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Volume Twenty

Mozan 1

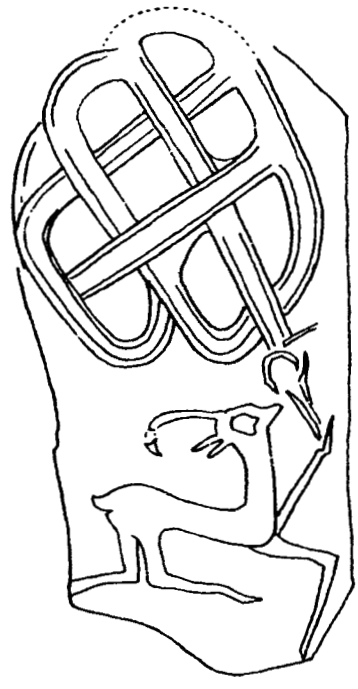
The Soundings of the First Two Seasons

Giorgio Buccellati and

Marilyn Kelly-Buccellati

MOZAN 1

THE SOUNDINGS OF THE FIRST TWO SEASONS



Bibliotheca Mesopotamica

Primary sources and interpretive analyses for the study of Mesopotamian civilization and its influences from late prehistory to the end of the cuneiform tradition

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BIBLIOTHECA MESOPOTAMICA
Volume 20

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The Soundings of the First Two Seasons

Giorgio Buccellati and
Marilyn Kelly-Buccellati

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ABSTRACT

Preliminary soundings were conducted at Tell Mozan in the north-central portion of the Khabur plains in 1984 and 1985. The site has proven to be a major urban settlement of the third millennium and early part of the second millennium, with the possibility that it may correspond to ancient Urkish, known to have been a major Hurrian center in the early periods.

This volume reports on the finds made as well as on various aspects and research goals of the project. After a presentation of the environmental, historical, archaeological and methodological considerations which provide the project its special scope, the following topics are covered: the two surface *surveys* of the High Mound and Outer City respectively; the *excavations* of the City Wall at the base, and of a stone building at the top of the High Mound; the *artifacts* found during the excavations, with special reference to an important group of seal impressions mostly on door sealings; paleobotanical and ^{14}C *samples*; the beginning of a *regional survey* in the immediate vicinity of Tell Mozan; an art historical discussion (by O. W. Muscarella) of the *Urkish lion pegs* preserved in the Louvre and the Metropolitan Museum of Art; and the application of *computer aided design* techniques to a study of the stone building on top of the High Mound. More than 200 objects are given in line drawings, and more than 50 black-and-white photographs illustrate various aspects of the report.

Color documentation for the material presented in this volume is available from Undena Publications in the form of 20 slides published as set No. 1 within the series *Photographic Data Sets* (*PDS*-1). Reference to the slides is given in the text.

The text portion of this volume is also available in electronic format as disk No. 1 in the series *Cybernetica Mesopotamica — Volumes* (*CMV* 1A), also published by Undena Publications under the sponsorship of IIMAS — The International Institute for Mesopotamian Area Studies.

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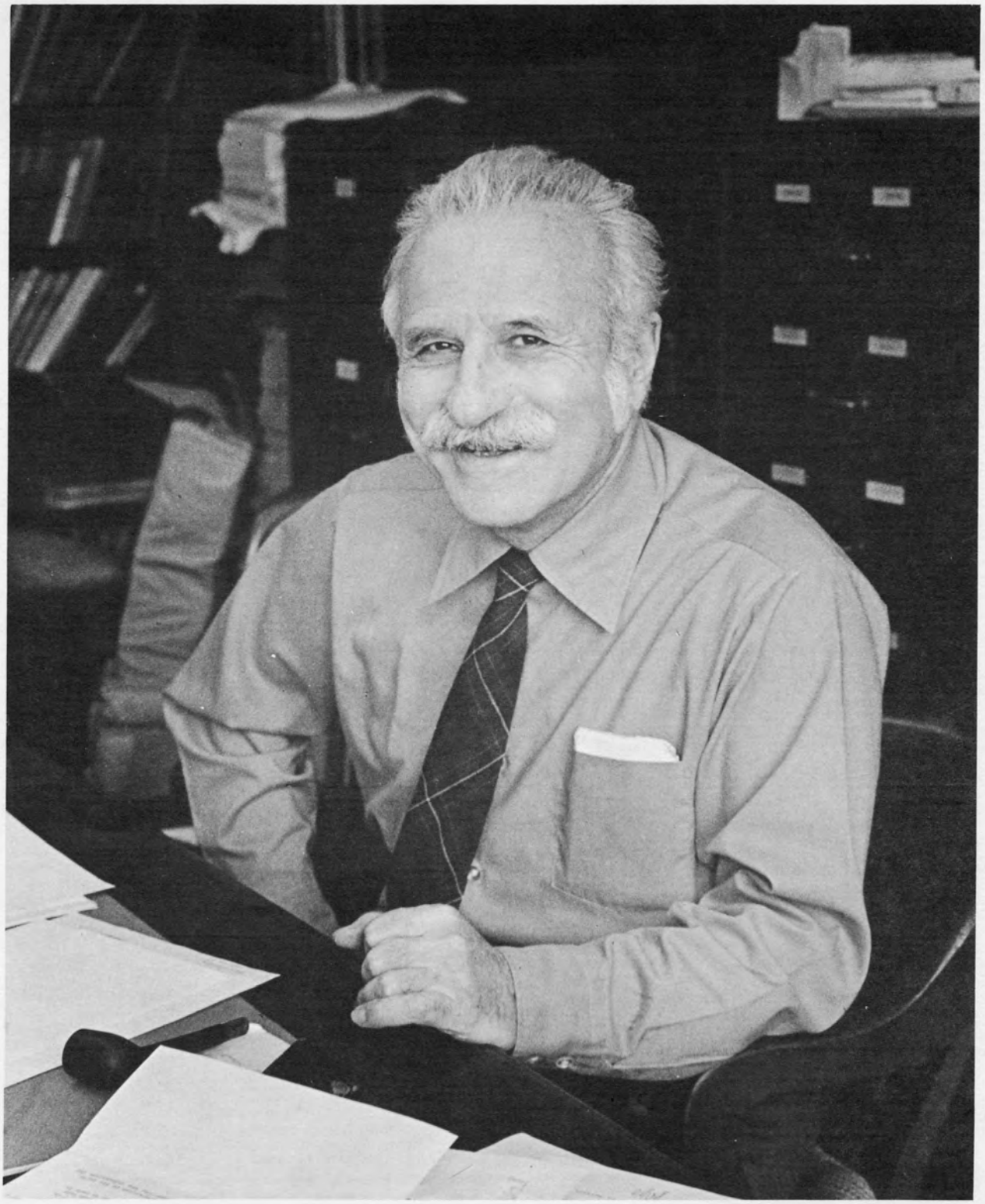

In Memory of I. J. Gelb
Who Showed Us the Way

PREFACE

The wheatfields of the Khabur have seen many a harvest over the millennia, but none perhaps as significant as the archaeological harvest which a number of expeditions have begun to reap in recent years. We have to thank for this the enlightened policies of the Syrian authorities, which have consistently welcomed and encouraged an unprecedented expansion of scholarly activity in their country. As a result, whole new vistas have been emerging not only for the history of Syria, but more broadly for the history of the ancient Near East as a whole. The Khabur region is especially attractive because it is generally less well known, while at the same time it gives every evidence of having been a crucible of civilization on a par with Sumer in the South or Ebla in the West.

Our new excavations at Tell Mozan are in line with these general developments on the one hand, and with our own specific interests on the other. The work we have been conducting at Terqa and Qraya for the last ten years have given us a special appreciation of the larger regional dimension within which the history of those two sites has to be understood. The Khabur region provides the natural setting for such a broader scope of inquiry. Terqa and Qraya are at the heart of both the fertile mid-Euphrates trough (known today as the *zor*) and the high-ground steppe dotted with springs and wells (known in ancient times as the *nawu*). They are also at the mouth of the Khabur, which serves as a major artery linking the *zor* with the "upper country" (the *matum elitum*, as it was known in ancient times). The start of a new excavation project in this "upper country" will thus allow us to develop a true regional project, based on concurrent field work at different sites, conducted with parallel methodology and direct cross-information. We hope that such long term and broadly based research may yield proportionately greater insights in the archaeology and history of the area, and serve as a significant experiment in the methodology of regional studies.

In and of itself, Tell Mozan seems to hold in store archaeological promises of the greatest magnitude. Its size makes it one of the largest settlements in the region, in fact one of the largest in ancient Syria if the preliminary indications for a vast lower city are verified by future work. The homogeneity of the deposit, which belongs predominantly and throughout to the third millennium, is just as impressive. And the circumstantial evidence which seems to suggest a possible identification of the site with Urkish provides a tantalizing working hypothesis for an interpretation of the pertinent historical framework. Regardless of

what the answer might be to the questions of either identification or size, Mozan is certain to prove a major site for the understanding of the civilization in the piedmont area, which not only thrived on rain-fed agriculture, but also served as the link between the mountain regions with their rich reserves of metal ores to the north and the urban states in the southern alluvium. Only the discovery of third millennium epigraphic material, of the type known through the Urkish lions, may allow us to define such culture as Hurrian: and that the prospect of such discovery is realistic is suggested by the fact that the inscriptions on the Urkish lions presuppose an important and autonomous scribal tradition that must have been at home in the Khabur plains.

As we were articulating our overall research design for the excavations at Mozan, we had made plans to have Dr. I. Jay Gelb join us in the field in the Spring 1985. In spite of his lifelong work in this general region, he had never been able to travel there, and we were eager to offer him, our personal mentor and friend for so many years, this opportunity. The potential significance of Mozan for an understanding of Hurrian civilization was especially inviting from a scholarly point of view, and we had great hopes to be able to develop with him a long term plan for the full historical evaluation of our findings there. For family reasons he was not able to join us in 1985, and so we postponed his visit until 1986. Or so we thought. The sudden illness which struck him in the Fall of 1985, and his death on the 22nd of December 1985, were to sadly alter all our plans. We can only, at this date, dedicate this first volume of the Mozan Reports to his memory — a small token of the strong human bond which united us as friends, and, we hope, a meaningful indication of the reverberation that his fundamental work on the Hurrians has left for the field.

It is with special pleasure that we recall one of our preliminary visits to the site in 1983, when we were joined by Dr. Herman L. Hoeh of the Ambassador International Cultural Foundation and a trustee of IIMAS — The International Institute for Mesopotamian Area Studies. As we looked together from the commanding position of Tell Mozan at the mountains to the North and the rolling plains to the South, we shared a precious moment in which the potential historical significance of the site seemed to blend with the sheer beauty of the landscape and elicit in us the resolve for an expanded new commitment to the archaeology of the region. The association with the Ambassador International Cultural Foundation, whose sponsorship has made it possible for us to develop the ambitious project on which we report here, was celebrated in a special way with the visit to Damascus in the Spring of 1985 by Mr. Herbert W. Armstrong, President of the Foundation. This was to be his last trip overseas before his death, and while he could not come as far as Mozan, where we were excavating at the time, we were able to share with him two days in Damascus, where he was most graciously hosted by the Minister of Culture, Dr. Najah Attar, and the Director General of Antiquities and Museums, Dr. Afif Behnassi.

We consider ourselves privileged to be able to be a part of these significant new developments in Syrian archaeology, and fortunate to be the recipients of the traditional and unmatched Syrian hospitality, at both the official and personal level. Especially at a time like today, it is but a small witness to truth to say that we feel as welcome in the contemporary Syria we have come to know through living there as in the ancient periods of her history, to the reconstruction of which we are happy to contribute.

G. B. and M. K-B.
15 April 1986

Because of a series of vicissitudes beyond our control, publication of this volume has been unfortunately delayed for over a year. Publication in its present form is essentially the same as had been originally submitted in completed form by the Fall of 1986, without updates (except for references to *PDS*-1).

A special note of gratitude is owed Dr. Alexis Martin, who with the greatest skill and personal commitment has provided the indispensable ingredients for seeing this volume through to its final publication.

6 January 1988

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1. INTRODUCTION

Giorgio Buccellati and Marilyn Kelly-Buccellati

1.1 Earlier work

Tell Mozan is a major site in the piedmont area of Northern Syria, just below the mountain passes which lead to the Tur-Abdin range and the Turkish plateau. In spite of its size and its accessibility (practically on the main road between Amuda and Qamishli), it has escaped the attention it deserves.

Not that it was always totally ignored. In fact, what little mention is made of it in the scholarly literature is quite significant. Thus L. Dilleman wrote: "Tell Mozan, à 8 km au sud-est d'Amouda, imposant par sa longueur et son elevation relative, est sur un modeste talweg. Son deuxième nom, Mal Tepe, en turc, la colline au trésor, lui vient probablement d'une trouvaille clandestine" (Dilleman 1962, p. 36).

Similarly appreciative, but puzzling on other grounds, are the references to Mozan in Mallowan's work. In his *Memoirs*, he spoke of the "wonderful mound named Mozan" (Mallowan 1977, p. 105). That this was not an accidental hyperbole is shown by these other remarks in the same work: "We were greatly attracted by Mozan, a site endowed with magnificent masonry walls" (p. 108); and again: "I wondered if the massive and obviously rich mound of Mozan ... is not an echo" of Hurrian civilization (p. 124). In his scholarly work, Mallowan refers occasionally to Mozan, and then takes it for granted that it is a third millennium site. In his report on Chagar Bazar he published a small black burnished "vase" (Mallowan 1937, p. 140, Fig. 17) which he records as coming from Mozan and as having been purchased (he does not say where; presumably it came from the villagers at Mozan). In the *Cambridge Ancient History* he wrote that "the varieties of pottery [from Tell Khuera] corresponded very closely in type with the ceramics familiar in the Khabur valley — at Brak, Chagar Bazar, Mozan and Germayir" (Mallowan 1971, p. 313).

Nowhere does Mallowan, as far as we can tell, give a published account of any soundings at Tell Mozan, although they are referred to in the autobiographical account which

his wife, Agatha Christie, wrote of the years spent with Mallowan in the Khabur region:

> Three Tells compete for the honor of our attention — Tell Hamdun,... Tell Chagar Bazar, and a third, Tell Mozan. This is much the largest of the three, and a lot depends on whether there will be much Roman deposit to dig through. Soundings must be made at all three mounds. We make a start with Tell Mozan. ...Three trial trenches are selected at different levels of the Tell. There is a murmur of "Inshallah!" and the picks go in.

Abruptly, the next paragraph continues:

> Tell Mozan has been reluctantly erased from our list of possibles. There are several levels of Roman occupation, and though the periods we want to dig are there underneath, it would take several seasons — that is to say, more time and money than we can afford. Today we drive to our old friend Chagar Bazar... (Christie 1977, p. 72f.).

What is puzzling in Agatha Christie's statements is the double reference to soundings on the one hand and to evidence of Roman occupation on the other, neither of which is mentioned by Mallowan himself. As for the first point, there are only a few traces of earlier excavations visible today: those along the edge of the tell are likely to be the result of surface activities by local farmers in search of good mudbrick material, while those on top of the tell appear to be very limited and generally superficial. Thus it would seem that if Christie's information is correct, Mallowan's "soundings" may either have been not very deep or they may have been located in areas (such as gullies at the edge of the tell) where normal erosion would have obliterated their traces. As a curiosity it may be reported here that upon asking the local villagers for information about earlier visitors to the tell, the eldest in the group remembered some foreigners who had conducted some work at the tell — among them, he related without prompting, a lady who would "sit on a walking stick"!

As for the second discrepancy between Agatha Christie's and Max Mallowan's accounts about Mozan, i.e. the alleged presence of Roman materials at the site (large enough, she says, to have discouraged Mallowan from excavating there), one wonders if Mallowan may in fact have mistakenly considered to be Roman what we now call "Metallic ware." Such ware is in fact present in fair amounts on the surface of the tell, and in the thirties it was not yet fully recognized for what it was proven to be later. It has been suggested that a similar situation may have obtained during Seton Lloyd's 1938 visit to Tell Taya, which he attributed to the Moslem period, "with the rider 'probably Roman'." As Julian Reade goes on to say, "it was an understandable reaction: even in 1967 another visiting scholar was to suggest that the site was mainly Sasanian" (Reade 1982, p. 72).

Whether the explicit reference in Agatha Christie's autobiography to the alleged Roman levels at Mozan deterred archaeologists from seriously considering this site for further excavations, or whether the proximity of Amuda, reputed to be the major ancient site of Urkish, made it appear unlikely that a second major site could have been located so near it — the fact remains that Mozan has been left largely to itself. Apart from the very limited evidence of localized excavations at the base of the tell possibly by farmers (plus of course the effects of plowing in the lower city, for which see Chapter 4), and apart from the presence of three small cemeteries on the top of the mound, Tell Mozan appears wholly undisturbed. There is no obvious evidence of clandestine excavations for antiquities, and the village at the base of the tell, while it sits on part of the lower mound, has not encroached on the higher mound.

In recent times and prior to our own work there, several more projects have come to focus their attention on this particular area of the upper Khabur, and Tell Mozan has again been considered by other archaeologists as the site for a potential excavation — among the more recent the Tell Barri/Kahat project under the direction of Paolo Emilio Pecorella (Pecorella and Salvini 1982, especially p. 8, where Mozan is referred to as Muazzar, following Van Liere, for which see presently). The only extensive and published survey work has been that of Davidson and McKerrel (1976). It is not, however, our purpose to review here the history of excavations and of surface explorations in the area of Mozan, except for a brief remark concerning the survey by Van Liere and Lauffray. In their often quoted article of 1954-55 in which they reviewed the typology of the various settlements of the Khabur region, utilizing especially aerial maps newly made available for agricultural projects, they do not take any special notice of Tell Mozan. The site is in fact shown on their map, but it bears the name "Muazzar," which is also the name of a large site to the South, on the slopes of the Jebel Abd el-Aziz. The references in their text to Tell "Muazzar" all seem to refer to the latter tell, so that to all intents and purposes Mozan was in effect overlooked in their study (and the symbol used for it on the map identifies it as a site of relatively lesser significance than others). No one in the area today (whether in Mozan itself, or Amuda or Qamishli), knows of the site as Muazzar.

1.2 The Mozan Archaeological Project

We were first attracted to Mozan on the occasion of a visit to Amuda, a modern town with the remains of an ancient tell which is generally assumed to correspond to ancient Urkish. The imposing profile of Mozan was clearly noticeable from Amuda, but at first we passed the site by without stopping there. On the occasion of a subsequent visit to the area, we asked first Ismail Hijara and Mark Chavalas to take a look at Mozan, and then the following day the entire party went back for a closer look. A preliminary walk over the tell left us stunned: there was no trace whatsoever of Roman material, and instead we could only see third millennium and Khabur ware wherever we walked. The local villagers came out to greet us, and showed us two small vessels, and one small stone axe head of the type that has been explained as a scribal eraser: very freely and generously they made us a gift of these objects, which we delivered to the Der ez-Zor Museum. Travelling by car around the edge of the mound, we estimated its perimeter to be about a mile, and the height was clearly imposing.

This was on June 3, 1983. Besides the writers, Mario Liverani and Ismail Hijara were also in our party, and we all shared an overwhelming impression of a site which, for all its massiveness, was very homogeneous in its deposit. And certainly not Roman. We all returned to the site on three different occasions, accompanied by different staff members, and each time our first impression was strengthened.

We had reached an easy consensus: that we should prepare an application to the Directorate General of Antiquities and Museums for a sounding permit at Tell Mozan. We had been planning for a while to develop a research project that would build on our experience at the southern end of the Khabur region, at Terqa and Qraya, and would fit in with our general historical and archaeological interests in the upper Khabur. We had also become more specifically interested in the question of the Hurrians and the intriguing issue of the localization of Urkish. Mozan was clearly the site that most seemed to fit our requirements. Thus we proposed to begin with a two year project that would entail soundings at Mozan itself and also a survey in the region, along the lines of the arguments outlined briefly below in Chapter 2.

Our request was most graciously granted by the Director General of Antiquities and Museums, Dr. Afif Behnassi, in the winter of 1984. A first brief season was immediately planned for the subsequent Fall. This took place from the 21st of October to the 20th of November, 1984. It was under the joint directorship of Marilyn Kelly-Buccellati and Giorgio Buccellati, with the participation of Dr. Guy Bunnens, Dr. Arlette Roobaert, Mr. William R. Shelby and Ms. Daniela Buia Quinn. In addition, Mr. Mark W. Chavalas joined us for a brief working period. Mr. Hamido Hammade served as the representative of the Directorate General of Antiquities and Museums, and also participated in the excavations. Mr. Stephen M. Hughey, with the assistance of Ms. Barbara W. Pritzkat, did the topographical survey of the upper mound, and prepared the site plan which is reproduced below as Fig. 5 and is introduced in Section 3.5.

A second season took place in the spring of 1985, from the 22nd of April until the 20th of June. It was again under the joint directorship of Marilyn Kelly-Buccellati and Giorgio Buccellati, with the participation of Dr. Guy Bunnens, Dr. Arlette Roobaert, Dr. Ismail Hijara, Ms. Louise A. Hitchcock and Ms. Andrea M. Parker. In addition, Dr. Lucio Milano, Dr. Judith Thompson-Miragliuolo, Mr. Timothy Seymour and Ms. Veronika Selb joined us for a brief working period. Mr. Hamido Hammade again served as the representative of the Directorate General of Antiquities and Museums, and also participated in the excavations.

At various times during the two seasons, Dr. Guy Bunnens and Dr. Arlette Roobaert undertook the survey project in the immediate vicinity of Mozan, and in particular studied the visible remains of the tell located in Amuda. This, it turns out, is not called Tell Amuda (which is instead the old name of another tell on the other side of the Turkish border just north of the town of Amuda, renamed Kemaliya in recent years), but rather Tell Shermola. They report separately on their work in Chapter 7 below.

During the first season of soundings it had already become apparent that there were traces of occupation over a large area all around the high mound, and we had also noticed that there was a general rise that extended for several hundred meters all around the main tell. Accordingly, we had planned on exploring the base of the tell in the following Spring, but this proved to be very difficult at that time on account of the extensive cultivation during that season. We were fortunate in securing at that point the collaboration of Dr. Judith

Thompson-Miragliuolo, who was residing for family reasons in the area, and who accepted the charge to develop a systematic survey of the lower city in the Fall of 1985. The results of her work appear in Chapter 4 below.

Given the extremely positive results of the work which we had conducted under the terms of the sounding permit, a new request was submitted for a regular permit of excavations at Tell Mozan. This was granted in the winter of 1986.

1.3 Results and perspectives

The substantive results of the first two seasons, about which we report in this book, may be summarized briefly as follows.

(1) The *High Mound*, some 18 hectares in size and 20 meters in height, is a single major mound, without a separate prominent hill of the type generally called a citadel. The *Outer City* seems to represent a continuous occupational zone extending to as much as 400 meters from the edge of the high mound: it is possible that the circular rise at the perimeter of this outer zone may represent an exterior city wall, but in any case the nature of the surface evidence is such that it seems reasonable to assume a vast contiguous settlement around the High Mound, with a North-South axis of about one mile and an East-West axis of a kilometer.

(2) *Second millennium* material has been found especially on the surface, and to a more limited extent in excavations (in P1 and minimally in B1). It is possible that the original extent of second millennium occupation was greater, and if so its disappearance may be explained as the result of erosion over the centuries: it seems in fact likely that the site was abandoned by the middle of the second millennium, so that structures from this period would have been the ones more readily exposed to weathering.

(3) Late *third millennium* material was found immediately below the surface at the very top of the High Mound in B1, and mid third millennium material was found at the base of the mound in K1 as well as in B1; materials of the same periods are represented everywhere else on the surface of both the High Mound and the Outer City. The later third millennium material rests on floors, and thus one period of the building's history seems fairly secure. The mid third millennium material at the base of the city wall in K1 is somewhat more problematical. Since the burnt deposit on top of the glacis is in the nature of a dump, it could have been taken from anywhere on the site and placed where we have it now at any point in time; in practice, however, it is possible to assume that the dumping took place not long after the period from which the dump itself originated, since the excavated deposit is considerable in size and there is no admixture of later material. If so, the glacis and the wall behind it would have been in use in the Early Dynastic III period.

(4) The vastness of the site and the general homogeneity of the deposit, plus the monumental scale of the architecture, the quality of the artifactual material, and the nature of the preservation, make of Mozan a choice site for the study of early Syro-Mesopotamian *urbanism*. Whether or not the site corresponds to ancient Urkish, the fact that it matches as well or better than any other site the cultural profile of this ancient city makes of Mozan a very significant new source of information. The circumstantial evidence which favors a possible identification with Urkish serves more than anything else to highlight the broad

historical perspective within which the excavations assume their special value. Thus the arguments developed in favor of the identification help first of all to focus on the issues and goals of archaeological research in the area, among others the validity of expecting the existence of an autonomous scribal Hurrian tradition in the late third millennium, the centrality of the upper Khabur region for an understanding of the rise and growth of early civilization, and the significance played by the piedmont regions in the development of long distance trade with the highlands.

(5) The *rural base* of Mozan and its region is just as interesting an object of research. A unique dynamism resulted from the direct interaction of three quite diverse types of rural populations — the farmers of the dry-farming zone immediately around Mozan, the agro-pastoralists (Amorites) who had learned to tap the ground-water of the Syrian steppe (the *nawu*), and the montagnards of the small settlements in the Tigris valley north of the Tur-Abdin (possibly as far as the Euphrates/Murat-Su valley in the Keban). The piedmont belt that was the stage for the coming together of these populations seems to have been identified in ancient times as a specific cultural landscape and geo-political entity, and to have been known by such terms as "Subartu" or "Urkish and Nawar."

(6) A very significant long distance *trade* was carried out in the area of Mozan during the third millennium in both directions: east-west and north-south. Just north-west of Mozan the Mardin pass leads directly to a road which goes to Diyarbakir and beyond, passing the famous Ergani mines. This route has been postulated as the path of the Persian Royal Road in the first millennium and in Roman times it was recorded on Peutinger's map as the main route through these mountains. Evidence from Byzantine times confirms its continued importance. In this part of the plain then there has been a continuous history of a major city on the plain connected with the exit from the mountains at Mardin whether it be Dara or Amuda in the later period, or very possibly Mozan in the earlier period. This major city was not located at Mardin itself, although that city was important at times, because of its extremes of temperature and paucity of water immediately available. During the third millennium there was a great demand for copper and tin not only in the Khabur area itself but in the wider Syro-Mesopotamian region. Mozan and its neighbor Hamdun are ideally situated on the southern end of the pass which leads directly out of the mountains near the Ergani mines.

(7) Whether or not these mines were in use at this time, we do have evidence of contact between Mozan and the Early Transcaucasian area of the Anatolian mountains which had access to metal sources and trade routes throughout the third millennium. Previously, *Early Transcaucasian pottery* had been found in the Khuera excavations, and now is also found at Mozan. We do not however find this pottery further south. Another type of ware whose geographical distribution suggests significant implications with regard to long term contacts is the *Metallic ware*, for which the center of production was in northern Syria. This pottery was exported as far south as Terqa and Mari; imitations of it are found both at Terqa and Mari. Northward, Metallic ware is found in the excavations in the Elazig area. The distribution of these two wares indicates a wider pattern of interconnections wherein a proposed major trade route in metals could fit. In this tentative reconstruction of trade patterns in this area the metals were brought southward from the Ergani area or beyond along the Mardin route and exchanged at Mozan from where they were shipped farther south. Goods from the Mozan area were shipped northward also via the Mardin route to the Anatolian

highlands as evidenced by the Metallic ware in the Elazig area and beyond. The large amount of metal objects for the relatively small amount of excavations we have done on Mozan could be another indication of its unique importance with regard to metal trade.

1.4 Acknowledgments

We are most grateful to Dr. Afif Behnassi, Director General of Antiquities and Museums of the Syrian Arab Republic, for his steadfast support of our endeavors in Eastern Syria. His stewardship is leaving a deep trace in the development of modern Syrian and Near Eastern archaeology: the open and constructive policies which so clearly mark his administration offer us both a benefit and a challenge — the benefit of an ideal working atmosphere in which to test and develop significant new research projects, and the challenge to integrate our individual finds and hypotheses into the massive explosion of information that is coming out of Syria. We are also most grateful to Dr. Adnan Bounni, who, as Director of Excavations, not only supervises directly the technical aspects of our archaeological work but also, as a colleague, shares so willingly of his own unrivalled experience in field work.

Various other members of the Directorate General of Antiquities and Museums have assisted us in a number of ways during the first two years of our work at Tell Mozan. Mr. Kassem Touer, Director of Research, was the first visitor to Mozan from Damascus, and helped us all along with his advice. As the Representative of the Directorate General during both seasons, Mr. Hamido Hammade was very effective in helping us establish a firm basis, looking after a number of practical matters with unswerving eagerness. Mr. Jean Lazar, head of the regional office of the Directorate General of Antiquities and Museums for Hasseke, welcomed us as one more of a number of foreign projects streaming to the Khabur region. And Mr. As'ad Mahmud, Director of the Der ez-Zor Museum and Director of the nearby Syrian Expedition to Tell Ajaja, lent us the support of his friendship and good knowledge of the area as we were branching out to the *matum elitum* from the *zor* of Terqa!

Of authorities in Qamishli we wish to thank the Mudir Mantaqa, Maj. Turki ash-Sheikh, and the Ra'is al Qasim, Capt. Hussein Turki al Omar, who expressed a genuine interest in our work and assisted us in all official matters. The Mudir Nahia of Amuda, Capt. Muhammad Amin Al-Murai, in whose territory Mozan lies, gave us very generously of his help in a number of practical matters: the fact that he was originally from Ashara, the town at the other end of the Khabur which hosts our excavations of Terqa, seemed to favor even more readily a collaboration which we have come to appreciate greatly. Dr. Muhammad Droobie took on the task of the medical care of the Expedition with a skill, promptness and kindness for which we all are most grateful. The local people of the village of Mozan and surrounding villages welcomed us from the start, when they offered us very freely some of the artifacts they had found on the surface, and continued to do so as they became our neighbors, workmen and friends.

The work of our staff is only in part represented in this publication. While the names of all the participants have already been given above, and while some of them have contributed in a more direct way to the writing of this report (and are accordingly given credit as authors of individual sections), the work of others is not as directly represented below and should be given special mention here. William R. Shelby served as Assistant Director and ceramicist

during the first season, and lent us his continued and very real assistance at home during the analysis of the data and preparation of the report; as Administrative Analyst of IIMAS, the International Institute of Mesopotamian Area Studies, he further assisted very concretely in all the organizational aspects of the Expedition as we were preparing for it here at home. Dr. Ismail Hijara, besides contributing to the formulation of the original plans for our new project, gave us the support of his invaluable expertise in field work, and of his unmatched knowledge of the ceramics of the early periods. Daniela Buia Quinn was an indefatigable and very exacting excavator, and was responsible for the bulk of the data entry during the first season. Andrea M. Parker provided the same service during the second season, with the addition of her considerable programming experience. Hamido Hammade put whatever spare time he could muster in the service of archaeological field work, and thus assisted us in our research as well as in the overall organization of our work. The photographers were Dr. Guy Bunnens and Louise A. Hitchcock for the first and second season respectively. The drafting was entrusted to Daniela Buia Quinn during the first season and to Judith Thompson-Miragliuolo, Andrea M. Parker and Timothy Seymour during the second season. Stephen M. Hughey did masterly work in providing us with the initial topographic survey (on which he reports briefly in Section 3.5); Timothy Seymour also provided surveying assistance during the second season.

Here at home we have benefited from the help of Linda Mount-Williams and Ronald Williams, who have contributed of their expertise in both photography and the development of technical equipment. And to Timothy Seymour goes our gratitude for preparing in camera-ready copy all the drawings contained in this volume, providing an even level of high quality in spite of severe health problems during the time in question.

Financial support for the Mozan Archaeological Project has come first and foremost from the Ambassador International Cultural Foundation, which has also provided a special grant for the publication of this volume. As we mentioned in the preface, we were especially pleased to have had a visit in Damascus from the President of the Foundation, Mr. Herbert W. Armstrong, during our second season at Mozan. While limitations of time and health prevented him from coming all the way to the field, his visit gave us a warm demonstration of his personal interest in our work in Syria, made possible by the major support of the Foundation. To Dr. Herman L. Hoeh, also of the Ambassador International Cultural Foundation and a Trustee of IIMAS—The International Institute for Mesopotamian Area Studies, goes our sincere gratitude for the continued concern and constructive support he has unfailingly shown us.

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2. SCOPE OF THE RESEARCH

Giorgio Buccellati

2.1 Environmental considerations

The modern geographical setting of Tell Mozan is, by all estimates, the same which conditioned the historical development of the site and its region in ancient times. Recent literature has paid special attention to the incidence of rainfall on agriculture, especially in contrast with the situation south of the Khabur triangle, where rainfall is insufficient for cultivation and farming is thus dependent on irrigation systems. Since both the lower Khabur and the Euphrates in its middle course have cut a deep trough in the steppe, the area which is actually accessible for irrigation agriculture in this region is quite limited; as a result, the contrast with the broad and fertile plains of the Khabur is even more striking. Van Liere pioneered this approach (see especially Van Liere and Lauffray 1954-55), and the book by Wirth (1971) has come to serve as a standard work of reference on modern conditions. H. Weiss has developed this theme with special reference to the third millennium and to Leilan in particular (1983, 1985a), and has devoted to it a symposium which he organized in Chicago for the Annual Meeting of the American Schools of Oriental Research (I have not had occasion to see the published report of the symposium).

An interesting perspective from which we may look at the question of the environment is that of the perception that the ancients themselves had of it. This has developed in various approaches to a study of the "landscape," as it is often called following French models, and the type of populations or social classes associated with it. For ancient Syria this approach has found an insightful proponent in M. Liverani, who has written particularly with reference to the second millennium (1975), while his student C. Zaccagnini (1979) has developed a similar approach for Northern Mesopotamia. While it is impossible to develop a full argument along these lines without the support of written sources, which are still few and indirect with regard to the region of Mozan, I would like to propose a few considerations which may help to place the work at Mozan in a wider perspective. The remarks that follow were first presented in a paper delivered at the University of Toronto in 1983, on which occasion I also presented for the first time our case for the special significance of Tell Mozan. I

have also discussed the nature of the landscape in the lower Khabur region in a paper delivered at the 196th meeting of the American Oriental Society in New Haven (1986). I will develop fully this perspective in a separate publication, while in this context I can only give a short summary, which is also reflected in the maps presented below as Figures 1 and 2.

Briefly put, the rural base of the developing urban civilization in the Khabur plains seems to have been particularly complex because of the interaction of three major rural populations.

(1) Given the nature of the local landscape, we may assume that there was a class of local farmers engaged in intensive farming. I am assuming that they were settled in small local communities where they lived on a year-round basis, and that they came readily under the control of the larger urban communities.

(2) At the same time, however, and for different reasons, there seem to have been other rural populations which came in direct contact with the cities of the Khabur plains. To the South of the Sinjar and Abd el-Aziz ranges there are wide expanses of pasture land which could begin to be exploited as such (i.e. as pasture lands) once it was discovered that wells could tap the water table and provide sufficient water for the animals if not for cultivation (except for larger springs, wells today are not even sufficient to support small orchards). These pasture lands represent a distinctive feature of the ancient landscape, since there was a word reserved for them (*nawû*). I assume that the wells had not been exploited systematically in prehistoric, but only in relatively recent times, presumably beginning in the third millennium, and possibly by the rural populations which were originally at home in the trough of the Euphrates (what is today called the *zôr* in the local dialect, as in the name of the provincial capital Der ez-*Zôr*). Rather than nomads converging on the cities, I would prefer to interpret these populations as rural groups progressively acquiring greater autonomy from the control of the cities in the *zôr*, but retaining at the same time fundamental rural characteristics, since no cities were ever established during the third and early second millennium in the *nawû*. Their autonomy was reflected in a number of traits by which these populations came to be known also outside their original homeland, summed up first of all in their own collective name: the Amorites. I am assuming that during the third millennium they already had lively and direct contacts with the urban centers in the Khabur plains, just beyond the Abd el-Aziz and Sinjar which form the northern boundary of the *nawû*.

(3) It would also appear that the Khabur cities were further in direct contact with rural populations to the north of the plains, in the mountains of the Tur-Abdin and beyond. It was from here that significant natural resources were flowing to the South, and we do not seem to have evidence for full fledged urban centers in these northern regions during the third millennium. Whether the cities of the plains extended their control to the mountains or whether they simply interacted with their populations we do not know.

On the basis of various considerations, some of which are summarized in the following section, we assume that the urban populations of the Khabur plains had a distinctive physiognomy epitomized by the term "Hurrian." Since this is in the first instance a linguistic term, its full significance can only be understood if and when sizable Hurrian archives can be found. The identification of a distinctive "Hurrian" civilization can not result from considerations pertaining to material culture alone (see especially Mellink 1972-75; Barrelet 1977, 1978; Hrouda 1985). But apart from what the appropriate (ethno-linguistic) label may be, the above considerations point to a rather unique constellation of factors in the network

of relationships among the urban settlements of the Khabur plain and the populations which formed their rural base. As a major one among such centers, Mozan must have played a significant role in this process.

We are thus approaching from a different angle the same question that had roused so much enthusiasm in scholars like Speiser (1930) and Moortgat (1932), and that received its most comprehensive and balanced synthesis in the work by Gelb (1944, 1956). The interest in the Hurrians is also reflected in recent publications and projects, such as the research project directed by M. T. Barrelet (1977), the 24th meeting of the Rencontre Assyriologique Internationale (*RAI* 1978), or the beginning of a new series devoted to the publication of the Hurrian corpus (*CHS* 1984-). While a review of Hurrian studies is beyond our present scope, a few remarks may be in place in that they help define some of the reasons underlying the choice of Mozan.

2.2 Historical considerations

The Hurrians represented a major cultural force in the ancient Near East and yet they remain so little known that much of our knowledge about them is derived from non-Hurrian sources. The question about their early history is clearly linked to another: Why is it that no single Hurrian city has been excavated as yet? The question is similar to what might have been asked about Western Syria before the discovery of Ebla: why was it that no Semitic city had ever been discovered? An answer to the Hurrian question can ultimately only come in the same way as it did for the question about a Semitic city. A Semitic city can be identified as such only if Semitic texts are found in it. Ebla turned out to be the source for such Semitic texts. Clearly, no Hurrian equivalent of Ebla has been found. And yet, we have perhaps more reasons to expect it than there were reasons to expect a city like Ebla: for we have evidence of a Hurrian scribal tradition in the third millennium, presumably at home in the Khabur plains, whereas we had no previous evidence of a scribal tradition, indigenous or otherwise, at Ebla or elsewhere in Western Syria.

Admittedly, such evidence is quantitatively extremely limited: the total epigraphic inventory attributable to a Hurrian scribal tradition in the third millennium amounts to no more than one document, extant in three parallel (and partial) versions:

(1) the tablet of Tishatal from the Louvre (Parrot and Nougayrol 1948);
(2) the plaque on the lion of Tishatal from the Louvre (*ibid.*);
(3) the plaque on the lion of Tishatal from the Metropolitan (see Chapter 9).

In addition, there are other texts that may have originated in the Hurrian area, such as:

(4) the tablet of Atalshen (Thureau-Dangin 1912); or
(5) the seal of Daguna (Nougayrol 1960),

but these do not have the same status as the text of Tishatal because they are written in either Akkadian (No. 4) or Sumerian (No. 5): if pertinent, these texts would indicate that Hurrian was not the only language written in the Hurrian cities. None of these texts comes from controlled excavations, and thus we have to rely almost exclusively on internal evidence;

arguments about provenience based on information from the dealers (which is the only clue in the case of the seal of Daguna, reported to have come from the same site as the lions of Urkish; see Nougayrol 1960, p. 213) have to be considered with extreme caution although they should not perhaps be discarded altogether (see the comments in the next section).

Yet, for all its limited size, this small Hurrian "corpus" of the third millennium has a significance which has not always been properly appreciated — so much so that when the archives of Ebla were first discovered, they were hailed as the *only* known third millennium texts from Syria. Now the text of Tishatal in particular raises momentous implications precisely when compared with the texts of Ebla. It is in fact written exclusively in syllabic Hurrian, whereas the vast majority of the Ebla texts have a low percentage of words written in syllabic Semitic. This implies the existence of a wholly indigenous scribal tradition in the service of Tishatal, sufficiently vigorous to develop and retain full graphemic autonomy from its southern Mesopotamian counterpart. It seems inescapable that texts like those of Tishatal should not be seen as an isolated experiment, but rather as the top of a veritable iceberg, still lurking beneath the waters of a cultural assemblage as yet very imperfectly known. Concretely, this makes it reasonable to expect not only more texts of the same type, but a concentration of the type that is found in an archive, a library, a scribal office or a school.

From what we know so far, it appears that the ancient city which is the most likely candidate to have served as the center for the development of such a scribal tradition was Urkish (see especially Pecorella and Salvini 1982, pp. 14-17). In spite of certain difficulties of both a philological and an archaeological nature (some of which are well described in the Appendix by Muscarella given below as Chapter 9), one may argue that Urkish was a city in the Khabur plains from which the foundation inscriptions of Tishatal come, and that Mozan is a possible candidate as the site correposnding to ancient Urkish. Let us review briefly the evidence — first from a philological point of view (in this section), and then from an archaeological point of view (in the next section).

The tablet of Tishatal is part of the foundation deposit of the temple of Pirig-gal, built by the "king" of Urkish (I am using both the standard translation "king" for *endan* and the standard readings Tishatal and Atalshen for the sake of convenience; on *endan* see Salvini in Pecorella and Salvini 1982, p. 15). It does not say that the temple was built in Urkish, nor is the geographical name of Urkish preceded by the logogram or determinative for city in the royal title of Tishatal.

The tablet of Atalshen is part of the foundation deposit of the temple of Nergal, "king of Hawilum," built by the king of Urkish and Nawar, presumably in Hawilum. Here again the geographical name Urkish is not preceded by the logogram or determinative for city.

The first issue then is whether Urkish refers in fact to a city, since it does not occur with a determinative for city in the third millennium attestations. I assume it to be so because on the one hand the second millennium evidence (see briefly below) clearly indicates Urkish to have been a city, and on the other the third millennium evidence admits of such a possibility. It should be noted in this regard that omission of the logogram for city is frequent in the third millennium, both in the royal titulary (e.g. LUGAL *Ma-ri*$_2$-KI, *RGTC* 1,117) and in other references to cities such as Mari or Ebla (*RGTC* 1,37 f.; 2,39; 2,128f.).

The second issue is whether Urkish, which is only mentioned in the *titulary* of king Tishatal, and not as a reference for the localization of the temple of Pirig-gal, may be further

assumed to be the city where the temple was located. Here too a positive answer seems plausible, since the royal inscriptions of Mesopotamia do not necessarily give the name of the locality where a given temple is built when this locality is the capital (see for instance for the Ur III period, *IRSA*, p. 138), whereas they do when the locality is a province (*IRSA* p. 142 for the Ur III period and p. 216f.).

A related issue is the identification of Nawar, which appears in the titulary of Atalshen, "king of Urkish and Nawar." Nawar is often assumed to be another Hurrian city, situated at the eastern extremity of a kingdom of which Urkish represented the western extremity (see for instance *IRSA*, p. 128; Weiss 1983, p. 49). If Nawar is not generally equated with Urkish in significance it is because it does not appear in later Hurrian mythology. In point of fact, we must in this case raise more serious doubts as to whether Nawar ought to be considered a city or a country. The evidence for the third millennium is similar to that available for Urkish, but is even more limited. In the inscription of Atalshen, Nawar appears, as already noted, in the titulary of the king, in second position after Urkish. In a text from the Ur III period (de Genouillac 1911, 83:3), Nawar is mentioned as the place of provenience of an individual whose proper name also contains the same toponym (Nawar-shen). As for the later periods, the evidence militates against the identification of Nawar with a city. The name Namar (which can properly be interpreted as a later phonological development of Nawar) is attested in a kudurru of the Kassite period, and it refers here clearly to a region (KUR *Namar, qaqqar* KUR *Namar: BBS* 6 i 47.48.51.55; ii 6.7.10.27.29.31.48).

In addition, it should be noted that there is little evidence from Mesopotamia in favor of a royal titulary comprising the names of two cities. On the contrary, it is a well attested pattern, especially in northern Mesopotamia and in western Syria, to include in the royal titulary the name of a city followed by the name of the territory, as in the well known example: LUGAL *Ma-rí*-KI *ù ma-at Ḫa-na* (see Buccellati 1967, pp. 140-46). Accordingly, the suggestion may be made that the title of Atalshen refers to a city and its territory rather than two cities: "Atalshen, king of the city of Urkish and of the land of Nawar." The correlation between this title and the title borne by the earlier king Tishatal may be compared to the correlation between two kings of Mari, as follows:

Tišatal, endan Urkiš	*Iplul-il, šar Mari*
Atalšen, šar Urkiš u Nawar	*Yaḫdun-Lim, šar Mari u māt Hana*

Whether in fact the land of Nawar extended all the way from the Khabur to the eastern regions of the Tigris (where the later Namar is traditionally located) remains to be seen. But if so, then the term Nawar would seem to correspond in its geographical import to the term Subartu (see Hallo 1978, esp. p. 71f.)

In addition to the inscriptions of Tishatal and Atalshen, two other possible rulers are mentioned in Sumerian texts from the Ur III period. One of them remains unnamed, while we have the name of his messenger:

É-ni-da-gú? *lú-kin-gi*$_4$*-a Ur-kiš*-KI-*sè* (Nakahara 15, Rv 3)

Another is mentioned twice, qualified simply as *lú Ur-kiš*-KI, which might serve simply

as a gentilic or might identify the individual as a ruler of Urkish (possibly a governor under the Ur III kings):

An-na-tal lú Ur-kiš-KI (Langdon 1913-23, 240: 14 Rv.1)
An-na-tal lú Ur-kiš-KI u_4 *Ur-kiš*-KI-*ta ì-im-gen-na-a* (*TCL* 2 556; 2f.).

If the title *lú* refers in both cases to a ruler, then we would have in the epigraphic record the reference to three (or more) rulers of Urkish in the later third millennium, as follows:

Tišatal endan Urkiš
Atalšen LUGAL *Urkiš u Nawar*
An-atal, lú Urkiš
(unnamed) *lú Urkiš* (whose messenger is Enidagu).

It would appear then from the limited evidence at our disposal that Urkish was one of the more important, if not the most important, Hurrian city of the late third millennium, since we can associate with it both the isolated but significant evidence of an autonomous Hurrian scribal tradition and the names of two and possibly more rulers.

Its significance had waned by the second millennium, to judge from the number and type of references in which the city is mentioned. It seems nevertheless to retain some degree of autonomy, since there is mention of a *king* of Urkish, and on one occasion Zimri-Lim makes a personal effort to pacify the city.

(1) A certain "Te-ir-ru, *roi* d'Ur-gi-iš^{KI}" is mentioned in a tablet of Mari of which only a brief excerpt has been published without any other pertinent information (Jean 1938, p. 132): this is the only indication of a "king" of Urkish in the second millennium, and, in the light of what else we know about Urkish in this period, may well refer to a minor vassal ruler. The same spelling (*Ur-gi-iš*-KI) is found in all the remaining references from the Old Babylonian period.

(2) Zimri-Lim writes to Shibtu that, having just installed a governor in the city of Shenah, he intends to go to Urkish where he will "thoroughly pacify" the city ([*š*]*ullumu*[*m ušallam*], *ARM*, 10 121: 9, 10,13); note that where the name of Urkish occurs as the object of the verb *ušallam* it is preceded by the determinative for city (URU). He further writes that he will go from Urkish to Shuna (Hamidi?, see Hallo 1964, p. 74), and repeats his assurance that he will thoroughly pacify "these cities."

(3) A letter addressed by Ibal-El to Zimri-Lim relates a fragmentary message which had been addressed "to Urkish" by the men of Hurraya and Shinah, and reports that a special (public?) announcement (of the message?) has been made in Urkish (*ARM* 2 38: 6, 16,18).

(4) A letter from Ishme-Dagan informs Yasmah-Addu that Urkish and Shinah are posing some resistance (? *uḫḫuru*), but that he will take hold of them (*leqû*; *ARM* 4 40: 14).

(5) A tablet from Chagar Bazar (located some 25 km. south of Mozan) refers to Urkish twice, as the destination of some commodities (Gadd 1940, A994: Obv. 29, Rev. 8, Pl. 4 and p. 59); the other known sites mentioned in the text are Kahat (some 25 km. southeast of Chagar Bazar) and Shubat-Enlil (some 65 km. northeast of Chagar Bazar, accepting the identification of Leilan with Shubat-Enlil).

(6) Finally, Urkish is mentioned in the itinerary published by Goetze (1953, p. 53f; 22, with the spelling *Ur-ge-eš*; see Hallo 1964, pp. 72, 83). Here it appears as a detour station used only on the return trip: one may deduce from this that Urkish was of secondary importance (since it is omitted on the outgoing trip), but the converse could also be true, namely that even though it was not on the main course of a direct road from Assur to Emar it was nevertheless worth a detour at least on one of the legs of the trip. The arguments for the localization of Urkish in the area of Amuda have been strengthened by the arguments which have been convincingly adduced recently to support the identification of Leilan with Shubat-Enlil (Charpin 1986; Whiting 1986).

In the latter part of the second millennium, Urkish appears as a major point of reference in the realm of mythology, where it is mentioned as the seat of Kumarbi:

> Kumarbi took his staff in his hand, put swift shoes on his feet. He set forth from Urkis, his city, and betook himself to the... [Translation by A. Goetze in *ANET*, p. 121; see Otten 1950, and Guterbock 1952.]
>
> [...] the father of the city of Urkiš [...]
>
> [...] he is in the city of Urkiš [...]
>
> [...] he arrived in Urkiš, but [...] did not find him in his house [...] [Otten 1950, pp. 27-29:9,10,20.]

In the last text, "Ishtar, queen of Nineveh" (see Wegner 1981, pp. 11-12) is apparently addressed as the "sister" of Kumarbi, a fact which is interesting in terms of the geographical spread of the kingdom of Urkish, postulated on the basis of the titulary of Atalshen, king of Urkish and Nawar, and on the basis of the possible identification of Tishatal king of Urkish with Tishatal "man" of Nineveh (Whiting 1976). It is also interesting to note that, since his travels take Kumarbi to the sea on the one hand and to the mountains on the other, a piedmont location for Urkish (such as that of the area of Mozan) is well suited for the place of origin of Kumarbi. Finally it should be noted, with regard to the remarks made above concerning the identification of Urkish as a city, that in these later texts Urkish is clearly understood as a city, and that the corresponding determinative is used regularly.

The proposed identification of first millennium Urakka with Urkish (see especially Kessler 1980, pp. 221-26) conflicts with an interpretation of Mozan as Urkish, since no first millennium remains are found in Mozan. It is conceivable that the *name* had survived (in a slightly altered form) but had been transferred to the nearest city — which may then well be Tell Shermola (in the modern town of Amuda, for which see below, 8.2). This would mean that, if Shermola's Middle Assyrian name had been Kulishhinas (see Aynard and Durand 1980; Machinist 1982), a change had occurred which had brought back to life the name of the most significant site of the area in earlier periods.

2.3 Archaeological considerations

Subsequent to the publication of the tablet of Tishatal (Parrot and Nougayrol 1948), Van Liere reported that from information obtained accidentally the provenience of the objects was "Tell Amuda." Here is the exact wording of Van Liere:

> Le point de départ pour Moortgat est la provenance des deux lions en bronze et une tablette de fondation du temple de Kummarbi. Des informations fortuites, que j'ai obtenues recemment, indiquent que ces lions ont été excavés de Tell Amouda. Le Tell Amouda se trouve juste au sud de la ville! c'est un des rares tells abimés de la Jezireh. [Van Liere 1957, p. 12.]

More has been made in the literature of this statement than was warranted, and doubts if not criticisms have been voiced only rarely (Hrouda 1958; 1985; and see especially the Appendix by Muscarella below). Here I will review the issue in some detail, and indicate what in my opinion may be retained of Van Liere's statement.

In the first place it should be noted that the reference to the temple of Kumarbi is inaccurate, since the tablet that goes with the lion of the Louvre mentions a temple of Pirig-gal, which there is no reason to identify with Kumarbi.

But what is most significant about Van Liere's statement is the new information about the provenience of the lions, information which he labels as "fortuitous." With this wording, Van Liere omits the source of his information, not so much because he does not mention names, but because he does not even qualify the nature of his source. By inference we may assume that it was a local dealer. First, Van Liere had been active in the area and was likely to have come in contact with local individuals interested in antiquities. Second, it is difficult to imagine any other source that he would have wanted to protect with silence: if, for instance, he had been told by the local villagers he would have had no compunction in letting it be known.

What is most puzzling about his statement, however, is that the tell he describes in his article is *not* Tell Amuda — it is rather Tell Shermola. This is the name that local inhabitants give without hesitation when referring to the "tell abimé" which is "juste au sud de la ville." They also say without hesitation that Tell Amuda is on the other side of the border, in Turkey, where it has been renamed Tell Kemaliya. Several of the people I questioned in Amuda are old enough to have known the situation of 1957 (the year when Van Liere published his article) as well as they know it today, so that the possibility of a change of name seems ruled out. If Van Liere was wrong about the name of the tell (as he apparently was with regard to the name Mozan as well, see above), how reliable is the rest of his information?

What is more, even a hurried visit to Tell Shermola indicates that it can hardly qualify as the site from where the lions could have come. While the tell did have third millennium pottery on the surface, it was hardly in quantities that would indicate a major third millennium occupation; and traces of architecture in the visible section point to a date

in the latter second millennium (for more detail see the report by G. Bunnens and A. Roobaert, below in Chapter 8). Thus the middle Assyrian texts which are also reputed to have come from Tell "Amuda" (Aynard and Durand 1980; Machinist 1982) fit the remains of Tell Shermola very well.

