 84, G334, G335, G338, G339; Pre-Achaemenian: 85; Islamic: others).

Tell Gubba

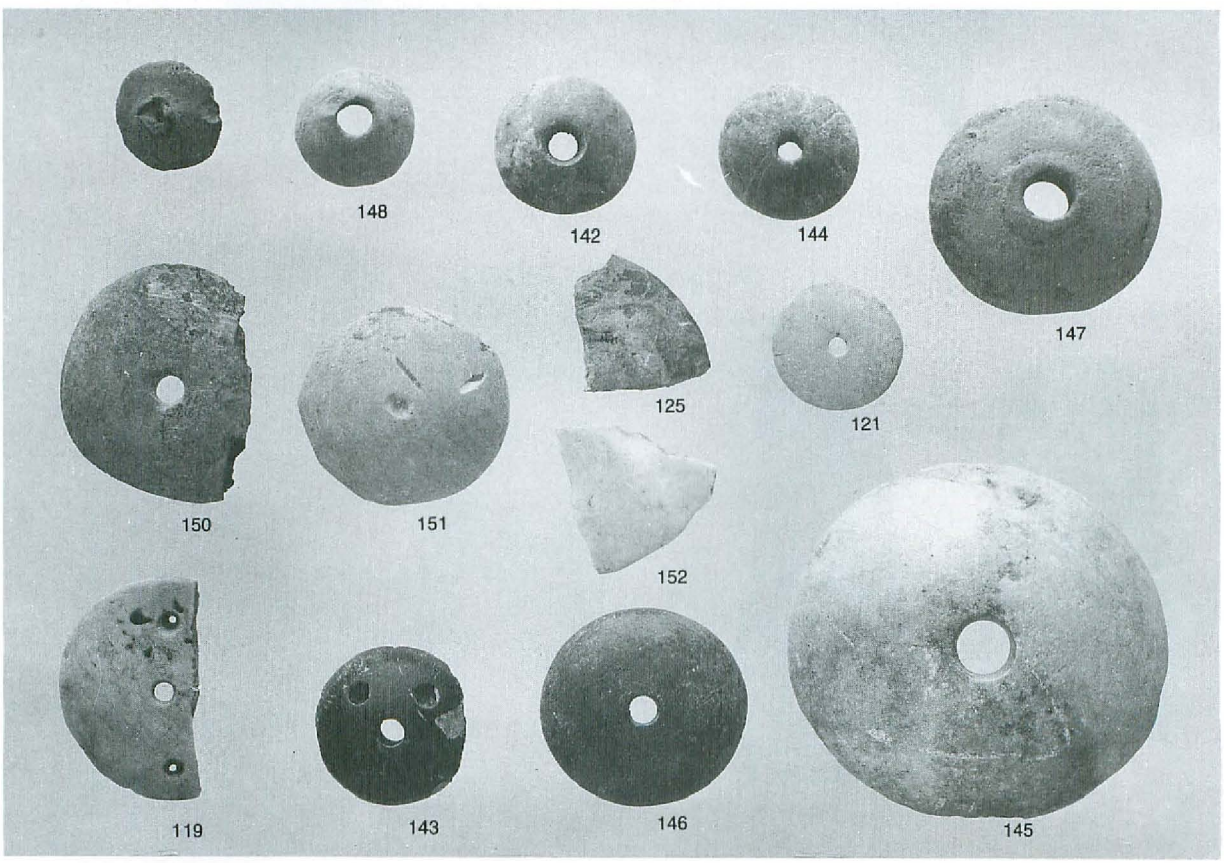


Glass blacelets and bottles from the Later period.

Tell Gubba

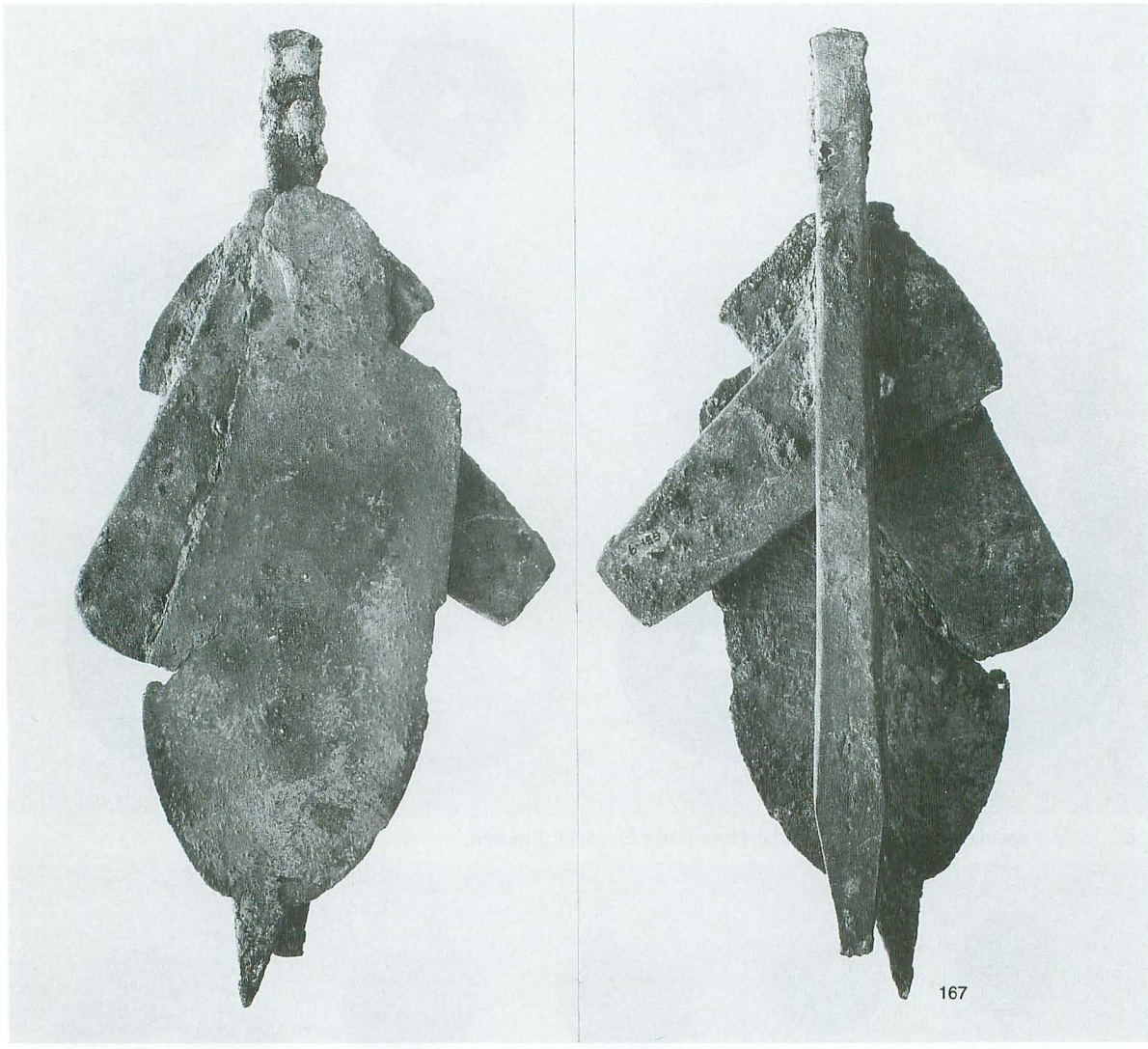


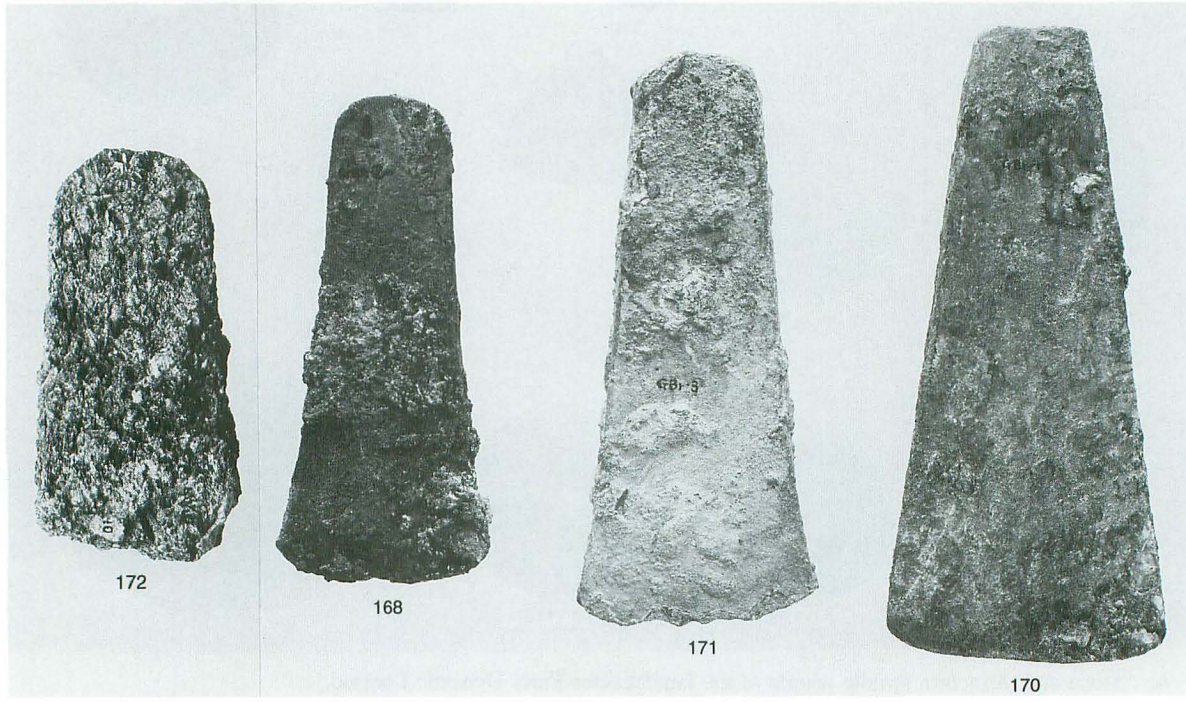
a. Stone spindle whorls of the Jamdat Nasr-Early Dynastic I period.



b. Stone and terracotta spindle whorls of the Jamdat Nasr-Early Dynastic I period.

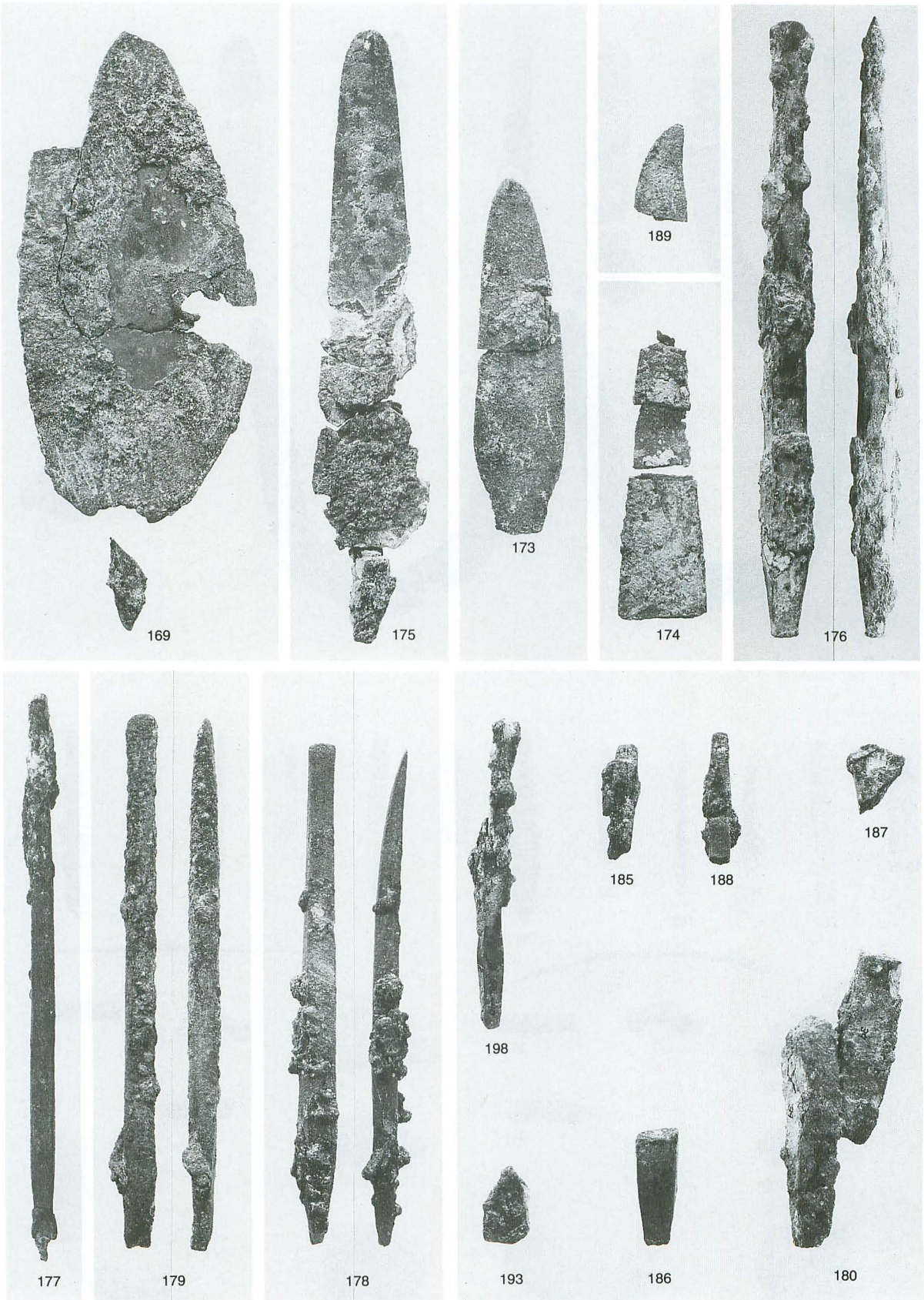
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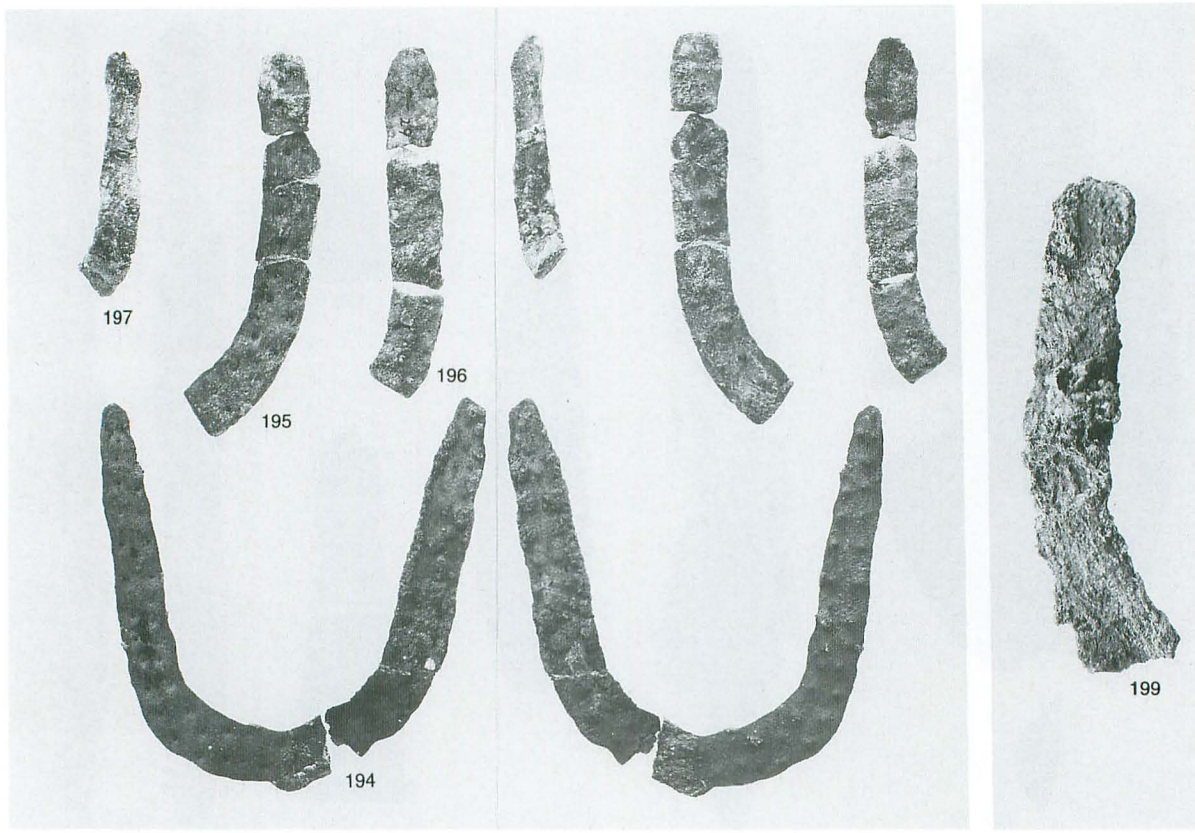
Copper/bronze objects of the Jamdat Nasr-Early Dynastic I period.

Tell Gubba

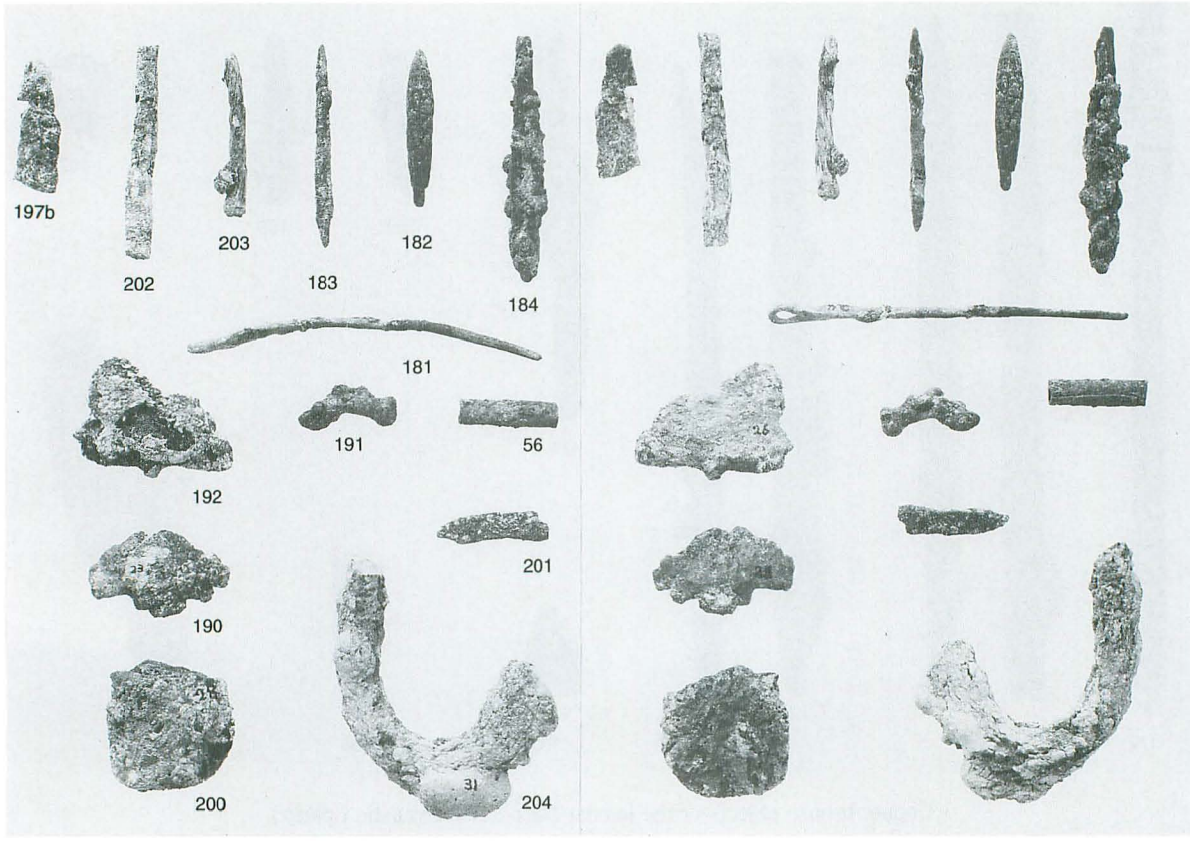


Copper/bronze objects of the Jamdat Nasr-Early Dynastic I period.

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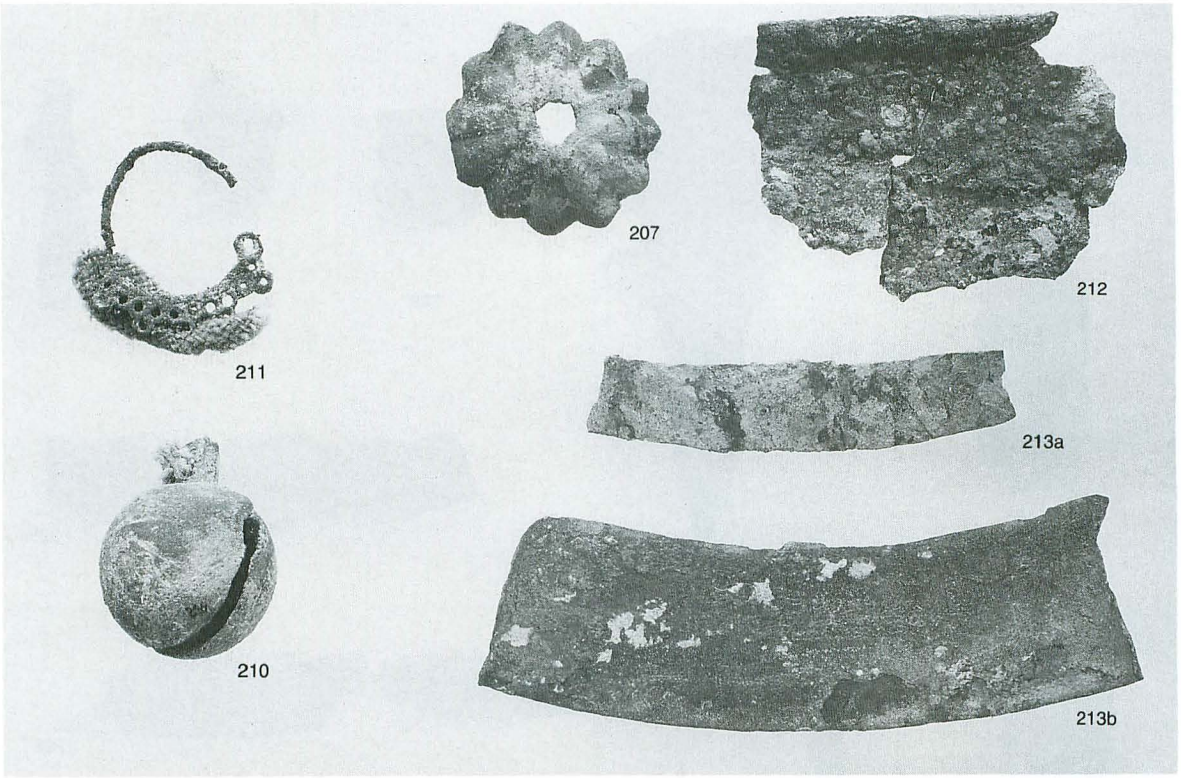


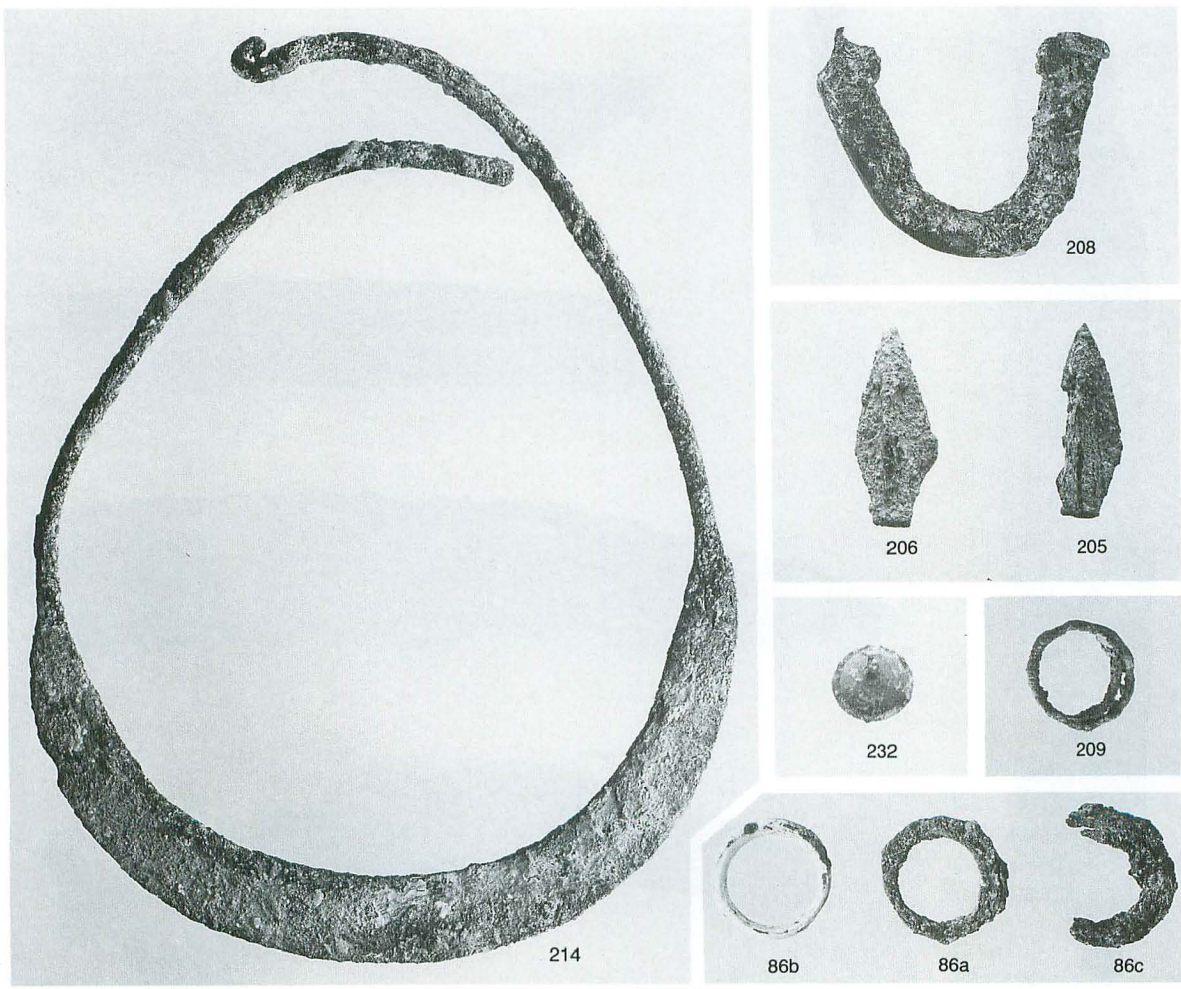
a. Horseshoe-shaped objects of the Jamdat Nasr period.



b. Copper/bronze objects of the Jamdat Nasr-Early Dynastic I period.

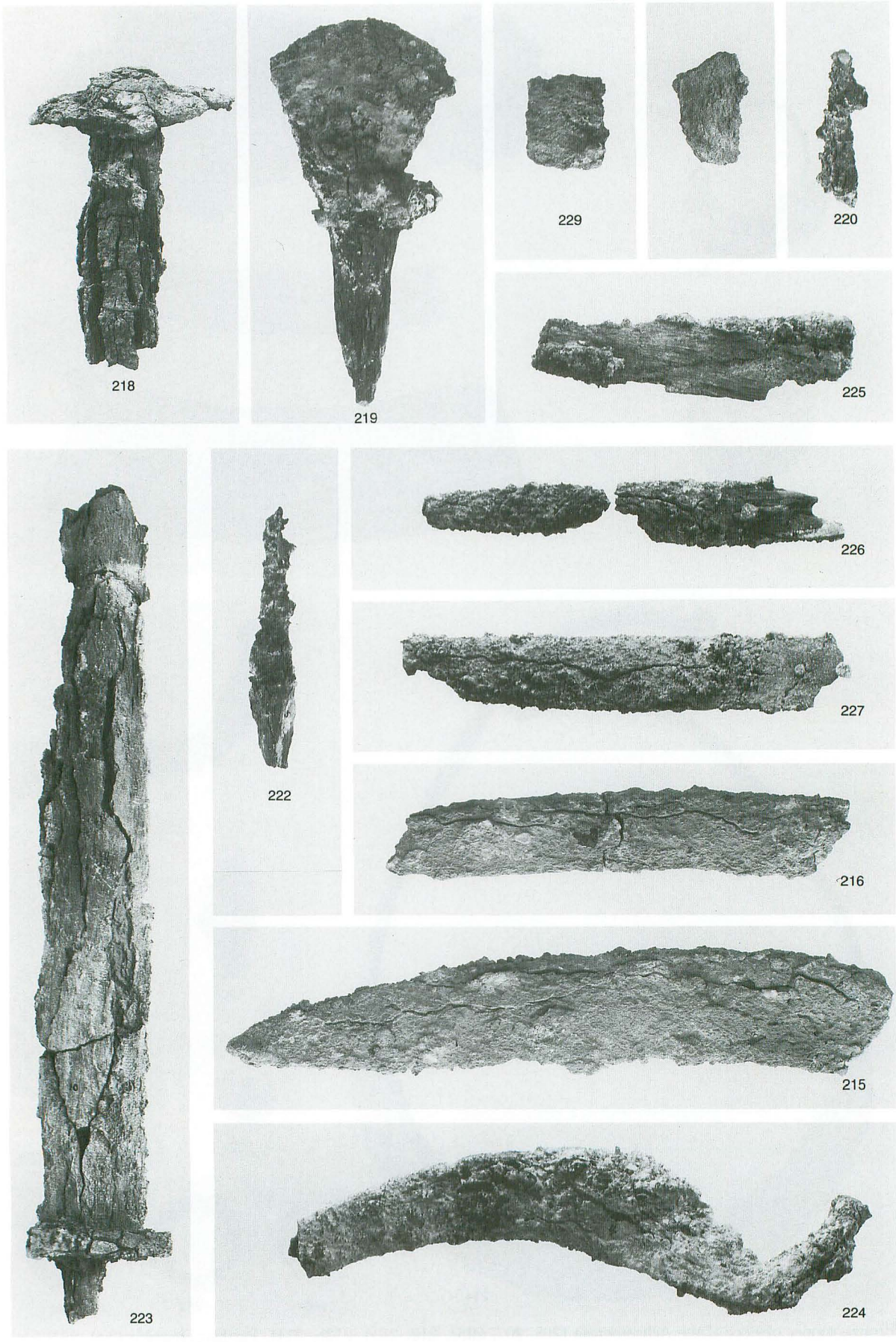
Tell Gubba





Bronze/copper objects of the Achaemenian (205–207, 208?, 212, 213a, 213b, 214), Parthian/Sasanian (209, 232), unknown (86a-c: probably Parthian/Sasanian) and Islamic (210, 211) period.

Tell Gubba



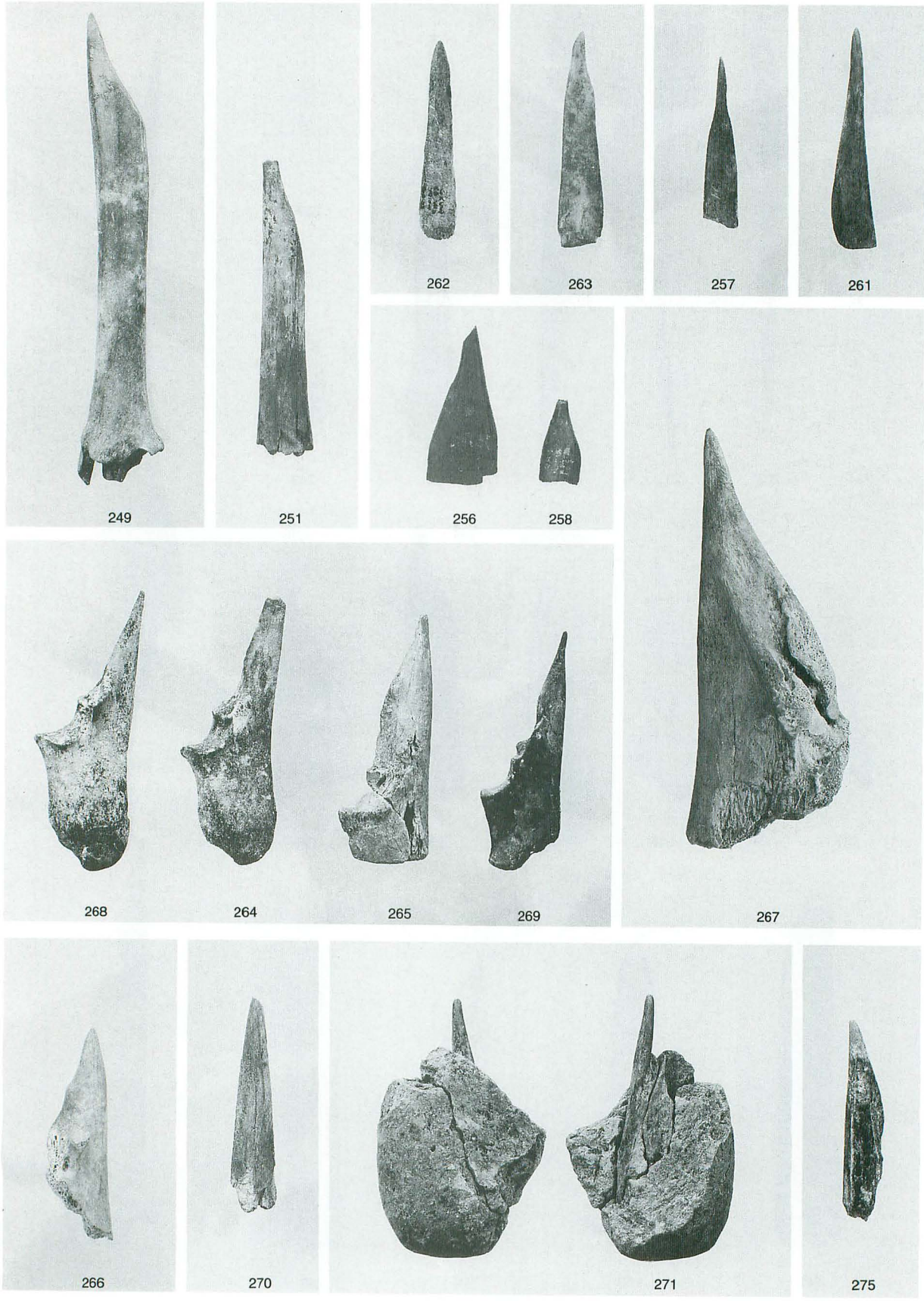
Iron objects of the Achaemenian (215, 216, 218), Parthian/Sasanian(others) period.

Tell Gubba



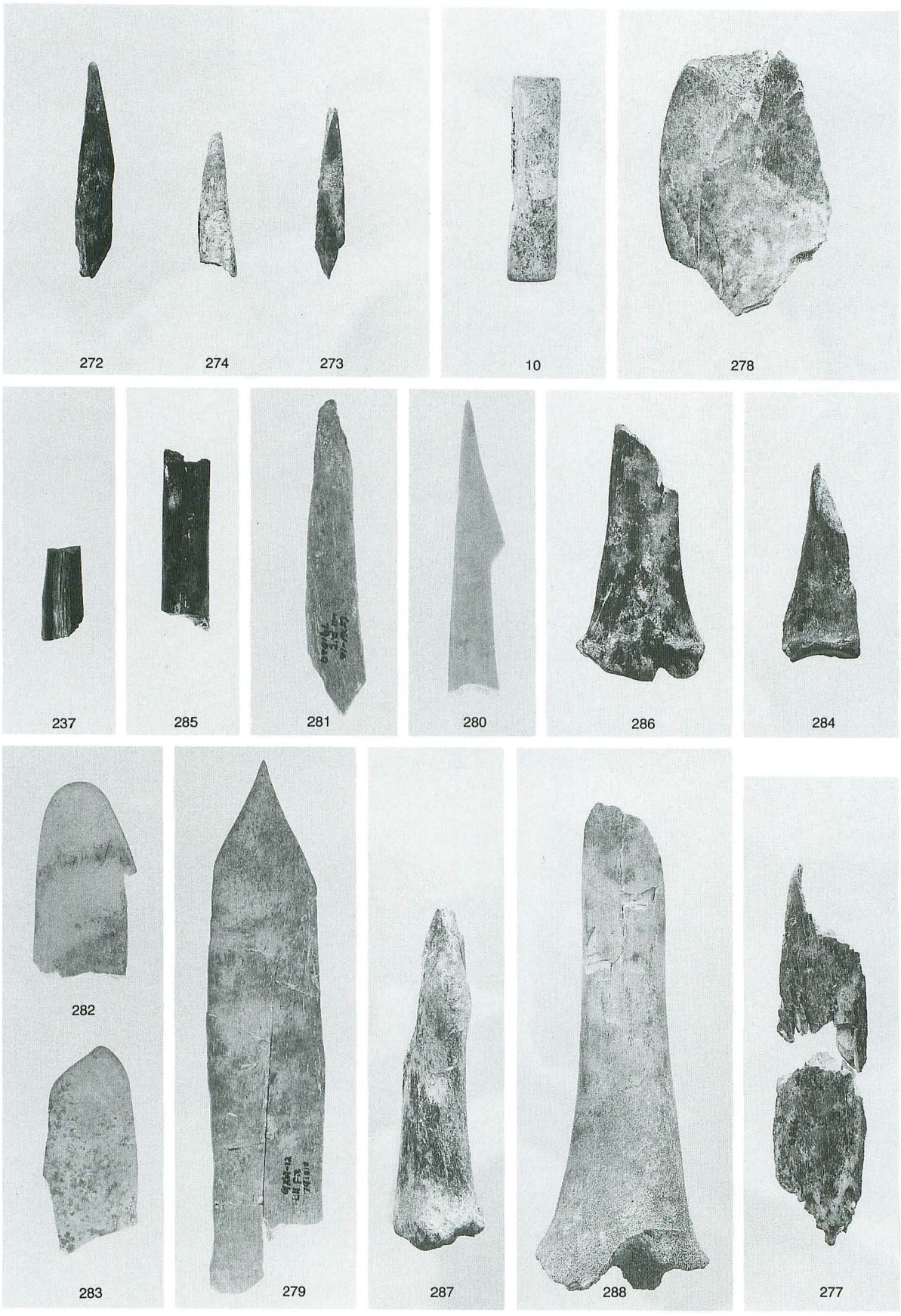
Bone objects of the Jamdat Nasr-Early Dynastic I period.

Tell Gubba



Bone objects of the Jamdat Nasr-Early Dynastic I period.

Tell Gubba



Bone objects and worked bones of the Achaemenian (279–283, 287) and Jamdat Nasr-Early Dynastic I (others) period.

Tell Gubba

REPORT ON THE EXCAVATIONS AT TELL SONGOR B
—The graves—

Ken MATSUMOTO* and Shoichi YOKOYAMA**

Preface

In compliance with the request of the Iraqi Government and UNESCO to come to the rescue of the archaeological sites in Hamrin Basin, Iraq due to the Hamrin Dam construction project to follow, we, the Japanese Archaeological Expedition of Kokushikan University, led by Prof. Hideo Fujii, carried out our excavation researches at Tells Songor A, B and C, Tell Gubba, and Telul Hamediyat from 1977 up to 1980. The preliminary report on them has already been made in Al-RAFIDAN, Vol. II/Hamrin report 6 [Fujii ed. 1981: 3～242]. Hence, the graves in Tell Songor B are to be reported here in detail.

