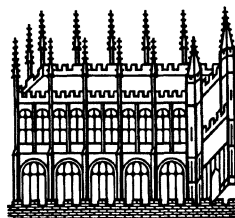


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# Excavations at Tepe Yahya, Iran 1967–1975

## The Iron Age Settlement

C. C. LAMBERG-KARLOVSKY

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Peter Magee

With a contribution by Peter Grave

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## Foreword

# The Tepe Yahya Project: A Collaborative Undertaking

C. C. Lamberg-Karlovsky

Department of Anthropology, Harvard University

Peter Magee's *The Iron Age Settlement* is the fifth volume, including my preliminary progress report (Lamberg-Karlovsky 1970), to present in detail the results of excavations at Tepe Yahya, Iran, that were conducted under my direction from 1967 to 1975. (See fig. F.1.) It is also the second volume in the series to have been prepared by an author who did not participate in the excavations. (The first was *The Proto-Elamite Texts from Tepe Yahya*, written by Peter Damerow and Robert Englund [1989].) As "The Tepe Yahya Project: Bibliography," included in this volume, indicates, most of the authors of and contributors to previously published volumes had a sustained commitment to a particular artifact type or time period at the site. As Harvard undergraduates, Richard Meadow, Thomas Beale, and Dan Potts participated in the excavations and wrote their senior honors theses on aspects of Tepe Yahya. All three were subsequently accepted to the graduate program in anthropology and wrote doctoral dissertations on aspects of their work at the site, revised versions of which were published in *Bulletins of the American School of Prehistoric Research*. Other Harvard graduate students were also involved in the project: Philip Kohl assumed responsibility for studying the carved chlorite vessels, Dennis Heskell undertook metallurgical analysis, and Martha Prickett directed regional settlement surveys. Each of these students worked at Yahya for several seasons, and each completed a dissertation based upon his or her research at the site. A number of collaborating scientists also maintained a sustained interest in the study of materials from Tepe Yahya, notably Lorenzo Costantini (paleoethnobotany); Rodman Snead (geomorphology); Silvio Durante (malecology); Pamela Vandiver, Diane Kamilli, and Rita Wright (ceramic analysis); Marcello Piperno (lithics); Ronald Tylecote, Cyril Smith, Heather Lechtman, and Christopher Thornton (metallurgy); and Ingrid Reindell (conservation). During the years of excavation at Tepe Yahya and in the decades following, we also maintained a significant and productive collaboration with Maurizio Tosi

and Ali Hakemi, the directors of the excavations at Shahr-i Sokhta and Shahdad, respectively.

My decision to "farm out" to graduate students discrete aspects of the Yahya project met, for the most part, with very considerable success. The advantage of having a number of capable students committed to several seasons of excavation and subsequent publication has obvious benefits, not the least of which is the sustained involvement by a small group of interacting individuals who share a common interest. In some instances, the choice of who would do what made itself apparent during the excavations. For example, over the course of five seasons Philip Kohl excavated the major areas involved in the production of chlorite vessels, which became his focus of research. In other instances students expressed their own interests, such as Dennis Heskell's in metallurgy and archaeometry. In yet other cases, I assigned specific topics to students, as when I asked Richard Meadow to take on the zooarchaeological study at the site. (We brought Dexter Perkins and Pat Daly to Tepe Yahya in 1971 to help with Richard's zooarchaeological training.) Similarly, I asked Martha Prickett to carry out a regional settlement pattern study, a five-season undertaking in which she was joined by Andrew Williamson. Williamson also excavated an Islamic site, Dasht-i Deh, located in the Soghun Valley some 5 kilometers from Tepe Yahya, but his premature death in Oman prevented the publication of this research. The notes and materials pertaining to the excavations at Dasht-i Deh are in the Ashmolean Museum at Oxford University.

It is with great sadness that I acknowledge the untimely death of Martha Prickett in 2000. Her dissertation is not only the most extensive but also, in my opinion, the finest piece of scholarship produced within the context of the Yahya project. In three volumes extending over more than 1,500 pages, Martha reviews the settlement pattern in the vicinity of Tepe Yahya, reports in detail upon the test excavations conducted on a number of sites, reviews the geology and mineral resources available in this part of Iran, and discusses the landscape

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of the Daulatabad region with respect to the irrigation practices used in the fifth and fourth millennia B.C. Her landmark study (available from the University of Michigan as UMI No. 8704384) should be on the shelf of every archaeologist who deals with this and neighboring parts of the world.

Excavations of the Iron Age settlement at Tepe Yahya were principally conducted by Elizabeth Stone, Donald Whitcomb, David Biernoff, Abdullah Masry, Dennis Heskell, Andrew Williamson, and James Humphries. Jim Humphries was a graduate student in Harvard's Department of Anthropology and was one of the five fieldworkers (with Richard Meadow, Denise Schmandt-Besserat, our Iranian archaeological colleague Gholam-Ali Shamlou, and myself) who "discovered" Tepe Yahya in August of 1967. In 1968 Jim agreed to assume responsibility for overseeing the Iron Age excavations and enthusiastically committed himself to preparing his doctoral dissertation on the results. For five seasons Jim managed the excavations at the top of the mound with considerable success. However, for reasons I still do not understand, Jim withdrew from the graduate program in the mid-1970s. His withdrawal was not only a personal disappointment but turned out to be a very considerable surprise, when I discovered that he had failed to keep adequate field records of his excavations of the Iron Age levels. We have no field book for his work, a gap in the record that is entirely my responsibility. I should have insisted on seeing the notes that I had been told needed to be brought up to date. During the course of each field season I reviewed the progress of individual field books, and at the end of each season I collected them for review and summary. They provided the basis for my annual publications on the progress of excavations at Yahya. Jim alone never submitted a field book, and yet I was confident that he would complete the study of the Iron Age settlement for his dissertation. Jim actively participated in each year of excavation except the 1975 season, when our emphasis was on Period IVC, the Proto-Elamite building. To this day I do not know if there ever existed an Iron Age field book.

As Peter Magee indicates in this monograph, he wrote *The Iron Age Settlement* without a field record of excavations. Peter's 1994–2004 excavations of the Iron Age levels at Muweilah, in the United Arab Emirates, offered conclusive evidence for strong ceramic parallels between southeastern Arabia and the Iranian Plateau, specifically the site of Tepe Yahya. When Peter first pointed out these parallels to me he became the ideal candidate to take on the publication of Yahya's Iron Age levels. His approach to ceramic analysis, undertaking PIXE-PIGE and PCA analysis of ceramics from Muweilah and Tepe Yahya, promised to offer a more

concrete approach to the ceramic parallels that tied southeastern Arabia to southeastern Iran in the Iron Age. I could not have been more pleased when he agreed to take on the Iron Age collections from Yahya.

Fortunately, the extensive cross-indexing system we used at Yahya allowed Peter to reconstruct reasonably well the nature of the excavations and the sequence of the Iron Age materials recovered. We used four independent data recording systems at the site: (1) the excavator's field book, which recorded the daily work being done; (2) 4-x-6-inch "small find" cards that recorded a description, measurement, and drawing of each object found, along with a detailed comment on its stratigraphic context; (3) a photographic log with photographs and associated descriptive statements pertaining to all architectural features, objects, ceramics, and so on; and (4) stratigraphic sections of all baulks. The stratigraphic sections were drawn by me in collaboration with the excavator, and photography was done principally by Dev Kernan, Richard Meadow, and me. (In 1971 and 1973, Tom Beale did considerable 8-mm filming during excavations.) Even in the absence of Humphries's field book and plans, the extensive documentation available through the study of the other three types of data allowed Peter to accomplish an admirable reconstruction of our Iron Age excavations.

The site at Tepe Yahya, as Peter points out, experienced periods of major abandonment. It was abandoned after the Proto-Elamite settlement, around 2900 B.C. (Period IVC) and was resettled for a relatively short time in the second half of the third millennium, about 2400/2300 B.C. to about 2000/1900 B.C. (Period IVB). The site was resettled around 1800/1700 B.C. (Period IVA) and abandoned once again in about 1400 B.C., then resettled in the Iron Age around 800 B.C. During our excavations we had neither archaeological nor environmental data that allowed us to understand the "causes" for these abandonments. Matthews (2002) has recently published evidence that supports the contention, originally set forth by Butzer (1995), that the Near Eastern Bronze Age was seriously disrupted by periods of intense aridification. Butzer (1995:137) states that "incisive episodes of major ecological significance, perceptible to some degree or other throughout the Near East," occurred around 3000 B.C., 2200 B.C., and 1300 B.C. The correlation between these "incisive episodes" of climatic deterioration and the abandonments of Tepe Yahya is striking, but one must be mindful that correlation is not cause. Over the years an intensive settlement survey in the near and distant vicinity of Tepe Yahya was carried out by Martha Prickett (1979, 1986a, 1986b) and Andrew Williamson (1971, 1972), who found that the periods of abandonment at Yahya were mirrored in the regional settlement pattern.

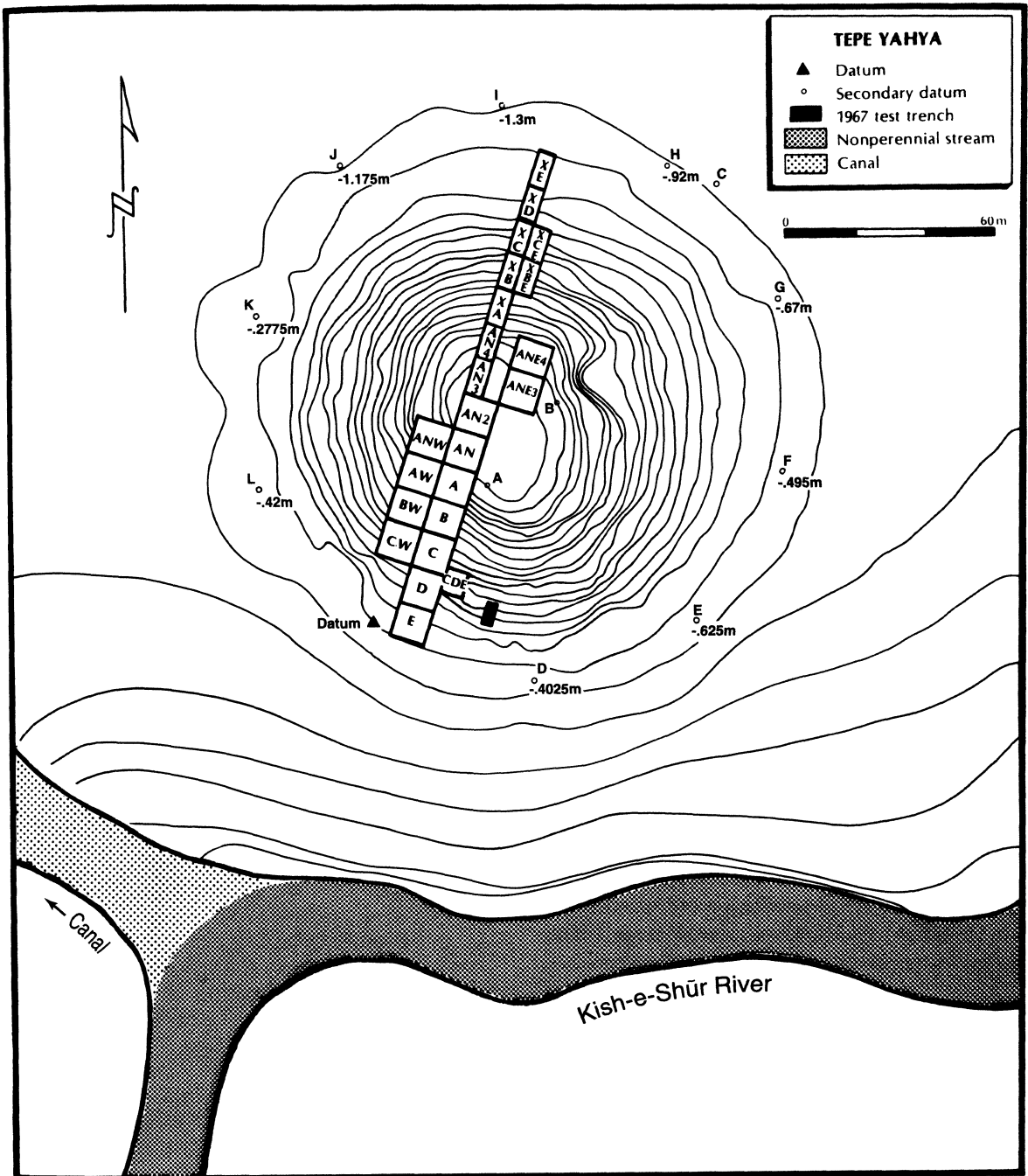


Figure F.1. Topographical plan of Tepe Yahya and areas of excavation (from Potts 2001:fig. F.11, which was modified from Beale 1986:fig. 2.5).