On the strength of such remarks it appears that Muscarella's strong arguments against accepting dealers' information as to the identification of sites acquire even greater impact — and I certainly agree in any case with his premises and his conclusions (Muscarella 1977; 1979; and the Appendix in Chapter 9 below). If in spite of this I do not dismiss out of hand the information provided by Van Liere, but only aim at modifying its import, it is because of an observation which I was able to make as I searched into the background of Van Liere's report. While we could not locate anyone who might have been aware of Van Liere's source, we did meet local individuals who appeared knowledgeable about antiquities (a few of whom even turned over objects to be given to the Museum). Since we were known as legitimate archaeologists acting openly through the intermediary of the official representative of the Directorate, and since we made no pretenses whatever as to any alleged commercial interest in antiquities, we were very unlikely candidates for any confidence as to possible provenience of antiquities. Yet one interesting fact emerged from the casual conversation with these individuals. While there was obviously an unwillingness to associate any given artifact with a specific site, they were not at all reticent to share their knowledge about sites in general. They were clearly aware of the sites in the general vicinity of Amuda, and could give descriptions of artifactual evidence from them which matched to some extent our own observations derived from surface reconnaissance.

This fairly specific knowledge of the archaeological landscape, however, did not extend very far; certainly not, for instance, to any site south of Hasseke, nor to sites much east of the line Hasseke-Qamishli (Tell Farfara was the only noticeable exception). I see no reason why these individuals would have deliberately tried to make us believe that they were knowledgeable about the local archaeological horizon, and ignorant instead of sites farther afield. The conclusion I draw from this is that the local awareness of ancient sites as exhibited by these fairly knowledgeable individuals may be a gauge for the possible acquisition range of antiquities. If so, Van Liere's information might retain some value as an indication of provenience for the lions — not with respect to Amuda, but possibly with respect to its immediate region.

These considerations about Van Liere's information have been advanced here in some detail because so much has been made of it in the literature and because the Urkish lions are in fact of such unique significance that any possible clues as to their provenience should be assessed for what they may be worth. My main conclusions are as follows. It is likely that Van Liere had some specific information connecting the lions with Amuda. While the association with Tell "Amuda" (i.e. Tell Shermola) has to be excluded, it seems very likely that if the source of information was in Amuda, then their original acquisition also took place in this town, and that the lions themselves most likely came from a site nearby.

Since Mozan is the largest tell of the third millennium in close proximity to Amuda, it appears as a likely candidate. This is of course supported by all the other arguments which have been adduced to maintain that Tell "Amuda" (i.e. Tell Shermola) could well correspond to ancient Urkish. Its location fits in very well with the indication of the itineraries (Goetze 1953; Hallo 1964), and its position just below the wide pass of Mardin places it in an ideal

situation to serve as the hub in the communication network which linked the Khabur with the valley of Diyarbakir beyond the Tur-Abdin, where the great mines of Ergani and Maden are located (see the map, Fig. 2).

The recent possible discovery of tin in the Taurus (Yener 1986) adds even greater significance to the role that these trade routes would have played. The main road south from Diyarbakir comes through the pass of Mardin, which dominates the landscape of Mozan, and stands almost as a visual symbol of an opening to the northern highlands. An interesting speculation along these lines is suggested by a potential etymology for the name Urkish, which has been proposed by Alexis Martin (personal communication; the evidence will be presented by Martin in a larger work on Hurro-Caucasic linguistics). He suggests that the suffix *-is* (already isolated by Gelb 1944, pp. 41, 56-58, 114) may be linked with a Caucasic word for "mountain," and the base *urki* may be related to a Caucasic word for a *selliform cradle*: if so, the name might be a reflection of the saddle-pass of Mardin, one of the most noticeable aspects of the local landscape.

In conclusion, the following points may be made. (1) In spite of the paucity of our evidence, the existence of an autonomous Hurrian scribal tradition in the late third millennium is potentially of great consequence, especially when one compares this situation with that presupposed by the discoveries of Ebla. (2) Urkish appears to be the most significant center of such Hurrian tradition: it is a city which played a key political role in the third millennium, dwindled to the status of a secondary road station in the early second millennium, and remained present in later mythology as the seat of the chief god of the Hurrian pantheon. (3) The circumstantial evidence concerning the provenience of the lions and the tablet of Urkish, plus the more positive evidence derived from the study of the Old Babylonian itineraries, suggests that the location of Urkish was in the area of Amuda.

On the basis of the information presented in the following chapters, it appears that Mozan is a likely candidate as the site of ancient Urkish. It is a large urban center in the third millennium, it shows more limited evidence of occupation for the early second millennium, and is abandoned thereafter. Given its close proximity to Amuda (some 5 km. to the east), all the arguments which have been adduced in the past in favor of the identification of Amuda (i.e. Tell Shermola) with Urkish apply equally as well to Mozan.

It goes without saying that such a suggested identification remains highly tentative, and that the significance of Mozan is not to be tied down to an ultimate verification of such identification. The reason for dwelling at some length on the evidence pertaining to Urkish has been primarily to correct the generally accepted opinion that Urkish is to be sought in Amuda (i.e. Tell Shermola), and that its recovery is accordingly impossible given the bad state of preservation of that tell. Since what limited evidence we have for Urkish indicates that its recovery would yield immeasurable information about the history of the Hurrians, of ancient Syria and of the ancient Near East as a whole, and since we may expect one of the sites in the region of Amuda to correspond to the ancient city, it is a worthwhile endeavor to develop a systematic search for it. A preliminary phase of this search, based on a survey of the area of Amuda and on preliminary soundings at Mozan, has yielded enough evidence to suggest to us that Mozan is the site that best meets the current requirements for Urkish. And obviously any site that fits such a profile is well worth excavating, regardless of what the ultimate outcome of its possible identification with Urkish might be.

2.4 Methodological considerations

Our methodological aims are best exemplified by the publications which are planned to be issued as a result of our excavations. Our standard reports will appear in the series which is inaugurated with this volume. Named simply after the site, *Mozan* will include both preliminary and final reports. "Final" reports are devoted essentially to either stratigraphic aggregates or typological assemblages which are self-contained in scope and complete in terms of recovery. "Preliminary" reports, on the other hand, include essentially information on work in progress, although at times such information may be presented with such detail that it will not in fact be duplicated in additional, final reports.

Next to the traditional reports of the series *Mozan*, we also intend to inaugurate a separate series, the *Mozan Record*, which will be new both in orientation and in form. A goal of this series is to make available the total record of the excavation in electronic format. Based on a thorough revision of the IIMAS encoding manual (Buccellati and Kelly-Buccellati 1978), and fully oriented toward electronic data-processing, the *Record* will make available the complete range of primary information that has been gathered during the excavation. We expect to publish both the new manual and the first volume of the *Record* at a later date, and while the full implications of the approach will be outlined there, it may be well to mention here briefly what the rationale is for such new departure. Conceptually, I consider such a publication to be an answer to the need for greater objectivity in the presentation of excavated materials: in this case objectivity derives from the effort to limit as much as possible the degrees of selectivity which affect the excavated material from the moment when a research design is drawn up to the moment when its results are published. Theoretically, the systematization of the recording process, especially in its stratigraphic aspect, should help develop patterns of regularity after the model of a grammar: such regularity should enhance the possibility of both a structural understanding of the stratigraphic record in itself and a fuller realization of its distributional complexities, within and across site boundaries. Organizationally, the use of electronic data-processing makes it possible, on the one hand, to compact vast amounts of data in a format that is easily distributed and updated at almost zero cost; but what is more significant, this medium allows us to optimize the relationship between a capillary documentation of the data on the one hand, and the most highly generalized synthetic overview on the other.

Finally, a well integrated use of data processing allows us to retain at all levels a more consistent degree of precision. Characteristically, even when precise measurements are taken in the field, they are often lost after they are transferred analogically in the form of a drawing, be it a floor plan or a section. Electronic data-processing makes it possible to retain such precision without causing the user to drown in a mass of unstructured information. In this way, a true centimetric grid can be retained at all moments and in all areas of the excavation. Our special concern for such a degree of precision has found the most congenial type of collaboration and support on the part of two professional surveyors who have worked closely with us — Stephen M. Hughey who produced the map of the high mound (see his remarks below in Section 3.5) and helped me develop the conceptual approach to surveying; and Gabriel V. Pesce, who has given our staff formal training in the use of the instruments. Through a fuller application of graphic plotting programs (after the prototype published in Buccellati and Rouault 1983), we have tried to increase the degree of precision even at the

level of the individual supervisor without an undue increase of cost in terms of the corresponding accuracy.

With a view toward a wider dissemination of research results, the text portion of *Mozan 1* is also made available in electronic format as a disk published within the series *Cybernetica Mesopotamica Volumes*. These disks are available at cost from the publisher and may be copied at will with only nominal limitations.

As a companion publication to *Mozan 1* we are also issuing a set of color slides, published as the first in a series of *Photographic Data Sets*. This series replaces the series *Audio-Visual Modules*, of which three units have been published as companions to the *Terqa Preliminary Reports*. The *Audio-Visual Modules* have been discontinued partly because the narrative aspect which they had been meant to provide is now better served by videotapes, and partly because the highly structured nature of the Modules made them ultimately too expensive for the documentary function which they were meant primarily to serve. The *Photographic Data Sets* have neither a narrative structure nor an audio component, so that they are more flexible in structure and more accessible in cost. As a result, we hope that they may be more effective in serving the documentary need they are addressing. References to the first set (*PDS*-1) are given in this volume wherever pertinent.

Mozan 1 presents the most important substantive data excavated during the first two seasons. We have provided ample documentary illustrations and the essential factual information about the most important items, with greater detail than is usual for preliminary reports. Coupled with the global record, which is planned to cover the first three or four seasons, this will provide very rapidly an exhaustive data base of the material recovered. We intend of course to come back to different aspects of the data for a fuller treatment of the stratigraphic setting, of the typological description and of the cultural implications of our own finds; but we wish to build such a long term crystallization of our interpretation on a substantive and objective record which, in its basic details and its fundamental outline, can be laid bare from the very beginning as the essential starting point for subsequent research.

Such a deliberate effort at providing a rapid dissemination of the facts is not to be viewed as resulting from a distrust in the value of broader syntheses or from a disinterest in establishing the full comparative framework within which, we fully believe, the data must ultimately be understood. Our concern should rather be understood as a commitment to provide a solid base on which such syntheses may be more securely built. While this approach involves the risk of exposing certain rough edges, it has, we believe, an important theoretical consequence which in some ways runs counter to accepted conceptual approaches to field archaeology. Such a basic and exhaustive presentation of the data is less influenced by an overall interpretive conceptual scheme, precisely because the data have not yet been fully studied in terms of their cultural implications. This may, on the surface, appear to detract from the integrity of a research design. If we believe this to be true on the surface only, it is because in fact, upstream of any specific and well articulated topical orientation, the fundamental research design of an excavation *qua* excavation ought to be the recovery of the data in as pristine a manner as possible. In the first instance, therefore, we must be led by the data more than by a topic, especially inasmuch as we excavate data which are irretrievable in their contextual associations. In other words, even though we are led in our research by very a specific problem orientation, such as I have articulated in part above, we have a responsibility for global documentation which must be fulfilled regardless of how the data recovered fit into the research

strategy: for, however cogent and significant a research design may be, once we wield the tools and begin to disassemble the deposition we owe greater allegiance to the data than to the theory.

Certain aspects of our work which form an essential part of our ultimate goals are not represented as fully in this publication as will be the case in subsequent ones. In particular, I refer to the analysis of faunal and botanical remains on the one hand and of metals on the other, both of which have been collected systematically but require long term study (for a preliminary note on botanical remains by K. F. Galvin see below, 7.1). In addition, we also are developing a program for the study of human remains, if the indications of the presence of burials and possibly cemeteries in the outer city are verified by future research.

While I am leaving a presentation of the details of the electronic system to the forthcoming publication of the new encoding manual (which I intend to publish under the title *A Grammar of the Archaeological Record*) and of the first volume of the *Mozan Record*, I will add here a few words about a much less sophisticated instrument which for all its simplicity has contributed its share to making data gathering more effective. It is the triangulation rod illustrated in Figure 17. Since its practical operation should be readily apparent from the sketch, I will not describe it here. Suffice it to say that the rod is used to measure ties from fixed control points (set with the transit or other surveying instrument), and that a single person can easily operate it. The rod can readily be moved to different spots within a range of 5 to 7 meters from the control points, and within such range it could consistently reproduce measurements with an error factor within acceptable limits. It is very inexpensive to build, so that there may be as many available on the excavation as there are supervisors who take measurements and write notes.

3. THE HIGH MOUND:

INTRODUCTION AND SURFACE COLLECTION

Marilyn Kelly-Buccellati

3.1 Introduction

At the beginning of the first season of soundings in Mozan we undertook a systematic surface collection from all areas of the high mound. Since we had no record of previous work at the site this was particularly useful in order to determine the range of chronological periods represented and their relative strengths. The surface collection on the high mound was the first stage of a wider research design which included the collection of surface material from the outer city of Mozan as well as from the other mounds in the vicinity of Amuda (see below Chapters 4 and 8).

It was decided in the interest of the first season of excavation that a short period of survey work would precede the excavation. Since the time was limited we opted for a sampling strategy which would cover the entire surface of the high mound without concentrating on any specific sector. The mound was divided into sixteen areas along topographic lines and sherds were collected according to these divisions (Figure 4). The topography of the mound is particularly helpful in this regard. The southern two thirds have a configuration consisting of five prominent rises or ridges encircling a lower and flatter central area which had almost no sherds on its surface. The northern third of the high mound contains only one higher elevation on the north-west and an almost separate mound on the northeast which is partially cut off by two deep gullies on the east and west. Around the entire high mound are traces of a city wall which makes the edges of the high mound fairly steep and a clearly recognizable boundary for the survey.

Feature sherds, decorated sherds, and in some cases body sherds were collected as part of the ceramic survey; the resulting sample that was analyzed totaled 1500 sherds. The surface of the mound is moderately covered with sherds but the collection was made difficult by the overall plant cover. In three areas the mound has modern cemeteries; sometimes, sherds are used in graves as a kind of covering, but they seem to be gathered from the viewpoint

of size rather than any other criterion. The amount to be collected by members of our team from the area assigned to them was left to the discretion of the collector with the instructions given to include a representative sample of feature and decorated sherds along with body sherds from wares which were not represented in the feature sherds. This presence-absence sampling procedure is therefore somewhat biased in favor of the decorated and more colorful sherds (such as Metallic ware) on the surface of the site and tends to downplay the relative importance of the plain buff varieties, especially in those areas with many body sherds. Since the buff wares outside of a more defined archaeological context are notoriously difficult to date even in areas where the ceramics are better known than they are in the Amuda area, it was thought that stressing their collection and analysis at the cost of many more days of work would not be worth the effort at this time, especially since typological identification was to remain uncertain before the results of the excavations could help us date these plain buff wares.

3.2 Distributional patterns

Aside from the few Islamic sherds found on the surface of the high mound (two sherds), the latest ceramics were four small Nuzi ware sherds (M1 43-44; the number given in the drawings next to the body sherds is the height of the sherd). The latest important concentration was of painted Habur ware both in its finer early variety and in its thicker and larger later shapes (M1 24-32). Sherds of Khabur ware were distributed all over the surface of the mound but were found in higher concentrations near the highest part of the mound on the western side (Figure 4; these maps show the relative strength of distribution by the size of the dots, with the larger dots indicating that the majority of the lots in this area had over 8 sherds of that particular time period).

Late third millennium pottery, characterized by a green-buff color and decorated with incised bands and applied rope designs on large or medium jars and bowls (M1 21-23), was also distributed all over the surface. Heavier concentrations of this type of pottery were present on part of the northeast and on the west (Fig. 4); this ware was also found stratified in Area B1. Pottery with this type of decoration is dated at Brak from the Sargonid and Ur III periods (Mallowan 1947 Plates LXV:7, LXVI: 15,16, LXVIII: 14). A sherd with a snake applied to its surface (M1 45) is similar to the snake on an Ur III vessel from Brak (Ibid. Plate LXX: 1; see also Tell Chuera, Kühne 1976 Plate 27 and Tell Taya, Reade 1968 Plate LXXXVI:24). Sherds from small Simple ware (M1 16, 18-20) and Metallic ware vessels (M1 9-15) dating to the mid third millennium appeared in all areas of the mound but larger concentrations of Metallic ware were found toward the center and the southeastern portions of the site (Figure 4). A Painted Simple ware goblet was given to us when we first visited the site (M1 17). Two Early Transcaucasian sherds (M1 40, 41) were collected in the surface survey and one also came from the excavations in the area of the city wall. Incised Ninevite V pottery (M1 4-5,7-8) was not found in such large amounts as the other third millennium wares and not scattered as widely; in fact these sherds were rare (10 sherds with the highest concentration on the northwestern portion of the mound, Fig. 4; this map only shows the distribution but does not indicate relative strength since there were so few sherds collected). This small number of Ninevite V sherds on the surface however may not be as indicative

as the sherds from later third millennium wares because Ninevite V sherds, on Mozan at least, were quite small in size and difficult therefore to spot on the surface. One indication that the Ninevite V period occupation on Mozan may be more important than our surface collection seems to indicate is the fact that this pottery was found mixed in with later material in all our soundings, perhaps because it was so prevalent on the ancient surface. Only one Ninevite V painted sherd was found (M1 6) and none was mixed in with the later excavated pottery.

Along with these third millennium wares there were scattered all over the site numerous sherds of Pebble Tempered ware. This ware is found at a number of sites in northern Syria including Chuera (Kühne 1976 pp. 99ff.), Brak (Fielden 1977 pp. 248-49) and Harran (Prag 1968 p. 83 and fn. 81 for references to both Harran and other sites). At Mozan it also occurs with triangular lugs at the rim. From periods earlier than the third millennium we have only a few Halaf painted sherds from the High Mound and Outer City (M1 1-3).

3.3 Conclusions

From this preliminary survey it appears that the largest extent of occupation on the High Mound occurred during the mid and late third millennium. This is all the more striking since this time period produced a preponderance of the plain buff wares which our preliminary collection would be biased against. In the case of the Simple ware, which is buff to gray-buff, there is also the added disadvantage that it is usually made into small shapes. In addition Simple ware, because of its high firing and thin body walls, has a tendency to break into small sherds. As a consequence of these factors it can be expected that the distributional importance of these wares is underestimated rather than exaggerated in our sample. The next important concentration of pottery occurs in the beginning of the second millennium with the presence of Khabur ware. These distributional patterns confirmed our first impression on visiting the site that the mound in its present topography was primarily inhabited in the mid and late third millennium with a subsequent, smaller Old Babylonian occupation on the top. The existence of only four Nuzi period sherds on the surface is significant since such a limited quantity seems to point to only a limited use of the mound in this period.

A possible fourth millennium presence on Mozan is indicated by only three items: one sherd excavated near the city wall of Uruk gray ware; another of this same ware found on the surface of the High Mound on the west (M1 42) and a clay cone fragment also from the surface of the High Mound. Halaf sherds presented no clear distributional patterns; several came from the mound surface (M1 2,3), one from the excavation (Area B) but quite near the surface and some from the Outer City to the south of the High Mound (M1 1).

3.4 Mozan ware descriptions

For the sake of convenience the list below combines a description of the wares from both the surface survey and the excavations on the mound.

BR — Brick Red slipped ware. Sometimes black in section (very low-fired). Chaff tempered, perhaps with some sand. The color may also vary to brown.

CH — Chaff Tempered ware. Found in large vessels, medium fired with a large amount of chaff on the interior and exterior. The color varies from orange buff to a quite bright red. Some examples exhibit signs of secondary burning.

ETC — Early Transcaucasian ware. Examples occur in red, black or gray-brown, but never two colors, with chaff and sand temper. They are medium fired and range in thickness from .5 to 1.5 cm.

H — Khabur ware. Red or brown painted on buff to red clay, with pebble and chaff temper. The larger and thicker shapes contain more chaff, with the small, fine shapes being earlier in date. Decorative patterns include lines and hatched triangles. Khabur ware occurs in a variety of forms, ranging from fine small shapes to large shapes with a great amount of chaff temper. Some shapes can have ridges and rope designs with paint (these are transitional between the late 3rd millennium and Khabur ware).

INC — Incised ware. Incised decoration occurs on buff to green sherds which are 1.0 cm. thick or thicker. The incised decoration is found in patterns of wavy parallel lines or straight parallel lines on the shoulder of the vessel, and may occur in combination with a rope design. This ware is found in late third millennium strata.

M — Metallic ware. Mostly dark gray with shades of lighter gray and orange. The sherds contain very little temper, if any, and are very highly fired. They range in thickness from .5 cm. to 1.5cm.

NI — Ninevite V ware. Buff and gray, mostly sand tempered with the possible addition of very fine chaff. This ware occurs in painted or incised examples.

NU — Nuzi ware. Buff ware, sand tempered, with perhaps some very fine chaff added. Decoration is in brown and white paint, applied first in wide bands of brown and then with a brush in thin white bands or dots.

P — Pebble tempered ware. Brick red to brown in color, with many small pebbles as temper, giving the sherds a very friable appearance. Pebbles are visible on both the surface and in section. The thicker shapes are black in section. Some sherds exhibit a secondary surface firing indicating that these vessels were used for cooking. Many examples of hole mouth jars and some with triangular lugs on the rim occur; similar examples are found at Chuera, Harran and Brak (see Fielden 1977, pp. 248-49 for references). Vessels in this ware were burnished on the exterior extending over the rim, and to a lesser extent on the interior.

R — Rough ware. The thicker variety of these vessels has plaster on the interior, sometimes applied in three or more coats. This interior plaster is either white or a plum red. There are cases where the plum red has run over onto the exterior and dripped down the side. The temper consists of a large amount of chaff with large inclusions which may be ground up sherds. All examples found were well fired but this may be due to refiring in the destruction level in which they were found (K1 Feature 16, see below). In some examples the interior plaster was burned a reddish orange by the fire. Vessels of this ware come mostly in very thick shapes, ca. 2.5 cm. thick. These vessels are slab made and are constructed in layers which can be seen in section. Cracks caused by the drying of the vessel are often seen on the exterior. The plastered vessels have two basic shapes: jars with outturned rims and deep bowls with squared rims. Some of the sherds are perfectly flat while the majority are rounded showing that they came from large jars. The flat ones may come from storage vats or may be the flat base sherds of the larger vessels. One such example of a flat base

showed the thickness of the lower body wall to be 2.8 cm, with the wall of the base portion being only 2 cm. thick. There also seems to be a thinner variety of this ware represented by sherds with thinner walls (ca. 1.3 cm.) and more curvature in the body walls.

RS — Reserved Slip ware. Buff, some examples with strong wheel marks. A small amount of plant temper is visible on the surface; some sand temper present. There are very few examples of this ware.

S — Simple ware. Greenish buff in color, highly fired and sand tempered. The temper contains no chaff. Some examples have a corrugated surface. The Simple ware shapes are small and thin walled, with flat, pointed or ring bases. The flat bases are rounded on the edges or spherical. One Painted Simple ware goblet came from the surface (M1 17).

WS — Wet Smoothed ware. Light red to buff in color. The finest examples of WS ware have only sand temper and are less than 1.0 cm. thick. Most of the WS ware is thicker and has more temper in it. Larger vessels have some plant temper and are 1.0 to 1.5 cm. in thickness. This ware is related to the smaller, finer Simple ware and is included in the Simple ware category in some publications. Vessels of this ware may be plant wiped inside and some have noticeable wheel marks on the exterior. In 1984 a body sherd of this ware was found with an EDII seal impression rolled on the shoulder (see below M1 167).

3.3 A note on mapping — Stephen M. Hughey

The specific mapping objective for Tell Mozan was to perform the necessary field survey to produce a standard topographic map suitable for publication on a 1:1000 scale with a one meter contour interval. Because of time constraints, only one day was available before the start of actual excavations. Implicit in even a topographical survey is the requirement that the survey be retraceable by another competent surveyor. In our particular case, neither the nature of the archaeological site nor the materials on hand would allow the emplacement of large monuments of concrete and iron of the kind that would be easily located by sight. Also, experience to date had shown that anything easily identified as metal or wood is collected as refuse and "recycled" by the local people. It was decided that retraceability would have to depend on the accuracy of the survey and on the recovery of large nails set at each topographic control point. It was supposed that these could be quickly set flush by a fourth member of the survey party as each "shot" was taken. Most of them would presumably be overlooked by the local people and be recovered as needed in future seasons with a ferrous metal detector. The horizontal and vertical control could then be perpetuated without the personnel or equipment required to establish it. The disturbance of the surface would be kept to a minimum and those points needed for mapping control in each area could be replaced by something more substantial as needed.

The details of the field work can be summarized as follows: An area of 18.4 hectares was surveyed. A total of 112 control points were "shot." The party consisted of 4 people: S. Hughey on the instrument (Lietz SDM3E); B. Pritzkat on prism support rod; G. Buccellati on notes; F.A. Buccellati on monument emplacement. The survey took a total of one half day. As no elevation was availablefor the washer found in a concrete monument below a metal tripod (taken to be a geodetic control point) an elevation for it was interpolated as

500 meters from a topographic map of Syria with a 500 meter contour interval.[1] As for horizontal control, a coordinate value was chosen for the found concrete monument that would conveniently keep the coordinate values on the tell to three digits left of the decimal point.

The basis of bearings for the survey is from magnetic north as observed in the morning of the day of the survey from three stations along the first leg of the traverse. Magnetic north was preferred over true north so that maps could be quickly oriented with a compass. Unfortunately, time this season did not allow solar or polar observations for true north.

Angular closure for the 8 station traverse was 2 minutes. The total traverse distance was 1931.31 meters with a closure distance of 0.243 meters, or about one part in ten thousand. The compass rule was used to balance eastings and northings. The vertical closure based on trig levels was also well within allowable limits and adjusted out. Since there was no time for the standard practice of running a differential level circuit of the traverse stations, each station was "shot" twice: once on foresight and once on backsight. The plotting of the control points, the interpolation of the contours and most of the drafting of the final map was done in California by B. Pritzkat under the supervision of S. Hughey. Although track was kept of time required to produce it, this work would typically require a single survey draftsperson 8-24 office hours depending on skill and tools at hand.

The outer perimeter of the area surveyed is delineated by the control points indicated on the map (Fig. 5). The total area enclosed by these points is 18.3514 hectares.

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[1] In our record, as well as in this publication, elevations are regularly given in centimeters below the 500 m. mark, omitting both the decimal point and the initial digit 4, since *all* absolute elevations are within the 400 m. range. Thus, for instance, elevation 8107 stands for m. 481.07. [G. B. and M. K.-B.]

4. THE OUTER CITY:

INTRODUCTION AND SURFACE COLLECTION

Judith Thompson-Miragliuolo

4.1 Introduction — G. Buccellati and M. Kelly-Buccellati

During the two short seasons of work at Mozan reported here we concentrated on surveying and excavating the High Mound; at the same time, however, we also developed a concern about the Outer City. Research in the Outer City appeared promising for a number of reasons. In the fields south and east of the site we had found two wells with third millennium pottery scattered by the mouth of both. It was unclear whether or not the wells themselves were ancient, but the ceramics did not indicate a period later than the third millennium. One of the wells was stone lined, and the local villagers indicated that this well was not of recent date. They also pointed out a spot on the High Mound where they said another well was located which had the same kind of stone lining: however the opening was covered and we did not investigate further.

We had also noted a gradual but regular and considerable rise in the ground around portions of the site, and this too needed to be investigated. Another interesting problem was to determine the nature and extent of a wide depression visible on the south-eastern portion of the site. Some aerial photographs seemed to corroborate the impressions which we had formed on the basis of ground observations, although the photographs were taken while the fields were still under cultivation, and thus do not afford the best view of the slight differences in relief (Illustrations 2-4; see the comments in the next section about the best conditions for "archaeological visibility").

There were two immediate problems in undertaking such as survey of the Outer City: (1) we did not have the staff to survey adequately such a large area, and (2) by the Spring of 1985 the fields had already been planted and it would have been very difficult to survey the area at all. It was at this point that we enlisted the aid of Dr. Judith Thompson-Miragliuolo, then living in Qamishli, who had already done extensive archaeological survey work in eastern Iran, and was thus well prepared to undertake this project. During the Spring 1985 season

we were able to define together the main goals and objectives for a surface survey of such a large area, a survey which she then carried out independently in the late Summer and Fall after the harvest. While the survey is not complete, it is of great significance for what it tells us in terms of the potential expanse of the lower city and the homogeneity of its deposit. Her account is given in the rest of this chapter.

4.2 Surface collection

From the top of Tell Mozan, as well as from aerial photographs taken in 1985 (Illustr. 2-4; *PDS*-1 3), it is possible to discern traces of what appears to be a slight ridge in various points around the main mound. This ridge or rise appears roughly equidistant from the High Mound in the points where it is visible, suggesting the possibility of an Outer City wall which could have encircled the tell some 300 to 400 meters from the main mound. Alternatively, the rises noted from afar could prove to be satellite occupation mounds. In either case, a determination of the existence of man-made topography in this circumference zone would have significant implications for a reconstruction of the urban environment of Tell Mozan and would be an indispensable adjunct to any statement regarding population estimates of the site.

It was to test the existence of such a rise, to estimate its extent, and to determine the nature of any artifact cover in the entire Outer City, that the Mozan Outer City project was begun in late summer 1985 with a surface survey involving controlled collection and topographic mapping.

As in most of this part of the Khabur Triangle, Mozan is situated in the midst of an agricultural zone; all of the land adjacent to the tell for many kilometers around is currently or has recently been farmed so that the agricultural cycle has considerable importance for a surface survey. Fieldwork was begun in September 1985 immediately following the harvesting of the survey area, and was completed by December, when most of the fields in the area had been plowed. It was deemed important to examine both the supposed rise and the level ground which separates it from the main mound itself. The aim was to determine the volume and variability of surface cover over as wide an area as possible before the late autumn rains began to make surface collecting impossible.

Although homogeneity of the surface area could not be assumed, a random sample was attempted as the best means of covering the survey zone in the time period available. A 100-meter grid was extended on paper from a known point (A) on the highest point of the main mound to a distance of some 300 meters from it in every direction. All squares which encompassed the High Mound or the mound's talus, as well as several which were inaccessible due to modern habitations and a vineyard, were eliminated from the population to be sampled (the surface survey of the main mound is published elsewhere in this report, see Chapter 3). The remaining 72 squares were subdivided into sixteen 25-meter squares each, which were manageable dimensions for a surface collection. Of these 25-meter squares, over 70 were selected, using a table of random numbers, to arrive at a 7% sample. At the end of the season only the northwestern portion of the survey zone remained unsampled due to the impassable conditions of the fields under cultivation; this portion will be completed during the next season.

The ten-meter square in the southwest corner of each selected 25-meter square was

exhaustively collected to give a basis for the comparison of artifact volume among the sampled units. Ten by ten meter squares were seen to be the maximum area to which adequate controls could be applied for a complete collection of artifacts. The remainder of each 25-meter square was then systematically surveyed for a more selective collection of diagnostic material. [Each 100-meter square is designated by two numbers: the first refers to the North coordinate, and the second to the East coordinate, counting by hundreds in each case. Each 25-meter square is designated by two letters using the convention explained graphically in Figure 6. — G. B. and M. K.-B.]

Contours of the Outer City area were taken in the eastern and northeastern portions, but due to logistical problems, topographic mapping was not completed this season; this also will be finished during the 1986 season.

A total of 49 of the selected squares, as well as 13 additional sampling units, were collected before December 1985. From the sketch map based on observations in the field after removal of the plant cover by cultivators, and from the partial contour map (Fig. 6), it may be seen that a rise is clearly present at a distance of some 200-400 meters from the base of the tell in what appears to be a concentric ring. This ring encircles the tell from the southwest to the east and then from the northeast to the northwest; it is highest and most clearly apparent in the south-southeast, where the artifact cover is concomitantly densest. There are three gaps in this concentric ring to the east and northeast and one small gap on the southeast. Immediately west and west-northwest of the tell a rise is not discernible by eye, although traces of the rise which continues from the north gradually diminish and eventually disappear in the vicinity of currently inhabited Mozan village. The local inhabitants have plowed this area for at least a couple of centuries, possibly contributing to the erosion of the rise in this part of its circumference. Artifact cover is correspondingly lowest in density in this area. The rise may be slightly elliptical, extending farther from the High Mound (up to 500 meters) in its northwest portion where Os4 is located. The width of the rise appears to be generally between 50 and 100 meters; height variability cannot be determined until topographic mapping is completed. As is to be expected, detection of the rise is enhanced in late autumn after the first rains have fallen and have been followed by a dry spell. Moisture drains from higher ground to lower-lying areas; when viewed from the top of the High Mound, this differential drying causes the rise to appear lighter in color than the lower plain. Just beyond the concentric rise on the south a 100-meter wide depression is also clearly evident, appearing to follow the rise toward the east; its significance is not clear at this point, but it may be a part of an ancient watercourse or moat.

Disturbance of the surface within the area between the base of the High Mound and the outer periphery of the rise is considerable in some locations. Several unpaved roads cut across the peripheral ring, three of them actually slicing through the apparent rise. In several locations on the crest and slopes of the rise there are signs of deliberate unauthorized excavations. The entire area is currently, or has been in the last few years, cultivated for the production of wheat, with a large vineyard on the northwest adjacent to the High Mound, an irrigated cotton field in the southeast, extending up onto the rise, and an irrigated garden in the western portion near a recently dug well. Wheat fields are plowed twice in the late Autumn and Winter before sowing; harvest is during the summer months and in early autumn herds of sheep and goats are brought in to crop the stubble. Archaeological visibility is greatest (i.e., artifacts are most visible on the surface) after grazing and before the first plowing,

and then again after the second plowing when the light showers which precede the heavy winter rains have washed the artifacts from the loose earth.

For recording purposes, the survey area (the Outer City) as a whole was designated Ozl, or simply zl. [Upper case "O" stands for Outer city, lower case "z" for the entire Outer City, and lower case "s," on which see presently, for special areas. Use of upper case "O" is not required, but it can be useful when contrasting areas from the Outer City with the High Mound; areas on the High Mound are designated with single, upper case letters. — G. B. and M. K.-B.] Eight specific locations within the Outer City were assigned separate unit numbers from Os2 to Os9 based on the presence of significant ceramic concentrations, often accompanied by features such as wells, depressions, or pits. Os2 is a small test excavation carried out in the second season during the late spring of 1985, the results of which were somewhat inconclusive. Os3 is an area on flat ground some 100 meters east of the High Mound where two disused wells are located — one of these is relatively recent (within 50 years) and the other was exposed by Mozan villagers during plowing and is associated with third millennium ceramics and a heavy concentration of human bones. Os4 is an area 500 meters north of the High Mound where a tractor uncovered concentrations of ceramics, some of them whole vessels. Os5 is a similar area on the crest of the rise east of the High Mound where a ten-meter wide shallow pit was still open, indicating recent disturbance of the location. Os6 is again an area with a heavy concentration of ceramics, this time on a slope of the rise where it appears to have been eroded or worn away, exposing freshly broken Metallic ware sherds in great numbers. Os7 extends for some 100 meters along the crest of the rise and is characterized by signs of dozens of small refilled pits indicating deliberate disturbance of the surface; one pit was made within days of my examination and was still open and scattered with freshly fractured sherds of large, heavy vessels. Just 50 meters to the west is Os8, where a well was discovered by villagers digging an irrigation channel. Like the well at Os3, this one is associated with third millennium ceramics, but, unlike Os3, it is located on the crest of the rise. The final s location was a square sampled outside the grid to the south on the crest of the highest portion of the rise; this square yielded the greatest amount of material.

In all, eight probable locations of wells were found on the survey, including those with early ceramics at Os3 and Os8, both of which are lined with large unmortared stone. Six were said to have been dug within memory of the oldest villagers at Mozan. While sinking several of the more recent wells, villagers had found many items of archaeological interest, few of which remain in the villagers' possession.

Other features of the Outer City include a row of large (1 m. by 1/2 m.) stones removed from fields on the rise east of the High Mound and two larger (2 m. by 1 m.) stones on the top of the rise north of the High Mound. Within 200-300 meters west of these latter, three shallow areas were found where similar large calcareous stones had been excavated. These seem to have been worked into rectangular shapes and had been chipped and broken by farmers attempting to break them down for removal and clearing of the fields. At scattered locations all around the rise, large calcareous stones, obviously imported into the area, had been exposed during plowing and removed to the edges of the fields. [A number of these slabs line the edge of the vineyard on the northwestern slope of the tell, and many more are found scattered throughout the village at Mozan. — G. B. and M. K.-B.]

4.3 Relative percentages

During the survey some 14,000 artifacts were collected from the surface and tabulated according to the provisional types established during the first two seasons at Mozan. Typing was made difficult by the fragmentary nature of sherds on the surface, as well as their often heavily weathered and abraded condition, but the material in general displays a clear affinity with the third and early second millennium material found on the High Mound itself and in the excavations there. Predominant are Wet Smoothed, Simple, and Chaff-Tempered wares, with good numbers of Metallic, Pebble-Tempered, and Rough wares as well (for a description of these ceramic wares see above, Section 3.4). Also in evidence are Habur and Halaf painted wares, Ninevite V Incised ware, and several other types. Out of the approximately 14,000 sherds, less than ten were glazed. Ceramic types may be summarized as follows, in decreasing order of frequency (see Figs. 27-32 for drawings of representative samples):

Wet-Smoothed ware — 32% of the total artifact count: This was the major type in practically every controlled collection sampling unit. Of this major type, almost 40% came from the southeastern portion of the rise.

Unidentified — 16% of the total artifact count: In the ten-meter complete collection areas, all sherds, even the smallest, were collected. Many of these were of such minute size that identification by type was not possible; these comprise the bulk of the unidentified category.

Simple ware — 15.5% of the total artifact count: There are three definite concentrations of this ware — one is at square 98Da where Simple ware constitutes 21% of the sherds collected, another encompasses four squares east of the High Mound and the third is on the rise southeast of the High Mound in an area which includes seven squares. The proportion of Simple ware is low on the rise south of the High Mound at Os9 (5%) and on the west (8%; see Figure 8).

Chaff-Tempered ware — 14% of the total artifact count: This ware is present in all the sampled units but is less well-represented in the south-southeast and the south, while it is found in high proportions (above 20%) to the west and east on level ground and on the rise near Os5.

Metallic ware — 7.6% of the total artifact count: In most collected squares, Metallic ware composed 4 to 6% of the sherds. However, the most notable concentration of any type encountered during the survey occurred in the extreme northeast corner of the survey area, where Metallic ware is fully 87% of the 241 sherds selectively collected from Os6. It is interesting to note that three squares bordering on this Metallic ware concentration zone were completely without Metallic ware, as were only two other squares from elsewhere in the Outer City. Square 98Da, near Os6, had more than 20% proportions of both Pebble-Tempered and Simple wares.

Pebble-Tempered ware — 4% of the total artifact count: As with Metallic ware described above, Pebble-Tempered ware is also absent from the three squares near 98Da. Square 98Da itself had a 20% concentration of Pebble-Tempered ware as mentioned above. There are no other concentrations of Pebble-Tempered ware but there are two areas where this ware is significant in its absence: the zone mentioned above where a total of six squares has no evidence of this type, and another of five squares in the east-southeastern portion of the Outer City.

Rough ware — 1.7% of the total artifact count. Rough ware in no instance comprises more than 6% of any one square's collection; more often it occurs in 1 to 3% proportions while many sampling units lack it altogether. No clustering of this type is evident.

Mica Grit ware — 1% of the total artifact count: This ware occurs in only slight quantities throughout the survey area but more so in the eastern portion than elsewhere. The lowest quantities of Mica Grit ware are found in the south and west.

Other types — comprising altogether another 7% of the total artifact count: These include most decorated wares such as Habur painted, Ninevite V Incised, Ur III modelled rope designs, and Halaf painted. None of them ever comprises more than 1% of the collected sherds from any one unit.

Flaked lithic material — A total of 36 blades and blade fragments were recovered, as were two cores, five retouched flakes, and one awl. In most cases the material used was a medium grade flint or chert, ranging in color from black to light tan, but four blades were manufactured from translucent obsidian. Three of the blades display a silica sheen, indicating their use for cutting vegetable matter, and two blades were denticulated.

Groundstone — Six groundstone objects were collected from the surface: a rough cube, a sphere, one with three flat surfaces, one with one flat side opposite a circular depression suggesting usage as a hammerstone or small mortar, and one object perforated from two directions. In addition, a distal fragment of a polished groundstone celt was found on the Outer City surface.

Other stone objects — A perforated stone cylinder with a completely abraded surface was found by a Mozan villager on flat ground approximately 200 meters southeast of the tell, an unfinished pink stone bead was recovered from Os7, and a fragment of cut and polished red marble was collected on the rise north of the mound.

Metal — Only one copper/bronze item was found on the surface of the survey area: a pin or shaft fragment in square 09Cc on the southeast rise.

Animal figurines — Fifteen fragments of animal figurines in baked clay were collected from the surface, most of them from seven locations on the eastern portion of the rise. One, a small horse with male genitals and faint incised lines on its mane, was almost complete. Eight of the fragments were the torsos of quadrupeds missing head and limbs, and the remaining six are head fragments. Of these, one appears to be a bull's head with one long, curved horn (the other broken off), a painted red band extended from between two appliqued eyes down the full dorsal length. Another head fragment also has one horn, ears, one eye depression, and incised lines on its dorsal surface. A third head is missing its muzzle but has an appliqued band across its top and incised circles which may represent curly hair. A fourth head has a long neck and two eye holes separated by a deep groove. The remaining two heads have long snouts and faint eye holes, one of them suggestive of a camel, although the third and early second millennia are thought to be too early for the representation of camels, which are believed to have been domesticated later.

Ceramic objects — Twenty-two miscellaneous objects of baked clay came from the surface of the survey area. Six of these are small wheel fragments, some of them completely perforated, some incompletely perforated. Another six are perforated disks made from sherds of Simple ware, two are perforated clay beads, and one is a very small perforated lump. Other pieces include a perforated spindle whorl, a perforated ceramic cylinder, a possible gaming piece with a circular concave base, a flat, roughly rectangular fragment, a large rough

cone-shaped object, a large squarish piece with a square socket, and finally an undefined piece marked with two incised holes separated by an incised X.

Reconstructible vessels — Five Metallic ware vessels are complete enough to be reconstructed; four are small jars from Os4 and one is a miniature bowl or cup from Os9. A miniature painted Habur ware jar was found on flat ground east of the mound and a support stand painted in red and black hatched triangles and checkerboard motifs was recovered at Os6.

4.4 Distributional patterns

Half of all samples taken were from level ground, either on the roughly level expanse between the High Mound and the outlying rise or in level gaps in that concentric rise. Of the 63 samples collected, 31% was collected on top of a definite rise and another 19% of the total was taken from the slopes of the rise. A marked difference in artifact density is evident between the rise and flat ground as may be seen in the fact that, while half of all sampled units were located on level terrain, the total percentage of all artifacts collected there during the survey was only 34%. A majority of artifacts (66%) was taken from the crest and slopes of the rise. The average density of artifact cover in the sampled squares appears to co-vary with the relative height of the rise. In the table below, areas of the Outer City rise are listed in descending order of height from level ground as judged in the field; artifact density descends roughly in accordance with height from the highest point along the entire rise (in the south) to the west, where no rise at all was apparent.

Rise Segment	Average Artifact Density per Square
South (highest)	1250
Southeast	306.6
East	332
North	252
Northeast	203
West (no rise)	63.8

This would seem to suggest that both natural erosion and human factors such as continual plowing and downcutting for roads have contributed to a disappearance of an original rise with cultural levels, as is true of many tells in the surrounding Khabur Triangle plain. This factor may be construed as additional evidence of a rise which indeed encircled the entire tell. On the other hand, differential artifact densities and the interrupted occurrence of the rise could indicate the presence of separate occupation sites, perhaps in the form of small satellite settlements. In the absence, however, of comparative data from other excavated sites of the third and second millennia, it is difficult to conceive of satellite hamlets occuring in such a regular concentric fashion around the High Mound, so that it is perhaps more reasonable to postulate a continuous zone of occupation from the inner city wall at the base

of the High Mound to an artificial boundary, perhaps in the form of an Outer City wall, on the outer circumference of the area of surface scatter. The density of artifact cover falls drastically immediately after the base of the rise on its outer face, confirming an artificial (cultural) boundary. The depression mentioned earlier, which clearly borders the rise on the south and southeast, should be examined in this regard. Its regularity could possibly represent a canal, although it is wide for a canal (at least 100 meters); extensive sampling by excavation would be required to test such a hypothesis.

The nature of the occupation attested to by material found on the Outer City rise is difficult to determine solely on the basis of a surface collection. The data are not sufficient to allow us to ascertain whether specific activity areas, such as food processing, manufacturing, communal storage, or defense, are represented. The widespread occurrence of large groundstone fragments, possibly of mortars, and the fact that approximately 25% of the total potsherds were of finer wares such as Simple and Metallic, points to domestic habitation activities; ceramic slag points to some pottery manufacturing. Large, heavy, handmade wares, which could have had a storage function, account for roughly 16% of the artifacts represented. A clustering of animal figurine fragments in the southeast may have some significance if such figurines were votive objects. Possible burial areas are suggested by human bones, including a molar at Os6 and several dozen bones at Os3. Likewise difficult to support with data obtained from the surface are definitive statements regarding areal variations, although some general observations can be made. As alluded to above, by far the highest density of artifacts in any one square occurs in the south at Os9. The eastern portion of the rise yielded the most animal figurines, as well as a high proportion of Chaff-Tempered ware; the northeast segment of the Outer City zone has a significant concentration of Metallic ware and somewhat larger proportions of Pebble-Tempered and Mica Grit wares. The western area yielded the lowest density of artifacts. All of these wares are worthy of closer examination, as is the possible disappearance of the rise in the northwest and the west. Further interpretation of the results of this season's survey must await additional analysis. Further surface surveying is required for the collection of more data to allow more sophisticated statistical analyses such as trend surface analysis. It is to be hoped that excavations will be undertaken in selected areas such as Os9, with its dense artifact cover, and Os6, with its Metallic ware concentration, in order to facilitate the interpretation of the Outer City concentric rise, which appears contemporary in almost all respects at this point with what is known of the third millennium occupations on the High Mound itself.

5. SOUNDINGS ON THE HIGH MOUND

5.1 Introduction — G. Buccellati and M. Kelly-Buccellati

As a result of the surface survey and the study of the topography we decided to excavate on one of the rises which surround the central depression. Area B1 was chosen because it was an area where late third millennium sherds were found. We had also noted that there was a large patch of red which had even colored the sod layer on top. A consideration which emerges from the earlier discussion of the Urkish lions (Section 2.3) has to do with the question: if the lions were to have come from Mozan, where could they have been found? Since they are foundation deposits of the late third millennium, they may seem a priori unlikely to have originated from any point at the top of the mound. As it turns out, this is not necessarily the case, since third millennium foundations are in fact very close to the surface, at least in Area B, and any one of the recent burials (a small cemetery is located at a short distance to the northeast of B1) could easily have been dug to a depth corresponding to that of potential foundation deposits.

In addition to Area B1 we decided to clean the portion of the city wall on the east (K1) which had already been partially exposed by some farmers who had been removing soil for their fields.

A small operation was also started in Area P on the slope of the highest portion of the mound. The object of this sounding was to determine how deep the Old Babylonian deposit was there since this was the portion of the site with the greatest concentration of Khabur surface ceramics. See Section 6.1 for a brief discussion of this excavation unit.

Finally, we made a small sounding in the Outer City (Os2) in order to check for possible occupation there; the sherd material from this shallow exposure can be dated to the late third millennium through comparison with those excavated in Area B1.

We provide here two brief reports on the excavations in Areas B1 and K. Both are limited in scope for different reasons. In Area B1, in spite of a considerable horizontal exposure, we were able to uncover only a small corner of what is apparently a much larger building. For the purposes of our initial soundings these results were more than adequate, but we prefer to leave a fuller account of the stratigraphic unit for the end of the next season.

As for Area K, a somewhat more substantial picture has emerged, albeit still preliminary, but it has proven impossible for the excavators, G. L. Bunnens and A. Roobaert, to provide a fuller report, on account of their participation in the Fall season at Qraya and subsequent move to the University of Melbourne. Accordingly, we have chosen to publish a brief interim report which they had submitted after the close of the first season, and to supplement it only with a sketch section of K1 (Fig. 12), plus a few additional comments which follow.

The main goals for the second season in Area K were: (1) to look for a definition of the inner face of the city wall; (2) to follow the slope of the glacis ideally to a point where it might begin to level off; (3) to look for a possible gateway in the vicinity of the excavations of the first season; and (4) to explore further the indications visible on the surface for possible structural details connected with the defensive system.

The main result in answer to points (1) and (2) is summarized in the sketch section in Fig. 12: sounding A of the first season (see Fig. 13) was extended as a narrow 1 m. trench in a direction perpendicular to the face of the wall (almost in a straight east-west direction), toward both the outside and the inside (Illustr. 14, 19). Excavations in the outer area revealed a continuation of the uniform burnt debris which contained a large number of door sealings (described in detail below in Section 6.2); the slope of the glacis continued to the end of the trench, and it is not clear whether it might continue even further, or whether it would begin to level off after that point. The great depth of the slope below the edge of the tell has considerable implications for an understanding of the nature of a potential settlement in the Outer City: if this is indeed a glacis, rising from the ancient plain level to the base of the city wall, and not, for instance, the edge of a moat, then the surrounding Outer City would have been at an elevation somewhat lower than the present plain level; and if so, more of the ancient settlement which may be postulated for the Outer City is preserved than meets the eye. Also, the ring which encircles the Outer City (see Section 4.4) would in this case have a deeper foundation than the present contour lines reveal.

As for the inner face of the city wall, it was not identified on the inner side of the trench (K3). However, some brickwork of a type that is similar to that apparent on the eroded side of the tell was uncovered at the base of the trench in a couple of points, which indicates that the inner face lies further to the west of these points. In other words, we have a minimum width of some 8 meters, and a minimum height of 5 meters.

The search for a city gate proved somewhat inconclusive, although some possible traces were identified to the west of the main trench in K1.

The search for surface indications of structural brickwork associated with the defensive system revealed some sizable traces immediately west of K1, which however could not be fully understood. It is from this area that the two botanical samples came that are briefly described below by K. F. Galvin (Section 7.1). K1.2 comes from Feature 5 and K1.14 from Feature 8 (both features are shown in Fig. 14).

The burnt deposit however appears to give us a terminus ante quem for the use of the glacis. As seen in the section Fig. 12 the thickness of the burnt deposit was essentially masking the extreme slope of the glacis and therefore removing its utility for defense. The nature of the materials found in the burnt deposit is also very interesting (see Section 6). As stated above there were few ceramic types in it: Rough ware storage vessels, Simple ware spouted pots and small bowls, some Wet Smooth ware jars, three metal pins, a small ceramic

horse head, and a collection of over forty door sealings. All the objects were burnt in a secondary fire. From the nature of the deposit it appears that a store room burnt down somewhere on the high mound, probably near Area K1, and the contents were thrown over the wall or taken out a gate nearby. The facts that most of the contents were storage jars and that door sealings were probably used to seal the door contribute to our assessment that we are digging the contents of a burnt store room. From the typology of the objects in this deposit it appears that the contents can essentially be dated to Early Dynastic III although there are indications that it may have been used in late Early Dynastic II. It is now known that there were two destruction levels at Brak dating to about this period (J. Oates 1985). Our excavation of this burnt deposit at Mozan however is too restricted to make any connections with the Brak destructions; at this point the Mozan burnt deposit appears to be too homogeneous in nature to be associated with a more general destruction at the site.

5.2 The stone building in Area B — Giorgio Buccellati

I will give here only a very brief account of the major stratigraphic data, without attempting any functional and comparative study, in spite of the obvious similarities with other examples of North Syrian architecture, especially from Tell Chuera. The interpretation which follows has benefitted especially from the assistance of Dr. Ismail Hijara and Ms. Andrea M. Parker, who contributed to the final rendering of the floor plan, and drew the sections in Fig. 10. See also the contribution by A. Parker given below as Appendix 9.2.2.

5.2.1 Horizontal articulation

Five preliminary subdivisions may be noted within Excavation Unit B1: they are represented schematically in Fig. 9.

(1) The first is the stone substructure (Illustr. 9; *PDS*-1 8) with the associated mudbrick walls and stone platform or ramp. All along the western edge of the structure the stones were found immediately below the surface (Illustr. 9; *PDS*-1 8), so that it could not be ascertained whether each of the rows (marked b, d, and f in Fig. 9) supported a mudbrick wall, or only the interior one (b in Fig. 9). Only in the eastern part of the unit was the deposit above the stones thick enough to allow a clear articulation of the bricks which were resting in antiquity above the stone foundation. A clear view is presented in Illustr. 11, which shows the eastern end of wall c. The ramp at the southern edge (a in Fig. 9) slopes up toward the building (the slope is visible in Illustr. 8), and seems to match up with the beginning of the white plaster floor B1f88. On its left side the ramp is slightly higher than the stone wall on the left (see the reconstruction in Fig. 10), most probably on account of the subfloor below the white plaster floor.

(2) The second major structural component of the building is a white plastered floor (B1f88), which rode up to the walls b and c, and links up smoothly with the outside ramp. Besides Illustr. 11, already discussed, the white floor is also shown in Illustr. 10: here it stops at the presumed juncture with the mudbrick wall, which is not preserved, as I have already noted, on top of the western stone foundations. The floor has a good consistency throughout, and it shows traces of localized burning, perhaps deriving from activities connected

with the hearth B1f89. Several pits cut through the floor, but without any deep intrusion below the floor surface.

(3) A good outside floor (B1f19) was recovered adjacent to the stone ramp in the southwestern corner of the unit; this floor continues presumably into excavation unit B2 (not shown in Fig. 9), but our work in B2 has bas been too limited to allow any conclusions in this respect. A rather thick and medium hard accumulation rested on this floor, as part of which were two jars that had been smashed in antiquity (see Illustr. 12 and 13). A semi-circular stone structure (B1f12) was set in the northeastern corner of this floor, placed against the stone foundations (see Illustr. 6-8; *PDS*-1 7).

(4) An area to the west of the main structure (Locus B1kw) is contained by two projections of the stone structure, which may have served as either foundations or lower courses of regular walls, or else as buttresses flanking the main structure to the east. The deposit in this area, of which only little has been excavated, seemed to consist primarily of a fill, without any discernible floor.