Tell Songor B is a hill of 60 m×50 m with relative height of 2 m (Pl. 54). Its surface area of some two hectares (2/3 of the whole hill) has been excavated so far, thus resulting in the identification of four levels: from upper to lower, Level I-the Ubaid Preiod; Level II-the Ubaid/Halaf pottery mixture level; Level III-the Halaf Period; Level IV-the Halaf Period. Thereby, the hill has turned out to be the site mainly belonging to the prehistoric age [Matsumoto 1981: 182～193]. However, the surface layer of the hill has yielded about eighty-three dug-down graves (Fig. 1)(Table. 1).

Our sincere gratitude must be extended to the well-wishers who rendered us a good deal of helpful advice and cooperation in the execution of this work: Dr. Muaiyad Said Damerji, President of the Iraqi State Organization of Antiquities and Heritage, Dr.Behenam Abu al-Soof, General Director of Hamrin Site Investigation and other Iraqi researchers, Mr.Muhammad Abudul-Kadel Al-Mosa, Mr.Muhamad Ismail Mahumad, the late Mr.Ahmad Mutar Aleed and Mr.Salahadeen Hamed Ferid. Our Thanks are also due to the Grant-in Aid for Overseas scientific Research, the Ministry of Education and Kokushikan University. Thanks to their earnest support indeed, we were able to carry out this work.

Given below are the scholars who participated in the excavations at Tell songor B:

Director General: Hideo Fujii, Professor, The Institute for Cultural Studies of Ancient Iraq, Kokushikan University.

Joint Researchers:

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Shoichi Yokoyama, Curator, the Folk Museum of Meguro, Moriya Educational Hall, Meguro, Tokyo.

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Hidemi Ishida, Professor, the department of science, Kyoto University.
Yo Wada, Research Assistant, Hyogo Medical College.
Masatoshi Kawabata, Medical Practitioner.
(Conservation Science)
Shigeo Aoki, Researcher, Tokyo National Research Institute of Cultural Properties.
Cooperators:
Hiroshi Miyagoshi, Student, Faculty of Human Sciences, Osaka University.
Motoko Inaba, Student, Faculty of Human Sciences, Osaka University.

Moreover, we are indebted to the individual participants at the excavations of Tell songor A, Tell Gubba and Telul Hamediyat for their valuable assistance. Our thanks go to members of the Institute who helped us with our desk work and others at the Institute. Our special thanks are due to Mr. Hiroshi Miyagoshi for his actual mesurments of the grave goods, Mrs.Junko Matsumoto for her tracing work, and Mrs. Maya Ikuma for her English translation.

GRAVES

Unless specified, scales are 1/20 for grares, 1/4 for pottery, and 1/1 for small findings.

Gr. 1 (Fig. 2)

This is a rectangular grave pit of 65×15 cm in size which has been dug down 45 cm below the surface. Hence an infant has been found buried with its head placed N43E, facing south-east and knees slightly crouched. No grave goods are evidenced.



Fig. 2 Grave 1.

Gr. 2 (Fig. 3 and Pl. 55–*b*)

The lower extremities of the body have not been excavated yet. The portion so far uncovered is in the dimensions of 98×35 cm. The adult body has its face turning up with its head position of N64E. The arms are placed on the chest while the knees are bent down. We have not found any grave goods so far, but there is a possibility of something hidden somewhere besides the feet in the nonexcavated area. The grave pit is dug down 75 cm below the surface at grid X-9 and is located above Grave 3.

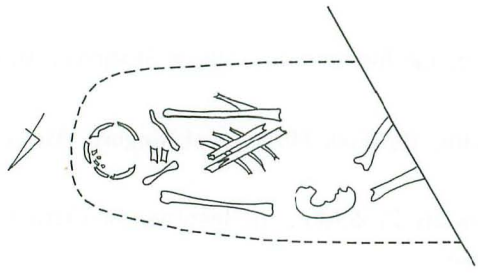
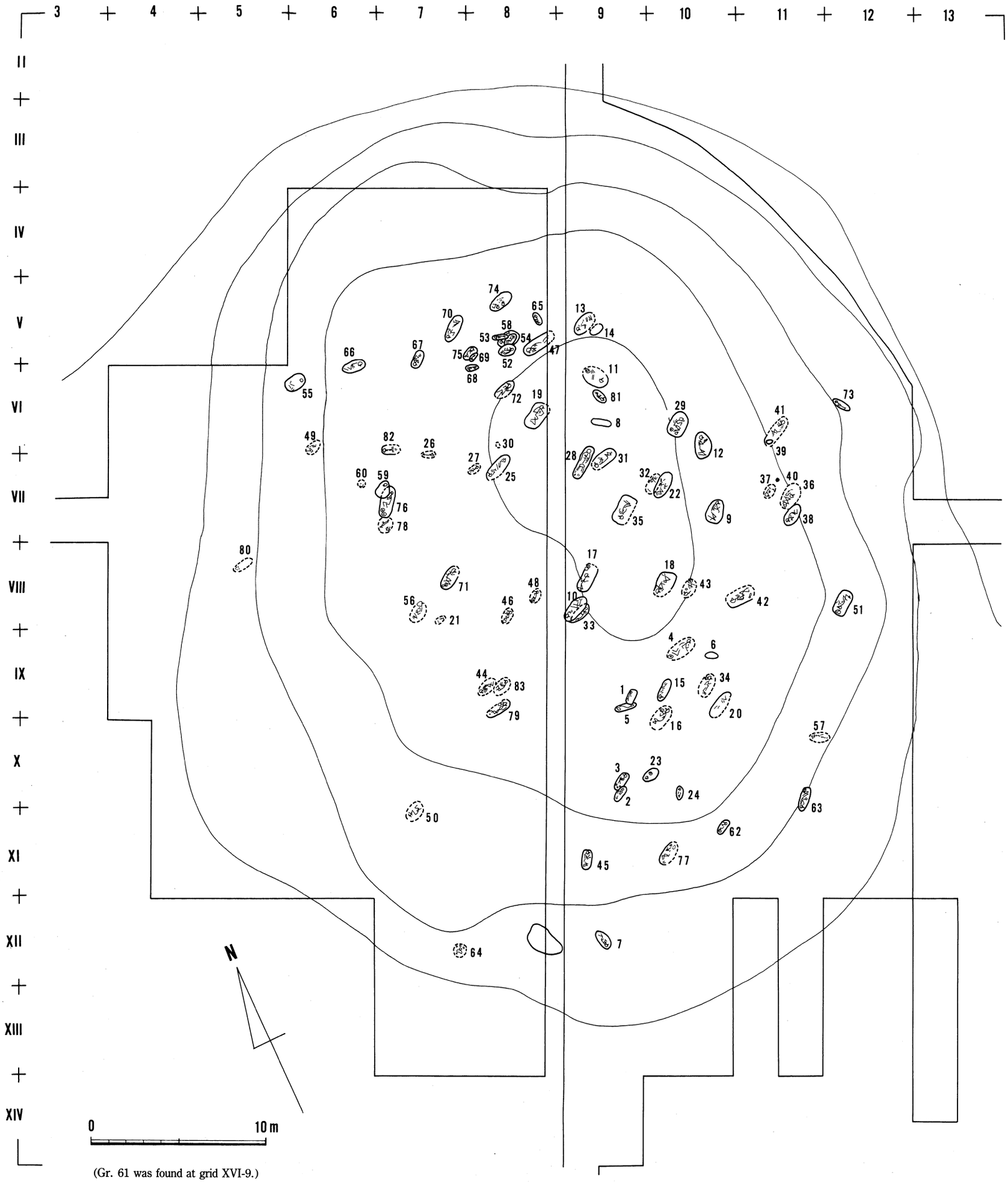


Fig. 3 Grave 2.

Gr. 3 (Fig. 4, Pl. 55–*d* and Pl. 56–*a*, *b*)

The grave pit presumably in the dimensions of 105×45 cm has been in the depth of 120 cm below the surface at grid X-9. This is an adult whose head is in the direction of N58E with its face northwestward. While the right hand is putting out straight forward and the left hand is folded nearly at right angle toward the face, the lower extremities are found cruched. Excavated here are necklace composed of 15 beads



(Gr. 61 was found at grid XVI-9.)

Fig. 1 Distribution of the graves, Tell Songor B.

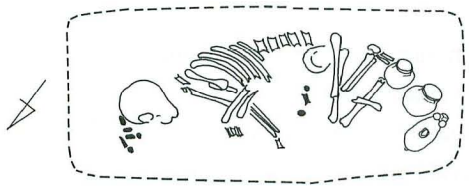


Fig. 4 Grave 3.

around the neck, one theriomorphi jar and two round base jars lying side by side beside the feet. Moreover, a clay lump, which seems to have been a sling ball, is uncovered here. As this is the grave dug down into Layer II, the clay lump may come from either Layer II, mixed in the discharged soil with which the grave pit lies directly below Grave 2, which signifies that is older than Grave 2.

Grave goods (Fig. 5 and Pl. 74–*a*)

1. Theriomorphi jar (Pl. 74-*a*)

Height: 12.0 cm, rim diameter: 3.5 cm, body diameter: 23.5 cm.

Brownish sandy ware, brownish surface color, well-fired.

This is a receptacle molded into a sheep or pig-like animal, where four short legs, a short tail, two slightly projecting nostrils and round ears are represented with short hair carved on the whole body. For its function, it is so made as to be supported by the four short legs. And liquid is poured into the body through the back and poured out through the two nostrils. This grave belongs to Isin-Larsa period.

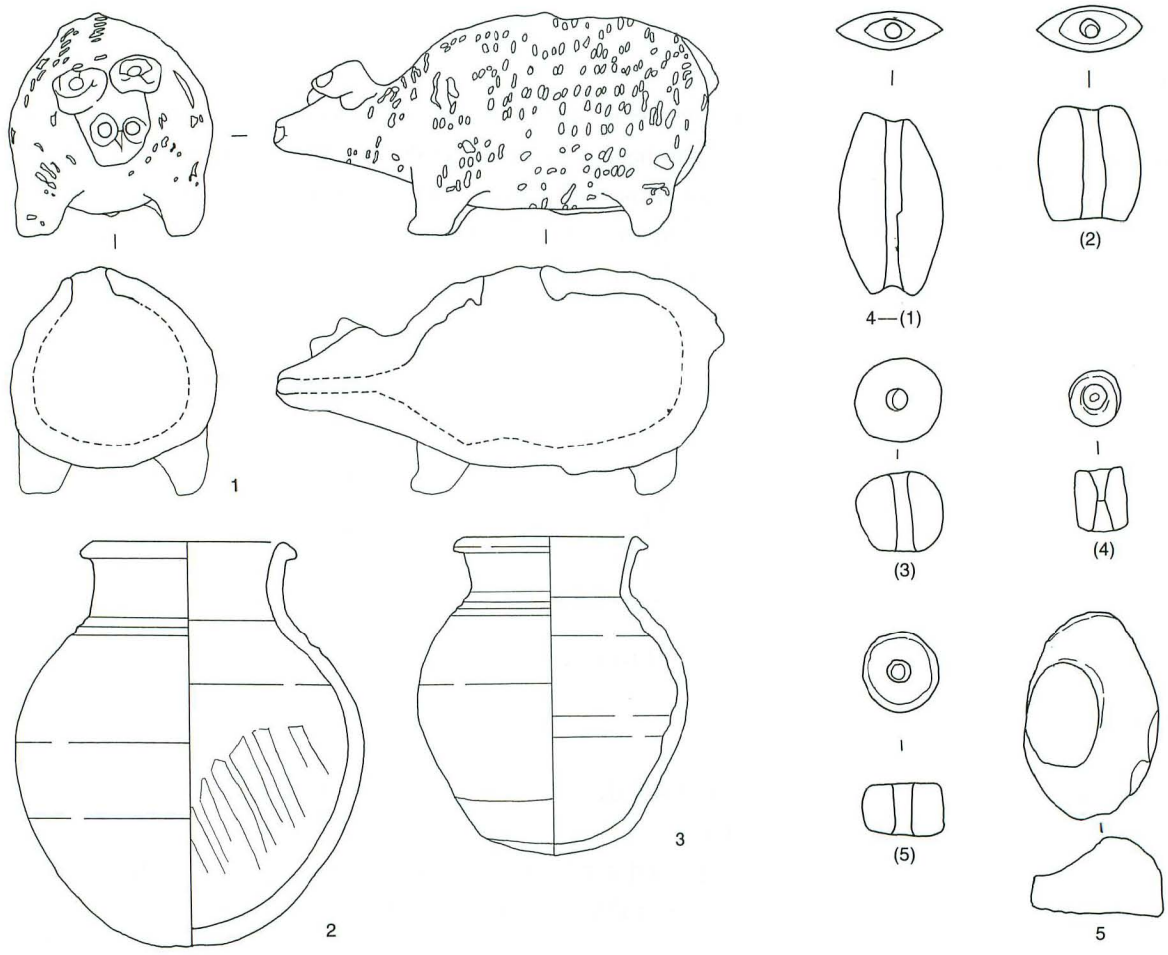


Fig. 5 Grave goods, Gr. 3.

2. Jar (Pl. 73–*b*)

Height: 22 cm, rim diameter: 11.5 cm, body diameter: 18.0 cm, round base.

Brownish coarse ware, chaff temper, buff surface color.

Three grooves are applied around the border between the neck and the shoulder. The traces of spatula-scraped from adjustment are observable from the maximum diameter down to the base inside the vessel.

3. Jar (Pl. 73–*c*)

Height: 17.3 cm, rim diameter: 10.2 cm, body diameter: 14.3 cm, round base.

Brownish sandy ware, chaff temper, buff surface color.

There are three grooves running around the upper part of the shoulder.

4. Necklace (Pl. 78–*c*)

Its main component is of agate, which has cylindrical, rhomboid, ring-shape and ball-shape beads. It consists of fifteen agate beads.

(1) Length: 2.5 cm, width: 1.4 cm, thickness: 5 mm, agate, rhomboid bead.

(2) Length: 1.5 cm, width: 1.4 cm, thickness: 6 mm, agate, rhomboid bead.

(3) Diameter: 1.2 cm, agate, ball-shape bead.

(4) Diameter: 7 mm, length: 8 mm, agate, cylinderical bead.

(5) Diameter: 1.1 cm, length: 7 mm, agate, ring-shape bead.

5. Sling ball (Pl. 83–*c*)

Diameter: 1.9 mm, length: 2.8 mm, clay.

Gr. 4 (Fig. 6 and Pl. 56–*c*)

This is a grave pit 45 cm below the surface at Grid IX-10, whose dimensions are not clear, but maybe it had a rectangle of 160×70 cm. With the head position of N80E and face directing south, the body is lying with slightly bent knees and folding its arms. The grave goods here are two small jars near the head and one medium-size jar at the feet. Moreover, potsherds have been uncovered at the feet. It seems likely that they do not belong to grave goods but have originated in the soil with which the body was buried.

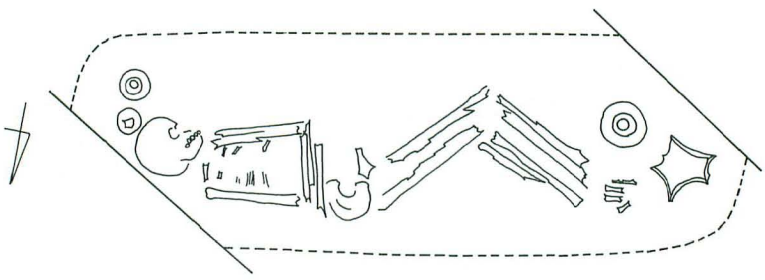


Fig. 6 Grave 4.

Grave goods (Fig. 7)

1. Jar (Pl. 75–*f*)

Height: 14.5 cm, rim diameter: 10.0 cm, body diameter: 11.8 cm, base diameter: 5.2 cm.

Reddish coarse ware, buff surface color.

Its rim diameter is larger than the height and body diameter. It has such feature that the base, fitted with a ring base, is so largely projecting beyond the ring height that it is rather unstable.

2. Small vase (Pl. 76–*b*)

Height: 8.3 cm, rim diameter: 6.7 cm, body diameter: 9.0 cm, base diameter: 5.3 cm.

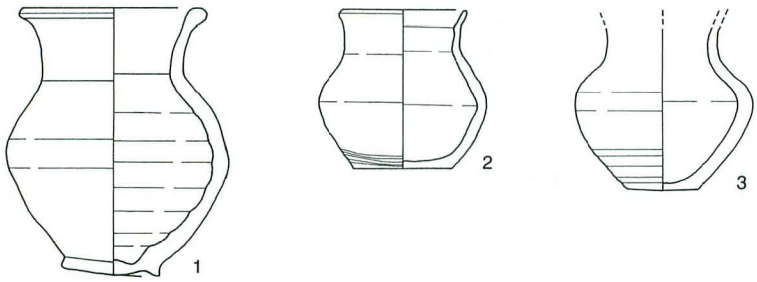


Fig. 7 Grave goods, Gr. 4.

Reddish coarse ware, chaff temper, greeish surface color.

3. Small vase (Pl. 76–*c*)

Height: 10.0 cm, rim diameter: 4.0 cm, body diameter: 9.5 cm, base diameter: 4.0 cm.

Dark brownish sandy ware, chaff temper, dark brownish surface color.

Gr. 5 (Fig. 8 and Pl. 56–*d*)

Part of the head not having been evidenced yet, the grave is uncovered 120 cm below the surface at Grid IX-9. It is not sure about the size and shape of the grave pit, but probably it was a grave pit of about 90×38 cm in dimensions. The head is positioned N80E, facing north bent knees. As grave goods, a small jar has been placed at the feet.

Grave goods

1. Small Jar (Pl. 77–*a*)

Height: 10 cm, rim diameter: 8.5 cm, body diameter: 9.5 cm, base diameter: 4.0 cm.

Greenish fine ware, chaff temper, dark greenish surface color.

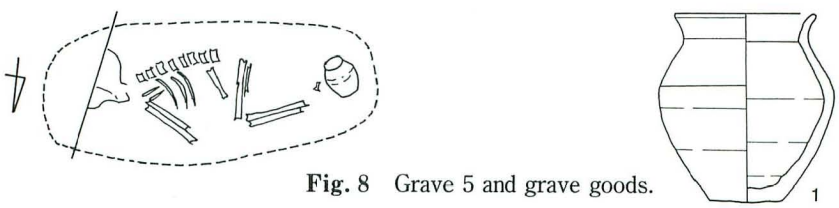


Fig. 8 Grave 5 and grave goods.

Gr. 6 (Fig. 9 and Pl. 57–*a*)

The grave pit is dug down 80 cm deep at grid IX-10, which is perhaps an oval shape of 70×30 cm. The human bones are an infant with slightly bent knees, extending its arms, who was placed with its heads N62W and face southwestward, its right side down. No grave goods were found. The bones are preserved better than others.

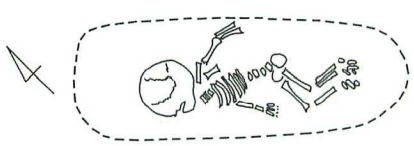


Fig. 9 Grave 6.

Gr. 7 (Fig. 10 and Pl. 57–*b*)

The grave discovered seems to have been of the bending-burial with its head S14E and face east. Its bone preservation is not good with it as lower limbs under knees missing. By the side of the breast, there

are two stamps excavated. The grave pit has been excavated 30 cm below the surface at grid XII-9. Its exact size is not evident, but probably it was about 120×60 cm.

Grave goods

1. Stamp (Pl. 82–*a*)

Diameter: 3.5 cm, thickness: 1.5 cm, clay.

This is a perforated stamp made of clay with the carving of spiral ornament similar to that of the marble stamp (2. Stamp) [Mackay 1931: PL. LXXIII. 25].

2. Stamp (Pl. 82–*b*)

Diameter: 4 cm, thickness: 1.4 cm, marble.

This is also a perforated stamp of stone (marble) in which spiral ornament is curved.

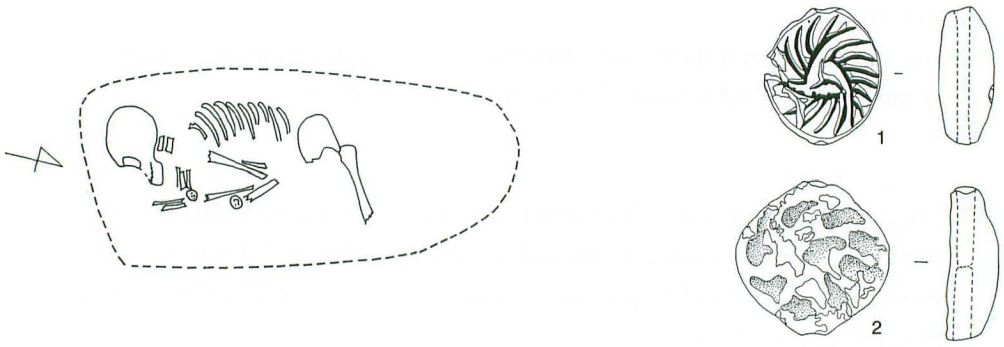


Fig. 10 Grave 7 and grave goods. (Scale: 1/2)

Gr. 8 (Fig. 11)

An infant has been in the rectangular grave pit of 120×40 cm width round corners dug down 30 cm below the surface at grid VI-9. The head position is N57W and its face directed southwest. There are no grave goods left here.

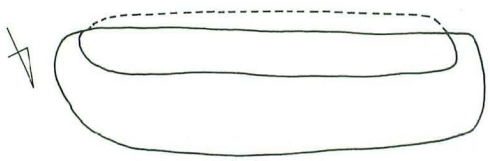


Fig. 11 Grave 8.

Gr. 9 (Fig. 12 and Pl. 57–*c, d*)

In the nearly oval grave pit of 145×92 cm dug down 30 cm below the surface at grid VII-10, the body has been found with its head position of N48E, facing southeast with bent arms and knees. Fifty pieces of shell with hole and eleven gold beads on the head, twenty-four beads and a scarab with fish-incised design beside the neck and breast and also one gold earring beside the ear were found. But no pottery as grave goods were found.

Grave goods (Fig. 13)

1. Necklace (Pl. 78–*a, f*)

(1) 1.5 cm×1.0 cm, thickness 8 mm, Scarab. (Pl. 82–*c*)

The fish-incised Scarab (yellow glass quality) has been unearthed. Similarly, fish-incised Scarab has been found in Tell Yelkhi [Ezio 1985: 318 no. 147; Ward 1987: 507～532]. Tell Songor B has yielded two incompleted beads with Scarab clearly born in mind 〈Gr. 9–1(8) and Gr. 63–4(12)〉. There is a possibility that Scarab had been produced in this area, accordingly.

(2) Length: 2.4 cm, diameter: 6 mm, tubu-like bead, stripe agate.
(3) Length: 1.5 cm, diameter: 5 mm, tubu-like bead, lapis-lazuli.
(4) Length: 1.0 cm, diameter: 1.0 cm.
(5) Length: 1.0 cm, diameter: 7 mm.
(6) Length: 1.0 cm, diameter: 7 mm, ovoid bead.
(7) Length: 1.6 cm, maximum width: 1.5 cm, thickness: 5 mm, biconvex bead.
(8) Length: 1.3 cm, width: 1.1 cm, thickness: 5 mm.

One side of the lapis-lazuli bead is scraped into flat surface, from which it may be an incomplete one of Scarab-intention just as seen in Gr. 63–4 (12).

2. Hair ornament (Pl. 81–*h*)

Diameter: 8 mm, length: 7 mm, Gold.

This consists of eleven beads which are placed with in hub-shaped way. These beads, which had been linked together, were worn on the head [Barqir 1946: Pl. XXI].

3. Hair ornament (Pl. 79–*g*)

Length: 1.4 cm, maximum diameter: 9 mm.

This is made of many shells of a single kind connected together. The shell may have been "Engina

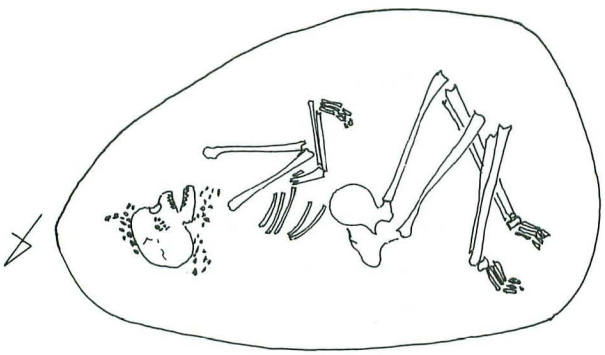


Fig. 12 Grave 9.

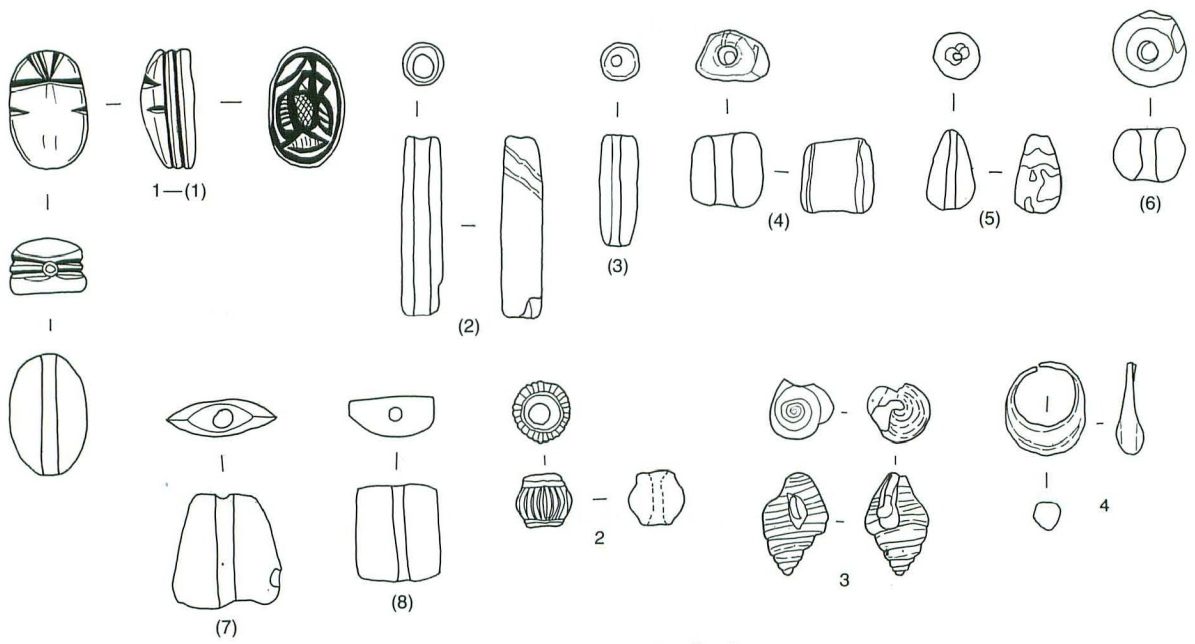


Fig. 13 Grave goods, Gr. 9.

mendicaria L." [Gensheimer 1984: 65~73].

4. Earring (Pl. 81–*h*)

Diameter: 1.2 cm, gold [Ezio 1985: 318 no. 150; Boehmer u. Dammer 1985: Taf. 151. Nr. 675, 676, 678].

Gr. 10 (Fig. 14 and Pl. 58–*a*)

In the nearly oval grave pit of 170×85 cm at the depth of 130 cm below the surface at grid VIII-9, an adult body is unearthed with its head position S62W, face southeast and bent knees. Hands have not been confirmed yet. Nor have grave goods. Grave 33 has been found just below this grave.

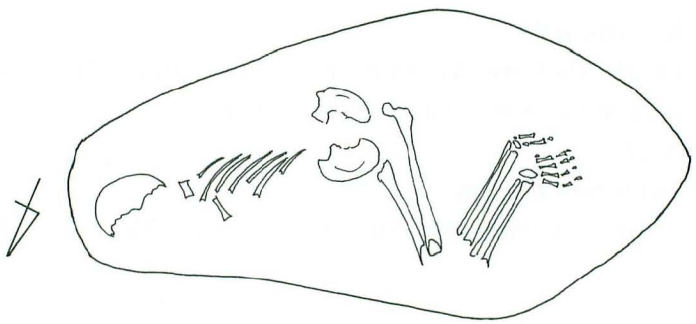


Fig. 14 Grave 10.

Gr. 11 (Fig. 15 and Pl. 58–*b*)

Probably it was the oval grave pit of about 142×80 cm in size, dug down 50 cm below the surface at grid VI-9. It is presumable that the head was positioned southeast, facing northeast and from the little survival of the leg bones, it was a bending-burial. However, chest, abdomen and hands have been scarcely unearthed. At the feet a bowl has been found as grave goods.

Grave goods

1. Bowl (Pl. 71–*c*)

Height: 13.8 cm, rim diameter: 12.5 cm, body diameter: 15.0 cm, base diameter: 4.3 cm.

Greenish coarse ware, buff surface color.

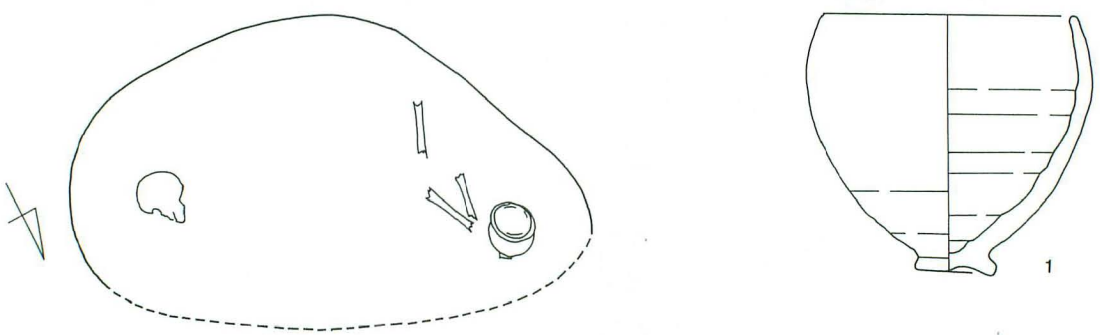


Fig. 15 Grave 11 and grave goods.

Gr. 12 (Fig. 16 and Pl. 58–*c*, *d*)

This is an oval shape pit of 150×110 cm at the depth of 30–50 cm below the surface at grid VI-10.

The human body is facing southeast with head position of N28E. The lower lims are strongly curved while the hands are placed on the top of the face. There are a broken bowl near the abdomen and a bronze pin beside the throat.

Grave goods

1. Pin (Pl. 81–*f*)

This is 6.8 cm in length and its top edge is a little broken. It has a constricted round lug around the neck, where we see a small hole pierced. It is regarded as a pin in a true sense of a word [Kamada and Ohtsu 1988: Fig. 16, Br. 6, Br. 7; Ezio 1985: 157].

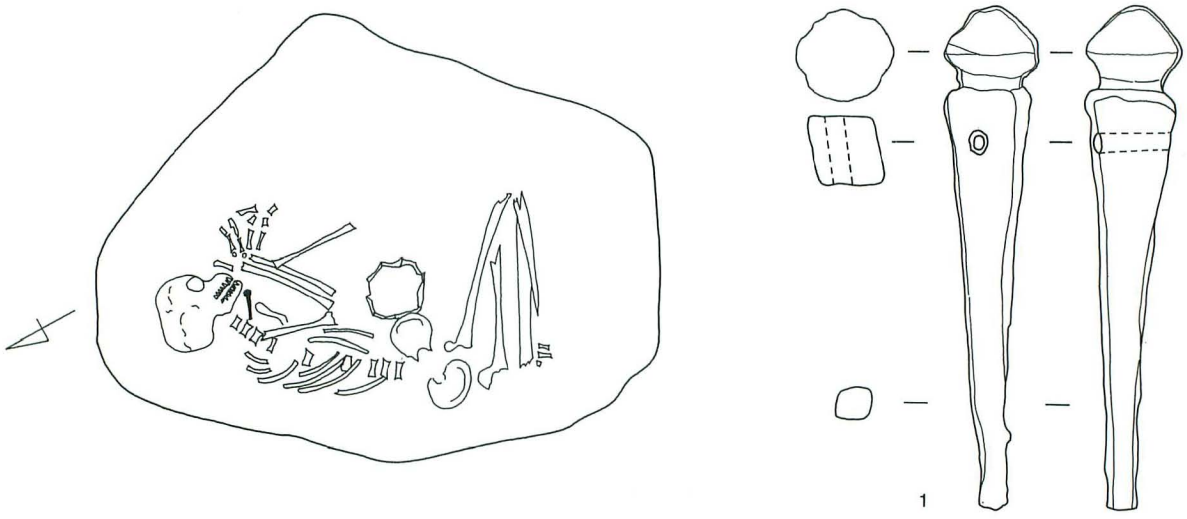


Fig. 16 Grave 12 and grave goods.

Gr. 13 (Fig. 17 and Pl. 58–*e*)

The grave pit, an oval shape of 140×80 cm, was dug down 40 cm deep from the surface at grid V-9. The human bones are of an adult with bent knees and hands, who was placed with its head S63W and face southward, its right side down. But the breast, waist and abdomen were missing, and not in good preservation. A bead was found near the feet.

Grave goods

1. Bead (Pl. 80–*d*)

Diameter: 1.0 cm, ball-shape bead, agate.

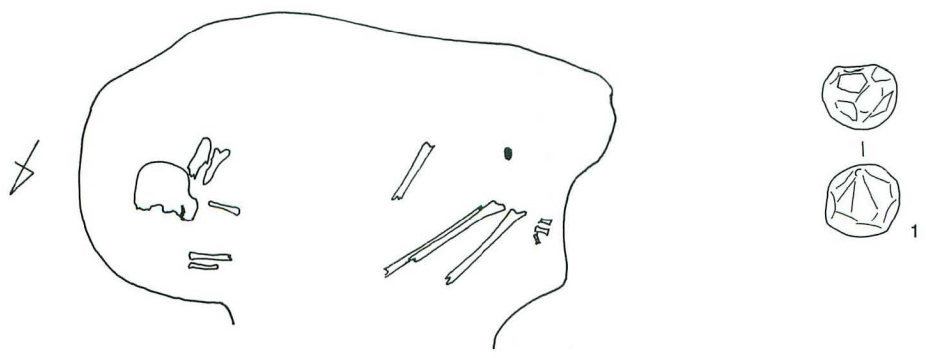


Fig. 17 Grave 13 and grave goods.

Gr. 14 (Fig. 18 and Pl. 59–*a*, *b*)

This is an infant's grave pit dug down into the presumable size of 70×60 cm at the depth of 40 cm below the surface at grid V-9. The head position is N71E, facing north with curved legs. Four beads are found beside the neck. The grave links up to Grave 13.

Grave goods

1. Necklace (Pl. 78–*g*)
   (1) Diameter: 1.2 cm, length: 2.8 cm, cylindrical, amethyst.
   (2) Maximum diameter: 8 mm, length: 1.0 cm, double conoid, agate.

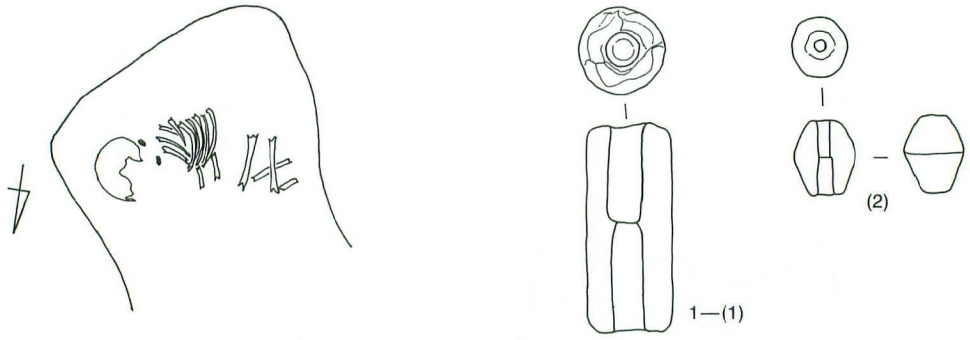


Fig. 18 Grave 14 and grave goods.

Gr. 15 (Fig. 19)

At grid IX-10, 30 cm below the surface, the grave has been dug down in the range of 130×44 cm, where only the skull, pelvis and few pieces of leg bones have come uncovered. Its head is positioned S50W, facing southeast. No grave goods.

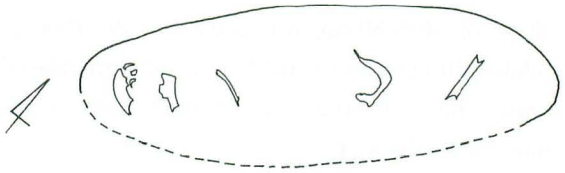


Fig. 19 Grave 15.

Gr. 16 (Fig. 20 and Pl. 59–*c*, *d*)

The grave pit dug down 40 cm below the surface at grid IX/X-10 is not clear about its size. Viewed from the situation of the human bones and the scope of the grave goods left behind, the grave is likely to be about 150×90 cm in dimensions. It is an adult's grave with its heads position of N62E and face in the northwest direction. The body has been found falling down on the right side of the grave with bent arms and knees. Beside the hands, just in front of the face, a jar and a bowl have been laid. There are some animal bones in the bowl. It seems to us that these receptacles had contained something to ear and drink as offering for the dead.

Grave goods

1. Jar (Pl. 71–*e*)
   Height: 17.7 cm, rim diameter: 9.0 cm, body diameter: 14.0 cm, base diameter: 4.2 cm.
   Greenish sandy ware, chaff temper, buff surface color.

2. Bowl (Pl. 77-*a*)

Height: 7.2 cm, rim diameter: 19.3 cm, body diameter: 19.3 cm, base diameter: 6.0 cm.
Brownish sandy ware, chaff temper, buff surface color.

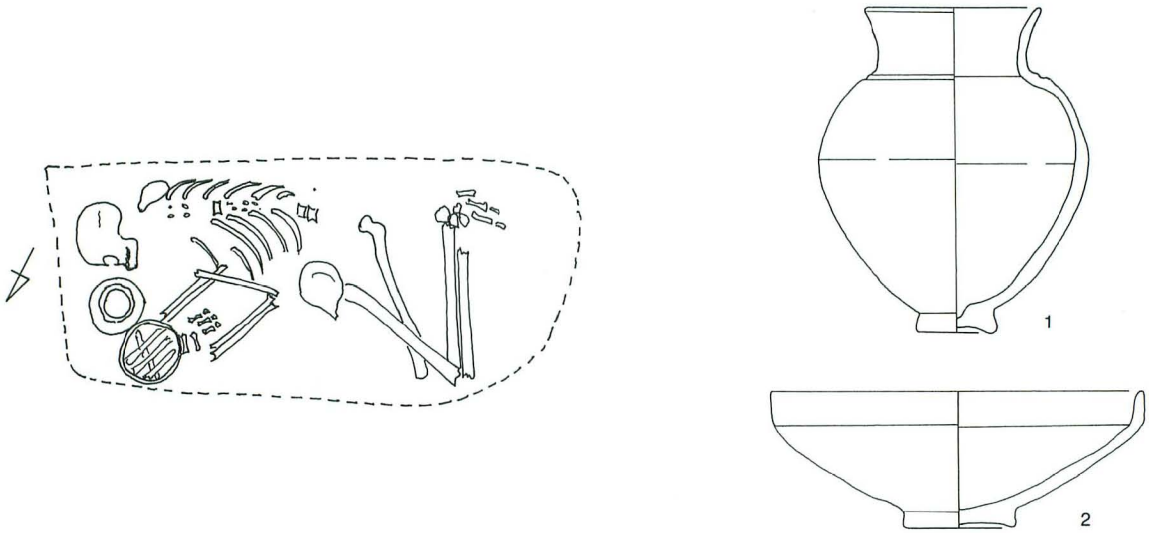


Fig. 20 Grave 16 and grave goods.