When Tepe Yahya was abandoned, no other settlements appeared to fill the occupational void—with one exception. Prickett (1986b) discovered that following the Proto-Elamite settlement at Yahya there existed a number of small sites, basically extended sherd scatters, characterized by the presence of Aliabad ware. This ceramic is best

defined at the site of Tal-i Iblis (Caldwell 1967), where it stratigraphically follows a period contemporary with the Proto-Elamite settlement at Tepe Yahya. Prickett (1986b) identified the Aliabad settlement scatters as nomadic encampments and, with considerable prescience, suggested that climatic deterioration resulted in a period of

#### XIV EXCAVATIONS AT TEPE YAHYA, IRAN: THE IRON AGE SETTLEMENT

nomadization, represented by the Aliabad settlements. Whatever the role that a deteriorating environment played in the failure and abandonment of Proto-Elamite settlements at Sialk, Yahya, Shahr-i Sokhta, and Malyan, it is clear that each of the sites was abandoned and that each abandonment was followed by a considerable gap in occupation.

Herzfeld (1968), looking to the texts of the Achaemenid period, informs us that southeastern Iran, the present-day province of Kerman, was taken to be culturally affiliated with Fars. If so, this would link the site of Tepe Yahya with the heartland of the Persian Empire. But what is the nature of this link? Is it a political subordination? A similarity of culture? A linguistic affiliation? Our analysis of the materials recovered from Tepe Yahya suggests a material inventory quite different from that recovered in Fars and Khuzistan before, during, and after Achaemenid times. The Iron Age settlement at Tepe Yahya appears to represent a distinctive regional culture, one that exhibits considerable similarities with the few sites known from southern and eastern Iran. The texts of the period shed little light on the processes that brought Kerman into contact with Achaemenid Iran or on subsequent events of acculturation and assimilation. Only further excavation in these little-known regions of the Iranian Plateau will shed light on the nature and extent of the Achaemenid reach into these lands.

The Tepe Yahya project was funded by a series of grants from the National Science Foundation, the Ford Foundation, the American School of Prehistoric Research at the Peabody Museum, Harvard University, and private benefactors. A special note of appreciation goes to Mr. Landon T. Clay, whose generous support over the decades has facilitated all aspects of my research.

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# Acknowledgments

The research presented is developed from my doctoral thesis on the Iron Age in southeastern Arabia completed under Professor D. T. Potts at the University of Sydney in 1995. Professor C. C. Lamberg-Karlovsky granted permission for me to examine the Tepe Yahya material and the evidence for relations between Arabia and Iran in the Iron Age. After completing the Ph.D., I became interested in pursuing further research on the Yahya material and exploring the evidence for Iron Age cultural processes in southeastern Iran. With generous assistance from the American School of Prehistoric Research (who funded my stay and the PIXE-PIGE analysis), the Near Eastern Archaeology Foundation (Sydney), and the Australian Academy of the Humanities, I spent July and August 1996 at the Peabody Museum and examined the artifactual and documentary evidence from the site. The two months of research provided the basis for this volume, and I would like to express my most sincere gratitude to Professor Lamberg-Karlovsky for his support, enthusiasm, and encouragement of this endeavor from the outset.

Following the collection of data at the Peabody Museum, I had the opportunity to work at Ghent

University in Belgium—a center for Iranian archaeological research—under Professor E. Haerinck and his predecessor, Professor L. Vanden-Berghe. I was provided access to much library material that was otherwise not available, and I would like to thank Professor Haerinck and the Fund for Scientific Research, Flanders for this opportunity. Further research was conducted when I returned to the University of Sydney in 1997 as a U2000 Postdoctoral Research Fellow. Grants provided by the University of Sydney and the Australian Research Council funded the new AMS dates that are presented in this volume. The final draft of the volume was completed in my present position at Bryn Mawr College in Pennsylvania.

Two reviewers, Professors Stronach and Haerinck, read over the first draft of this volume and made a great number of useful suggestions. Any errors that remain reflect only on the author. The illustrations in this volume were prepared by numerous people, but I would like to take the opportunity to thank Susanna Billson, who inked the many pencil drawings I had made of the ceramics. This work is dedicated to Susie, Joe, and Tom.

Peter Magee



# Chapter 1

## Introduction

### THE EXCAVATIONS AT TEPE YAHYA AND THE ARCHAEOLOGY OF IRON AGE IRAN

Tepe Yahya is a critical site for understanding cultural processes in southeastern Iran. Its excavation from 1967 to 1975 provided a wealth of data on the prehistory of this region and its relations with areas that are considered to be “centers” through the last three millennia B.C. The site is unique in many ways, but it is undoubtedly the fact that it provided a stratigraphic sequence that stretched from the Neolithic period until the early centuries A.D. that renders it of such importance. Although it covers a different time frame, this volume builds on the earlier publications in this series that have provided insights into Neolithic adaptation and social organization (Beale 1986) and Bronze Age trade in the third millennium settlement (Potts 2001) at Tepe Yahya. In this volume, I present the evidence from the Iron Age settlement and investigate the position of the settlement in regional and supraregional settlement systems, which changed significantly with the rise and collapse of the Achaemenid Empire during the first millennium B.C. To understand the importance of Tepe Yahya in this endeavor, it is necessary to review briefly the evidence for Iron Age occupation in southeastern Iran.

In 1968, the discovery of Iron Age artifacts at Tepe Yahya marked the appearance of an entirely new material culture in that part of Iran. Early excavations in other parts of Iran, like those of Ghirshman at Sialk in the 1930s, provided a wealth of material, albeit not well dated, and several American, Canadian, and European teams investigated a number of stratified settlements from the late 1950s onwards. The excavations of Hasanlu, Godin Tepe, Baba Jan, and Tepe Nush-i Jan were driven by a desire to investigate cultural change and the effects of political and imperial domination. By 1966, many of these goals had been realized and substantial syntheses on cultural change in Iran were available (Dyson 1965; Young 1965). However, virtually no

work had been conducted in southeastern Iran. In 1910, Sir Percival Sykes had noted the existence of the Bronze Age site of Khinaman (Sykes 1902:442–443), and Stein’s treks through the area revealed some Iron Age material. Of note is material that appears to be Iron Age in date from cairns at Fanuch and Damba Koh in Makran (Stein 1937:pl. III), as well as a bronze socketed trilobate arrowhead that must be of Achaemenid or late Iron Age date from the site of Bijabad in the lower Halil Rud (Stein 1937:pl. X). Boucharlat (1989) has presented a reanalysis of some of this material. Caldwell’s excavations at Tal-i Iblis in the Bard Sir Valley in 1964 and 1966 had also revealed limited Iron Age occupation. A kiln in Area B was C14 dated to the late second millennium B.C. (Caldwell and Sarraf 1967:273–274), and some incised sherds and an iron dagger that was tentatively identified as Achaemenid in date were found in surface deposits (Caldwell and Sarraf 1967:fig 1; Caldwell 1967:fig. 29).

After the inception of the Yahya project, survey work by Williamson and Prickett revealed evidence for Iron Age occupation around Minab on the Gulf. The bulk of the Iron Age and later material is stored in the Department for Oriental Antiquities at the Ashmolean Museum, Oxford, England. I was fortunate enough to study this material in 1994, and several Iron Age sherds from this collection were included in my Ph.D. thesis (Magee 1995:fig. 6.4). No other work relevant to the Iron Age was conducted in southeastern Iran during the period when the Tepe Yahya project was in operation. Following the end of the Yahya project, the Iranian Center for Archaeological Research hoped to organize a six-year survey of the region. The results of the first two seasons of excavation (1976 and 1977) were published (Sajjadi 1987). Although two Iron Age sites are noted (sites 97 and 107), there is very little material published from site 97 and nothing published from site 107.

More than thirty years have passed since excavation began at Tepe Yahya, and although there has not been an increase in evidence for the Iron Age in southeastern



Iran, many archaeologists have turned their attention to those areas that border Iran. Up until 1979, very little was known about the Iron Age in eastern and southeastern Arabia. Since then, the excavation of numerous Iron Age settlements has revealed an archaeological sequence that is well defined by formal artifactual characteristics into three periods: Iron Age I, II, and III (Magee 1996a). Our understanding of the cultures of this area has increased to the point where it is now possible to use sequences from southeastern Arabia to help define those in Iran. Such a situation was unimaginable ten years ago. Work has also occurred in Pakistan and, up until 1981, Afghanistan. The excavation and publication of sites such as Kandahar have provided well-dated ceramic sequences that offer parallels to material from southeastern Iran (McNicoll and Ball 1996; Helms 1997). More recently, survey by a French team has uncovered many sites in western Pakistani Baluchistan (Besenval and Sanlaville 1990), and recent work on material from southern Baluchistan and Sindh by Franke-Vogt (2001) has attempted to clarify the post-Harappan sequences in that area. It is this newly acquired data that permits us to contextualize Tepe Yahya within the broader Indo-Iranian borderlands during the period that witnessed the decline of urban settlements and significant alterations in settlement patterns during the period of the Achaemenid Empire.

Although it is true that the archaeology of this empire has been a major focus of Iranian studies since at least the beginning of the twentieth century, it has been principally approached through the excavation of capital sites such as Pasargadae, Persepolis, and Susa. From the 1970s onwards a growing body of research focused on the evidence for the archaeology of the Achaemenid provinces or satrapies (e.g., Cattenat and Gardin 1976; Stern 1982). Most of these studies have been characterized by attempts to locate Persian- or Iranian-inspired material culture in the provinces. This methodology is crystallized in many of the papers included in the 1986 Groningen workshop entitled "Achaemenid History IV: Centre and Periphery" (Sancisi-Weerdenburg and Kuhrt 1990). For the most part, the contributors to the workshop scoured the archaeological, epigraphical, and historical record for any trace of Persian presence in the regions they examined (e.g., Sekunda 1991). Such evidence is, however, of questionable relevance in examining ancient imperialism. Finds of coins and Iranian-inspired ceramics and architecture provide little insight into indigenous responses or imperial strategies of control. Furthermore, where such elements are absent the empire is prone to be interpreted as weak—a facile conclusion given the multiplicity of strategies that centers can employ to subjugate and integrate subject provinces

(Sinopoli 1994:169–172). The conclusions reached in such studies often reflect the *a priori* assumption that material cultures (as attested archaeologically) reflect homogeneous cultural groups and that the establishment and maintenance of the empire was characterized by dominance (by the conqueror) and integration (of the conquered). In examining those phases of Tepe Yahya that date to the period of the Achaemenid Empire, we examine what happens to a small settlement with the creation of a geopolitical configuration that spreads from the Indus River to Libya. In addressing this issue in chapter 7, I have tried, where the evidence permits, to look at this issue from the "bottom up" rather than from the imperial center. In addition, I have tried to examine the manner in which the Kerman region was exploited by the empire and how the region was conceivably altered.