(5) The northern sector of the excavation unit (Locus kn) has been barely touched by our excavations, but has yielded immediately below the surface a sizable amount of movable items and significant indications of structural remains, including a fair amount of burnt clay pieces with the impression of small pieces of wood or wood sticks, which we interpreted as roofing pieces.

5.2.2 Main stratigraphic sequence

Our preliminary stratigraphic analysis distinguishes the following seven strata (marked by the prefix A to keep the current sequence distinct from subsequent strata sequences that might be applied to this area):

A1 topsoil
A2 pits
A3 collapse
A4 damage and rebuilding with gray bricks
A5 rebuilding with gray and red bricks
A6 white floor (and outside floor B1f19?)
A7 first building (and earlier floors?)

This sequence applies only to the southeastern portion of the excavation unit, and not to Loci kw and kn, which do not exhibit at present any direct connection with the southeastern portion.

The topsoil in Stratum 1 consists of a very hard, root-filled sod, which covers the entire area with a very thin veneer of 10 or 15 cm. at the most. It covers directly the ancient layers, without any obvious trace of recent disturbances.

For a tentative sketch of the depositional history, we may turn first to the earliest stratum. We assume that the first construction of the stone structure (whether executed at a single time or over several intervening phases) was synchronic with earlier floors. Possibly such floors may still exist below the white floor and the outside floor, but even if this were not the case it seems probable to assume that there were earlier floors that may have been

obliterated: the reuse of stone foundations at the same general elevation would have favored the levelling of floors down to the top of the stone substructures.

The white floors and the outside floor are at any rate the first attested use of this part of the building. Since the lowest part of the ramp has not been excavated we cannot explicitly link the two floors, and they may in fact correspond to two different strata. Further excavation may or may not give an answer to this question, depending on how far the ramp extends (if it extends far, the slope of the mound may rob us in any case of a connection between the base of the ramp and the outside floor).

We assume next two rebuildings because on the one hand there are red bricks (B1f102) which rest on top of the white floor, and on the other there is the debris (Stratum 3), an admixture of gray bricks together with red bricks like those found still resting on their foundations. This is admittedly very tentative, and is advanced here largely as a working hypothesis. One reason for favoring a longer stratigraphic sequence is typological. From the collapse attributed here to Stratum 3 comes a whole Khabur ware vessel (M 1 82): since it was recovered only a few centimeters below the surface, it was difficult to ascertain clearly its immediate stratigraphic context — such as might have determined, for instance, whether it was a secondary intrusion from higher strata (not preserved), or whether it was embedded in a primary way in the collapse itself.

The collapse in Stratum 3 seems to have been rather localized. As is apparent from Section A-A′ (Fig. 10), such a collapse is apparent only in the right (southern) portion, whereas in the left (northern) portion there is a regular floor deposition.

The latest evidence of occupation comes from a few pits, which barely go below the surface of the white floor (one is shown on the floor plan in Fig. 9, the other in Illustr. 11). Since we do not have the stratum from which the pits were sunk, and since nothing diagnostic was found in them, we cannot say to what period they belong.

5.2.3 Artifact distribution

Apart from the whole Khabur ware vessel mentioned above (M 1 82) there are no notable movable items associated with the collapse stratum.

Three items found in connection with the white floor deserve special mention. One is a pottery stand (M 1 35), which was found lying in the middle of the hearth (B1f89). The other is a small wooden piece, square in section, which may, quite hypothetically, have been used as a stylus. Finally, an eye socket of the type which is typical for mid size statues (M 1 210) was recovered among the stones of wall d.

The ceramics on the outside floor is distinctive of the later third millennium (see below, Section 6.1). Of the other artifacts, the most notable were two small metal implements, which appear to be a small spoon and spatula such as might be used for cosmetics.

5.3 Le mur d'enceinte (Area K) — Guy L. Bunnens and Arlette Roobaert

Des excavations pratiquées dans les flancs du tell par des villageois à la recherche de terre laissent apparaître de-ci de-là des vestiges du mur d'enceinte de la ville ancienne, notamment dans les secteurs H, K et L. L'importance des vestiges visibles en K (Illustr. 15; *PDS*-1 5-6) a fait choisir ce secteur pour une première investigation. Les travaux, qui

se sont poursuivis du 5 au 15 novembre 1984, ont porté sur un tronçon du mur, long d'une dizaine de mètres, profondément entamé par les travaux de terrassement. Ils ont consisté en un nettoyage d'une grande partie des restes visibles et en deux sondages pratiqués l'un au pied du mur (sondage A), l'autre à son sommet (sondage B).

5.3.1 Les restes visibles

Le grattage des parois de l'excavation a permis de reconnaître la hauteur sur laquelle le mur est conservé ainsi que quelques caractéristiques de sa construction. Les résultats acquis se résument de la manière suivante:

(1) Les dimensions des briques sont 32/33 x 8,5/9 centimètres. Aucune n'a pu être dégagée complètement de manière à en connaître les trois dimensions.

(2) Des briques ont été identifiées jusqu'à environ 90 centimètres sous la surface du tell, soit jusqu'à la hauteur de 8560 environ par rapport au point zéro. La Fig. 13 montre en hachuré les parties non décapées ainsi que celles où aucune brique n'est clairement apparente.

(3) Deux joints horizontaux particulièrement épais et séparés l'un de l'autre par neuf lits de briques semblent attester de remaniements du mur ou de différentes phases de sa construction (Fig. 13, n° 1 et 2).

(4) Le joint supérieur (n° 1) vient buter vers le sud contre un lit de pierraille blanche qui semble le prolonger tout en s'amincissant vers le sud. Au-delà de la pierraille, les joints ont une épaisseur normale mais une nette différence dans la coloration des briques, rougeâtres à la partie supérieure et grisâtres à la partie inférieure, ainsi qu'une espèce d'usure qui a réduit le premier lit de la partie inférieure, montrent que la césure matérialisée par le joint n° 1 se poursuivait jusqu'ici. En outre, une seconde rupture, verticale cette fois, s'observe aussi bien dans la couleur des briques que dans leur appareillage au-dessus de l'extrémité nord de la couche de pierraille blanche, comme si cette pierraille avait constitué le fond d'une cavité aménagée dans le mur.

(5) La face extérieure du mur est apparue aux extrémités nord et sud du tronçon étudié (Fig. 13, n° 4 et 5; Fig. 14, n° 1 et 2), conservée sur une hauteur de quelques lits. Les briques qui la composent présentent une surface dure et lisse de couleur blanchâtre. Les deux segments sont dans le même alignement (restitué sur la Fig. 14 par une ligne de points et de traits dans la partie entamée par l'excavation). L'orientation du mur à cet endroit était approximativement sud-sud-ouest / nord-nord-est. Les deux segments descendent également jusqu'au même niveau, environ 8200 par rapport au niveau zéro.(une ligne de points et de traits marque cette limite sur la Fig. 13).

(6) A la partie supérieure du segment sud, chaque lit de briques est posé légèrement en retrait par rapport au lit inférieur, comme pour marquer une inclinaison de la face, et, d'autre part, le mur lui-même semble amorcer un arrondi (Fig. 14, n° 4).

(7) En avant du mur, vers le sud, existait un massif maçonné en briques crues (Fig. 13, n° 6; Fig. 14, n° 3; cf. Fig. 15, n° 1 et 3). Ce massif s'appuie contre le mur vers le nord, mais s'en détache vers le sud, laissant un interstice de 18 centimètres.

(8) Contre le mur, vers le nord, une couche de terre homogène, très dure et compacte (Fig. 14, n° 7), contenait de nombreux grains de céréale dont des échantillons ont été prélevés pour analyse. Cette couche de terre, qui semble postérieure à la destruction du mur, se poursuit vers le nord et l'est dans un morceau de terrain partiellement épargné par les excavations des villageois (Fig. 14, n° 8).

(9) Sous cette couche et en avant du mur, quelques briques appareillées semblent avoir appartenu à un massif qui pourrait avoir la même fonction que le massif qui se trouve au sud ou bien même qui pourrait prolonger ce massif en une espèce de renforcement ou de dédoublement du mur d'enceinte (Fig. 13, n° 9; la Fig. 14 montre un état du dégagement postérieur à l'enlèvement de ces briques).

(10) Cette structure assez mal définie reposait sur un niveau contenant des fragments de briques brûlées, des cendres et des tessons (Fig. 13, n° 10). Une telle superposition de briques appareillées et d'un niveau de destruction semble correspondre à une superposition analogue constatée dans de sondage A, bien qu'à un niveau inférieur.

5.3.2 Les sondages

(A) Le sondage A

Un sondage de 2 x 3 mètres (Illustr. 16-18) a été pratiqué au pied du mur afin de recueillir du matériel céramique en place, susceptible de dater l'enceinte. L'emplacement a été choisi de manière à entailler légèrement le massif maçonné en avant du mur — ceci avec l'intention de mieux reconnaître la relation qui les unit - et avec l'espoir de retrouver en profondeur la face du mur emportée, dans la partie visible, par les travaux de terrassement.

Sur les deux tiers de sa superficie, vers le nord, le sondage a montré un terrain perturbé, où des débris modernes voisinaient avec des vestiges anciens, notamment un tesson décoré d'une empreinte de sceau. Il s'agit probablement des terres remuées par les engins mécaniques venus emporter la terre du tell. Le matérial ancien qui y a été recueilli pourrait donc appartenir aux mêmes niveaux que ceux qui ont été retrouvés non pertubés dans la partie sud du sondage. Ceux-ci apparaissent clairement dans la paroi sud (Fig. 15):

(1) Les briques du massif de maçonnerie évoqué plus haut s'appuient directement contre le mur (Fig. 15, n° 1), en un point où les briques de ce dernier étaient à nu, non recouvertes d'un enduit (Fig. 15, A; Fig. 14, n° 4). Vers l'est, ce massif a été emporté par l'excavation moderne (Fig. 15, n° 2). Tout ce dispositif repose sur une épaisse couche de mortier en terre (Fig. 15, n° 3), vraisemblablement destiné à égaliser les terres sous-jacentes.

(2) Celles-ci renferment de nombreux tessons ainsi que des fragments de briques cuites accidentellement et des cendres (Fig. 15, n° 4). Tout ce niveau semble résulter de l'accumulation des ruines provoquées par un incendie. L'accumulation pourrait s'être faite en deux fois à en juger par une ligne qui est bien visible dans la paroi et à laquelle sont associés de nombreux tessons, mais qui était beaucoup moins discernable pendant la fouille et qui n'apparaît pas du tout dans la paroi nord. Le mur, sur la section correspondant à ce niveau, était recouvert d'un enduit épais (Fig. 15, B). De ce niveau de destruction proviennent des fragments de jarres, des fragments de petits vases, notamment des vases à bec, et une étiquette en terre crue portant l'empreinte d'un sceau cylindre.

(3) La couche de destruction repose sur un plan incliné, véritable glacis, soigneusement aménagé et reconnu dans la totalité du sondage. Faute de temps, le démontage de ce glacis n'a pû être effectué que dans la partie nord du chantier. On constate ceci (Fig. 16):

(a) Sous la poche constituée par les terres perturbées (Fig. 16, n° 1) et sous le

niveau de destruction (Fig. 16, n° 2) déjà repéré au sud, on rencontre un épais enduit de terre grisâtre destiné à lisser la pente du glacis (Fig. 16, n° 3).

(b) Immédiatement en dessous, un double lit de briques, mesurant 35 x 31/32 x 7,5/8 centimètres, consolidait ce glacis (Fig. 16, n° 4) et couvrait une couche de terres qui semblent rapportés (Fig. 16, n° 5). Celles-ci n'ont livré que peu de tessons et servaient sans doute à égaliser la pente.

(c) Sous ces terres, une couche épaisse de quelque 10 ou 20 centimètres a livré non seulement des tessons, mais de la pierraille, des cendres, de petits os et surtout une petite tête de cheval en terre cuite, assez semblable, apparemment, à une figurine retrouvée dans la salle 11 du palais dit de Narâm-Sîn à Tell Brak (Mallowan 1947, p. 215, n° 10, et Pl. LIV, Fig. 10).

(d) Les couches inférieures ont été à peine effleurées (Fig. 16, n° 7), de sorte qu'il n'est pas possible d'en dire grand chose. On peut seulement constater que la base du mur n'est pas encore atteinte. Cela porte à près de 5 mètres la hauteur totale du mur d'enceinte reconnue jusqu'à présent.

(B) Le sondage B

Un sondage de 2 mètres de large a été ouvert au sommet du mur, perpendiculairement à sa face extérieure (Fig. 13, B; Fig. 14, B). Il avait pour but de retrouver la face intérieure. Cet objectif n'a cependant pû être atteint. Un mur en briques crues extrêmement délitées, d'orientation sud-ouest / nord-est est apparu comme partiellement enfoncé dans une terre granuleuse de même couleur que les briques du mur d'enceinte. Il s'agit probablement de la partie supérieure de celui-ci, décomposée au point qu'aucune face de brique n'est plus reconnaissable. Les fondations du mur supérieur, en briques délitées, y ont sans doute été creusées. L'extension du sondage vers l'ouest, destinée à reconnaître la largeur de ce mur de briques délitées, a mis au jour un muret de pierres, également d'orientaion sud-ouest / nord-est, mais situé quelques dizaines de centimètres plus haut. Le manque de temps n'a pas permis de préciser davantage la stratigraphie de ce secteur. La face interne du mur d'enceinte n'a donc pas encore été retrouvée. Toutefois, en admettant que la terre granuleuse repéré dans le sondage B constitue bien le haut du mur, on peut estimer que l'épaisseur de celui-ci excédait 4 mètres. [This measurement is to be revised upward after the work done during the second season; see above, Section 5.1. — G. B. and M. K.-B.]. Notons en outre que cette estimation ne tient pas compte des massifs de maçonnerie qui renforcent le mur vers l'extérieur. Les hachures de la Fig. 14 montrent l'ampleur du mur d'enceinte, telle que ces premiéres investigations permettent de la reconnaître.

Les résultats atteints par cette première recherche sur un tronçon d'une dizaine de mètres du mur d'enceinte de tell Mozan peuvent se résumer ainsi:

(1) Le mur, dans son état actuel, mesure près de 5 mètres de haut et plus de 4 mètres d'épaisseur. Ces estimations ne constituent qu'un minimum, car ni la base ni la face intérieure du mur n'ont été atteintes.

(2) Ce mur, dans un état ancien, était protégé à sa base par un glacis.

(3) Après un violent incendie dont les débris ont recouvert le glacis, une espèce d'avant-mur, ou des contreforts, ou des tours sont venus le renforcer.

(4) A en juger par les trouvailles, le mur d'enceinte davait être en usage vers le milieu du IIIe millénaire avant notre ère.

6. ARTIFACTS FROM THE EXCAVATIONS

Marilyn Kelly-Buccellati

6.1 The ceramics

The sample of excavated pottery analyzed for this publication includes most of the material from the sounding at the base of the city wall in Area K1, the stone founded building at the top of the mound in Area B1, and a small sounding on the western edge of the High Mound in Area P. A total of 45 vessel and sherd types is reproduced here as individual drawings in Illustr. 33-39, 46-82. The total number of sherds processed for this preliminary analysis is more than 15,000.

In Area B the ceramics were stratified in connection with the stone building on a floor (Feature 19); another white plastered floor (Feature 88) has so far yielded few sherds. The upper laminations of the floor (Feature 19) contained mostly body sherds but did have the fragments of a small rope decorated jar. The lower part of this floor had on it two large storage jars and a large bowl with incised straight and wavy lines (Illustr. 13). One of the large jars was made of Pebble Temper ware and had been many times in a fire because the dark brown burnished exterior was smoke blackened and the fabric of the vessel was so brittle that it fell apart when handled (Illustr. 12); this ware is a common cooking ware in the late third millennium at Mozan and in Northern Syria (see above, Section 3.4, for a discussion of the wares). A large green buff jar with a rope decoration applied to the neck also was sitting on this floor (M1 78). Incised pottery was represented by a large deep bowl with wavy incised lines within a border of straight incised lines (M1 22-23 have a similar design). From this area we also had jar sherds decorated with parallel lines below the rim (M1 77).

In addition, the ceramics connected with this building included a small goblet or cup type with strong wheel marks inside (M1 37); many base sherds of this type were found in B1. A related but slightly larger cup can be seen in M1 36. They all have flat bottoms with a string cut base from 5-7 cm. in diameter. Conical cups with string cut bases were found on a post-Akkadian floor in Brak (Oates 1982 Fig. 6:95 and Pl. XVIId). Wet Smooth vessels were also popular in this time period (M1 33-4, 36-7, 39). Simple ware still continued to be in use (see M1 65, 72-3, 75-6) but with more articulated shapes than in the mid third

millennium excavations in Area K1. Inside the hearth on top of the white floor (f 88) in the large room of Area B1 was a solid footed stand M1 35. One indication from the excavated pottery that we are dealing with a restricted time period can be seen in the fact that a large bowl with an interior triangular lug was found in the stone building in Area B1, in Locus 2 of Area P near an oven (f12, see M1 38), and in Area K1 (f16).

On the western side of the mound we made a small sounding in Area P. The upper square (2 x 2 m.) was called Locus 1 and was placed not at the summit of the mound but 10 m. down from it (Fig. 4). This square contained sherds of finer Habur shapes as well as Pebble Tempered vessels which are smaller and finer than those from the earlier building in Area B1. Very few sherds of either Simple ware or Metallic ware were found there. In the ashy layer, f5 (also called f10 in another part of the square), and in f11, a hard packed layer of sherds which was made into a floor or used as a subfloor for a higher floor which was not preserved in our sounding, there was a series of red painted and unpainted bowls which had ribs on the upper body near the rim (e.g. as in M1 83-4). The red paint could be applied on the rim and on the upper part of the body. This appears to be a transitional type between the incised and rope decorated designs of the late third millennium and the painted Habur ware of the early mid-second millennium. This same type of pottery was found along with Habur ware in the sounding on top of the city wall (K3). Mallowan notes the ribbing and painting on one of the jars from level 1 at Chagar Bazar (1937 p. 146:13). The shapes from Mozan are smaller than the Chagar Bazar example, but appear also to point toward an earlier date for this material than Mallowan seems to imply.

The square immediately below this in Area P, Locus 2, contained few Habur sherds but had the incised and rope decorated types along with flat based cups found in the late third millennium stratigraphy in Area B. It appears then that the two loci represent the transition from the late third millennium to the early second.

Area K, the sounding at the base of the city wall, yielded Simple ware both near the surface and in f16 (the burnt deposit). Even in the cleaning of the bricks of the city wall where an admixture of later pottery is to be expected along the eroded wall face, Simple ware predominated.

In our excavations at the base of the city wall a burnt deposit was found on top of the glacis (in 1984 this sounding was called Locus 6 and in 1985 when the burnt deposit was further excavated it was called f16). This deposit was very uniform in its ceramic assemblage. Small Simple ware pots, many with short spouts, as well as small Simple ware cups and bowls were the most prevalent types in Locus 6, the upper part of the burnt deposit (M1 50-9). Spouted Simple ware pots were also found at Tell Chuera, see Kühne, 1976 Abb. 256-61, Brak, Oates 1982, Fig. 4:71, as well as Chagar Bazar level 3, Mallowan 1937 Fig. 16:12). Bowl types are also found at Leilan in the mid third millennium (Swartz 1982 Fig. 28:6). Large bowls with triangular lugs inside have already been mentioned (M1 38). Little Metallic ware was found here (M1 60-1). The ceramics in f16 of this sounding had all been secondarily burnt; the Simple ware had turned dark green to a brownish purple. The majority of the ceramics found in the burnt deposit consisted of storage vessels in Rough ware — coarse texture, much chaff temper, perhaps plastered interiors and a reddish-orange color from the later fire (see above for a discussion of Rough ware). These sherds were obviously parts of large storage vessels with rounded and flat bases, some of which had mat impressions on the exterior. Very few rim sherds of these vessels were found in the deposit

but those found were from hole mouth jars. In addition to these two types (Simple ware, delicate spouted pots and large Rough ware storage vessels), there were a few Wet Smooth sherds, among which was the sherd rolled with an ED II cylinder seal (M1 167 below). There was one Early Transcaucasian sherd also from the sounding in Locus 6. Since neither Locus 6 nor f16 penetrated as low as the base of the city wall we still do not have an indication of when it was built but only that it was in use by the mid third millennium. The scarcity of Ninevite V on the surface of the mound may indicate however that the wall around the high mound was indeed constructed about the middle of the third millennium.

Our excavations thus far have been in specific deposits. The burnt deposit in Area K1 f16 is homogeneous. While the sherds are limited in type the Simple ware can be dated to the middle of the third millennium and therefore contemporaneous with the ED III seal impressions also found in the deposit (see below 6.2). The stone founded building from B1 has only pieces of floors cleared thus far but the pottery dates to the Akkadian-Ur III time range.

The earlier ceramics from Mozan are very similar to those from Chuera and Brak (something Fielden had already noted for Brak and Chuera, 1977 p. 50). With the number of excavations now going on in the Habur region this area will soon give us a more tightly controlled ceramic sequence and intra-regional distribution than many areas of the Near East. The later ceramics are close to Chagar Bazar, Brak and Leilan post-Akkadian and Ur III levels.

6.2 The seal impressions

6.2.1 Introduction

During the first season of excavations at Mozan three sealed objects were found: a tag, a sherd and an unknown object. These came from our excavations near the city wall. In the second season the number of sealed objects from the city wall excavations (K1 and K2) increased and we also had our first sealed piece of clay from the surface of the tell. The variety increased as well: the largest number were door sealings but there was also a jar sealing, an unsealed tag fragment and various lumps of clay discarded in the sealing process.

The sealed objects which came from the burnt deposit in f16 of K1 were burned in the fire which affected all the other objects in the deposit (see above). The sealed objects from K2 and from the surface were also fired and thus preserved. In most cases the clay is very clean, but some door sealings have the addition of minerals (small pebbles) which are in some cases quite disproportionately large, given the size of the object. In one case a large amount of chaff temper was added.

When producing a door sealing the seal was rolled from the narrow to the wider end and usually only one or two rollings were made on any given door seal. In all the cases which can be clearly seen only a single seal was impressed on the door sealing. Interestingly enough, several of the seal designs were not preserved because the seal was rolled on when the clay was too wet to hold the imprint. This is especially interesting in light of the later texts which stress the importance of the door sealings for bureaucratic purposes. It appears that in a number of cases the sealers did not wait the few minutes necessary after

applying the clay to the door, string and peg for the clay to harden enough to seal properly. In the experiments we made reproducing this process we saw that this hardening time was not long but the few minutes between the application of the clay and the rolling of the seal is indeed necessary.

6.2.2 Technique

The visible elements in all the preserved door sealings are the flat, proportionately wide "base" which has flat wood impressions, and the rope impressions in one to three strands (*PDS*-1 12). Sometimes these strands are distinct (*PDS*-1 13) and sometimes they are crossed, but there is never a clear impression of a knot. The third visible element is a straight peg impression around which the rope must have been tied. Probably we can also assume that the peg had a hole through it so that the string could not merely slide off. The corpus contains enough unbroken edges to see that only the top half of the peg was covered with clay and not the entire shaft; in other words, sealings were not complete cones, but half cones cut through more or less along their longitudinal axis. On these door sealings there are traces of finger impressions and sometimes cloth impressions on the exterior. The presence of the cloth impressions can be explained either because a cloth was used in smoothing the exterior and perhaps speeding up the drying process or because the clay was wrapped in a cloth to keep it moist until it was used.

Previous reconstructions of how this closing method worked have been published from Shahr-i Sokhta (Ferioli, Fiandra and Tusa, 1979 especially pp. 12-20); door sealings have also recently been investigated from Mari (Beyer 1985). In Fig. 18 there are two different reconstructions of how door sealings could have worked. Both postulate the use of different pegs for the door sealings since the Mozan corpus does show widely different peg diameters, as follows:

Chart of Peg Diameters

Field Number	Peg Diameter
K1.16	1.5 cm.
K1.29	1.9 cm.
K1.46	2.0 cm.
K1.50	2.0 cm.
K1.52	1.2 cm.
K1.55	0.9 cm.
K1.56	1.7 cm.
K1.61	2.3 cm.
K1.65	1.1 cm.
K1.69	1.8 cm.
K1.81	1.5 cm.
K1.82	1.9 cm.
K1.92	1.7 cm.

This chart shows the range of different peg sizes from the burnt deposit in K1. In this group two sealings show traces of split pegs (K1.50 and K1.55) but they are split differently; it is possible that a peg could continue to split over time but the preserved diameters of the pegs are so different (between approximately 2 cm. for K1.50 and 9 mm. for K1.55) that this is unlikely. Given the different peg sizes in our corpus there are two obvious possibilities to explain these size differences. Either the pegs were not permanently fixed to a single door (as in our reconstructions in Fig. 18 and Illustr. 24-27) or there were a number of doors being sealed by the sealings in our deposit. This latter solution does not seem likely because of the singular nature of the contents of the burnt deposit in K1 in which they were found (see above). P. Amiet has suggested that flat rectangular pieces with seals rolled on them, here called "tags", were also a part of the door seals and our second reconstruction takes this into account (Amiet 1957, No. 50 and Beyer 1985, p. 377, fn. 6).

Note on measurements: The length is taken from the flat portion which was pressed against the wood to the preserved end around the peg impression. The width is the width of the flat portion of the door sealing. The thickness is the measurement through the widest portion at the flat part of the door sealing (see Fig. 19). In the cases where there was a peg impression preserved the diameter given is in some cases the diameter of the peg itself (when this is visible) and in other cases the diameter of the inside impression left by the cord. I wish to thank Giorgio Buccellati for his contributions to the door sealing reconstructions and on how the tags may have been used; also Timothy Seymour added his ideas to the discussions on the reconstruction of the door sealings.

6.2.3 The catalog

The catalog provides the essential factual information of all the seal impressions, and a preliminary interpretation of some of them. Those that are illustrated in the Figures are identified by the pertinent M1 number, following the field number. The main sequence is by field number.

6.2.3.1 Door sealings from K1

K1.9

Measurements: L. 3.8 cm., W. 3.5 cm., Th. 3.3 cm.

Description: Fragments of clay with finger impressions and traces of wood impressions and a peg impression; part of a door sealing. (K1.9 = MZ1TA31) Munsell color 7.5YR 5/6 strong brown.

Design: Not preserved.

K1.16

Measurements: L. 7.8 cm., W. 3.8 cm., Th. 1.9 cm., D. of peg 1.5 cm.

Description: This is a well preserved door sealing, with a flat bottom, rope impressions and a peg impression. Its conical shape is entirely preserved except for one end. Munsell color 2.5YR 6/4 light reddish brown.

Design: The seal was rolled all over the exterior of the clay so that its design is unclear; only one human in a short skirt is identifiable. The original seal was 2.5 cm. high judging from the one rolling of which both top and bottom are preserved.

K1.18

Measurements: L. 4.8 cm., W. 1.9 cm., Th. 1.3 cm.

Description: The flat bottom, 4.9cm wide, shows traces of wood and three strands of well preserved rope impressions; no peg impression remains. Munsell color 7.5YR 8/2 pinkish white.

Design: same as K1.45 and K1.81.

K1.20

Measurements: L. 5 cm., W. 3.3 cm., Th. 1 cm.

Description: Traces of wood impression on the flat underneath portion, two strands of rope pattern, no peg impression is preserved. Munsell color 7.5YR 6/4 light brown.

Design: difficult to read but perhaps one figure in a long skirt and part of a lion.

K1.24

Measurements: L. 5.2 cm., W. 2.4 cm., Th. 2.1 cm.

Description: Two rope impressions with rope strands 7 mm. wide and a wood impression on the flat bottom are preserved.

Design: Poorly preserved.

K1.25

Measurements: L. 5.4 cm., W. 2.05 cm., Th. 1.5 cm.

Description: A flat bottom showing wood impressions and three strands of rope impression preserved. Munsell color 10YR 8/3 very pale brown.

Design: The seal was rolled on the clay when the clay was too wet to retain much of the impression so we have only the irregular shape of the seal.

K1.29 (M1 169, Illustr. 33-35)

Measurements: L. 5.9 cm., W. 3.8 cm., Th. 1.8 cm., D. of peg 1.9 cm.

Description: This door sealing was in a part of the fire which left it burned green-black and in an almost complete condition. Three strands of the string impression are preserved. Three rollings were impressed on the outside (one crossing the other); possibly a fourth rolling is visible in the upper portion of the widest part of the door sealing.

Design: Nude hero with straight hair in upstanding tufts holding two horned(?) animals by their beards. This type of nude hero can appear in two different positions: either as a master of animals between two animals he is dominating, as in our impression and Amiet, 1961 Pl. 70:926 (ED II), or in an animal combat scene where he appears (e.g. *ibid.* Pl. 76:1003, ED III). Both these aspects continue into early Akkadian art. (See Prag 1969 Fig. 5 for an ED II representation of a "master of animals" from Harran.)

K1.31

Description: This clay lump was once made into a door sealing because the traces of the wooden door impression are preserved along with finger impressions; it may have been discarded before it was sealed.

K1.41

Measurements: W. 1.6 cm., L. 4.3 cm., Th. 2.4 cm.

Description: A flat portion against the wooden door and three rope strand impressions are preserved; some cloth impressions on the surface. Munsell color 10YR 6/2 light brownish gray.

Design: The seal was rolled twice, one on top of the other, so that no design is distinguishable. The seal was at least 3 cm. high.

K1.42 (M1 170)

Measurements: L. 3.2 cm., W. 2.0 cm., Th. 1.0 cm.

Description: A flat wood impression and two strands of rope impressions. Munsell color 10YR 6/4 light yellowish brown.

Design: Two and possibly three animals can be seen; one may be a lion. Height of seal at least 1.65 cm. Even in this poorly preserved impression it appears that the lion's head is turned and seen from above; it has the characteristic features of ED II lions.

K1.45 (M1 171; Illustr. 32; *PDS*-1 14)

Measurements: L. 5.4 cm., W. 4.1 cm., Th. 1.85 cm., D. of peg 1.3 cm.

Description: Flat portion against the door and three rope impressions preserved as well as a small portion of a peg impression. Munsell color 5Y 8/2 white.

Design: Entwined snake with head at the bottom of the coil. A long horned animal is reversed on the seal with its head next to that of the snake. The height of the cylinder seal was more than 2.3 cm. This door sealing has the best preserved design of the three door sealings which were rolled with this seal (K1.18 and K1.81).

Boehmer (1965), has an entwined pattern (Pl. XXVII:321), but somewhat larger than this Mozan example with no other animal present; see also Pl. LIII:639 and Pl. VIII:85 (poorly preserved), the snake coil is extended in Pl. LV:664 (Akk III). In Pl. XLIX:573 (Akk I) [same as Frankfort (1939) No. 593] the coil is shown without the head. See also Buchanan (1966) Pl. 246 (ED III) and Frankfort (1955) Pl. 56:590,593.

The Mozan door sealing showing a snake coil has published parallels from Early Dynastic III and Akkadian I (Nos. 85, 573, 639, 664 in Boehmer 1965). The combination with a horizontally placed horned animal is not paralleled in the southern rendering of this theme. However, a seal which Boehmer classifies in the "Tigris" Group (No. 664) and dates to AkkIA shows a snake coil with a scorpion on either side of it. The scorpion toward the tail end of the snake coil is shown upright while the one on the end of the snake's head is facing the snake; this is parallel in feeling at least to our horned animal being placed in what otherwise is an awkward reversed position with its head next to the snake's. In both these cases (snake/horned animal and snake/scorpion) the animals appear to be in an antagonistic relationship to the snake.

K1.46

Measurements: L. 4.6 cm., W. 2.4 cm., Th. 1.4 cm., D. of peg 2 cm.

Description: Flat portion against door, two strands of the rope, and peg impression preserved.

Design: The seal was rolled on the clay when it was too wet to hold the pattern. There may possibly have been a square stamp seal (2 x 2 cm.) impressed on the clay but this may also have been part of the design; if this was impressed with a stamp seal it would be the only example in the corpus. Two conical stamp seals made of a ceramic and with circular geometric designs were found on the surface (Z1.17 and Z1.20, see Illustr. 42).

K1.50 (M1 172, Illustr. 30)

Measurements: L. 4.2 cm., W. 4 cm., Th. 1.7 cm., D. of peg 2 cm.

Description: A wood impression showing a flat portion, two and possibly three strands of

rope, and a peg impression showing a split in the peg are preserved. Munsell color 7.5YR 6/4 light brown.

Design: Two rollings on the exterior; a hero holding one lion(?) which is crossed with another animal, a third animal is possibly crossed with a fourth. Between these two pairs is a standard(?) or a portion of a geometric design.

K1.51 (M1 173, Illustr. 39)

Measurements: L. 3.2 cm., W. 2.7 cm., Th. 1.3 cm.

Description: Perhaps a small portion of the flat part against the wood of the door preserved; faint impressions of two strands of rope. Munsell color 5YR 7/6 reddish yellow.

Design: Fragment of a guilloche.

K1.52 (M1 174, Illustr. 37; *PDS*-1 15)

Measurements: L. 4.4 cm., W. 3.5 cm., Th. 1.1 cm., D. of peg 1.2 cm.

Description: The portion against the wooden door is curved but has clear wood impressions. Also preserved is the impression of one rope strand and the peg. Munsell color 5YR 6/4 light reddish brown.

Design: One figure with a long skirt turned up in front behind a horned animal. This skirted figure is holding a stick or spear with a bag-shaped object which appears to be hanging from it. In his other hand there is a plant (?) with a flag shape at the top. There are portions of two rollings of this design on the door sealing. This theme is thus far unique. It may be that it is taken from a Protoliterate theme of vegetation and animals but with its exact antecedents unrecognizable.

K1.55

Measurements: L. 3.1 cm., W. 4.3 cm., Th. 1.15 cm., D. of peg 0.9 cm.

Description: The flat portion against the wood is not preserved but one and possibly two rope impressions are visible; the peg is divided in two, similar to K1.50. Munsell color 5YR 7/6 reddish yellow.

Design: Only a small portion along one edge of the seal is preserved.

K1.56 (M1 175, Illustr. 40)

Measurements: L. 4.1 cm., W. 3.4 cm., Th. 1.2 cm., D. of peg 1.7 cm.

Description: Portion against the wooden part of the door not completely flat; two strands of rope impression preserved. Munsell color 7.5YR 6/4 light brown.

Design: Three rearing animals; the two on the right have their bodies turned away and their

heads facing each other, the right hand animal (a lion?) has a long straight upturned tail, the second animal in this pair is a horned quadruped with a short beard and is perhaps an antelope, the third animal on the left has splayed horns seen from the front and noticeable drill holes in his tail, a trait which Porada says is characteristic for Syrian Early Dynastic seals (1985, p. 92).

K1.57 (M1 176)

Measurements: L. 3.6 cm., W. 2.7 cm., Th. 0.9 cm.

Description: No traces of the peg are preserved but two strands of the rope impression are still visible.

Design: One of the few geometric motifs in the corpus. The seal which impressed this clay was 1.4 cm. high.

K1.61

Measurements: L. 2.9 cm., W. 3 cm., Th. 1.1 cm., D. of peg 2.3 cm.

Description: The flat portion next to the wooden door is not preserved; one strand of the rope and the peg impression are visible.

Design: Only a portion of one animal, a lion? The seal was at least 1.4 cm. high.

K1.63

Measurements: L. 2.5 cm., W. 1.4 cm., Th. 1.7 cm.

Description: Only flat portion against door and three strands of rope preserved.

Design: A small portion of the design is preserved with some geometric lines.

K1.65

Measurements: L. 1.8 cm., W. 2.9 cm., Th. 1.4 cm., D. of peg 1.1 cm.

Description: Only one small rope impression above a semi-flat wood impression and a small peg impression are preserved. The rope was 4 mm. in diameter.

Design: The design is not clear because the clay was too wet when the seal was rolled on it. Perhaps part of a lion visible.

K1.69 (M1 177, Illustr. 36)

Measurements: L. 5.5 cm., W. 4 cm., Th. 1 cm., D. of peg 1.8 cm.

Description: Traces of the impressions of two strands of rope. Munsell color 5YR 7/6 reddish yellow.

Design: A nude hero holding the beards of two horned animals (caprids) which have bodies facing away from the hero and heads turned back toward him. Beyond are two crossed animals; the one standing upright is a lion.

This is a common theme in Fara style seals. Strommenger, 1964 Pl. 42 bottom (ED II) has a hero pulling the beards of animals turned in same direction as this seal from Mozan. Amiet 1961, Pl. 64:854, a Fara seal, has this same motif although this hero has a different head. See also Pl. 62:907 and Pl. 71:948.

K1.72

Measurements: W. 2.6 cm., L. 4.7 cm., Th. 1.2 cm.

Description: Flat portion at the bottom and three rope impressions are preserved. Munsell color 10YR 7/4 very pale brown.

Design: Not preserved because seal was rolled when the clay was too wet.

K1.73

Measurements: L. 2.5 cm., W. 1.6 cm., Th. 9 mm.

Description: Portion against flat wood and two strands of rope preserved. Munsell color 7.5YR 6/4 light brown.

Design: Not well preserved.

K1.74

Measurements: L. 2.1 cm., W. 3.8 cm., Th. 1.1 cm.

Description: Portion against the flat door, one, possibly more; rope impressions and a portion of the peg impression preserved. The greenish yellow color is due to the high temperature in the secondary firing. Munsell color 5Y 8/3 pale yellow.

Design: Unclear.

K1.75

Measurements: L. 4.2 cm., W. 1.7 cm., Th. 2.05 cm.

Description: The flat portion against the door and two strands of rope only are preserved. The clay has some large pebbles in it. Munsell color 7.5YR 6/4 light brown.

Design: Unclear.

K1.76

Measurements: L. 3.1 cm., W. 1.3 cm., Th. 1.85 cm.

Description: The flat portion against the door has a line in it as if there was a crack in the door; the impression of one strand of rope is preserved. Munsell color 10YR 6/4 light yellowish brown.

Design: One animal leg only preserved; the seal was at least 1.5 cm. high.

K1.77

Measurements: L. 2.3 cm., W. 2.4 cm., Th. 1.2 cm.

Description: A small portion of flat wood impression and two strands of rope are preserved.

Design: Part of a lion?

K1.78 (Illustr. 26)

Measurements: L. 4.3 cm., W. 2.8 cm., Th. 1.2 cm.

Description: The impression of three strands of rope and the flat portion against door are preserved.

Design: Parts of three rollings are visible but seal was rolled on when clay was wet so that no individual figures are distinguishable. The seal was at least 1.5 cm. high.

K1.78

Measurements: L. 4.5 cm., W. 2.4 cm., Th. 2.2 cm.

Description: The flat portion against the wood of the door comes to a rounded end, indicating that it is complete on one end. One strand of rope impression is preserved.

Design: The upper surface is not well preserved; the trace of a beautifully upcurving tail (perhaps of a lion) and the hind quarters of another animal also with an upturned tail. The seal is at least 1.3 cm. high. Upwardly curving tails are found in ED III and early Akkadian seals.

K1.81 (M1 179)

Measurements: L. 5.4 cm., W. 3.8 cm., Th. 1.7 cm., D. of peg impression 1.5 cm.

Description: Traces of three strands of rope and traces of cloth impressions on the surface.

Design: The same seal was rolled on this door sealing as on K1.45 and K1.18; this sealing had been rolled twice on this example.

K1.82 (M1 180, Illustr. 38)

Measurements: L. 3 cm., W. 3.2 cm., Th. 1.5 cm., D. of peg 1.9 cm.

Description: Wood impressions on flat bottom, one strand of rope impression. Parts of four rollings of the same seal found on the exterior; one of these rollings crosses two others.

Design: Double register of animals separated by a register line; an animal file of the same type of animal all walking in the same direction. The animals have short ears and short tails; perhaps they are caprids, but the eyes are shown very large.

A single animal file is seen on a seal from Tell Chuera (Moortgat and Moortgat-Correns 1978 abb. 6a-b; this is also rolled on a door sealing). A seal with a double register but with a variety of animals walking in a file also comes from Chuera (*ibid.*, abb.12a-b). Seals with a double register appear both in ED II and ED III seals but usually have human figures included. (See, for example, Porada 1948 Pl. XVI:102,104, showing a double register of animals all going in the same direction, ED III.)

K1.87

Measurements: L. 3.5 cm., W. 1.7 cm., Th. 1.7 cm.

Description: Impression of flat wood of door and two strands of rope.

Design: Not clear but shows a portion of one person in a long skirt.

K1.88

Measurements: L. 5.3 cm., W. 3.2 cm.

Description: Clay lump with relatively clean clay, few inclusions and many fingerprints preserved; this piece resembles the door sealings with the rounded edges near or on the flat part of the door. There are no signs of rope impressions.

K1.90

Measurements: L. 2.35 cm., W. 1.4 cm., Th. 1.1 cm.

Description: The clay is very clean except for one large pebble; one strand of a rope impression preserved.

Design: Unclear, perhaps part of an animal.

K1.91

Measurements: L. 5.0 cm., W. 2.7 cm., Th. 1.3 cm.

Description: The clay is tempered with much chaff, especially on the exterior.

Design: Unclear, perhaps part of a scorpion. The seal was at least 2.3 cm. high.

K1.92 (M1 181, Illustr. 31)

Measurements: L. 6.5 cm., W. 4 cm., Th. 1.8 cm., D. of peg impression 1.7 cm.

Description: Three rope impressions are preserved as well as the flat portion next to the wood of the door; the peg impression is also preserved. The clay is tempered with some chaff and suprisingly large pebbles; one pebble is 3.5 mm. and another on the surface is 5.5 mm. across. Parts of three rollings are preserved.

Design: A rearing lion is being attacked by a human with skirt tucked up in front holding a dagger with large pummel. Behind this figure is a standing bull(?) with a screw type tail. The complete seal was at least 1.8cm high.

In the Mozan door sealings we have represented combat between nude heroes and rampant animals as well as a figure with a skirt which is turned up in the front. These figures are well known on Early Dynastic glyptic at least from ED II on. They can interchange roles to the extent that either the nude or the skirted figures can wield the large dagger that appears also in these scenes. See for example Amiet 1961, 891, a Fara style seal, showing a man with an open skirt in the same position as our seal; in addition he is also associated with an animal behind him (in this case rearing, not standing). Other examples of these figures occur with minor variations, *e.g.* Buchanan 1981, 247 (on this ED II seal the nude belted hero with upstanding hair, straight but not tufted, holds the dagger, not the skirted figure as in the Mozan seal). In Porada 1948, Pl. XIV:85, there is a man in a short kilt with a dagger threatening a rearing lion; see also No. 86 on the same plate. These figures are also associated with the nude hero with hair in upstanding tufts in K1.29. The skirt of the Mozan figure is found on ED II style cylinder seals, Frankfort 1955, Pl. 46:489, and Amiet 1961, Pl. 67:891; the servant behind the main male figure is wearing one of these skirts as seen also on the ED I Kudurru of Ushumgal in the Metropolitan Museum of Art (Amiet 1980, Nos. 301, 303). The screw type tail on the bull is paralleled by an ED II seal in which a bull man has a similar tail (see Strommenger 1964, Pl. 42:bottom).

The same figure with an upturned skirt can be seen in another Mozan door sealing (K1.52), holding a plant motif in one outstretched hand, and what appears to be a pole with a bag hanging from it over a standing horned animal; this theme appears to be unique. The

style of the carving on the Mozan impression can be dated to ED III. While the theme started earlier and continues into the beginning of the Akkadian period it does not appear to be popular in the Akkadian period and in any case is not exactly the same as ours.

6.2.3.2 Door sealing from K2

K2.8

Measurements: W. 2.6 cm., L. 4.1 cm., Th. 2 cm.

Description: Even though this door sealing fragment was found in K2, next to K1 on the side of the mound, it is also secondarily baked and has small mineral inclusions. It has a partially flat bottom and three strands of rope impression; no peg impression is preserved.

Design: A partial geometric design and a portion of an animal(?).

6.2.3.3 Other sealed objects

In addition to the corpus of door sealings from MZ1 and 2 there was a jar sealing, a tag, several pieces of clay not obviously connected with door sealings but connected with some sealed object and one sherd with a seal rolled on it.

K1.6 (M1 167, Illustr. 28)

Measurements: L. of impression 4.65 cm., L. of single design 2.3 cm., H. of seal 2.1 cm.

Description: Jar sealing (K1.6 = MZ1TA16; it came from K1 Locus 6 f14). Munsell color 2.5Y/7.2 light gray. Impression rolled on a sherd from the shoulder of a jar with traces of the neck curvature. It was rolled upside down with respect to the jar. This sherd comes from a Wet Smooth ware jar.

Design: Human figure facing a scorpion which he seems to be holding by the tail. Behind him is a long necked animal with elaborately patterned horns, perhaps a deer. The carving is very angular; this can especially be seen in the body of the human and the scorpion. The legs of the animal and its horns have a more linear quality. Based on the carving technique this seal should be dated to ED II.

K1.8 (M1 168, Illustr. 29)

Measurements: L. of tag 4 cm., W. of tag 4.3 cm., Th. 6 mm.; L. of impression 4 cm., H. of impression 3.2 cm.

Description: Sealed pottery tag (K1.8 = MZ1TA25 from lc6 f13). Munsell color number 10Y 5/6 red. This clay tag is tempered with some chaff and sand; it was burnt red-brown in the secondary fire and in places is almost blue. It is fairly flat on the back with traces of finger impressions.

Design: Early Dynastic motif of antithetical animals with their legs crossed in the middle and heads probably turned back (heads missing in this rolling); a smaller duck(?) stands to the right. At the bottom is a horizontally placed figure.

In typical Mesopotamian motifs of this type the crossing of the animal's legs is much more gracefully patterned; however in this seal an overall patterned effect was achieved, if somewhat in a disorganized manner. Part of this effect comes from the horizontal placement of the human figure(?) at the bottom of the seal which is not found in southern models. The emphasis on the linear aspect of the modelling probably indicates an ED II date.

K1.64

Measurements: L. 3.8 cm., W. 2.8 cm., Th. 6 mm.

Description: Portion of a tag. Dark burnt clay with chaff impressions on the surface. Flat on one side and slightly rounded on the other.

Design: None. This is the portion of the tag without the rolling. It is included here because it is the same type of object as K1.8 above.

K1.66

Measurements: L. 2 cm., W. 1.9 cm., Th. 4 cm.

Description: Semi-circular piece of clay which is not in the shape of the typical door sealings. It has a smooth exterior with faint impressions of string inside. Its purpose is unknown.

Design: One figure with a long skirt.

K1.80 (M1 178)

Measurements: L. 15.5 cm., W. 9 cm., Th. 4.2 cm. at thickest, D. of jar body to which sealing was affixed was at least 34 cm.

Description: Jar sealing. The clay was placed over jar body at base of the neck. Rope impressions can be seen on the upper portion of preserved clay; the rope was from 7-9 mm. in diameter.

Design: Two humans facing each other with arms raised, perhaps fighting; traces of a third human figure. In the field are a star(?) and a fish(?).

6.2.3.4 Conclusions

The over forty sealings from the excavations near the city wall were for the most part used to seal doors. Many of the designs of the seals rolled on them are not readable but of those that are well preserved many have the nude hero motifs which are so prevalent

in the south during the Early Dynastic period. From their designs the date of these seals ranges from late in the Early Dynastic II period to Early Dynastic III. It is still too early to discern in the Mozan material the elements of a regional style which must have existed.

While many of these motifs do continue into the Akkadian period, our material does not appear to be that late, as no purely Akkadian designs were found in Mozan. This probably indicates that the storeroom (or rooms) was used during the ED III period and possibly came into use in the late ED II period. The fact that this deposit is what it appears to be, a closed deposit, is indicated not only by the stratigraphy and the other objects found in it but also by the presence of three sealings rolled with the same seal (K1.18, 45, 81). We know from later texts that doors or containers within storerooms were sealed by bureaucratic officials (most recently, see Beyer 1985). While we have no certain evidence of a bureaucratic use for these Mozan sealings, the use of seals for sealing doors may be widespread at Mozan since a burned door sealing from the same time period was picked up by chance on the surface of the site (Z1.15, Illustr. 41).

6.3 Other objects

A number of metal objects came from the excavations in Areas B1 and K1 (Illustr. 21; *PDS*-1 20). Many of them were pins of the type worn as garment fasteners; M1 202-4 came from K1; M1 205 was found in B1, while M1 206 was picked up from the surface on the mound near Area K1. At Terqa two similar pins, but longer, were found in the grave of a mid third millennium woman near the city wall (Kelly-Buccellati and Mount-Williams 1977).

Spearheads are represented in the excavated collection from B1; one of these had a long twisted tang and two had their tangs bent as if through impact (M1 184-6). Also from B1 came several metal spatula-type objects, two broken off (M1 188, 190) but one fairly complete and folded over on itself (M1 189). The thinness of these objects precludes their being employed as weapons or as tools for any other heavy use. Metal arrow heads and small points also came from B1 (M1 191-201).

One of the most remarkable finds from Mozan is a small pottery horse(?) head (M1 209; *PDS*-1 19) which came from the burnt deposit (f16) of the city wall in K1 (Illustr. 1). Figurines of horses also came from the surface of the mound 9M1 209). Equids are known from third millennium Mesopotamia and have been the subject of a dissertation by J. Zarins (1976). Among the other figurines is a nude torso from B1 (M1 208). A worked flint blade was also found (M1 207).

Near the stones of the building in Area B1 a small eye socket (M1 210) was discovered (Illustr. 20; *PDS*-1 10). The pupil inlay had disappeared but the stone socket is well preserved.

Also from this building came a rectangular wooden piece which was perhaps a stylus.

7. SAMPLES FROM THE EXCAVATIONS

7.1 Paleobotanical samples from the City Wall — Kathleen F. Galvin

Two samples of plant remains were examined.

7.1.1 Sample One (K1.2)

This sample (from K1, Locus 4, Feature 5) consisted of a clean bagged sample of carbonized grain. 147 grains, mostly complete, were present. All identifications were made under 10x magnification with the aid of published drawings and photographs.

Triticum aestivum L. (Domestic Bread Wheat)

Quantity:	140 grains, mostly complete
Percentage of total:	93%

Ten complete grains were selected for measurement. The results of these measurements were:

Range of Length:	5.0 - 7.7 mm.
Range of Breadth:	2.5 - 3.0 mm.
Range of Thickness:	2.0 - 3.0 mm.
Mean Length:	6.12 mm.
Mean Breadth:	2.70 mm.
Mean Thickness:	2.32 mm.
Thickness:Breadth Index:	85.9 mm.
Breadth:Length Index:	44.1 mm.

Discussion: The ranges fall a bit short compared to fresh samples of *aestivum*, but tend to approximate more closely this species than any other, considering the expected shrinkage upon carbonization.

Similarly, the Breadth:Length index falls a bit short, while the Thickness:Breadth index is exactly what would be expected in trying to distinguish between *Triricum aestivum* and *T. compactum*. Hence, this sample has been classified as *aestivum*.

Triticum boeoticum Boiss. em. Thiem. (Wild Einkorn)

Quantity:	3 grains
Percentage of total:	2%

Only one whole grain was measurable, but all three showed convex curvature on the ventral furrow in section favoring the choice of *boeoticum* over *dicoccoides* in species identification. The one measurable grain yielded the following measurements:

Length:	7.0 mm.
Breadth:	2.0 mm.
Thickness:	2.0 mm.

Hordeum spontaneum Koch. (Wild Barley)

Quantity:	3 - 4 grains
Percentage of total:	3%

The state of the barley recovered made it difficult to be sure there were three or four grains represented. Only one whole grain was measured. The measurements are as follows.

Length:	6.50 mm.
Breadth:	2.20 mm.
Thickness:	1.75 mm.

Discussion: The decision to classify this material as *spontaneum* is based primarily on overall lack of traits characteristic of domestication in the grains represented. The sample is too small to suggest firmly any domestic species or subspecies.

7.1.2 Sample Two (K1.14)

This sample (from K1, Locus 4) consisted of free grains in loose soil, as well as several large clumps of sandy earth which when floated yielded many grains. Total count was 119 grains. The unstabilized mass of the soil samples containing grains had been subjected to percussive forces following recovery and many grains were crushed in the process. This sample contained many fibrous rootlets, which on microscopic examination were clearly attached to the carbonized grains.

Triticum aestivum L. (Domestic Bread Wheat)

Quantity:	111
Percentage of total:	93%

A sample of ten grains was selected for measurement. The results of these measurements were:

Range of Length:	5.2 - 7.3 mm.
Range of Breadth:	2.0 - 3.0 mm.
Range of Thickness:	1.9 - 2.5 mm.
Mean Length:	6.14 mm.
Mean Breadth:	2.60 mm.
Mean Thickness:	2.19 mm.

Discussion: Some variance from the first sample can be expected simply because of the difference in the number of identifiable grains. This sample contained a much higher proportion of broken grains. Nevertheless, the results are virtually identical, hence the identification to species level as *aestivum.*

Triticum boeoticum Boiss. em. Thiem. (Wild Einkorn)

Quantity:	2
Percentage of Total:	1%

As in the first sample, there was a very limited number of *boeoticum* recovered. One grain was measurable at:

Length:	7.0 mm.
Breadth:	1.9 mm.
Thickness:	2.0 mm.

Hordeum spontaneum Koch. (Wild Barley)

Quantity:	2
Percentage of Total:	1%

As in the first sample these grains tend to approximate *spontaneum.* This sample consisted of between 6 and 7 individuals, but all were so fragmentary that consideration as *spontaneum* seemed most reasonable. One measurable grain yielded the following:

Length:	7.0 mm.
Breadth:	2.1 mm.
Thickness:	2.0 mm.

7.1.3 Cultural inferences

Both small samples indicate nothing unusual, but in fact, reflect a much expected dependence on domestic bread wheat by the population. Field weeds, represented by wild forms of wheat and barley, are in low enough frequency as to suggest no problems of soil overexploitation or exhaustion.

7.2 ^{14}C Determinations — Linda Mount-Williams

Several radiocarbon samples were collected during the first two seasons. Three charcoal samples were prepared for radiocarbon counting during the Spring of 1987 at Mt. Soledad Radiocarbon Laboratory in San Diego, under the auspices of Dr. Hans Suess of the Department of Chemistry, University of California, San Diego. Two of these samples, B1.10 and B1.86 contained too few grams for a reliable count (6 grams of cleaned sample being considered the minimum necessary), and therefore were not used. Charcoal sample B1.87 (laboratory number LJ 5761), located on the floor of the stone building in Area B, next to a hearth, contained 6.1 dry grams of carbon material, just enough to use in the small counter.