Gr. 17 (Fig. 21 and Pl. 59-*e*)

Part of the grave is not clear, but it is a grave pit of about 165×75 cm in size. With the head position of N52E, its bent arms and legs are tilting toward the left, taking the unique posture of its knees foward. It is defective in part of the abdominal bones. Broken small jars have been uncovered about 30 cm away from the skull.

Grave goods

1. Two small vases

The rims are both broken and they are small vases fitted with small bases.

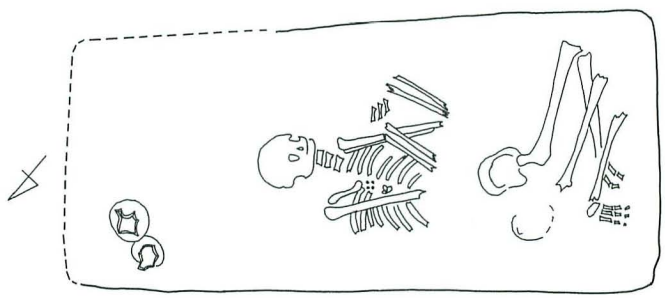


Fig. 21 Grave 17.

Gr. 18 (Fig. 22 and Pl. 60-*a*, *b*)

The grave pit dug down 120 cm below the surface at grid VIII-10 is not partially known, but takes nearly a rectangular shape of 160×90 cm. The dead has its head position of S53W, face directed southeast and the bent knees tilted toward right. The arms, the bones of which are in disorder, are also curved. The grave goods are a jar at the feet, gold earring on the ears and a necklace composed of fifteen

beads around the neck.

Grave goods (Fig. 23)

1. Jar (Pl. 71–*f*)

   Height: 13.7 cm, rim diameter: 7.3 cm, body diameter: 13.5 cm, base diameter: 4.0 cm.

   Buff coarse ware, buff surface color.

2. Necklace (Pl. 79–*a*)

   This is characterized by thin lentoid faience beads and stripe-patterned triangular beads probably made of glass or the like.

   (1) Diameter: 1.3 cm, thickness: 4 mm.

   (2) Diameter: 7 mm, length: 8 mm.

   (3) Maximum diameter: 6 mm, length: 8 mm, triangular bead.

3. Earrings (Pl. 81–*h*)

   22×12 mm, maximum thickness: 5 mm, gold.

   The maximum thickness of the ring is 5 mm, and both ends of its gets thinner [Ezio 1985: 318 no. 150; Boehmer u. Dammer 1985: Taf. 151. Nr. 675, 676, 678].

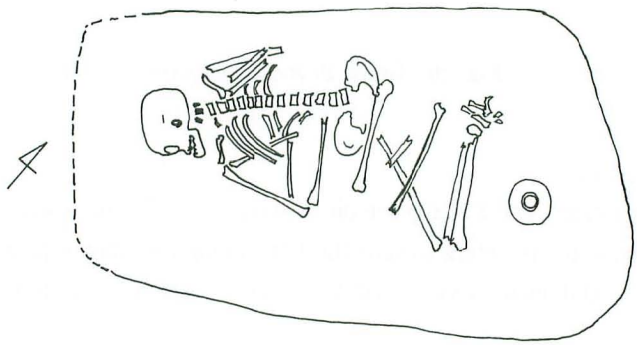


Fig. 22 Grave 18.

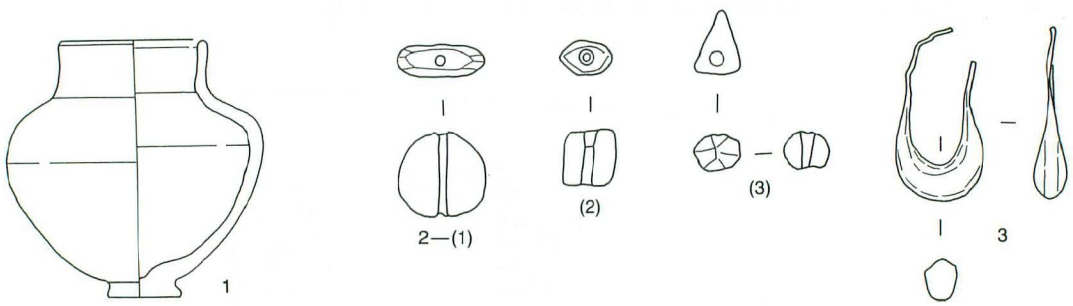


Fig. 23 Grave goods, Gr. 18.

Gr. 19 (Fig. 24 and Pl. 60–*c*, *d*)

The grave pit was dug down 70 cm deep from the surface at grid VI-8, which is an oval shape of 160×85 cm. The human bones are an adult with bent knees, bent right hand and extended left hand, who was placed with its head N57E and face southeastward, its left side down. There are no grave goods.

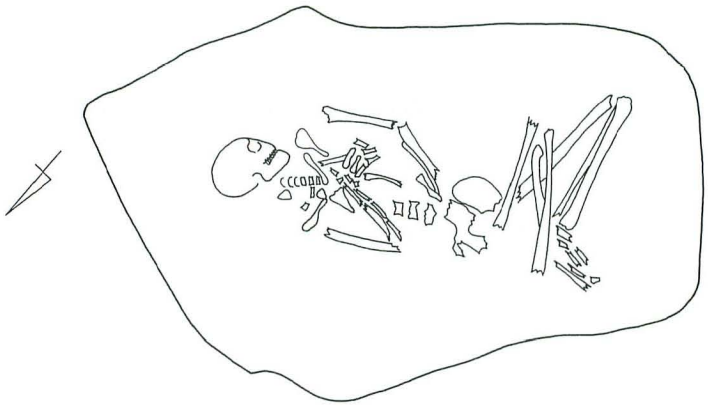


Fig. 24 Grave 19.

Gr. 20 (Fig. 25 and Pls. 60–*e*, 61–*a*)

Its burial situation is not clear because we happened to meet a foodpath, which prevented us from digging it to the full. The bones here are in poor state of preservation. From only the small portion of the surviving legs, however, where an adult had been buried with bent knees and its head positioned S59W.

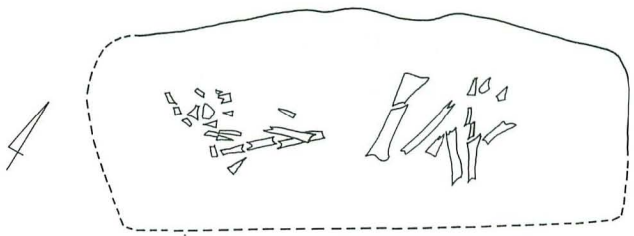


Fig. 25 Grave 20.

Gr. 21 (Fig. 26 and Pl. 61–*b*)

Human bones have been uncovered at the depth of 60–70 cm below the surface at grid VIII-7. Nevertheless, its burial situation is little known due to their poor preservation. No grave goods.

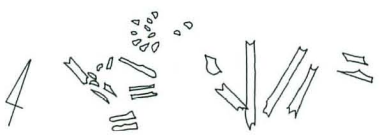


Fig. 26 Grave 21.

Gr. 22 (Fig. 27 and Pl. 61–*c*)

The grave pit was dug down 50 cm deeper than the surface at grid VII-9, which is an oval shape of 155 ×80 cm. The human bones are an adult with bent knees, who was placed with its head N54E and face southeastward, its left side down. But the preservation of the human bones was not good and the upper part of the body was disordered and also missing. Beads were found beside the wrist.

Grave goods

1. Bracelet (Pl. 78–*b*)

This consists of agate and lapis-lazuli beads of about the same size. Twenty-one in all.

(1) Length: 5 mm, diameter: 4 mm.

(2) Length: 5 mm, diameter: 5 mm.

(3) Length: 5 mm, diameter: 3.5 mm.

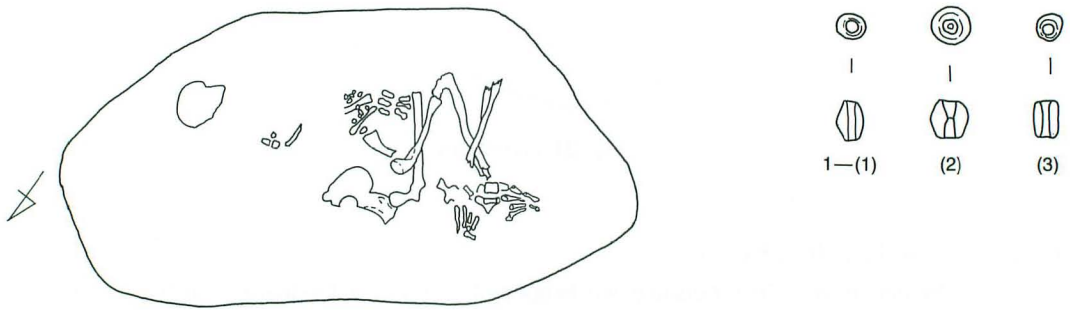


Fig. 27 Grave 22 and grave goods.

Gr. 23 (Fig. 28 and Pl. 61–*d*)

Left behind are three bones and two jars. Human bone preservation is exceedingly bad. They are considered to have been the graves of the people who had lived in Tell Gubba located near here. This grave belonged to Early Dynastic period.

Grave goods

1. Jar

Height: 20 cm, rim diameter: 12.0 cm, body diameter: 22.5 cm, base diameter: 10.0 cm.

Brownish coarse ware, buff surface color. On the shoulder, there is only little evidence which are painted red.

2. Small jar

Height: more than 8.0 cm, rim diameter: 4.5 cm, body diameter: 11.0 cm, round base.

Reddish sandy ware, chaff temper, reddish surface color.

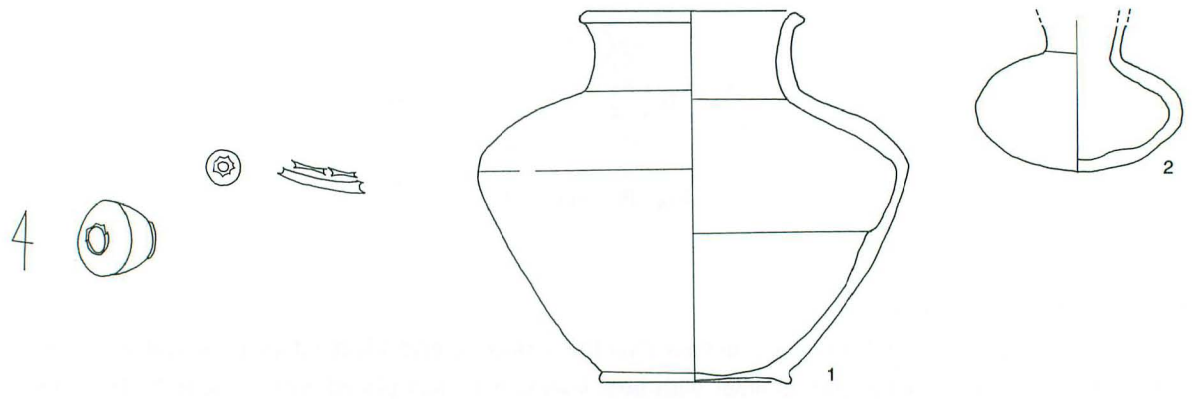


Fig. 28 Grave 23 and grave goods.

Gr. 24 (Fig. 29 and Pl. 61–*e*)

The grave pit was dug down 80-100 cm deeper than the surface at grid X-10, which is an oval shape of 70×32 cm. The human bones are an infant with bent knees and hands, who was placed with its head N24E and face northwestward, its left side down. One jar was found on the legs. It belongs to Isin-Larsa period.

Grave goods

1. Jar (Pl. 73–*a*)

Height: 21.5 cm, rim diameter: 11.3 cm, body diameter: 16.0 cm, round base.
Reddish coase ware.

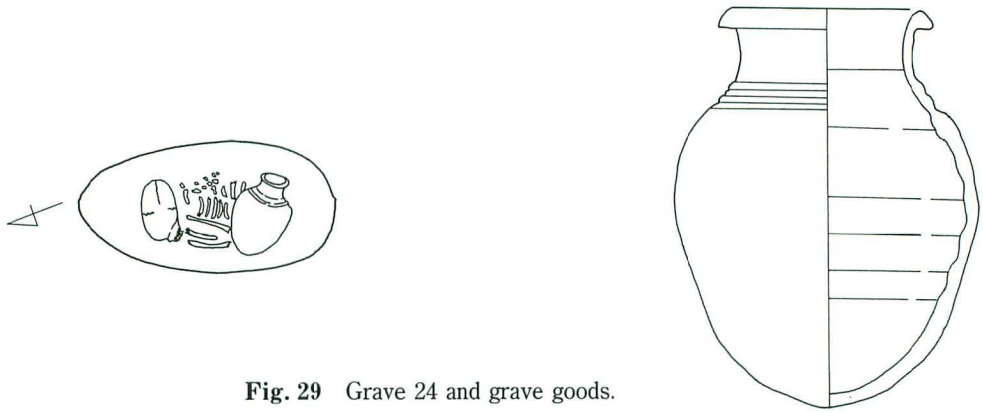


Fig. 29 Grave 24 and grave goods.

Gr. 25 (Fig. 30 and Pls. 61–*f*, 62–*a*)

The grave pit was dug down 120 cm deeper than the surface at grid VII-8, which is an oval shape of 175×55 cm. The human bones are an adult with bent knees and hands, who was placed with its head S64W and face northwestward, its left side down. There are no grave goods. But the grave was uncovered under the floor of layer II. For this reason, this grave was older than layer II or the same period as layer II.

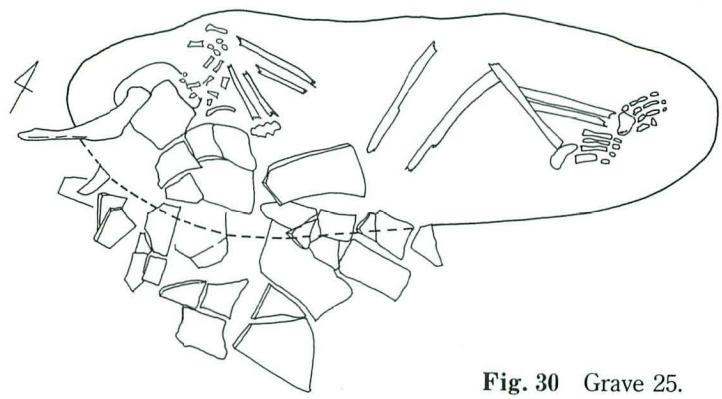


Fig. 30 Grave 25.

Gr. 26 (Fig. 31 and Pl. 62–*b*)

This is an oval grave pit mesuring 70×30 cm, situated 130 cm below the surface at grid VI/VII-7. An infant, which is not good in its bone preservation, is buried with bent knees and its head position of S64E. Bronze anklets are worn on the ankles. Beads lie scattered around the chest.

Grave goods (Fig. 32)

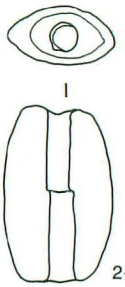
1. Anklet
   (1) Outer diameter: 4.6 cm, inner diameter: 3.6 cm, bronze.
   (2) Outer diameter: 4.6 cm, inner diameter: 3.6 cm, bronze.
2. Necklace (Pl. 78–*e*)

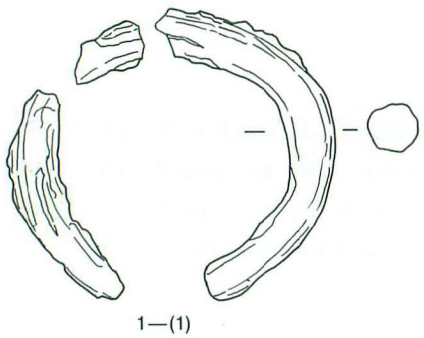
This is made marble, agate or faience. The largest of them is a elliptical marble (of 2.3 cm in length). The others are ball-shape and ring-shape beads. The trial of piercing a hole in the bead from both sides was successful in the center, where some discordance occurs.

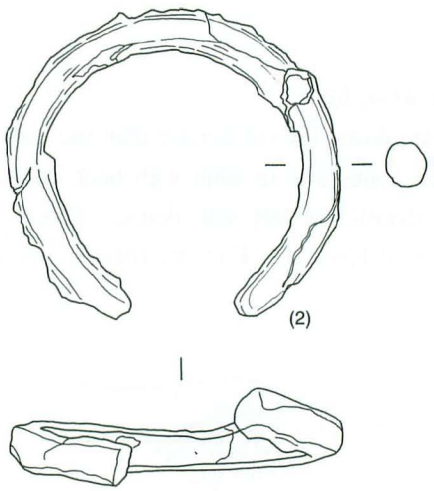
(1) Length: 2.3 cm, width: 1.5 cm, elliptical marble, rhomboid bead.
(2) Diameter: 1.1 cm, length: 8 mm, ball-shape.
(3) Length: 1.5 cm, width: 1.8 cm, thickness: 8 mm, agate.



Fig. 31 Grave 26.







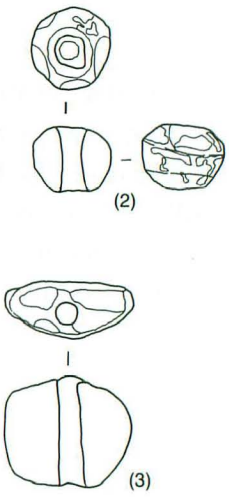


Fig. 32 Grave goods, Gr. 26.

Gr. 27 (Fig. 33)

The outline of the grave pit itself is not exactly known. The human bones come from an infant. The head is positioned N82E, facing north and its legs are curved. No grave goods.

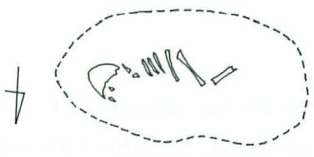


Fig. 33 Grave 27.

Gr. 28 (Fig. 34 and Pl. 62–*c*)

The grave has its heads directed N52E, face up, which is only one example of lying extending itself on its back. No grave goods have been found.

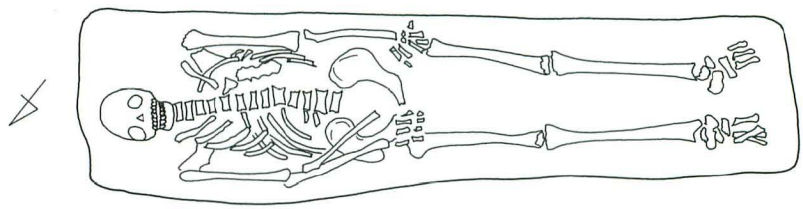


Fig. 34 Grave 28.

Gr. 29 (Fig. 35 and Pl. 62–*d*)

The dead buried in the grave pit of 120×75 cm in dimensions at the depth of 110 cm below the surface at grid VI/VII-9/10 has been found with its arms streched out and its bent legs set apart from each other. A medium-size jar and a small vase placed beside the legs.

Grave goods (Fig. 36)

1. Jar

   Height: 25.5 cm, rim diameter: 12.0 cm, body diameter: 19.0 cm, round base.

   Greenish coarse ware, buff surface color.

2. Small vase

   Height: 10.8 cm, rim diameter: 8.7 cm, body diameter 12.5 cm, base diameter: 5.4 cm.

   Buff sandy ware, chaff temper, buff surface color.

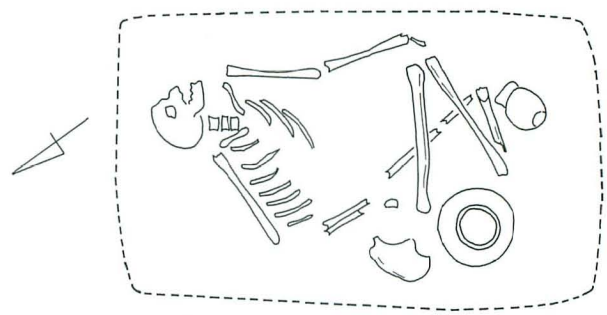


Fig. 35 Grave 29.

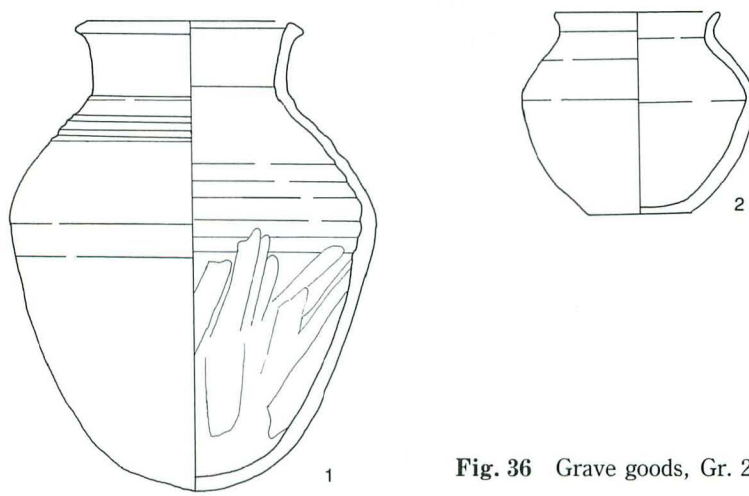


Fig. 36 Grave goods, Gr. 29.

Gr. 30 (Fig. 37 and Pl. 62–*e*)

Skull-like flakes have been unearthed at the spot of 100 cm below the surface at grid VI-8, the whole picture of which is still indistinct.

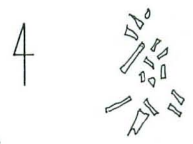


Fig. 37 Grave 30.

Gr. 31 (Fig. 38 and Pl. 62–*f*)

The grave pit was dug down 130 cm below the surface at grid VII-9, which is an oval shape of 145×75 cm. The human bones are adult with bent knees and hands, who was placed with its head S74W and face northward, its left side down. There were beads beside the neck. Beside the skull several pieces of animal bones have been found in a mass.

Grave goods

1. Necklace (Pl. 78–*d*)

This is six pieces of ball-shape agate beads of nearly the same size.

(1) Diameter: 1.0 cm, agate, ball-shape bead.

(2) Diameter: 9 mm, length: 8 mm, agate.

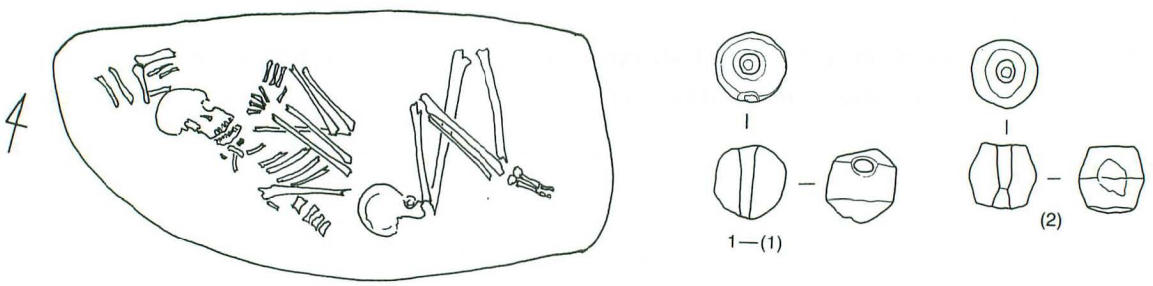


Fig. 38 Grave 31 and grave goods.

Gr. 32 (Fig. 39 and Pl. 63–*a*)

Most of the upper parts of the human bones including the skull cannot be identified, but only the lower parts of them with extremely bent knees have come uncovered. The grave pit is estimated at 125×60 cm in size, placed 100 cm deeper than the surface at grid VII-9. The head position was probably S55W or there-abouts. No grave goods.

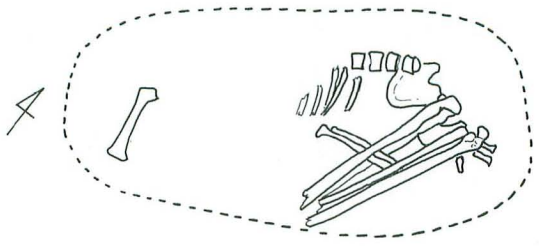


Fig. 39 Grave 32.

Gr. 33 (Fig. 40 and Pl. 63–*b*)

The grave pit was dug down 140 cm deeper than the surface at grid VIII-9, which is a half-moon shape of 130×65 cm. The human bones are an adult with bent knees and hands, who was placed with its head N71E and face northwestward, its right side down. There was one jar beside the head. This grave has been found directly below Grave 10, showing that this is older than Grave 10. This grave belongs to Isin-Larsa period.

Grave goods

1. Jar (Pl. 72–*b*)

Height: 23.3 cm, rim diameter: 12.0 cm, body diameter: 17.5 cm, round base.

Buff coarse ware, buff surface color.

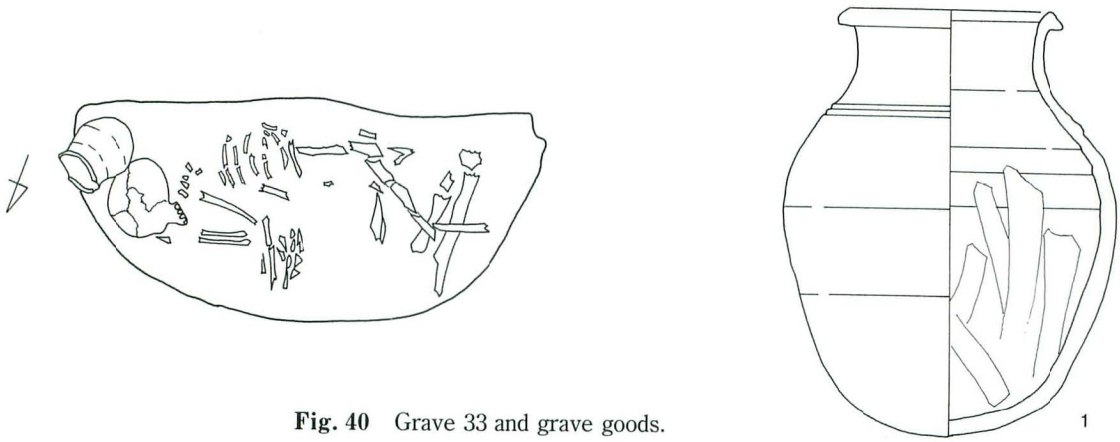


Fig. 40 Grave 33 and grave goods.

Gr. 34 (Fig. 41 and Pl. 63–*c*)

The human bones situated 100 cm below the surface at grid IX-10 are in exceedingly poor preservation. With the head position of N53E, facing southeast, the dead has the legs curved to the full. The grave size is not clear, but is estimated at about 140×60 cm from the scope of the human bones still remaining there. Also, the dead is wearing a bronze anklet on the right ankle with a jar placed beside the head as grave goods. Moreover, two pottery (1. and 3.) have been found at some distance away from the skull. Now that we have not exactly grasped the size and shape of this grave, it is still uncertain as to whether they belong this grave or not.

Grave goods (Fig. 42)

1. Jar (Pl. 74–*b*)

Height: 22.0 cm, rim diameter: 11.0 cm, body diameter: 16.8 cm, round base.

Greenish sandy ware, chaff temper, buff surface color.

2. Jar (Pl. 71–*d*)

Height: 14.8 cm, rim diameter: 8.2 cm, body diameter: 11.3 cm, base diameter: 2.4 cm.

Buff fine ware, buff surface color.

3. Small vase (Pl. 76–*c*)

Height: 8.3 cm, rim diameter: 7.3 cm, body diamter: 10.0 cm, base diameter: 3.5 cm.

Greenish sandy ware, chaff temper, buff surface color.

4. Anklet

Bronze-make, not measurable because of its bad breakage to atoms.

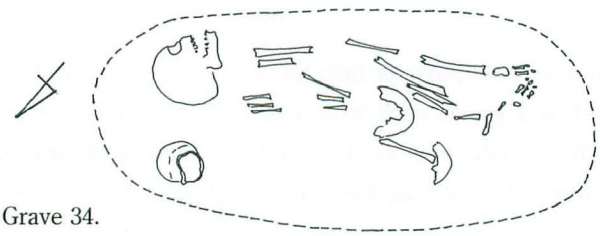


Fig. 41 Grave 34.

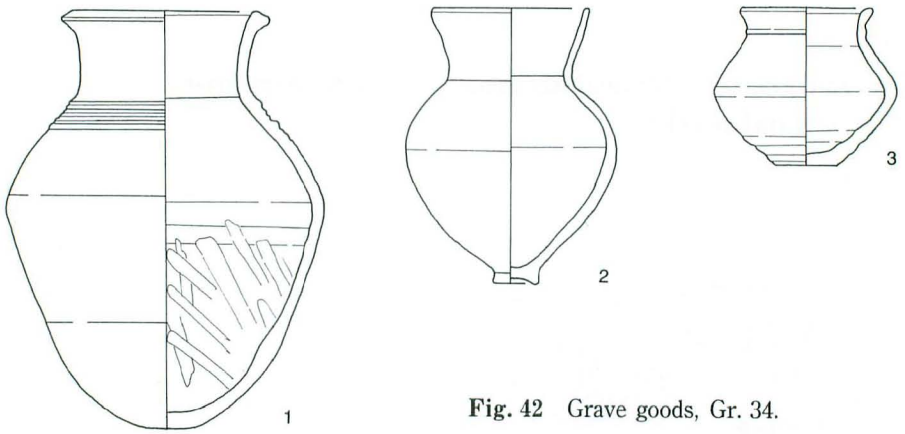


Fig. 42 Grave goods, Gr. 34.

Gr. 35 (Fig. 43 and Pl. 63–*d*, *e*)

The grave pit was dug down 115 cm below the surface at grid VII-9, which is an oval shape of 160×110 cm. The human bones are an adult with bent knees, extending the right hand and flexing the left hand, who was in the opposite direction to the body. Beads were found near the neck the wrist. There were some animal bones beside the head.

Grave goods

1. Necklace (Pl. 79–*b*)

It is composed of agate, chalk and faience beads. Some of the agate beads are global and others, thin circles which have been cut into rings. The chalk beads are shaped like irregular ovals, whose holes are not pierced in the center. They yellow glass-quality beads in the shape of ribbed ball-shaped beads have their incisions shooted out in a radial manner.

(1) Diameter: 1.2 cm, length: 9 mm, ribbed ball-shaped bead, yellow glass?

(2) Maximum width: 1.4 cm, thickness: 7 mm, chalk bead.

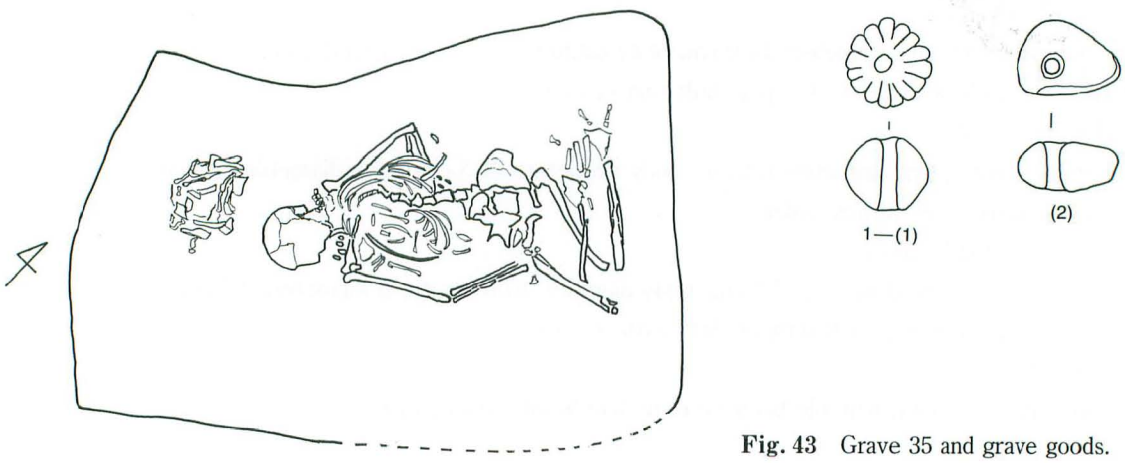


Fig. 43 Grave 35 and grave goods.

Gr. 36 (Fig. 44 and Pl. 63–*f*)

At the depth of 105 cm below the surface at grid VII-11, some human bones have been unearthed, the full particulars of which are not clear. The bones here are abnomals in their excavated condition. For example, having been remorved from the trunk, the skull is found lying beside the knees and there are no upper and lower limbs. With the above-mentioned situation taken into consideration, we see a possibilly of the body having been damaged in posterity. The presumption from the present condition is that the grave pit was originally 150×90 cm in dimensions, and the whole body was buried lying on the left side with its head position of N61E, facing southeast, and bent arms and knees. Its grave goods are a jar at the feet and a small jar forward apart from the chest. In addition, eight beads are discovered around the place where the wrists used to be presumably lying.

Grave goods

1. Jar (Pl. 71–*b*)

   Height: 17.0 cm, rim diameter: 9.0 cm, body diameter: 14.0 cm, base diameter: 4.3 cm.

   Greenish sandy ware, chaff temper, buff surface color.

2. Necklace (Pl. 78–*h*)

   This is of small cylindrical and ring-shape beads, main material of which is agate. Here are also cone-like bead.

3. Small jar

   It breakage to pieces caused by salt prevents us from mesuring this.

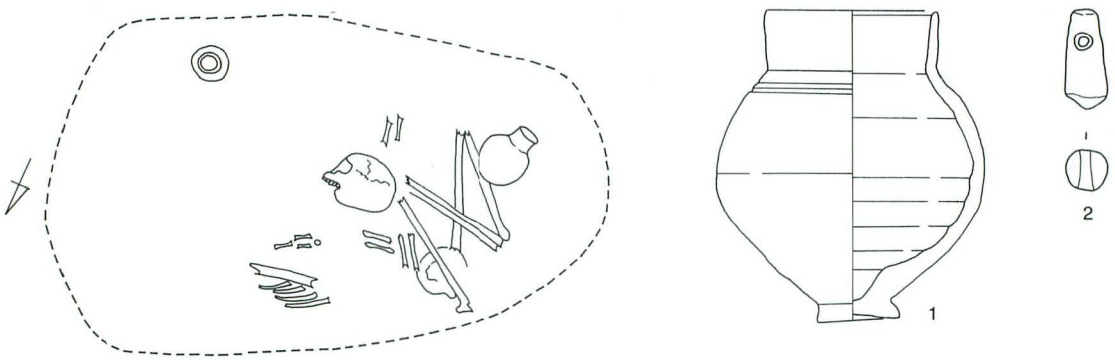


Fig. 44 Grave 36 and grave goods.

Gr. 37 (Fig. 45 and Pl. 64–*a*)

The grave pit was dug down 60 cm deeper than the surface at grid VII-11, which is perhaps an oval shape of 85×50 cm. The human bones are an infant with bent knees, who was placed with its head S58W and face southeastward, its right side down. But the legs and hands were missing. There were beads at the neck and pendants at the abdomen.

Grave goods (Fig. 46)

1. Necklace (Pls. 79–*h*, 80–*a*)

   This is mainly of faience beads which have been made by cutting a slender tube, connected with global stone beads and slender chalk and bronze beads. Such crescent or triangular chalk beads used tobe hanging on the edge of the necklaces as pendants.

   (1) A semi-circular crescent shape bead of about 1.5 cm in diameter and 2 mm in thickness.

   (2) A triangular chalk bead with a perforation of about 2 mm in diameter, in which some jewel may have been inland.

(3) Diameter: 4 mm, length: 1.1 cm, bronze bead.
(4) Diameter: 6 mm, length: 8 mm, bronze bead.

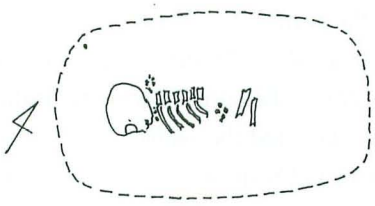


Fig. 45 Grave 37.

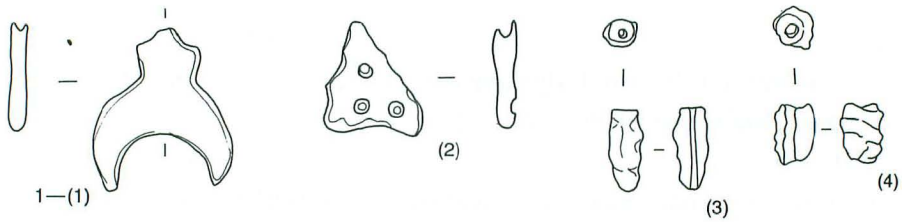


Fig. 46 Grave goods, Gr. 37.

Gr. 38 (Fig. 47 and Pl. 64–*b*)

Inside the oval pit of 135×80 cm in dimensions dug down 30 cm below the surface at grid VII-11, an adult body has been buried with the head position of S56W, facing southeast and its upper and lower limbs bent down. A single gold earring has been excavated near the skull.

Grave goods

1. Earring (Pl. 81–*h*)

(1) Diameter: 1.4 cm, gold [Ezio 1985: 318 no. 150; Boehmer u. Dammer 1985: Taf. 151, Nr. 675, 676, 678].

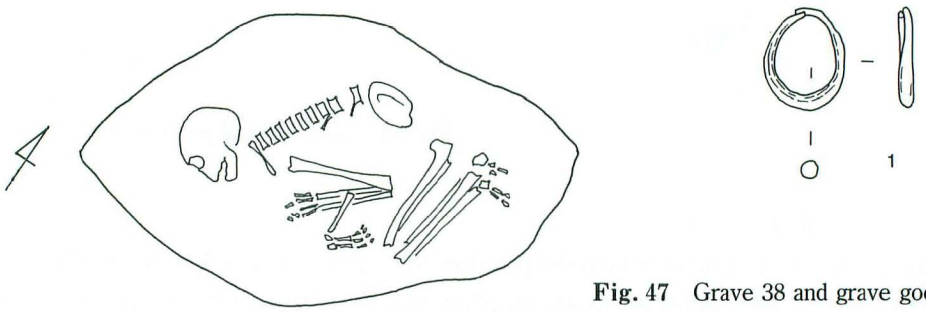


Fig. 47 Grave 38 and grave goods.

Gr. 39 (Fig. 48 and Pl. 64–*c*)

An infant has been found 50 cm below the surface at grid VI-11, whose head position is N65W, and face in the southwest direction. It is not clear about the whole picture of the grave pit. From the evidence of the bones left behind, however, it used to be presumably about 60×20 cm in size. There are no grave goods. The bones themselves are better than others in preservation. Directly below these bones, two jars as grave goods of Grave 41 have been discovered. Perhaps this grave belongs to Islam period.

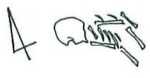


Fig. 48 Grave 39.

Gr. 40 (Fig. 49)

Several pieces of human bones are unearthed scattered in disorder at the depth of 60–70 cm below the surface at grid VII-11, the details of which are still obscure. No grave goods.

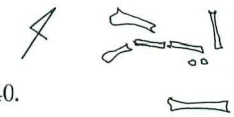


Fig. 49 Grave 40.