### THE TEPE YAHYA IRON AGE DOCUMENTATION AT THE PEABODY MUSEUM

In the preface to this volume, Lamberg-Karlovsky has detailed the issues that are relevant to the documentation of Iron Age Tepe Yahya. These factors undeniably have influenced the final shape of this work. It is a tribute to the recording methodology at Tepe Yahya that there was still a wealth of data available for analysis of the Iron Age levels. In an age before computers and databases, the record keeping of the excavations at Tepe Yahya allowed for cross-referencing between the extensive photo logs, small-find inventories, field books, sections, and plans.

A detailed description of the system used in these records has already been provided by Beale (1986:4–6). For reference here, it is worth noting that the recording hierarchy proceeded from area/trench to test trench to stratum and then to feature. Normally, each year a new series of strata numbers were given within an area. For this reason the year in which the strata were excavated is an integral part of the stratigraphic labeling. For example, for the provenience B.68.T1.6.2, "B" indicates the area, "68" is the year of excavation, "T1" is the test trench number, "6" is the stratum or level number, and "2" is the feature number. Test trenches were conducted within each area to ascertain stratigraphic relationships (test trenches were numbered consecutively beginning each year with "1"). The positions of these test trenches were recorded in the field books.

The artifacts that form the basis of this study are housed in the Peabody Museum of Archaeology and Ethnology at Harvard University. Over two separate two-

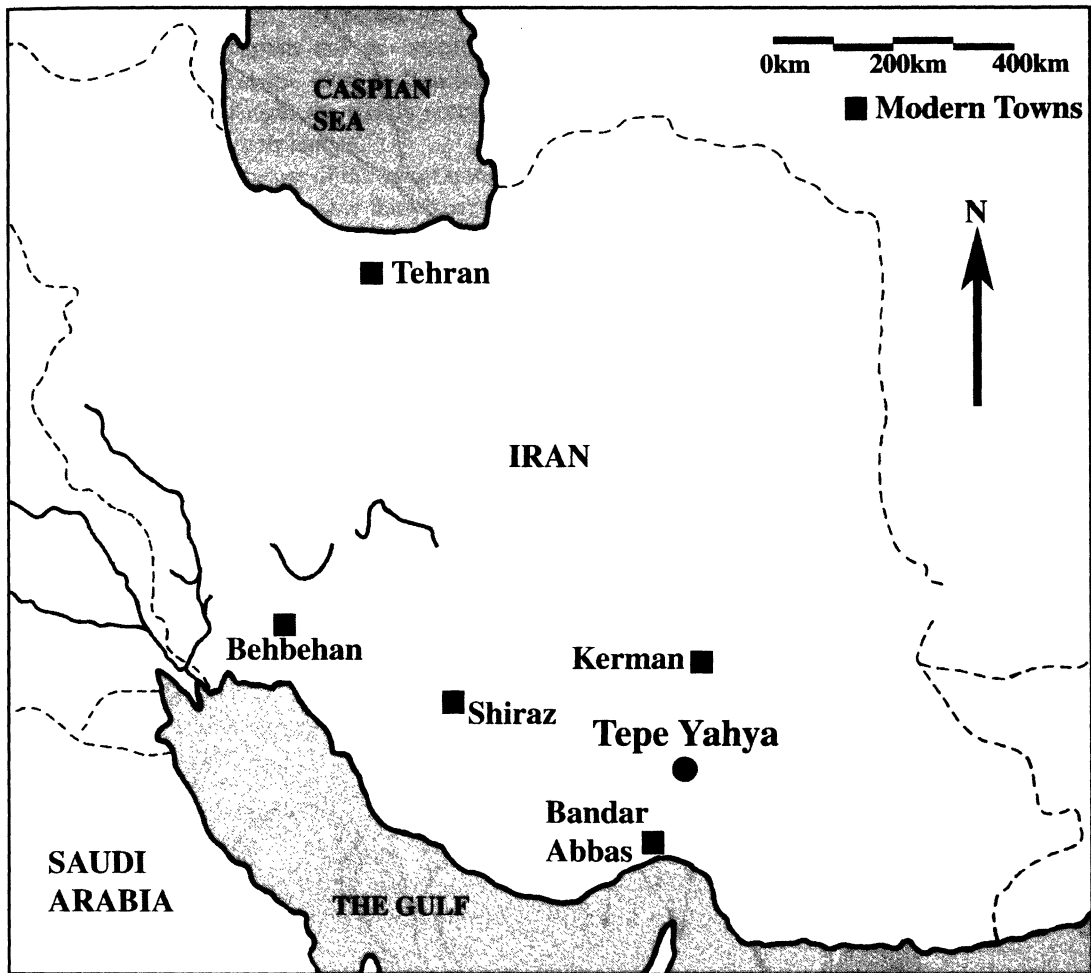


Figure 1.1. Map showing location of Tepe Yahya.

month periods, I examined the Iron Age sherds that comprise this collection and registered them on a Filemaker Pro database. Thousands of sherds were drawn in the field, and all of these drawing books were available for examination. No quantitative analysis of the material from the Iron Age and Achaemenid periods was undertaken because total sherd counts were not made on the material. There is no reason to doubt, however, that the sample preserved in the Peabody Museum together with the drawing books comprise a representative sample of the excavated material (see fig. F.1 on page xiii).

#### SITE LOCATION, ENVIRONMENT, AND SUBSISTENCE STRATEGIES

Tepe Yahya is located at longitude 56° 52' east and latitude 28° 20' north in southeastern Iran (fig. 1.1). Detailed descriptions of the geographical and palaeoen-

vironmental setting of Tepe Yahya have been provided by Meadow (1986). To reiterate the salient points of that discussion: Tepe Yahya is positioned in the southwest corner of the Soghun Valley—an alluvial plain that runs from north to south (fig. 1.2). Average rainfall is about 250 mm, limiting the potential for dry farming. Water is available in the alluvial plain and could be reached at a depth of 6 to 8 meters in 1973. Temperatures today can reach 40° Celsius (104° Fahrenheit) in summer and have a daily range of 13° to -1° Celsius (55°-30° Fahrenheit) in winter.

A critical issue in examining the subsistence strategies and environment of Iron Age Tepe Yahya is whether or not the *qanat* irrigation system (a series of small subterranean canals that tap aquifers and transport water to lower-lying piedmont areas) was present. Archaeological evidence for the antiquity of the *qanat* is lacking in this part of Iran, and one is left to rely on historical traditions or observations of shifts in settlement patterns that may

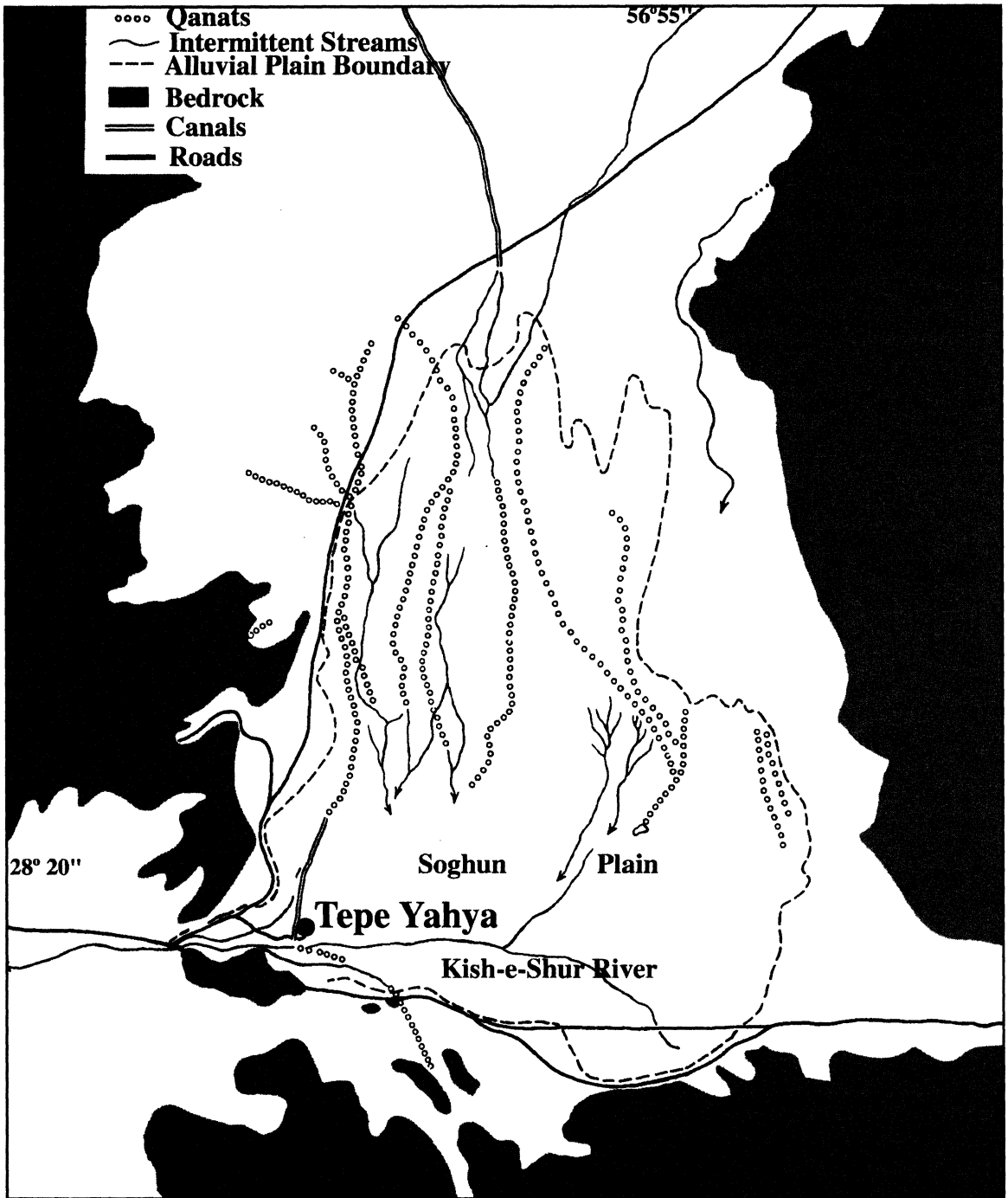


Figure 1.2. Local environment of Tepe Yahya.

be attributable to the use of the system. It has been argued that *qanats* were introduced into southeastern Iran during the Achaemenid and later periods (Meadow 1986: 25–26), a view shared by scholars examining other regions (English 1968:170; Lambton 1978:528–529).<sup>1</sup> Not only is there no direct archaeological evidence to

support this view, but a rereading of the inscription of Sargon II, which has been used to support the existence

1. For example, the growth of the North Arabian oasis sites of al-'Ula and Qatif has been attributed to the Achaemenid introductions of *qanats* (Graf 1990:137) as has settlement expansion in southeastern Arabia (Wilkinson 1983).

of *qanats* in eighth-century-B.C. Urartu (Goblot 1963, 1965; Burney 1972:181), suggests that the inscription does not mention *qanats* (Salvini, cited in Boucharlat 2001:173). This further challenges the widely accepted Iranian origin for the irrigation technique.