The preparation of this sample was done in four stages: cleaning, drying, burning, and counting. This sample needed extensive cleaning because of the many root hairs visible in the sample. The largest hairs were removed with sterilized forceps. The remaining recent organic matter was dissoved with hydrochloric acid (HCl), which removes contaminating tissue, but does not attack the charcoal. The sample was then further cleaned with sodium hydroxide (NaOH), then allowed to settle. The remaining charcoal was decanted and rinsed in boiling distilled water several times. After the final decanting, the sample was placed in a covered petrie dish and set in the laboratory's automatic dryer. Two days later, the carbon fragments were placed into the center of a glass tube, and burned into CO_2, then acetylene. This gas was stored for two weeks before being placed into the counter. A specific amount of acetylene is injected into the counter, which measures the amount of radioactive decay, thus determining the ratio of ^{14}C to ^{12}C.

The resulting date obtained from this sample is 5480 +/- 150, or 3370 +/- 150 B.C. Dr. Suess, who has developed the calibration curve now used to correct ^{14}C dates, places the Mozan sample within the 44th to the 42nd centuries B.C. According to the calibration table, however, the sample could be as recent as the 39th century B.C. This is due to the large error factor at this time period.

These dates are much earlier than the general chronological frame provided by the archaeological setting of the sample, i.e. the stone building in Area B, which belongs to the end of the third millennium. Since obviously a ^{14}C determination can only reflect the age of the wood, the time differential of about 2000 years between our sample and its archaeological context may be accounted for either by assuming that the wood recovered from the building was that much older than the building itself, or that some contamination has occurred. As for the latter, the most frequent skewing of sample dates is caused by the inclusion of modern organic debris, such as body hair, grease, cigarette ash, or packaging materials. The analysis of further samples, to be expected from future work at the site, will help provide an answer to these questions.

I wish to thank Dr. Hans Suess, Professor Emeritus at the University of California, San Diego, Department of Chemistry, and Dr. Robert Michels, Scripps Institute of Oceanography, San Diego.

8. REGIONAL SURVEY

8.1. Introduction — G. Buccellati and M. Kelly-Buccellati

Since one of the initial goals of our work in the Khabur plains was the search for clues which might lead to a better understanding of the Hurrian question, and possibly to the identification of a site that might be a good candidate for an identification with Urkish, we had sought permission, in our original application, to conduct a survey in the region of Mozan in addition to undertaking soundings there. Once the permit was graciously granted by the Director General of Antiquities and Museums, Dr. Afif Behnasssi, our work in the area around Mozan began immediately during the first season. Given the special prominence of the tell in Amuda, we chose this particular site as a starting point for our research. This tell is known in the literature as Tell Amuda, but is in fact called Tell Shermola by the local inhabitants — Tell Amuda being the name of a site which is today immediately north of Amuda within Turkish territory. Our work at Tell Shermola was facilitated by the fact that during that first season the Expedition was housed in Amuda itself, within walking distance of the tell. The brief inspection of Tell Shermola was conducted by G. Bunnens and A. Roobaert, who report on their findings in this section. Our initial impression, formed during brief visits to the site, about the unlikelihood of a major third millennium occupation at Tell Shermola was confirmed by their work, which was based on the inspection of visible features and on the collection of surface materials.

During the second season, work on the regional survey was extended to a systematic inspection of all the sites in the immediate neighborhood of Mozan. Responsibility for the survey continued in the hands of G. Bunnens and A. Roobaert, but they were also assisted by Ismail Hijara, who was especially interested in the important collections of Halaf pottery that were being assembled. Their joint report on this aspect of the survey will be included in a later volume of the Mozan reports.

A different aspect of the survey will be developed in future seasons, namely a study of the modern and ancient environment particularly for what it might have contributed in shaping the historical development of the ancient city which corresponds to modern Tell Mozan. This aspect of our work is entrusted to Kathleen F. Galvin, who will conduct a paleobotanical

survey of the area in conjunction with her palaeozoological work at the site, so that both the ancient ecology and the corresponding human adaptation may be more fully understood.

8.2 Tell Shermola (Amouda): Reconnaissance Préliminaire — Guy L. Bunnens and Arlette Roobaert

Une première reconnaissance du site ancien d'Amouda, connu des habitants sous le nom de tell Shermola, a été effectuée par les auteurs de ces lignes les 16 et 17 novembre 1984. La brièveté du temps et surtout de très mauvaises conditions atmosphériques n'ont permis que quelques constatations préliminaires. Elles ne sont cependant pas dénuées d'intérêt. C'est pourquoi nous les présentons ici, en guise d'introduction à une exploration plus approfondie qui doit avoir lieu dans un très proche avenir.

8.2.1 Étendue du site antique

Le site antique se trouve immédiatement au sud de la ville moderne. Le vestige le plus marquant en est un tertre à peu près quadrangulaire, dont les faces mesurent environ 40 mètres de long et dont la hauteur doit osciller entre 6 et 10 mètres (Ill. 43). Il s'agit évidemment d'un tell archéologique que des travaux de terrassement ont réduit à sa forme et à ses dimensions actuelles.

Le problème se pose de savoir quelle était son étendue avant ces travaux de terrassement.

Le croquis de la Fig. 49 indique les traits essentiels de la topographie actuelle vue de l'est. Au sud du tell (n° 1) s'étend un champ limité à l'est par la route moderne Amouda-Hassaké, au sud par une butte sur laquelle s'élèvent quelques maisons (n° 5 et Illustr. 46) et à l'ouest par une éminence assez étendue que domine un cimetière (n° 4 et Illustr. 47). La butte méridionale a visiblement été entaillée du côté du champ alors qu'elle descend en pente douce vers un vignoble situé plus au sud. L'éminence du cimetière a été entaillée de la même manière du côté du champ. Un examen rapide de ces entailles révèle non seulement des tessons mais aussi des strates correspondant à des couches archéologiques. D'autre part, l'abondance des tessons qui parsèment le champ indique que des couches archéologiques doivent encore exister sous la surface actuelle.

Tous ces faits semblent concourir à montrer que ce champ a été aménagé en arasant une élévation constituée par l'accumulation de vestiges archéologiques et dont la butte méridionale et l'éminence du cimetière constitueraient des vestiges intacts. En d'autres mots, le tertre n'est pas le seul lieu à avoir été occupé dans l'antiquité. Un vaste espace s'étendant vers le sud et le sud-ouest était également habité.

En direction du nord, la situation est moins claire. L'espace libre entre le tertre et les premières maisons de la ville (Fig. 49) est occupé par un cimetière qui semble désaffecté (n° 2). Aucun vestige ancien, aucun tesson n'est visible dans ce secteur. Il est donc possible que le site antique ne se soit pas étendu très loin au-delà du tell dans cette direction. Des recherches complémentaires devraient le confirmer.

Nous pouvons donc dores et déjà admettre que le tertre ne constituait qu'une partie du site antique. Il doit renfermer les vestiges d'une petite acropole dominant une ville basse qui s'étendait vers le sud et le sud-ouest. Le croquis de la Fig. 49 donne une idée de ce que pourrait être le site, vu de l'est, avant les travaux de terrassement qui l'ont mutilé.

8.2.2 Le tertre

L'arasement des pentes du tell permet quelques observations stratigraphiques. Les conclusions tirées de l'examen de chacune des quatre faces sont concordantes. Le croquis de la Fig. 47, qui montre la face nord, permet de les résumer.

Il semble que deux grands niveaux soient à distinguer. Le niveau supérieur (I) révèle une superposition de couches assez complexe paraissant indiquer de nombreuses destructions et reconstructions d'édifices aux dimensions modestes. Il n'a pas été possible de les indiquer, même schématiquement, sur le croquis. Le niveau inférieur (II), par contre, qui représente entre un tiers et la moitié de la hauteur totale, est beaucoup plus homogène. On y voit des murs épais délimitant des espaces comblés d'une terre fine et compacte, de couleur grisâtre, parfois cendreuse, et déposée en strates plus ou moins horizontales. Ces accumulations, qui pourraient représenter soit des remblais, soit une succession de sols, soit les deux, peuvent atteindre une épaisseur de plusieurs mètres en certains endroits. On peut penser que ce niveau est constitué par une seule grande construction ou, tout au plus, par un complexe de deux ou trois grands édifices aux murs solides et aux chambres spacieuses.

Cette ou ces constructions ont connu au moins un remaniement important. Ainsi, sur la face nord, on voit, à l'extrémité est, un grand mur (n° 1) qui paraît avoir existé pendant toute la période. A l'extrémité ouest lui fait pendant un curieux mur à gradins (n° 2) — quatorze sont visibles — qui sert de support à un mur droit peut-être construit postérieurement. Entre les deux s'étend une accumulation de cette terre fine et grisâtre qui caractérise le niveau inférieur (n° 3). Aucune interruption, aucun mur, apparemment, ne s'interpose dans cette masse, du moins à ce qu'il nous a été permis de constater. L'ensemble de ces deux murs et des terres qu'ils contiennent forme le niveau le plus bas que l'on puisse repérer dans l'état actuel (II B). A environ 1,80 mètre au-dessus du sol, alors que les murs 1 et 2 étaient toujours en usage ou avaient été reconstruits, d'autres murs ont été édifiés (n° 4 et 5), séparés par un sol empierré sur lequel des débris se sont progressivement accumulés. Les dimensions des faces visibles des briques du mur 4 sont de 36 centimètres sur 12. La relation entre le mur 4 et le mur 6, qui pourrait être postérieur, n'est pas claire. L'ensemble formé par les murs 4 et 5, ainsi que par les parties supérieures des murs 1 et 2, paraît constituer un niveau homogène (II A). L'unité de toute la partie inférieure (II) est assurée par l'existence, au niveau A comme au niveau B, des murs 1 et 2, et par la poursuite, sans hiatus, de l'accumulation des terres fines et grisâtres contre le mur 1.

Un élément de la face sud mérite d'être signalé. Il s'agit d'une grande voûte surbaissée, construite en briques crues et apparemment soutenue par un pilier central (Fig. 48). Les briques qui font office de voussoirs sont placées en position rayonnante dans le sens de l'axe de la voûte. La largeur de tout le dispositif est de quelque 6 mètres et sa hauteur dépasse 2 mètres. Il appartient à la partie la plus basse du niveau inférieur (II B).

La destination de ce complexe architectural nous échappe pour le moment: temple, palais, entrepôt, caserne? Tout est possible.

8.2.3 Céramique et datation

Quelques tessons ont été recueillis dans les parois du tell au niveau inférieur (II). Ils appartiennent presque tous à une céramique commune assez grossière, de couleur soit brun-rose, soit jaune verdâtre, contenant des dégraissants minéraux et des dégraissants végétaux très apparents.

Les formes les plus fréquentes (Fig. 50) sont celles d'écuelles carénées. Il semble en exister deux types: l'un dont le diamètre maximum est de plus ou moins 10 centimètres (Illustr. 45), l'autre de 25 à 30 centimétres. On rencontre aussi de petites jarres à col en forme de bourrelet ou à lèvre arrondie ou aplatie vers l'extérieur. Une attention particulière doit être portée à un fond de vase, terminé en bouton (Illustr. 44), qui fut trouvé à hauteur du degré supérieur du mur en gradins de la face nord (n° 2 de la Fig. 47). Il appartient vraisemblablement à la dernière phase du niveau inférieur (II A).

Les décors sont rares. Signalons un petit fragment portant une décoration au peigne, un tesson de gros vase portant un décor cordé et deux petits fragments portant des traces de peinture noire ou brune sur fond d'engobe clair.

Une première estimation, qui repose sur des coups de sonde plus que sur une recherche systématique, semble situer cette céramique, et donc le niveau inférieur (II) du tell Shermola, dans la seconde moitié du IIe millénaire.

9. APPENDICES

9.1 Comments on the Urkish Lion Pegs — Oscar W. Muscarella*

In 1948 the Metropolitan Museum of Art purchased a copper (or arsenic bronze) lion peg (48.180) that although published a number of times deserves more comment, both with regard to its cultural attribution and its alleged find spot. Furthermore, some new and important information has been obtained that deserves publication.[1]

Cast in the round is the forepart of a lion, the lower part of which is in the form of a thick, tapering, cylindrical peg with a blunt tip (Illustr. 48-51). The tip is damaged and slightly bent and has an irregularly shaped hole. Extending straight out from its body, the lion's legs and paws hover over a thin concave plaque that has upturned outer edges; a bend at one corner may be modern. The lion's mouth is open in a snarl, bearing his fangs and wrinkling his muzzle; his tongue does not protrude. Mane hair is rendered as thick incised mass divided into tufts that suggest layering, and a raised ruff extends around the head, broken only by the laid back ears. Isolated hair tufts exist at the elbows and below the powerful, muscled shoulders. The whole execution is one of intentional naturalness, an attitude emphasized by the elevated and leftward turn of the head. Examination of the underside of the plaque at the area of the join with the lion's body reveals a slight swelling that seems to be traces of solder, and a slight undercutting may be seen at the outer edges. Moreover, the lion's legs are not physically part of the plaque and do not touch it. It is therefore probable that the plaque was separately made and inserted into a thin slit in the lion's stomach (infra).

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* [The text of this section was submitted in January 1985. — G.B. and M.K-B.]

[1] Height: 11.7 cm., width 7.9 cm. (see below, 9.1.1, for a metal analysis of the piece by Pieter Meyers). The low presence of arsenic makes it difficult to determine whether it was added or was a component of the copper ore. Previous publications: A. C. Bowlin, B.B. Farwell, *Small Sculptures in Bronze* (MMA, 1950), 6: Crawford et al. 1966, 10 f., Fig. 15; J. F. X. McKeon, *The Art of Sumer and Akkad*, Boston Museum of Fine Arts, 1973, n.23; H. Hibbard, *The Metropolitan Museum of Art* (New York 1980), 56, n.111; *Metropolitan Museum of Art Guide* 1983, 53, n.19; *BMMA* 41, 4 (1984) 29, n.35.

The plaque preserves traces of incised cuneiform signs on its upper surface and is perhaps meant to function as a tablet; only a few signs are now legible. Richard Zettler examined the plaque and gave me the following information:

> The plate of MMA 48.180 has a 14-line inscription. Lines 1-12 run from top to bottom along the left side of the plate, that is, between the left leg of the lion and the edge of the plate. Lines 13-14 are cut in the space between the legs of the lion but closer to the left leg. The lines run at a 90 degree angle to lines 1-12. Much of the inscription is effaced due to corrosion and subsequent cleaning. The left edge of lines 1-10 has not been cleaned, so corrosion still obscures that part of the inscription. I examined the inscription briefly in May, 1983, with the aid of a magnifying glass only and could make out lines 1-3. These lines read:
>
> [ ]-[iš?]-[ ]-[tal?]
> [e]n-da-a[n]
> [ke]š-ki
>
> The traces are sufficient to indicate that lines 1-3 probably duplicate the opening lines of the stone tablet Louvre AO 19938 [infra], that is, *Ti-iš-a-tal en-da-an Ur-keš-ki.*

It seems obvious that the lion's function is apotropaic, to protect the plaque and the temple in which it was deposited (infra). It is also obvious that the lion peg is a foundation peg or deposit, an interpretation revealed not only by the peg base itself, but also by the inscription on the stone tablet mentioned by Zettler that is associated with another lion peg, the mate of the Museum's piece, now in the Louvre, AO 19937 (Hallo 1962, 11; Ellis 1968, 57). The Louvre's lion peg was acquired in the very same year (1948) as the Metropolitan Museum's example (Parrot 1948, 85 f., Fig. 1; Parrot and Nougayrol 1948, Figs. 1-3; it is known to me only from the photographs). Formally and stylistically exactly the same as our piece, it nevertheless was made in a separate mould. The Louvre's lion faces frontally in the same plane as the body, and is not turned to one side; its mane hair is not rendered as tufted layers; its legs appear to be more massive, and the shoulders seem to have less indication of muscles. In addition, its bronze plaque is horizontal, not, as appears to be the original position of the Metropolitan Museum's piece, concave. Pierre Amiet has informed me that there is evidence that the Louvre's plaque was separately made and inserted into a slit in the lion's stomach, a conclusion independently reached for the Metropolitan Museum's lion peg. The Louvre plaque is also incised with cuneiform signs (infra; Illustr. 52).

The Louvre lion peg was purchased together with a white stone tablet that is inscribed in the Hurrian language and which seems to fit under the bronze plaque. The text on the tablet is clear and records that "Tishatal, king of Urkish, built the temple of Pirigal [or Nergal?]" and that the temple is placed under the protection of various deities who threaten anyone who attempts to destroy it (Parrot and Nougayrol 1948, 11; Schmökel 1955, 278 f.). The Louvre's lion presumably held and protected the stone tablet as well as the bronze

plaque, and both it and its mate were placed in the foundations of the Pirigal temple, wherever that may have been built (infra), resting, and quietly doing their duty there until torn away by modern plunderers (whose prayers, one trusts, according to the tablet's curse, will not be heeded). Inasmuch as the Metropolitan Museum's lion peg lacks a stone tablet, I wondered whether there was objective verification, aside from the juxtapositon in a dealer's shop, that the Louvre lion peg and stone tablet were in fact an ancient ensemble.[2] Parrot and Nougayrol (1948, 1, n.3) stated that the plaque "a laissé son empreinte sur la tablette de pierre," but the nature of the imprint or stain was not explained. I therefore wrote (January 12, 1983) to Pierre Amiet requesting clarification and further information if any were available. He promptly replied (January 20, 1983) with information that established that the stone tablet was indeed originally associated with the lion peg, that they were placed together in the foundations of the temple.

In the first place with regard to the stain, the stone tablet "porte bien un depôt d'oxyde de cuivre correspondant d'une part à la tablette de cuivre que tient le lion, et d'autre part, sur le côte, au point qui était au contact du clou." Secondly, and "décisif, la tablette de calcaire s'est imprimée au revers de la tablette de cuivre, sur l'oxyde de laquelle on peut reconnaître en partie deux de signes des lignes 18 et 19." (See Illustr. 53).[3] Finally, the copper plaque was cleaned subsequent to the 1948 publication and some of the signs may now be read, especially part of the crucial first and second lines which agree with those on the stone tablet.[4] Collectively, the evidence indicates that there can be no doubt that the Louvre lion peg and stone tablet are an ancient ensemble[5] and that they have the same basic inscription as on the Metropolitan Museums's peg.

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[2] These thoughts occurred to me before I was able to get someone (Zettler, May 1983) to attempt to read the inscription on the Museum's plaque. But, even knowing in advance that the latter mentioned Tishatal, I would still think it important to obtain objective confirmation that the Louvre's peg and tablet were an historical ensemble.

[3] I quote Amiet to give the information exactly as presented. In typical, generous fashion Amiet has also given me permission to publish the photograph of the impression left in the metal oxidation. The clearest photograph published of the Louvre peg is Schmökel 1955, Taf. 47.

[4] Amiet believes that the plaque was cut back in antiquity after suffering damage from the force required to insert it into the lion. "En effet, on peut lire la première ligne: *ti-iš-a*, mais il n'y a pas de place pour *tal*. Dans la 2e ligne, on peut lire *en* (très mal tracé) *da-an*. La suite est très obliterée, on voit du moins que la 4e ligne commence par DUMU et diffère donc de celle de la tablette de calcaire. Le libellé des deux tablettes différait donc quelque pue." Parrot (1948, 86; and Parrot and Nougayrol 1948, 2) ambiguously claimed that the text on the tablet is "sans doute" the same as that "sous l'oxydation de la plaque de cuivre." But this could not be known until the plaque had been cleaned and it seems that Parrot was making an assumption, one that was later proven correct.

[5] This conclusion is obviously neither pedantic nor minor. The reason why the Museum's lion peg lacks a tablet can no longer be known, or even hypothesized: another example of a lost crucial historical documentation, courtesy of the antiquity market and its clients. We cannot answer the questions we ask: Was the lion peg originally deposited without a tablet? Was there a tablet removed by the plunderers but subsequently discarded or lost? Was it indeed recovered but sold independently of the peg, some day to be recovered? Was it missed inadvertently and still remains in the ground?

Neither the Metropolitan Museum's nor the Louvre's lion peg has an archaeological provenience; both derive from the antiquities market and there is an implication that two dealers were originally involved in the two sales. Parrot and Nougayrol (1948, 2), while giving no information about the Louvre piece other than that it was acquired through the auspices of the Société des Amis du Louvre, state that the mate was seen "précédemment chez un antiquaire parisien...," implying that this dealer was not the same one who sold the Louvre its lion peg. The Metropolitan Museum's lion peg was in fact purchased from a New York dealer; how he acquired it and whether it came directly from the aforementioned Paris dealer is unknown. In any event, whatever the modern history of the two lion pegs may have been, their transfer from an ancient site, a Near Eastern mound, to Paris (and dispersal to two separate dealers there) and then the transfer of one to a dealer in New York City, it may be accepted within the framework of a plausible speculation that both lion pegs were plundered from the same site, and from the foundations of a temple at that site.

What was the ancient and the modern name of that site, and where was it located? The answer to each of these questions is the same: we do not know. A number of scholars have assumed that wherever in the Near East the pegs were found, that mound will have been Urkish, the city mentioned in the inscription (e.g. Parrot 1954, 13; Schmökel 1955, 278; Nougayrol 1960, 213; van Liere 1957, 91; Rashid 1957-71, 213; implied by Mellink 1972-75, 515). However, the text on the stone tablet merely states that a king of Urkish built a temple; it does not say that the temple was built at Urkish, although it is possible it was built there. In this sense, the lion pegs may be known as the Urkish lions, not because of where they were necessarily deposited in antiquity, but because they were deposited by a king of Urkish.[6] The city of Urkish appears in a number of texts from Chagar Bazar and Mari, and on the bronze so-called Samarra tablet; it was a major Hurrian political and cultural center (Speiser 1953, 313 f.; Gelb 1956, 380 f.; Mellink 1972-75, 515). All scholars interested in the site locate it in North Mesopotamia, in the Khabur River basin of present-day northeastern Syria and southeastern Turkey.[7] A few of these scholars have singled out one mound in that area, Tell Amouda, as their candidate for the site of Urkish (van Liere 1957; Edzard and Kammenhuber 1972-75, 509; Kessler 1980, 225 f.; Salvini 1983, 27, 33). Only excavation will resolve the issue and until that is accomplished Rashid's (1957-71, 658) statement that Urkish is "nicht sicher lokalisiert" and Parayre's (1977, 126, III) question mark still obtain.

For, as we do not know from internal evidence whether the lion pegs were deposited in a temple at Urkish, likewise, but for different reasons, we do not know the geographical location of the mound from which they were plundered. Van Liere (1957, 91) claimed that "Des informations fortuites que j'ai obtenues récémment indiquent que ces lions ont été excavés [sic] de Tell Amouda." No source, viable or otherwise, was given for this hermetic claim

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[6] Like other Near Eastern kings, Hurrian kings, including those from Urkish, built temples at several cities, as we known from the so-called Samarra tablet (a bronze tablet purchased from a dealer and without provenience, Thureau-Dangin 1912, 1 f.). Note that it is of course possible that the Pirigal temple was built by Tishatal at Urkish, but since the tablet does not give a location we may not make this assumption. [On this and other points raised in the Appendix see also the remarks above, Section 2.2 — G.B. and M. K.-B.]

[7] Except Thureau-Dangin 1912, 3. In addition to Parrot and Nougayrol 1948, 2, 18 f., Speiser 1953, 313 f.; Hrouda 1958, 28; Kessler 1980, 224 ff.; see A. Goetze *JCS* VII, 2, 1953, 62 f.

(see Kessler 1980, 224), but van Liere used information he was reluctant to share to support his identification of Tell Amouda as Urkish. Statements of this kind have no place in archaeological discourse and have no value for those attempting to learn exactly where an object was found, whether the lion pegs or any other object.[8]

The Hurrians, a non-Indo-European and non-Semitic speaking people, appear in cuneiform texts from the Akkadian period, the second half of the 3rd millennium B.C., through the 2nd millennium B.C., and Hurrian names continue to appear in the 1st millennium (Gelb 1944; Speiser 1953; Edzard and Kammenhuber 1972-75). The stone tablet and the inscribed lion pegs are the earliest Hurrian documents known to date and concomitantly the lion pegs are the earlierst works of art associated with the Hurrians, manifestly having been deposited in one of their temples. Most cuneiformists agree that the stone tablet was inscribed some time in the Akkadian period (25th-23rd centuries B.C.) but there is a difference of opinion concerning exactly when within that period it may be dated. Parrot and Nougayrol (1948, 3; also Parrot 1948, 86; *idem* 1961, 282) date it close to the beginning of this period, a position accepted by Speiser (1953, 313). Other scholars date it to the later part of the period (e.g., Gelb 1956, 380 f.; Hrouda 1958, 78; Hallo 1962, 11; Ellis 1968, 57; Mellink 1972-75, 515; Barrelet 1977, 7; Spycket 1981, 181; but see n. 168a).

Aside from its chronological connection to the tablet, a number of scholars also accept the lion pegs as being independently Akkadian in style (e.g., Crawford et al. 1966, 11; Mellink 1972-75, 515; Parayre 1977, 169; it is a position I tentatively share), although it has been noted that the lions could equally fit stylistically into a later period, Ur III or even Isin-Larsa (Parrot and Nougayrol 1948, 2; Parrot 1954, 12; idem 1961, 182). Moreover, Whiting (1976, 175 f.) has suggested that the tablet, and thus the lions, could in fact be dated to either the Akkadian period or to Ur III (23rd-21st centuries B.C.). Indeed, it is the date of the tablet alone that will eventually confirm the exact chronology of the pegs (Ellis 1968, 57, n.81).[9]

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[8] Who else but a dealer could be Van Liere's source for the "informations fortuites"? Nougayrol (1960, 209 ff.) published an Akkadian style cylinder in a dealer's possession inscribed "Daguna the wetnurse, daughter of Tishadimmuzi the attendant." According to the dealer's claim ("spontanément indiquée"), reported enthusiastically as an archaeological reality by Nougayrol, the seal came from the same site "que le lion de bronze acquis par le Musée du Louvre," which had been published by Nougayrol himself twelve years earlier. To Nougayrol this site is the mound "qui recouvre à présent l'antique Urkish." But he did not reveal how he could objectively know whether the seal was in fact found at the same time as the lion pegs or twelve years later, in both cases at the same site; nor did he reveal whether the same dealer was involved in the sale of both finds. Nougayrol also believed that Tishadimmuzi is a Hurrian name, which reinforces to him the Urkish attribution (cf. Edzard and Kammenhuber 1972-75, 509; "Sprache hurr.?" and Barrelet 1977, 16, n.38). Mellink (1972-75, 515) says the seal is "reportedly also from Urkish," but neglects to state that the reporter was a dealer, while Forte (apud Muscarella 1981, 89) correctly puts quotation marks around "come from Urkish"; see also Salvini 1983, 29. The seal, like the lion pegs, may be Akkadian in date and style, and equally must be reported as without provenience. For the record, the seal is now in the possession of the Lands of the Bible Archaeology Foundation (Forte apud Muscarella 1981, n.46). The donor to the Foundation, Elie Borowski, purchased the seal from a dealer in the early 1970's; he was apparently not the same dealer who had it in 1960. [See also above, Section 2.3. — G.B. and M. K.-B.]

[9] It would be significant if Tishatal "the man of Nineveh" mentioned on a tablet excavated at Eshnunna, and dated to the third year of Šu-Sin, king of Ur (III period), is the same person mentioned on the Louvre stone tablet. For, if so, we would be able to date the lion pegs in the 22nd or 21st century B.C. But the Eshnunna Tishatal is not called "the man of Urkish," which one might assume he would be called if he were the king of Urkish. For discussion, see Whiting 1976, 176 ff., who accepts the Eshnunna Tishatal to be the Hurrian king. See also Salvini 1983, 28.

Whatever problems may exist regarding the possible "stylistic range of the lion pegs, or the objective Akkadian or Ur III date of the tablet, and thus of the ensemble, there is no doubt that on the basis of style the lions fit into a late 3rd millennium B.C. Near Eastern, Mesopotamian background. They exhibit no feature that calls attention to itself as distinguished from the art of that general background.[10] And, in this crucial issue, the lion pegs epitomize the essence and the paradox of the problem of "Hurrian art," the problem of recognizing what are the characteristics of Hurrian art and how they may be perceived and defined. For on the single work of art (accepting here the two lions as representing the stylistic work) that may be called *Hurrian* by the objective nature of its juxtaposition to a Hurrian text (on the bronze plaque and on the stone tablet) recording its deposition in a temple built by a Hurrian king, its style exhibits no features that may be called *Hurrian*, as opposed to general *Near Eastern*.

This is not the place to discuss the arguments presented over several decades justifying the decision to label as *Hurrian* individual works of art (for a good summary, see Barrelet 1977).[11] Suffice it to note here that a large number of objects, none, incidentally, associated closely with Hurrian texts,[12] and dating from the 3rd through the early 1st millennium B.C., have been assumed to be Hurrian, i.e., to be artifuacts made by Hurrians, revealing themselves as such by subtle, subjectively perceived features or attributes. Mellink (1972-75, 514 ff.), a scholar who basically accepts the possibility of recognized as Hurrian, nevertheless ultimately concludes that although "the negation of Hurrian art is unfounded....the existence of an original, independent tradition of Hurrian art and architecture is improbable....." This view agrees

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[10] The foundation pegs are of course unique in two respects: no other foundation peg known to date is of the same form; and if Akkadian in date, they stand alone, for foundation pegs are otherwise unattested from that period (Ellis 1968, 57 f., 85, 154 f.; Rashid 1957-71, 157 f.).

[11] And more recently, E. Klengel-Brandt, "Ein Kultefäss aus Assur," *Forschungen und Berichte* 20/21, 1980, 217, and A. Bernard Knapp and Anne Marchant, "Cypro-Minoan and Hurrians," *RDAC* 1982, 15-21, for a rejection of subjective attributions of general Near Eastern objects to the Hurrians. Compare, however, Negahban (1983, 14, n.44) who perceives Hurrian influences in the art of the Mannaeans, Medes, Urartians and Assyrians! See also R. Mayer-Opificius 1983, passim, who casually believes that Hurrian art was a fundamental component of Urartian art, although only broad, non-substantive reasons are given to support the alleged Hurrian-Urartian artistic collective nature. She also (340) adds two more important Near Eastern objects to the growing list of "Hurrian" artistic artifacts, the fragmentary bronze seated figure from Bassetki with an Akkadian inscription (see *Sumer* 32, 1, 1976, 63 ff.), and the bronze "Sargon" head from Nineveh; no documentation is given for these gratuitous assumptions.

[12] H. Güterbock (1965, 197 f., Pl. XIII) published a votive sword with its hilt decorated with two lions, and which bears an Old Assyrian inscription, one with problems of interpretation. Güterbock believes the text refers to a sanctuary of Nergal, known to be a Hurrian deity (but not honored exclusively by Hurrians); and because of "the alleged provenience" given by the dealer as Diyarbakir in southeastern Turkey, he assumes (by ignoring his own word "alleged") that the sanctuary was in the vicinity of that city. Mellink (1972-75, 516) accepts without reservation the revealed Diyarbakir provenience (which is within the Hurrian sphere) and lists the sword as a Hurrian object coming from a Hurrian sanctuary: "The geographical provenance confirms this." But imagined speculation of this kind undermines controlled methodology: the sword was not excavated at or near Diyarbakir, and its "geographical provenance" is a modern European collection. And, not so incidentally, it should be noted that the inscription on the sword is not in Hurrian, nor are any of the names mentioned manifestly Hurrian, nor does the name Nergal appear.

with those expressed by earlier writers (e.g. Speiser 1953, 315 f.: Güterbock 1954-55, 392 f.), although it does not go so far as Frankfort (1955, 141, 143, 250, n.36), who denies the existence of Hurrian art, except for glyptic. More recent writers (Barrelet 1977; Parayre 1977) tend to support Frankfort, at least with regard to the impossibility of identifying any work of art as Hurrian. The lion pegs certainly reinforce in a fundamental way the conclusion that there is "no independent tradition of Hurrian art"; although their ancient label says they are Hurrian, their style says they are Near Eastern.

One final point is worth consideration. Ellis (1968, 75) has pointed out that, although the ensemble, figure with peg, is the same in concept as the southern Mesopotamian foundation pegs, the menacing lion and the stumpy peg (a "difference in spirit") differentiate them. A crouching lion joined to a peg or spike was excavated at Bismaya (Adab) but Ellis (1968, 56) has argued that it was placed in a horizontal, not verical, position and may therefore not be a foundation peg; yet we have in hand two examples of lions associated with a peg, one from a southern Mesopotamian milieu, and it has occurred to me that the menacing lion of the Urkish pegs may not in fact reflect a "difference in spirit" from southern ideas. On the often discussed relief of Puzur-Inshushinak from Susa (Amiet 1966, No. 165; dated there to the Ur III period; see also Schlossman 1976, 13, n.24), one of the two relief representations known that depict a kneeling god with a peg, a snarling lion is placed directly before the kneeling god. Could not the Urkish lions signify the same spiritual/symbolic value as that recorded on the Susa relief, all the more so as both lions are juxtaposed to foundation pegs? If so, then the Urkish lions are even more Near Eastern and less odd ("Hurrian") than hitherto noted.

9.1.1. Metal analysis — Pieter Meyers

Sample: Obtained by drilling from underside, next to existing hole.

Cu	97.2	As	1.29
Zn	0.028	Ag	0.018
Sn	0.038	Bi	0.003
Pb	0.046	Se	0.007
Fe	0.622	Te	0.007
Ni	0.608	In	0.001
Co	0.016	Al	0.004
Sb	0.037		

Total before normalization: 97.8

Approximately twenty-five milligrams of sample was drilled from each piece using a steel twisted drill bit mounted on an electric drill. A twenty-five milligram fraction of each sample was accurately weighed and dissolved in 2.5 cc 6N HCL containing three percent H_2O_2. After dissolution the excess H_2O_2 was removed by gently heating, and the solution was diluted to 5 cc with distilled water. Each sample was then analyzed by induction coupled plasma emission spectrometry (ICP).

The elemental concentrations are listed as fraction by weight expressed as parts per hundred and normalized to 100%, with the total of all elements determined before normalization also given. The reported values are estimated to be accurate within five percent of the reported values for the major components. The uncertainties increase to fifty percent of the reported values for some of the elemental fractions in the range of 0.01-0.05%.

9.2 Computer applications

9.2.1. Introduction — Giorgio Buccellati

One of the methodological presuppositions which underly our work at Mozan is the utilization of electronic data processing, to which I have referred briefly in my section on methodological considerations (2.4 above). We have in fact been committed since the very earliest days of micro-computing to the direct utilization of computers in the field, in the firm belief that immediate feedback from a constantly updated computerized data base would have significant conceptual effects on the research strategy of the excavation. This was already the case with our excavations at Terqa, where we introduced micro-computers as early as 1982. Our emphasis has consistently been on a fuller understanding and analysis of the stratigraphic relationships during the excavation itself.

The graphic dimension is an important component of this approach — not for reasons of aesthetics or ease of operation, but rather on intellectual, archaeological grounds. Daily, as well as archival, plotting of digital data allows the visualization of correlations which are otherwise easily lost when preserved in purely digital form; the speed with which different distributional arrays may be tested allows a much faster turn-around time in the verification of hypotheses; and, very significantly, the precision of the centimetric grid may be retained more easily at the level of the individual area supervisors (and of individual finds of movable objects) rather than just at the level of the architect (and the larger, permanent structures).

While our current field equipment includes several small plotters and the software for dealing with two-dimensional plotting, we are not yet set up for dealing with three-dimensional rendering. We have however been interested in this aspect since the beginning (when Computer Aided Design, or CAD, systems were not yet envisaged for micro-computers) — and this too for intellectual, not just aesthetic, reasons. The obvious conceptual kinship with problems posed within the framework of the discipline of architecture led me to seek both intellectual and technical advice from colleagues in this field at UCLA. My specific point of departure was the observation that as archaeologists we face identical sets of problems as those faced by architects, though in a converse sort of relationship. While architects arrive at an organization of space from a known, intended functional use (the client's requirements), we arrive conversely at a reconstruction of functional use from a known spatial organization (the excavated site). With this in mind, I was fortunate to find William J. Mitchell, Professor of Architecture and Urban Planning at the UCLA Graduate School of Architecture (now at the Harvard School of Design), the most congenial and productive collaborator with a keen sensitivity for archaeological problems. He had been developing an innovative approach to both the technical side of computer graphics and the conceptual dimension of a "grammar of space" (Stiny and Gips 1972; Stiny and Mitchell 1978; 1980). The creation of specific

three-dimensional modules which could be conjoined graphically according to a complex set of syntactical rules gave him an insight into the inner dynamics of a building (whether in existence or in the planning stage) that was hardly possible with traditional means.

An observation made by Mitchell can find, I am sure, a strong echo in archaeology; in creating three-dimensional renderings of classical buildings he realized that the two parallel sets of two-dimensional representations (floor plans and sections) would often fail to match — something which generations of architectural historians had apparently failed to notice in spite of the intense study to which these drawings had been submitted. The conceptual significance of this is that there is a tendency to view space in terms of the *flat* surfaces to which we have (heretofore) reduced it as a result of the limitations inherent in our technical capabilities. Space must be viewed instead volumetrically, and the organization of space (as well as the depositional entities in a stratified site) must be understood as *solids* — not as planes. Therefore such planes as we are used to (floor plans and sections) must be viewed purely as correlated indices of volumes (a concept which I have developed in Buccellati 1981).

It was as a result of these concerns that I asked for Mitchell's assistance in developing three-dimensional renderings of our architectural data from the digital files that we were creating in the field. Beginning with the architectural structures in themselves, we were planning to develop eventually "three-dimensional sections," as it were, of the deposition and of our correlative stratigraphic understanding; this would not be unlike the exploded diagrams found in the rendering of machine assembly charts (which is, upon reflection, a better metaphor for the stratified site than the traditional metaphor of a layer cake). Very graciously, Mitchell agreed to train an archaeology student within the curriculum of the School of Architecture, and Andrea M. Parker agreed in turn to follow through with the study of certain buildings at Terqa and Mozan. Given below is the result of her work, which is illustrated in the computer generated graphic reconstructions of the stone building in Area B (Illustr. 54-56). Her contribution shows vividly how heuristically significant the process can be. Alternative interpretations of the architectural shapes may be preferred to the ones here proposed, but that is precisely the point that is intended: the ease with which very precise, concurrent and diverse reconstructions can be generated does not prejudicially tie our perception to just one or two possible reconstructions. The potential of field applications of the same approach (which are beginning to be within reach as a result of recent developments in micro-computer supported graphic packages) is clear: the three-dimensional rendering of architectural structures and, eventually, of depositional units provides a firmer support for a fuller appreciation of volumes in space than any of the traditional means.

9.2.2 CAD Reconstructions of the building in Area B — Andrea M. Parker

One of the questions that naturally occurs during the excavation of any site is "What was the shape and size of the structure that is being excavated, and what was the purpose it served?" In the case of the building in Area B at Mozan, an attempt was made to answer some of these questions with the aid of a computer-aided architectural design system.

The partially excavated stone foundations at the top of the tell in Area B seem to represent a corner of a monumental building. They can provide some information concerning the general size of the walls which they supported, but by themselves they are not reliable indicators of either the building's architectural style or its function. Other features which

were excavated in association with the foundations are better sources for this kind of information, namely the white floor, the ramp, the hearth and the unbaked brick surface to the north of the building.

Unfortunately, given the early stage of the excavation, the way in which these other features are related to the stone foundations is still not entirely clear, nor is it even established that they are all contemporaneous. Until such questions can be resolved by future excavations, the process of creating hypothetical structures in Area B must take into consideration the effects of all the permutations of these features. The inclusion or omission of any of them in the reconstruction process can result in significantly different buildings.

Therefore, it should be emphasized that the reconstruction task at Mozan is not one of passively generating a few variations of a building based on a well-defined two-dimensional groundplan. This type of process would be perhaps better referred to as 'illustration' rather than 'reconstruction.' Instead, the reconstruction process at Mozan is more akin to the kind of design process performed by architects and engineers and which ultimately motivated the development of computer-aided design (CAD) technology.

While an 'illustration' medium, e.g. pencil and paper, may be well suited to the first kind of reconstruction, namely a one-time 'illustration' of well-defined visual data, it is poorly suited to executing the types of geometric manipulations and repetitive trial and error operations which are required for the second type of reconstruction — where a 'best-fit' configuration must be chosen from among a very wide range of incompletely defined sets of visual data. This latter process requires the three-dimensional versatility and the speed of recomposition afforded by a CAD system. Thus, somewhat ironically, it appears that the same type of visual processing that is applied to modern-day engineering or architectural components is also the method best suited to the examination and reconstruction of a building which dates back to the Bronze Age at Tell Mozan.

The mechanical implementation of the various reconstructions is simple. Three-dimensional models of different Bronze Age architectural modules are stored in a CAD system. The system is then used to select, transform and assemble instances of these modules into hypothetical superstructures which are fitted onto the Mozan foundations to produce different reconstructions of how the Mozan building might have appeared in the third millennium B.C.

The collection of modules which is stored in the computer and which provides the basic shapes used in the CAD reconstructions is referred to as the 'shape library.' The modules in the shape library are organized into two groups, those which represent the Mozan foundations and those which are used for the various reconstructed superstructures. The 'foundation group' comprises the core of the architectural features which were excavated at Mozan. These are shown in Illustr. 54 and consist of the stone foundations, the white floor, the hearth, the ramp and the baked brick floor north of the white floor.

The various architectural modules which are used for reconstructing the superstructures of the building at Mozan are taken from sites in Mesopotamia, Anatolia, and Northern Syria of approximately the same time-frame as Mozan.

The Mesopotamian-style modules are extracted from the inventory of elementary Bronze Age shapes compiled by Margueron (1982, Figs. 344-346; 349-352; 361-368). The appropriate mid-third millennium modules are those of the Early Dynastic palaces of Kish A, Kish P, pre-Sargonic Mari and Eridu. Since the functions of these buildings are generally held to be 'unidentified' at this time, there are no particularly religious or secular connotations attached to these modules. Characteristic forms are 'long corridors', 'pivot rooms,' 'coronas and courtyards,' 'entry modules' and 'stairwells.'

The Anatolian module is the megaron, which appears to describe most ceremonial or monumental buildings in Anatolia during this period. Beycesultan (Lloyd and Mellaart, 1962) and Kultepe (Özgüç 1963; 1986) offer two examples of this Anatolian type architecture which are within a few hundred miles of Mozan and demonstrate that the megaron style was in use in the region during the mid-third millennium.

The two northern Syrian sites which yielded the most interesting comparisons with Mozan were Ebla (Matthiae 1980, 65-111, Fig. 11) and Tell Chuera (Moortgat 1962, 10, Plan II). The Palace G at Ebla furnished an example of a monumental staircase. From Tell Chuera, modules for the Mozan superstructure came from the stone-built North Temple and a composite of the different levels of the smaller mud-brick 'Anten'-temples (Moortgat 1965, 11-15, Plans V-VI; Moortgat 1967, 8-38, Figs. 7 and 17, Plans III and IV). Both these temples at Tell Chuera are characterized by protruding front buttresses and are referred to in the following discussion as 'in antis' temples.

The architectural modules from the above sites produced a shape library consisting of approximately thirty entries. All the modules were input into the computer at the same scale and according to their original orientations. The two-dimensional coordinates of the modules were digitized from their respective site plans and input onto a specific layer in the CAD system according to each module's function (for example, all the 'corridors' were input on one layer, all the 'pivot modules' on another, etc.). Then the two-dimensional plans of the modules were extruded into three-dimensional 'solids,' using existing data concerning the third dimension whenever that was available (i.e. depth of stone foundations at Mozan), otherwise positing reasonable dimensions when the data were missing or functionally inappropriate (i.e. height of walls). The advantage of working with three-dimensional 'solid' modules in the CAD environment as opposed to two-dimensional 'surface' ones is felt to outweigh the possible errors which might arise from reconstructing wrong heights in some cases. CAD 'solids' can be joined to each other, or intersected, or subtracted from each other, and in general behave very much like mud-brick, the appropriate medium for the reconstructions at Mozan. In addition, 'solid' models can be 'illustrated,' evaluated, modified and then if necessary 're-illustrated' much faster than surface models, thereby considerably decreasing the time required to generate a large number of reconstructions.

The procedure for generating a reconstruction of a building from modules stored in the shape library can be outlined as follows. For each reconstruction, certain three-dimensional modules in the shape library were selected for their potential suitability as superstructures to the foundations at Mozan. Once selected, they were copied onto a working layer which already contained the three-dimensional representation of the Mozan foundations to which the superstructure would be adapted. On the working layer, the three-dimensional superstructure modules were translated onto the Mozan foundations. The transformation operations which were used by all the reconstructions were: extrusion, copying, union, subtraction, and translation. In some reconstructions where additional transformations seemed legitimate, the superstructure or part of the superstructure was rotated, scaled or otherwise transformed (for example, stretched) to make it adapt to the Mozan foundations. However, such superstructure transformations were not always necessary or even desirable, since the relative degree of 'mis-adaptation' of a superstructure can conceivably provide a significant amount of information in its own right.

The way in which the modules were combined to produce plausible superstructures was not arbitrary, but was based on the functional analysis approach to architectural reconstruction proposed by Margueron. This approach provides the double framework required for the data at Mozan. On the one hand, it offers a means of empirically checking the accuracy of hypothetically reconstructed dimensions and configurations against an exhaustive inventory of existing modules and patterns (concerning Mesopotamian-style architecture, at least); this helps eliminate the erroneous reconstructions which might arise from basing room configurations or dimensions solely on 'patterns' instead of existing examples. On the other hand, the procedure for identifying the functions of various modules within a larger structure is sufficiently abstract to be applicable to other architectural styles besides the Mesopotamian style which Margueron studied; this is particularly useful at a site such as Mozan where the architectural style of the building is still undetermined and may in fact represent a new type (Hurrian?).

Two of the reconstructions that were generated for the Mozan building in Area B are shown in Illustr. 55 and 56.

Illustration 55 shows a Northern Syrian style 'in antis' temple, with the entrance from the East. The reconstruction is based on a composite of the groundplans of Moortgat's 'Anten'-temples and of the larger North Temple at Tell Chuera. The North Temple's basic groundplan in particular is almost identical with the dimensions and orientation of the foundations so far recovered at Mozan. Certain features at Mozan, such as the stone ramp and the brick floor, were incorporated into this reconstruction by envisaging adjacent rooms and/or exits to the exterior of the temple. There was no need either to rotate or scale the Tell Chuera North Temple module to adapt it to Mozan. It fit almost 'as-is.'

Illustration 56 shows a reconstruction of a hypothetical Mesopotamian-style superstructure at Mozan. The module which inspired this reconstruction was the portico at Kish A, building II, because of its access to the exterior. Supposedly, such an exterior access would be a primary consideration at Mozan given the presence of the stone ramp adjacent to the white floor in Area B. This Kish module is one of the larger modules among third millennium Mesopotamian style 'palaces' (excluding 'courtyards'). It was rotated from its original orientation and even stretched to more than twice its width, using a CAD transformation, in order to try to fit it to the Mozan foundations. Despite these rather major design modifications, this supertructure is still too narrow for the foundations and the reconstruction is therefore not very convincing. It does, however, shed light on some specific design factors by which Southern Mesopotamian and Northern Syrian architecture differ.

The Anatolian module is the megaron, which appears to describe most ceremonial or monumental buildings in Anatolia during this period. Beycesultan (Lloyd and Mellaart, 1962) and Kultepe (Özgüç 1963; 1986) offer two examples of this Anatolian type architecture which are within a few hundred miles of Mozan and demonstrate that the megaron style was in use in the region during the mid-third millennium.