Gr. 41 (Fig. 50)

The grave pit was dug down 20 cm deeper than the surface at grid VI-11, which is maybe an rectangle shape of 160×65 cm, and on the northwest side, there is some survival of the wall made of sun-dried bricks, a piece of which is 30×23 cm in size, but its thickness is obscure. The human bones are an adult with bent knees and hands, who was placed with its head N60E and face northwestward, its right side down. But the breast and abdomen were missing. Two jars as grave goods were found beside the feet.

Grave goods (Fig. 51)

1. Jar (Pl. 72-*e*)

Hight: 36 cm, rim diameter: 13.5 cm, body diameter: 27.0 cm, round base.

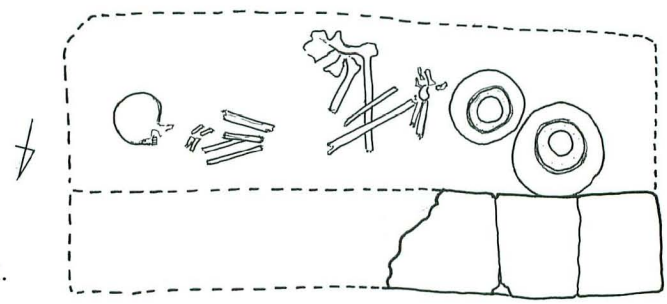


Fig. 50 Grave 41.

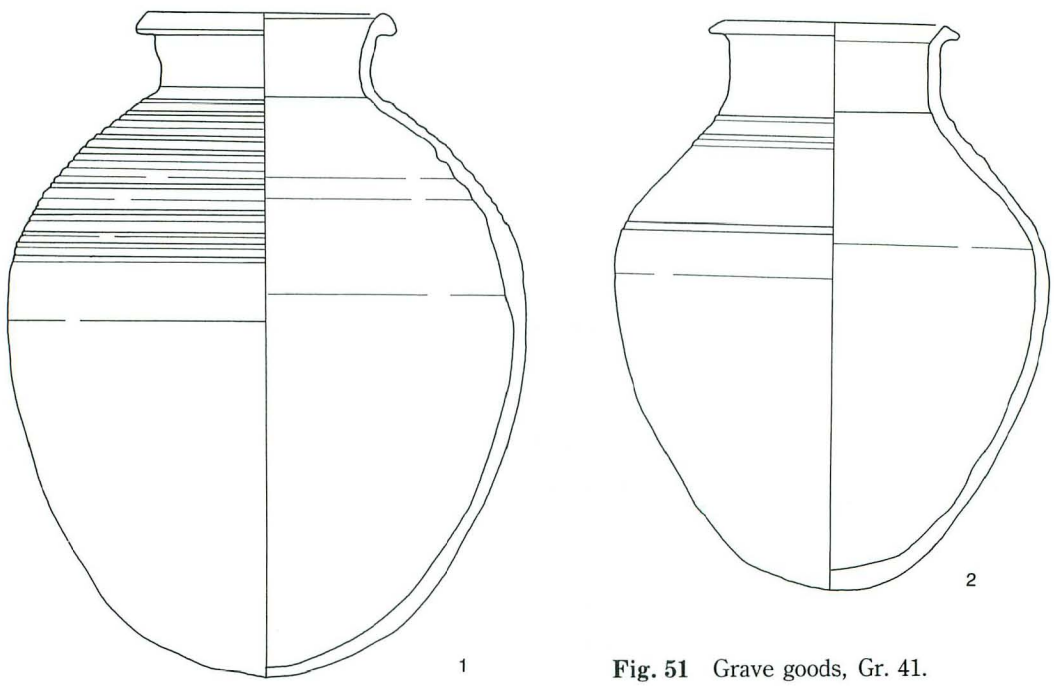


Fig. 51 Grave goods, Gr. 41.

Reddish coarse ware, buff surface color.

The round base, nearly globasl body and many grooves running around the shoulder are characteristic of this jar.

2. Jar (Pl. 72-*d*)

Height: 31 cm, rim diameter: 13.0 cm, body diameter: 23 cm, round base.

Reddish sandy ware, chaff temper, buff surface color.

Gr. 42 (Fig. 52 and Pl. 64–*d*)

The grave pit was dug down 50 cm below the surface at grid VIII-11, which is a rectangle of 150×80 cm. The human bones are an adult with bent knees and hands, who was placed with its head N89W and face northward, its left side down. But the skull was broken into pieces. There are beads near the neck and head and one jar beside the feet. In effect, the place around the lower limbs is a non-excavation area, since it happens to come across a footpath.

Grave goods

1. Jar (Pl. 71–*a*)

Height: 23.3 cm, rim diameter: 8.5 cm, body diameter: 15.0 cm, diameter: 6.0 cm.

Greenish sandy ware, chaff temper, buff surface color, over-fired ware.

2. Necklace (Pl. 80–*f*)

This is of a stone-make, whose surface seems to be weathered into stripe patterns. All three red agate.

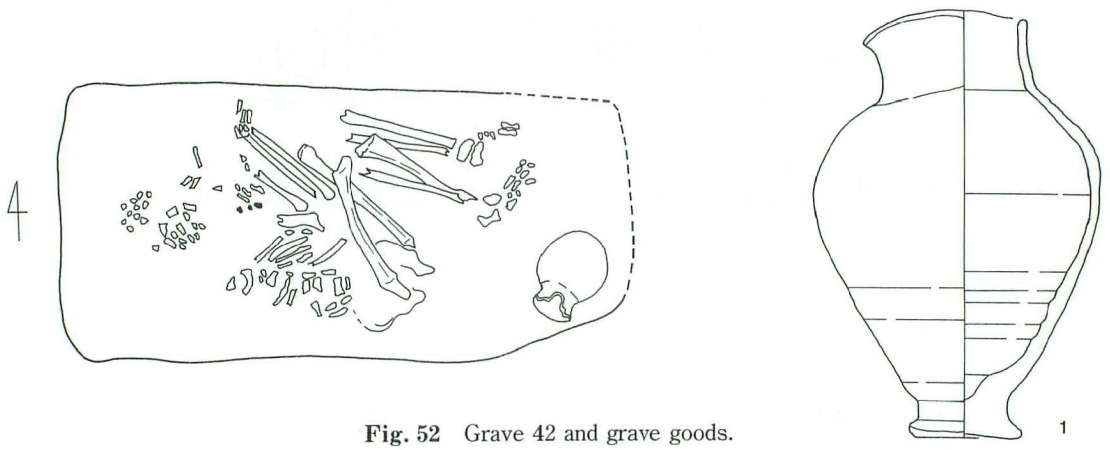


Fig. 52 Grave 42 and grave goods.

Gr. 43 (Fig. 53)

The grave pit has been excavated at the depth of 110 cm below the surface at grid VIII-10. Nevertheless, it is not clear how large it is . The upper parts of the human body have been found broken to pieces. And the bones around the abdomen are not left behind. The legs are found bent down. It is estimated from the existing bones that the head was positioned S55W and the face in the northwest direction, which is suggested from the spot of teeth distribution surviving to our time. A single jar as grave goods has been lying beside the top of the knee.

Grave goods

1. Jar

Height: 16.2 cm, rim diameter: 7.2 cm, body diameter: 13.8 cm, base diameter: 5.0 cm.

Buff sandy ware with chaff temper, buff surface color.

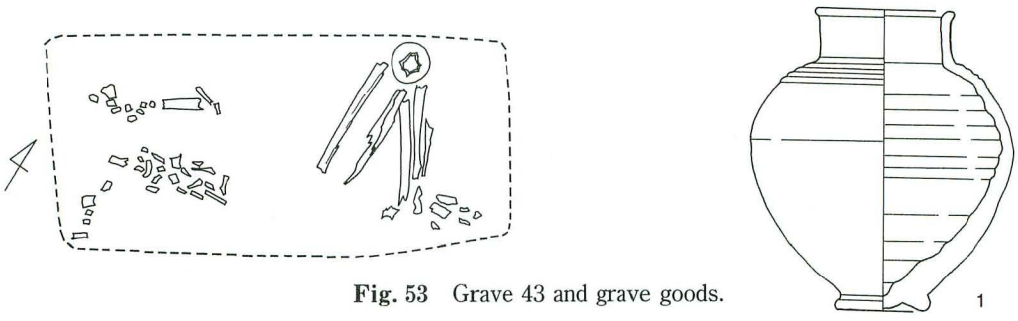


Fig. 53 Grave 43 and grave goods.

Gr. 44 (Fig. 54 and Pl. 64–*e*)

The grave pit uncovered at the spot of grid IX-8 in the dimensions of 120×62 cm contains the dead with bent knees and hands, facing south with its head position of S78W. No grave goods.

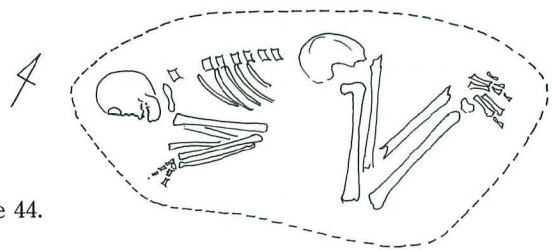


Fig. 54 Grave 44.

Gr. 45 (Fig. 55 and Pl. 65–*a*)

The square grave pit of 110×55 cm in size has been uncovered at the depth of 162 cm below the surface at grid XI-9. As grave goods, some broken pieces of bronze pin have been discovered here.

Grave goods

1. Pin

Diameter: 9 mm, length: 3 cm, bronze.

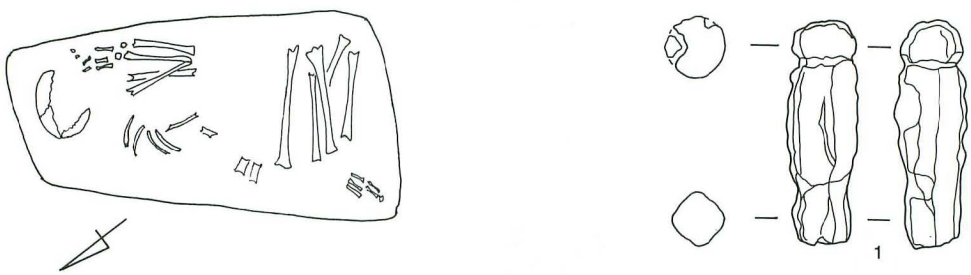


Fig. 55 Grave 45 and grave goods.

Gr. 46 (Fig. 56 and Pl. 65–*b*)

The grave pit was dug down 30 cm below the surface at grid VIII-8, which is maybe an oval shape of 90 ×45 cm. The human bones are an adult with bent knees and hands on the ash floor (75×135 cm), who was placed with its head N48E and face northwestward, its right side down. There is one jar beside the feet.

Grave goods

1. Jar (Pl. 74–*b*)

Height: 17.5 cm, rim diameter: 10.0 cm, body diameter: 13.5 cm, base diameter: 6.5 cm.

Greenish coarse ware, buff surface color, over-fired ware.

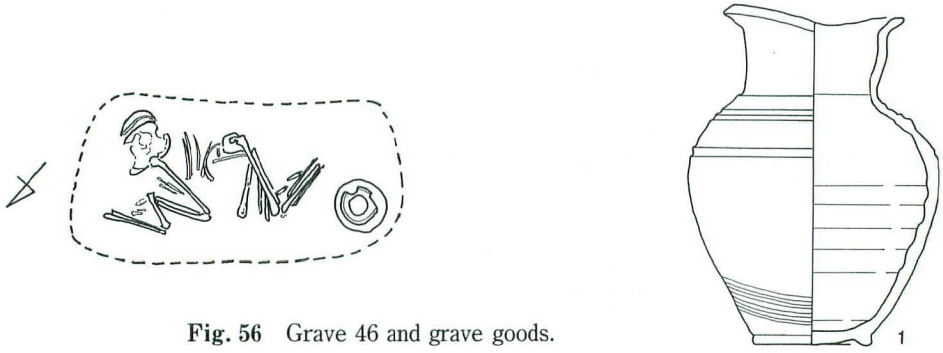


Fig. 56 Grave 46 and grave goods.

Gr. 47 (Fig. 57 and Pl. 65–*c*)

An adult's grave was excavated at 90 cm below the ground surface at grid V-8. Its head is diected S78W, face, southward (its right side down) while its legs are slightly bent and both of the bent arms are found near the jaw. By the side of the jaw (or in its hands) there were seven coins(as grave goods) wrapped in a piece of cloth and a silver ring.

Grave goods (Fig. 58)

1. Coins (Pl. 82–*d, e, f, g*)

In Gr. 47 coins are found wrapped up in cloth. They are the big ones of 3.0–3.5 cm in diameter. There are four fold lines seen on the coins.

(1) Material: silver, 8 pieces, diameter: 2.8 cm, thickness: 2 mm.

(2) Material: silver, 3 pieces, diameter: 2.8 cm, thickness: 2 mm.

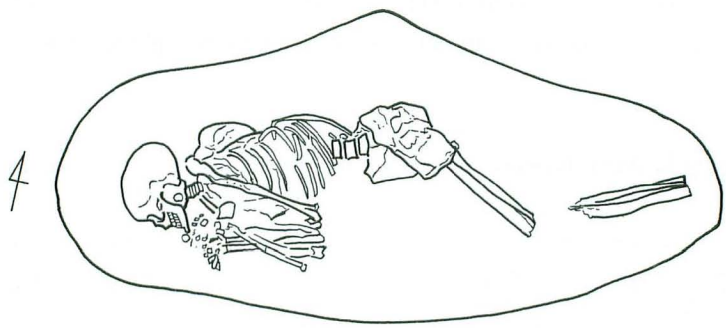


Fig. 57 Grave 47.

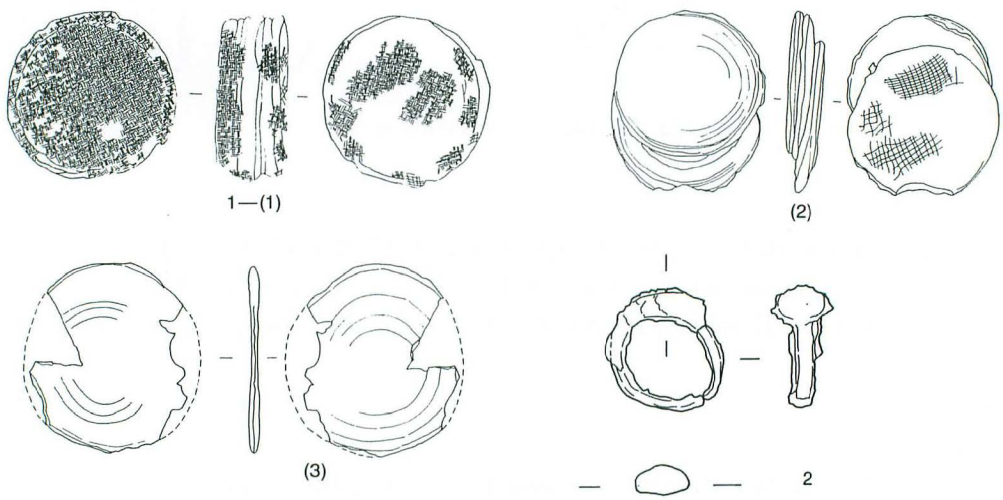


Fig. 58 Grave goods, Gr. 47. (Scale: 2/3)

(3) Material: copper, 1 pieces, diameter: 3.5 cm, thickness: 2 mm.

2. Ring (Pl. 82–*d*)

This is 2.5 cm in outer diameter and about 1.7 cm in inner diameter, whose plane may have partially had some incised patterns.

Gr. 48 (Fig. 59)

The grave pit was dug down 105 cm deep from the surface at grid VIII-8, which is perhaps an oval shape of 80×35 cm. The human bones are an infant with bent knees, who was placed with its head N48E and face northwestward, its right side down. One jar was found beside the feet. But preservation of the bones was not good.

Grave goods

1. Jar (Pl. 73–*d*)

Height: 20.0 cm, rim diameter: 10.0 cm, body diameter: 11.5 cm, base diameter: 6.6 cm.

Brownish coarse ware with chaff temper, buff surface color.

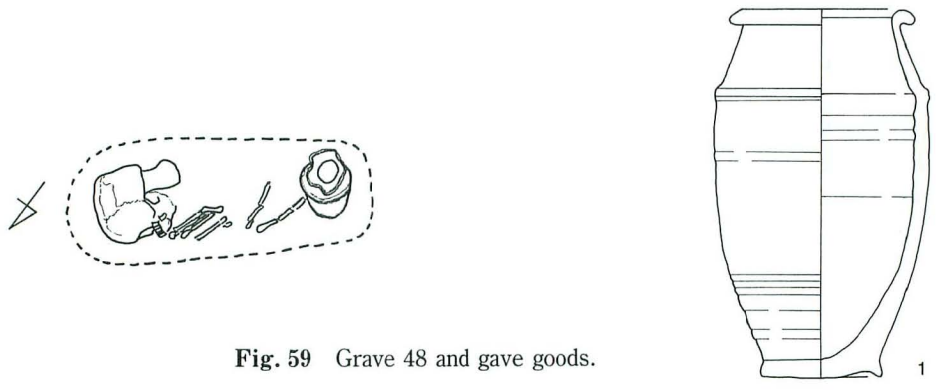


Fig. 59 Grave 48 and gave goods.

Gr. 49 (Fig. 60 and Pl. 65–*d*)

The grave pit unearthed at the point of 20–25 cm below the surface at grid VI-6 is probably of the area with 100×50 cm in dimensions. The human bones here are at the mercy of interruption as well as severe weathering. So, no skull can be evidenced. From the surviving bones, however, it is deducible that the dead had its position of N66E, facing south. Around the chest, a pin and some beads have been discovered.

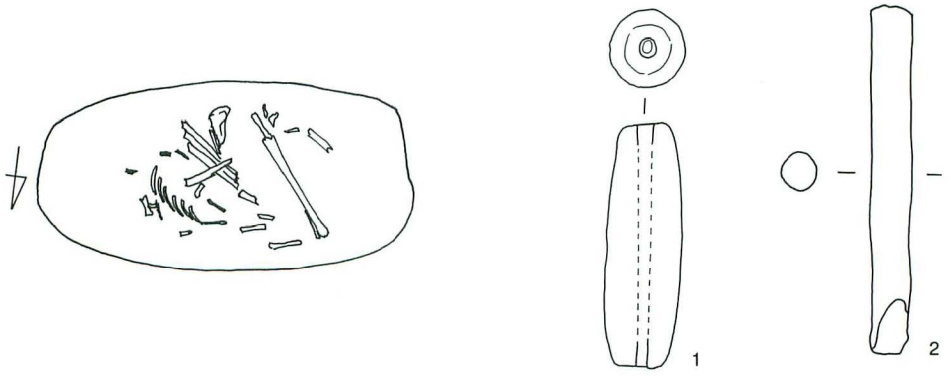


Fig. 60 Grave 49 and grave goods.

Grave goods

1. Necklace (Pls. 80–*b*, 81–*e*)

   This is of faience cylindrical ones, some of which are 3.3 cm in length, whose middle portions are slightly swollen. Five in all.

   Diameter: 1.0 cm, length: 3.3 cm.

2. Pin (Pl. 81–*e*)

   Diameter: 5 mm, length: 4.7 cm.

Gr. 50 (Fig. 61)

The grave pit was dug down 50 cm below the surface at grid X/XI-7, which is an oval shape of 110×70 cm. The human bones are an adult with bent knees and hands, who was perhaps placed with its head N67E. But the head was missing. There were three sling balls made of clay beside the neck.

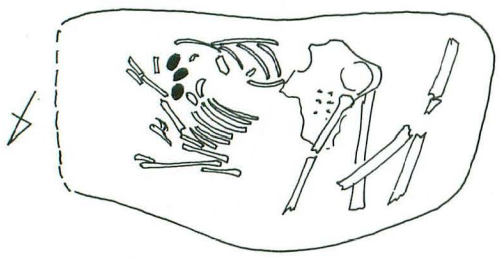
Grave goods

1. Sling balls (Pl. 83–*c*)

   (1) Diameter: 1.7 cm, length: 2.5 cm, clay.

   (2) Diameter: 2.0 cm, length: 2.0 cm, clay.

   (3) Diameter: 2.3 cm, length: 3.0 cm, clay.



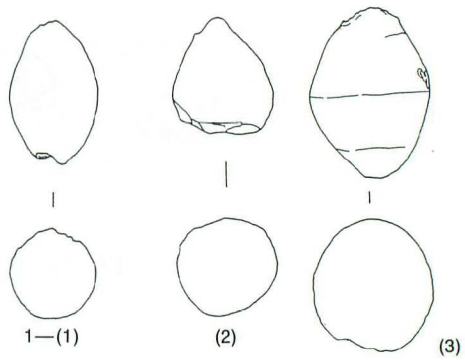


Fig. 61 Grave 50 and grave goods.

(Scale: 4/5)

Gr. 51 (Fig. 62 and Pl. 66–*a*)

The grave uncovered together with a yellow-glazed jar with a single handle near the head, has its head directed S53W and face northwest in bending posture. It was discovered 65–70 cm below the present ground surface at grid VIII-12. The human bones here are in splendid preservation.

Grave goods

1. Jar

   Its neck is fitted with a single handle in vertical direction. And the whole surface of the vessel is coated with yellow glaze. But it is fragile and easily peels off.

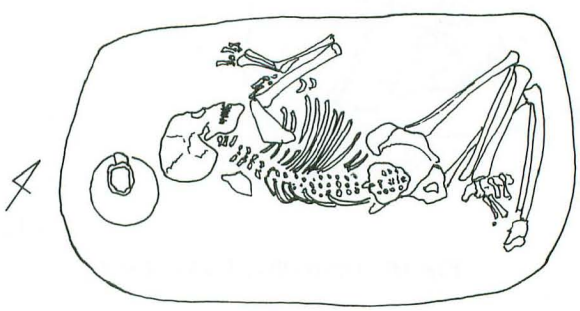


Fig. 62 Grave 51.

Gr. 52 (Fig. 63 and Pl. 66–*b*)

The grave was dug down 42 cm deeper than the surface at grid V-8, which is an oval shape of 85×60 cm. The human bones are an adult with bent knees and hands, who was placed with its head S78E and face northward, its right side down. But the skull was moved. No grave goods. This grave has been unearthed to gether with Graves 58, 54 and piling up one after another, among which Grave 52 occupying the upper most layer, is the latest comer.

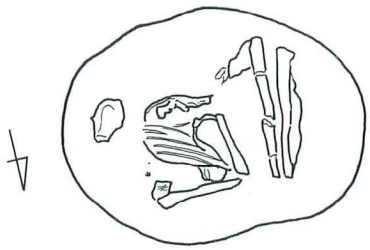


Fig. 63 Grave 52.

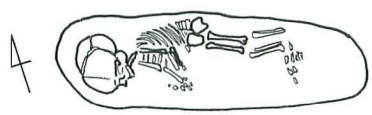
Gr. 53 (Fig. 64)

This is a nearly rectangular grave pit of 82×24 cm at the depth of 78 cm below the surface at grid V-8. The bones stem from an infant with its head position of N70W, facing south. Its arms are slightly bent while legs are streched out. There is a single bead near the right hand. The whole body is lying on its right side. The bones are in a good state of preservation.

Grave goods

1. Bead

(1) Diameter: 3 mm, length: 2 mm, ring-shaped glass bead.



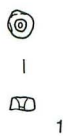


Fig. 64 Grave 53 and grave goods.

Gr. 54 (Fig. 65 and Pl. 66–*c*)

The grave was dug down 69 cm deeper than the surface at grid V-8, which is an oval shape of 90×42 cm. The human bones are an adult with bent knees, who was placed with its head N70E and face northward, its right side down. There is one bead (Pl. 80–*c*). This grave is situated upper than Grave 58, but lower than Grave 53.

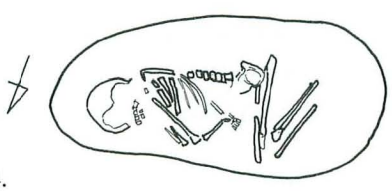


Fig. 65 Grave 54.

Gr. 55 (Fig. 66)

The grave pit found at the depth of 40 cm below the surface at grid VI-6 is 120×85 cm in dimensions. Thighbones and others lie scattered together with potsherds in disorder. It is impossible to understand the whole aspect of the grave type.

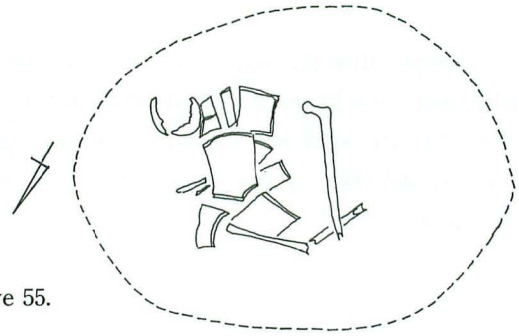


Fig. 66 Grave 55.

Gr. 56 (Fig. 67 and Pl. 66–*d*)

The severe weathering here discourages us from identifying the bone condition. It is not clear about what has becomes of the skull, accordingly. The grave pit has been uncovered at the depth of 110 cm below the surface at grid VIII-7. It is assumed that the body had its head position of N59E and its face in the northwest direction with bent knees. Beside the spot where the skull is supposed to have once lain, a jar has been placed as an burial offering.

Grave goods

1. Jar (Pl. 75–*e*)

Height:28.5 cm, rim diameter:13.0 cm, body diameter:22.0 cm, base diameter: 9.6 cm.

Buff sandy ware with chaff temper, buff surface color.

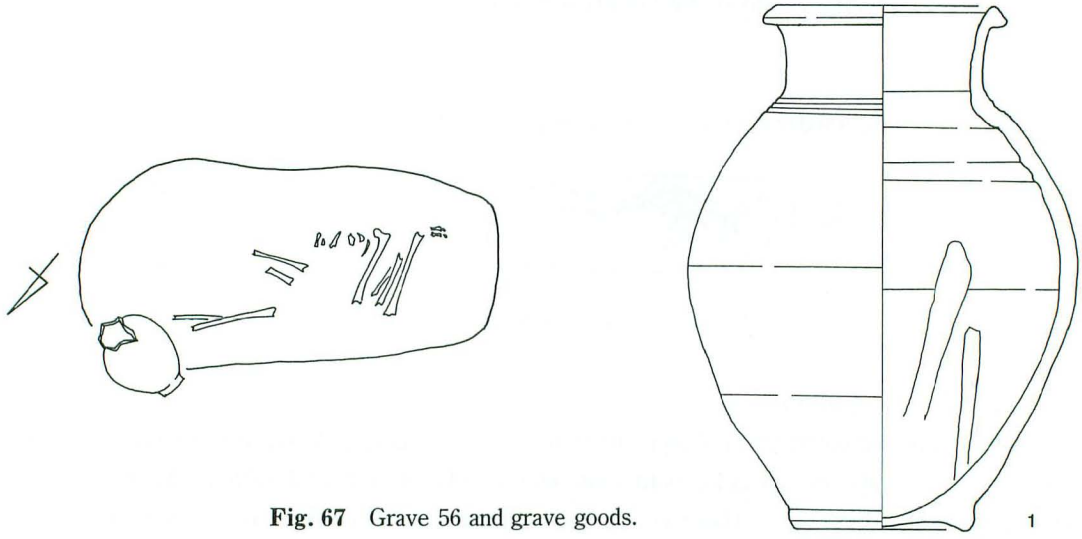


Fig. 67 Grave 56 and grave goods. 1

Gr. 57 (Fig. 68 and Pl. 67–*a*)

Inside the grave pit of 110×52 cm dug down 40 cm deeper than the surface at grid X-11, 12, an infant body has discovered. Its head is positioned N63W, facing southwest. Its upper and lower limbs are a little unitidy, but seem to have been once stretched out.

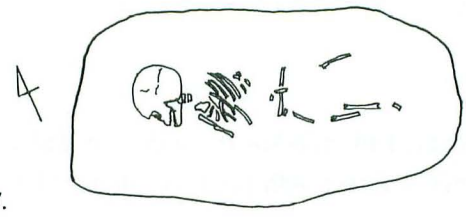


Fig. 68 Grave 57.

Gr. 58 (Fig. 69 and Pl. 66–*c*)

The grave pit was dug down 87 cm deeper than the surface at grid V-8, which is an oval shape of 120×85 cm. The human bones are an adult with bent knees and hands, who was placed with its heads S72W, face southward and its right side down. But the head was collapsed. In front of the body, there was a bronze object.

Grave goods

1. Bronze object (Pl. 81–*f*)

Length: 4 cm, width: 4 cm, thickness: 1.1 cm, bronze.

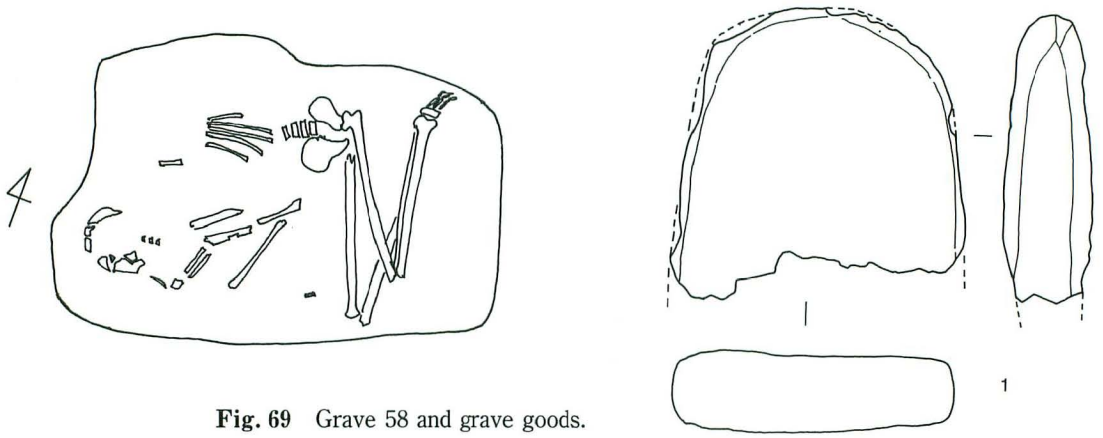


Fig. 69 Grave 58 and grave goods.

Gr. 59 (Fig. 70 and Pl. 67–*b*)

The grave pit was dug down 91 cm below the surface at grid VII-6/7, which is an oval shape of 90×60 cm. But the surviving human bones are very few. One pottery was found.

Grave goods

1. Jar

Height: 21.2 cm, rim diameter: 11.0 cm, body diameter: 17.3 cm, base diameter: 7.8 cm.

Buff sandy ware with temper, buff surface color.

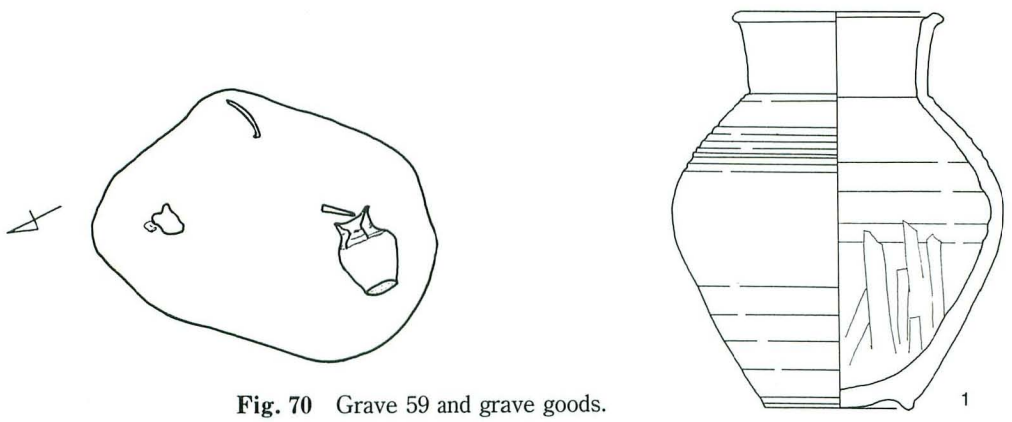


Fig. 70 Grave 59 and grave goods.

Gr. 60 (Fig. 71)

There are some human bones at the depth of 78 cm below the spot of grid VII-6. The humeri, vertebras and ulnas look as if they were gathered on purpose.

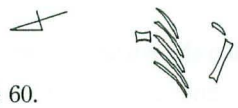


Fig. 71 Grave 60.

Gr. 61 (Fig. 72)

Several teeth have been uncovered at the depth of 183 cm below the spot of grid XVI-9, which is equivalent to Layer III (Halaf period).

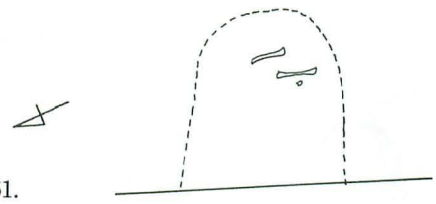


Fig. 72 Grave 61.

Gr. 62 (Fig. 73 and Pl. 67–*c*)

The grave pit was dug down 80 cm below the surface at grid XI-10, which is an oval shape of 80×36 cm. The human bones are an infant with bent knees, who was placed with its head N60E, face northwestward, and its right side down. One jar was found beside the feet.

Grave goods

1. Jar (Pl. 75–*b*)

Height: 18.5 cm, rim diameter: 12.0 cm, body diameter: 15.5 cm, base diameter: 7.0 cm.

Greenish sandy ware with chaff temper, buff surface color.

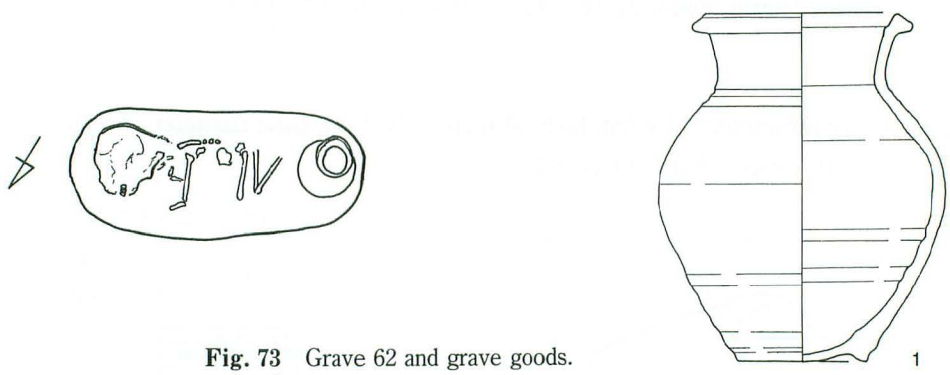


Fig. 73 Grave 62 and grave goods. 1

Gr. 63 (Fig. 74 and Pls. 67–*d*, 68)

The grave has its head S43W, face southeast, buried in bending posture 30 cm below the ground at grid X/XI-11. There were a small shoulder cup at the feet, a small faience jar by the side of the body, a minuature small faience jar which had been supposedly hanging on top of a necklace, at the breast and beads for necklaces around the neck. Others are a gold earring, two pins (used for wine strauners ?) and two rings (the same origin). One of the remarkable things as to this burial is the existence of bronze anklets of nearly 280g fitted on both feet.

Grave goods (Figs. 75 and 76)

1. Small shoulder cup (Pl. 71–*g*)

Height: 10.8 cm, rim diameter: 6.0 cm, body diameter: 8.0 cm, base diameter: 2.0 cm.

Buff sandy ware with chaff temper, buff surface color.

2. Miniature jar

height: 6.3 cm, rim diameter: 4.5 cm, body diameter: 6.4 cm, base diameter: 2 cm, faience. This is a jar in miniature.

3. Pendant (Pl. 82–*h*)

Length: 4.5 cm, width: 3.5 cm, thickness: 1.5 cm, faience. This, which perhaps contained some drug or perfume, seems to have been worn with a necklace.

4. Necklace (Pl. 80–*g*)

This is a colorful luxurious necklace made with various materials of agate, turquoise, faience, crystal, carnelian, lapislazuri, etc.. Among them, the red agate-like beads have their one side leveled while the other side incised, bearing the image of so-called Scarab in mind.

(1) Length: 2.3 cm, diameter: 1.0 cm, date-shaped bead, crystal.
(2) Length: 1.9 cm, diameter: 1.2 cm, elliptical bead, yellow glass or faience.
(3) Length: 1.9 cm, width: 1.1 cm, thickness: 6 mm, elliptical bead, grey color stone.
(4) Length: 2.0 cm, diameter: 7 mm, cylindrical bead, agate.
(5) Length: 1.5 cm, maximum diameter: 1.0 cm, date-shaped, turquoise.
(6) Length: 1.6 cm, width: 1.0 cm, thickness: 7 mm, elliptical bead, agate.
(7) Length: 1.6 cm, width: 8 mm, thickness: 8 mm, date-shaped bead, grey color stone.
(8) Length: 1.6 cm, width: 1.0 cm, thickness: 6 mm, elliptical bead, agate?
(9) Length: 1.7 cm, width: 1.4 cm, thickness: 6 mm, rhomboid bead, carnelian?
(10) Length: 1.5 cm, width: 1.3 cm, thickness: 8 mm.
(11) Length: 1.3 cm, width: 1.4 cm, thickness: 6 mm, biconvex bead.
(12) Length: 1.3 cm, width: 1.0 cm, thickness: 6 mm, Scarab, carnelian?

Tell Songor B has yielded one compleate bead ⟨Gr. 9–1(1)⟩ and two incomplete beads ⟨Gr. 9–1(8) and Gr. 63–4(12)⟩ with Scarab clearly born in mind. There is a possibility that Scarab had been produced in this are, accordingly.

5. Necklace (Pl. 80–*h*)

(1) Length: 1.3 cm, diameter: 8 mm, shell-shape bead, faience.
(2) Length: 3 mm, diameter: 6 mm, lentoid bead, agate.

This is of thin ring-shaped crystal beads with only one copper bead. Some of the former are made to imitate shells. Nineteen in all.

6. Bead (Pl. 81–*a*)

(1) Diameter: 9 mm, thickness: 2 mm.

This is of thin ring-shaped crystal bead.

7. Necklace (Pl. 81–*b*)

This is composed of agate, faience, turquoise, carnelian, shell and gold beads. Twenty-eight in all.

(1) Diameter: 1.4 cm, thickness: 6 mm, carnelian.
(2) Diameter: 1.2 cm, length: 9 mm.

8. Necklace (Pl. 81–*c*)

(1) Diameter: 3 mm, length: 3 mm.
(2) Diameter: 7 mm, length: 8 mm.

This is the one in which lots of ball-shaped beads and thin cylindrically-cut beads are linked together.

9. Necklace (Pl. 81–*d*)

(1) Diameter: 3 mm, length: 1.6 cm.
(2) Diameter: 3 mm, length: 1.5 cm.
(3) Diameter: 3 mm, length: 1.1 cm.

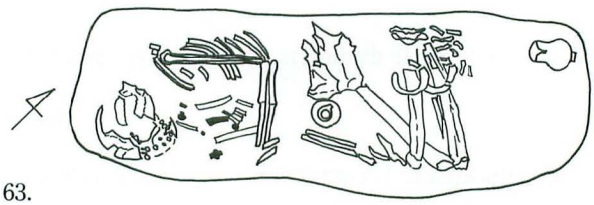


Fig. 74 Grave 63.