The clearest evidence for the use of the *qanat* system is emerging in southeastern Arabia. After thirty years of research it is now evident that the *qanat* (or *falaj*, to use the local term) was used during the Iron Age II period (ca. 1100–600 B.C.). It has been argued that a series of complex polities located along the base of the al-Hajjar mountain range were associated with the introduction of

this technology (Magee 1999:51–52). In the last few years, archaeological evidence in the form of the actual *qanat* systems has been found in the United Arab Emirates at Hili 15 and in the al-Madam plain (Cordoba 2002). No evidence of this type exists in southeastern Iran but given the evidence for contact between this area and southeastern Arabia in the Iron Age, it seems likely that the technology was transferred across the Straits of Hormuz at some stage in the early first millennium B.C. This was a critical development in settlement systems in southeastern Iran, and I return to this issue in chapter 7.



## Chapter 2

# The Stratigraphic and Architectural Sequences

### THE IRON AGE DEPOSITS

Iron Age levels were excavated at Tepe Yahya between 1968 and 1973. The slope of the mound meant that the depth below surface of the Iron Age levels was uneven. In most cases Iron Age material was found under the later "Period I" levels of Partho-Sasanian date. The most important Iron Age deposits lay near the top and on the south side of the mound. Areas A, AN1, AN2, B, and BW provided the most complete stratigraphic sequence (see fig. F.1 on p. xiii). These areas are the focus of the following discussion. Iron Age remains were uncovered in other areas of Tepe Yahya, but these were not stratigraphically secure deposits.

The Iron Age sequence at Tepe Yahya has undergone a series of revisions over the course of the thirty years since the levels were excavated. The first stratigraphic interpretation was presented by Lamberg-Karlovsky in 1970 (Lamberg-Karlovsky 1970). That report covered the 1968 and 1969 seasons with some comment on the findings of the 1970 field season. The Iron Age was divided into two phases: Period II and Period III. Period II was dated to the Achaemenid period (ca. 500–300 B.C.), and Period III was dated to the Iron Age (1000–500 B.C.) (Lamberg-Karlovsky 1970:5). These dates were necessarily broad given the limited exposure of Iron Age material that had been made at that point. The nomenclature of "Period II" and "Period III" continued in use and is found in Beale's 1986 publication, where the absolute dates were revised to Period II Achaemenid/Hellenistic (475–275 B.C.) and Period III (700–525 B.C.) (Beale 1986:11). It is interesting to note that this nomenclature was maintained, although it was developed before the important sequence found in Areas A and AN2 was excavated. It is argued below that a complete revision to this periodization is necessary. A review of the stratigraphic and architectural sequences suggests a more complicated periodization than the one originally proposed (see discussion on page 20).

One of the major problems faced when constructing a periodization of the site is the simple question, "what

represents the Iron Age?" This volume analyzes the "Iron Age" remains from Tepe Yahya, yet there is no definition of Iron Age material culture in southeastern Iran. The presence or absence of iron is hardly relevant since some areas in southwest Asia did not experience an ironworking revolution until after the "Iron Age" ended (e.g., southeastern Arabia [Lombard 1989]). Defining the end of the Iron Age is even more problematic, especially at a site like Tepe Yahya that contains so much material dating to the middle of the first millennium B.C. In the rest of southwest Asia, historical data plays a significant part in this issue with Alexander's conquest of 333/332 B.C. often playing an intrusive role in the interpretation of archaeological data. It is foolhardy to suggest that this historical event is necessarily reflected in material culture. At Tepe Yahya, there is no reason to think that the pots people used, the houses they built, and the objects they adorned themselves with were altered because of a change in the geopolitics of western Asia. It is, therefore, extremely difficult to suggest that there is a definitive end of Iron Age material culture at a certain time in southeastern Iran. This problem is acknowledged from the outset, and it is noted that discussions of the last phases of the "Achaemenid" period occupation may involve material that would chronologically fall outside the purview of a work dealing with an "Iron Age" settlement.

### THE AREA B/BW SEQUENCE

In 1968 and 1969, Iron Age remains were uncovered in Areas B and BW (fig. F.1). Preliminary analysis of this material was published by Lamberg-Karlovsky (1970). Although both areas contained Iron Age material, Area B contained the most important stratigraphic sequence because of the quality of preservation and the slope of the mound. Area BW sloped sharply toward the west, and the best preserved material here was the substantial architectural remains of the Bronze Age (Period IV; fig. 2.1). Figure 2.1 illustrates many of the contexts described in the following discussion, although, since

not all of these contexts intersected with the northern balk, some are not shown.

### The 1968 Excavations

Area B was a 9-x-10-m trench that was initially divided into three test trenches (fig. 2.2). Each trench was excavated separately, and the proveniences were noted with the prefix "T." Many of the levels that were excavated in Area B were labeled in reference to those levels excavated in Test Trench 1. Test Trench 1 was the first to be excavated. The uppermost levels consisted of soft-grey surface soil and gully disturbances. Once these were removed, a small sounding was conducted in the eastern side of T1. In this sounding and in the rest of T1, a floor (B.68.T1.2.1) was revealed (fig. 2.1). This floor lay above a thick deposit that covered a wall (B.68.T1.3.1, not shown) on which there were deposits on either side. A series of floor deposits was then revealed on each side of these walls, culminating in a well-constructed floor (B.68.T1.6.2) that was above two consecutive floor levels, B.68.T1.7.1 (fig. 2.3) and B.68.T1.7.2 (not shown). Architectural remains were scant in this phase of occupation with only one wall (B.68.T1.3) apparent in the northern section.

The latest of these deposits postdated the main Iron Age occupation. Once these deposits were reached, the exposed portion of Test Trench 1 was leveled, destroying the small 2-x-2-m sounding in the east. The level excavated in the main area of T1 (B.68.T1.8) is equivalent to that exposed in the 2-x-2-m sounding (B.68.T1.5). Both levels cap a distinct habitation deposit (B.68.T1.9) that lay above a hardened floor level (B.68.T1.9.1, not shown). Several walls became apparent when the habitation levels were removed. A mudbrick wall (B.68.T1.9) that formed the southern edge of the building remains in this part of the mound, and it met with two walls that run north-south into the balk: B.68.T1.9.4 to the east and B.68.T1.9.6 to the west. The floor had been rebuilt many times, and it is clear that the walls were not all constructed at the same time. The wall to the east (B.68.T1.9.4) sat on top of the latest floor level on which this building was constructed. In the center of this building, a plaster-lined pit was revealed that contained ash, charcoal, and many bone fragments (not shown).

Once this floor was removed, evidence of burning and ash was encountered (B.68.T1.10), which lay above a hardened surface level (B.68.T1.11, not shown). Given the existence of the pit described above, it is possible that this ash is associated with cooking and the preparation of food. In the area to the east of B.68.T1.9.6 excavations revealed another level of burning (also named B.68.T1.11, not shown) that lay above a surface (B.68.T1.12, not shown). Although little can be stated about the function and architectural association of these deposits, they are of some

importance in that the artifacts contained within these levels provide a *terminus post quem* for the construction of the B.68.T1.9 building (see chapter 5).

The excavation of Test Trench 2 provided further clarification of the architectural and stratigraphical sequence in Area B. The most northerly 2-x-2-meter section of this trench was excavated as part of B.68.T1. Further excavation revealed the same form of surface deposit that had been exposed in other areas. Under this soft-grey soil, evidence for a brick construction associated with two complete coarse-ware jars and a bronze spear was revealed.<sup>1</sup> Although the records are unclear, the presence of poorly preserved bones with these objects suggested to one of the excavators that it was a burial. The stratigraphic position leaves little doubt that it was probably post-Iron Age. A series of occupation and floor levels lay below this feature, which culminated in a hard floor surface (B.68.T2.6.1, not shown). The stratigraphic sequence on the western face of B.68.T2 suggested that this floor level lay below the B.68.T1.9 building.

The Area B excavations followed the sequence revealed in Test Trench 1. After the removal of the topsoil (B.68.1), excavations were focused on a sounding to the south of the B.68.T1.9 building. Removal of several layers (B.68.T1.9, B.68.T1.10) suggested that the floor on which the B.68.T1.9 building was constructed (B.68.T1.9.2) did not continue to the south of the B.68.T1.9.5 (not shown) wall. The deposit that lay underneath the floor (B.68.T1.10) did, however, continue to the south suggesting the existence of a surface spreading over the entire area before the B.68.T1.9 building was constructed. Excavations continued in the area to the south of the B.68.T1.9 building and revealed a series of stratified deposits (B.68.12-15, not shown) that overlay a building complex characterized by two walls (B.68.15.1 and B.68.15.2, not shown). Despite the recovery of several intrusive sherds of Iron Age pottery and a fragment of iron in these deposits, this building is pre-Iron Age in date (Lamberg-Karlovsky 1970).

### The 1969 Excavations

The 1969 excavations were aimed at discovering the stratigraphic sequence below the B.68.T1.9 building. Excavations commenced with a division of the area into three zones<sup>2</sup> (fig. 2.3). The zones were defined on the basis of the existing architectural features. Zone 1 incorporated

1. The spear is registered as Number 2662. It was located 175 cm west of east balk and 42 cm south of north balk.

2. Regrettably, these zones are called features in the log books. This confuses matters of description somewhat since features are normally defined as architectural elements revealed in the course of excavating a stratum. In the text and illustrations discussing these zones, I employ the term "zone."







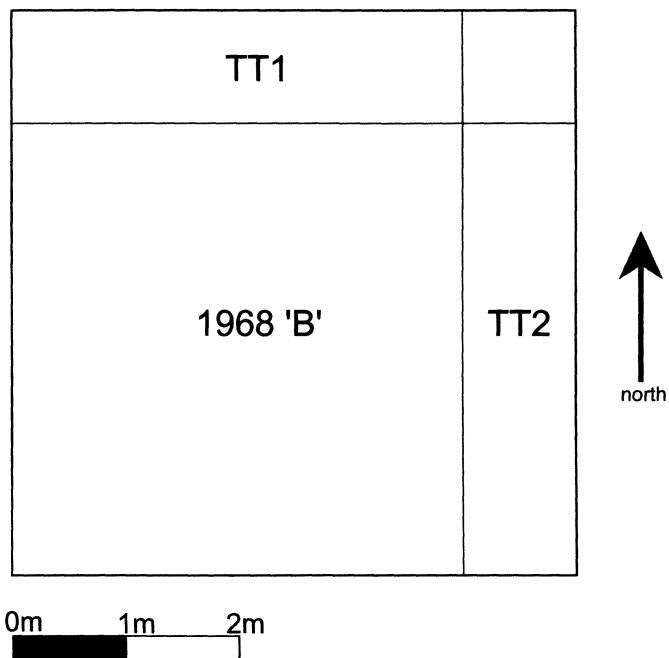


Figure 2.2. Schematic plan of Area B at commencement of excavation in 1968.