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FIGURES

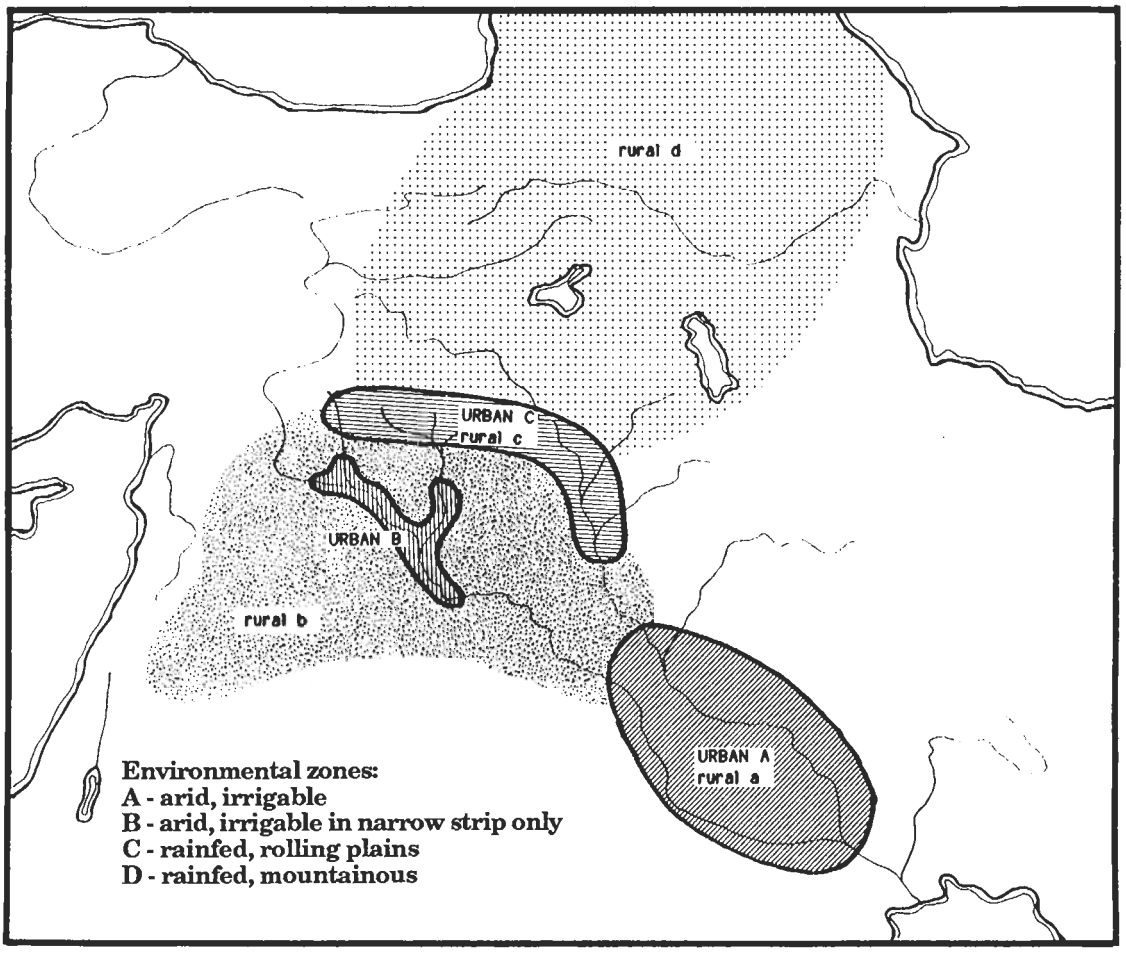


Figure 1. Rural and urban zones in Syro-Mesopotamia during the third millennium

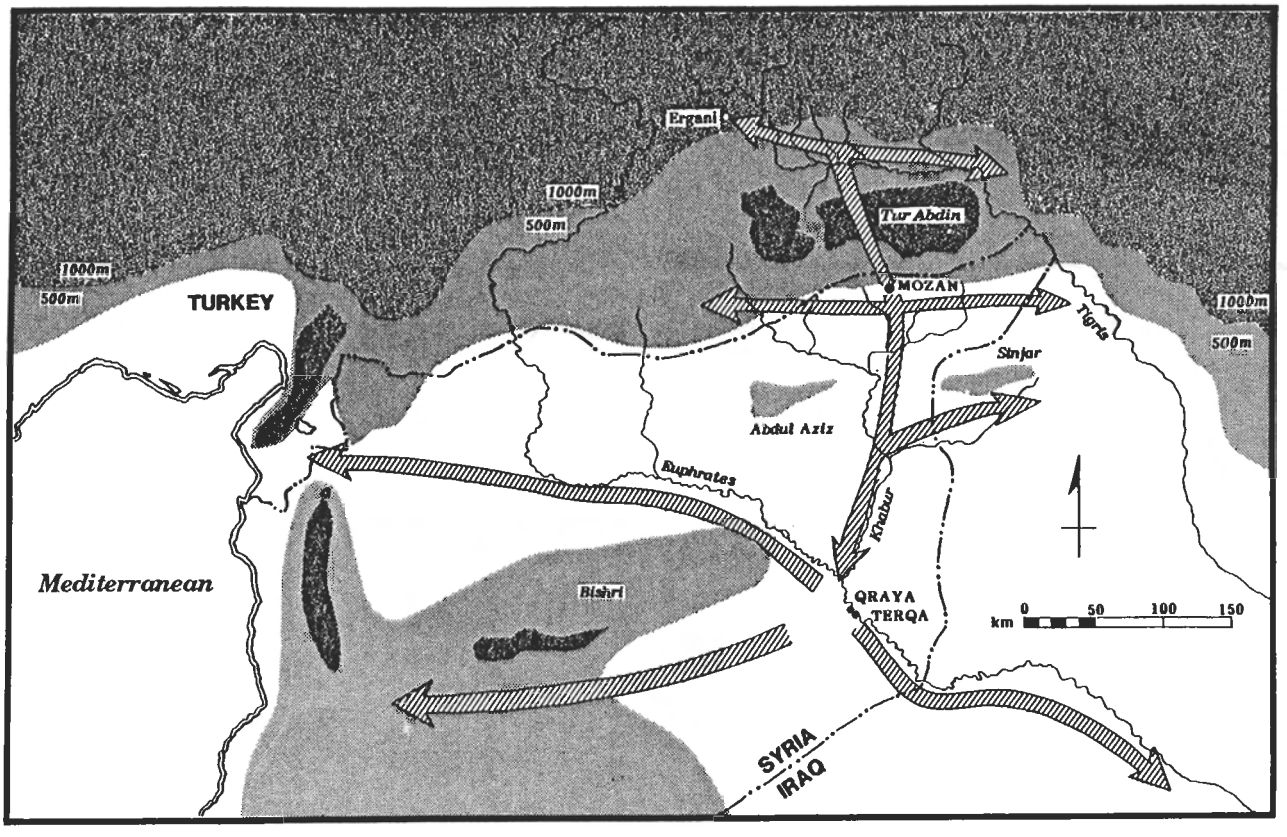


Figure 2. Major trade routes

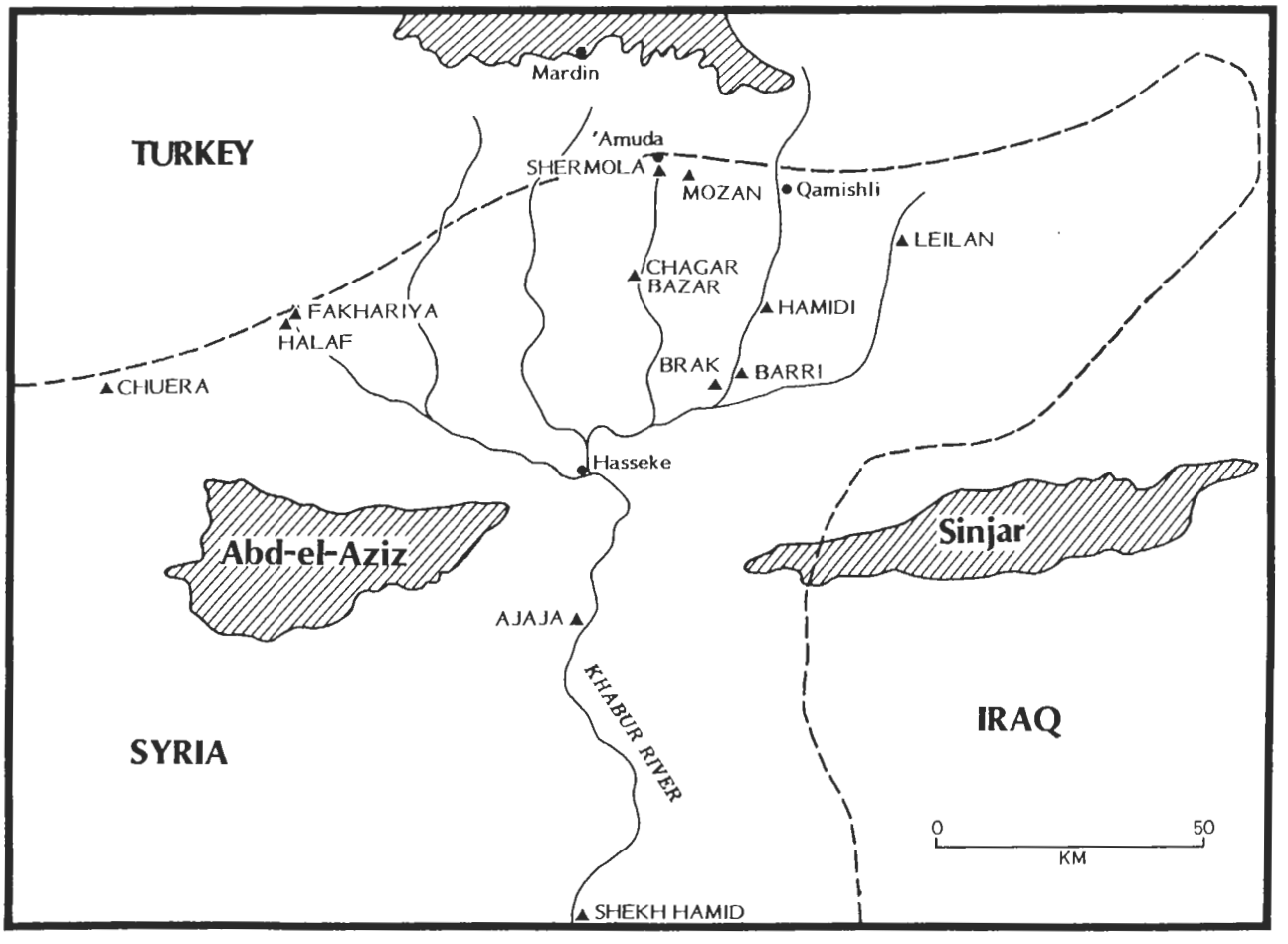
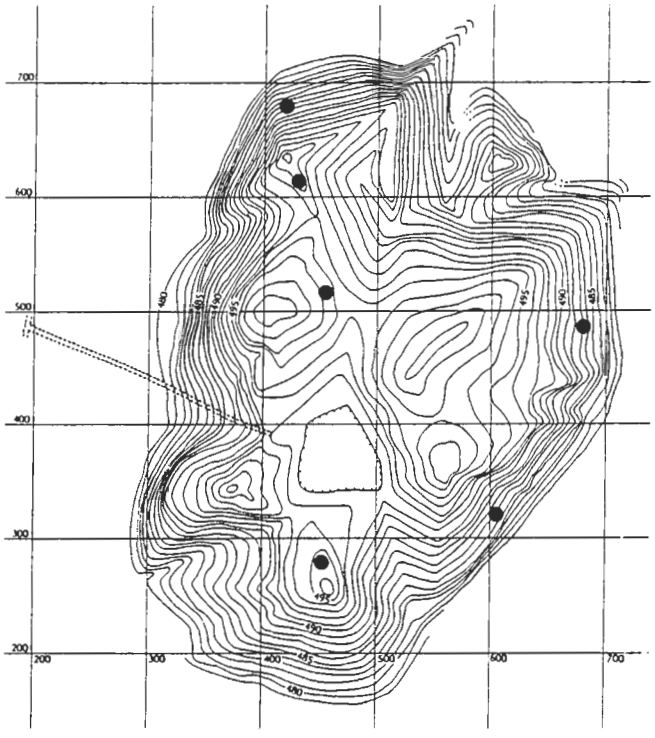
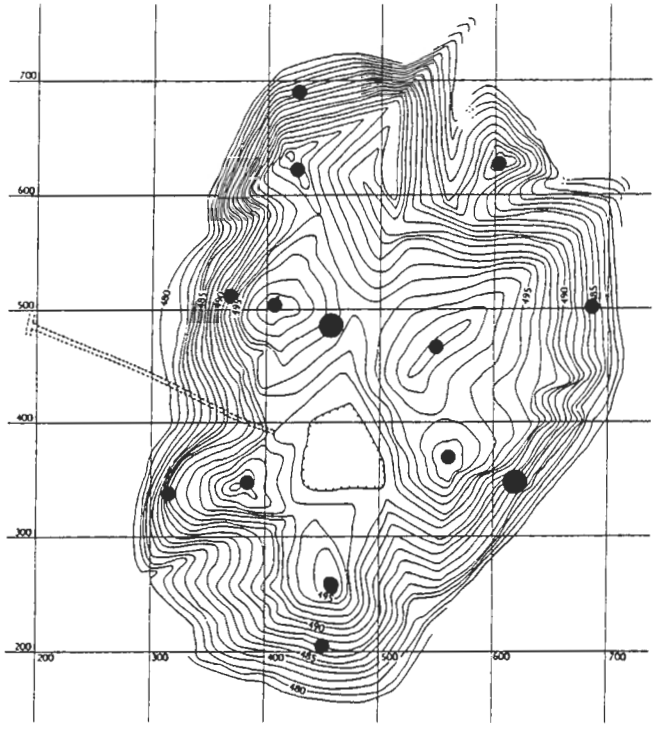


Figure 3. Major sites in the upper Khabur region

EARLY THIRD MILLENNIUM (NINEVITE V)

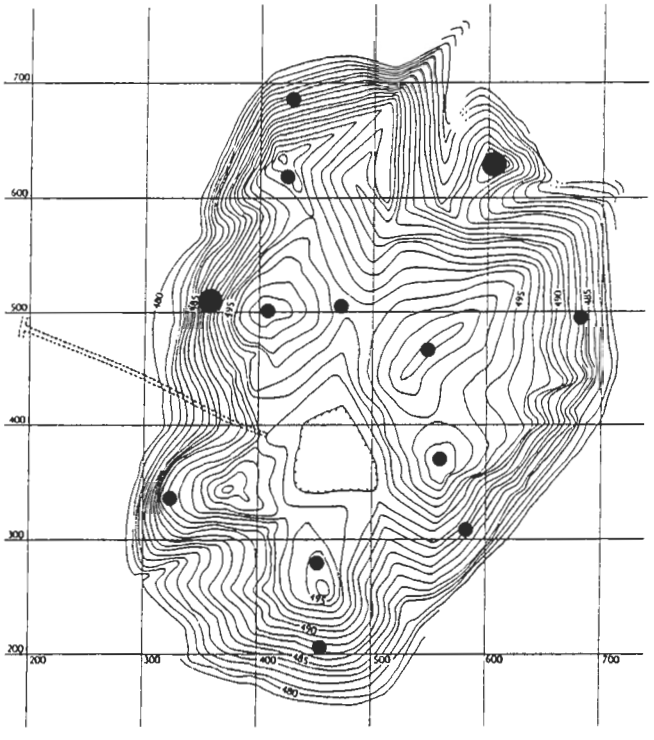
MID THIRD MILLENNIUM





LATE THIRD MILLENNIUM (UR III)

MID EARLY SECOND MILLENNIUM (HABUR)



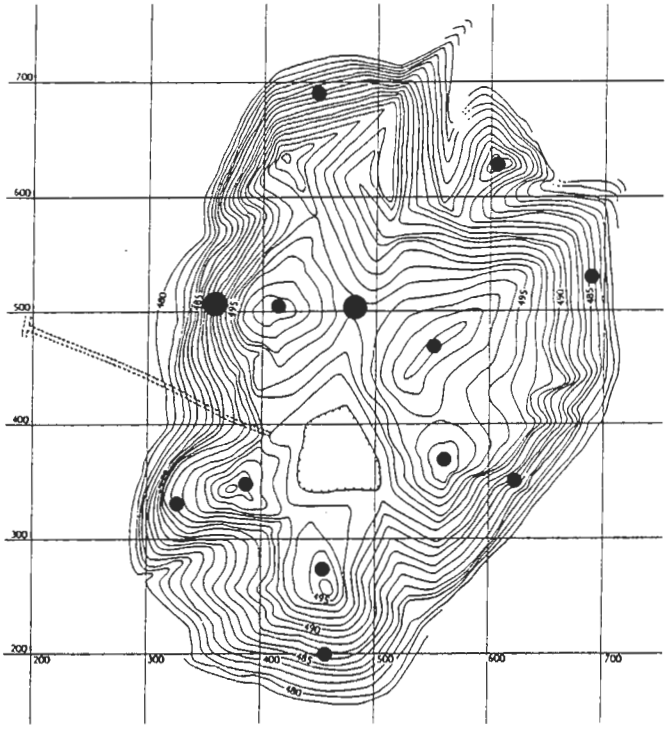


Figure 4. The High Mound: Distribution of ceramic wares by period

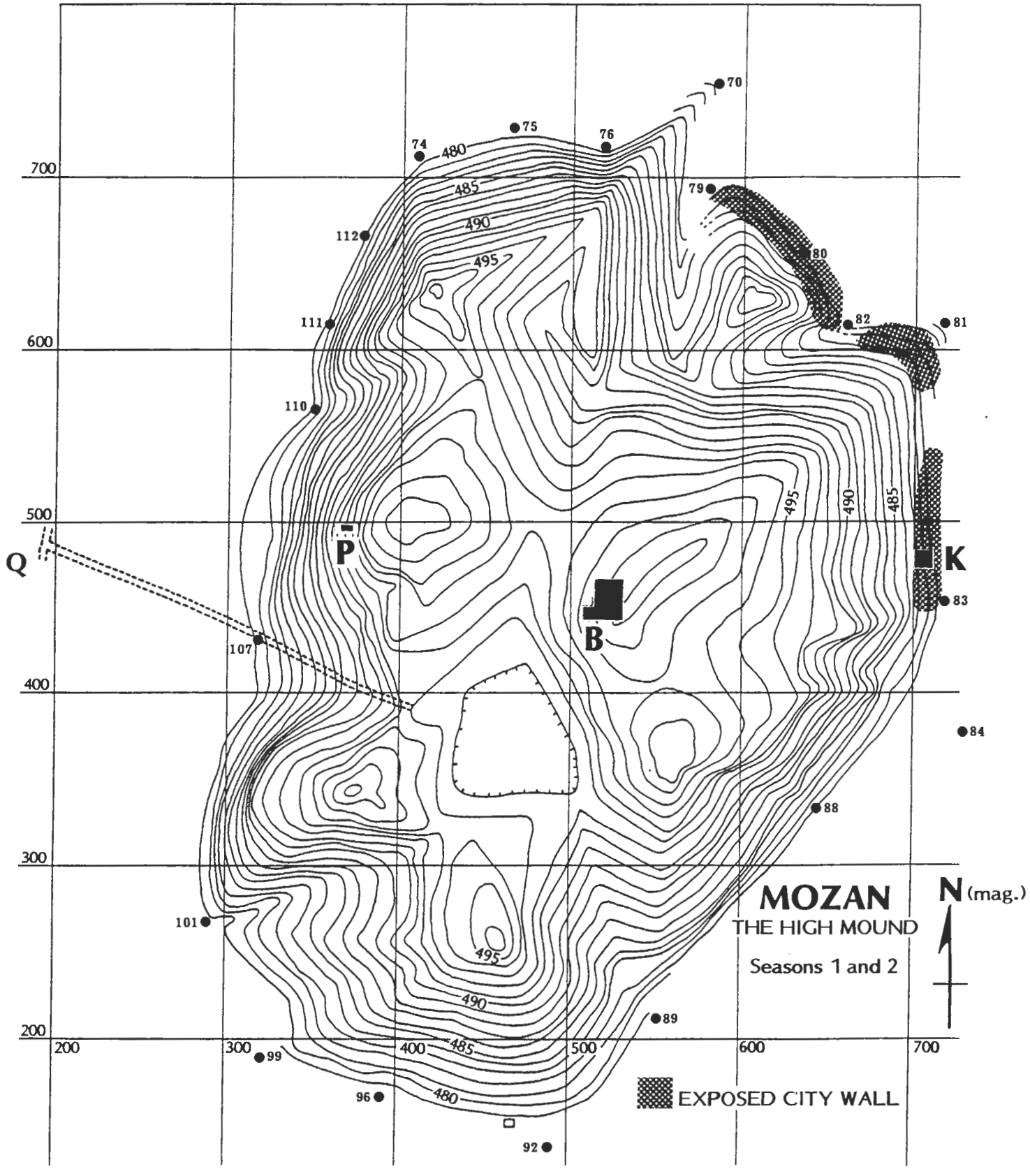


Figure 5. Tell Mozan: Topographic map of the High Mound

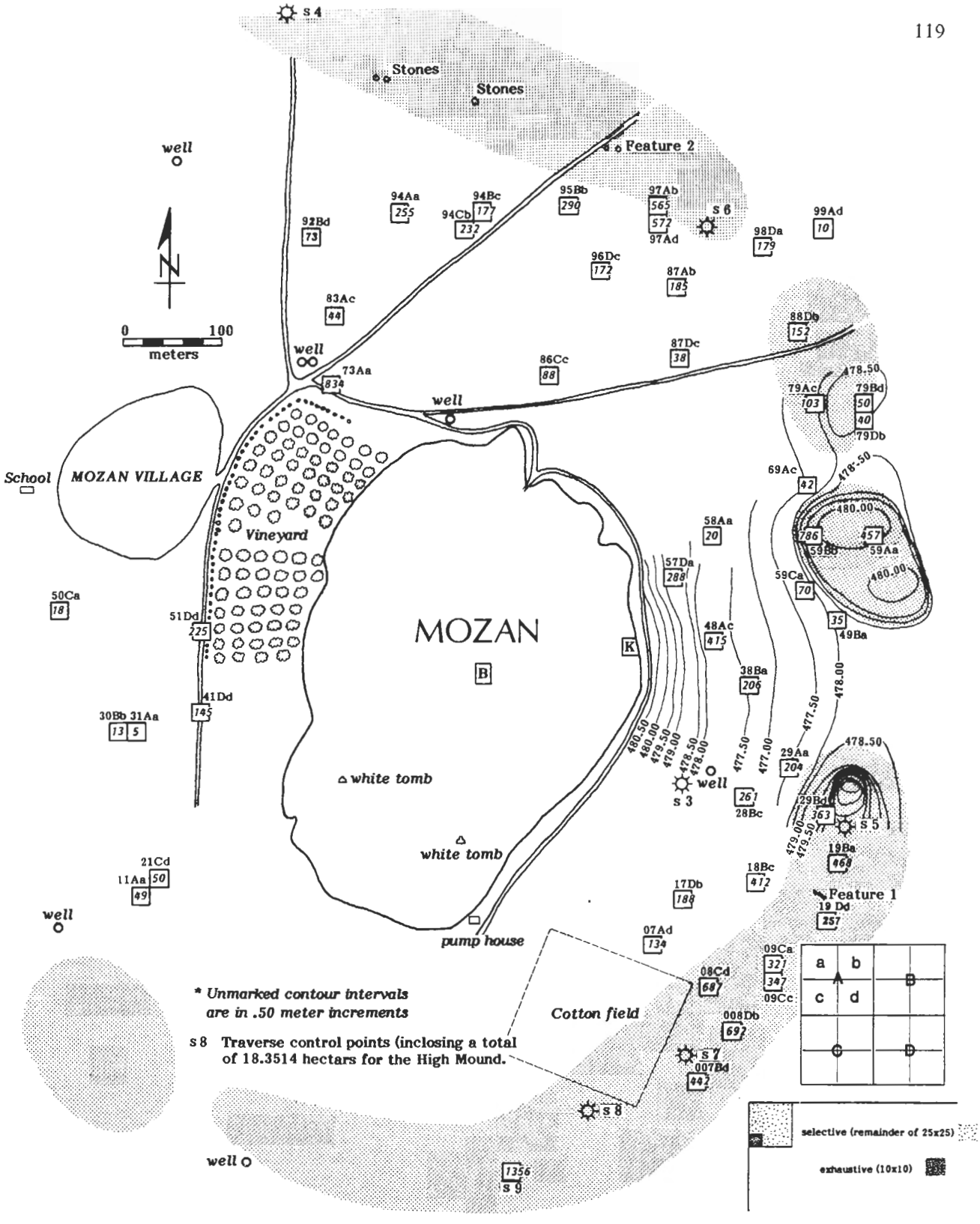


Figure 6. Tell Mozan: Partial topographic map of the Outer City

Note: Small squares represent surface collection areas; the number inside the square corresponds to the total number of items collected; the number outside the square corresponds to the grid designation, as indicated in the inset; the notation of the type s2 corresponds to special areas within the Outer City.

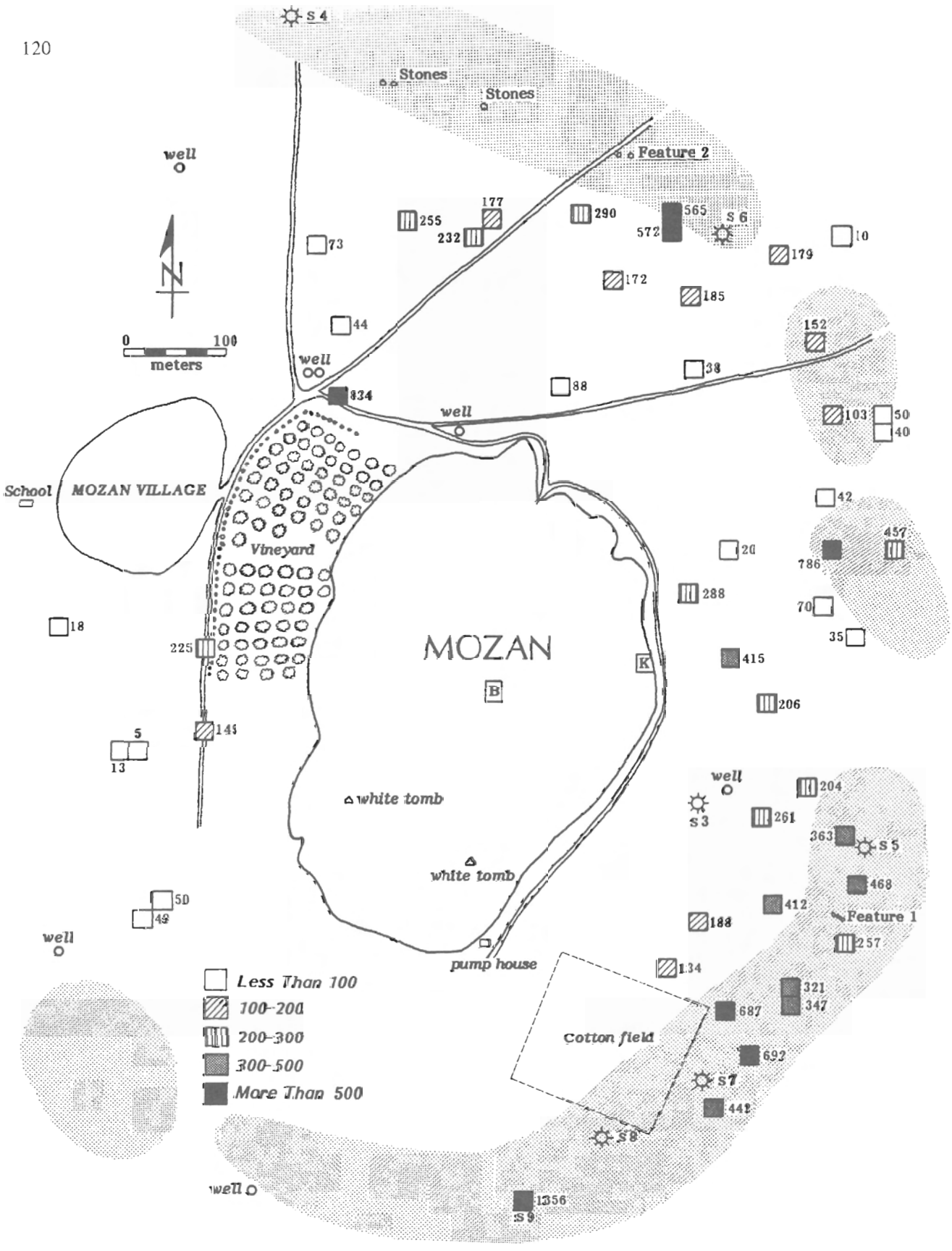


Figure 7. The Outer City: Distribution of ceramic wares by total number

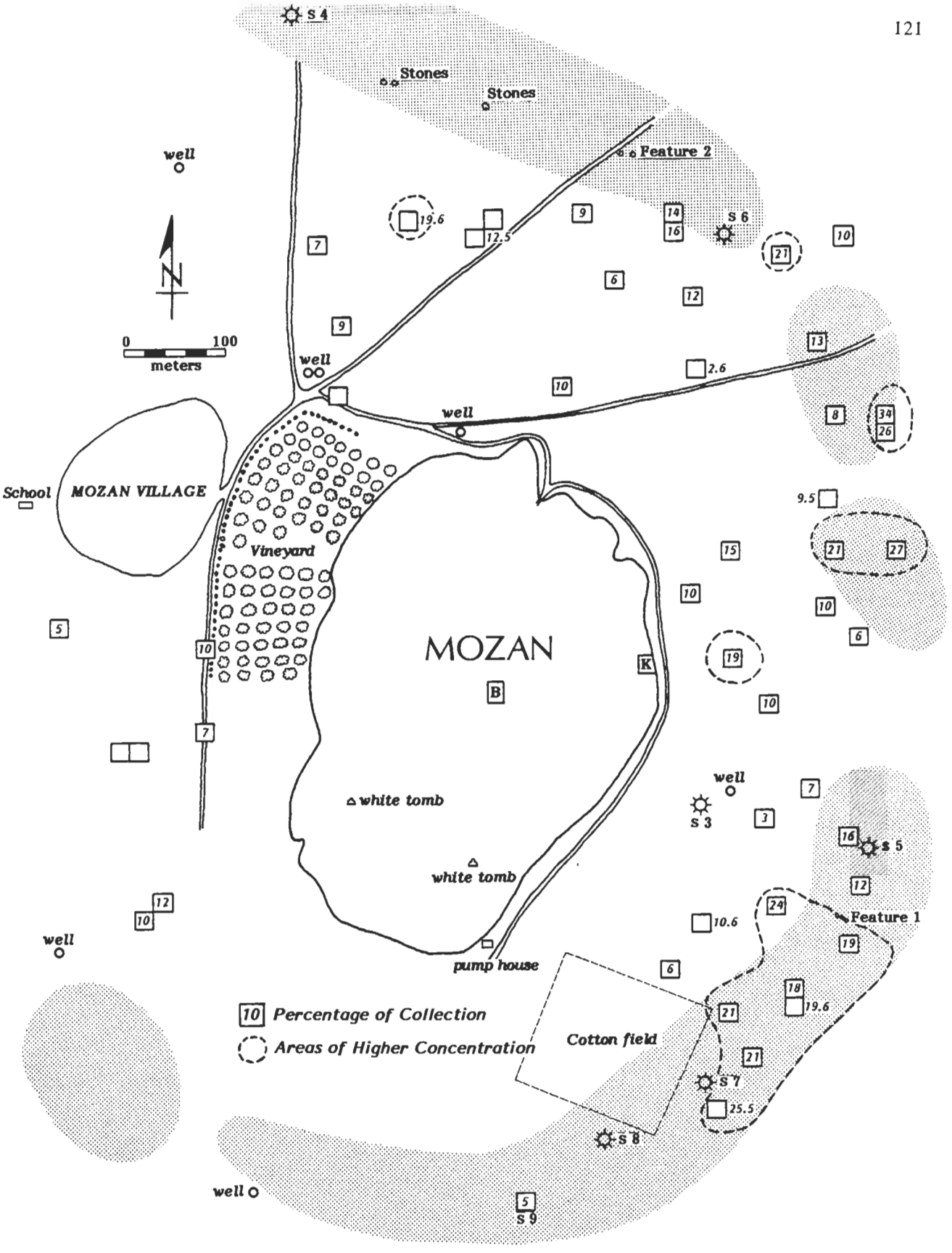


Figure 8. The Outer City: Distribution of Simple ware

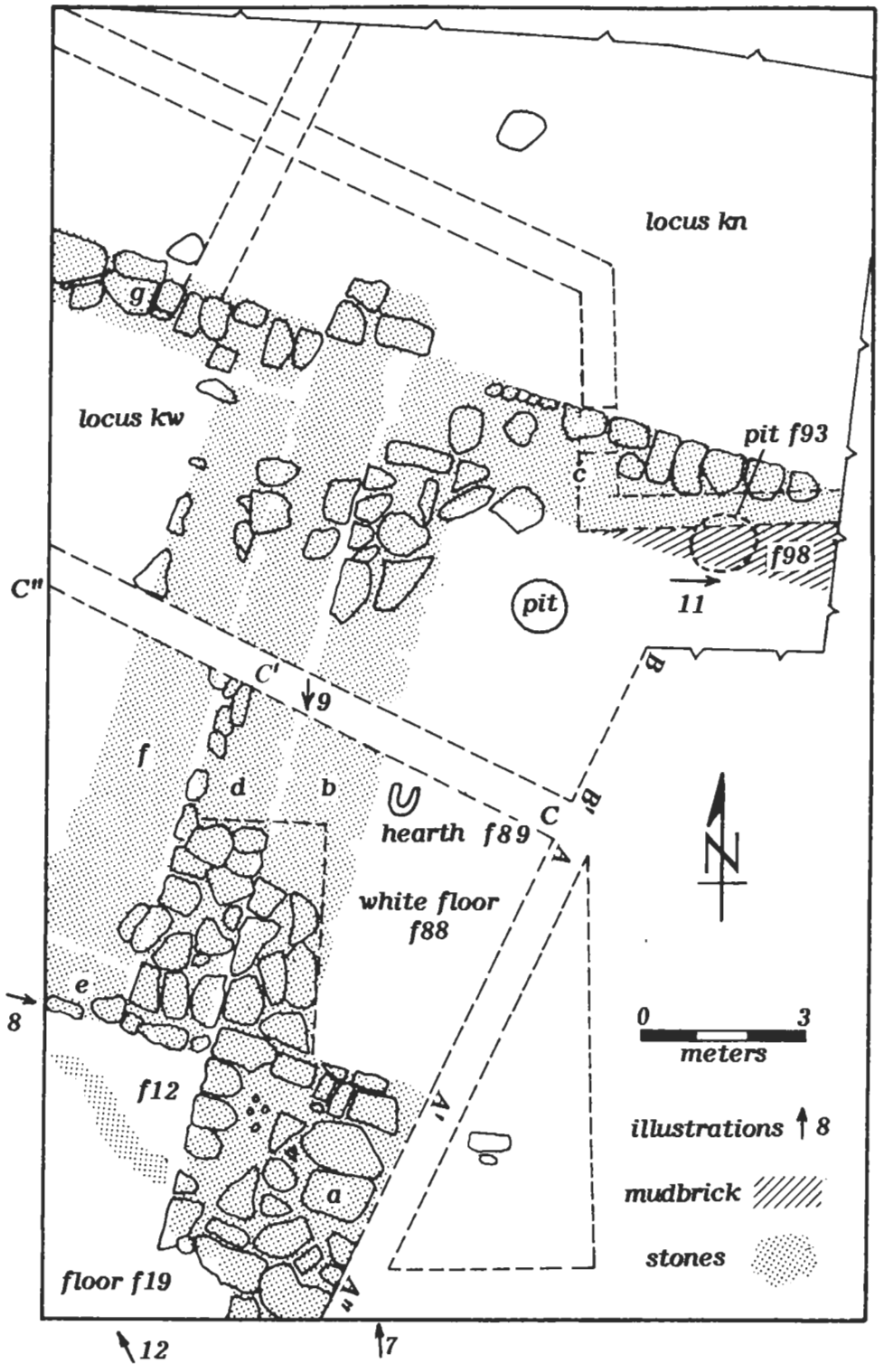


Figure 9. The stone building in Area B: sketch floor plan

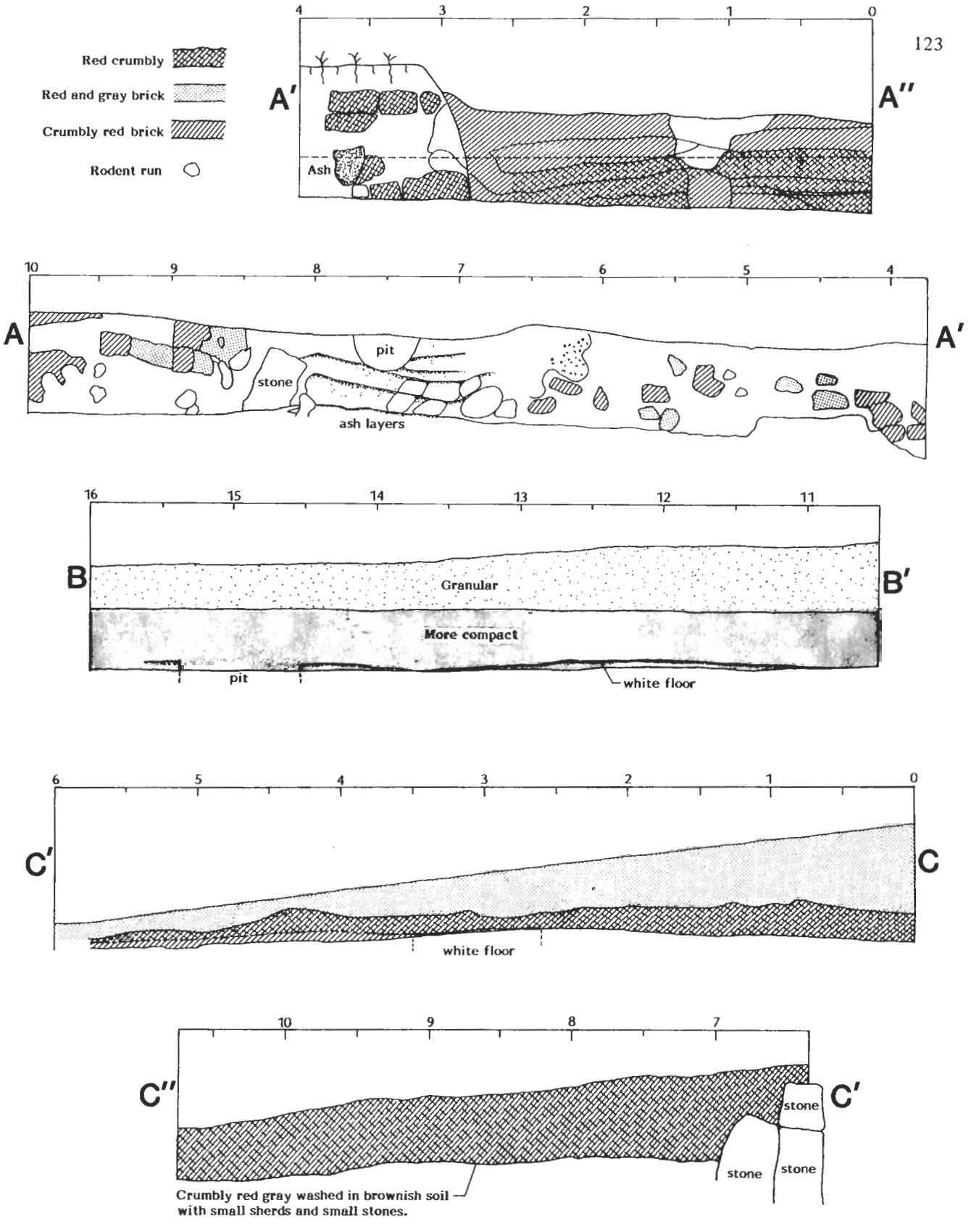


Figure 10. The stone building in Area B: sections

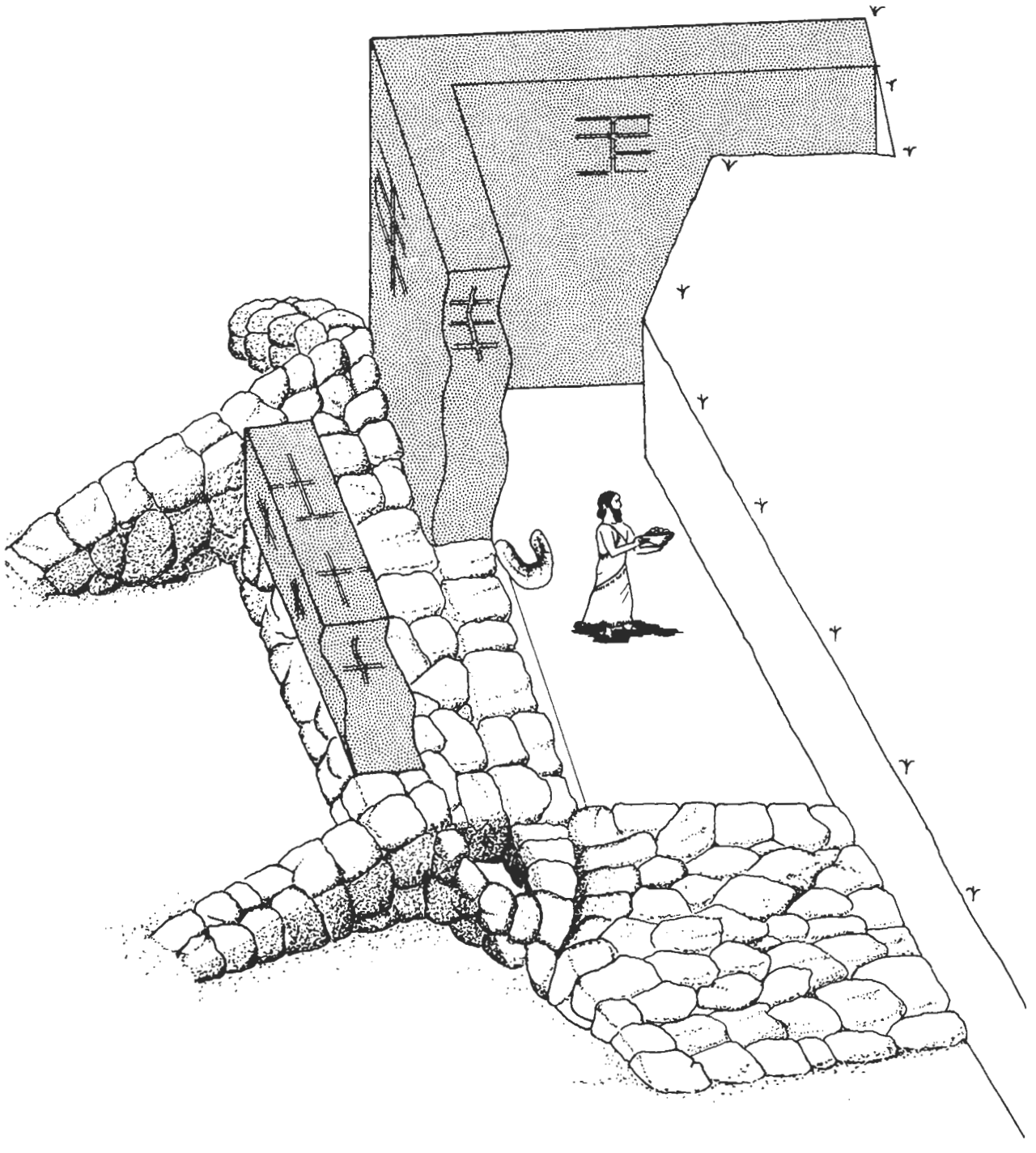


Figure 11. The stone building in Area B: reconstruction

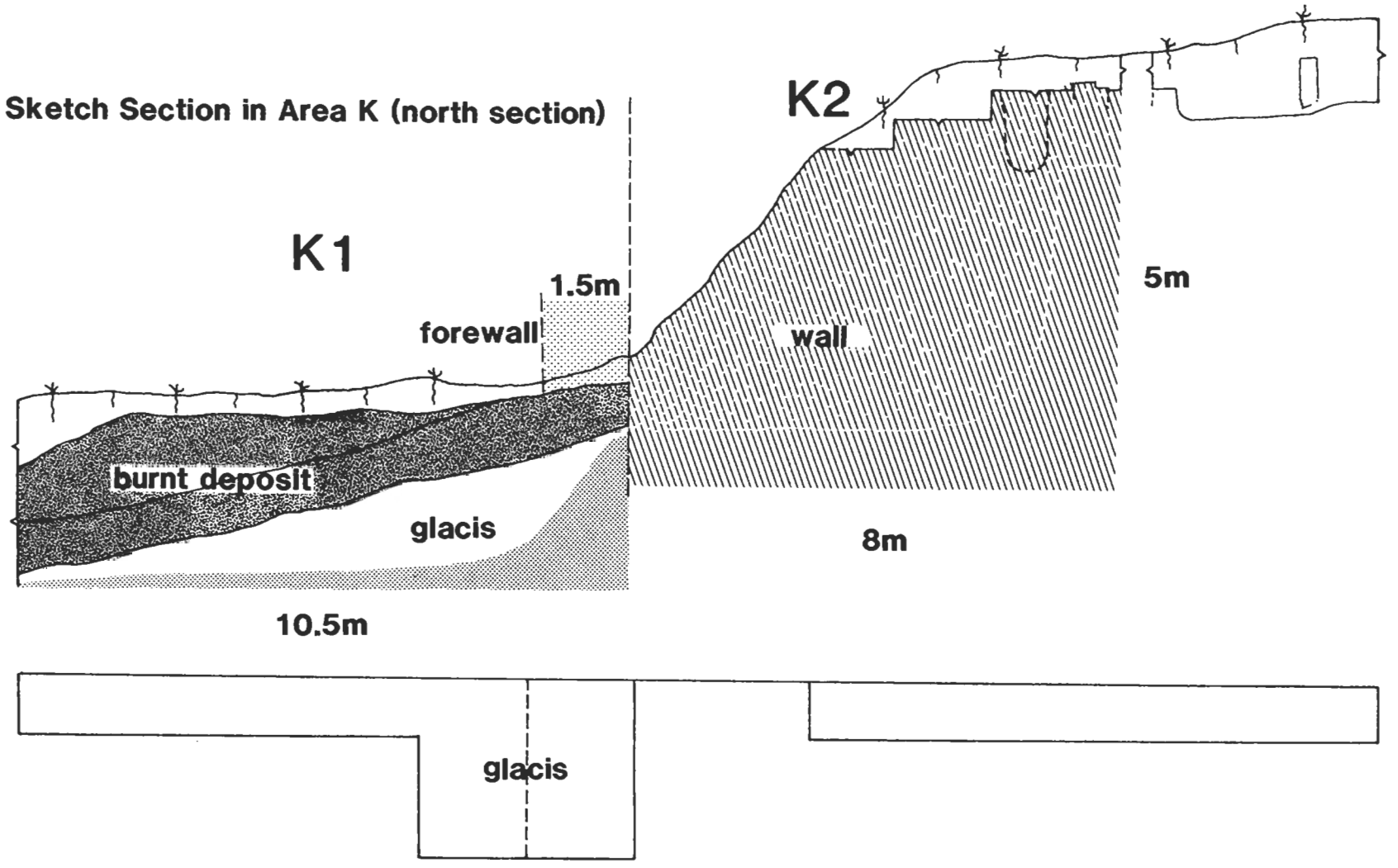


Figure 12. The city wall in Area K: sketch section

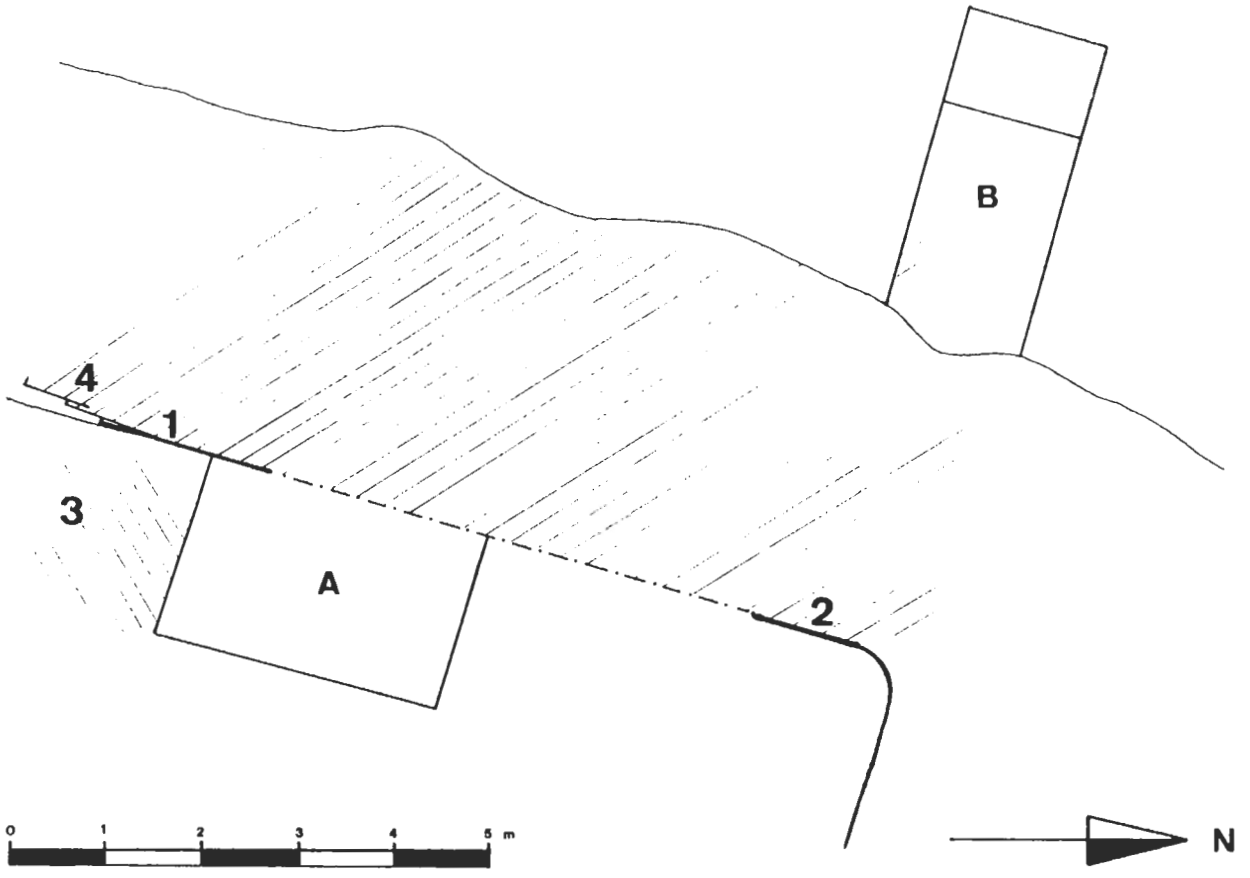


Figure 13. The city wall in Area K: floor plan (1984 season)

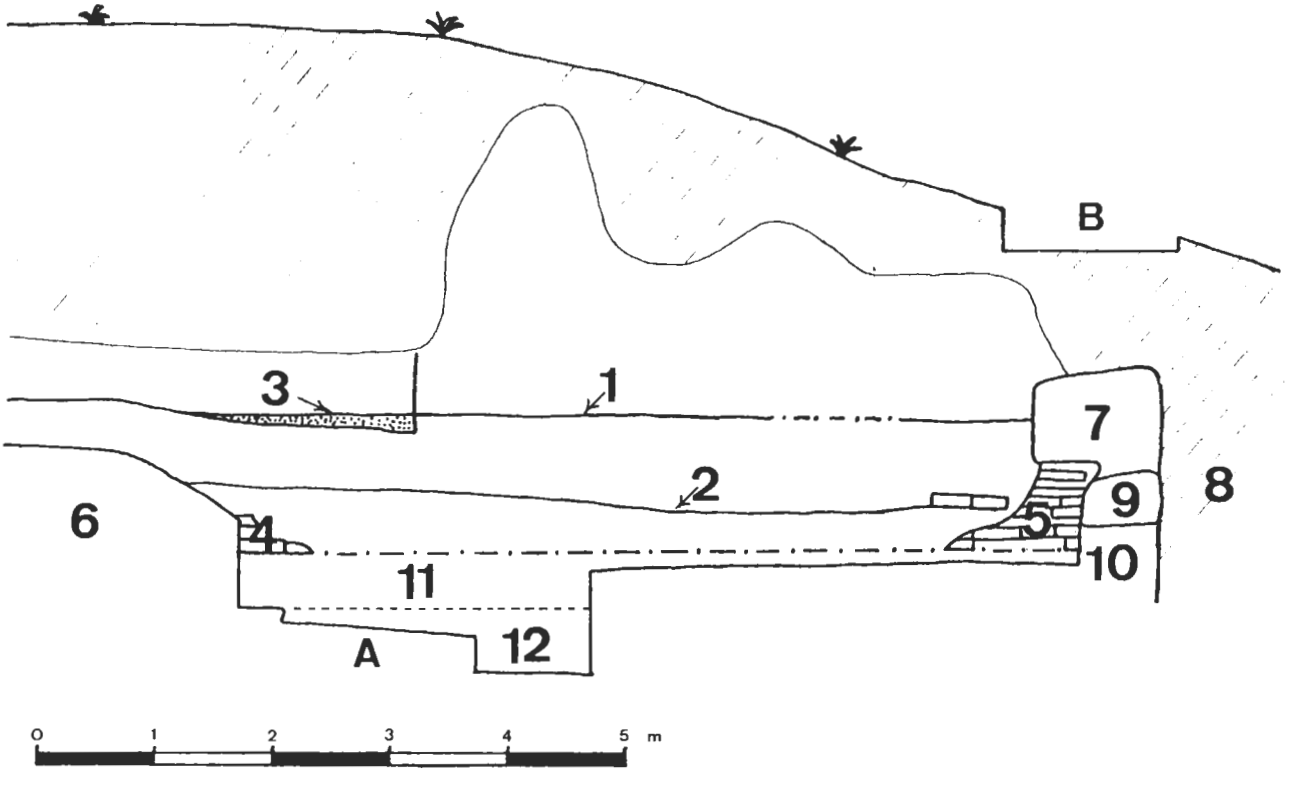


Figure 14. The city wall in Area K: frontal view (1984 season)

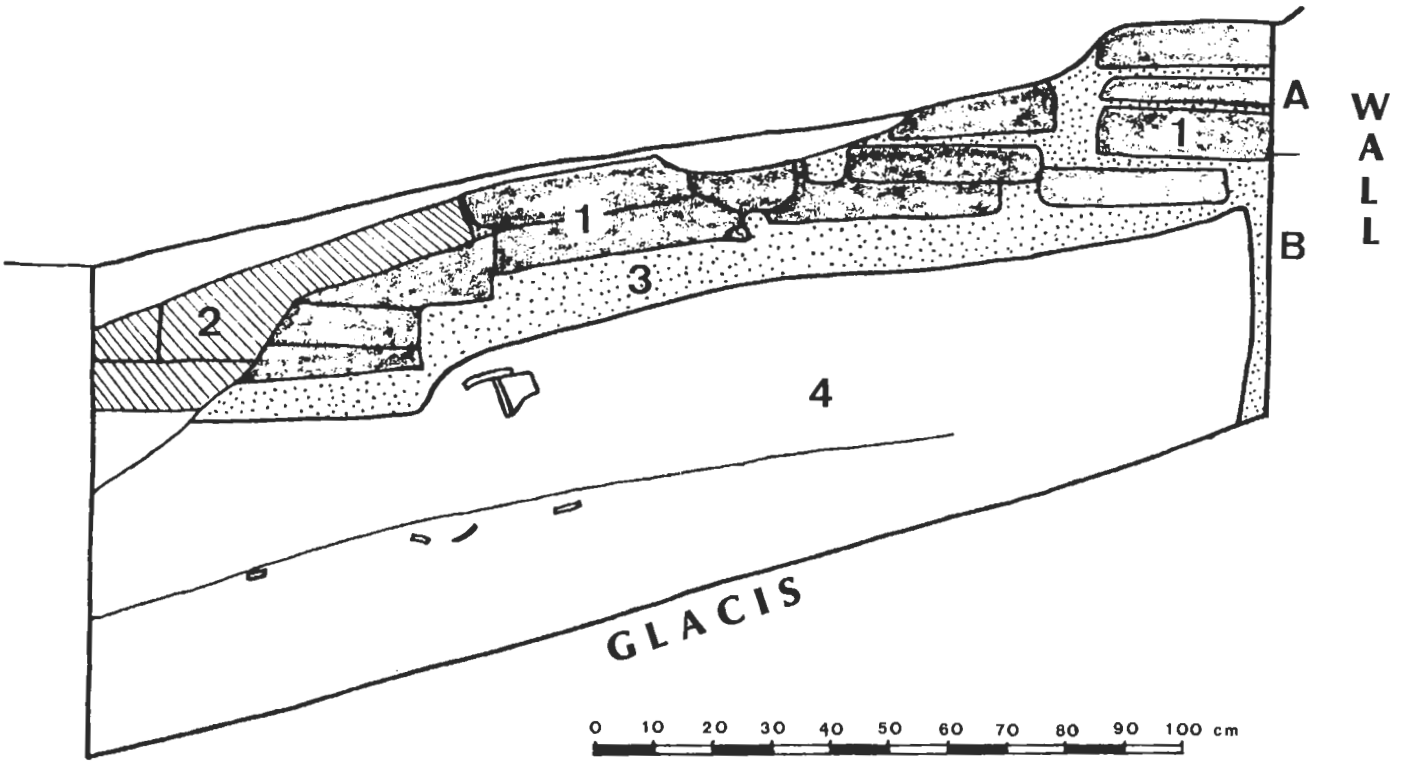


Figure 15. The city wall in Area K: North section of Locus A

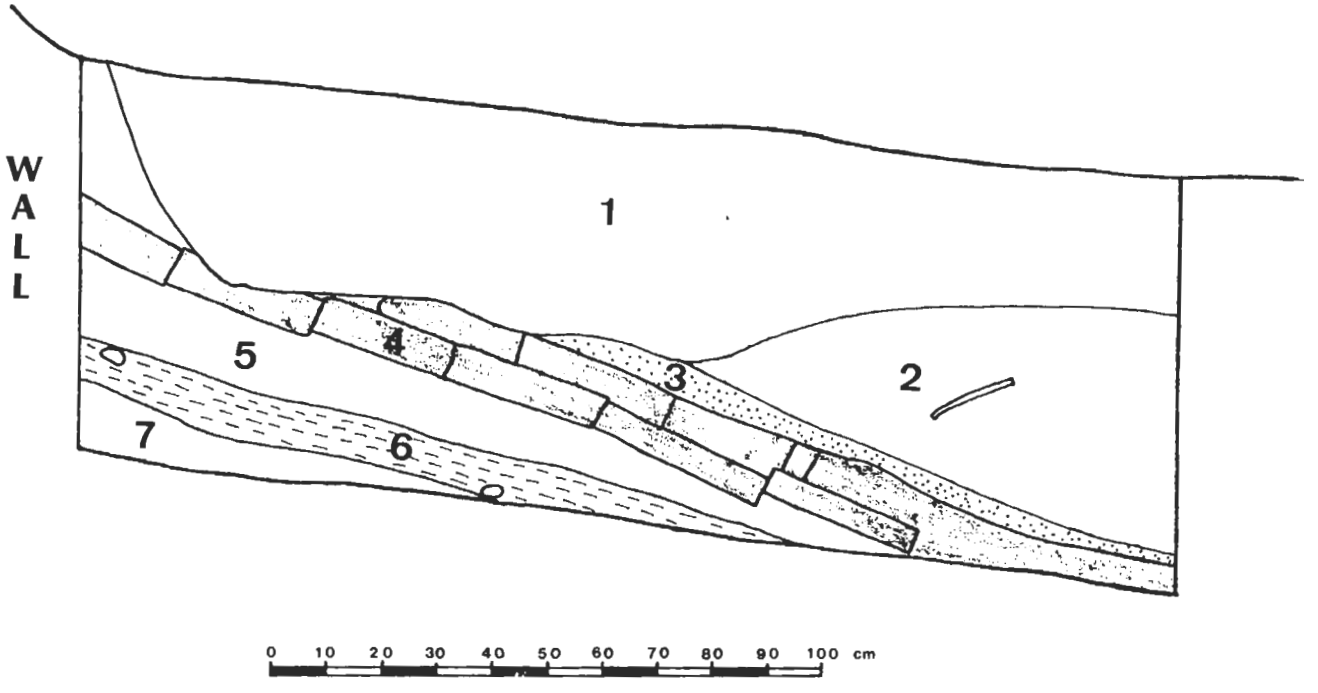


Figure 16. The city wall in Area K: South section of Locus A

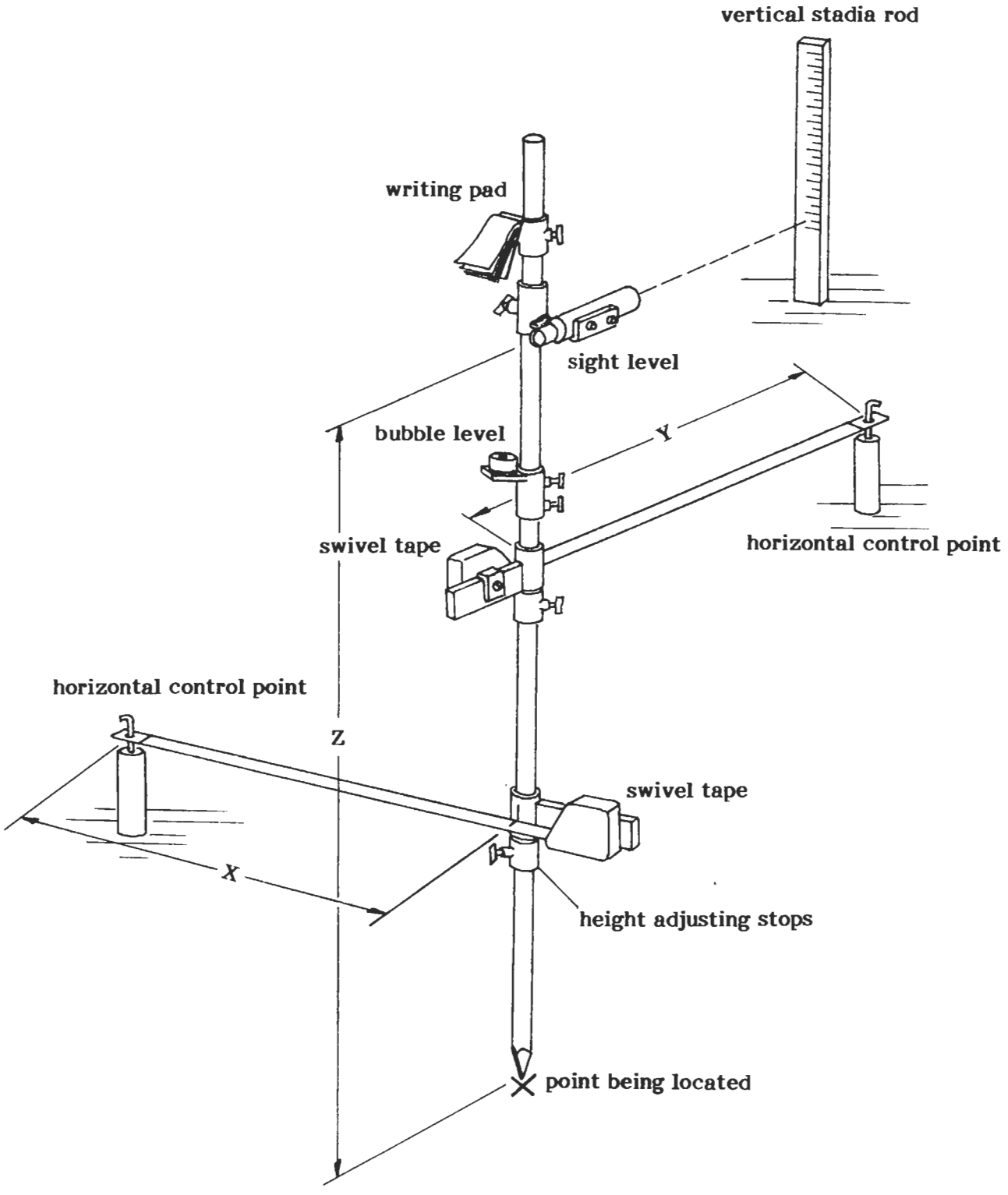
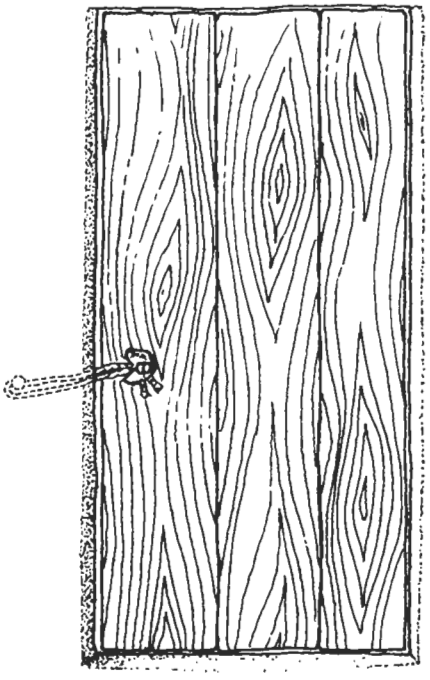