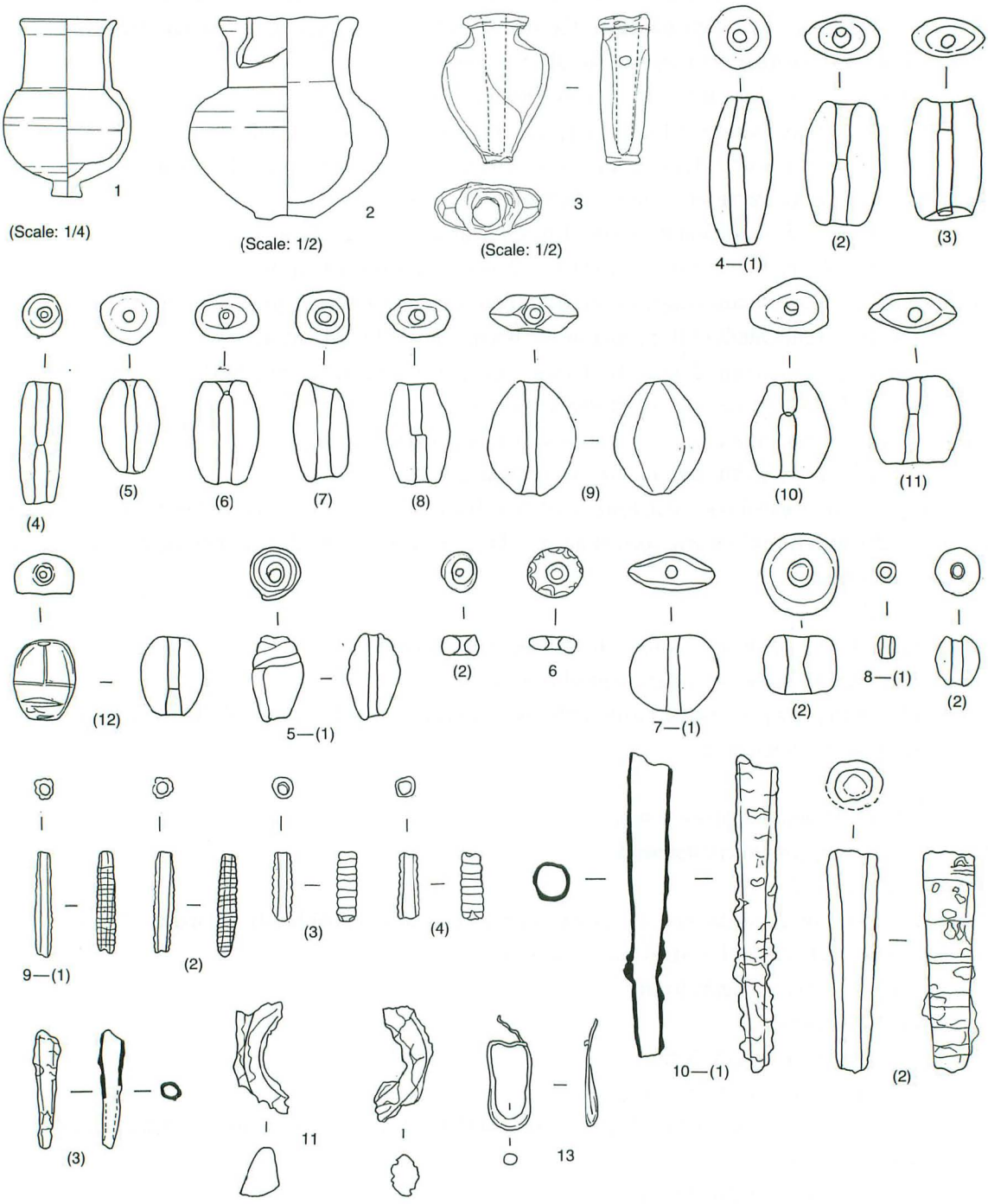


Fig. 75 Grave goods, Gr. 63.

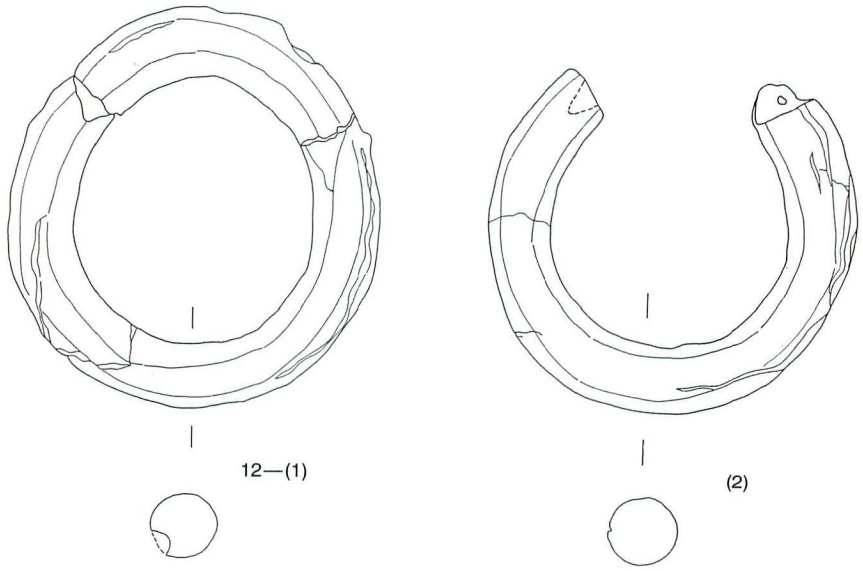


Fig. 76 Grave goods, Gr. 63. (Scale: 1/2)

(4) Diameter: 3 mm, length: 1.0 cm.

This is a linkage of many shells a single kind. The shell is in the shape of some 2 cm long cylinder, which is perhaps 'liniphora restis' in Family Triphoridae [Habe and Kosuge 1966: 107 no. 36].

10. Bronze objects (Pl. 81–*f*)

(1) Maximum diameter: 6 mm, length: 4.8 cm, bronze.

(2) Maximum diameter: 8 mm, length: 3.4 cm, bronze.

(3) Maximum diameter: 4 mm, length: 1.8 cm, bronze.

(1) (2) and (3) are of bottle or strainer type, whose hollow insides are filled with some carbide-like matter. Therefore, it seems that their use was quite different from that of the ones mentioned above.

11. Ring

(1) Diameter: 2.5 cm? by estimation. The bronze-make ring is made up of two small broken pieces. This is also a small fragment, but the circle size makes us consider that it was a ring.

12. Anklets (Pl. 81–*g*)

(1) Inner diameter: 7.0 cm, outer diameter: 10.4 cm, bronze.

(2) Inner diameter: 6.5 cm, outer diameter: 10.0 cm, bronze.

A part of this is of built-in type to make it detachable. The inner size clearly suggests to us that it was intended for female use.

13. Earrings

This has the lower portion slightly swollen [Ezio 1985: 318 no. 150; Boehmer u. Dammer 1985: Taf. 151. Nr. 675, 676, 678].

Gr. 64 (Fig. 77 and Pl. 69–*a*)

Several pieces of human bones are found at the spot 23 cm below the surface at grid XII-7/8, whose survival condition is so poor that we cannot identify them in detail. Three broken earthen vessels, which seem to have been among grave goods, have been unearthed here. These human bones and earthen vessels are discovered just above the kiln (K-3) which belongs to Layer 1.

Grave goods

The three vessels were such fragile small jars that they finally broke down when we tried to take them up.

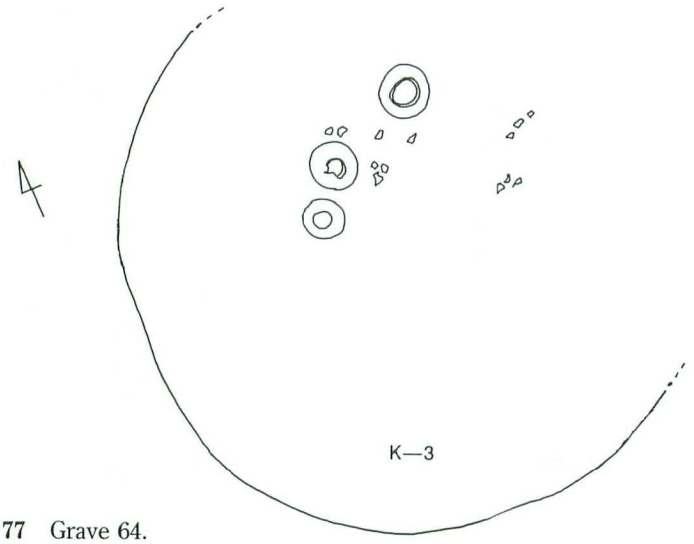


Fig. 77 Grave 64.

Gr. 65 (Fig. 78)

The grave pit was dug down at grid V-8, which is an oval shape of 80×30 cm. The human bones are an infant with extremely bent knees and hands who was placed with ita head N10W and face westward, its right side down.

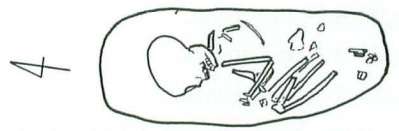


Fig. 78 Grave 65.

Gr. 66 (Fig. 79)

The grave pit of 122×60 cm in size is situated 20 cm below the surface at grid V/VI-6. The human bones, which are short of chest, are in poor preservation. But the remaining skull and legs make us assume that its head position was S80E, facing south with bent knees and the whole body lying on the left side.

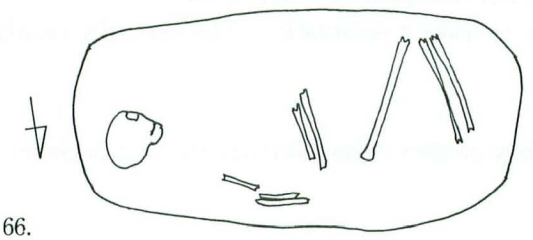


Fig. 79 Grave 66.

Gr. 67 (Fig. 80)

The grave pit was dug down 85 cm below the surface at grid V/VI-7, which is an oval shape of 113×60 cm. The human bones are an adult with bent knees and hands, who was placed with its head S44W and face southeastward, its right side down. There is no grave goods.

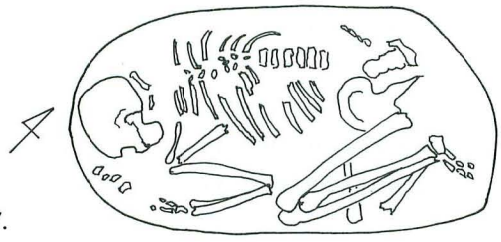


Fig. 80 Grave 67.

Gr. 68 (Fig. 81)

Inside the grave pit of 65×28 cm uncovered 54 cm below the surface at grid VI-8, we have found an infant, whose whole body has lying on its right side with its head position of N63W, face southwestward and bent knees. No grave goods.

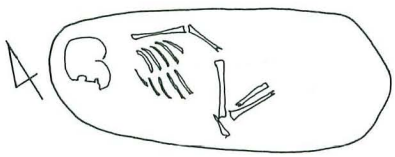


Fig. 81 Grave 68.

Gr. 69 (Fig. 82)

We are not exactly sure of what the grave pit was like. It probably took an oval of 54×22 cm in dimensions. It has been uncovered at the depth of 43 cm below the surface at grid V-8, in which the whole body is tilted toward right with its head positioned S77W, facing south and slightly crouching the knees. Upper and lower limbs are partly missing. No grave goods.

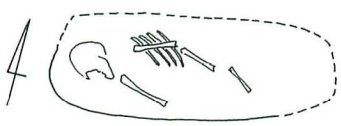


Fig. 82 Grave 69.

Gr. 70 (Fig. 83)

The grave pit was dug down 86 cm deeper than the surface at grid V-7, which is an oval shape of 160×70 cm. The human bones are an adult with bent knees, who was placed with its head S48W and face southeastward, its right side down. There is no grave goods.

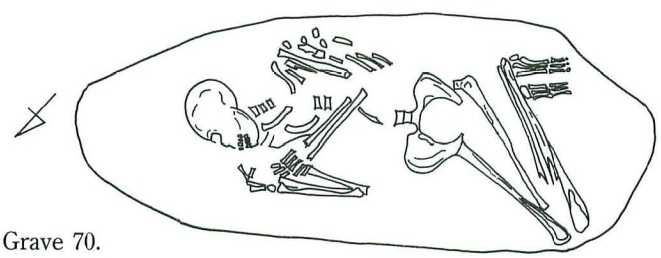


Fig. 83 Grave 70.

Gr. 71 (Fig. 84)

The grave has its head toward N63W and and face southeast in the flexed burial, and sun-dried bricks are piled up in front of the face functioning as southeast side wall of grave pit. Beside the feet are two small vases and a bronze pins by the side of the bent arms. At the depth of 131 cm below the surface at

grid VIII-7, the oval grave of 140×70 cm in size has been uncovered.

Grave goods (Fig. 85)

1. Jar (Pl. 77–*d*)
   Height: 14.5 cm, rim diameter: 11.0 cm, body diameter: 13.5 cm, round base.
   Greenish sandy ware with chaff temper, buff surface color.
2. Jar
   Height: 10.0 cm, rim diameter: 7.3 cm, body diameter: 10.0 cm, round base.
   Greenish sandy ware with chaff temper, buff surface color.
3. Pins (Pl. 81–*f*)
   Length: 12.0 cm, maximum thickness: 1.0 cm, bronze.
4. Bronze object
   Length: 1.2 cm, maximum thickness: 4 mm, bronze.

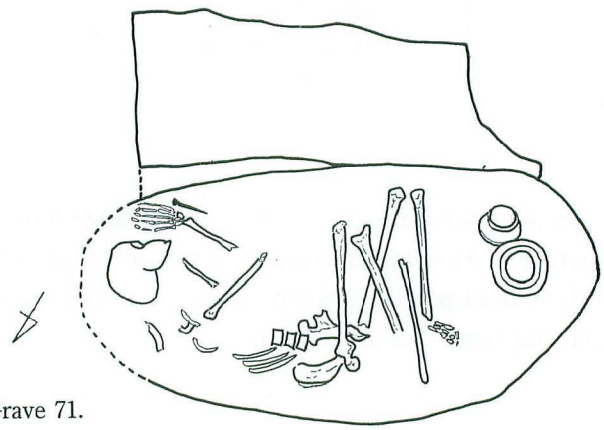


Fig. 84 Grave 71.

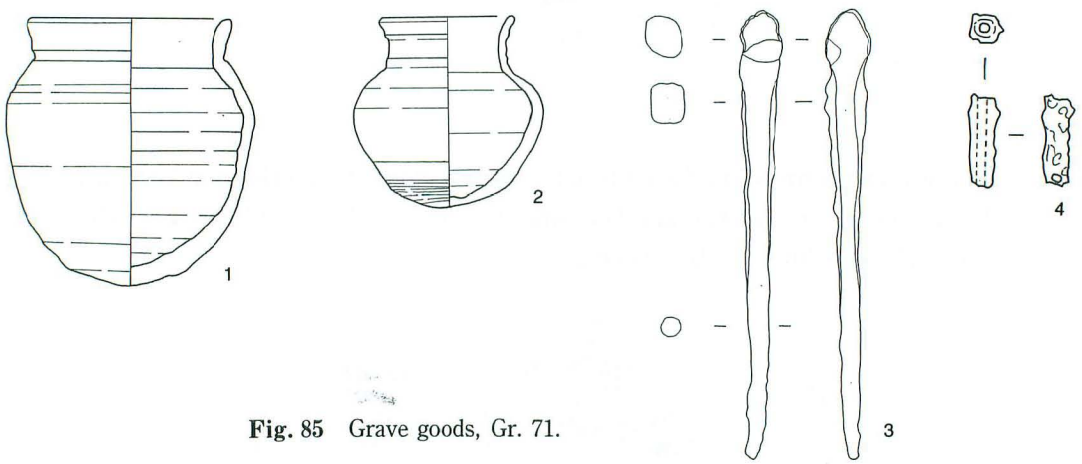


Fig. 85 Grave goods, Gr. 71.
(Scale: 1/2)

Gr. 72 (Fig. 86)

The grave pit was dug down at grid VI-8, which is an oval shape of 120×60 cm. The human bones are an adult with extremely bent knees and hands, who was placed with its head N76E, face northward and its right side down. No grave goods.

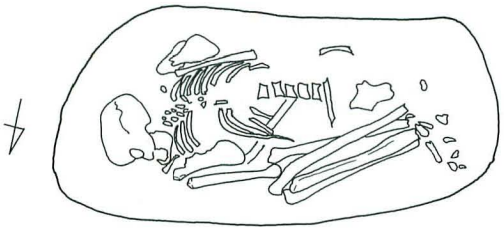


Fig. 86 Grave 72.

Gr. 73 (Fig. 87 and Pl. 69–*b*)

The grave pit was dug down 65 cm below the surface at grid VI-12, which is an slender rectangular shape of 98×20 cm. The human bones are an infant lying on its back and extending its hand, who was placed with its head N37W, face southwestward and its right side down. No grave goods were found.

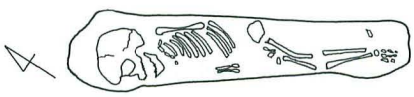


Fig. 87 Grave 73.

Gr. 74 (Fig. 88 and Pl. 69–*c*)

The grave pit was dug down 100 cm deeper than the surface at grid V-8, which is an oval shape of 144 ×75 cm. The human bones are an adult with bent knees, who was placed with its head N76E, face southward and its left side down. The skull was broken in pieces. Some animal bones (probably dog) were found in front of the abdomen. Two pottery were found.

Grave goods (Fig. 89)

1. Jar (Pl. 75–*c*)

Height: 22 cm, rim diameter: 12.0 cm, body diameter: 17.0 cm, base diameter: 8.0 cm.

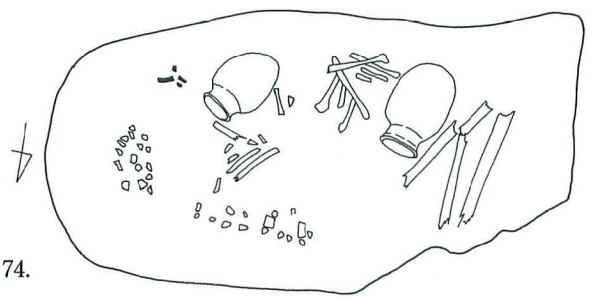


Fig. 88 Grave 74.

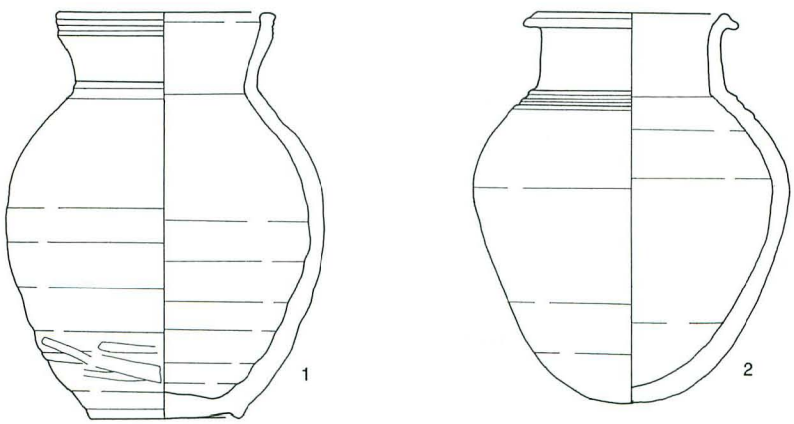


Fig. 89 Grave goods, Gr. 74.

Brownish chaff tempered ware, buff surface color.

2. Jar (Pl. 72–*f*)
   Height: 21.0 cm, rim diameter: 11.0 cm, body diameter: 16.5 cm, round base.
   Brownish sandy ware with chaff temper, buff surface color.

Gr. 75 (Fig. 90)

Half of the grave pit at the depth of 80 cm below the surface at grid V-8 is located under a footpath, which makes it difficult to grasp an entire aspect of the grave itself. The scope of the grave so far excavated is in the dimensions of 65×60 cm. The body has its head position of N59E, face northwest, and upper and lower limbs flexed. There are three beads uncovered here.

Grave goods

1. Beads (Pl. 79–*c*)
   Maximum diameter: 2.0 cm, length: 2.0 cm.
   This constitutes two big faience beads and one small reddish brown stone bead of ring-shape.

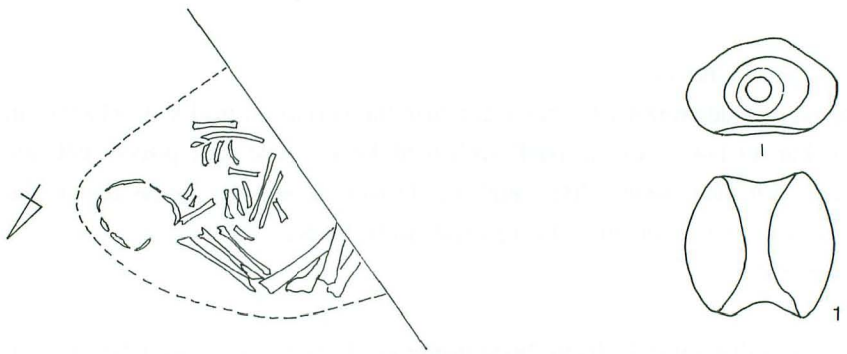


Fig. 90 Grave 75 and grave goods.

Gr. 76 (Fig. 91 and Pl. 69–*d*)

The grave has three pottery at its feet and a cylinder seal by the side of its body. In front of this body with its head N36E and face northwest, on one side of the grave pit, we have found sun-dried bricks of 36×36×8 cm apiece arranged in five rows up to three storied pieces. Such sort of burial method is very similar to that of Grs. 41, 71 and the graves of Tell Songor A [Kamada and Ohtsu 1988: Figs. 3–8]. By the way, this is the grave uncovered at the depth of 105 cm below the surface at grid VII-7, which is 175×60 cm in dimensions.

Grave goods (Fig. 92)

1. Jar (Pl. 74–*c*)
   Height: 27.0 cm, rim diameter: 17.5 cm, body diameter: 25.5 cm, base diameter: 11.0 cm.
   Greenish sandy ware, buff surface color.
2. Jar
   Height: 33.0 cm, rim diameter: 14.5 cm, body diameter: 26.5 cm, round base.
   Brownish chaff-tempered ware, buff surface color.
3. Small vase
   Height: 9.0 cm, rim diameter: 7.0 cm, body diameter: 10.0 cm, base diameter: 4.5 cm.
   Greenish sandy ware, buff surface color.
4. Cylinder seal
   Diameter: 1.4 cm, length: 2.0 cm.

The cylinder seal perhaps originating in the Ur Dynastic III Period, has the description of worship scenes on it. What is written in three rows can be pertially read as 'RA NE' and others are indistinct.

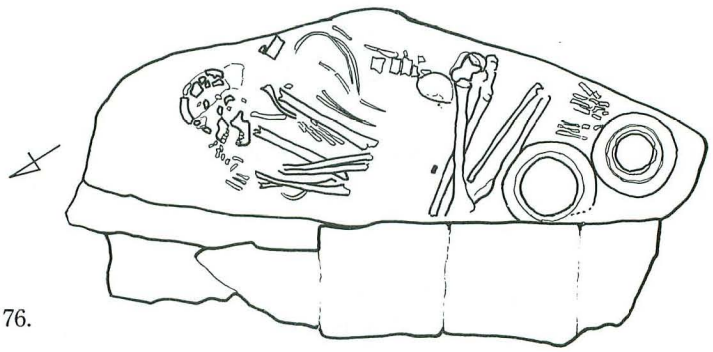


Fig. 91 Grave 76.

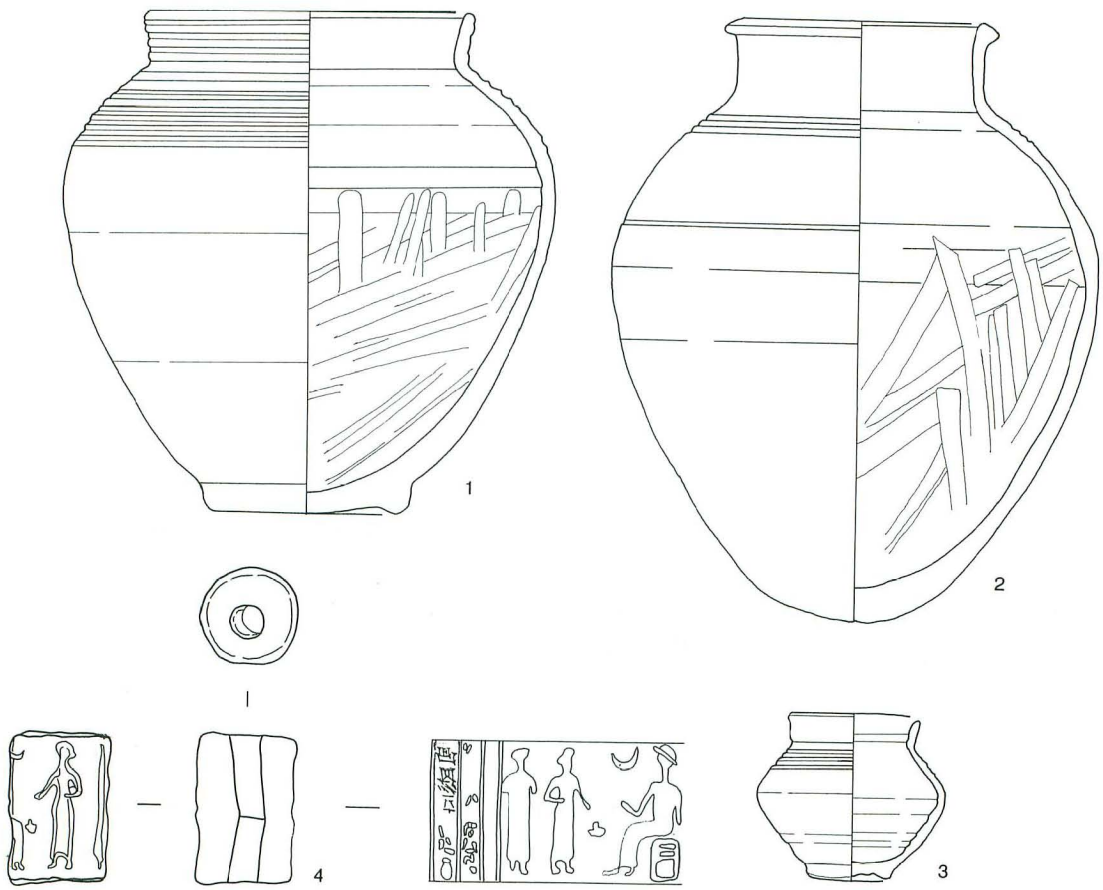


Fig. 92 Grave goods from Gr. 76.

Gr. 77 (Fig. 93 and Pl. 70–*a*)

The grave pit was dug down at grid XI-10, which is an oval shape of 150×60 cm. The human bones are an adult with bent knees. But the skull was missing. One pottery of cup type was uncovered beside original position of the head. This grave belongs to Kassite period.

Grave goods

1. Shoulder cup

Height: 14.5 cm, rim diameter: 5.3 cm, body diameter: 5.3 cm, base diameter: 2.3 cm.

Buff coarse ware, buff surface color.

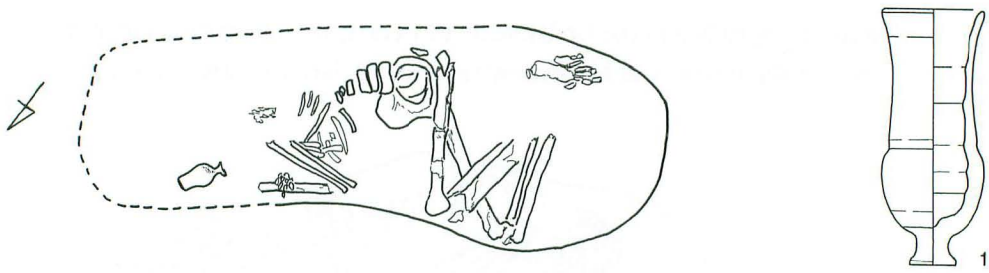


Fig. 93 Grave 77 and grave goods.

Gr. 78 (Fig. 94)

It is not clear about the size and shape of this grave, where human bones have been found in a way they were gathered together. But the skull is absent. The place at the depth of 146 cm below the surface at grid VII-6, in which the bones have been found, is covered with ash all over. No grave goods.

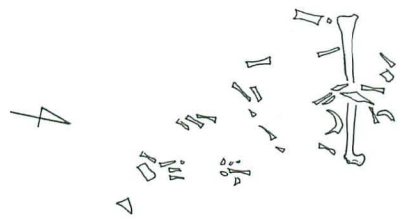


Fig. 94 Grave 78.

Gr. 79 (Fig. 95 and Pl. 70–*b*, *c*)

It has been uncovered at the point of 145 cm below the surface at grid IX-8. But the existing footpath prevented us from carry out our excavation thoroughly. The scope investigated by us is 120×52 cm in dimensions. It is evident from the human bones so far excavated that its head position was N79E, facing south with bent elbows. Probably its legs were also flexed. Two pots as grave goods are near the back of the head. In addition, there are a bracelet on the wrist and rings around the left-side fingers.

Grave goods (Fig. 96)

1. Incised gray ware (Pl. 77–*e*)
   Height: 15.3 cm, rim diameter: 11.2 cm, body diameter: 11.7 cm, base diameter: 11.2 cm.
   Grey ware, clay fablic, grey surface color.
2. Jar (Pl. 77–*b*)
   Height: 10.3 cm,rim diameter: 5.5 cm, body diameter: 13.8 cm, round base.
   Reddish fine ware, buff surface color.
3. Bracelet
   5.2 cm in outer diameter and 3.8 cm in inner diameter, bronze.
4. Rings
   2.9 cm in outer diameter and 1.6 cm in inner diameter, bronze.

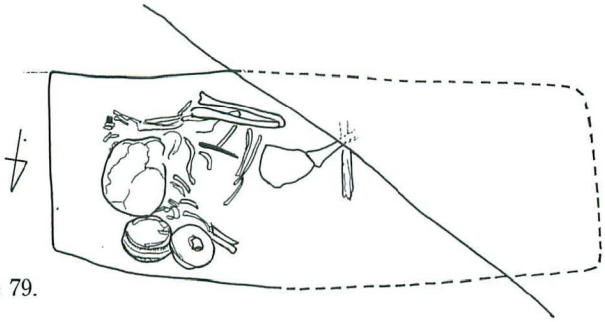


Fig. 95 Grave 79.

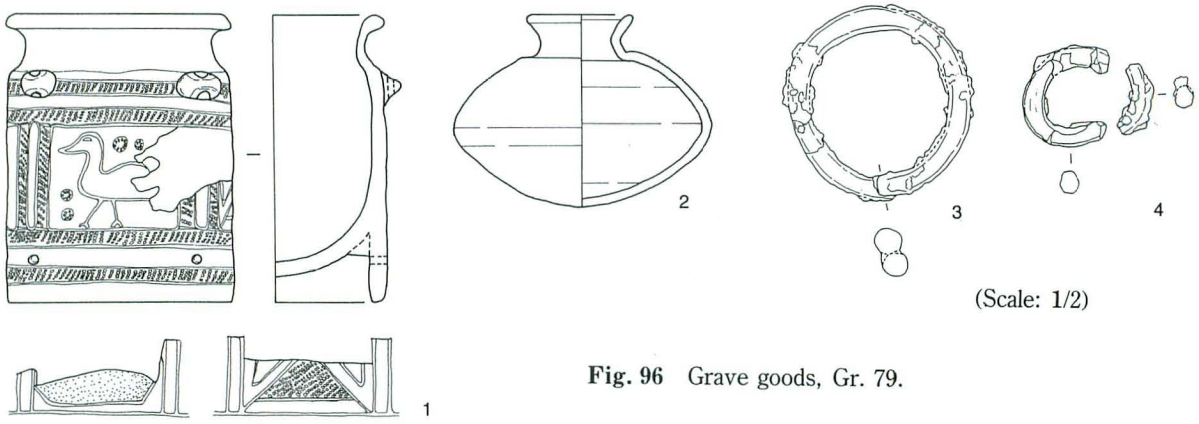


Fig. 96 Grave goods, Gr. 79.

Gr. 80 (Fig. 97 Pl. 70–*d*)

Only a part of a skull has been found at a grave at grid VIII-5, the size and shape of which are still obscure. As the grave is very close to a footpath, another part of it may exist around there.

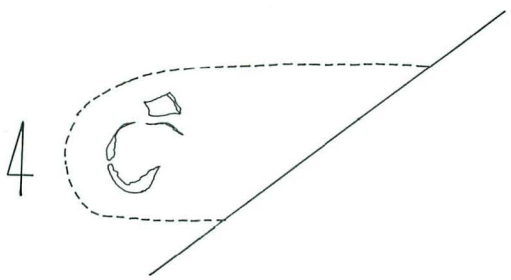


Fig. 97 Grave 80.

Gr. 81 (Fig. 98)

At the depth of 209 cm below the surface at grid VI-9, an infant's grave has been dug down into the natural soil. The grave pit is 92×42 cm in size. The body has its head position of S25E, face northeastward, streching the arms and bending the knees. And the whole body is lying on its face toward right. The grave goods here a bowl beside the skull and a jar near the knee. This grave belongs to Halaf period.

Grave goods (Fig. 99)

1. Bowl

   Height: 8.7 cm, rim diameter: 7.5 cm, body diameter: 10.0 cm, base diameter: 5.0 cm.

   Buff coarse ware, buff surface color.

2. Jar

   Height: 9.0 cm, rim diameter: 17.0 cm, body diameter: 17.0 cm, base diameter: 6.0 cm.

   Brownish fine ware, brownish surface color.

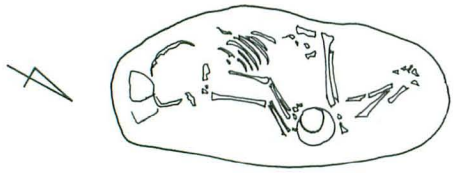
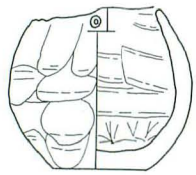


Fig. 98 Grave 81.



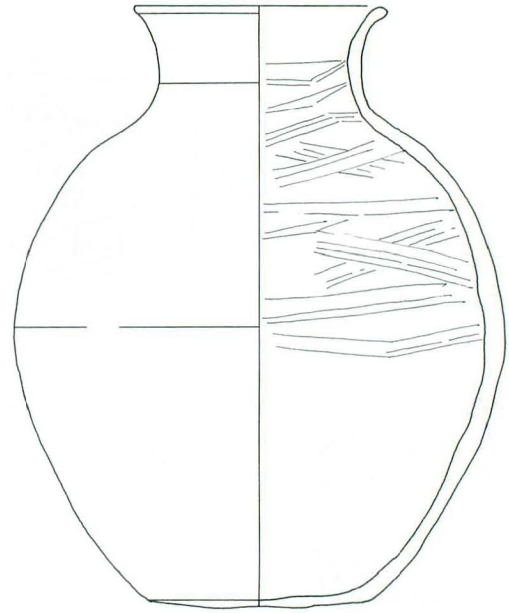


Fig. 99 Grave goods, Gr. 81.

Gr. 82 (Fig. 100)

The grave pit uncovered at grid VI/VII-7 is located benath a footpath, so that we were unable to excavated it fully. Its excavated range is 89×53 cm in size. The major axis of the grave is N68W (against the short side of the location where the skull lies). As for the human bones, the skull has been found nearly in parallel with the short side of the grave, coming into contact with the short side while the arms lie in parallel with the major axis. This is an unusual mode of grave type which has never been originally buried so as to have the shoulders, neck and head flexed at a right angle. No grave goods have been discovered around the upper part of the body, where we already finished our excavation.

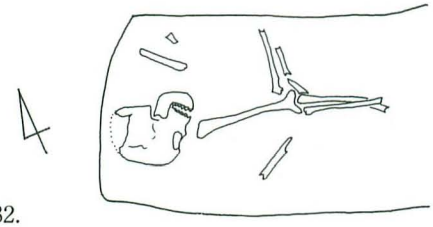


Fig. 100 Grave 82.

Gr. 83 (Fig. 101)

The grave pit at the point of 30 cm below the surface at grid IX-8 is not certain about how large it is. The whole body is lying on the right side with its head position of N67E, facing northwest and bending its upper and lower limbs. No grave goods are uncovered here.

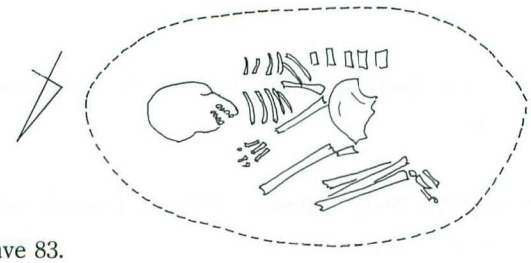


Fig. 101 Grave 83.