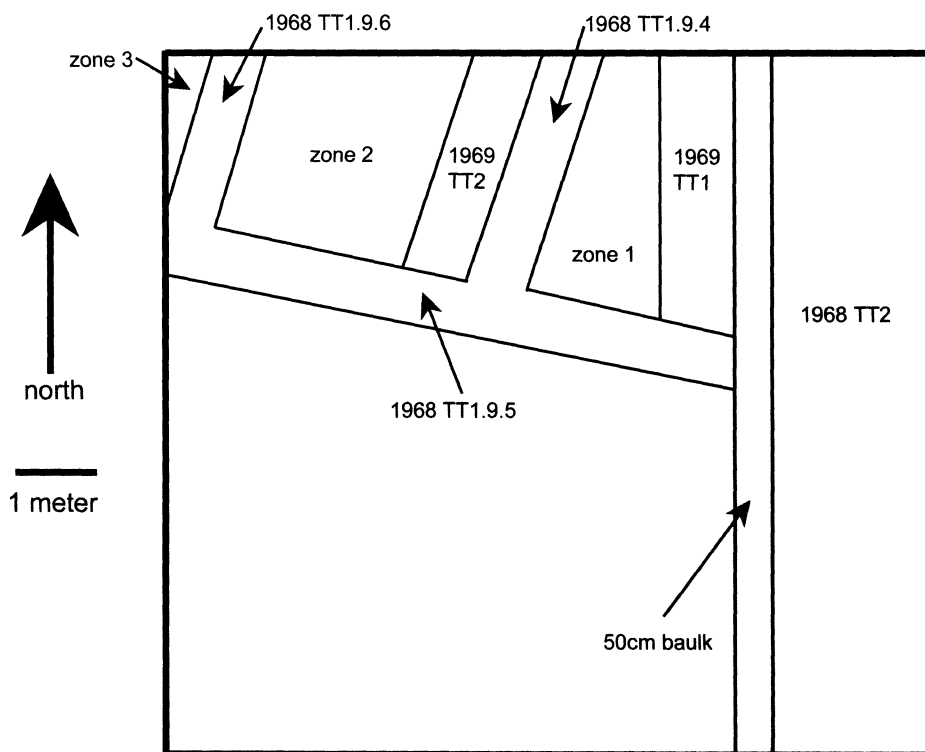
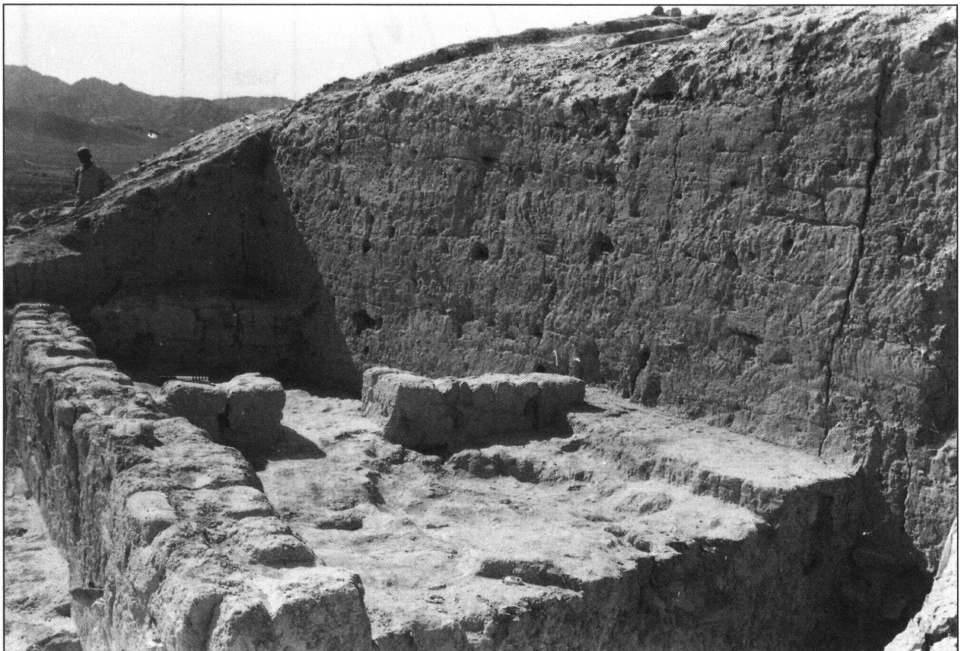


Figure 2.3. Schematic plan of Area B at the commencement of the 1969 excavations, showing the main architectural features uncovered in 1968.



**Figure 2.4.** Photo showing floor level B.69.T2.2.1, with a plaster circle in the foreground, which is, perhaps, a column base, and vessels lying in situ.



**Figure 2.5.** Photo showing the complete architectural remains revealed in the 1969 Area B Zone 3 excavations.

the area between walls B.68.T1.9.4 and B.68.T1.9.5 and was bounded to the east by a 50-cm balk that separated this area from B.68.T2. Zone 2 was defined as the area between the walls of the B.68.T1.9 building. Zone 3 was defined as the area to the west of the B.68.T1.9 building and included the balk that separated Areas B and BW.

Excavations in B.69.T1 (Zone 1) revealed a mixed bricklike material underlying the deposits that lay below the floor levels of the B.68.T1.9 building. The removal of this level revealed a floor (B.69.T1.2.1) that contained much ash and burned earth, smashed ceramics, and remains of burnt reeds. To the east of this floor a wall (B.69.T1.2.3, not shown) was exposed that was constructed of stones measuring approximately eight cm or more and preserved up to three courses in height. Once the B.68.T1.9 building walls were removed, a continuation of this wall toward the southwest was identified. To the west of B.69.T1, work focused on removing the foundation for wall B.68.T1.9.4. After the foundations were removed, the continuation of the floor level in B.69.T2 became apparent. To the north of this area, a cluster of stones forming a wall (B.69.T1.2.2) that protruded from the northern balk was also evident. Excavations in Test Trench 2 clarified the extent of the floor to the west (B.69.T2.2.1, not shown). A circle of plaster, covered with ash, was found on the floor that perhaps served as a column base (fig. 2.4).

Excavations of B.69.T3 (Zone 3; note that these layers are not present in fig. 2.1) began with the removal of a wall (T3.1) protruding from the BW-B balk that lay above the B.68.T1.9.6 wall. Clarification of the context of this wall suggested that the floor level that was uncovered in 1968 (B.68.T1.7) ran up to this wall. Once excavated, a fill level that ran between two earlier walls was revealed. This stratum (T3.2) lay between wall T3.2.1 (east; this is the same as the B.68.T1.9.6 wall) and wall T3.2.1 (west). The latter was mostly contained in the balk between Areas B and BW and consisted of two courses of mudbrick (fig. 2.5).

## THE A, AN1, AN2 SEQUENCE

In 1971 and 1973, major architectural remains of the Iron Age were discovered on the very top of the mound. In the absence of the complete documentation for this work, the photographic and the small-find records provide the basis for this reconstruction of the stratigraphic and architectural sequence (see fig. F.1 on p. xiii).

### The 1971 Excavations

The latest Iron Age architecture was revealed in Areas A and AN1 in 1971 below a burnt floor level (A.71.8).

These consisted of at least two buildings (A.71.13 in the north, A.71.9 in the east) and an associated furnace to the south (figs. 2.6a, b). No complete plan of either structure was available, although each one was constructed from mudbrick walls that appear to be preserved to no more than three courses in height. Building A.71.13 ran from the east balk and therefore was never completely excavated (fig. 2.6a). The furnace lay to the west of the most southerly room and consisted of a semicircular structure. To the northeast of the furnace there appears to have been a surface on which lay several stones, including one with a central depression that may have been used for crushing and processing ores (fig. 2.6a).

While the extent of these buildings was being clarified, a stone wall that ran under the western wall of A.71.13 was exposed (fig. 2.6b). The wall, which was approximately two feet (60 cm) wide, ran from the eastern balk and turned at a right angle toward the north. The discovery of this wall heralded the exposure of an Iron Age building phase that spread across Areas AN2, AN1, and A. This included a complex of rooms designated A.71.23, AN1.73.9, and A.71.35. As is clear in figure 2.6b, these remains lay in very close proximity to the later phase of architecture just described.

The rapid excavation of Areas AW and ANW1 clarified the extent and chronology of these buildings. The final layout of this phase of building saw several rooms oriented approximately north-south and separated by an alleyway (figs. 2.7a, b). The rooms to the west were well defined and appeared to comprise a single building with two rectangular rooms to the north and an area that consisted of one rectangular and two square rooms. One of the rooms joined the north-south exterior wall, while the other ran into the western balk. The most northwestern room contained evidence for several storage jars placed into the floor (fig. 2.7a). On the eastern side, architectural remains included two small rooms that ran into the western balk (fig. 2.8).

### The 1973 Excavations

By the end of the 1971 excavations it was apparent that architectural remains lay under the buildings just described. At the commencement of excavations in 1973, traces of square mudbricks, oriented in a different angle than the remains exposed earlier, became apparent in one of the rooms in AN1 (fig. 2.7b). The architectural remains were then removed throughout A, AN1, AW, and AN1W to reveal stratum A.73.44, beneath which lay a large mudbrick platform (A.73.44.1) constructed from square bricks (fig. 2.9). The exact nature of this intervening deposit (A.73.44) is not clear, but judging by the proximity of the



**Figure 2.6.** Two photos showing the extant architectural remains in the A.71.9.13 sequence. The remains of the furnace are evident in the top right corner of 2.6a and top left corner of 2.6b. Note that the possible working stones associated with the furnace are to the south of the most westerly room. A stone wall of the earlier Iron Age village is evident to the east of this room in figure 2.6b.



**Figure 2.7.** Two photos showing the A.35/AN1.73.9 architectural remains. To the left is a closeup of the two storage jars in one of the northern rooms; several others are evident on the floor in the photo to the right.



**Figure 2.8.** Photo showing the small rooms that comprised a separate structure to the south of the A.35 architecture.



**Figure 2.9.** The first mudbrick platform (A.73.44.1) as initially exposed.





**Figure 2.10.** Detail showing the stone wall protruding from the western balk.

platform to the Period II walls, it does not represent a significant hiatus. Excavations to the south and north of the platforms revealed two sets of stone walls. To the north a stone wall came out of the western balk for a length of about two meters (fig. 2.10), while to the south two walls came from the western balk and ran under the platform and turned towards the south (fig. 2.11). This wall clearly extended beneath this phase of the mudbrick platform. The removal of the platform exposed another platform (A.73.44.4) that was smaller in size than A.73.44.1, but with the same orientation, and constructed from bricks of approximately the same size (fig. 2.12).

The removal of this phase of the platform revealed architecture contemporary with the two walls protruding from the west balk described above (see fig. 2.11). Two main buildings were evident (fig. 2.13). The building to the north (A.73.44.11/12) was built from mudbricks and stone and had an entryway to the southwest and two internal buttresses on the southern and northern walls (figs. 2.14a, b). Figures 2.13 to 2.14b demonstrate that the walls of this building were built of mudbrick on a stone base. It appears that the structure went through several building phases, including one that saw the construction of a mudbrick bench to the southwest of the building. The southern building (A.73.47) contained a



**Figure 2.11.** Detail showing two stone walls coming from the western balk and running under platform A.73.44.1.

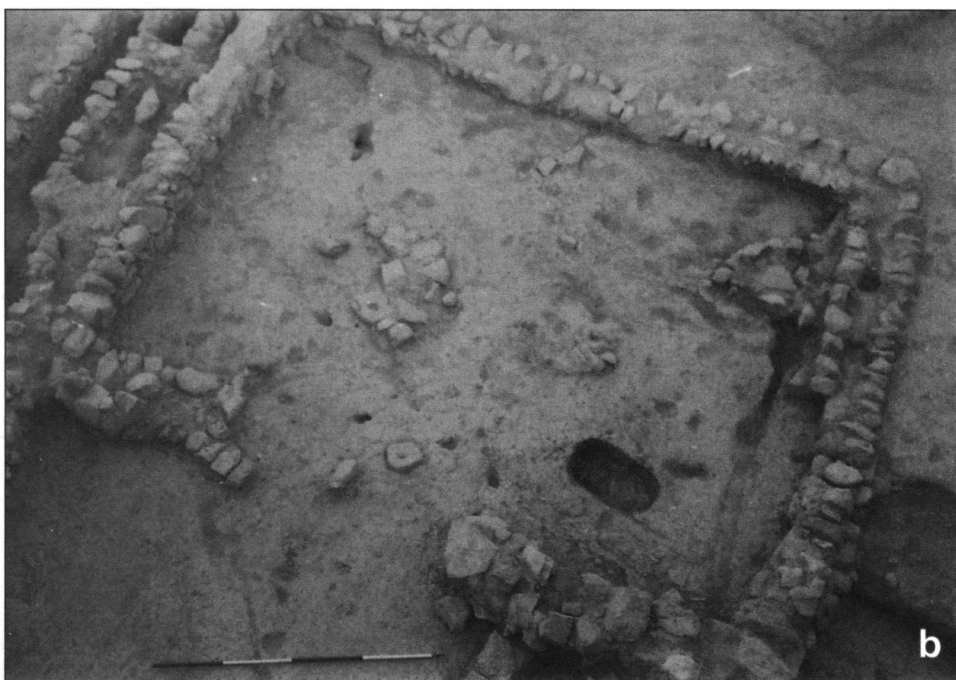


Figure 2.12. Mudbrick platform A.73.44.4.