Figure 17. Sketch of triangulation rod



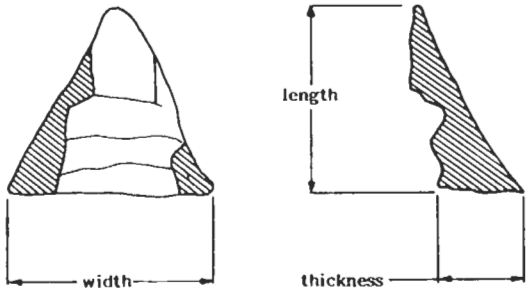


Figure 19. Parameters for measurements of door sealings

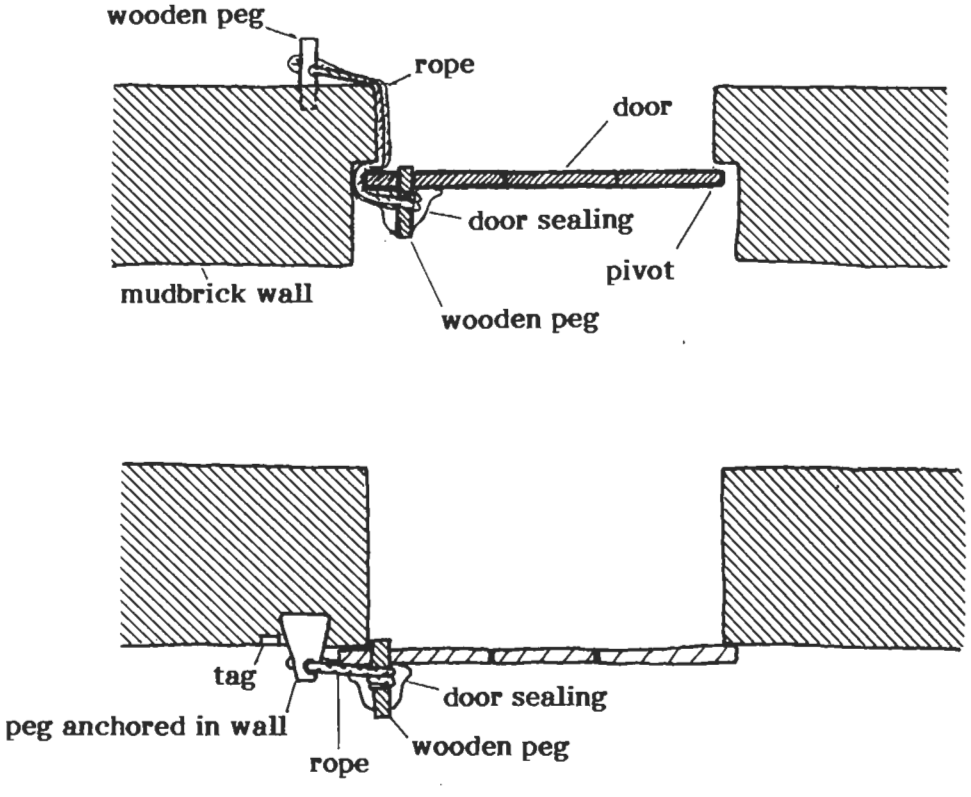


Figure 18. Suggested reconstructions of the use of door sealings

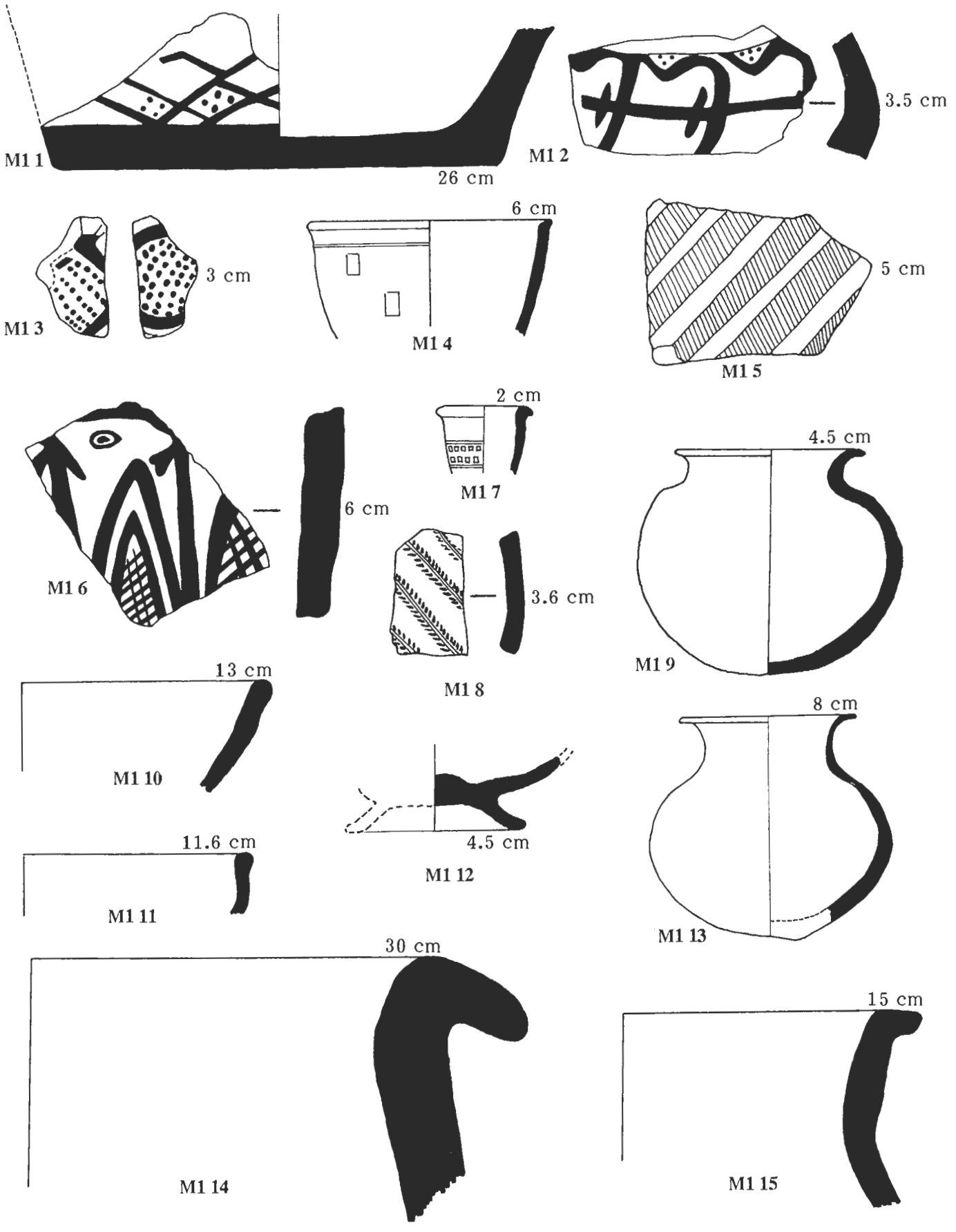


Figure 20. Ceramic types from the surface of the High Mound
Halaf (M1 1-3), Incised Ninevite V (M1 4-5, 7-8), Painted Ninevite V (M1 6), Metallic ware (M1 9-15)

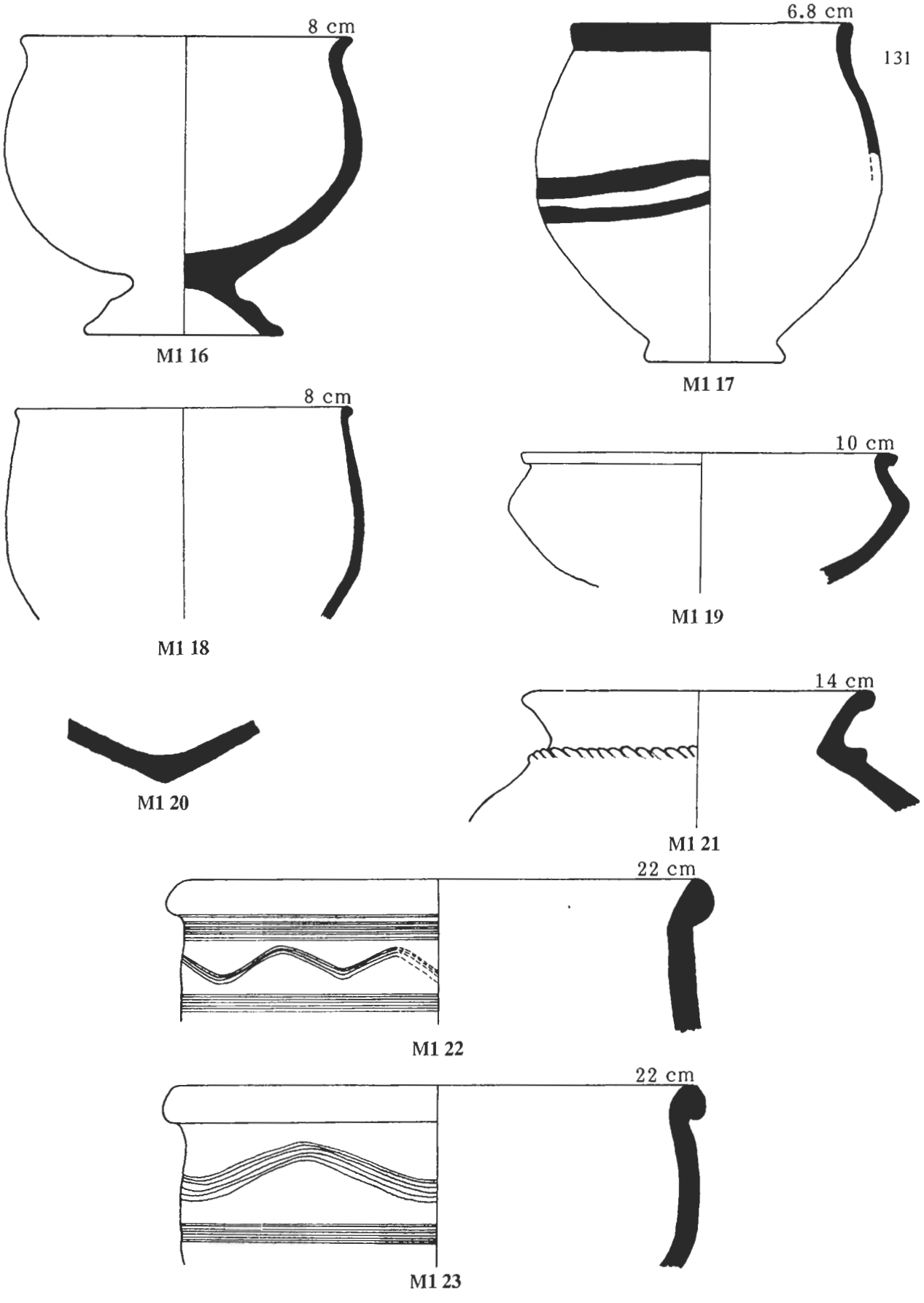


Figure 21. Ceramic types from the surface of the High Mound
Simple ware (M1 16, 18-19), Painted Simple ware (M1 17), late third mill. or "Ur III" (M1 21-23)

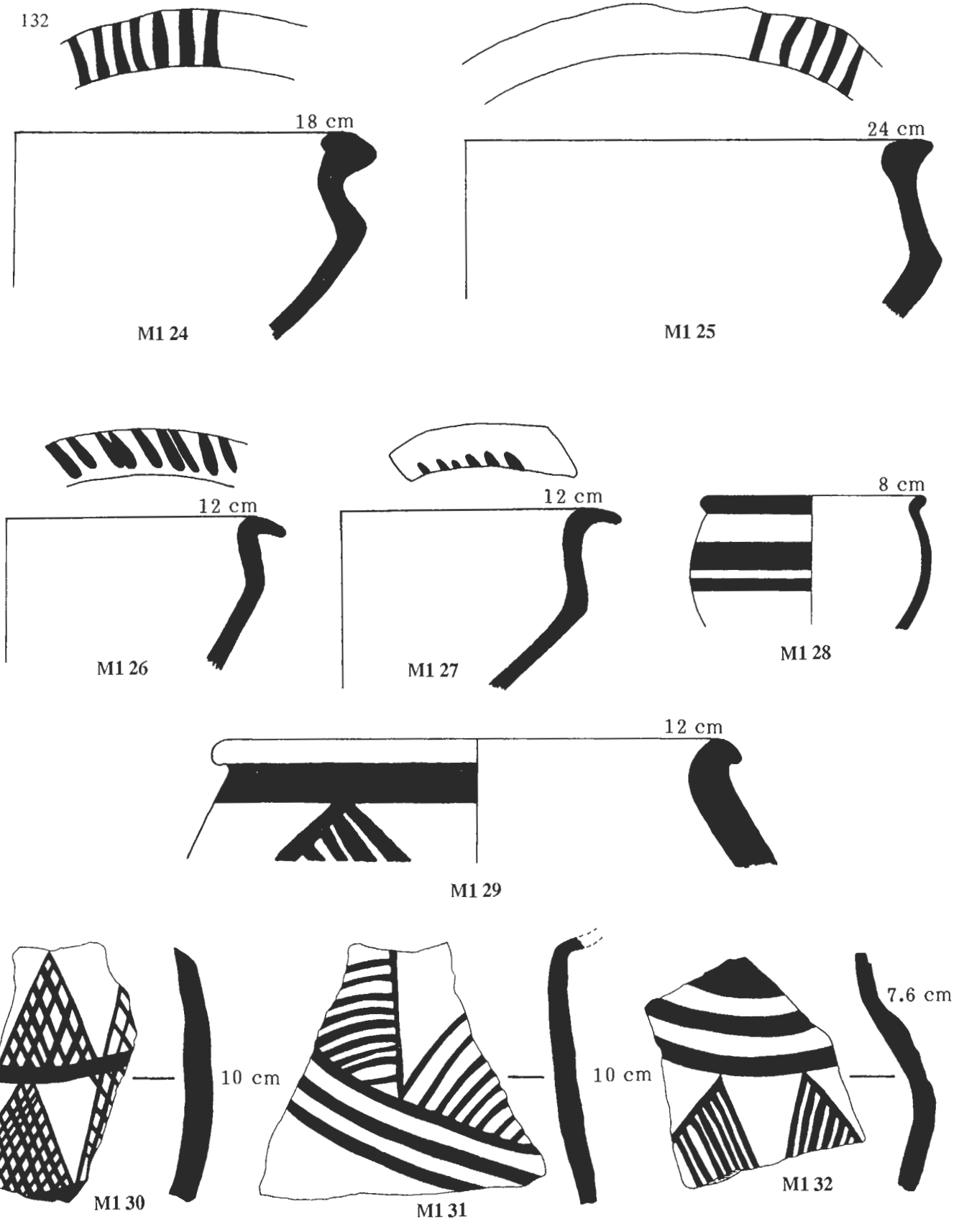


Figure 22. Ceramic types from the surface of the High Mound: Khabur ware

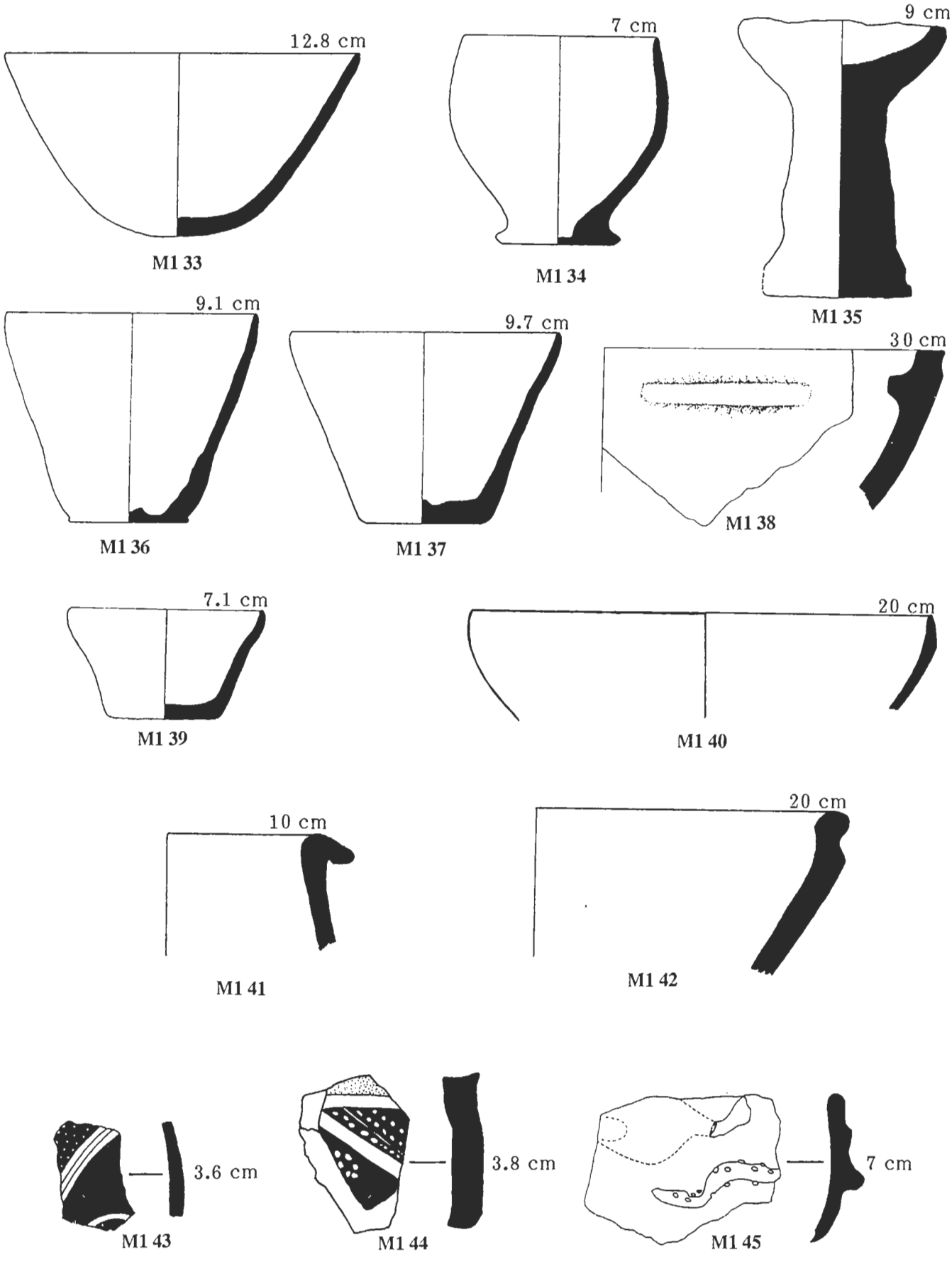


Figure 23. Ceramic types from the soundings and surface of the High Mound
Miscellaneous types (M1 33-39 are from the soundings, M1 40-45 from the surface)

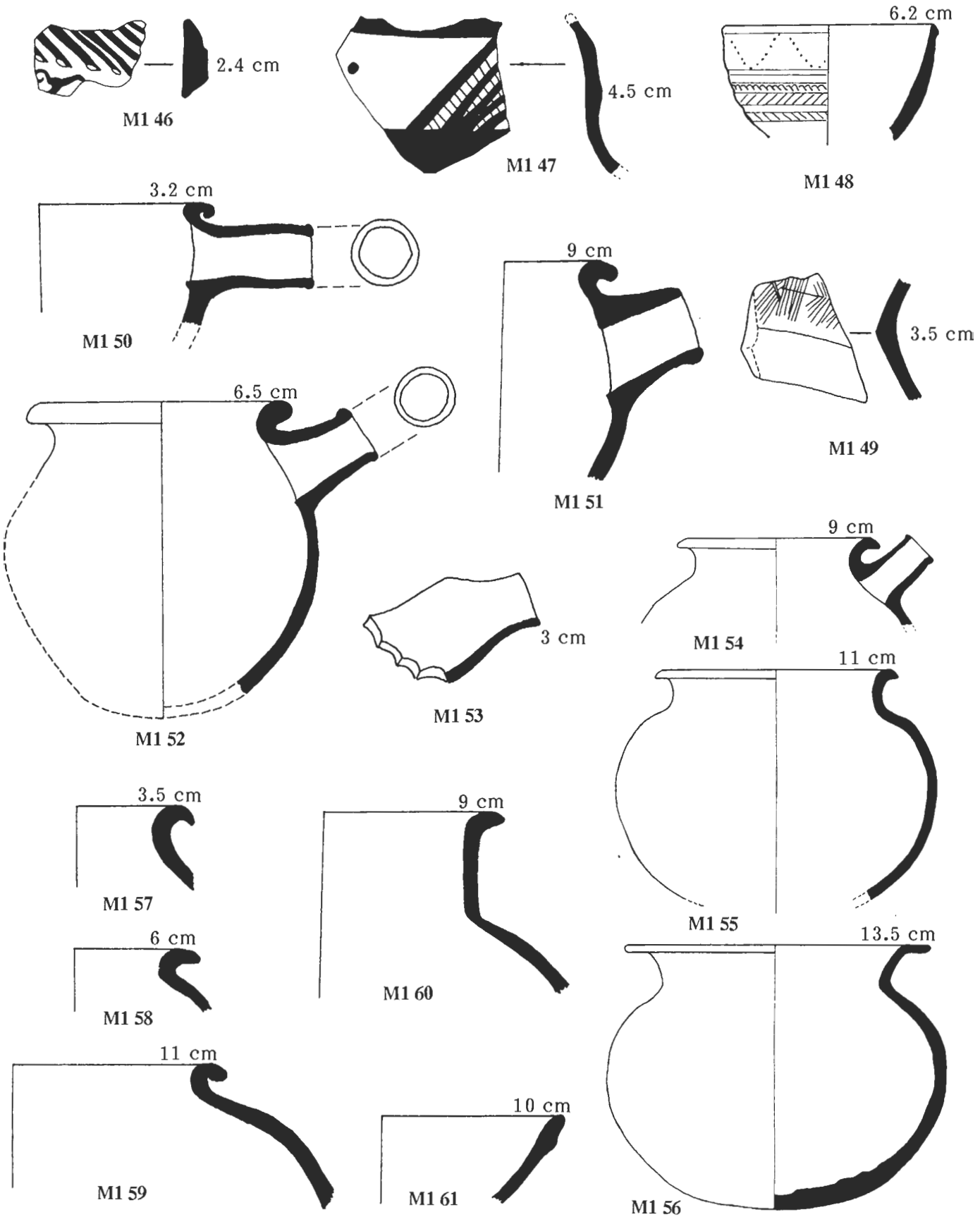


Figure 24. Ceramic types from the soundings

Halaf (M1 46-47), Incised Ninevite V (M1 48-49), Simple ware (M1 50-59), Metallic ware (M1 60-61)

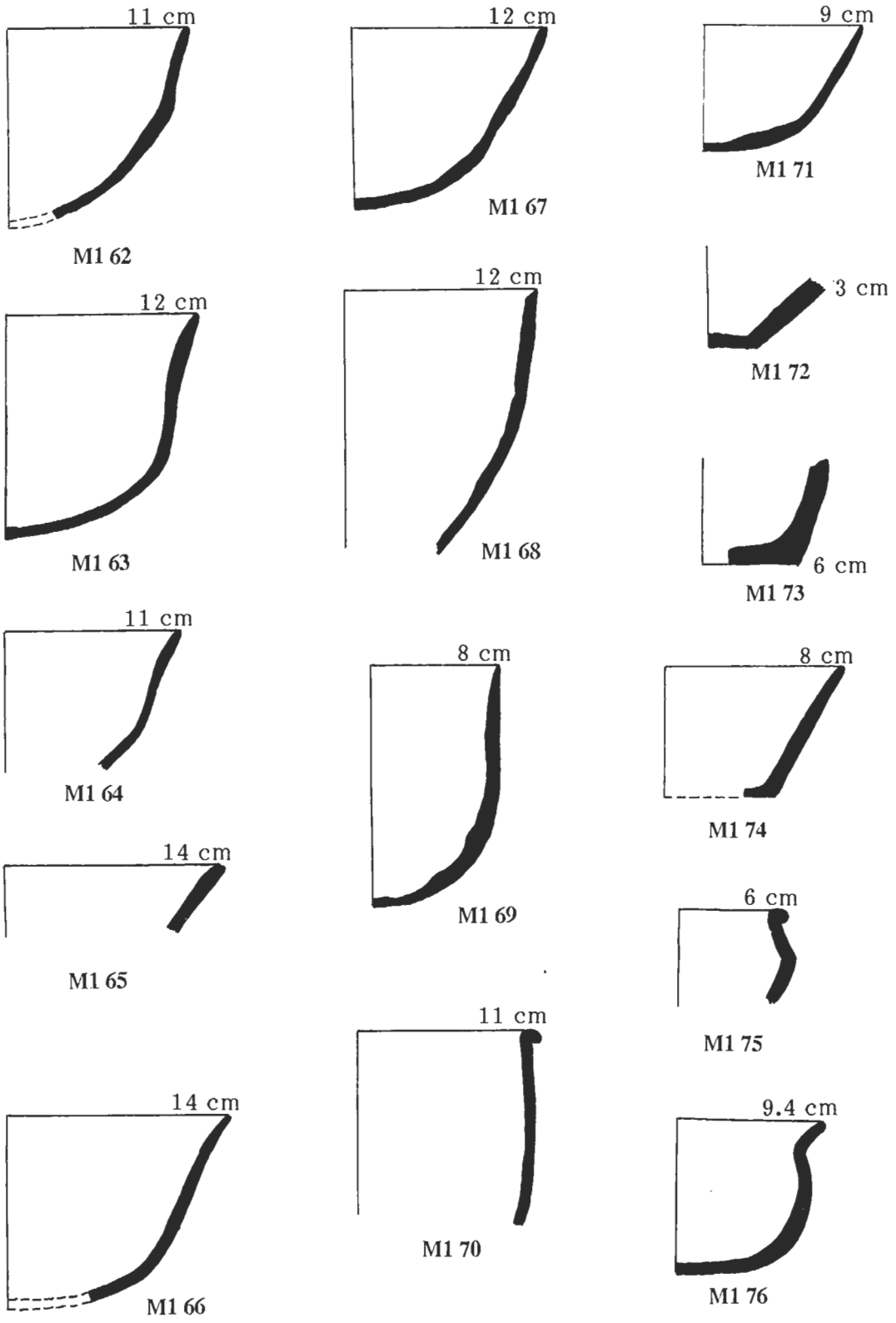


Figure 25. Ceramic types from the soundings
Simple ware (M1 65, 72-73, 75-76 are from Area B1, the rest from area K1)

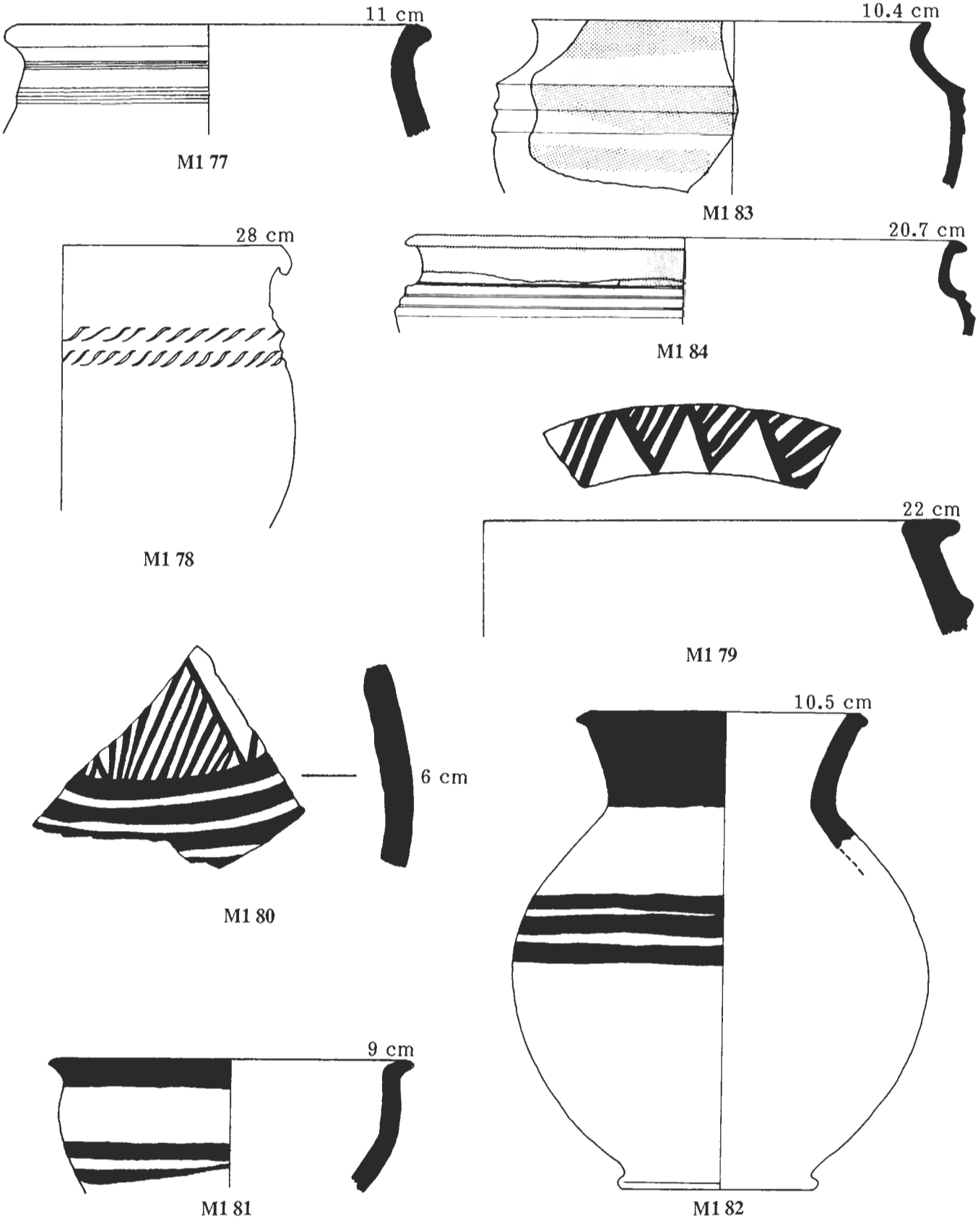


Figure 26. Ceramic types from the soundings
Late third mill. or "Ur III" (M1 77-78), Transitional (M1 83-84), Khabur ware (M1 79-82)

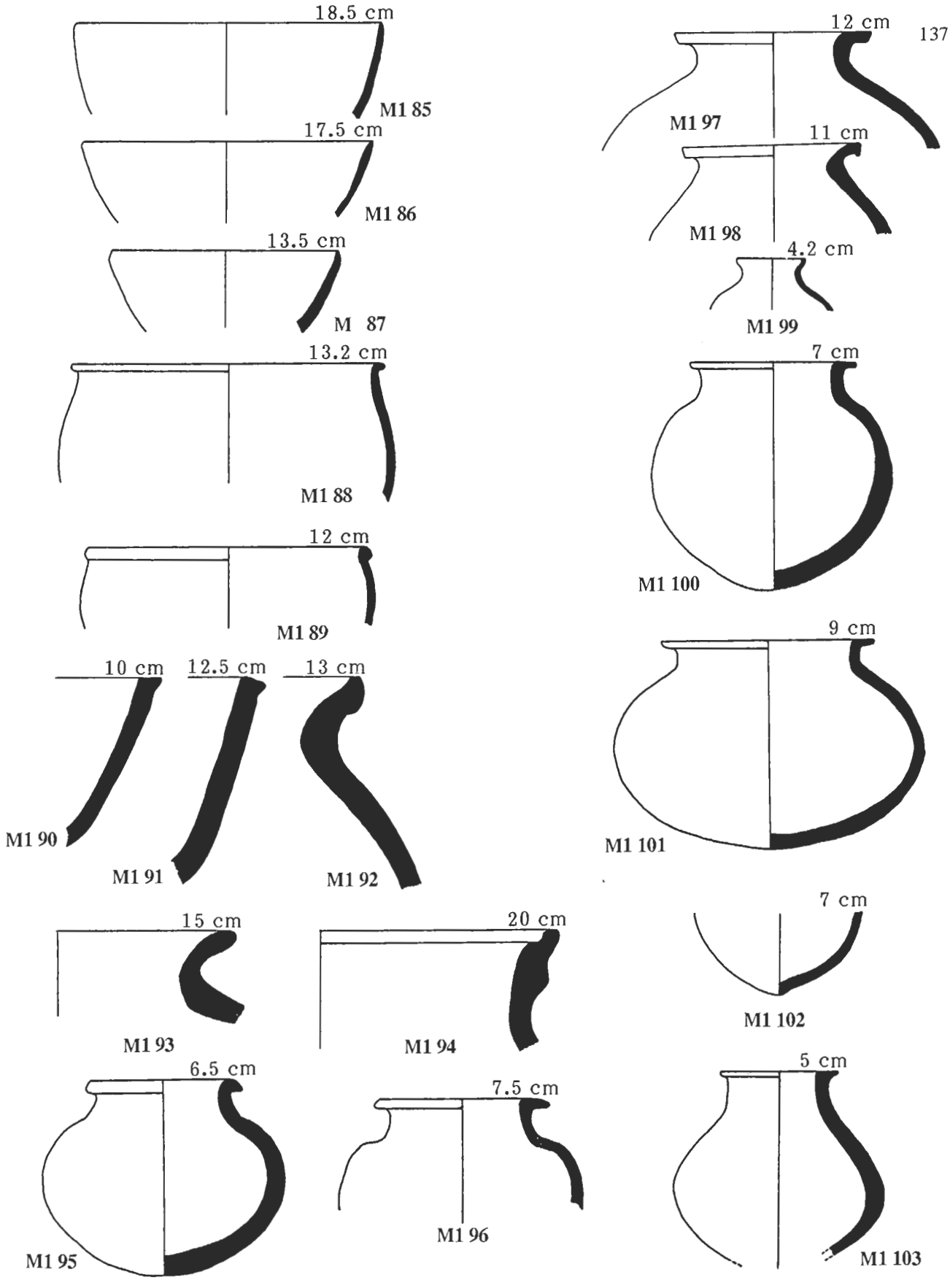


Figure 27. Ceramic types from the surface of the Outer City: Location Os4

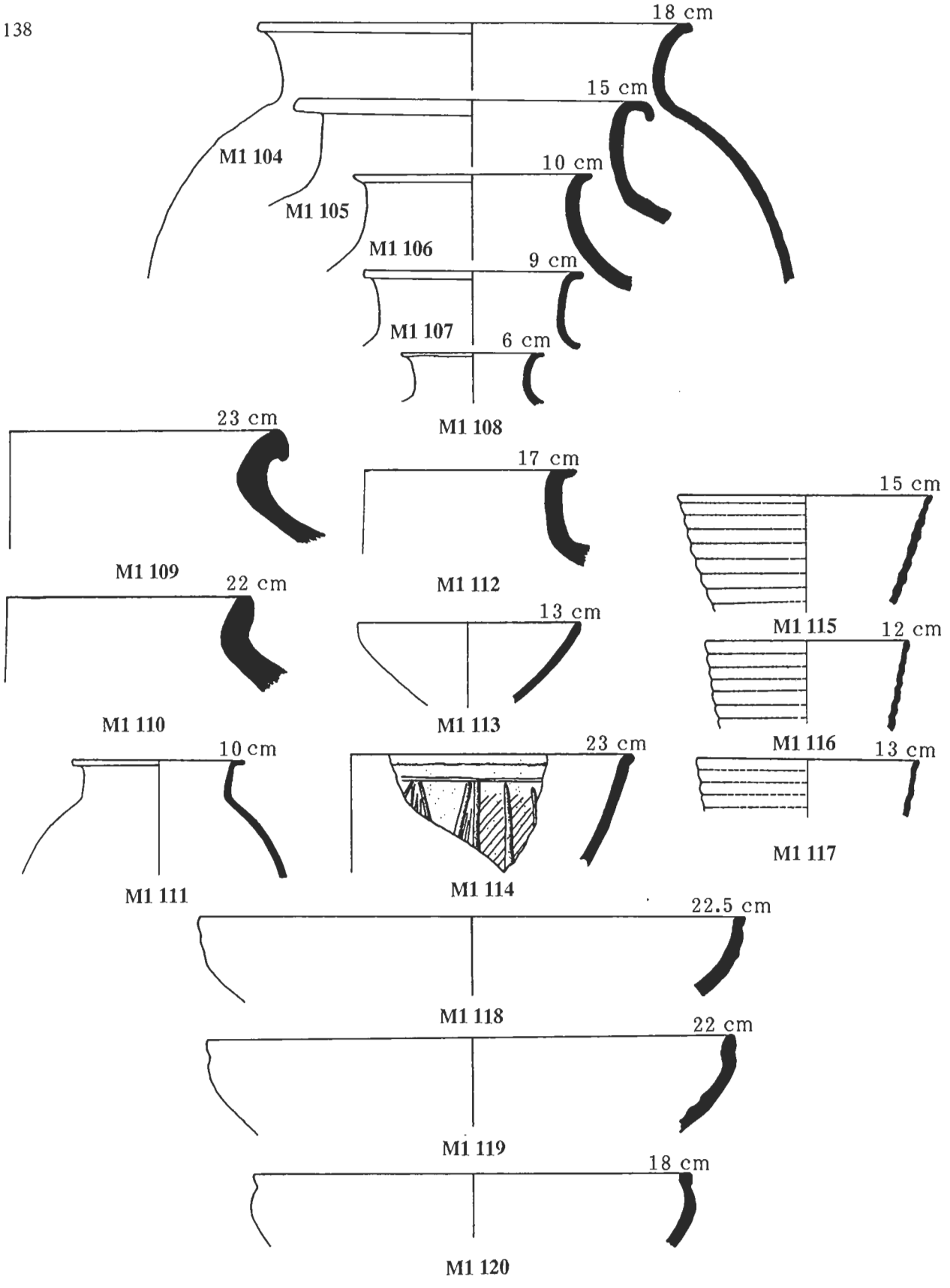


Figure 28. Ceramic types from the surface of the Outer City: Location Os6

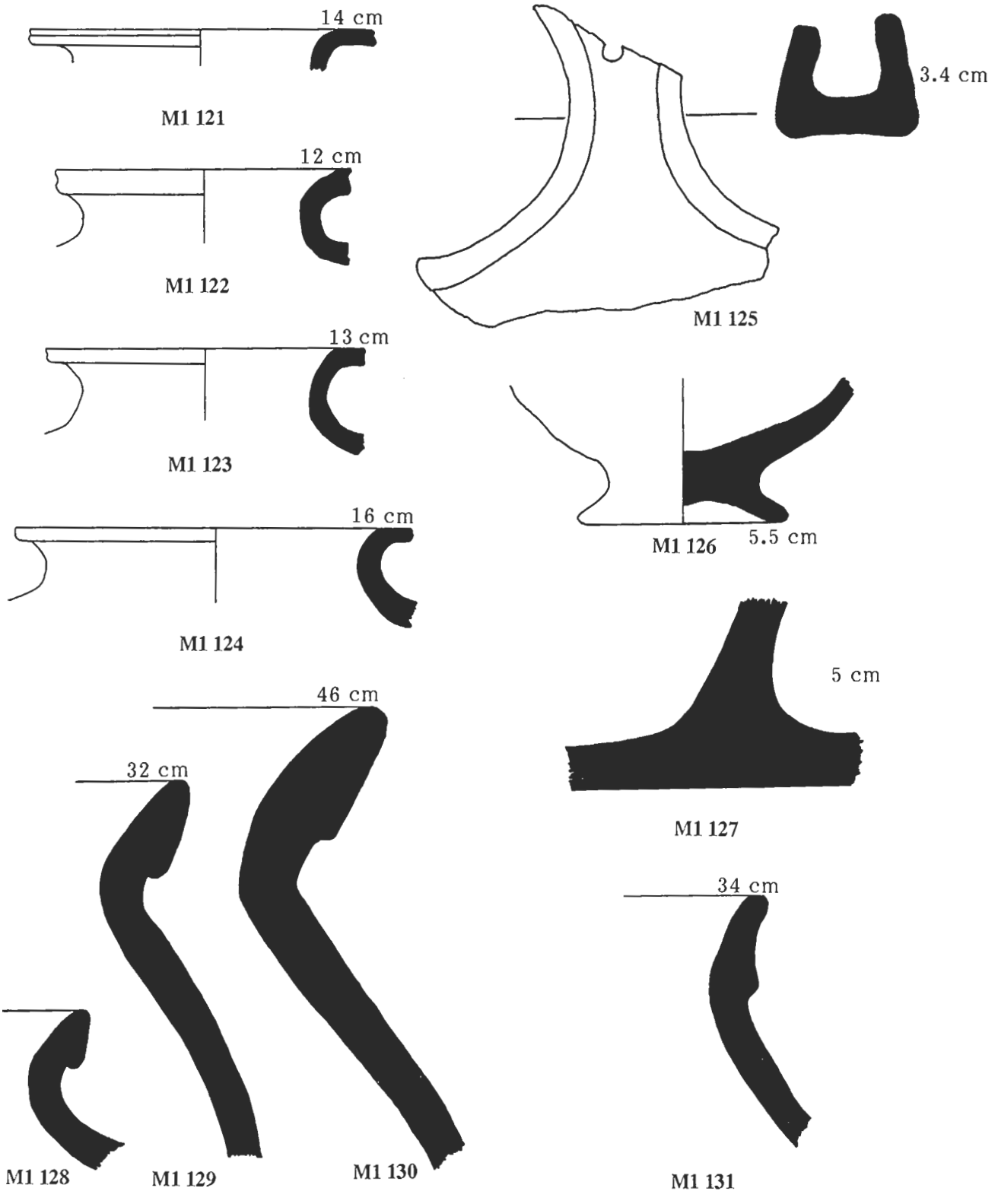


Figure 29. Ceramic types from the surface of the Outer City: Locations Os7 and Os9

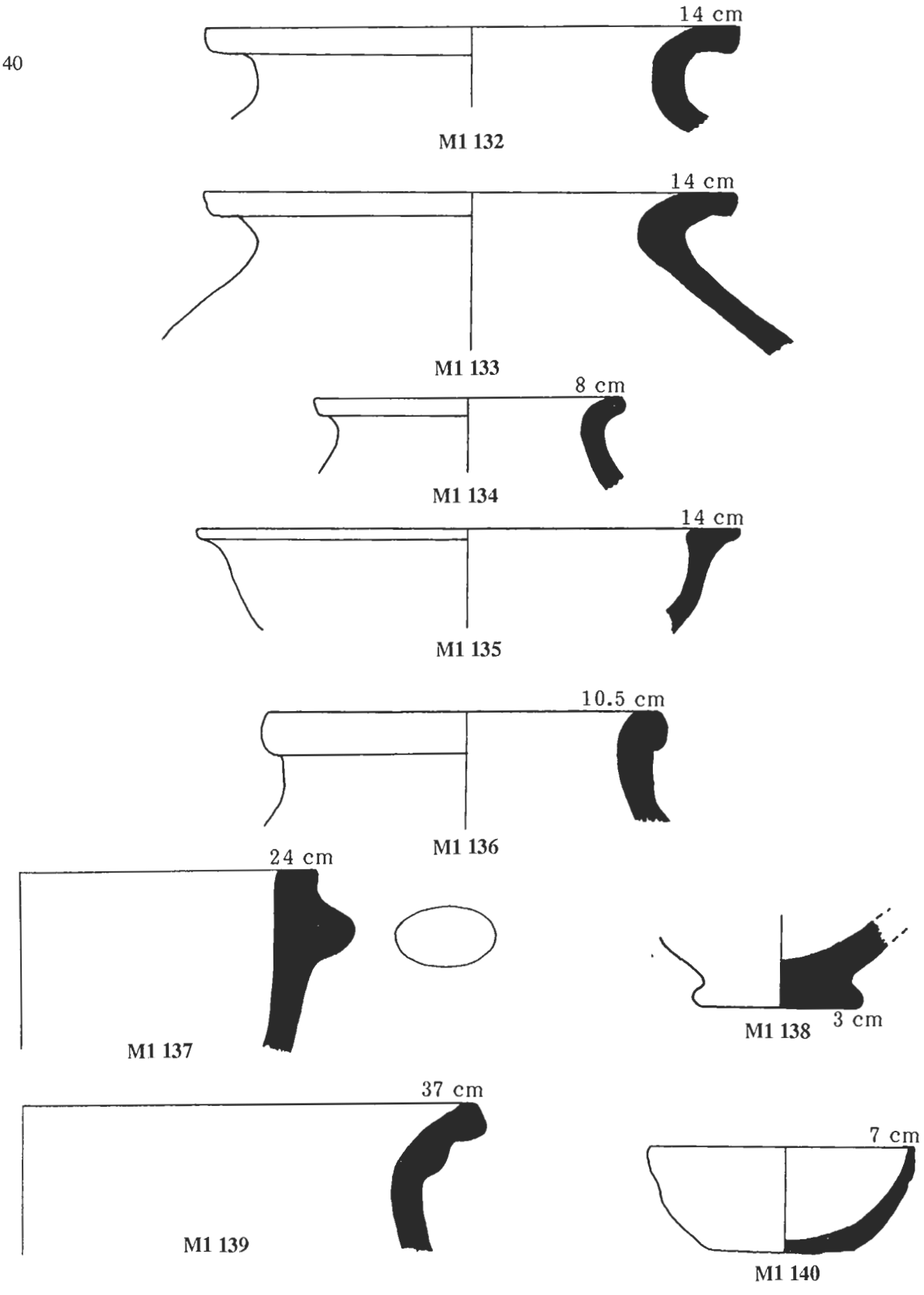


Figure 30. Ceramic types from the surface of the Outer City: Metallic and Simple ware types from various locations