Table 1. Catalogue of the graves at Tell Songor B

Grave No.	Locus grid	Size of grave Pit	Orientation	Depth from surface	Posture	Direction of face	Condition of skelton	Period	Note (grave goods)
Gr. 1	IX-9	65 ×15 cm	N43E	Gl.-45	extended	SE	good	?	infant
Gr. 2	X-9	(98)×35 cm	N64E	Gl.-75	flexed	up		?	none
Gr. 3	X-9	105 ×45 cm	N58E	Gl.-120	flexed	NW	good	Isin-Larsa	three jars, one necklace, one sling ball
Gr. 4	IX-10	(160 ×70 cm)	N80E	Gl.-45	flexed	S		Ur III/Isin-Larsa	three pottery.
Gr. 5	IX-9	(90 ×38 cm)	N75E	Gl.-120	flexed	N		Isin-Larsa?	one jar
Gr. 6	IX-10	(70 ×30 cm)	N62W	Gl.-80	flexed	SW	good	Islam	infant
Gr. 7	XII-9	(120 ×60 cm)	S14E	Gl.-30	flexed	E	bad	Jemdet Nasr	two stamps
Gr. 8	VI-9	120 ×40 cm	N57W	Gl.-30	(extended)	(SW)		Islam	infant
Gr. 9	VII-10	145 ×92 cm	N48E	Gl.-30	flexed	SE	good	Kassite?	one necklace, two hair ornaments, one earring.
Gr. 10	VIII-9	170 ×85 cm	S62W	Gl.-130	flexed	SE		?	none
Gr. 11	VI-9	142 ×(80) cm		Gl.-50	flexed	NE	bad	Kassite	one bowl
Gr. 12	VI-10	150 ×110 cm	N28E	Gl.-30-50	flexed	SE	good	Isin-Larsa	one pin
Gr. 13	V-9	140 ×80 cm	S63W	Gl.-40	flexed	S	bad	?	four beads
Gr. 14	V-9	(70 ×60 cm)	N71E	Gl.-40	flexed	N	bad	Kassite	one necklace, infant
Gr. 15	IX-10	130 ×44 cm	S50W	Gl.-30	flexed	SE	bad	?	none
Gr. 16	IX/X-10	(150 ×90 cm)	N62E	Gl.-40	flexed	NW	bad	Kassite	one jar and one bowl with animal bones
Gr. 17	VIII-9	(165)×75 cm	N52E	Gl.-130-140	flexed	SE	bad	?	two small vases
Gr. 18	VIII-10	(160)×90 cm	S53W	Gl.-120	flexed	SE	good	Kassite	one jar, one earring and one necklace
Gr. 19	VI-8	160 ×85	N57E	Gl.-70	flexed	SE	good	?	none
Gr. 20	IX-10/11	(120 ×70 cm)	S59W	Gl.-40	flexed	NW	bad	?	none
Gr. 21	VIII-7			Gl.-60-70	flexed		no head	?	none
Gr. 22	VII-9	155 ×80	N54E	Gl.-50	flexed	SE		?	one bracelet
Gr. 23	X-10			Gl.-70			bad	ED.	two jars
Gr. 24	X-10	70 ×32 cm	N24E	Gl.-80-100	flexed	NW	good	Isin-Larsa	one jar, infant
Gr. 25	VII-8	175 ×55 cm	S64W	Gl.-120	flexed	NW		Halaf?	none
Gr. 26	VI/VII-7	(70 ×30 cm)	S64E	Gl.-130	flexed	NE	bad	?	one necklace, one anklet
Gr. 27	VII-8	(70 ×35 cm)	N82E	Gl.-100		N	bad	?	none
Gr. 28	VI/VII-9	195 ×50 cm	N52E	Gl.-130	extended	up		?	none
Gr. 29	VI-10	(120 ×75 cm)	N52E	Gl.-110	flexed	SE	good	Isin-Larsa	two jars
Gr. 30	VI-8			Gl.-100				?	
Gr. 31	VII-9	145 ×75 cm	S74W	Gl.-130	flexed	N		?	one necklace
Gr. 32	VII-9	(125 ×60 cm)	S55W	Gl.-100	flexed	(SE)	no head	?	none
Gr. 33	VIII-9	130 ×65 cm	N71E	Gl.-140	flexed	NW	bad	Isin-Larsa	one jar
Gr. 34	IX-10	(140 ×60 cm)	N53E	Gl.-100	flexed	SE	bad	Kassite	three jars, one anklet
Gr. 35	VII-9	160 ×110 cm	S50W	Gl.-115	flexed	(NW)	good	Kassite	one necklace
Gr. 36	VII-11	(150 ×90 cm)	(N61E)	Gl.-105	flexed	(SE)	bad	Kassite	two jars, one necklace
Gr. 37	VII-11	(85 ×50 cm)	S58W	Gl.-60	flexed	SE	good	?	one necklace, infant
Gr. 38	VII-11	135 ×80 cm	S56W	Gl.-30	flexed	SE	good	?	earring
Gr. 39	VI-11	(60 ×20 cm)	N65W	Gl.-50	flexed	SW		Islam	none
Gr. 40	VII-11			Gl.-60-70			bad	?	none
Gr. 41	VI-11	160 ×65 cm	N60E	Gl.-20	flexed	NW	bad	Isin-Larsa	two jars
Gr. 42	VIII-10/11	(150 ×80 cm)	S89W	Gl.-50	flexed	N	bad	Kassite	one jar, one necklace

Grave No.	Locus grid	Size of grave Pit	Orientation	Depth from surface	Posture	Direction of face	Condition of skelton	Period	Note (grave goods)
Gr. 43	VIII-10	(120 ×60 cm)	S55W	Gl.-110	flexed	NW	bad	Kassite	one jar
Gr. 44	IX-8	(120 ×62 cm)	S78W		flexed	S		?	none
Gr. 45	XI-9	110 ×55 cm	N34E	Gl.-162	flexed	SE	good	?	pin
Gr. 46	VIII-8	(90 ×45 cm)	N48E	Gl.-100	flexed	NW	bad	Isin-Larsa	one jar.
Gr. 47	V-8	(170)×70 cm	S78W	Gl.-90	flexed	S	good	Islam?	coins, one ring
Gr. 48	VIII-8	(80 ×35 cm)	N48E	Gl.-105	flexed	NW	bad	Akkad?	one jar
Gr. 49	VI-6	(100 ×50 cm)	N66E	Gl.-20-25	flexed	(S)	no head	?	one necklace, one pin
Gr. 50	X/XI-7	(110 ×70 cm)	N67E	Gl.-50	flexed	(NW)	no head	Halaf?	sling balls
Gr. 51	VIII-12	140 ×80 cm	S53W	Gl.-65-70	flexed	NW	good	Sassan	one jar
Gr. 52	V-8	85 ×60 cm	S78E	Gl.-42	flexed	N		?	none
Gr. 53	V-8	82 ×24 cm	N70W	Gl.-78	extended	S	good	Islam?	one bracelet, infant
Gr. 54	V-8	90 ×42 cm	N70E	Gl.-69	flexed	N		?	one bead
Gr. 55	VI-6	120 ×85 cm		Gl.-40	flexed				
Gr. 56	VIII-7	115 ×55 cm	N59E	Gl.-110	flexed	(NW)	bad	Ur III/Isin-Larsa	one jar
Gr. 57	X-11/12	110 ×52 cm	N63W	Gl.-40	extended	SW		Islam	none, infant
Gr. 58	V-8	120 ×85 cm	S72W	Gl.-87	flexed	S	bad	?	bronze object
Gr. 59	VII-6/7	(90 ×60 cm)		Gl.-91			bad	Ur III/Isin-Larsa	one jar
Gr. 60	VII-6			Gl.-78			bad	?	none
Gr. 61	XVI-9			Gl.-183				Halaf	none
Gr. 62	XI-10	80 ×36 cm	N60E	Gl.-80	flexed	NW	bad	Ur III/Isin-Larsa	one jar, infant
Gr. 63	X/XI-11	140 ×50 cm	S43W	Gl.-30	flexed	SE		Kassite	one cup, one miniature jar, one pendant, five necklace, one bead, three bronze objects, one ring, two anklets, one earring
Gr. 64	XII-7/8			Gl.-23			bad	Kassite	three pottery
Gr. 65	V-8	80 ×30 cm	N10W		flexed	W	good	?	none, infant
Gr. 66	V/VI-6	122 ×60 cm	S80E	Gl.-20	flexed	S		?	none
Gr. 67	V/VI-7	113 ×60 cm	S44W	Gl.-85	flexed	SE	good	?	none
Gr. 68	VI-8	65 ×28 cm	N63W	Gl.-54	flexed	SW	good	?	none, infant
Gr. 69	V-8	(54 ×22 cm)	S77W	Gl.-43	extended	S	good	Islam?	none, infant
Gr. 70	V-7	160 ×70 cm	S48W	Gl.-86	flexed	SE		?	none
Gr. 71	VIII-7	(140)×70 cm	N63E	Gl.-131	flexed	SE	bad	Isin-Larsa?	two small vases, one pin, one bronze object
Gr. 72	VI-8	(120 ×60 cm)	N76E		flexed	N	good	?	
Gr. 73	VI-12	98 ×20 cm	N37W	Gl.-65	extended	SW	good	Islam	none, infant
Gr. 74	V-8	144 ×75 cm	N76E	Gl.-100	flexed	S	bad	Isin-Larsa	two jars
Gr. 75	V-8	(65 ×60 cm)	N59E	Gl.-80	flexed	NW		?	beads
Gr. 76	VII-7	175 ×60 cm	N36E	Gl.-105	flexed	NW		Isin-Larsa	three pottery, one cylinder seal
Gr. 77	XI-10	(150)×60 cm	N59E		flexed	(NW)	no head	Kassite	one shoulder cup
Gr. 78	VII-6			Gl.-146			no head	?	none
Gr. 79	IX-8	(120)×52 cm	N79E	Gl.-145	flexed	S		Isin-Larsa	two pottery, one bracelet, one ring
Gr. 80	VIII-5	(110 ×40 cm)	S83W			W	only head	?	none
Gr. 81	VI-9	92 ×42 cm	S25E	Gl.-209	flexed	NE	good	Halaf	one jar, one bowl
Gr. 82	VI/VII-7	(89)×53 cm	N68W		flexed	SE		?	
Gr. 83	IX-8	(120 ×65 cm)	N67E	Gl.-30	flexed	NW		?	

Table 2. Catalogue of the other findings.

Fig. 102

1 Jar. Locas: X-9, fabric: buff coarse ware with chaff temper, height: 35 cm, rim diameter: 13 cm, body diameter: 25 cm, base: round. Pl. No.: Pl. 72–*c*.

2 Jar. V-8/9, reddish brown coarse ware with buff slip. H. 33.0 cm, rim di. 13.5 cm, Body di. 23.8 cm, round base.

3 Jar. VIII-7, brownish coarse ware. H. 19.5 cm, rim dia. 10.5 cm, body dia. 16.5 cm, round base.

4 Jar. V-8/9, greenish sandy ware with chaff temper. Pl. 75–*d*.

5 Jar. VI-7, brownish coarse ware. H. 17.2 cm, rim dia. 11.0 cm, body dia. 15.7 cm, base dia. 6.7 cm. Pl. 76–*a*.

6 Jar. Greenish sandy ware with chaff temper. H. 20.7 cm, rim dia. 11.0 cm, body dia. 17.2 cm, base dia. 6.0 cm.

7 Jar. IX-9, greenish coarse ware with chaff temper. H. 15.3 cm, rim dia. 8.6 cm, body dia. 13.0 cm, base dia. 4.5 cm. Pl. 72–*a*.

8 Jar. V-8, greenish sandy ware with chaff temper. Body dia. 12.0 cm, base dia. 3.5 cm.

9 Jar. V/IV-7, brown sandy ware with chaff temper, greenish slip. Body dia. 13.0 cm, base dia. 5.0 cm.

Fig. 103

1 Small jar. Brownish fine ware. rim dia. 8.0 cm, body dia. 9.8 cm.

2 Small jar. VI-7, buff sandy ware with chaff temper. H. 12.2 cm, rim dia. 9.2 cm, body dia. 11.2 cm, base dia. 4.5 cm.

3 Small vase. Buff coarse ware from grid XI-9. H. 9.5 cm, rim dia. 6.8 cm, body dia. 8.5 cm, base dia. 3.8 cm.

4 Small vase. H. 9.4 cm, rim dia. 7.4 cm, body dia. 9.4 cm, base dia. 4.5 cm. Pl. 76–*c*.

5 Small vase. Greenish sandy ware with chaff temper. Body dia. 11.0 cm, base dia. 4.5 cm.

6 Small vase. XIII-9, brown coarse ware, buff slip. Rim dia. 5.0 cm, body dia. 9.7 cm, base dia. 4.2 cm. Pl. 76–*b*.

7 Bowl. IX-10, greenish coarse ware with chaff temper. H. 5.5 cm, rim dia. 9.0 cm, body dia. 9.6 cm, base dia. 5.8 cm.

8 Small vase. VII-9, greenish coarse ware with chaff temper. H. 8.0 cm, rim dia. 4.0 cm, body dia. 7.5 cm, base dia. 3.5 cm.

9 Cup. V-7, greenish coarse ware. H. 12.0 cm, rim dia. 8.5 cm, body dia. 8.2 cm, base dia. 4.5 cm. Pl. 77–*c*.

10 Cup. X-9, greenish coarse ware. Body dia. 7.5 cm, base dia. 3.5 cm.

11 Cup. V-9, greenish coarse ware. Body dia. 7.3 cm, base dia. 4.7 cm.

12 Small vase. XI-9, greenish sandy ware with chaff temper. H. 7.2 cm, rim dia. 6.0 cm, body dia. 8.5 cm, base dia. 6.0 cm.

13 Jar. X-7, buff coarse ware. H. 12.3 cm, rim dia. 10.0 cm, body dia. 15.5 cm, base dia. 5.0 cm.

14 Small vase. XI-7, brownish coarse ware. H. 7.3 cm, rim dia. 5.8 cm, body dia. 8.7 cm, base dia. 3.0 cm.

15 Stone object. V-7, marble, dia. ca.13 cm. Pl. 83–*b*.

16 Stone object. IV-9, marble, dia. ca.11 cm. Pl. 83–*b*.

17 Stone object. VII-9, marble, dia. 8.3 cm. Pl. 83–*a*.

18 Stone object. VII-6, marble, dia. 9.5 cm. Pl. 83–*a*.

Fig. 104

1 Sword. bronze. This is a double-edged sword of some 16 cm in length. Its blade gets a little broader near the grip, where a clasp remains intact. [Gibson 1981:Pl. 100–5].

2 Chisel. IX-11, bronze. This is 8.7 cm long with its round section. It has a slightly pointed edge. Pl. 81–*f*.

3 Chisel. XI-7, bronze. This is 10.0 cm long, is nearly of a square in its section, and has a pointed edge.

4 Bracelet. IV-6, iron. This is nearly of an oval in the dimensions of 5.3 cm in outer diameter and 4.0 cm in inner diameter. It is possible that some patterns or letters had been drawn on its flat portion.

5 and 6 Rings. IV-6, iron. This, which consists of two objects, is 2.2 cm in outer diameter and 1.1 cm in inner diameter. It is also considered to be a chain.

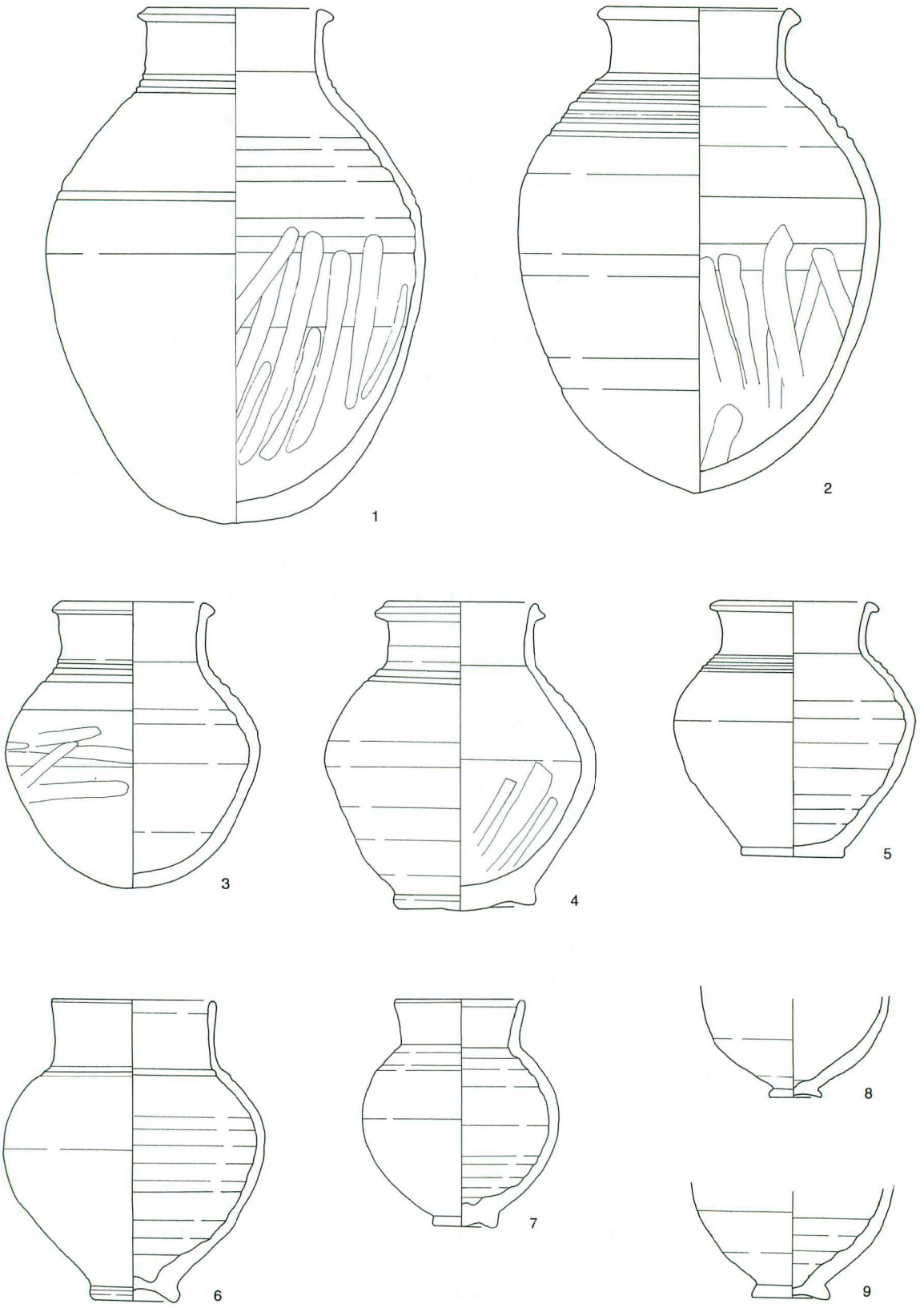


Fig. 102 Other findings. (Scale: 1/4)

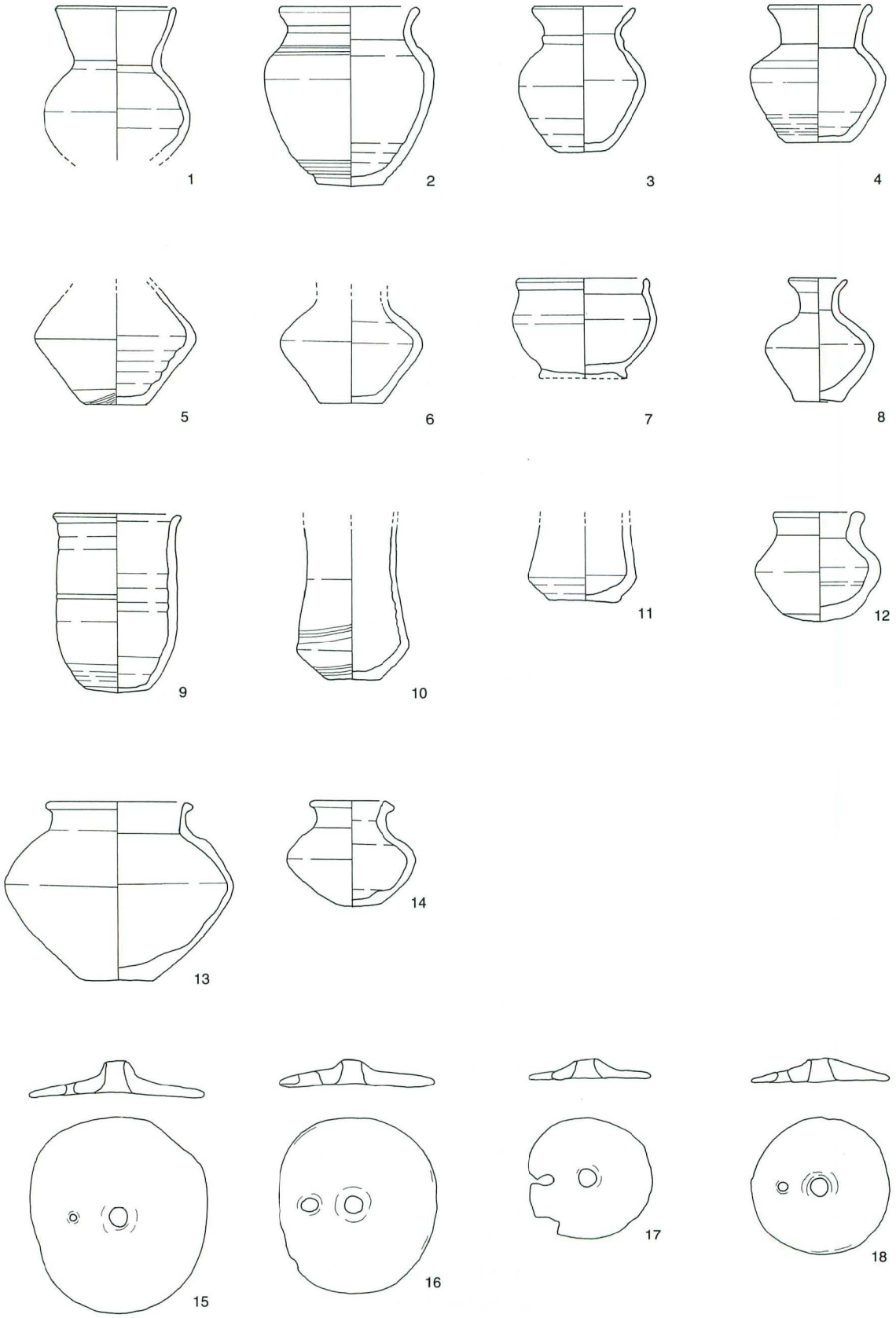


Fig. 103 Other findings. (Scale: 1/4)

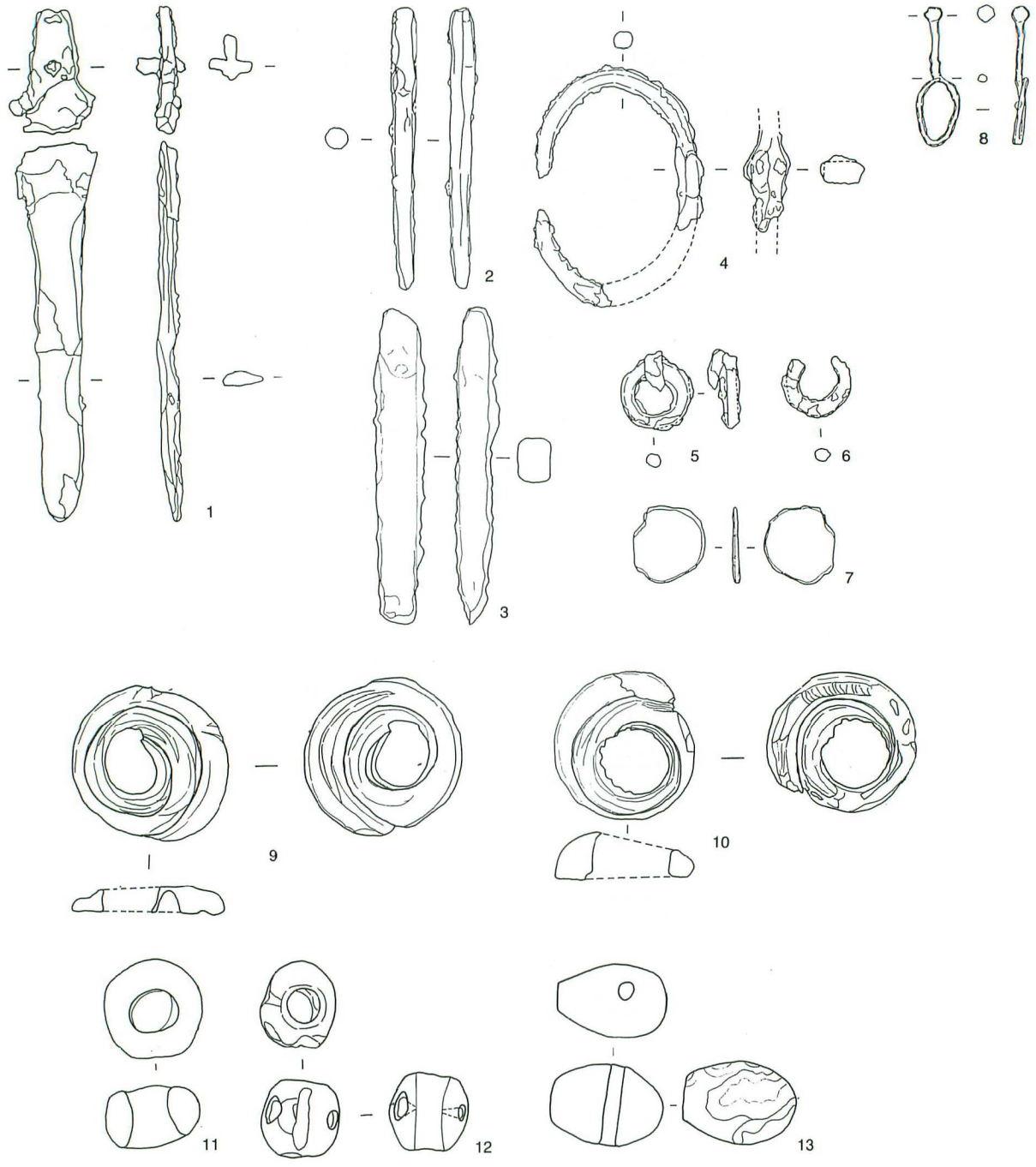


Fig. 104 Other findings. (No. 1~8: scale 1/2; No. 9~13: scale 1/1)

7 Coin. Bronze, XIII-8/7, dia. 2.5 cm, thickness 3 mm.

8 Earring. V-6, bronze.

9 and 10 Shell rings. X/XI-10, dia. 2.5 cm, thickness 5 mm-8 mm. Pl. 81–*e*.

11 Bead. Glass surface, dia. 1.5 cm, thickness 1.0 cm.

12 Bead. XIII-10. This looks like a weathered turquoise. In addition to holes pierced from one side only. And there are also small holes pierced through from both sides toward the center. Pl. 80–*e*.

13 Bead. VI-8, agate. The oval stripe-agate bead is believed to have been a duck-shaped weight, although the shape is not clear. Pl. 79–*f*.

Conclusion

The surface layer of the hill has yielded eighty-three dug-down graves, in which there are eight Islamic, one Sassanian, thirteen kassite, sixteen Isin-Larsa, one Akkad, one Early Dynasty, one Jemdet Nasr, four Halaf periods and thirty-eight unknown period graves. The analyses on the human remains unearthed here are now in progress by team of the Physical Anthropology [Ishida and Wada 1981: 206～215; Wada 1986: 1～32; Wada 1987: 443～456].

The Islamic Period[1)]

The graves of this period are eight in all, most of which are for infant. These infants'graves slightly vary in direction. On the whole, however, they are placed somewhat in the posture of bent knees with their heads west and faces southward. The human bones are well preserved. All of are commen in shallow burials.

The Sassanian Period

The grave (Gr. 51) uncovered together with a yellow-glazed jar with a single handle near the head, has its head directed southwest and face northwest in bending posture. It was discovered 65-70 cm below the present ground surface at grid VIII-12. In the Sassanian perid, it was probably the graveyard for the people who had many things to do with the pottery kilns and wine breweries at Telul Hamediyat [Kawamata 1981: 194] which lies on the extension line of Tell Songor.

The Kassite Period

It seems that all the thirteen burials have been concentrated on the south slope of the hill. Many of the grave pits have their long axes in eastwest direction. Their head positions are not fixed. The burials of the human remains in the bending posture may be divided into two: some are buried 1 m or so below the ground surface and others, 40 cm or below the ground surface. It is unlikely that this situation was caused solely due to the topographical change which had been brought about after their burials. Many of the grave goods of this age are more luxurious than those of other ages. In addition to the pottery, our burial discoveries here beads necklace, beads, head ornaments plated with gold, gold earrings, small faience jars, bronze bracelets and anklets. It is not distinct, but it seems likely that some burials had nothing but pottery and others, beads. This may stand for the difference of sex and material status of the dead person buried there. To our regret, these human bones were so badly preserved that it was next to impossible for us to attemt analyses of them. Most of these graves were not in good preservation. It was often the case that skull was missing. It is possible to say that the graves had been broken for taking their abundant grave goods away.

The pottery of this period is of shoulder cup type presenting the feature of button-like base, and has various sizes and kinds [Ezio 1985: 54～55; Boehmer u. Dammer 1985: Tafn. 129～132]. One jar (Fig. 52–1) has some distortion from around the rim down to the shoulder. Its body is rather long with a raised base. Similar to this are the ones (Figs. 20–1, 23–1, 42–2, 44–1, 52–1, 53–1, 75–1, 93–1, 102–6～9, 103–1). Jars? (Fig. 102–8, 9) are found broken; both of them seem to have been semi-global bowl [Woolly 1976: Pl. 101–15] like bowl (Fig. 15–1) or global shapes like jar (Fig. 102–6). The jar (Fig. 42–2) resemble another one (Fig. 15–1) and the proportion of its neck to the whole height is considerable shown in shoulder cup (Fig. 75–1) (The neck portion of shoulder cup (Fig. 93–1) is more than half of the vessel height.) [Baqir 1945: Fig. 25]. Discoveries accompanied with them are the bowl with a vertically uplifting rim (Fig. 20–2) [Starr 1937: Pls. 89 and 91] and the cup-type one (Fig. 103–9～11) [Starr 1937: Pl. 76].

In the Kassite Period, graves are scarcely recognizable in Tell Gubba and Tell Songor A and C. But there are some graves uncovered in Tell Imilihiye, Tell Zubeidi and Tell Yelkhi, which are considered too far away to be connected with each other. But somehow, the graves of this are rich in luxurious grave goods.

The Isin-Larsa Period

Sixteen bodies in all have been buried, whose distributions are not so concentrated, occupying nearly the similar position as in the Kassite Period. Also, there is some similarity in the direction of the grave pit between Kassite and Isin-Larsa (long axis:nearly eastwest direction). As for grave goods, the majority of them are large, medium and small sized jars. And a unique theriomorphic vessel has been uncovered here, too. There are large, medium and small sized jars are of the same type. The Majority of the large sized jars have a few or more grooves around the shoulder and two grooves around the portion slightly higher than the largest body portion [Kamada and Ohtsu 1988: Figs. 12–14; Gibson 1981: Pl. 100–1; Delougaz 1952: Pls. 154. B475, 250b, 185. C556, 540 and 188. C656, 340; DeMayer 1978: Pls. 14–2 and 24–4; Ezio 1985: 54～55]. Their bases are round or with stands from which many of the bases are projecting (Figs. 7–1, 102–4). As production method, it is always recognizable that we see some spatula-scraped evidences on the portion lower than the inner maxiumm body in order to obtain thinner vessel wall. And their outside portions are burnished with cream-colored slip. Their medium sized jars are usually 22 cm in vessel height and 18 cm or thereabouts in largest body. Almost all the shoulders are provided with spatula for vessel formation. The small sized jars are so various, but also we can recognize some spatula-scraped evidences on the lower body [Delougaz 1952: Pl. 154. B475, 250b]. The most characteristic of them are the ones with gray color inlaid ornament, on which the waterfowl, boat or geometric patterns are drawn [Delougaz 1952: Pls. 123, 124, 125; Ezio 1985: 153 pot no. 33; Fujii et al 1985: Figs. 6–19～22]. Predominant finds are medium and small sized jars, both of which have no remarkable difference from those of the Ur III Dynastic Period in vessel type. Some pottery bear strong Akkadian features on them (Fig. 59–1) [Mallowan 1947: Pls. LXV-11 and LXXIII-13; Ezio 1985: 54～55]. The pottery of the Isin-Larsa Period closely resemble those of the Ur III Dynastic Period in type. Moreover, they are very similar to the ones of Tell Songor A. All the large and medium sized vessels are provided with some grooves from around the shoulder down to the body, most of which are of round or with stands. There are no archaelogical sites of this period discovered around here, but some remains have been uncovered in Tell Yelkhi. There is a close similarity between these archaeological goods.

The Early Dynastic Period

Only a single grave (Gr. 23) has been identified so far. Left behind are three bones and two jar. Moreover, two more jars (Fig. 103–13, 14) have been found, from which it is deducible that several other graves used to be here. Human bone preservation is exceedingly bad. They are considered to have been the graves of the people who had lived in Tell Gubba located near here. As for the graves of this period, Tell Songor A has yielded grave-like structures with out any human bones [Kamada and Ohtsu 1981: Fig. 29]. But none of them have been found in the surrounding area. They belong to ED I pottery type [Odani and Ii 1981: Fig. 15–1 and 2; Delougaz 1952: Pl. 36.e, C515, 370 and Pl. 180. C525, 370b]. On the shoulder of the jar (Fig. 37–1) there is only a little evidence of patterns which are painted red. We see some traces in the inner body whose wall has been strongly scraped with spatula. Besides, there is a small jar (Fig. 28–2) found accompanied with that. Its inner surface is coarsely scraped while its outer surface is finished with cream colored slip. But the small jar (Fig. 103–14) perhaps belongs to the Jemdet Nasr Period [Odani and Ii 1981: Fig. 19–4; Delougaz 1952: Pl. 154. B454, 270]. It is considered that the grave in the Early Dynastic Period belong to those in Tell Gubba, level IV-VI. The number of the graves found here, however, is on smaller a scale than that of the graves in Tell Gubba, from which it is deducible that there had been a main grave yard in some other places.

The Jemdet Nasr Period

A single grave so far discovered (Gr. 7) seems to have been of the bending-burial with its head south and face east. Its bone preservation is not good with its lower limbs under knees missing. By the side of

the breast, there two stamps excavated, which perhaps correspond to the ones of Tell Gubba, Level VII [Odani and Ii 1981: 141～163]. The graves of this period have not been confirmed yet except the burial of the human bodies who were withnessed to have been thrown into a well at Tell Gubba [Odani and Ii 1981: Pl. 11–4]. The graves in the Jemdet Nasr Period date back to Tell Gubba, Level VII. But only one grave has been discovered so far. Therefore, some other principal graves may be probably cited somewhere else.

The Halaf Period

Four graves have been discovered. Grave 81 was barried under the floor of the house.

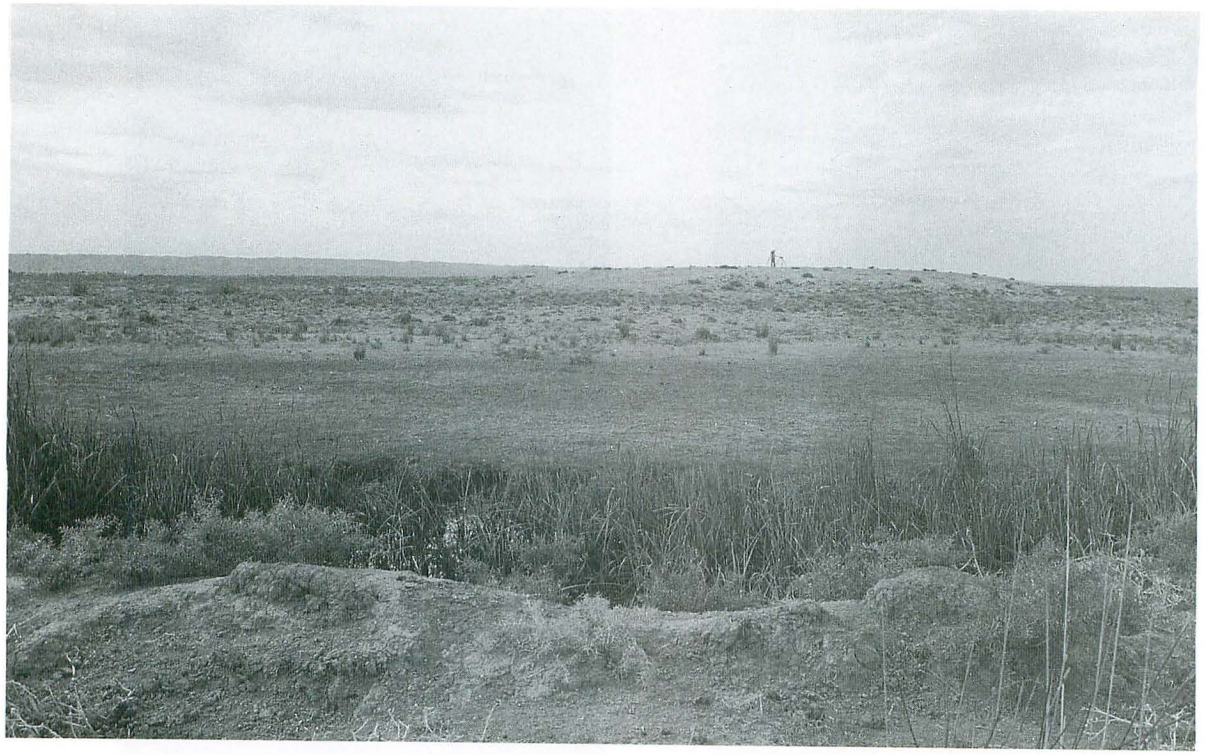
Note

1) In order to grasp the significance of the graves in Tell Songor B, it is of real importance to pursure their correlation with their surrounding areas. In the Islamic period, the number of the graves uncovered at Tell Songor B is smaller than that of the graves uncovered at Tell Gubba and Tell Songor A. In this respect, Tell Songor B matters little. It seems that only their sizes and heights can tell us to what extent the graves had been utilized. As for the graves of the Islamic Period (up to the modern times) in this area, it seems necessary for us to listen to what Nuri-Amin villagers say about them. They say that many kurdish people used to live around here; after that, the villagers living at present came to be buried in Gubba until it was full; then their burials were switched to Baradan. It is further said that Tell Songor B and C contained juveniles and adults who had been buried in secret. According to the research on the human remains of the brachycephailic racial type, which is equivalent to the Kurdish people, whereas Gubba is large in the number of human remains of the brachycephalic racials type, which is equivalent to the Arabic people. With this taken into account while following the villagers' talk, the human remains in Tell Songor A have turned out to be older than those in Tell Gubba. Furthermore, it seems likely that several human remains buried in Tell Songor B and C are no ordinary burials.