Figure 2.13. View of the two buildings in the earliest Iron Age level.





**Figure 2.14.** Details showing construction phases in the northern building of the Period III A.73.44.11/12 sequence. Note the evidence for additive structures on the eastern and western walls of this building.

stone socle in the center and was also constructed from stone and mudbrick (fig. 2.13). Between these buildings ran a stone-lined channel (A.73.51.7) that extended from the east to the west balk (fig. 2.15).

The excavation of AN1 and AN2 revealed the extent of the buildings. The northern extension of the large building uncovered in 1971 (fig. 2.16) was exposed in AN2.73.24/25 below a thick burnt layer. A stone and pisé



Figure 2.15. Stone-lined channel A.38.

(or mudbrick) wall, AN2.73.26, was evident below it (fig. 2.17). The wall was completely cut through by a large pit but was clearly contiguous with the large stone wall to the northeast of the A.73.44.11/12 building (fig. 2.18) and to the south (fig. 2.10), suggesting the existence of an *enceinte* (surround wall) in this part of the settlement. The removal of A.73.47 revealed evidence for a pre-Iron Age structure (Period IVA) associated with mudbrick walls and an in situ storage jar (figs. 2.18, 2.19).

### STRATIGRAPHIC AND ARCHITECTURAL PHASING

The Iron Age sequence at Tepe Yahya presents several discrete architectural phases. These phases and periods are enumerated in table 2.1. In Area A, there are five consecutive phases that were determined on the basis of architecture or stratigraphy. The two stone and mudbrick constructed buildings A.73.44.11/12 and A.73.47 document the earliest phase, here labeled Period III. The next phase is represented by the smaller mudbrick platform A.73.44.4, followed by the larger mudbrick platform A.73.44.1, both of which are here ascribed to the



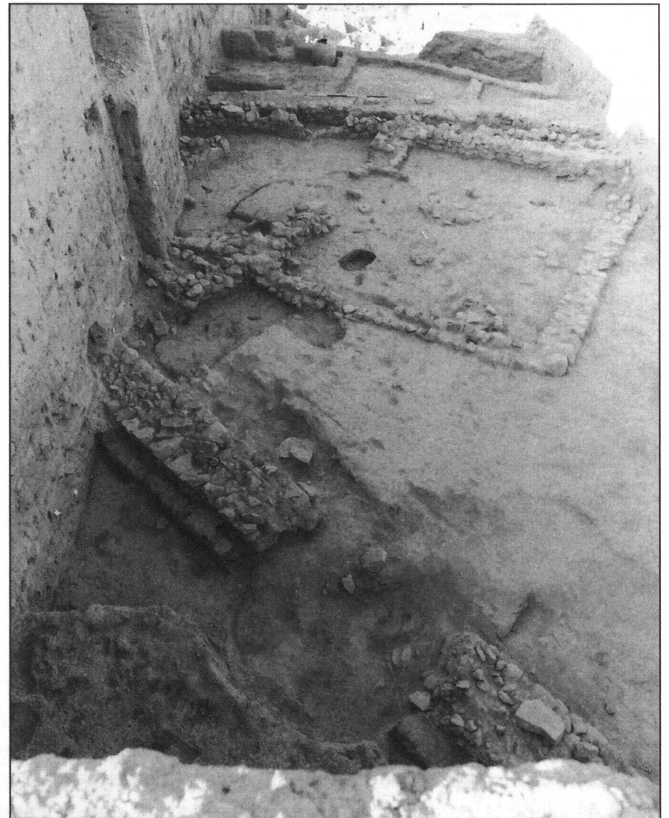
Figure 2.16. Architectural remains in AN2. Burnt layers are evident in the eastern section of the photo.

Platform period. Above these platforms and below the next major phase of building, a stratum, A.73.44, was revealed throughout the Area A excavations. This is labeled Intermediate period, and even though no architectural units can be associated with it and it is probably brief in time, it serves an important chronometric function by separating Period II architecture from earlier buildings. The final period (Period II) consists of the architectural remains that were evidenced throughout Areas A and AN2. These remains can be separated into two architectural phases: the earliest (Period IIA) consists of the A.71.23/AN1.73.9 and AN2.73.24/25 buildings, and the latest (Period IIB) consists of the A.71.9/10/13 building complex. Regrettably, it was not possible to associate discrete habitation deposits with either of these architectural subphases.

In Area B, two architectural subphases could be discerned that could be correlated with the Area A sequence. Period IIA consists of the floor deposits B.68.T1.2.1 and a major building phase, B.68.T1.9. Period IIB is represented by the floor level B.68.T1.7.2 and associated architecture excavated in the balk



**Figure 2.17.** Large stone and mudbrick wall exposed in Area AN2.



**Figure 2.18.** View from the north of building A.73.44.11/12, showing the pit that cut through the stone wall excavated in AN1 and AN2.



**Figure 2.19.** View from the north of the Period IVA remains after the removal of building A47. Note the in situ storage jar.

between Areas A and B. Unlike Area A, it is possible to assign habitation deposits to each of these architectural subphases.

In drawing this evidence together, several points come to the fore. The initial designation of Periods II and III at Tepe Yahya based on the Area B sequence obfuscated the interpretation of the architectural phases revealed in A/AN1 and AN2. The scheme presented here revises this nomenclature but retains the terms Period II and Period III (table 2.1). These phases are designated principally on the basis of the architectural sequence and building phases. Given the documentation problems, it is not possible to assign every stratum to a phase. This is particularly the case with Period II where there are two scales of resolution. At a gross scale, there are Period II strata that were excavated in Areas A, AN1, and AN2. Despite the architectural correlation between these areas and the higher resolution Area B sequence, it was not possible to assign these habitation deposits to either Period IIA or Period IIB.

## ARCHITECTURE

The structure and architectonics of the Iron Age buildings differ considerably from the earliest to the latest deposits. The Period IIB architectural remains are characterized by the use of square mudbricks. The B.68.T1.9.5 wall (fig. 2.3) is constructed from bricks that measure  $36 \times 36 \times 9$  cm. These bricks were placed alongside half bricks that measured  $36 \times 18 \times 9$  cm. A similar system was evident in the B.68.T1.9.4 wall, although in this case the square bricks were slightly smaller at  $34 \times 18 \times 9$  cm and they were not accompanied by a half-brick course. A slight variation was evident in the B.68.T1.9.6 wall, where half bricks were used on one side for half of the wall and square bricks were used for the rest of the wall. Exactly the same type of construction is evident in the A.71.9 and A.71.13 buildings: the room that lies in the southwest portion of the trench is constructed with a half-brick and whole-brick course (fig. 2.6b).

Evidence for functionality within the Iron Age building phases is limited. Although the earliest phase of construction was only partially revealed, it appears to represent two large monocellular stone structures that are surrounded by a large stone wall. The function of the two buildings is open to question. Given the lack of any internal division, it is unlikely that they served as purely domestic buildings. The large entrances and the presence of buttresses and stone socles suggest that both buildings may have served some sort of administrative or civic function. The presence of a channel, almost certainly for water, adds weight to this suggestion. The people who used or occupied both buildings not only had control over access to and distribution of water but also thought it necessary to construct a surround wall that served to protect the resources they possessed. Such an interpretation is conjectural, as only a portion of a much larger village has been exposed. If work were ever to be renewed at Tepe Yahya, the exploration of this village would undoubtedly provide a great deal of information about the structure of an Iron Age village.

The two platforms are perhaps the most enigmatic of all the architectural features excavated at Tepe Yahya. Platforms are known in Iron Age and late Bronze Age Iran and its borderlands (Besenval and Francfort 1994; see discussion in chapter 7), but as yet there is no consensus on their use or whether they did have a common function. At Tepe Yahya there is no evidence for any superstructure associated with the platforms. Since there are two consecutive platforms, it cannot be argued that they were abandoned before they were used. One would expect to find evidence for building on at least the lower one if such were the case. The most likely explanation

**Table 2.1.** Revised phasing for the Iron Age at Tepe Yahya.

Area A sequence	Area B sequence	Period
A.71.9/10/13	B.68.T1.7.2	Period IIB
A.71.23/AN1.73.9 and AN2.73.24/25	B.68.T1.2.1 and B.68.T1.9	Period IIA
A.73.44		Intermediate Period
A.73.44.1		Platform Period
A.73.44.4		Platform Period
A.73.44.11/12 and A.73.47		Period III

for the platforms is that they served a ritual and symbolic function within a broader village. The absence of excavations to the east and west and the erosion of the mound make it impossible to state with any certainty what the wider context of these platforms was. It seems, however, that they were in the center of the village that existed at this time. It is telling that they are placed directly on top of an earlier building to which a civic or administrative function has been very tentatively ascribed. The platforms may have served as the focus for the settlement, but the exact social practices with which they were associated are unknown.

Period II saw a complete shift in the function of the known architecture at Tepe Yahya with the appearance of large multiroomed dwellings. Evidence for functionality within these buildings is marked: in the room

bounded by walls by AN1.71.9.2 and AN1.71.10.6 at least three storage jars were placed or sunk into the floor levels (fig. 2.7a). Evidence for a kitchen or cooking area was found in Area AN2 where many fragments of cooking pots were associated with ashy deposits, and to the south, the presence of a furnace with crushing and grinding stones suggests possible industrial activity.

The hypothesis of a shifting functional pattern within the Iron Age architecture of Tepe Yahya is, obviously, highly speculative. There is little doubt, however, that the internal function is not static from the earliest to the latest Iron Age levels. Change and transformation are apparent, and as seen below, these are reflected in broader shifts in the composition of the ceramics at the site and the evidence they provide for the foreign relations of Tepe Yahya.



# Chapter 3

## Ceramic Analysis and Composition

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### CERAMIC REGISTRATION METHODS AND LOCATIONS OF FINDS

Analysis of the Iron Age ceramics from Tepe Yahya centered on the collections presently held in the Peabody Museum of Archaeology and Ethnology, Harvard University. Areas B, A, AN1, and AN2 provided the most complete Iron Age sequence and were the focus of the ceramic analysis. Each diagnostic sherd was registered on a Filemaker Pro database. The database contained fields that described the sherd's shape, decoration, fabric, provenience, and present location in the Peabody Museum storerooms among other characteristics (fig. 3.1). In total, 477 sherds were registered.