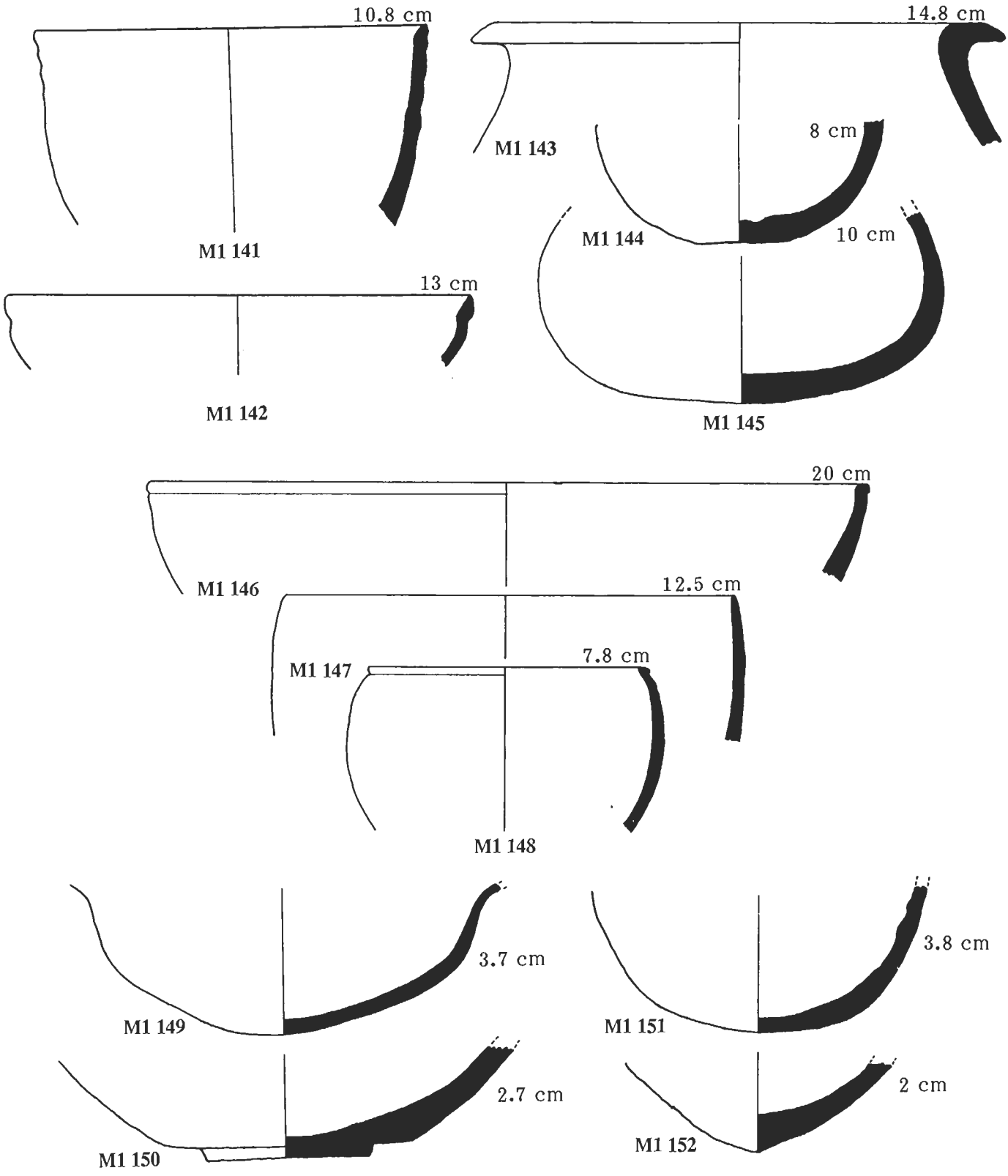


Figure 31. Ceramic types from the surface of the Outer City: Miscellaneous types

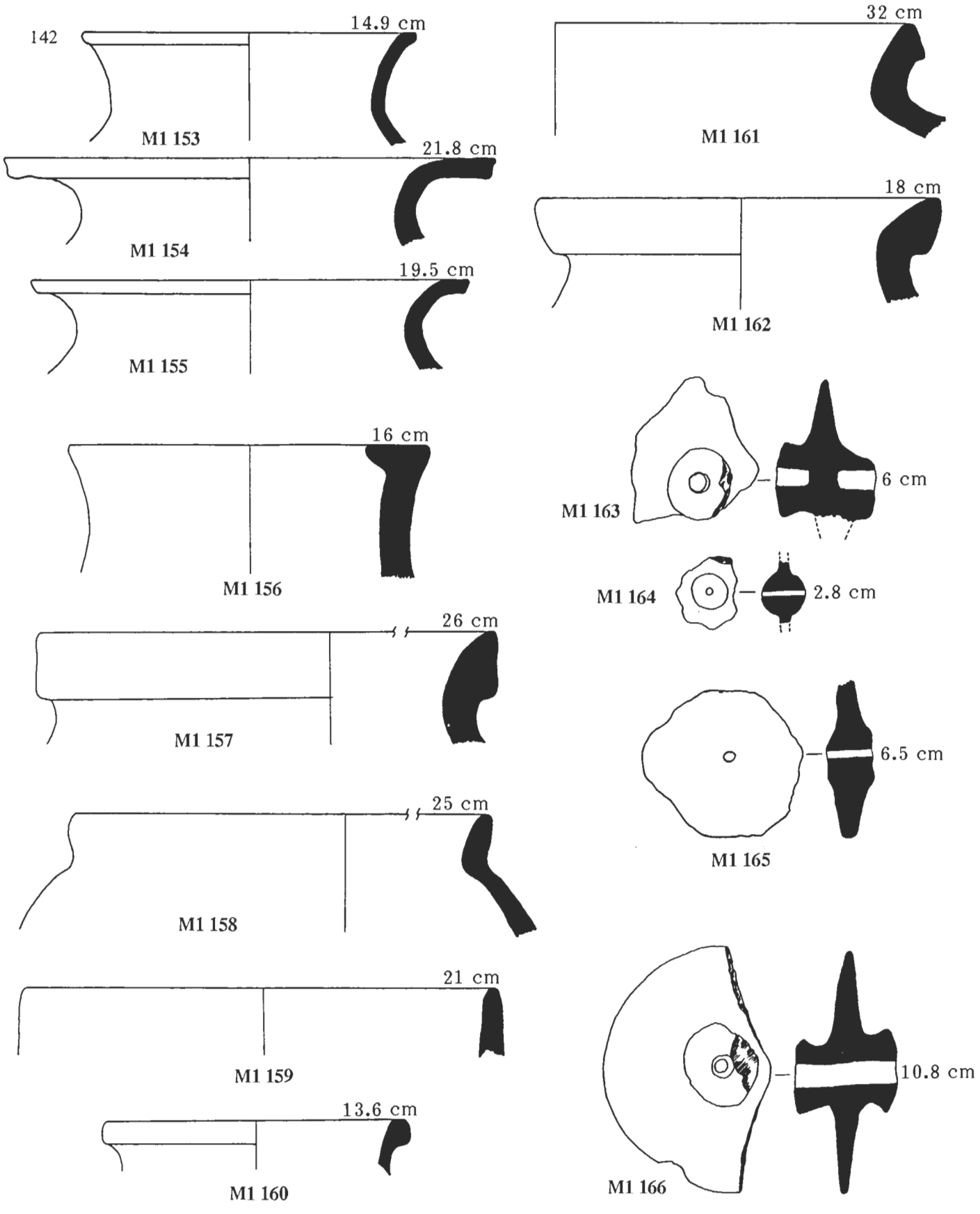
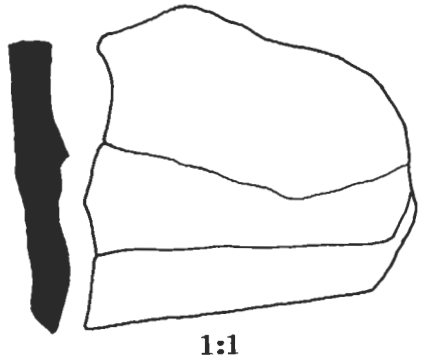
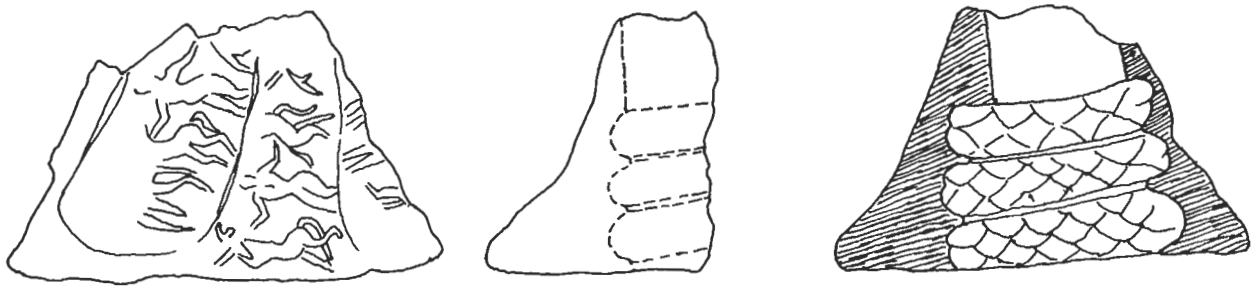


Figure 32. Ceramic types and wheels from the surface of the Outer City

M1 167

M1 168





M1 169

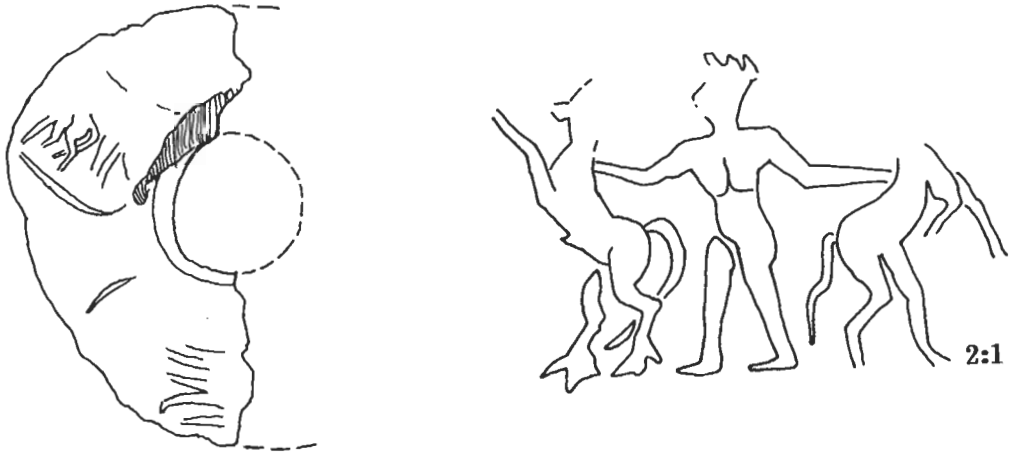


Figure 33. Seal impressions from the glacis in Area K

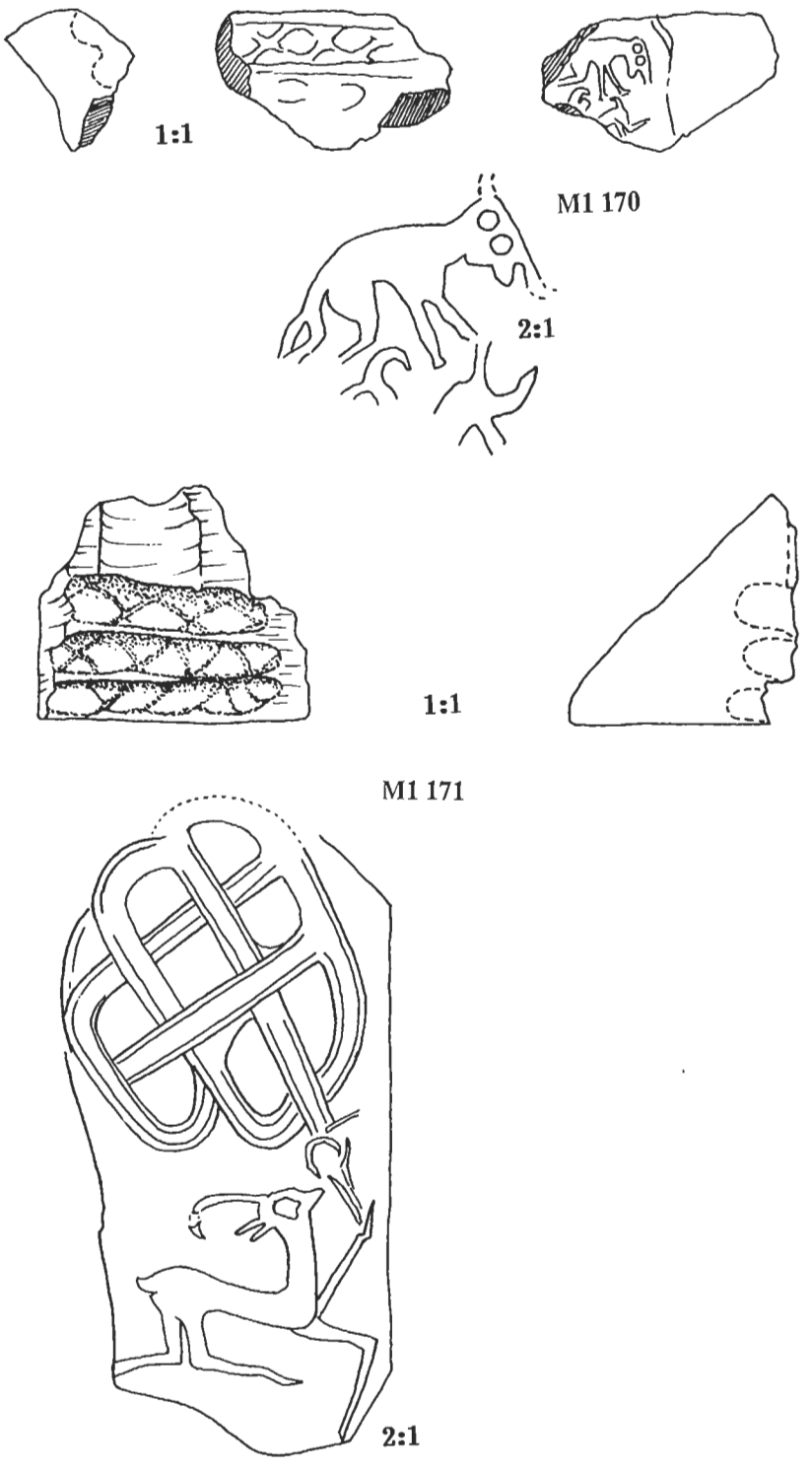
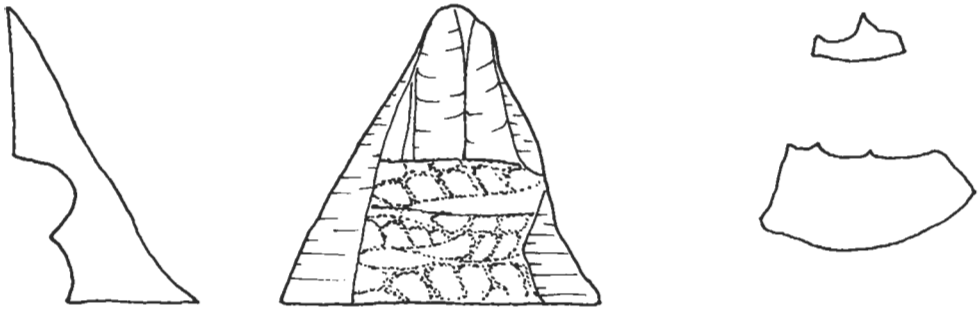
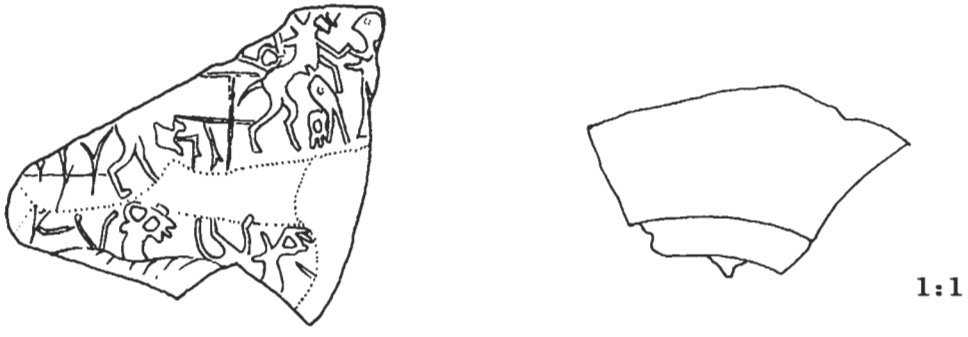


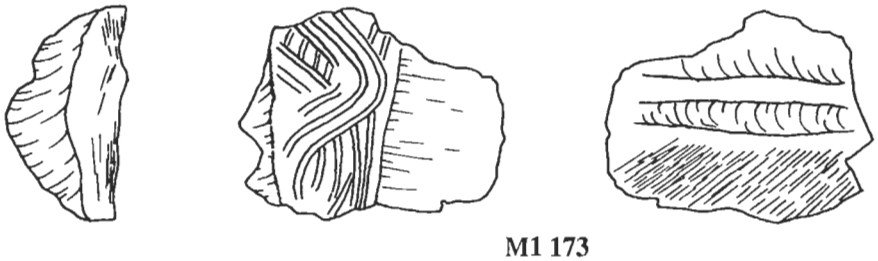
Figure 34. Seal impressions from the glacis in Area K



M1 172



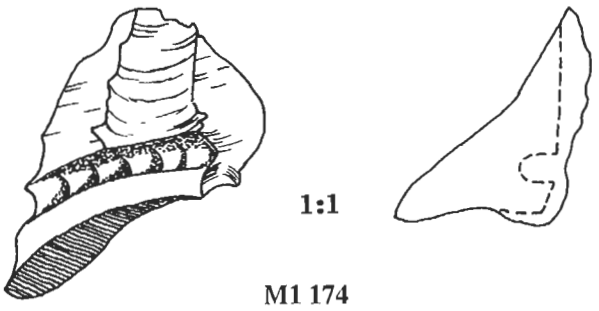
1:1



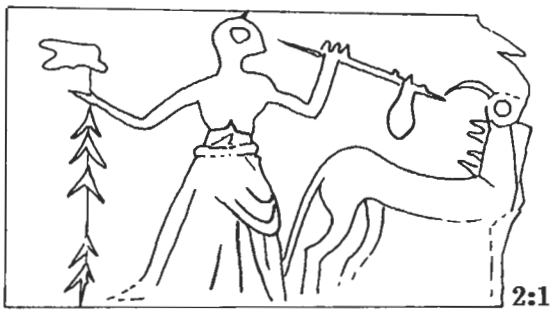
M1 173

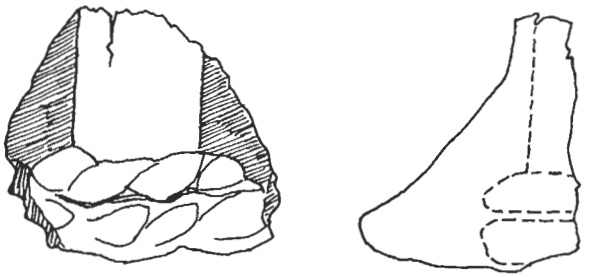
1:1

Figure 35. Seal impressions from the glacis in Area K



M1 174

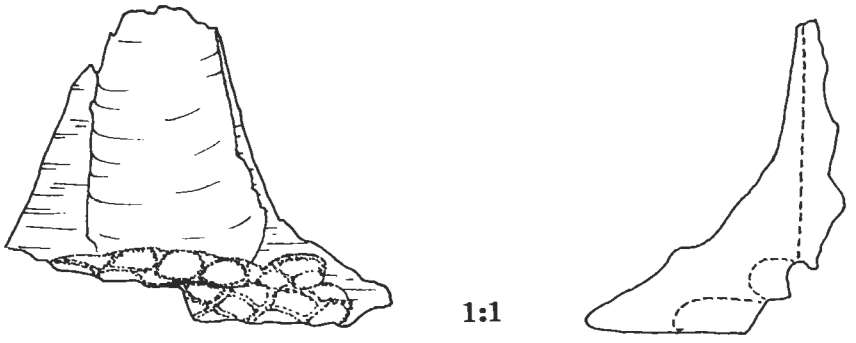




M1 175

M1 176

Figure 36. Seal impressions from the glacis in Area K



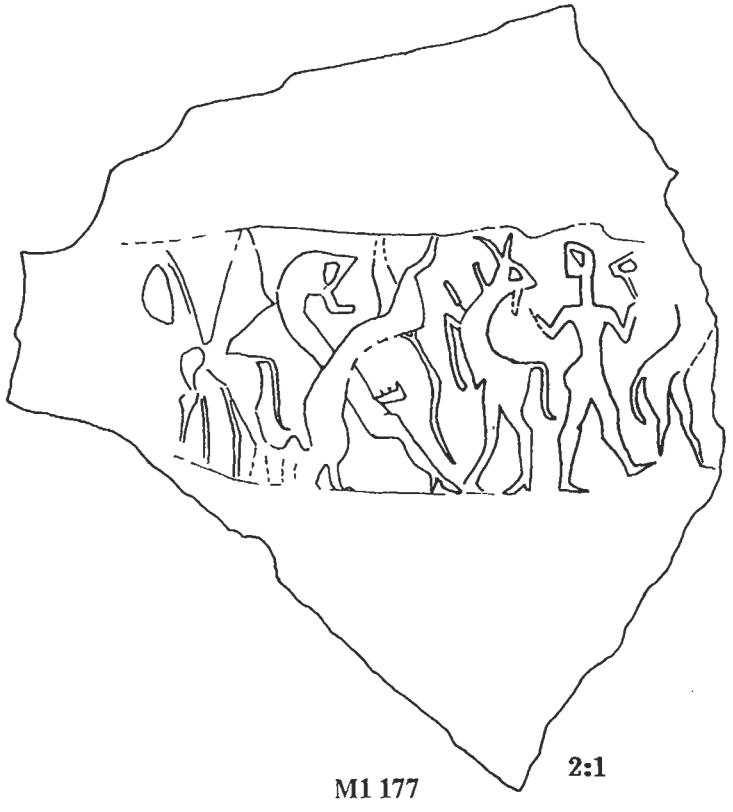
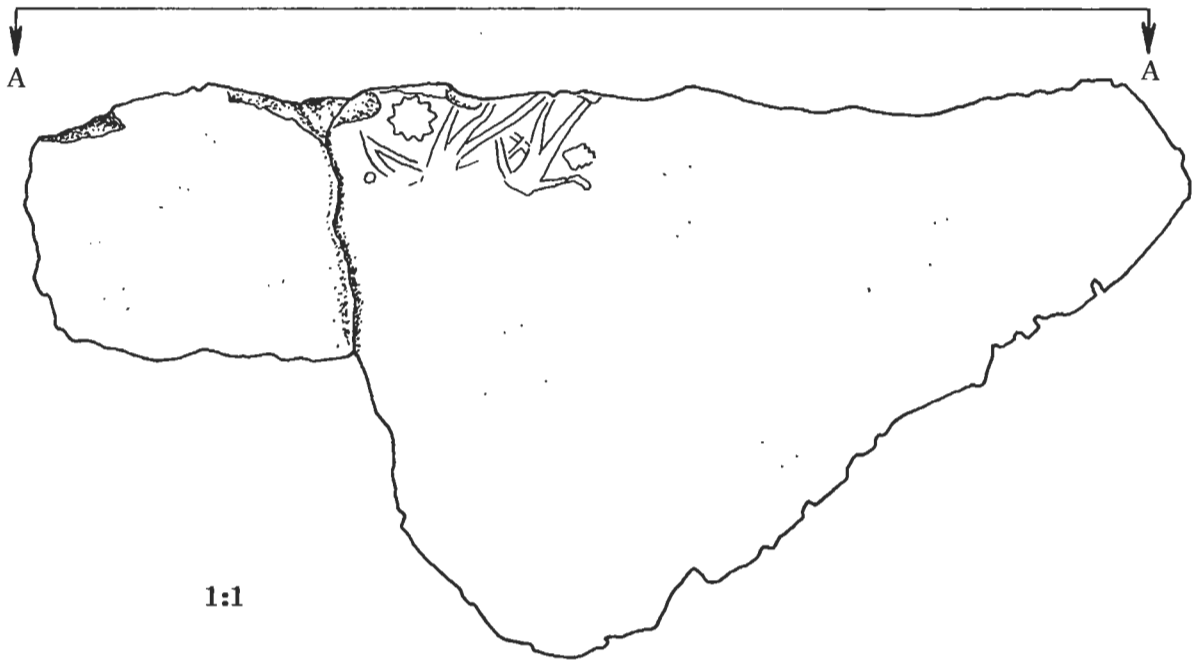
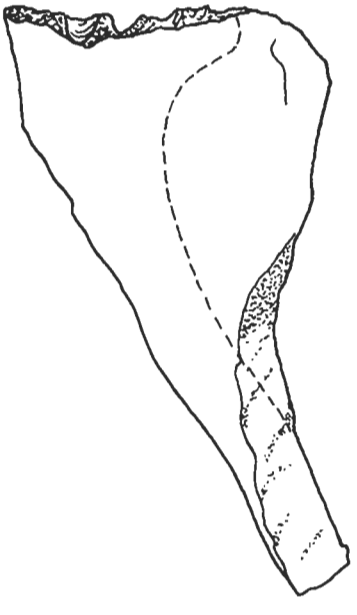
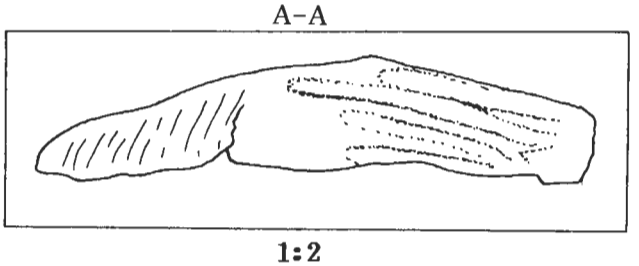


Figure 37. Seal impressions from the glacis in Area K



M1 178





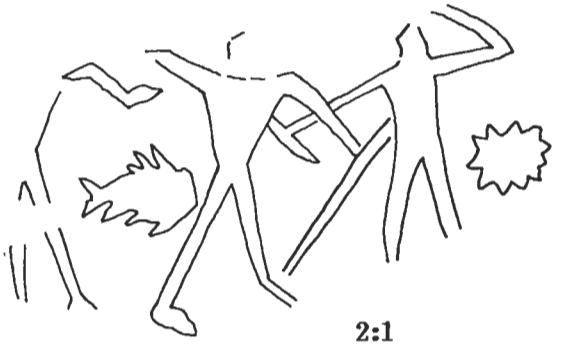
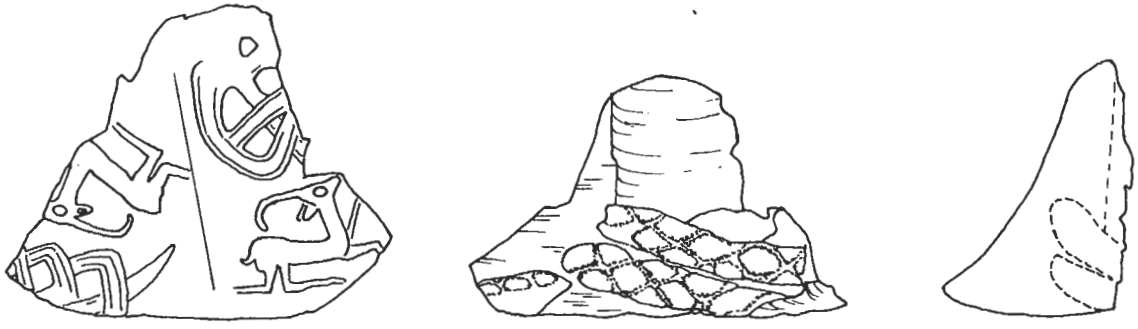
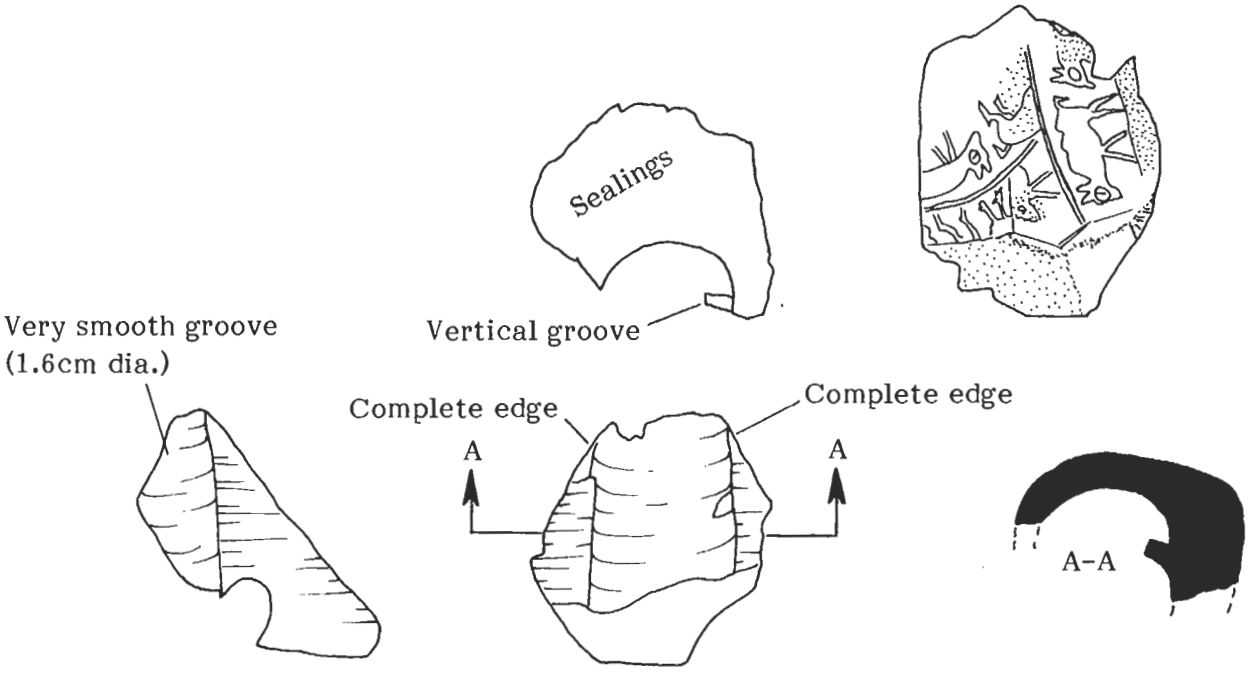


Figure 38. Seal impressions from the glacis in Area K



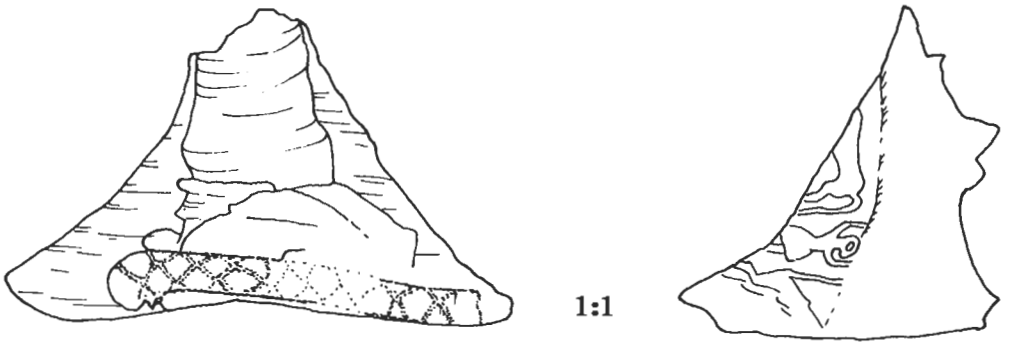
M1 179



M1 180

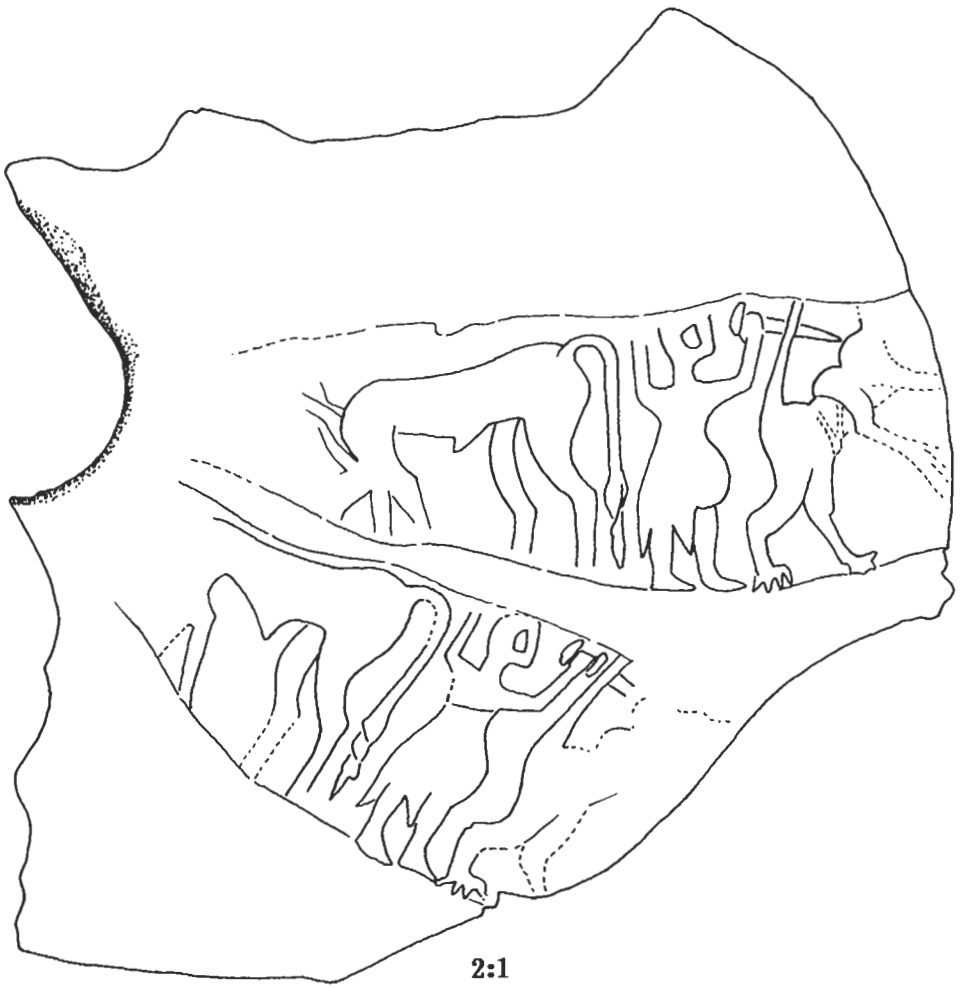
1:1

Figure 39. Seal impressions from the glacis in Area K



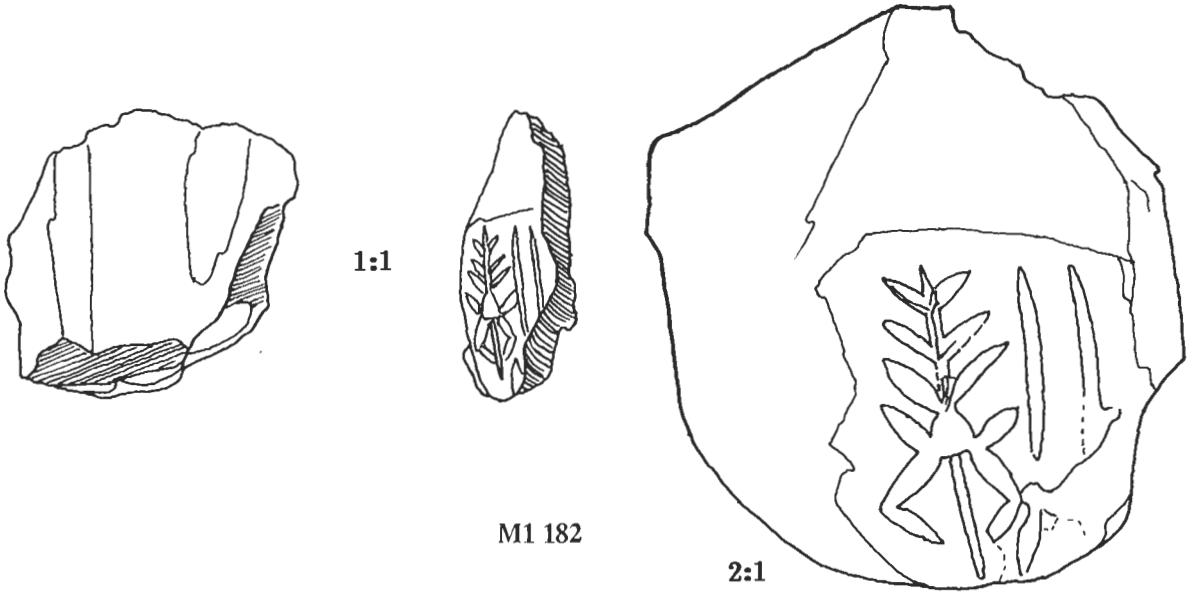
1:1

M1 181



2:1

Figure 40. Seal impressions from the glacis in Area K



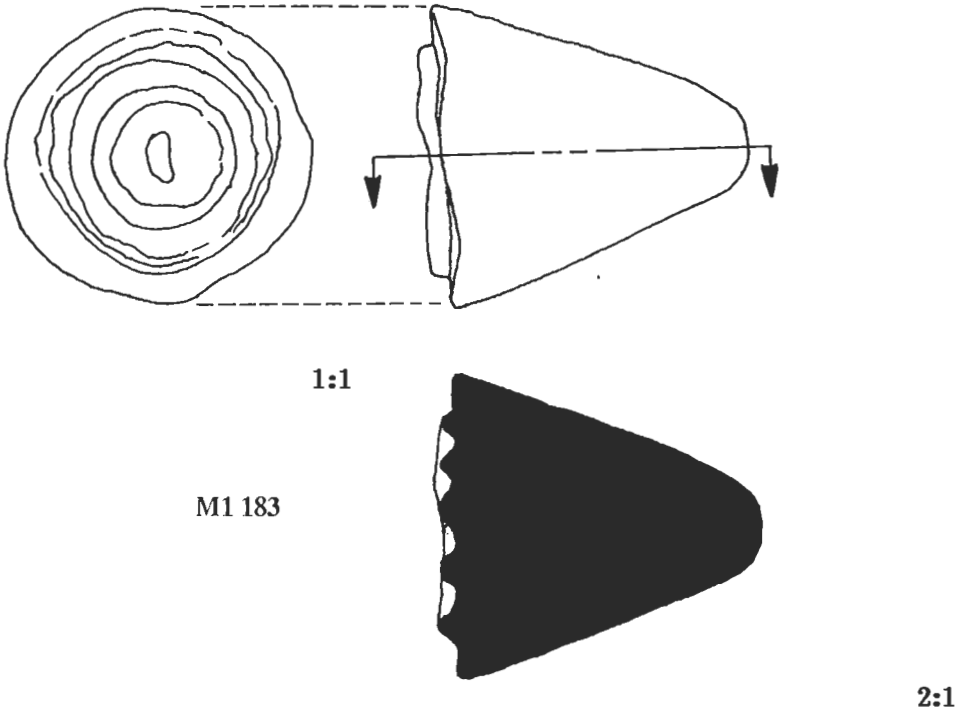


Figure 41. Seal impression and stamp seal from the surface

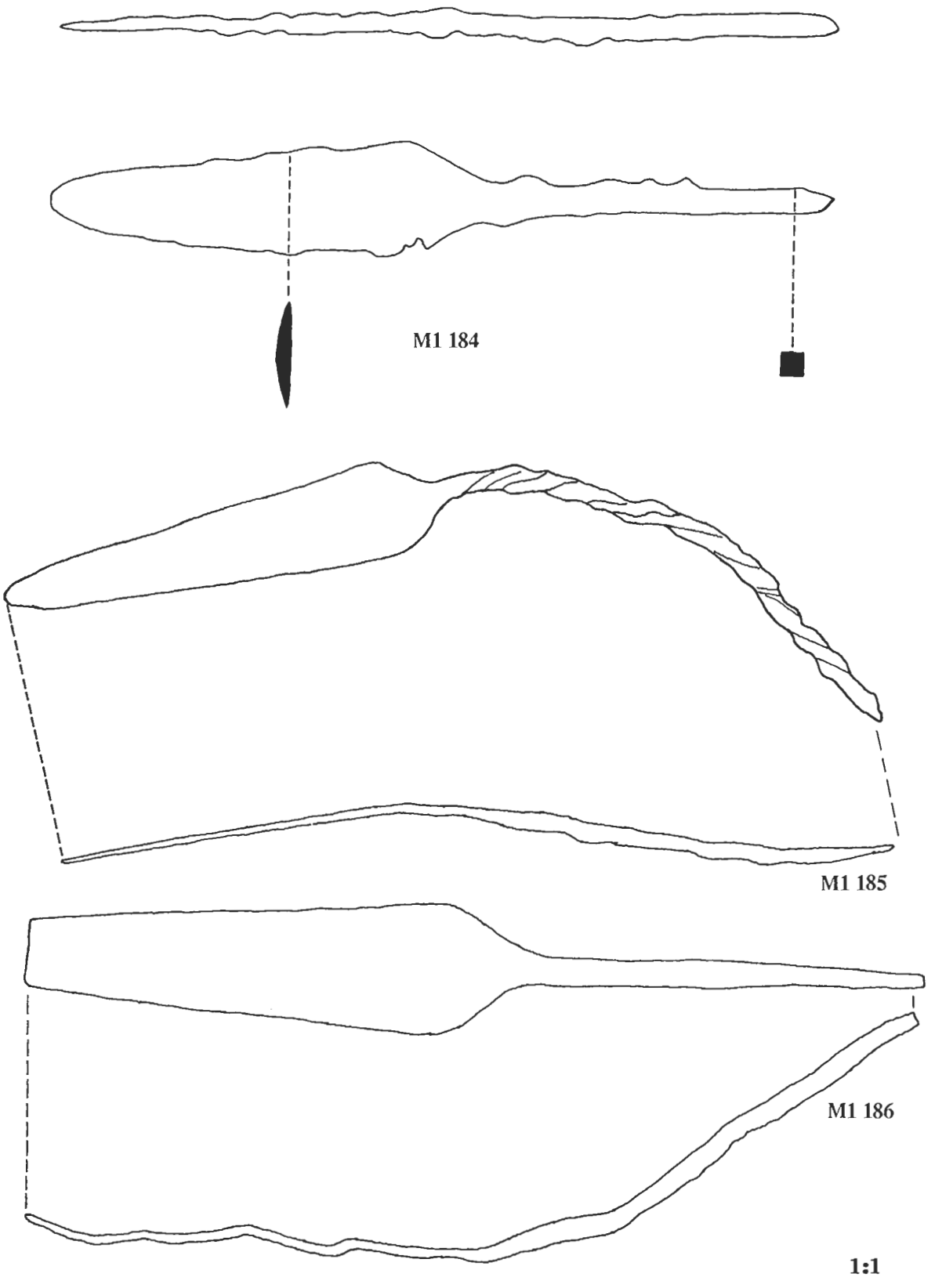
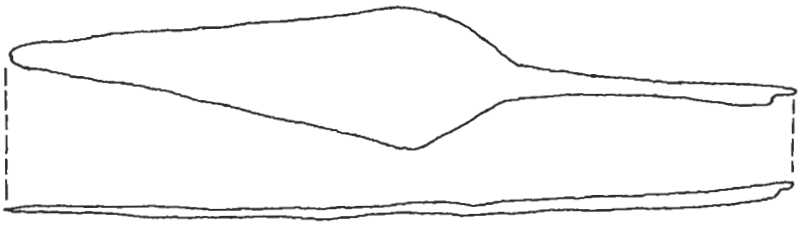
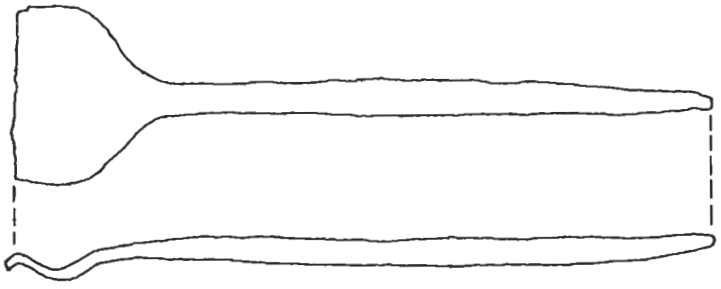


Figure 42. Metal spearheads



M1 187



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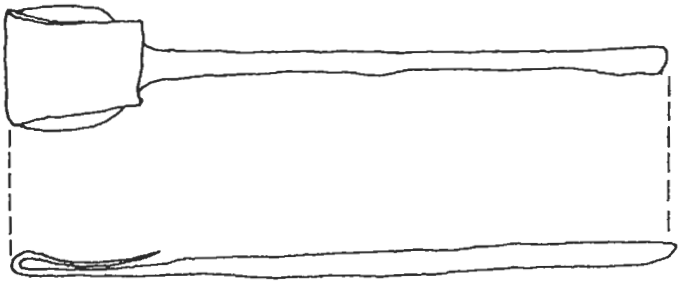

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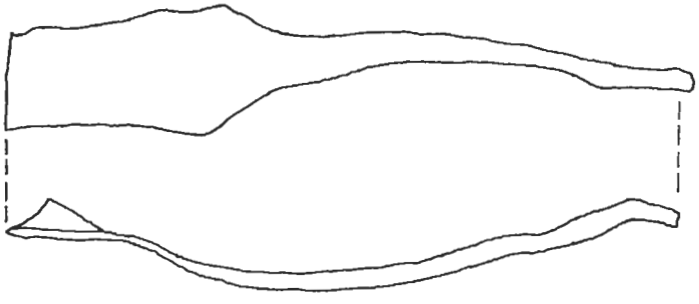


M1 190

1:1

Figure 43. Metal spearheads

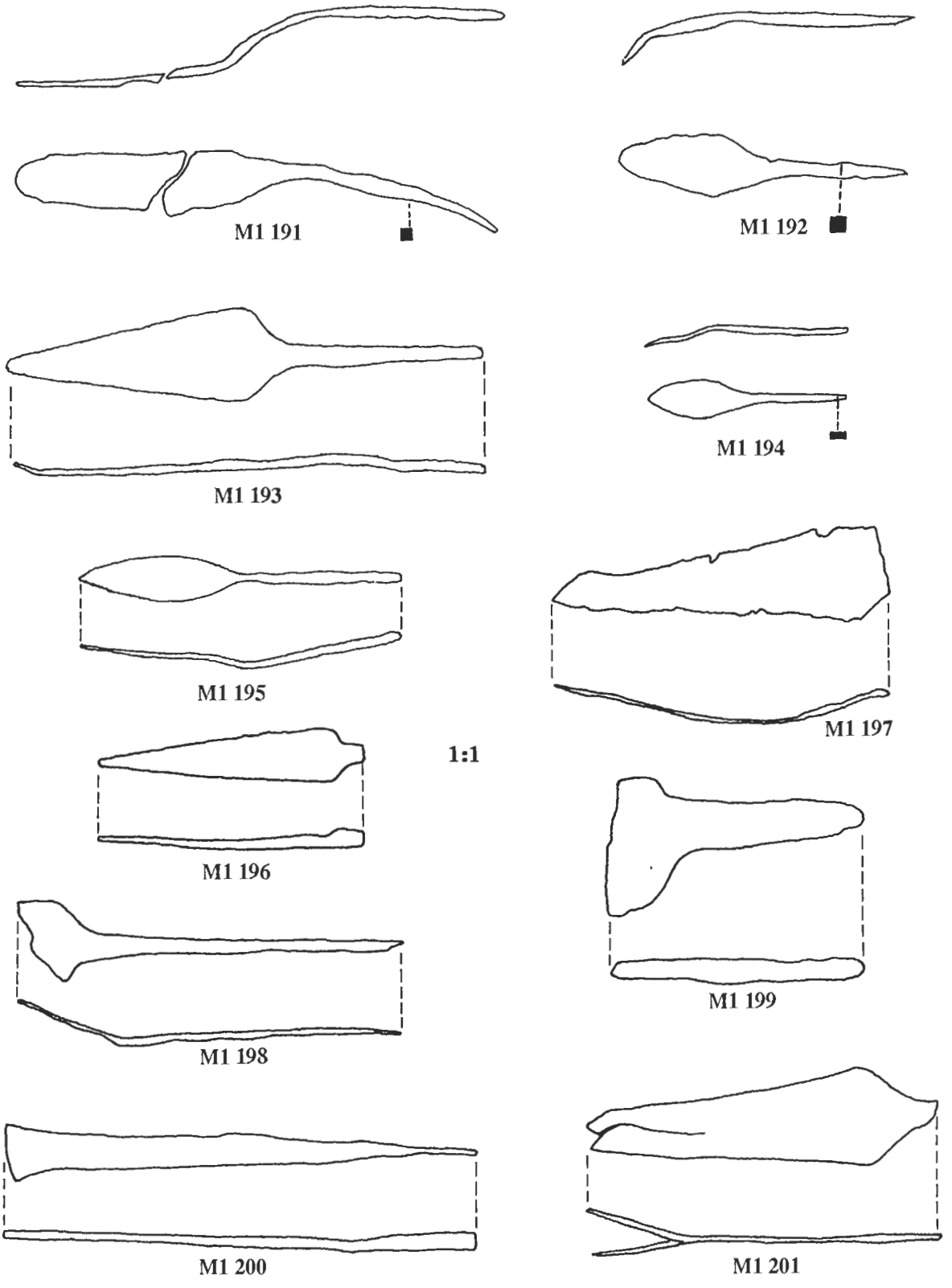
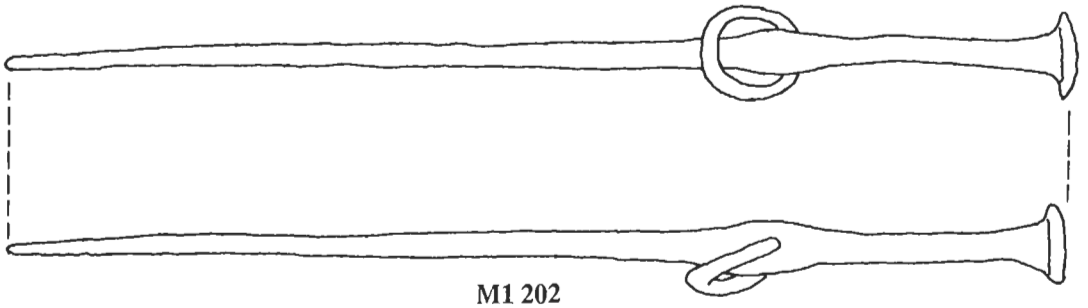
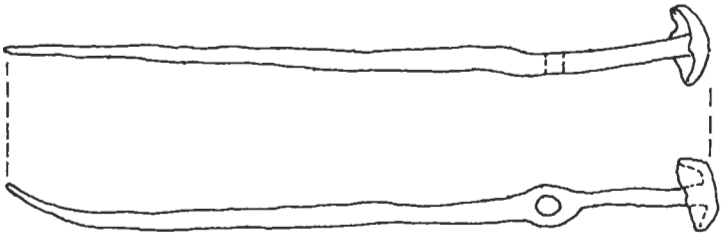


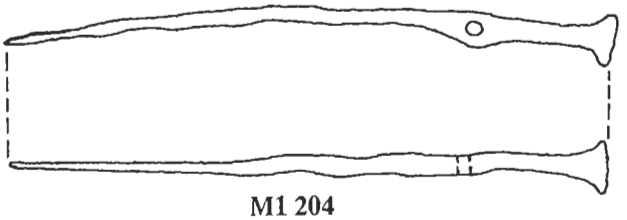
Figure 44. Metal points, spoons and scalpel



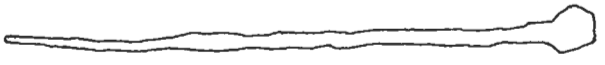
M1 202



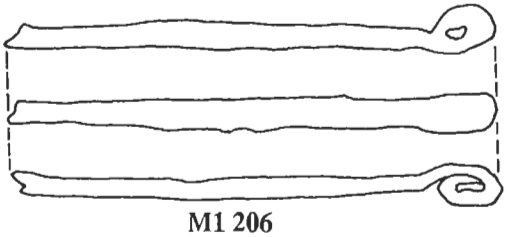
M1 203



M1 204



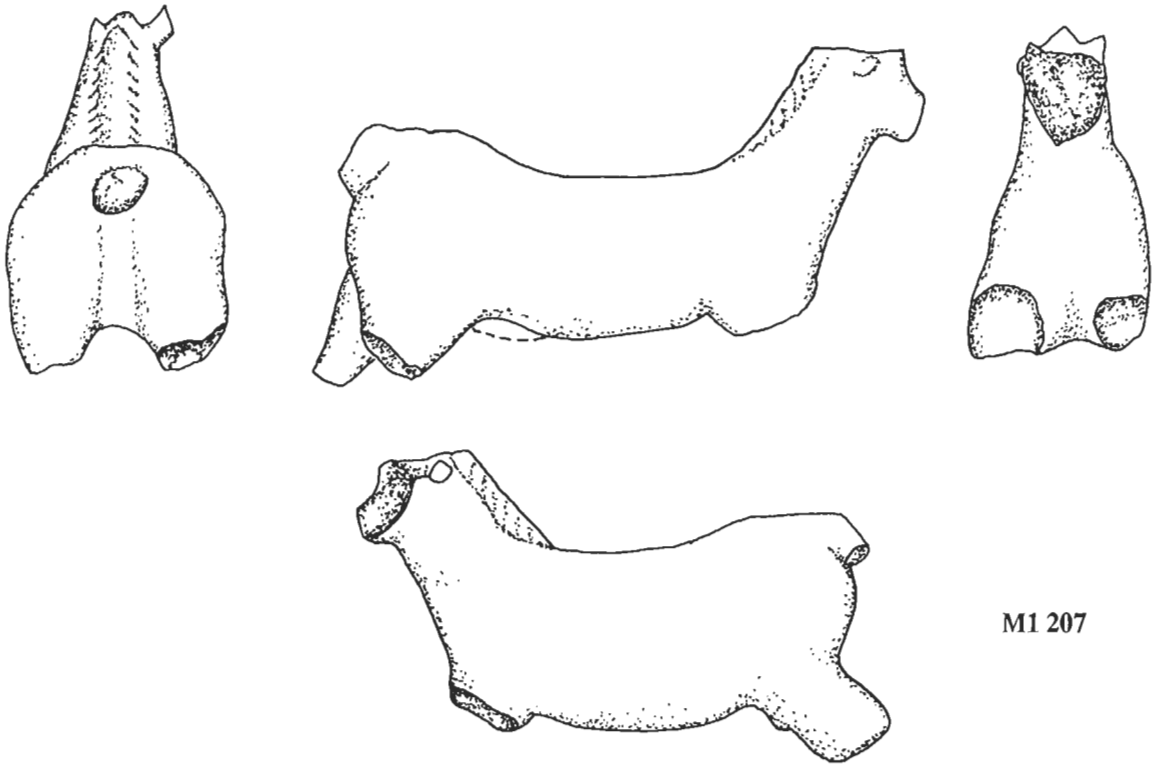
M1 205



M1 206

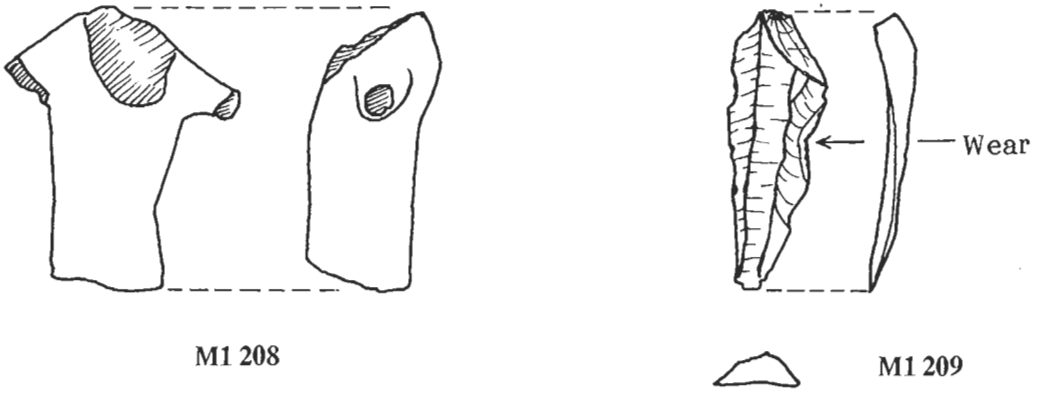
1:1

Figure 45. Metal pins



M1 207

1:1



M1 208

M1 209

Figure 46. Lithic blade and figurines

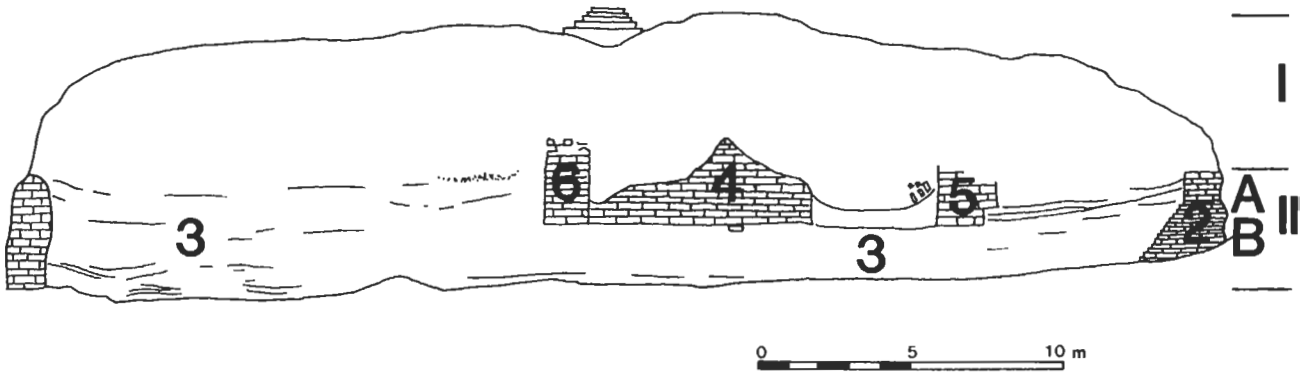


Figure 47. Tell Shermola: Sketch section of northern side of central mound

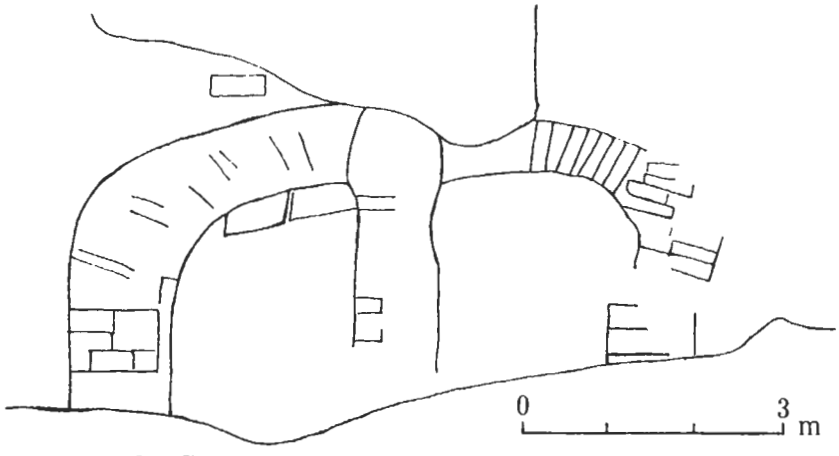


Figure 48. Tell Shermola: Sketch section of arched structure on southern side of mound

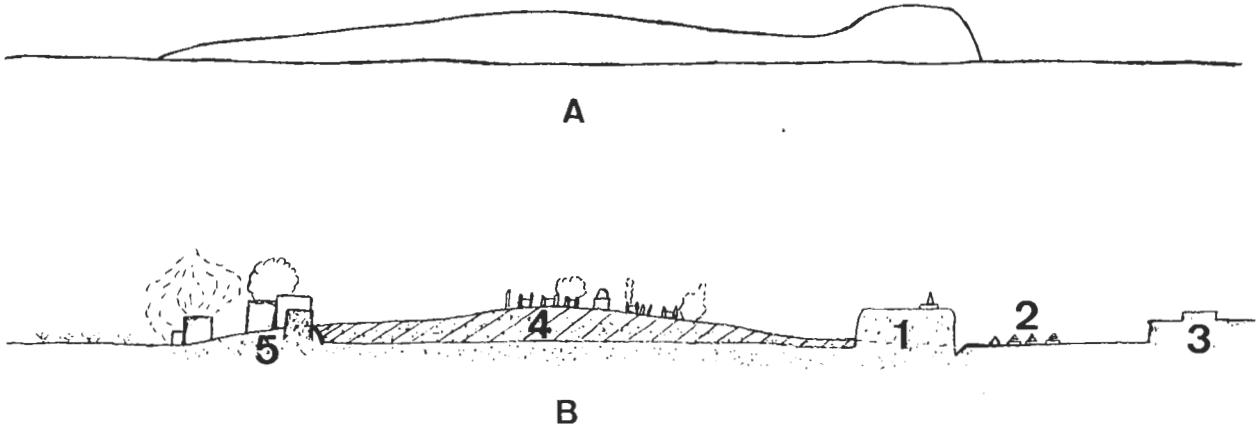


Figure 49. Tell Shermola: Sketch section of entire tell, looking west, with proposed reconstruction of ancient outline

1 Tell Shermola (main mound)
2 Cemetery
3 Southern edge of the town of Amuda
4 Cemetery hill
5 Southern mound

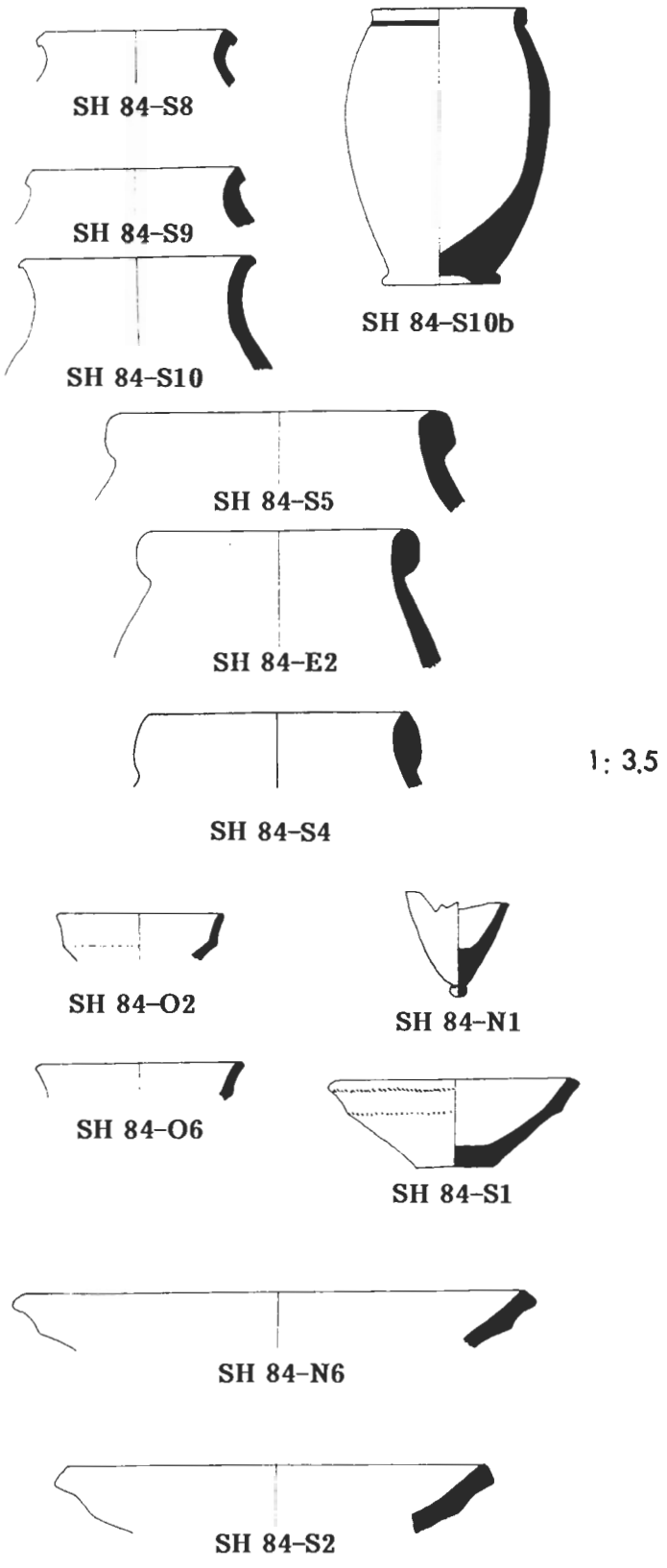


Figure 50. Tell Shermola: Ceramic types from the surface of the main mound

PLATES

Illustration 1. Miniature head of a horse

M1 209 (K1.12). Burnt clay; from the destruction layer in K1 feature 16 (mid third millennium).