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a. Before excavation



b. General view

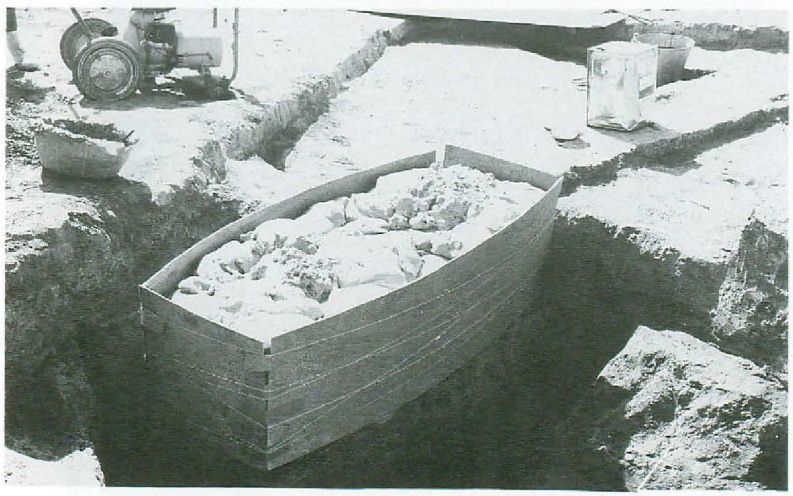
Tell Songor B



a. Excavations of the graves



b. Grave 2

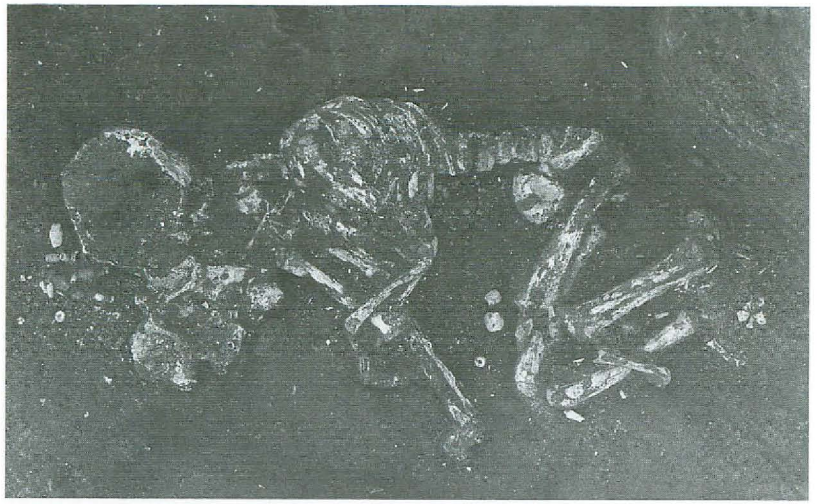


c. Working for the preservation of the graves



d. Grave 3

Graves at Tell Songor B



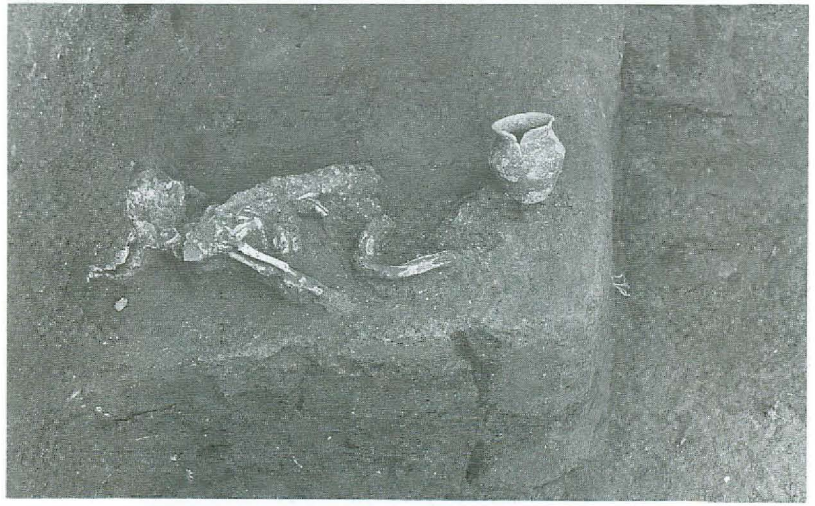
a. Grave 3 (detail)



b. Grave 3 (detail)

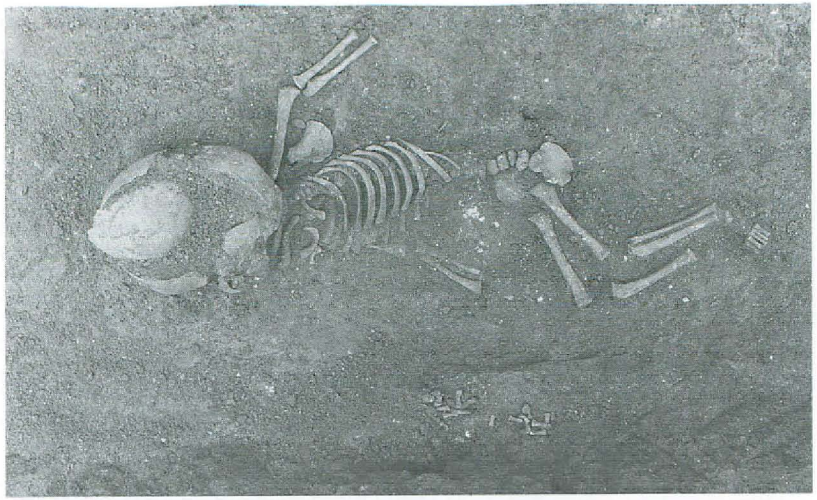


c. Grave 4



d. Grave 5

Graves at Tell Songor B



a. Grave 6



b. Grave 7

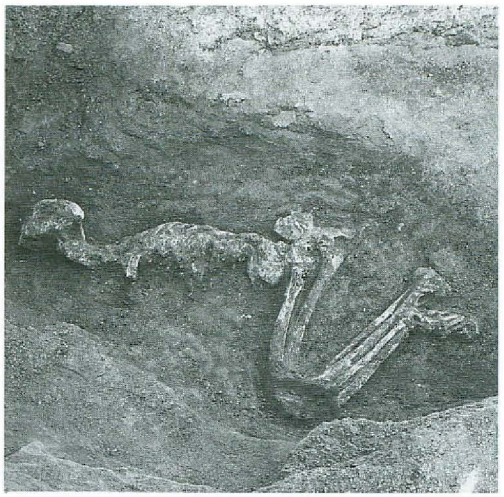


c. Grave 9



d. Grave 9 (detail)

Graves at Tell Songor B



a. Grave 10



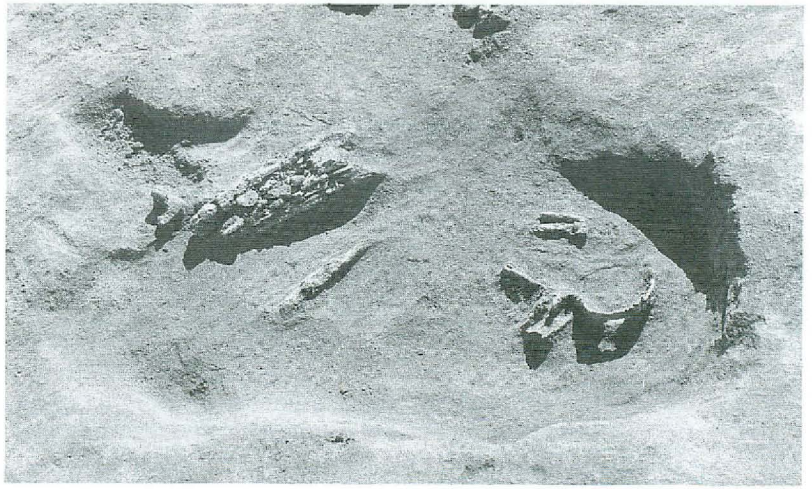
b. Grave 11



c. Grave 12 (detail)



d. Grave 12



e. Grave 13

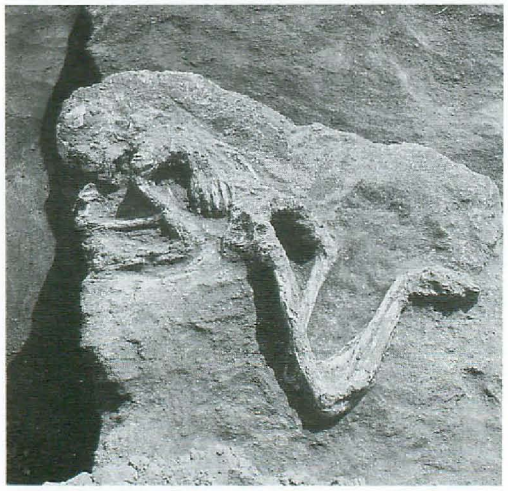
Graves at Tell Songor B



a. Graves 13 and 14



b. Grave 14



c. Grave 16



d. Grave 16 (detail)



e. Grave 17

Graves at Tell Songor B



a. Grave 18



b. Grave 18 (detail)



c. Grave 19 and others



d. Grave 19



e. Grave 20

Graves at Tell Songor B



a. Grave 20



b. Grave 21



c. Grave 22



d. Grave 23

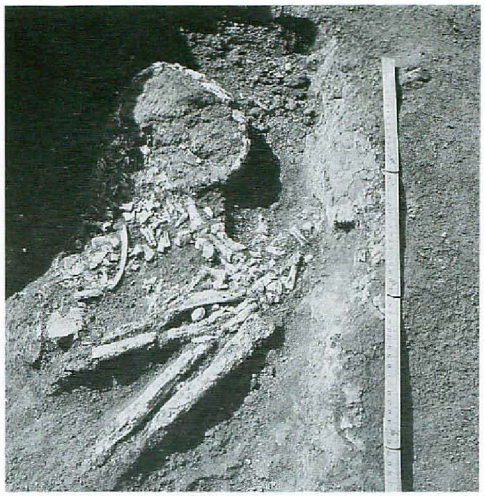


e. Grave 24

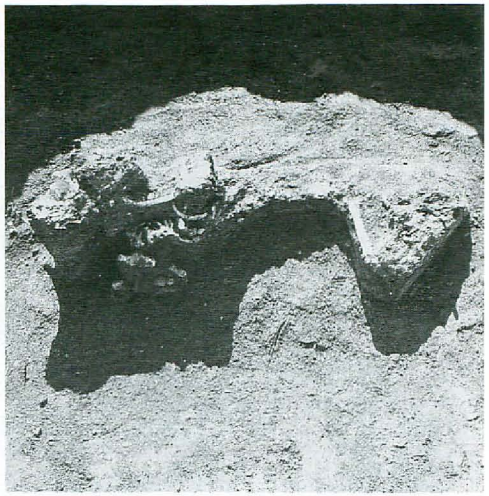


f. Grave 25

Graves at Tell Songor B



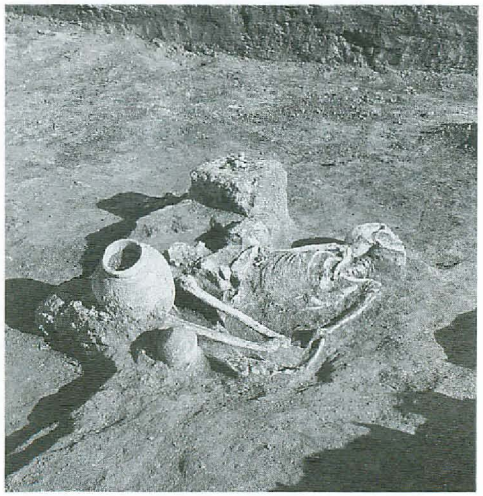
a. Grave 25 (detail)



b. Grave 26



c. Grave 28



d. Grave 29

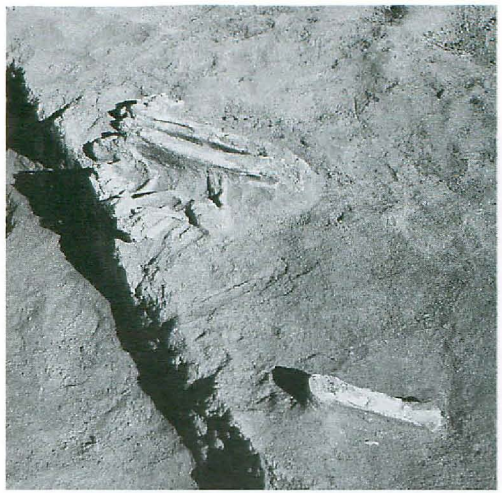


e. Grave 30



f. Grave 31

Graves at Tell Songor B



a. Grave 32



b. Grave 33



c. Grave 34



d. Grave 35



e. Grave 35 (detail)



f. Grave 36

Graves at Tell Songor B



a. Grave 37



b. Grave 38



c. Grave 39

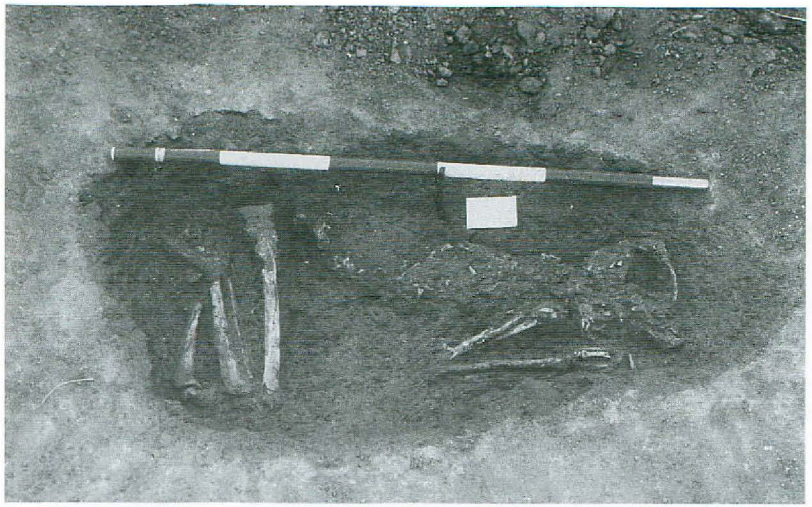


d. Grave 42



e. Grave 44

Graves at Tell Songor B



a. Grave 45



b. Grave 46



c. Grave 47



d. Grave 49

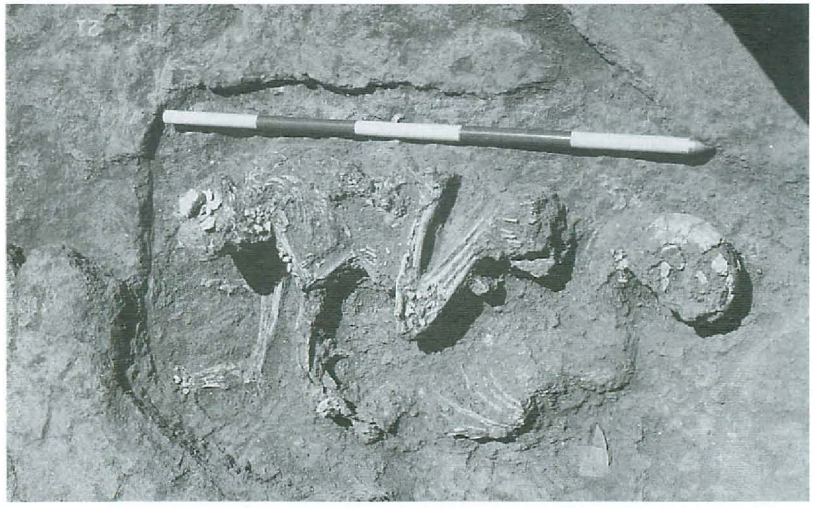
Graves at Tell Songor B



a. Grave 51



b. Grave 52



c. Graves 54 and 58



d. Grave 56

Graves at Tell Songor B



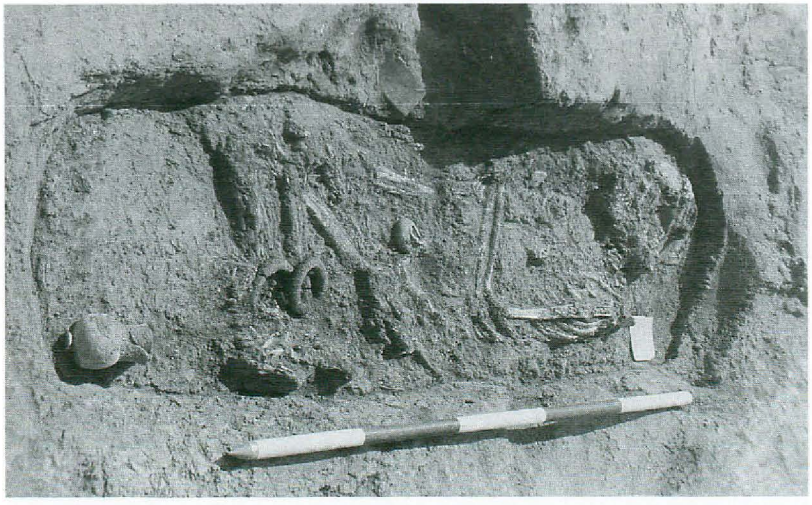
a. Grave 57



b. Grave 59



c. Grave 62



d. Grave 63

Graves at Tell Songor B



a. Grave 63 (detail)



b. Grave 63 (detail)



c. Grave 63 (detail)

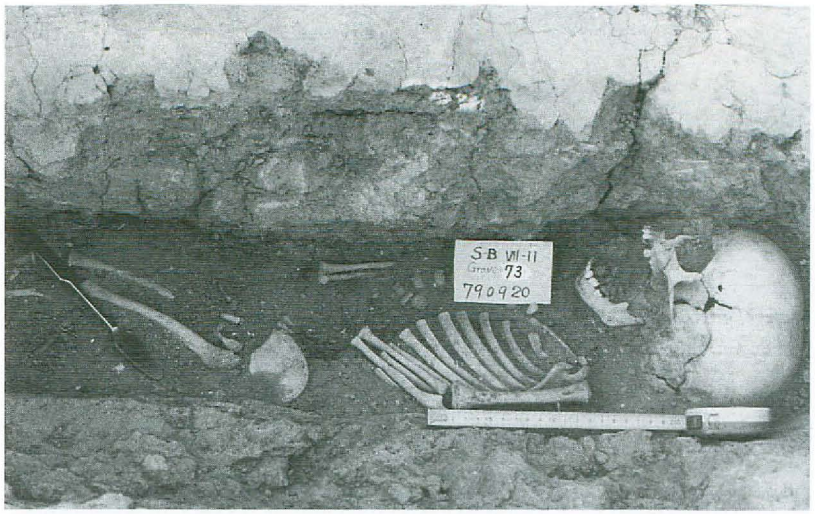


d. Grave 63 (detail)

Graves at Tell Songor B



a. Grave 64



b. Grave 73



c. Grave 74



d. Grave 76

Graves at Tell Songor B



a. Grave 77



b. Grave 79

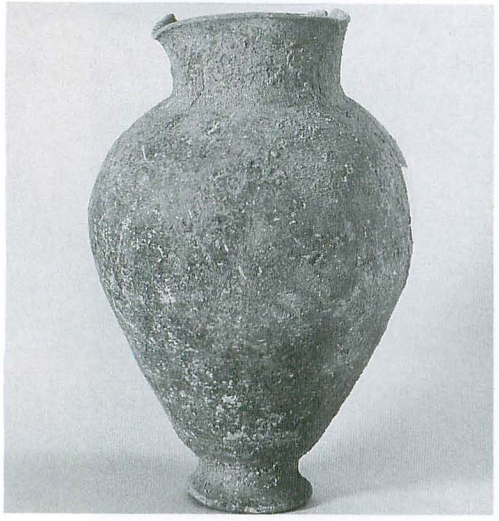


c. Grave 79 (detail)



d. Grave 80

Graves at Tell Songor B



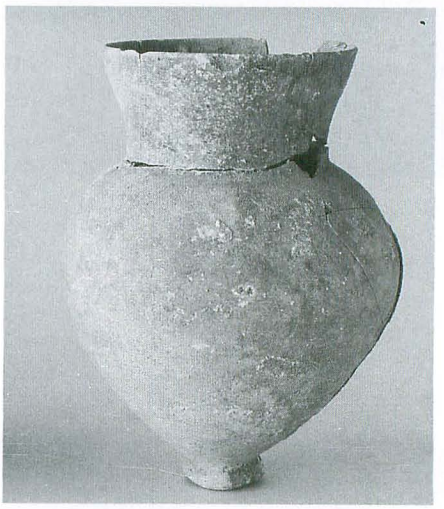
a. Jar (Gr. 42)



b. Jar (Gr. 36)



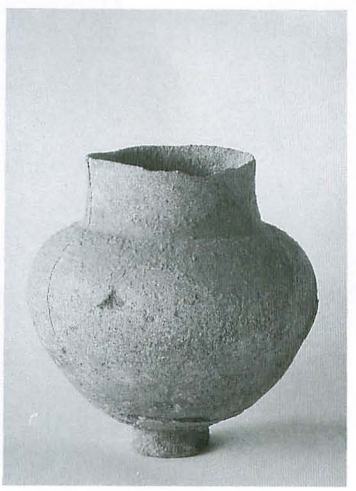
c. Bowl (Gr. 11)



d. Jar (Gr. 34)



e. Jar (Gr. 16)



f. Jar (Gr. 18)



g. Jar (Gr. 63)

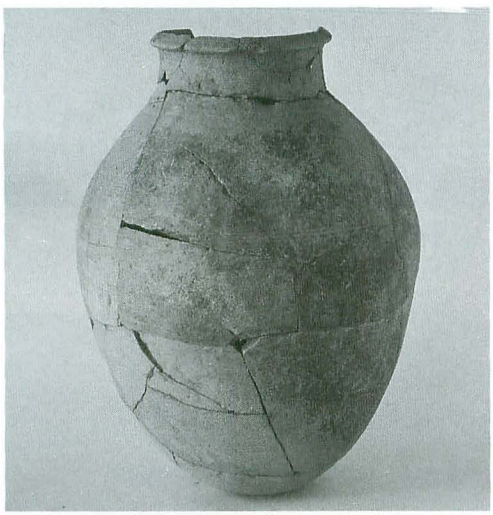
Potty from the graves at Tell Songor B



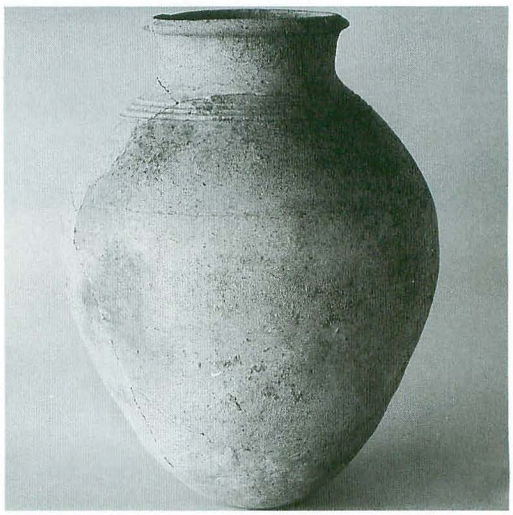
a. Jar



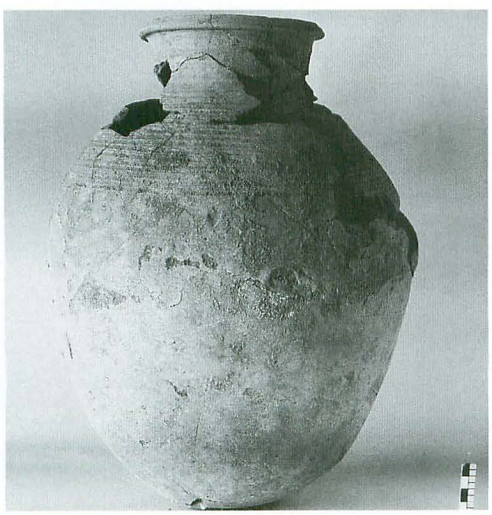
b. Jar (Gr. 33)



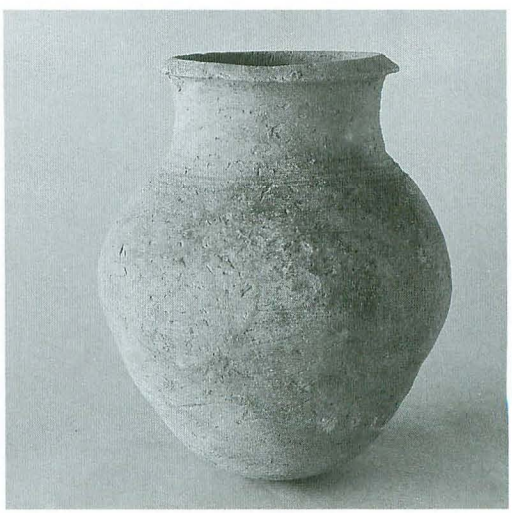
c. Jar



d. Jar (Gr. 41)

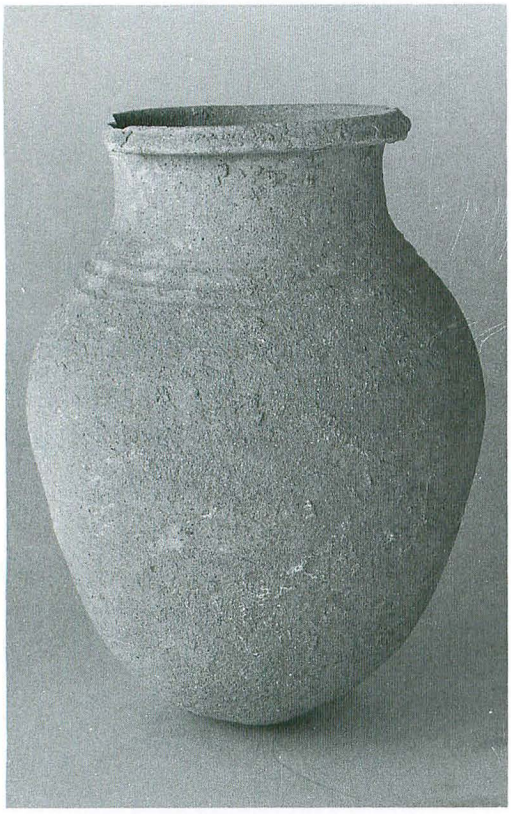


e. Jar (Gr. 41)

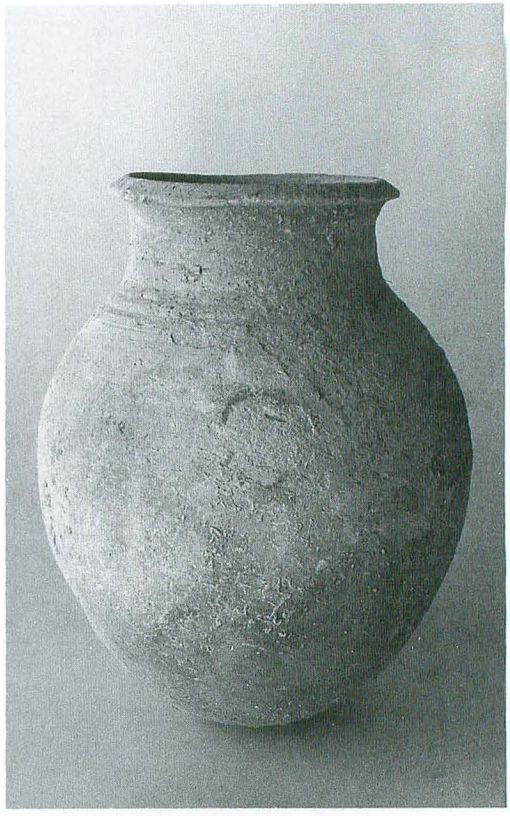


f. Jar (Gr. 74)

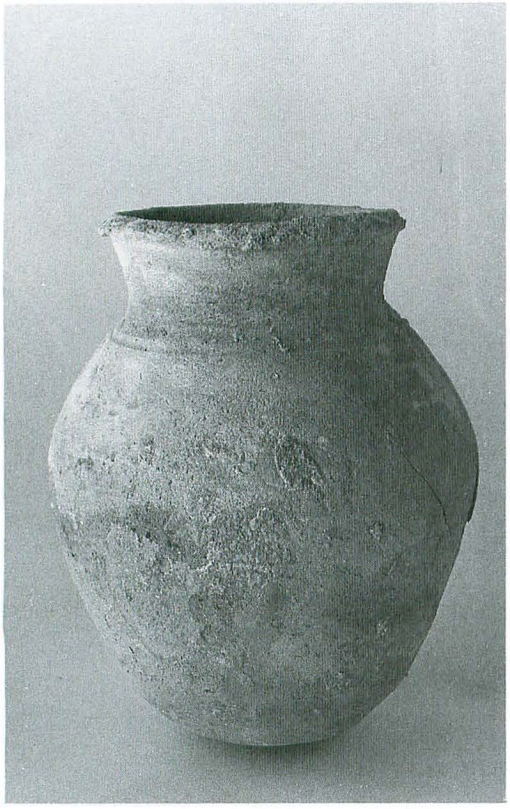
Pottery from the graves at Tell Songor B



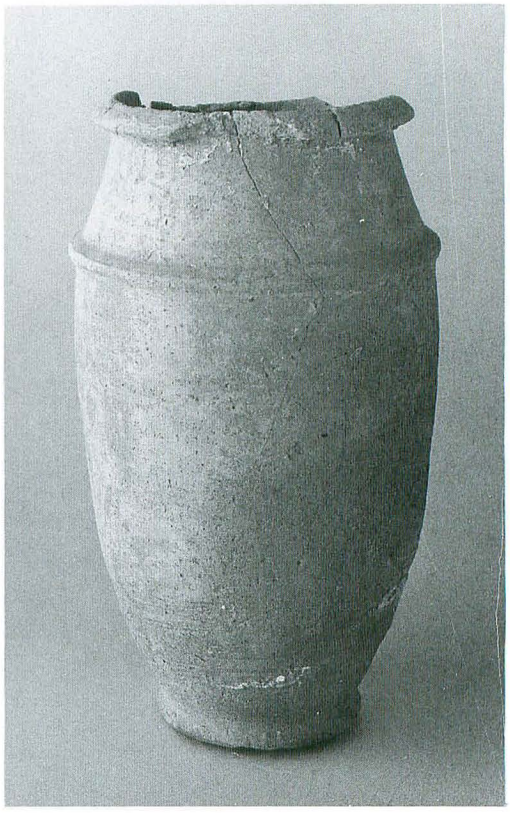
a. Jar (Gr. 24)



b. Jar (Gr. 3)

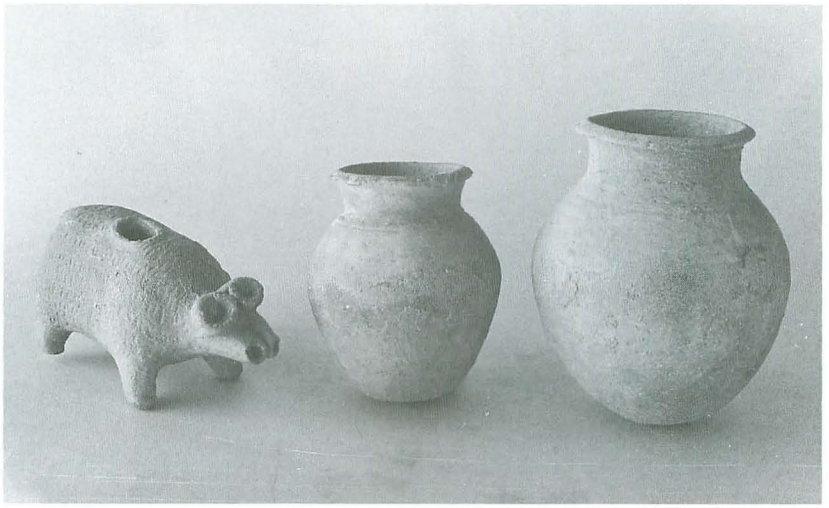


c. Jar (Gr. 3)



d. Jar (Gr. 48)

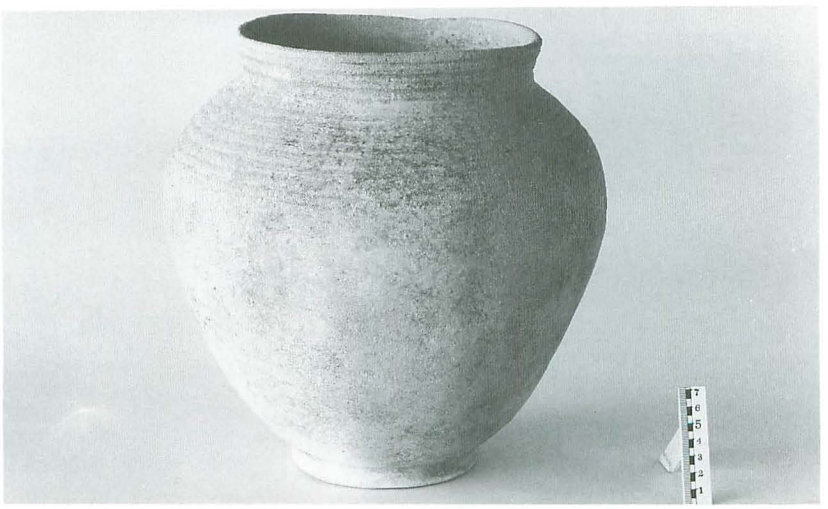
Pottery from the graves at Tell Songor B



a. Theriomorphi Jar and Jars (Gr. 3)



b. Jar (left) (Gr. 46), Jar (right) (Gr. 34)

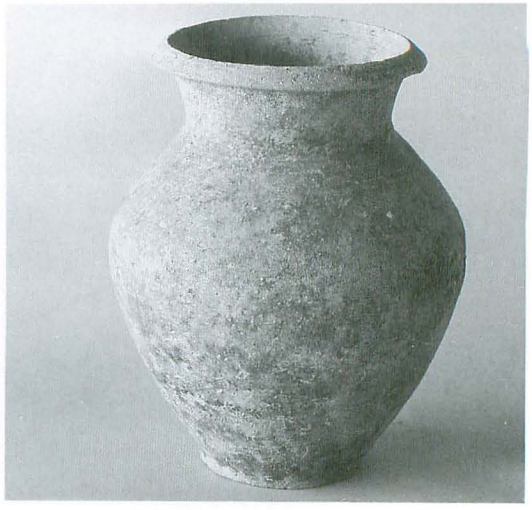


c. Jar (Gr. 76)

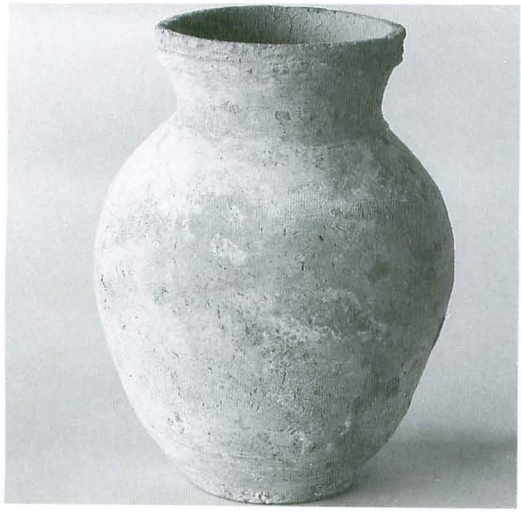
Pottery from the graves at Tell Songor B



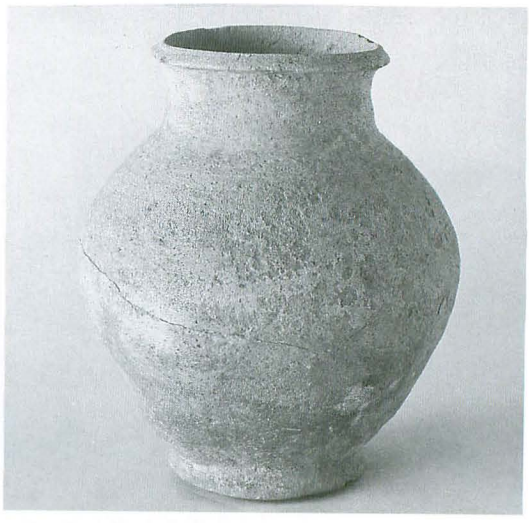
a. Jar



b. b. Jar (Gr. 62)



c. Jar (Gr. 74)



d. Jar (Gr. 63)



e. Jar (Gr. 56)

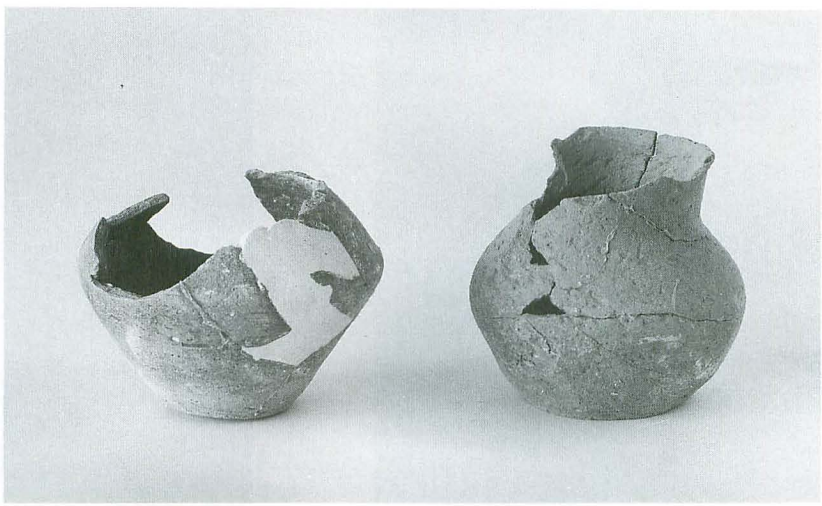


f. Jar (Gr. 4)

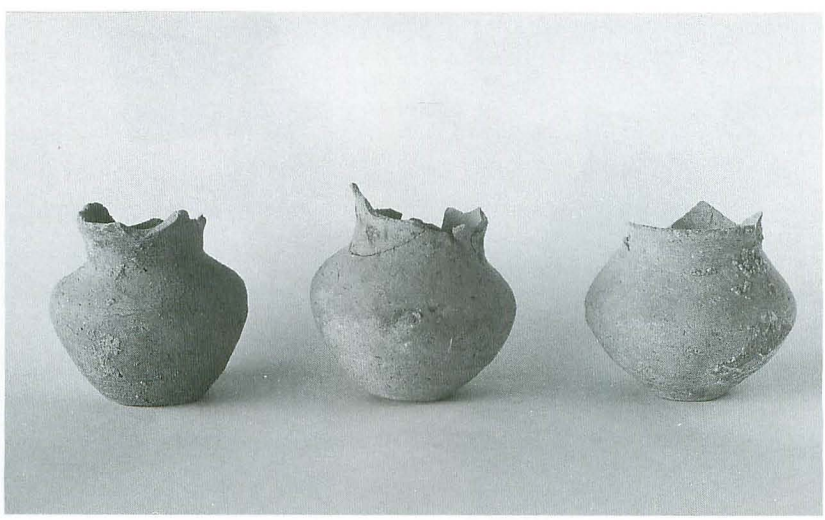
Pottery from the graves at Tell Songor B



a. Small jar (left) (Gr. 10) and Jar



b. Jar and Small jar (Gr. 4)



c. Small jars (left-Gr. 4) (right-Gr. 34)

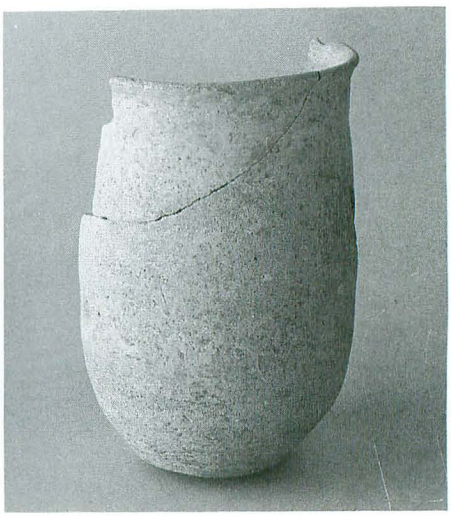
Pottery from the graves at Tell Songor B



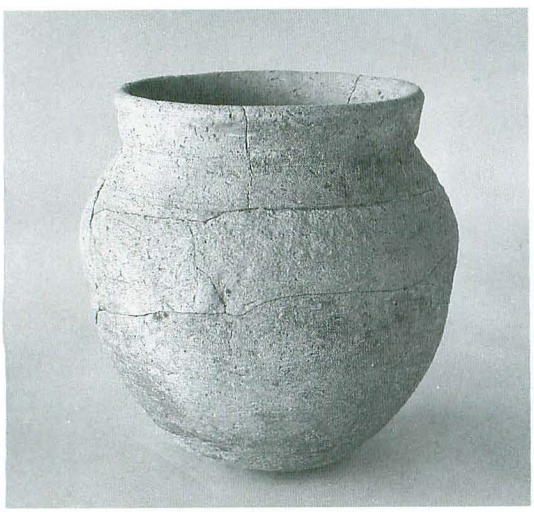
a. Small jar (left)(Gr. 5) Bowl (right)(Gr. 16)



b. Jar (Gr. 79)



c. Cup



d. Jar (Gr. 71)

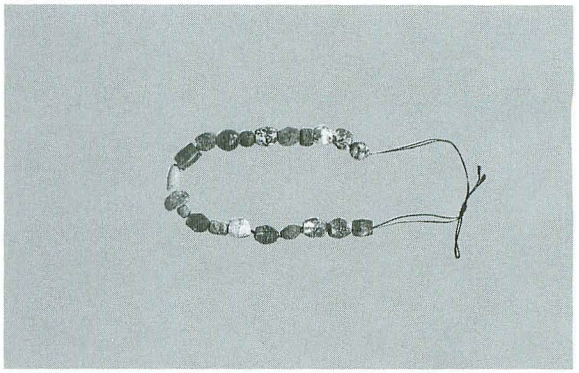


e. Incised gray ware (Gr. 79)

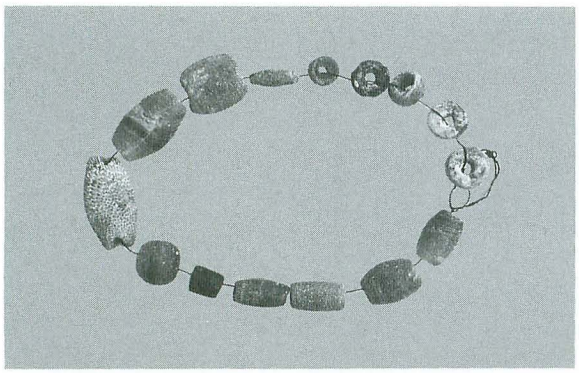
Pottery from the graves at Tell Songor B