Most of the registered sherds were complemented by line drawings and composite photographs made during the excavations in Iran. The drawings were accompanied by a brief description of the sherd, which included the fabric and method of decoration. It was not always possible to match these descriptions with the fabric typology constructed from the examined sherds. Similarly, the photographic record was usable only as a complement to the examined sherds. In the discussion below those sherds for which there is only a drawing or a photograph ("Book Drawing") are differentiated from those that were physically examined.

### MACROSCOPIC FABRIC TYPOLOGY

Physical examination of the sherds suggested the existence of eight major fabric groups. The criteria of the quantity and nature of the inclusions and temper were used to establish these groups. The characteristics of each fabric are detailed in table 3.1.

The fabric typology attempts to categorize the manner in which clay was manipulated for the production of ceramics. Few comments can be made on the geological background to ceramic production since the relationship between fabric and place of production cannot be assumed to be exclusive. Recent work has undermined the equation of fabric composition with geological source (e.g., Arnold, Neff, and Bishop 1991). As Arnold has demonstrated, the human manipulation of clay has the greatest effect on the macrocomposition of ceramics (the level of resolution at which our analysis was conducted). The macroscopic fabric typology can be considered, therefore, as a reflection of pottery production, more so than a typological grouping based on geological criteria. Nonetheless, we also undertook compositional analysis to ascertain any geological variation in the clay sources as well as the possible origin of any mineral inclusions.

### PIXE-PIGE AND PCA ANALYSIS

Samples from Tepe Yahya and two sites in the United Arab Emirates (Bint Saud and Sharm) were quantitatively analyzed using the ion beam facility at the Australian Institute of Nuclear Science and Technology at Lucas Heights in Sydney (tables 3.2–3.4). The samples were prepared for analysis at the Macintosh Centre for Quaternary Dating at the University of Sydney using protocols that had been established in previous analyses detailed elsewhere (Grave et al. 1996; Grave et al. 1997). A convention that uses a minimum of twelve elements with an analytical error in the order of  $\pm 5\%$  standard deviation has been employed for this analysis. A reference material (a fired batch of Ohio Red Clay

New Registration Number:	<input type="text"/>	Old Registration Number:	<input type="text"/>
Trench:	<input type="text"/>	Test Trench:	<input type="text"/>
Stratum:	<input type="text"/>	feature:	<input type="text"/>
		Ware	<input type="text"/>
		Year:	<input type="text"/>
Inclusion Description:	<input type="text"/>		
Decoration:	<input type="text"/>	Diameter:	<input type="text"/>
		Av Dia:	<input type="text"/>
Degree Preserved:	<input type="text"/>	Date Entered:	<input type="text"/>
		Std of Dia:	<input type="text"/>
Paste Colour:	<input type="text"/>		
Drawn:	<input type="text"/>	Photo Roll (C)No:	<input type="text"/>
		Photo Frame (B+W) No:	<input type="text"/>
Photographed:	<input type="text"/>	Photo Frame(C) No:	<input type="text"/>
		Photo Roll (B+W) No:	<input type="text"/>
		Comments:	<input type="text"/>
Tray	<input type="text"/>	<input type="text"/>	
Vessel Type:	<input type="text"/>		
Rim Type:	<input type="text"/>		
Technique	<input type="text"/>		
Sherd Type:	<input type="text"/>		
Have Drawing:	<input type="text"/>		
PIXE-PIGME	<input type="text"/>		
Have Photograph?	<input type="text"/>		
Have Recent Colour Photograph?	<input type="text"/>		

Figure 3.1. Database used to record data for Iron Age ceramics.

[ORC] supplied by Brookhaven National Laboratory in 1991) was included as an interlaboratory reference for precision and accuracy of the analysis. The results of the ORC analysis indicated that PIXE-PIGE (Proton Induced X-Ray Emission-Proton Induced Gamma Emission) analysis is capable of routinely achieving high precision and accuracy. In addition to elemental determinations with a standard deviation of  $\pm 5\%$ , an additional five elements were included with an error of

$\pm 10\%$ . The summary of the ORC analyses for this data set is presented below to facilitate interlaboratory comparisons with the results (table 3.4).

Principal Component Analysis (PCA) is used for modeling the compositional data. PCA is generally accepted as the most appropriate means of observing the interrelationships and structural complexity inherent in large multidimensional compositional data sets (e.g., Neff 1994).

Table 3.1. Ceramic fabrics at Tepe Yahya.

(All except Fabric 8 are wheel-made or, in the case of large storage jars, slab-constructed.)

Ware Groups	Inclusions and Temper
Fabric 1	Fine orange ware with no visible temper
Fabric 2	Fine orange ware with red and white mineral inclusions (< 2 mm) in low density and closed chaff voids
Fabric 3	Orange ware with medium to high density of small mineral grits
Fabric 4	Ware with medium to high density of large mineral grits (>5 mm)
Fabric 5	Dense red ware with channel voids on the surface
Fabric 6	Fine grey ware with no visible temper
Fabric 7	Dense grey ware with mineral and grog temper
Fabric 8	Coarse grit and mica tempered ware

**Table 3.2.** Tepe Yahya ceramic samples examined with PIXE-PIGE.

Ceramic Sample Number	Year	Stratigraphic Details	Fabric	Decoration	Comments
108	1971	A.11	3	None	Conical-cylindrical goblet
115	1971	A.12	8	None	Cooking jar
133	1971	A.17.3	8	None	Cooking jar
178	1971	A.23	3	None	Conical-cylindrical goblet
220	1973	A.61.4	3	Raised and incised cordon	Storage jar
303	1971	AN1.9	8	None	Cooking jar
390	1968	B.3	2	Painted	
391	1968	B.3	4	Raised and incised cordon	
397	1968	B.2	6	Stroke burnished	
405	1968	B.10	1	Burnished maroon slipped ware (BMSW)	
418	1968	B.5	1	Burnished maroon slipped ware (BMSW)	
420	1968	B.5	1	Burnished maroon slipped ware (BMSW)	
423	1968	B.5	1	Painted	
426	1969	B TT1.2.1-4	NC	Burnished maroon slipped ware (BMSW)	
436	1971	A.8	1	Painted	
468	1973	A.51.4	1	Burnished maroon slipped ware (BMSW)	

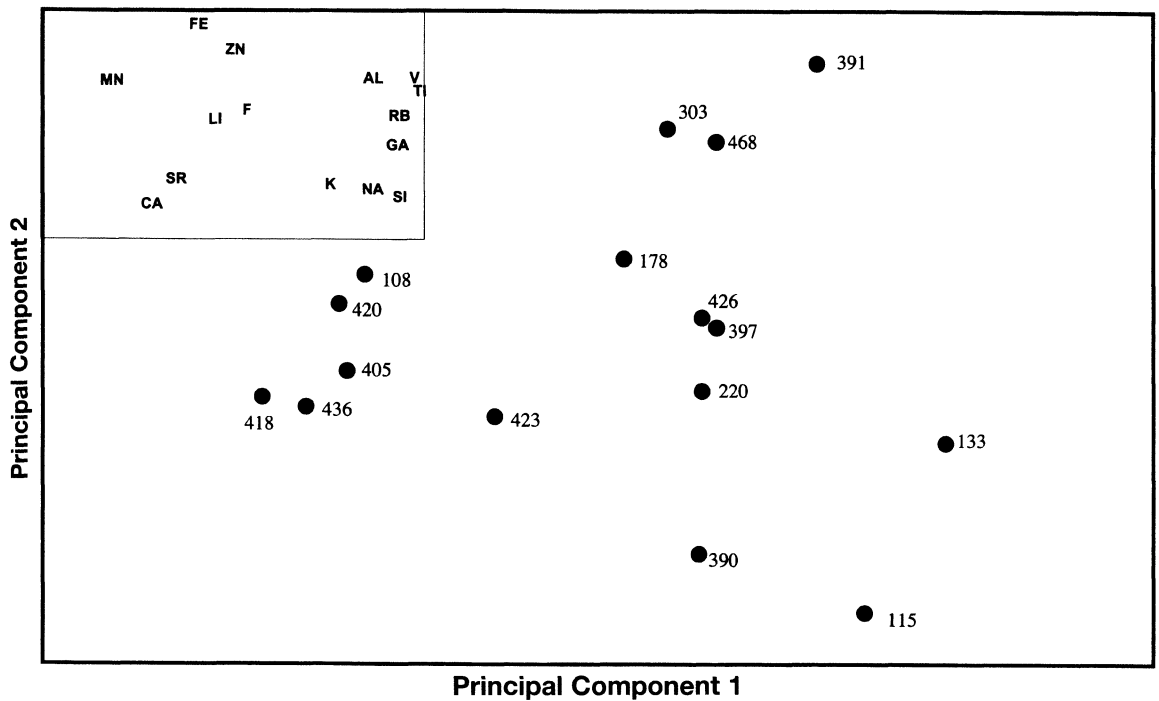
### Samples from Tepe Yahya

Sixteen ceramic samples were chosen for analysis from Tepe Yahya (table 3.2). This small sample included the full range of stylistic and fabric variation within the corpus. Particular emphasis was placed on including samples that displayed stylistic similarities to material from regions outside southeastern Iran. These included several examples of what has been labeled burnished maroon slipped ware (BMSW) in another publication (Magee 1997). This ware is most often made in fabrics 1 and 2 and is decorated with a highly burnished red-brown slip on the exterior and interior (see chapter 6 and the discussion below).

The results of the PCA of these sherds is seen in figure 3.2 together with their elemental loadings; the compositional data is seen in table 3.4. The data set is not without structure although few clear clusters are evident. The most obvious grouping of samples is the five sherds (108, 420, 405, 418, 436) on the left of the scatterplot. These five sherds are all relatively fine fabrics (4 = fabric 1 and 1 = fabric 3) and are well fired. To the right of this cluster are

sherds made in fabrics 2 and 3 and 6 (e.g., 178, 220, 390), while coarser sherds (e.g., cooking pots in fabric 8) are found on the periphery of the scatterplot (e.g., 303, 133, 115). The accompanying elemental scatterplot (fig. 3.2 inset) indicates the major and minor elemental composition underlying the broad mineral groupings of these divisions. The group on the left is marked by an elevation in the minor element manganese (Mn) and the majors iron (Fe) and calcium (Ca). Samples on the right-hand side of the plot have higher concentrations of the major elements aluminum (Al) and silicon (Si) and the minor elements sodium (Na) and potassium (K). In terms of composition, the left-hand group is more homogenous than the right-hand group, suggesting that the concentration of major and minor elements is a function of a finely divided Ca-Fe-Mn-rich mineral assemblage. Conversely, the wide range of samples on the right of the plot dominated by Al, Si, Na, and K is consistent with a more varied quartz/feldspar mineral assemblage. Examples that display stylistic similarities to material from outside southeastern Iran (e.g., the conical-cylindrical jars) also do not cluster separately. The possibility that the production area for





**Figure 3.2.** PCA of Tepe Yahya samples with elemental loading inset. The only clear cluster that is evident is the five sherds 108, 420, 405, 436, and 418. Four of these are stylistically classified as BMSW (brown maroon slipped ware).

these ceramics is located in the vicinity of Tepe Yahya is strongly suggested by the fact that shapes such as cooking jars (303, 133, 115), which are unlikely to be traded across long distances, are contained within these samples.

There are two significant implications of this analysis of the data set. First, the fabric groups that were isolated macroscopically most likely reflect differences in the human manipulation of the clay. These manipulations include adding temper, removing impurities, and levigation. Second, Tepe Yahya received its ceramics from a production area, possibly located nearby, that produced vessels displaying stylistic influences from other regions.