Illustration 2. Aerial view of Tell Mozan with Outer City (far shot, looking southwest).

A faint discoloration (and in some cases a change in the pattern of field layout) marks the low rise which encircles the Outer City. The distance between the southern and northern points (S and N in the photograph) is about one mile.

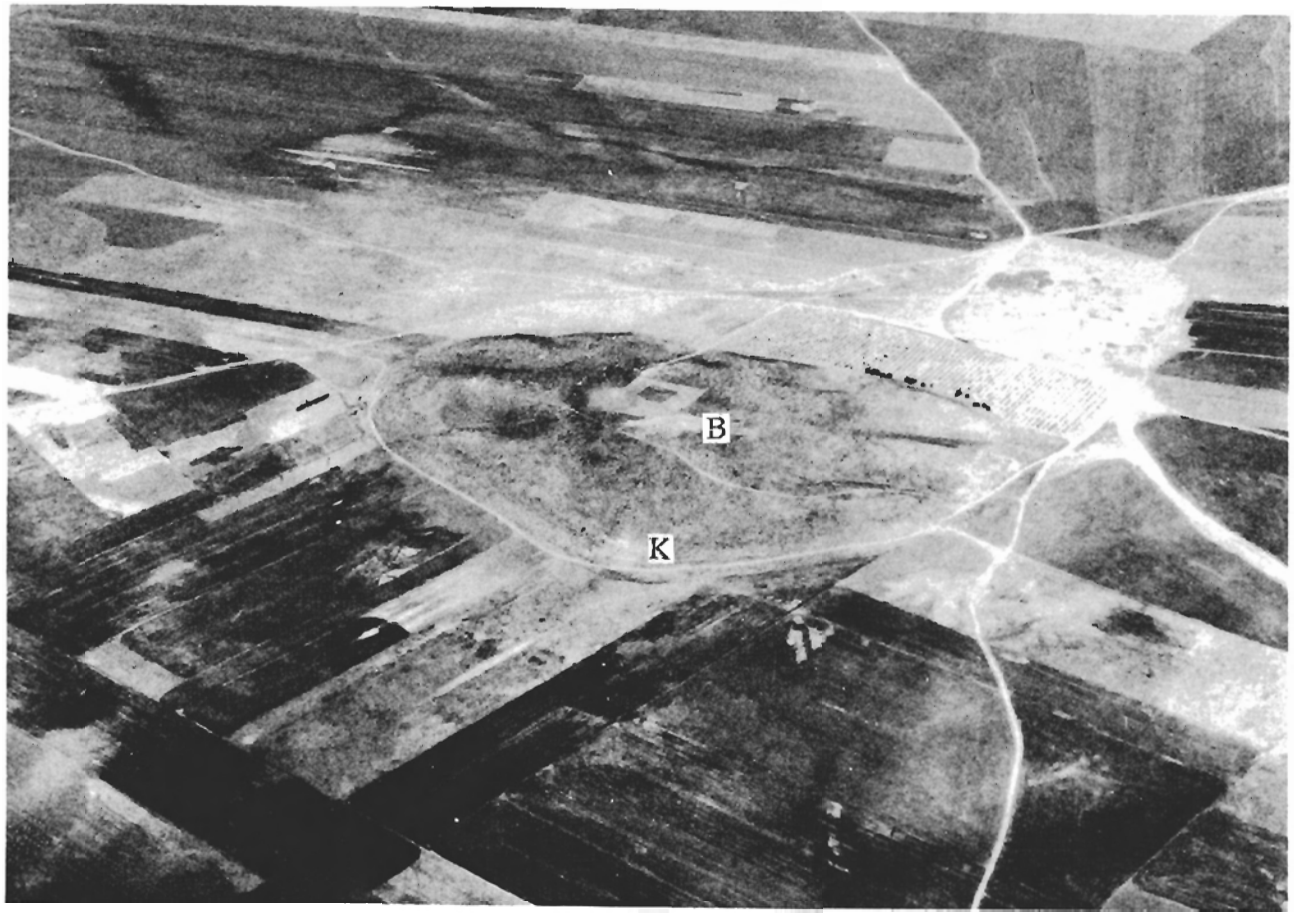


Illustration 3. Aerial view of Tell Mozan with Outer City (medium shot, looking west).

B and K are the two main soundings of the first two seasons.

Illustration 4. Aerial view of Tell Mozan (narrow shot, looking south).

The village of Mozan is visible on the right; it is located within the area of the ancient Outer City. The vineyard between the village and the mound is on a gentle slope which may correspond to part of the ancient High Mound. The low rise encircling the Outer City is partly visible in the upper right. The distance between the eastern and western points (E and W in the photograph) is about one kilometer.

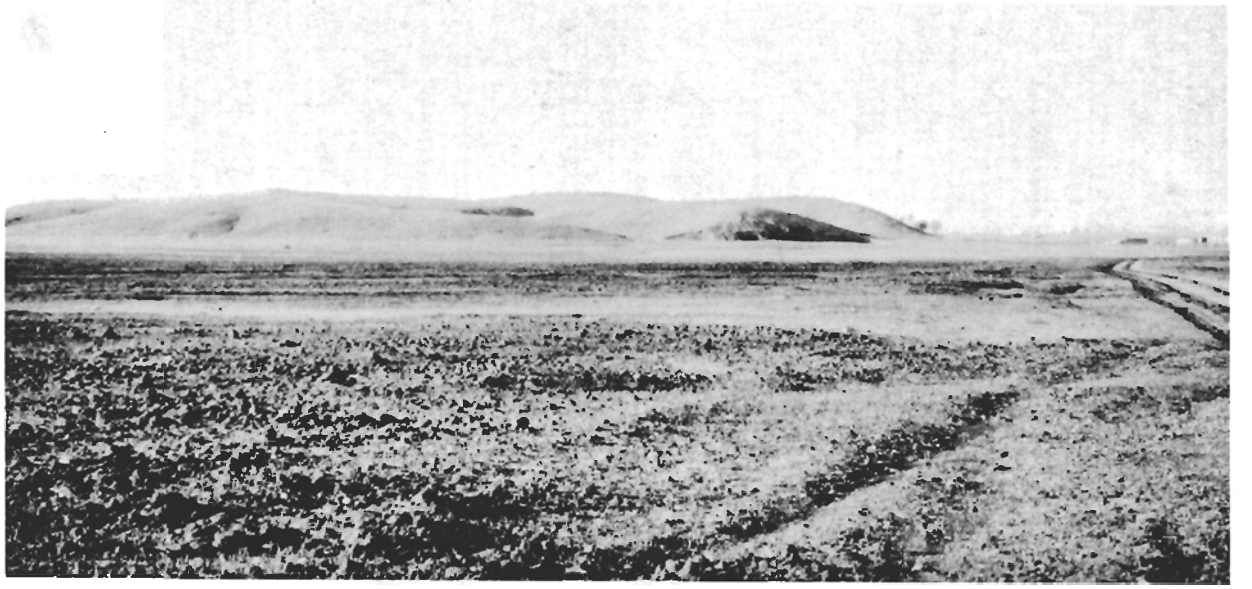


Illustration 5. Profile of Tell Mozan (looking south).

The village of Mozan is visible on the right. The trees on the slope delimit the higher border of the vineyard.

PLATE VI

Illustration 6. Stone building, Area B1 (direct overhead).

Stone ramp partly exposed, semi-circular feature, and southwest corner of outer stone wall. (The photograph was taken toward the beginning of the second season, and the exposure is correspondingly more limited than shown on the floor plan, Figure 8.)

Illustration 7. Stone building, Area B1 (oblique overhead, looking north).

The ramp and semi-circular structure are visible on the lower left, and beyond them the three parallel stone walls on the west. In the background is the continuation of this building with its stone foundations and the lower courses of mud brick walls.

Illustration 8. Stone building, Area B1: southwestern corner (oblique overhead, looking east).

Closer view of ramp, semi-circular structure, and southwestern portion of room.

Illustration 9. Stone building, Area B1: southwestern corner (looking south).

Visible in the center is the clear alignment of the stones marking the outer face of the western side of the building.

PLATE VIII

Illustration 10. Stone building, Area B1: northwestern corner with plastered floor (looking north).

White floor is preserved up to the edge of the wall. The mudbrick is preserved in the lower right (same corner as in Illustr. 11); elsewhere only the stone substructure is preserved.

Illustration 11. Stone building, Area B1: detail of brick wall on stone foundation and white floor.

On the lower right corner the white plastered floor rides up to, and curls up against, the lower course of bricks of the wall. The thickness of the plaster shows in the section of the shallow round depression in the lower center of the photograph.

Illustration 12. Stone building, Area B1: broken storage vessel on outside floor in southwestern corner, of Pebble Tempered ware.

Illustration 13. Stone building, Area B1: reconstructed storage vessels on outside floor in southwestern corner.

Restored Pebble Tempered storage vessel on lower left and restored rope decorated jar on upper left; both were found on floor B1f19.

PLATE X

Illustration 14. City wall, Area K1: direct overhead.

The long narrow trench has exposed the base of the glacis (lower portion) and the inside of the city wall (K2): the slope of the tell reveals the brickwork of the eroded core of the city wall. Larger sounding at the base of the city wall is Locus A (see Figure 13).

Illustration 16. City wall, Area K1: detail of north section in Locus A (see Figure 13). The plastered exterior face of the city wall shows on the right, the bricks are lying horizontally on top of the burnt deposit (K1f16). The top of the glacis shows clearly, still partly covered by a portion of the burnt deposit.

Illustration 17. City wall, Area K1: frontal view, after scraping of vertical face (looking west). Preserved height of city wall, from the surface of the glacis to the top of the brickwork, is about 5 m. The top portion represents later deposit resting on top of the brickwork (part of which is removed in the continuation of the trench visible in Illustration 19).

Illustration 18. City wall, Area K1: general view of Locus A (looking north). Eroded core of wall, with articulated brickwork, shows on the right, with top surface of glacis riding up to its base. Talus of High Mound shows in background.

Illustration 19. City wall, Area K1: general view of glacis with burnt deposit and face of city wall (looking west). Trench cut perpendicular to the city wall shows the steep slope of the glacis; in the background the base of the wall and above it the trench cut at the top of the mound to expose the inner face of the city wall. Clearly visible are both the even surface of the glacis and the thickness of the burnt deposit.

Illustration 15. City wall, Area K1: front view, before excavations.

The cut in the side of the tell results from local farmers using this area to gather soil for mud bricks.

Illustration 16.

Illustration 17.

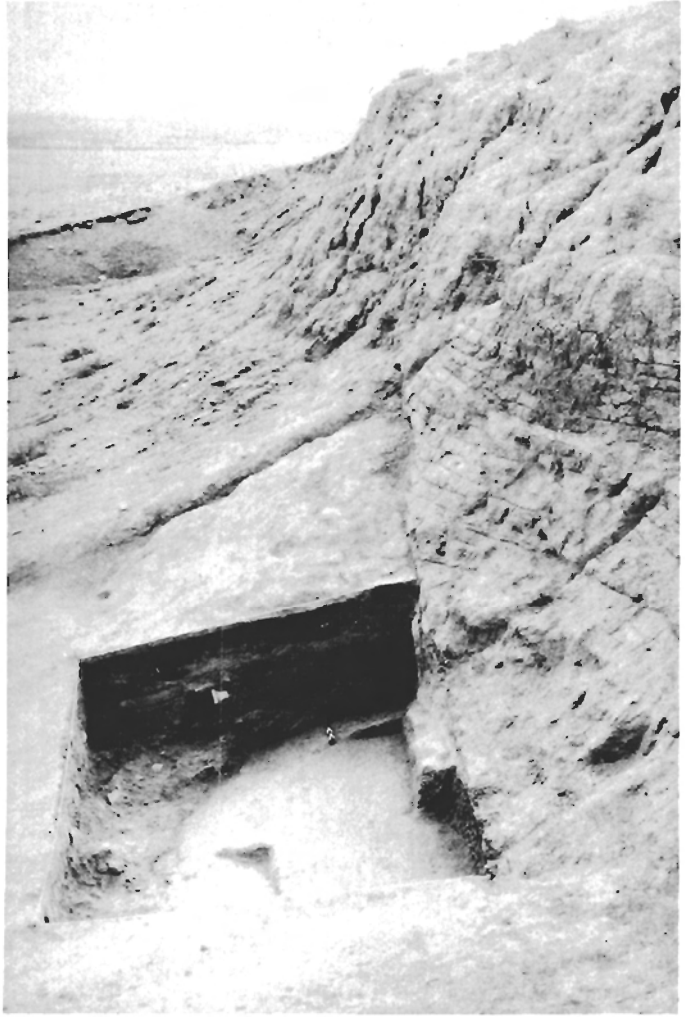


Illustration 18.

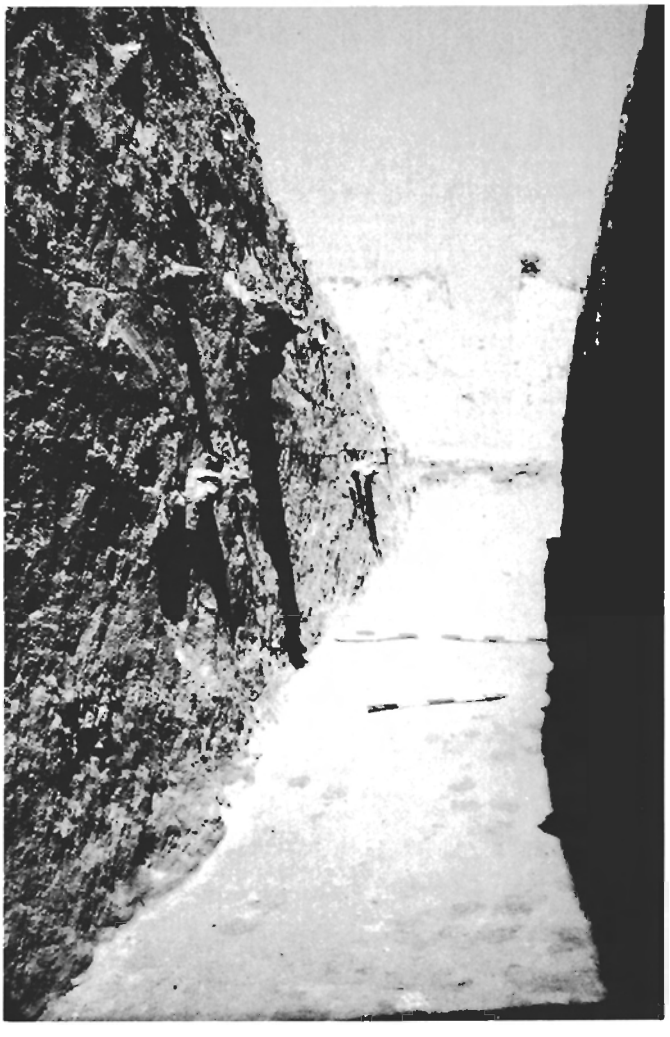


Illustration 19.

PLATE XII

Left:	Mid left:	Mid right:	Right:
M1 205	M1 200	M1 189	M1 203
M1 206	M1 196	M1 199	M1 204
B1.40	M1 193	M1 188	M1 202
M1 195	M1 201	M1 190	M1 187
M1 192	M1 197		M1 186
M1 194	M1 198		M1 185
M1 191			M1 184

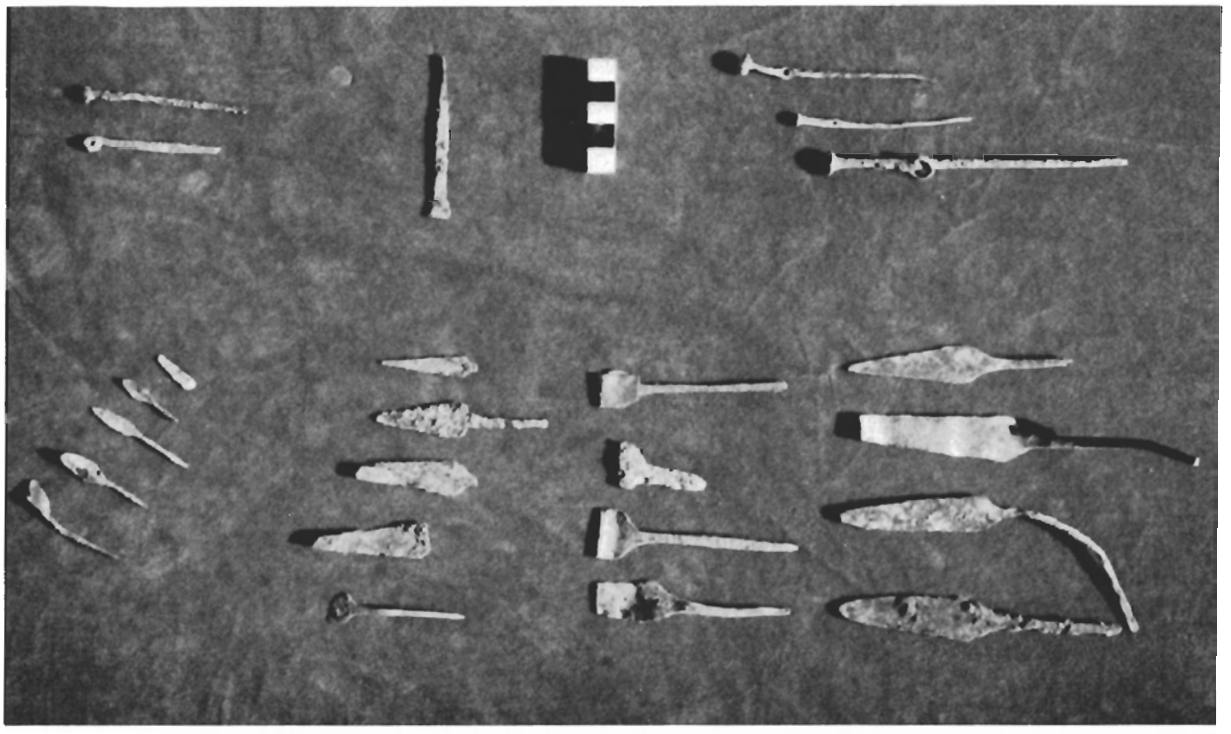


Illustration 21. Assemblage of metal objects (Areas B1 and K1).

The three pins at the upper right are from the burnt deposit in K1, the points at the lower right are mostly from the northwestern portion of B1, and the small spoons at the lower left are mostly from the central portion of B1.

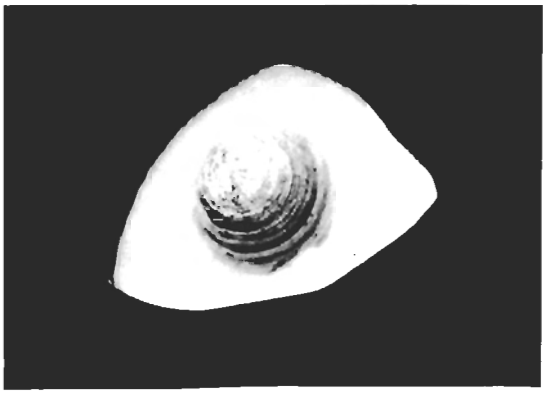


Illustration 20. Eye socket of statue (Area B1).

M1 210 (B1.19). The socket, with traces of bitumen in the hole for a colored pupil, was found among the stones in the southwestern corner of the building.

Illustration 22. Spouted mid third millennium vessel (Area K1).

M1 52 (K1.12-2). Simple ware with darker traces and burnt-on clay from secondary firing (from the burnt deposit K1f16).

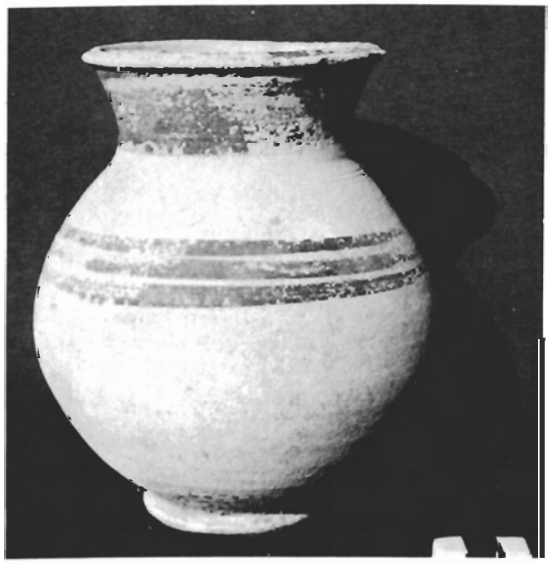
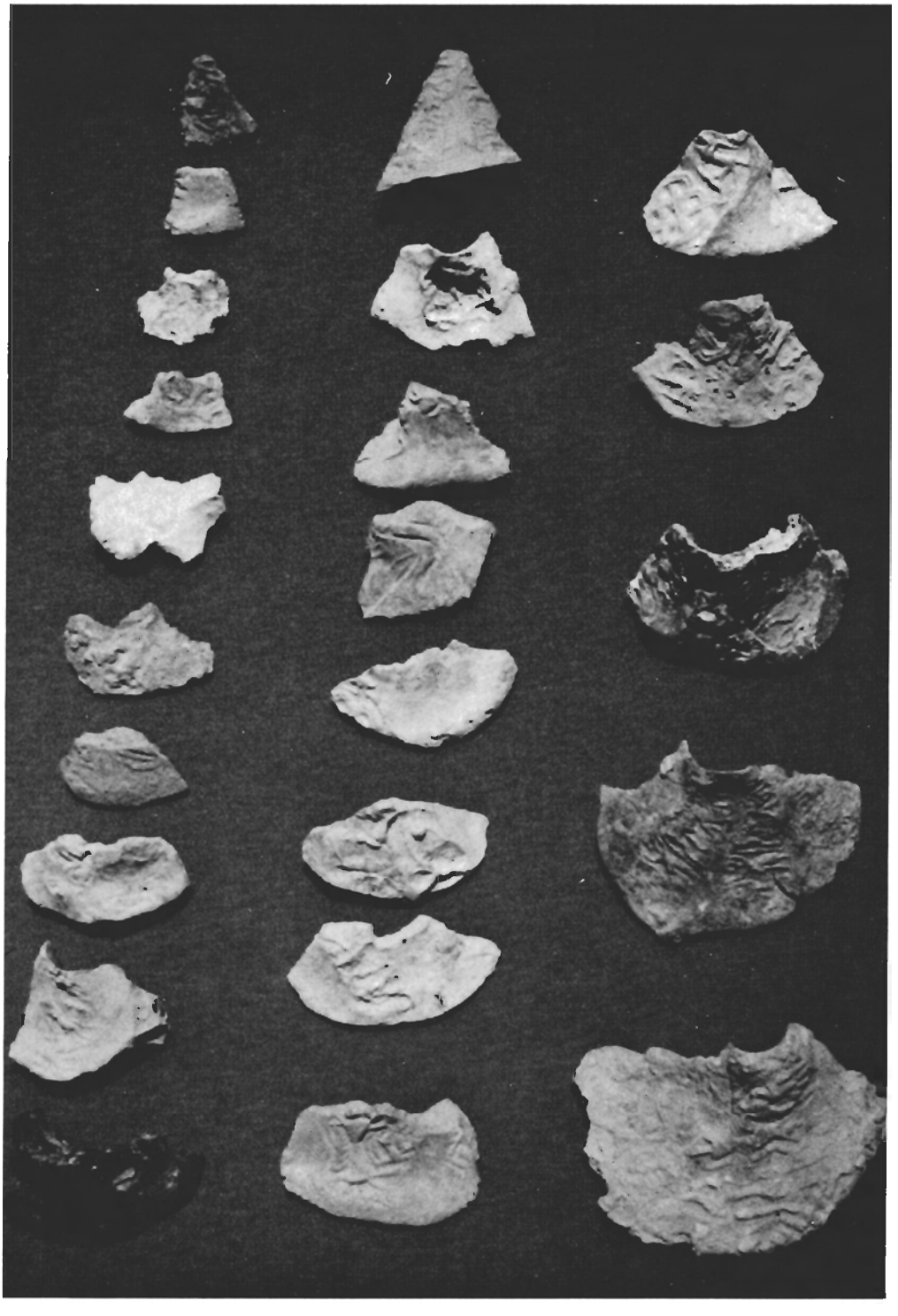


Illustration 23. Khabur ware jar (Area B1).

M1 82 (B1.73). From the destruction stratum above the white floor of the stone building.

PLATE XIV

Left column:
K1.24
M 1 175
M 1 168
K1.87
K1.75
K1.70
K1.76
K1.13
K1.63
K1.77



Right column:
M 1 171
M 1 179
M 1 169
M 1 181
K1.16

Center column:
K1.20
K1.25
K1.72
K1.18
K1.41
K1.78
K1.46
M 1 172

Illustration 24. Assemblage of door sealings (Area K1).

All sealings are from Area K1, feature 16, the burnt layer.

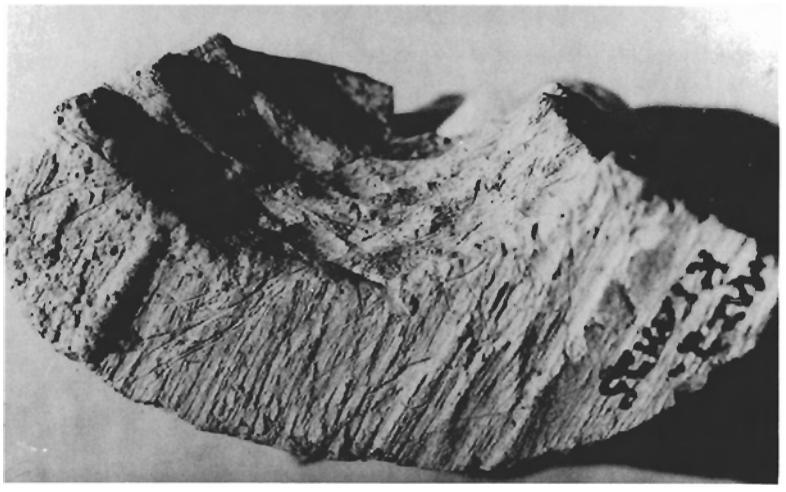


Illustration 25. Detail of bottom of door sealing (K1.25). Flat wood impression on the bottom and two strands of rope impression along the central cavity.

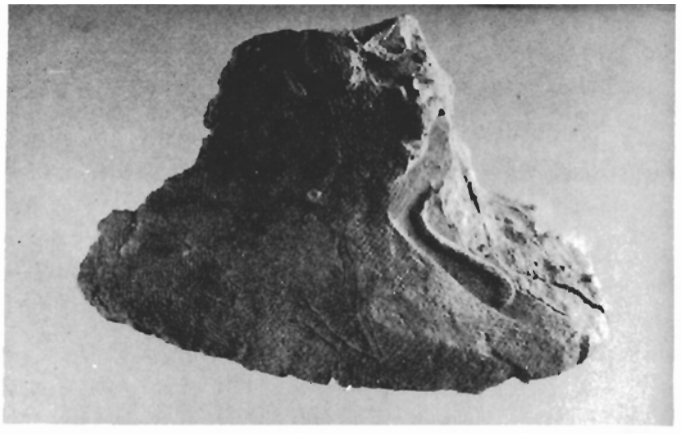


Illustration 26. Characteristic shape of door sealings (K1.78).

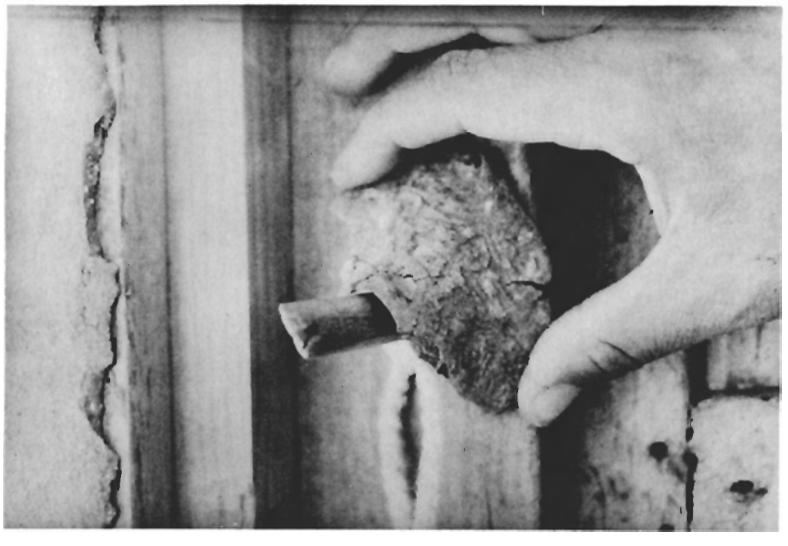


Illustration 27. Reconstruction of door sealing on modern door.

PLATE XVI

SEALINGS FROM THE BURNT DEPOSIT OUTSIDE THE CITY WALL (K1f16), MID THIRD MILLENNIUM

Illustration 28. Seal impression on shoulder of large jar

M1 167 (K1.6). The sealing is reversed with respect to the orientation of the jar (in this photograph the neck of the jar is at the bottom).

Illustration 29. Seal impression on rectangular tag

M1 168 (K1.8). The seal is rolled on the preserved length of the tag and fills the entire surface.

Illustration 30. Door sealing: crossed animals

M1 172 (K1.50). Traces of a human figure and a lion; cloth impressions also shown.

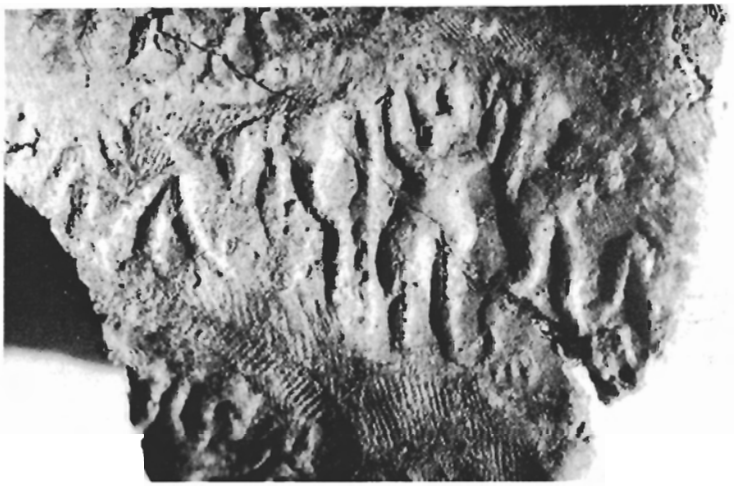
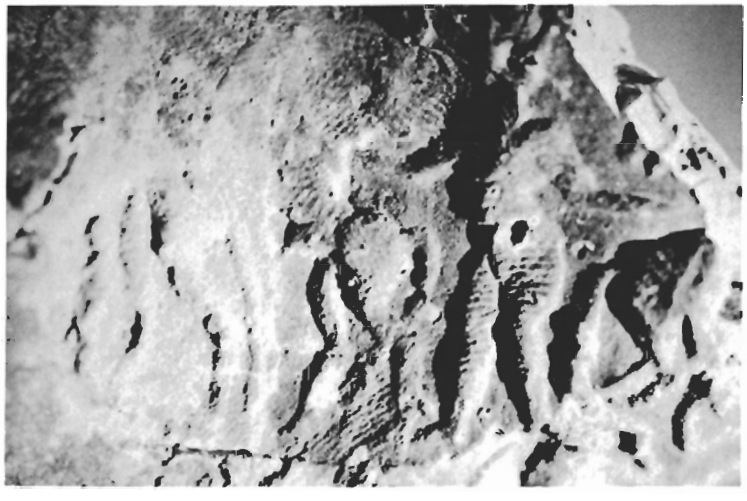


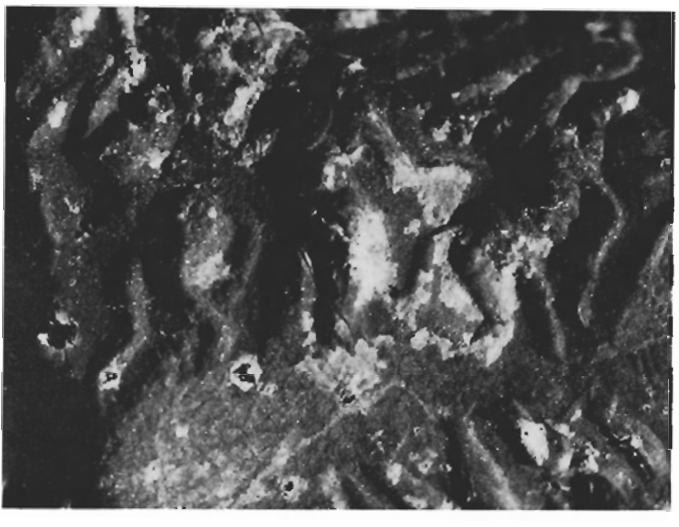
Illustration 31. Door sealing: hero with dagger

M1 181 (K1.92). Hero with dagger between two animals; traces of cloth show that the cloth impressions were on the clay before the seal was rolled.

Illustration 32. Seal impression: snake coil and horned quadruped

M1 171 (K1.45).





Illustrations 33-35. Seal impression: hero between rampant animals

M1 169 (K1.29) Nude hero with tufted hair between two bearded animals; three different details of the impression.

PLATE XVIII

Illustration 36. Seal impression: hero with rampant animal and crossed animals

M1 177 (K1.69). Hero and bearded horned animal; a pair of crossed lions.

Illustration 37. Seal impression: hero with skirt holding plant, with animal

M1 174 (K1.52). Skirted figure holding a stick and a bag(?) behind an animal.

Illustration 38. Seal impression: double animal file

M1 180 (K1.82). Two rows of animals with short tails, ears or short horns, and large eyes.

Illustration 39. Seal impression: geometric design

M1 173 (K1.51). Door sealing from burnt deposit outside the city wall, mid third millennium; geometric pattern (guilloche?).

Illustration 40. Seal impression: rampant bearded animal

M1 75 (K1.17). Door sealing from burnt deposit outside the city wall, mid third millennium; rampant animal (antelope?) with beard, horns, and short tail.

Illustration 41. Seal impression: impaled(?) scorpion

M1 183 (K1.17). Door sealing from general surface of mound.

Illustration 42. Two stamp seals

M1 183 (Z1.20 on right and Z1.17 on left). From general surface; two stamp seals with circular geometric pattern.

PLATE XX

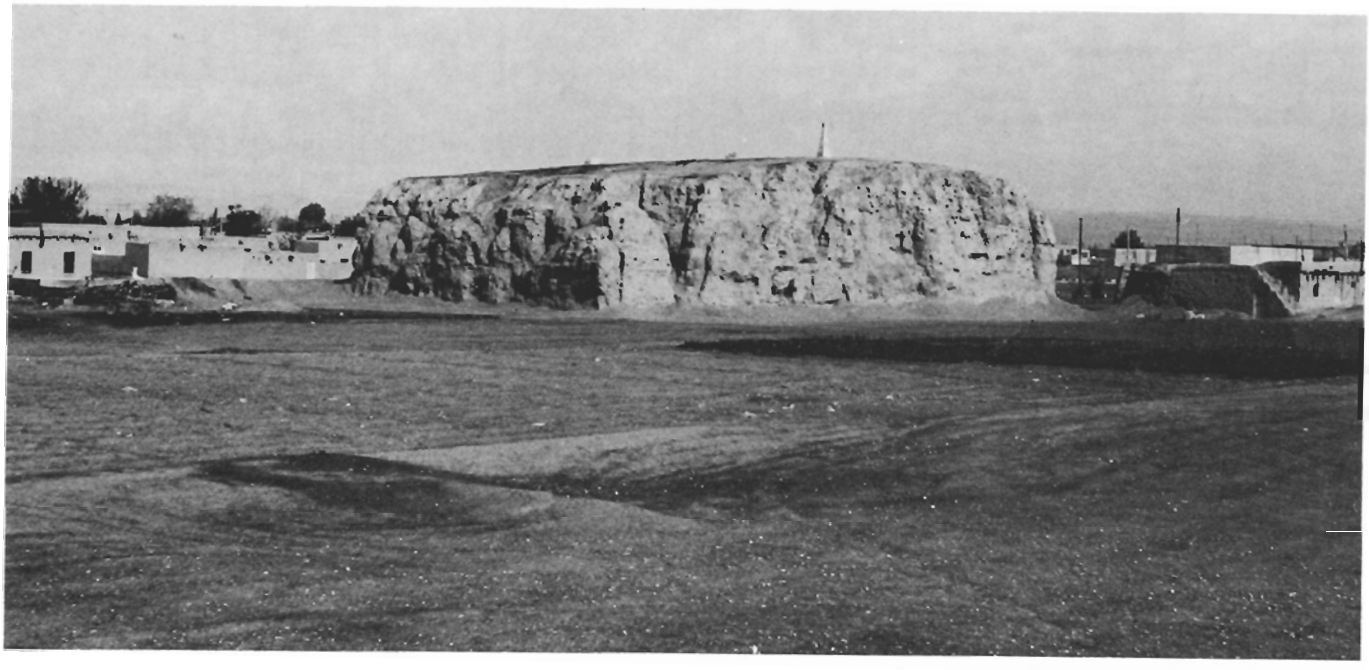


Illustration 43. Tell Shermola: the central mound (looking northwest).

Illustration 44. Tell Shermola: button base goblet (base).

Illustration 45. Tell Shermola: carinated shallow bowl.

Illustration 46. Tell Shermola: the lower mound (looking west).

Illustration 47. Tell Shermola: the lower mound (looking north).

PLATE XXII

Illustration 48. The Urkish lion in the Metropolitan Museum of Art: front view.

Illustration 49. The Urkish lion in the Metropolitan Museum of Art: side view.

Illustration 50. The Urkish lion in the Metropolitan Museum of Art: three-quarter view.

Illustration 51. The Urkish lion in the Metropolitan Museum of Art: top view.

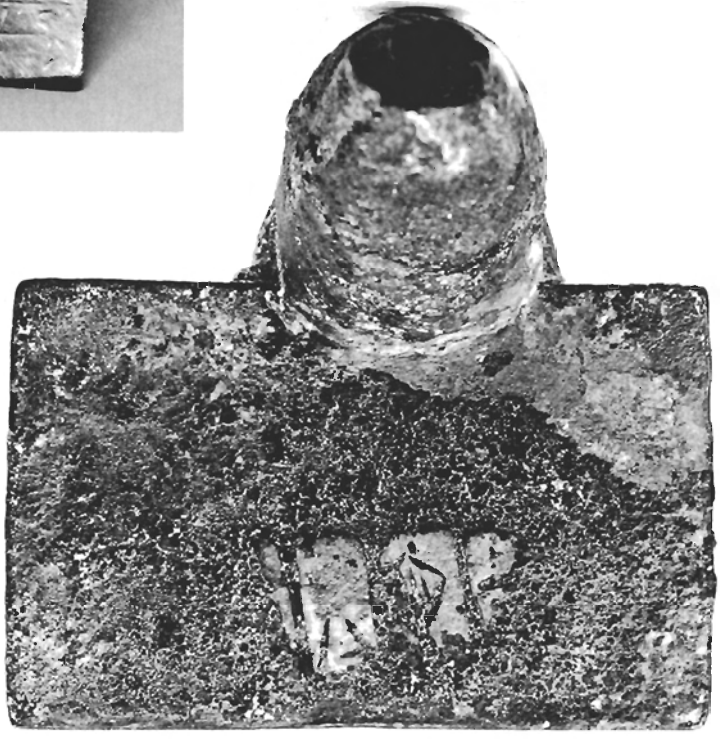


Illustration 53. The Urkish lion in the Louvre: bottom view.

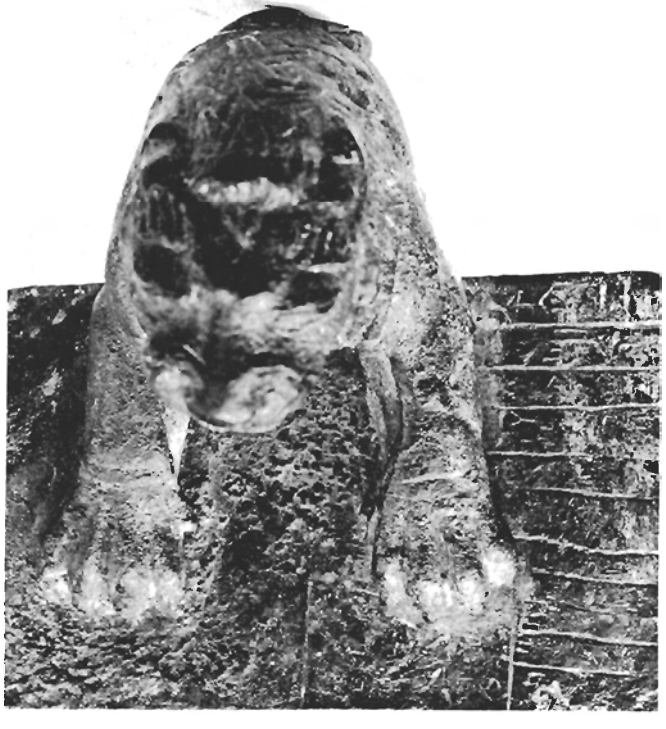


Illustration 52. The Urkish lion in the Louvre: top view.

PLATE XXIV

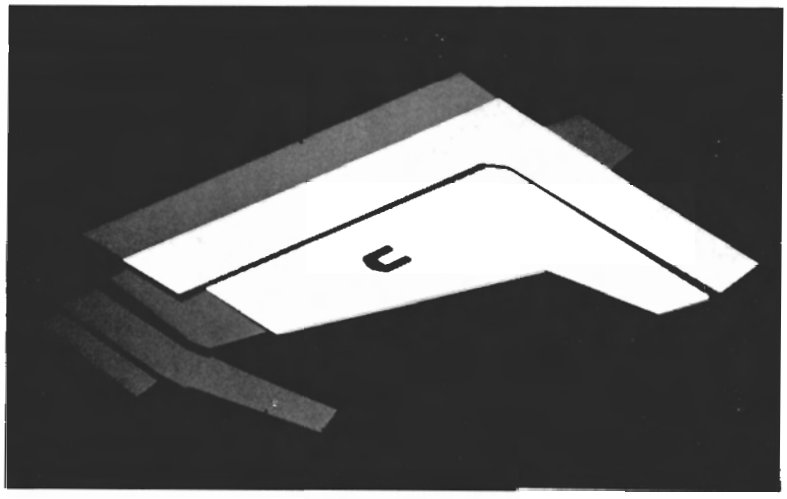


Illustration 54.

COMPUTER GENERATED RENDERINGS OF THE STONE BUILDING IN AREA B1

Illustration 54. Partially excavated foundations of stone building in Area B1 (viewed from the southeast).

The right-angle wall (light area) and its two additional parallel walls (dark gray) enclose the white floor (white area) with its horseshoe-shaped hearth. To the south of the white floor is the stone ramp (dark gray). To the north of the white floor is the brick-paved area (light gray).

Illustration 55. Axonometric perspective of Tell Chuera-style 'in antis' temple reconstruction at Mozan (viewed from the southeast).

The 'in antis' temple reconstructed on the Mozan foundations is entered via five steps from the east (this entrance is purely hypothetical, since this portion of Area B is currently unexcavated). The altar is on the west wall, flanked by two pairs of engaged pillars. The stone ramp serves to connect the cella with the exterior or perhaps a stone courtyard via the south. A doorway on the north wall connects the ante-cella with the brick-paved area north of the white floor.

Illustration 56. Low-angle perspective of Kish-style reconstruction at Mozan (viewed from the south).

The Mozan foundations are seen as part of a much larger 'palatial' structure which includes a second story. The stone ramp connects to the white floor through a portico. This in turn connects to the second story via a stairway whose lower steps can be seen rising just beyond the north wall of the portico.

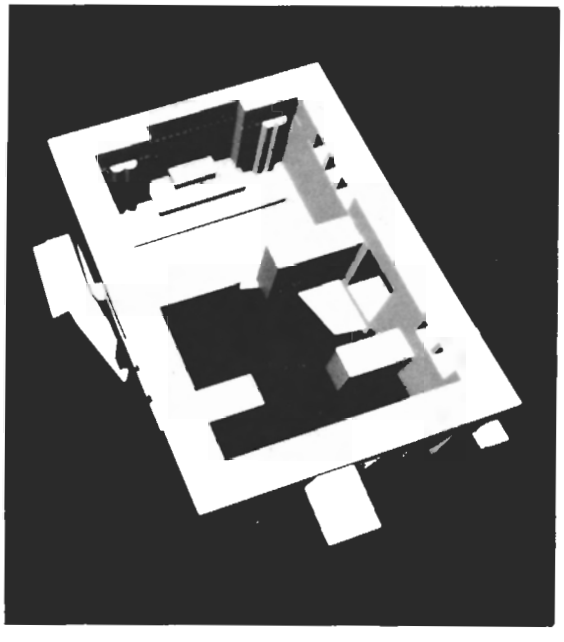


Illustration 55.

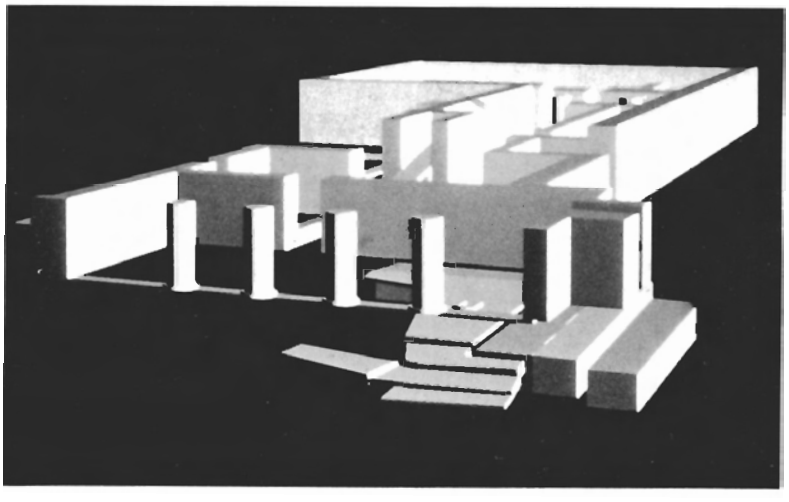


Illustration 56.