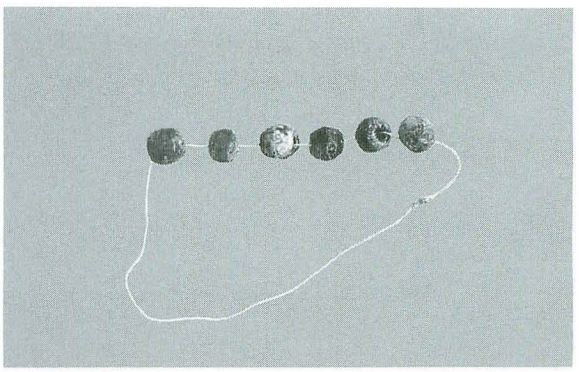
a. Necklace (Gr. 9)



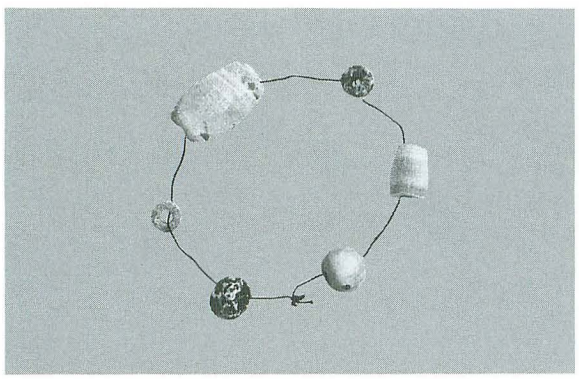
b. Bracelet (Gr. 22)



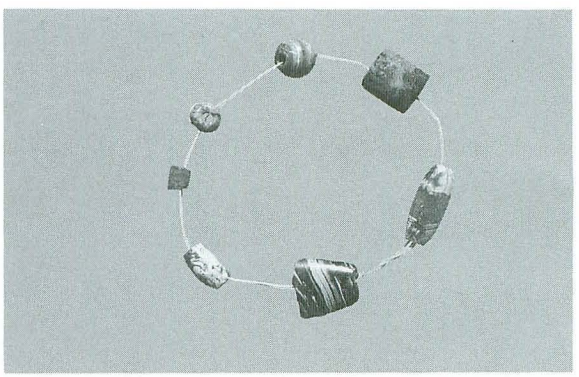
c. Necklace (Gr. 3)



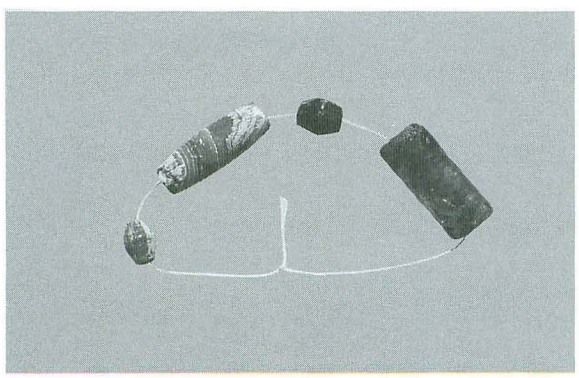
d. Necklace (Gr. 31)



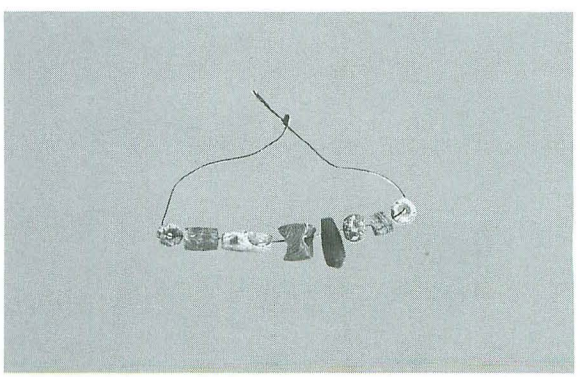
e. Necklace (Gr. 26)



f. Necklace (Gr. 9)

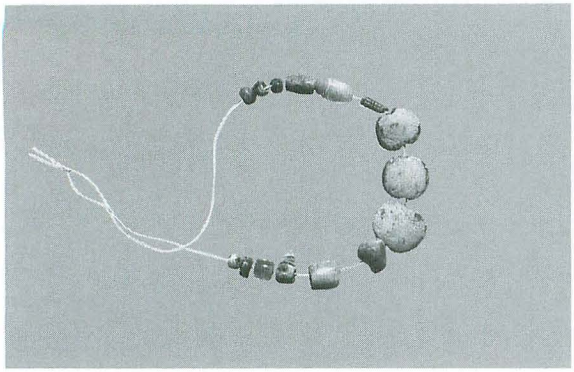


g. Necklace (Gr. 14)

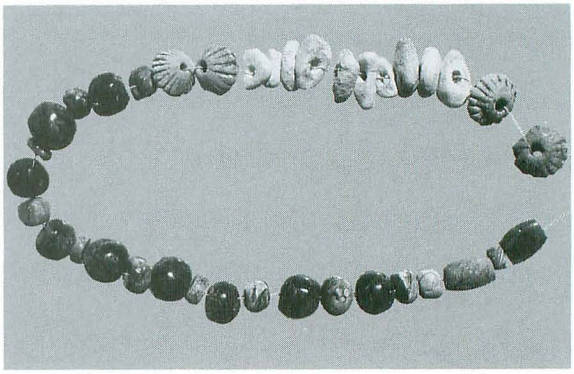


h. Necklace (Gr. 36)

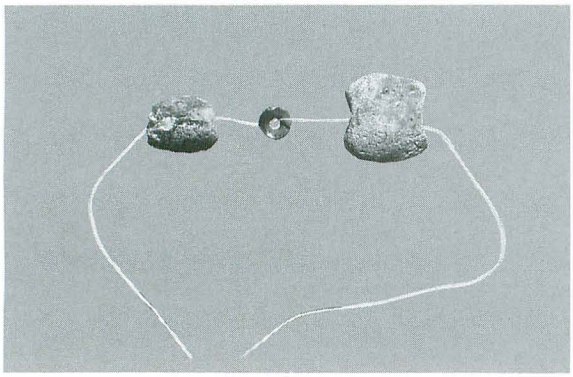
Beads from the graves at Tell Songor B



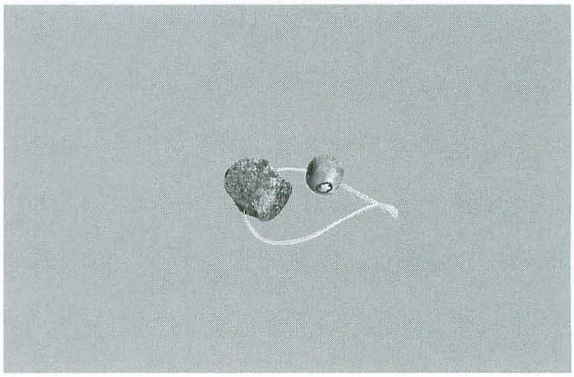
a. Necklace (Gr. 18)



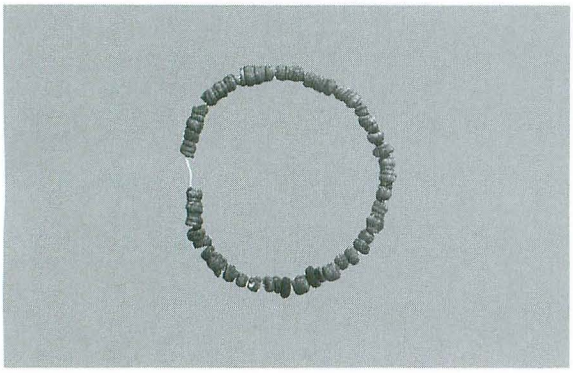
b. Necklace (Gr. 35)



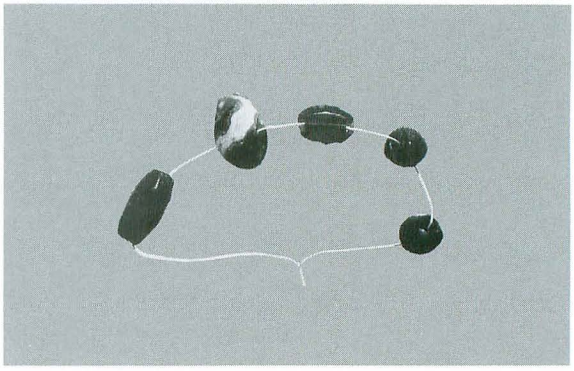
c. Beads (Gr. 75)



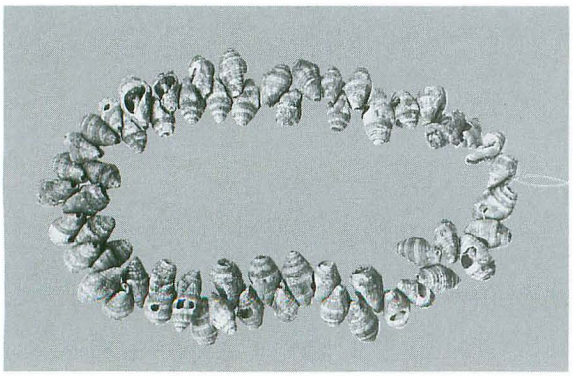
d. Necklace



e. Necklace



f. Beads

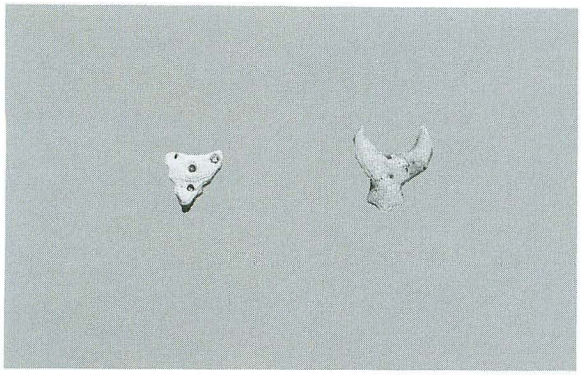


g. Hair ornament (Gr. 9)

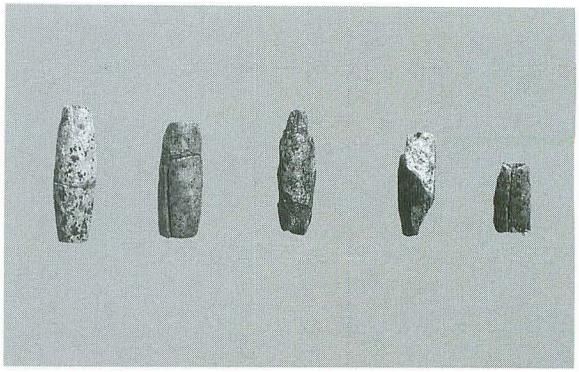


h. Necklace (Gr. 37)

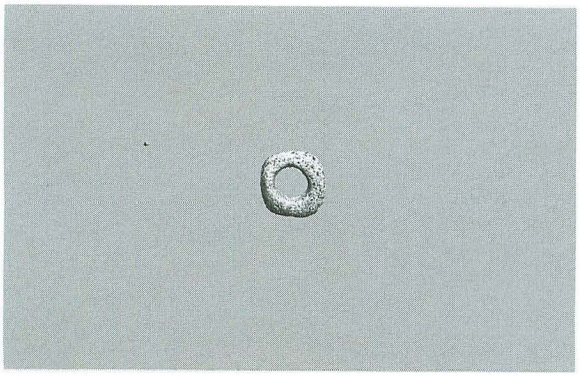
Beads from the graves at Tell Songor B



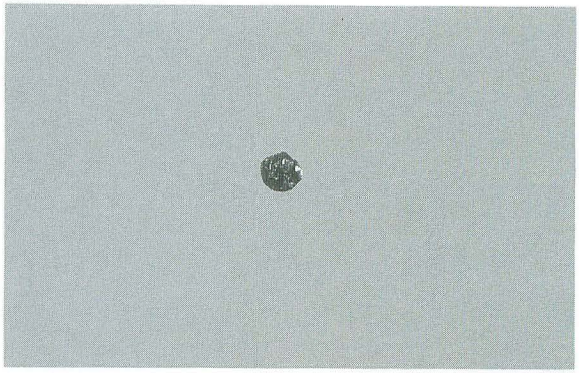
a. Necklace (Gr. 37)



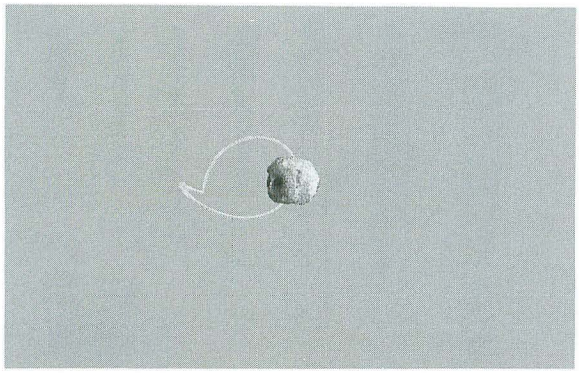
b. Necklace (Gr. 49)



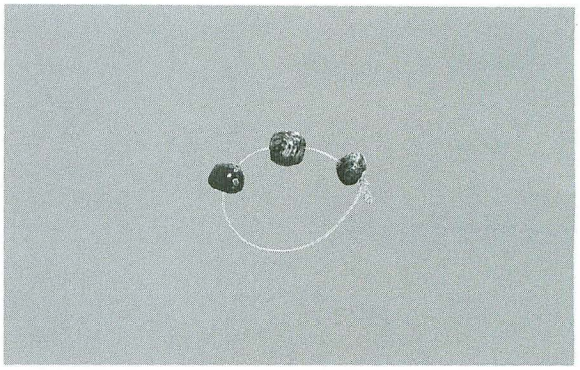
c. Bead (Gr. 54)



d. Bead (Gr. 13)



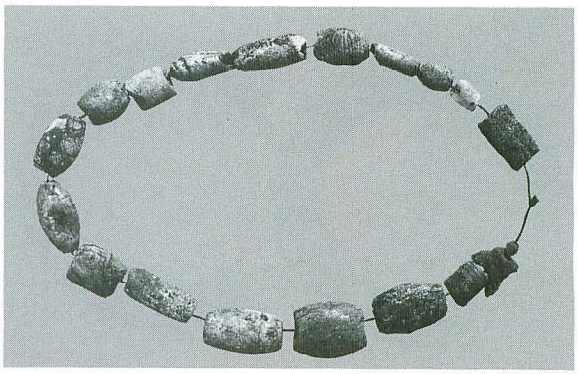
e. Bead



f. Necklace (Gr. 42)

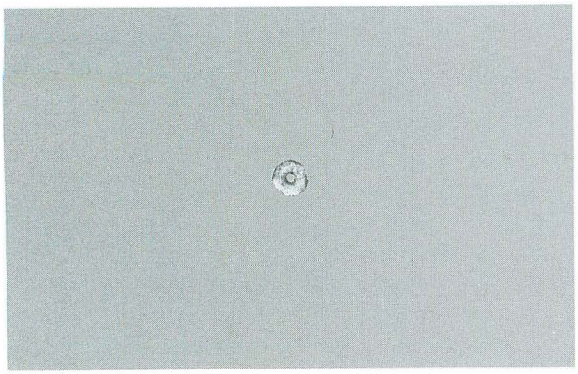


g. Necklace (Gr. 63)

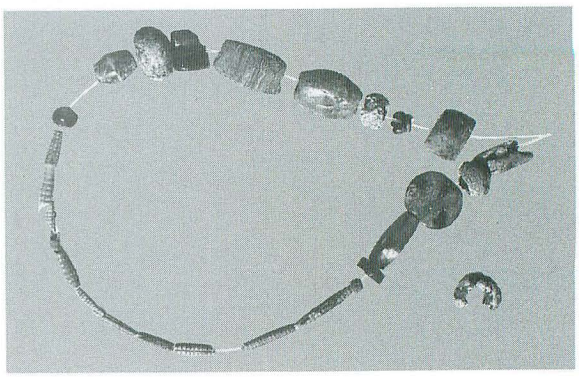


h. Necklace (Gr. 63)

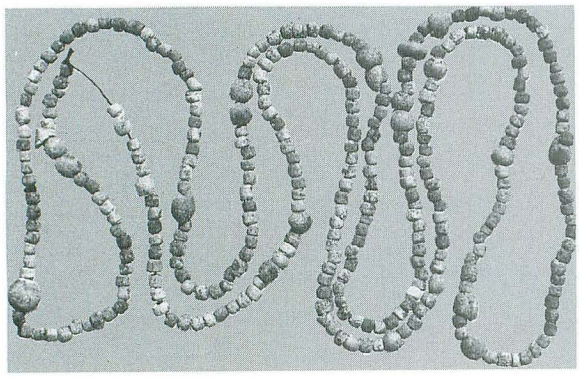
Beads from the graves at Tell Songor B



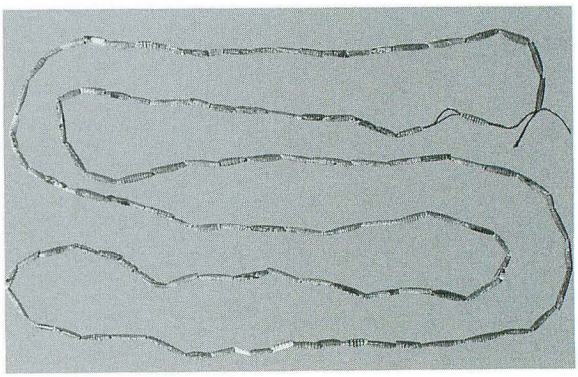
a. Bead (Gr. 63)



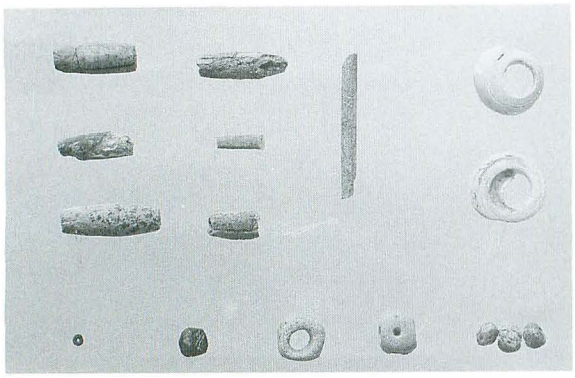
b. Necklace (Gr. 63)



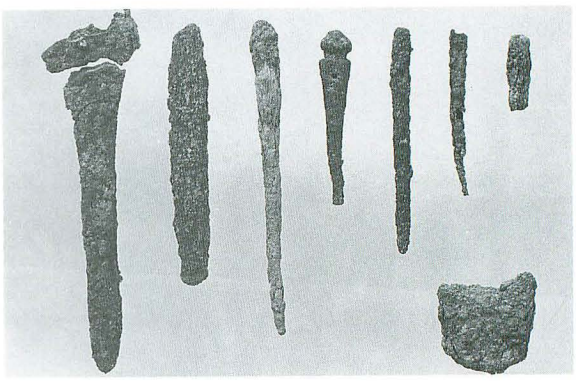
c. Necklace (Gr. 63)



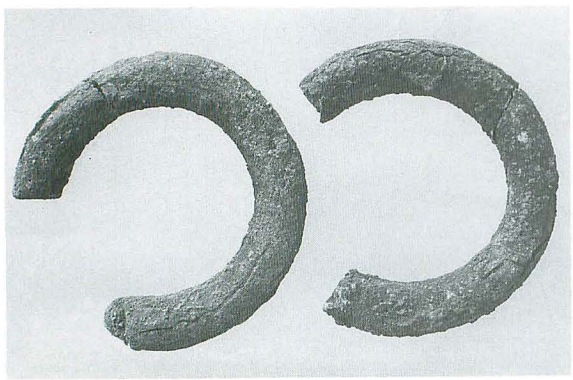
d. Necklace (Gr. 63)



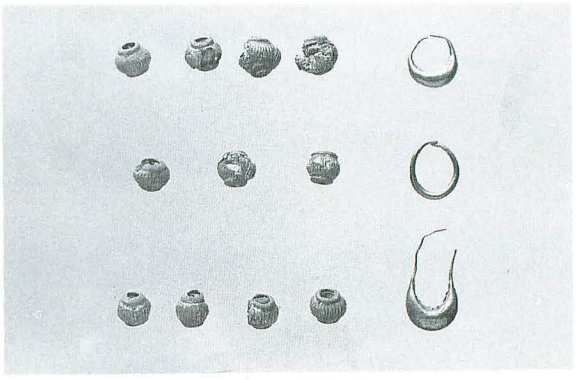
e. Beads



f. Bronze objects



g. Anklets (Gr. 63)



h. Gold hair ornament and Earrings

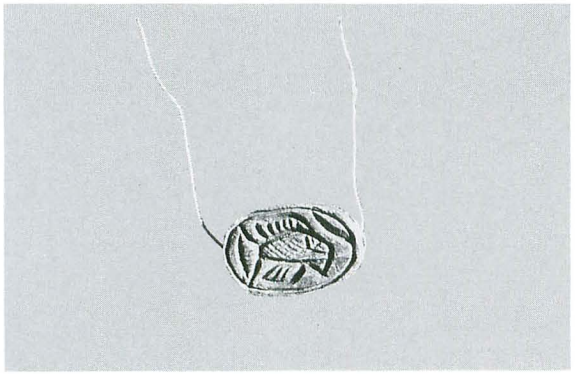
Beads from the graves at Tell Songor B



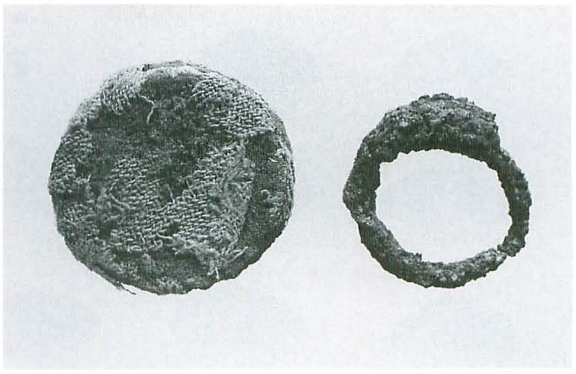
a. Stamp seal (Gr. 7)



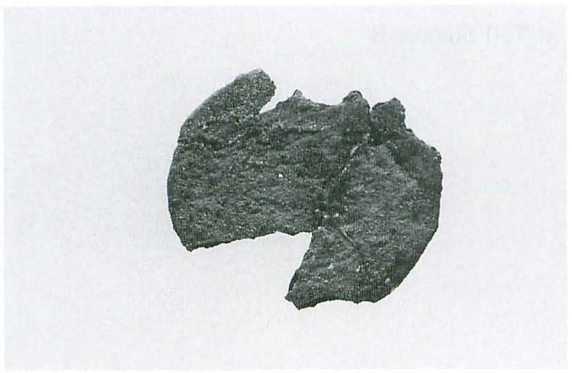
b. Stamp seal (Gr. 7)



c. Scarab (Gr. 9)



d. coins (gr.47) and Ring (Gr. 47)



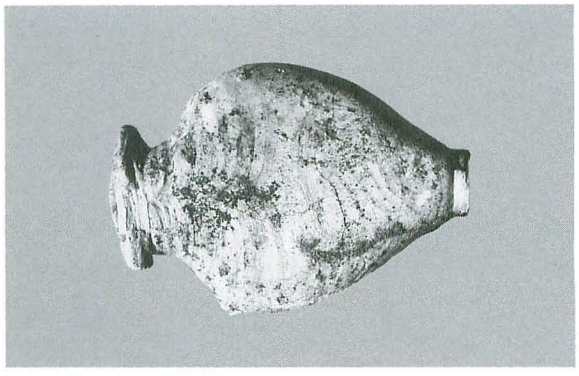
e. Coin (Gr. 47)



f. Coins (Gr. 47)

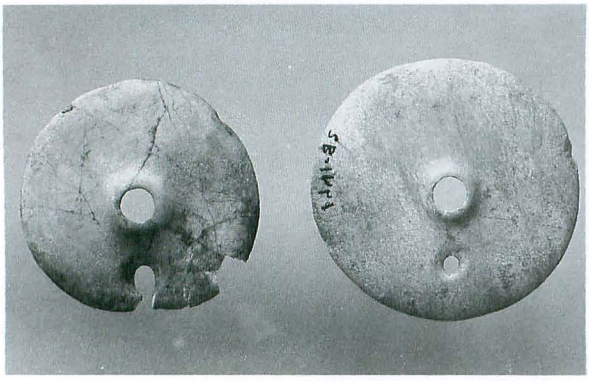


g. Coin (Gr. 47)

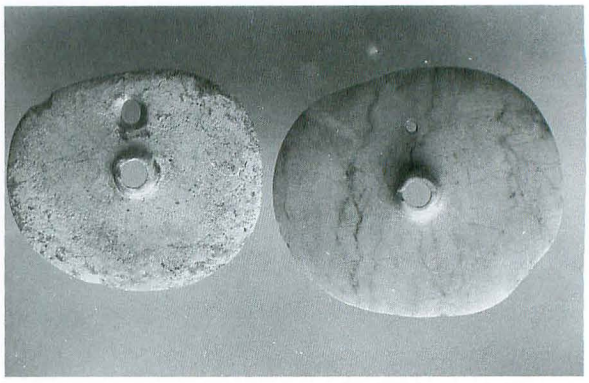


h. Pendant (Gr. 63)

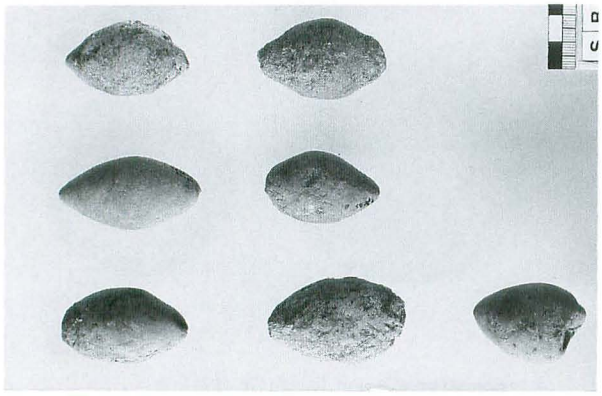
Beads from the graves at Tell Songor B



a. Stone objects



b. Stone objects



c. Sling balls (Grs.3 and 50)

Beads from the graves at Tell Songor B

驟賦譚

第3回英国近東考古学協会総会

1987年より通称 BANIA (British Association for Near Eastern Archaeology) の総会が毎年12月に開催されている。マンチェスター大学での第1回総会，オックスフォード大学での第2回総会に引き継ぎ，1989年の第3回総会は，12月7日から9日にかけてエジンバラ大学および王立スコットランド博物館において開催された。

BANIA は英国各地の大学，博物館の近東考古学者が中心となって結成された協会であり，近東考古学者，言語学者，およびそれらに関連する多くの研究者が参加している。開催地は各地で毎年持ち回り制となっており，1990年度，第4回総会はバーミンガム大学で11月16日から18日まで，そして1991年度，第5回総会はケンブリッジ大学で開催される予定となっている。また発行物としては，年一回 Newsletter の発行がある。

今回のエジンバラでの第3回総会は，エジンバラ大学の Trevor Watkins を中心に進められ，英国各地より約120人の参加者があった。

第一日目の7日は，7時30分より王立スコットランド博物館の講演会場において，博物館の公開講演と BANIA 総会の開会式を兼ねた George Bass による地中海での彼の30年間にわたる水中での発掘の成果の特別講演が行なわれた。その後，8時45分より総会の受付，そして懇親会が博物館のメインホールにおいて開かれた。

第二日目の8日の午前中は博物館の講演会場において，Trevor Watkins の司会により9時20分からアルファベット順に6名の研究発表および質疑応答が行なわれた。—Russell B. Adams による最近のヨルダンでの調査 (Wadi Fidan Project)；Hans-Dieter Bienart による頭骸骨崇拝の研究；Stuart Campbell によるアルパチアの再考；Shimon Dar によるイスラエル，カルメル山のローマ，ビザンチンの居住地の調査；Barry Flood による明かり取りの窓の研究；John A. C. Greppin による生き残っている古代アナトリアとメソポタミア語彙の研究—。

午後は2時より5時頃まで5つの研究班に分かれて，それぞれ考古学科の講義室と博物館で発表，討議等が行なわれた。—J. Scarce と A. Betts を中心とした民族学と考古学の野外調査の研究班；E. J. Peltenburg を中心とした先史時代の南西キプロスの研究班；R. Hillenbrand を中心としたイスラムの芸術と建築の研究班；T. Watkins を中心とした初期先史時代の北イラク研究班；W. Ball を中心とした調査資金，後援に関する問題の研究班—。その後5時30分よりオールドカレッジにて懇親会がなごやかに開かれた。

第三日目の9日の午前中は，9時30分より昨日の午前中に引き続いてのアルファベット順による発表が Jennifer Scarce の司会で継続された。—Olga Hadjianastasiou による初期青銅器時代のキクラデス島の最近の調査；R. A. Kearsley によるアル・ミナ出土の土器の研究；John McGinnis によるニネベの調査の再考；Yoshihiro Nishiaki によるシリア，テル・カシュカショクII の後期新石器時代の石器の研究—。

午前中の最後の研究発表者を含め，昼食をはさんでその後午後5時近くまでは，各地の British School の代表によって，最近の調査の報告が行なわれた。なお午後は昨年の主催者である Roger Moorey の司会によった。—テヘランの Martin Charlesworth による，最近調査した三遺跡を中心とした近年のイランでの調査の報告；アンマンからは A. N. Garrard および Douglas J. Baird による，アズラク調査の報告；イスラエルからは Richard Harper がベルモント十字軍城の調査の報告；アンカラからは Geoffrey Summers が南西トルコのティレで発掘された紀元前13世紀の建物について報告；バグダードからは Tony Wilkinson がテル・ハウワ周辺の居住形態の発展についての調査報告—。以上をもって総ての日程を終了した。

なお講演発表，各研究班での発表討議の他，パネル，ポスターの展示による発表および図書の販売，注文等も行なわれた。

第一回，二回の総会に比べ発表者が少なかったのはエジンバラという地の利が不利に働いたためかもしれない。またいくつかの研究班が取り止めになった事は残念であった。しかし各班に分かれての研究会はエジンバラの研究者の研究課題が反映されており，開催地の持ち回りという特徴を表わしていて，良い結果をもたらしていたように思える。

全体として盛況に終わったというのも，主催者の Trevor Watkins を中心とするエジンバラ大学考古学科および王立スコットランド博物館の関係者の緻密な準備，スムーズな進行のお陰にほかならないだろう。

最後に BANIA が今後も幅広い情報交換の場として，また若い研究者の発表場として，ますます発展していく事を祈念してやまない。

小口　和美

研究所彙報

1989年

2月　イラク西南沙漠遺跡第3次調査終了。帰国（藤井秀夫，大沼克彦，岡田保良，松本健，小口裕通，小口和美，吉川守）

4月　小口裕通，小口和美マンチェスター大学に留学継続。ただし小口裕通は10月1日までとする。

3月　藤井秀夫，坂本和子，第6次西南沙漠遺跡調査：C 12 洞窟（奥室）出土の織物をイラク博物館に返還。

6－9月　大沼克彦，科研費（国際学術研究：学術調査）「デデリ洞穴発掘：シリア・アフリン地溝地帯における古人類学的調査」（課題番号01041016：研究代表者，東京大学総合研究資料館助教授　赤沢威）に研究分担者として参加。

9月　藤井秀夫，イラク共和国のシンポジュウム "Archaeological Symposium on Babylon Tower and the Reconstruction of the Ziggurat in Iraq" に出席。

10月　小口裕通マチェスター大学留学を終了し，帰国。

藤井秀夫，国士舘大学公開講座の『シルクロードへの懸橋』を柴田会館にて講演。

10月－11月　「メソポタミアにおける前2千年紀の考古学的研究」（科研費海外学術研究―大学間協力研究）（課題番号62045031）のため西独ミュンヘン大学よりB. ルーダ教授，K. カールステンス博士，P. スパノス博士が来日し，シンポジュウムを国際文化会館において開催する。

また古代オリエント博物館の研究員脇田重雄氏，中近東文化センター主任研究員大村幸弘氏にも発表をお願いした。なお小口和美は英国より一時帰国し参加。

演題：藤井秀夫（議長）

Barthel Hrouda: The coming works in Isin and in the new excavation-site of Assur.

Ken Matsumoto: Pottery of the Isin/Larsa period at Hamrin basin.

Karsten Karstens: The systematic of the shapes of the pottery.

Perter Spanos: The Khabur-ware

Hiromichi Oguchi: Early Second Millennium B. C. in the Northen Iraq.

Kazumi Oguchi: Early Second Millennium B. C. in the middle Euphrates.

Shigeo Wakita: Excavation at Tell Rumeilah Ali el Hajj — the carry 2nd Millennium B. C. Sites in the Euphrates Basin, Syria —

Sachihiro Ohmura: Sherds of painted pottery collected from the basin of the Delice River.

特別講演

Prof. Dr. Barthel Hrouda: High terraces and Ziggurat: connection and differences

11月　岡田保良，第31回日本オリエント学会大会において『イラク西南沙漠のキスリト教遺跡―アイン・シャーイア遺跡の発掘を終えて―』を発表。

所員名簿（1989年12月現在）

所長・教授	藤井秀夫（メソポタミア史学）
助教授	大沼克彦（先史学）
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『ラーフィダーン』編集方針

本誌は研究所の紀要ですが，研究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回発行を原則とし，原稿の採否と掲載方法は編集委員会が決定します。

投稿規定

1. 古代西アジアの研究及びそれに関連する諸分野を掲載対象とします。
2. 論文，報告，書評，翻訳，研究ノートなど，原稿の種類と長短を問いません。ただし未発表のものに限ります。また翻訳に関しては，予め原著者との合意を必要とします。
3. 用語は日本語または英語を原則とします。他の言語で投稿を希望する方は前もって編集委員に相談してください。
4. 投稿原稿はすべて署名原稿としてあつかい，著作権は当研究所に属するものとします。
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6. 注および引用は，論旨をすすめる上でどうしても必要なものに限ります。
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8. 他言語のレジュメを同時に掲載する場合は，投稿者において作成の上，原稿とともに送ってください。
9. 目次は毎号和欧両言語で掲載しますので，日本語の論題には英訳を，欧文の論題には日本語訳を合せて記載してください。
10. 掲載となっても原稿料はさしあげません。刊行後に本誌2部と別刷り50部までを無料でお送りします。1原稿の執筆者が2名以上の場合，本誌は各人に2部ずつ，別刷りは25部ずつとします。
11. 投稿は随時受け付けますが，その年の巻の締切は8月末日とします。
12. 原稿の送付先，連絡先は次のとおりです。

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ＦＡＸ：0427－34－3275

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2. 原稿の第1ページ（表紙）には，論題（タイトル）および著者の住所，氏名，所属だけを記し，論題の英訳をかならず併記すること。
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5. 挿図および表は，一図一表ごとに別紙に描いた上で一括する。刷り上がり寸法を指定する場合は，なるべく本文版面（約23.5×16 cm）の大きさ以内とする。やむをえず折込とする場合は左側が綴じしろになります。図，表それぞれに通し番号を付し，かならず見出し文を記すこと。本文欄外にそれぞれの挿入位置を指定してください。
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   例）〔松井　1960: 30～135〕〔大岡　1987: fig. 12; Nahar-agha 1981: 45ff〕
   ただし同一著者による同年刊行物が複数ある場合は，年次にアルファベットを付して区別すること。
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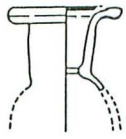
Guideline to writing

1. The manuscript should be typed on one side only of A-4 size paper.
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3. Headings in the course of text are to be preceded by serial numbers such as I, II, III...; 1, 2, 3...; (1), (2), (3)...
4. Be sure to prepare necessary drawings and tables on separate papers one by one (less than 23.5×16.0 cm each in size of completion of printing), with explanations and consecutive numbers respectively, and compile them aside from the text. In addition, designate on the margine of the text where each one should be inserted.
5. 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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7. Explanatory notes should be written on separate papers, each with a consecutive number to be given to the relevant sentence in the text.
8. In the text, specify the literature for reference as below; writer's name, publication year, and quoted pages are arranged in order, enclosed in brackets:

    [Childe 1956: 30–32]
    [Annahar 1943: 123; Agha 1946: pl. 15]

    If those of the same writer are published in the same year, classify them by additional alphabet to the publication year.
9. Put all the references that have been quoted in the text and notes, and write them as follow: (1) The writers' names are to be listed in alphabetical order. The names of Japanese, Arabs, etc. must be arranged among the Europian names based on the supposition of their having been rewritten in Latin. (2) The writer's name, issue year, title, volume name, volume number, issue number and publisher's name (place) are to be filled in the references in regular sequence. The title of journals or independent publications should be specified, with underline or by the use of Italic letters.
10. As a rule, the first proofreading shall be done by the original author. No permission shall be granted to alter the original manuscript.

正 誤 表 CORRIGENDA

	誤 errors	正 corrections
Vol. II		
p. 97 ℓ. 13	ここに接して	この東北方に 40 km はなれて
p. 194 ℓs. 8–9	the wall ( ) and the small twin rooms,	the wall ( ). Another had the small twin rooms,
Vol. IX		
p. 23 ℓ. 14	布目と一条	布目と二条の
p. 28 ℓ. 3	間違いとして	間違いないとして
p. 216 ℓ. 2 右	0427-92-9872	0427-36-2343
p. 170 Fig. 17 below		 Gl. 3

刊行物案内 ——— Publications

AL-TAR, I, Excavations in Iraq, 1971～1974
藤井秀夫編　A4版　英文　全460頁（カラー図版入）
申込先　国士舘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
価格1冊9,000円（送料とも）

『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）
ムアヤッド S. B. ダメルジ著　　高世富夫，岡田保良 編訳
発 行　国士舘大学イラク古代文化研究所（1987）
発 売　日本教育新聞社　〒150　東京都渋谷区恵比寿西2−17−21
和 文　B5判・上製　330ページ・定価 8,800円
英 文　B5判・上製　340ページ・定価 9,800円

著者は現イラク考古総局長官
壁体と門と扉に視点をおくという立場で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

第10巻の記念すべき出版となった。今年は海外での発掘調査もなく，研究所員全員，報告書作成や論文に力を入れることができたと思う。投稿も多く，研究所にとって喜ばしいことである。今までの巻には合本や薄い本もあり，波があったが，今後は毎年コンスタントに，そして内容は向上させていく努力が求められる。

また平成元年10月，３年間のマンチェスター大学留学を終えて帰国した小口裕通氏が，再びラーフィダーン編集にも携わってくれることになろう。期待したい。　　(松本)

ラーフィダーン　第X巻　1989

1989年（平成元年）12月31日発行

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正誤表 CORRIGENDA

	誤 errors	正 corrections
p. 16 ℓ.25～26	in a body,	in a body (diameter at the carination),
p.186 ℓ.24	像嵌用	象嵌用
p.297 ℓ. 3	into a well	into a pit
p.298 ℓ.11	Starr.R.F.S.	Starr.R.F.S. 1937, Nuzi, Harvard University. Wada,Y.
Pl.81,Pl.82,Pl.83	Beads from the graves at Tell Songor B.	Small finds from the graves at Tell Songor B.
p.308 ℓ. 4	40km	40m

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VOLUME X 1989

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Finds from Tell Gubba: Beads·Pendants·Rings, Glass objects, Spindle whorls, Metal and Bone objects (in Japanese)
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