### Regional PIXE-PIGE Analysis

Stylistic similarities between sherds from Tepe Yahya and other regions (particularly BMSW [Magee 1997]; see also the discussion below) suggested that an analysis of samples from outside southeastern Iran may be useful for determining interregional exchange patterns. It was not possible, however, to obtain samples from other sites in Iran, but samples were available from sites in southeastern Arabia (Bint Saud and Sharm). These samples included black-slipped and red-slipped, sand-tempered wares of Iron Age II date (ca. 1100–600 B.C.), which pre-

vious analysis indicated were produced within the United Arab Emirates (Magee et al. 1998); BMSW sherds that shared a stylistic similarity to BMSW sherds from Tepe Yahya; and painted sherds from southeastern Arabia, for which previous analysis indicated a possible southeast Iranian origin, although no similar examples are known from Tepe Yahya (Magee et al. 1998).

### Samples from Southeastern Arabia

Sherds from Bint Saud and Sharm, two Iron Age II settlements in southeastern Arabia, were chosen for analysis (table 3.3). The settlement of Bint Saud is located in the al-Ain oasis in the center of the United Arab Emirates. The site has been known since archaeological research began in that country, and it has been informally surveyed many times (e.g., Stevens 1989). It consists of at least one large mudbrick construction that dates to the Iron Age II period (ca. 1100–600 B.C.). The site of Sharm is located on the east coast of the U.A.E. and consists of one large communal burial that was excavated by a team of Australian archaeologists in 1997. The tomb was in use from the Wadi Suq until the pre-Islamic period. Only Iron Age sherds were chosen for analysis.

**Table 3.3.** Southeastern Arabian ceramic samples examined with PIXE-PIGE.

Site	Ceramic Sample Number	Fabric	Decoration	Comments
Bint Saud	IA/BS 1	Fine red	Painted	Typical Iron Age II painted ware
Bint Saud	IA/BS 2	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 3	Fine red	Painted	Typical Iron Age II painted ware
Bint Saud	IA/BS 4	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 5	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 6	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 7	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 8	Fine red	Painted	Typical Iron Age II painted ware
Bint Saud	IA/BS 9	Sandy	Slipped	Typical local Iron Age II ware
Bint Saud	IA/BS 10	Fine red	Painted	Typical Iron Age II painted ware
Bint Saud	IA/BS 11	Fine red	Painted	Typical Iron Age II painted ware
Bint Saud	IA/BS 12	Sandy	Slipped	Typical local Iron Age II ware
Sharm	Sp-93	Sandy	Slipped	Typical local Iron Age II ware
Sharm	Sp-96	Fine	Mottled/burnished	Resembles Tepe Yahya burnished pottery
Sharm	Sp-97	Fine red	Painted	Typical Iron Age II painted ware
Sharm	Sp-112	Fine orange	Burnished/maroon slip	BMSW
Sharm	Sp-137	Fine red	Painted	Typical Iron Age II painted ware
Sharm	Sp-156	Grey with vegetal temper	Incised	Rare fabric found in small quantities on Iron Age II southeastern Arabian sites
Sharm	Sp-161	Grey with vegetal temper	Incised	Rare fabric found in small quantities on Iron Age II southeastern Arabian sites
Sharm	Sp-198	Coarse	Undecorated	Uncertain
Sharm	Sp-206	Fine red	Painted	Typical Iron Age II painted ware
Sharm	Sp-208	Fine orange	Burnished/maroon slip	BMSW

## Analysis

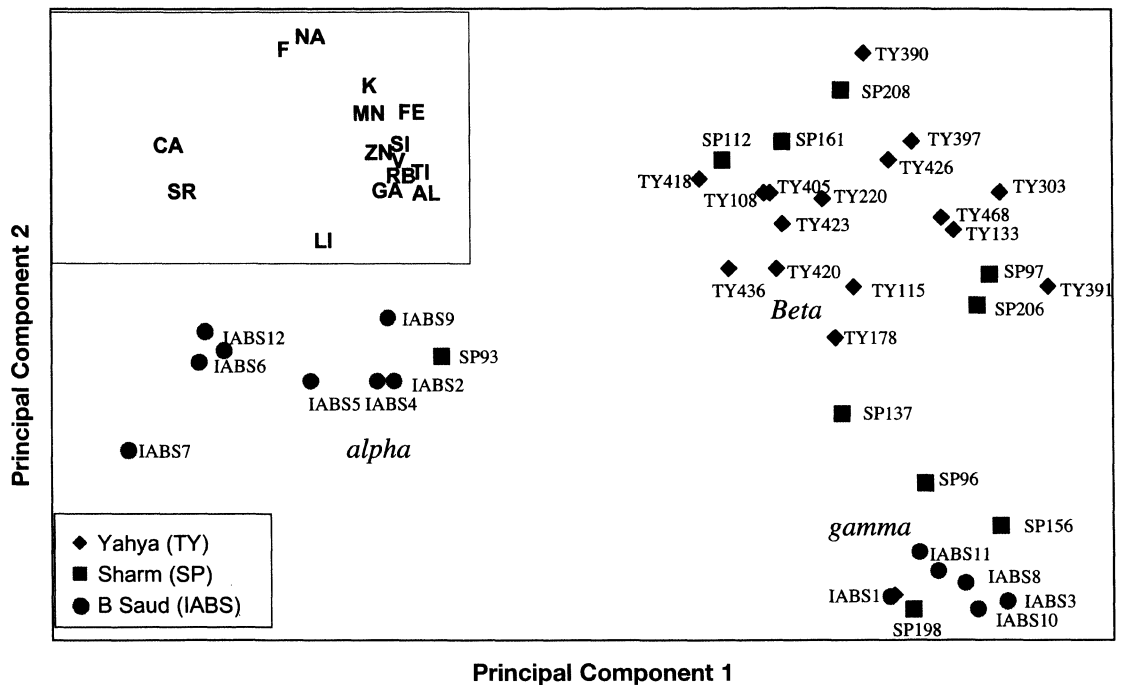
Results of the PCA analysis of these sherds is presented in figure 3.3. The following discussion is limited to points that are directly relevant to Tepe Yahya. Three major clusters are evident in the scatterplot. On the left are local sherds from Bint Saud and one from Sharm that appear to be made from calcareous clays (*alpha* [ $\alpha$ ]). Previous analysis indicated that these sherds were produced in the al-Ain oasis (Magee et al. 1998). On the right are two clusters (*beta* [ $\beta$ ] and *gamma* [ $\gamma$ ]), which clearly differ from  $\alpha$ . There are two major implications of these clusters.

First, when analysed with the southeastern Arabian samples, the Tepe Yahya sherds fall into a single group ( $\beta$ ). This grouping reinforces the suggestion that the

Yahya samples were produced in one region. Second, the clustering of samples from the Arabian sites of Bint Saud and Sharm, as shown on the right of the PCA scatterplot, might suggest that these sherds are also of south-east Iranian origin. Some of the sherds may have come from Yahya itself, as suggested by the BMSW sherds from Sharm in the Tepe Yahya group (Sp 112, Sp 208).

## CONCLUSIONS

It seems likely that the variety of ceramic fabrics identified from Tepe Yahya comes from the same catchment. This situation does not require a solitary production center; indeed, it is likely that the macroscopic variations noted in the corpus reflect different



**Figure 3.3.** PCA of combined Tepe Yahya and southeast Arabian examples with elemental loading inset. Note the clear separation of the calcium-rich group to the left of the axis that only includes sherds from southeastern Arabia and the grouping on the right that includes sherds from Tepe Yahya and southeastern Arabia.

technological treatments and levels of specialist organization. The presence of coarse handmade vessels such as cooking jars (which are unlikely to have been traded over vast distances) within this grouping suggests that the catchment where the clays were obtained was near Tepe Yahya, if not within the Yahya catchment itself. On a regional level, the analysis suggests that Iron Age II fine painted ware from southeastern Arabia was possibly imported from southeastern Iran. Tepe Yahya,

however, appears to have played no role in this trade, given the absence of any comparable fine painted ceramics from the site. Lastly, the distinctive ceramic, BMSW, was imported into southeastern Arabia from southeastern Iran. Unlike the Iron Age II trade, Tepe Yahya appears to have taken part in this trade network since the BMSW examples from Tepe Yahya are indistinguishable from those from the Arabian site of Sharm.

**Table 3.4.** PIXE-PIGE data set for the Iranian (Tepe Yahya) and UAE (Sharm, Bint Saud) samples.  
(All concentrations in parts per million.)

Site/ Sample No.	Analysis No.	Al	Ca	F	Fe	Ga	K	Li	Mn	Na	Rb	Si	Sr	Ti	V	Zn
<i>Tepe Yahya, Iran</i>																
108	AUS-1230	54551	18124	385	48412	6	16332	17	1048	8844	43	232233	176	2940	102	65
115	AUS-1231	56962	28387	260	33045	29	24599	10	354	11053	73	262102	195	3517	134	43
133	AUS-1232	66119	22110	311	40803	34	25488	3	489	12713	71	244366	316	4801	170	42
178	AUS-1233	63288	15846	129	47380	5	16837	20	655	9598	65	232849	136	3618	137	66
220	AUS-1234	65467	33308	396	42108	8	19792	7	505	10474	71	245768	206	3735	127	67
303	AUS-1235	58198	12997	326	49913	29	23649	-	797	9307	58	220634	183	4183	148	130
390	AUS-1236	63442	45646	396	40356	17	34648	25	558	18504	63	241007	253	3110	110	73
391	AUS-1237	76645	23240	407	52622	22	23511	24	709	8968	90	223474	209	4273	198	85
397	AUS-1238	59855	24713	476	45084	12	32041	25	557	11355	63	234291	165	3788	155	77
405	AUS-1239	56101	46939	443	45094	12	23918	18	802	7440	43	217280	285	2998	102	81
418	AUS-1240	56740	51725	454	44738	6	21929	13	777	6721	41	212534	312	2823	78	80
420	AUS-1241	61892	34828	370	45740	10	18661	24	929	7802	55	213162	377	3110	101	75
423	AUS-1242	58793	52341	408	41475	10	22212	15	724	7914	73	230812	210	2996	109	70
426	AUS-1243	71699	28456	593	43572	13	26998	15	533	8316	68	243416	212	3700	114	81
436	AUS-1244	56814	57068	277	49124	10	23218	16	756	6451	67	210753	324	2622	81	60
468	AUS-1245	71310	21540	567	48472	15	20999	22	613	8666	78	228110	159	3804	155	90
<i>Sharm, UAE</i>																
Sp-208	AUS-1255	61887	69554	513	47979	7	15896	-	1321	11187	59	209872	473	4252	214	69
Sp-161	AUS-1252	55445	53748	418	43135	8	16128	-	1078	10355	55	220723	334	4169	144	66
Sp-112	AUS-1249	54967	60269	470	43639	5	13760	9	1200	10390	55	179491	398	3620	186	59
Sp-96	AUS-1247	73615	36673	205	50244	18	12687	32	969	4490	65	215342	247	4504	175	70
Sp-97	AUS-1248	80881	13397	595	45587	22	20287	-	476	5101	108	234334	327	4800	135	76
Sp-137	AUS-1250	71274	27324	260	43971	12	17254	14	595	4298	88	229084	336	4075	123	52
Sp-156	AUS-1251	81778	14337	113	44632	17	18684	18	865	1240	106	249554	233	4628	129	63
Sp-198	AUS-1253	86240	39385	299	38334	22	20870	51	391	2308	73	202327	384	5010	187	51
Sp-206	AUS-1254	78066	11076	560	45424	18	22179	11	506	4772	110	234716	327	4875	132	65
Sp-93	AUS-1246	39324	105043	155	30409	5	11760	-	441	6568	44	191255	668	2668	130	33
<i>Bint Saud, UAE</i>																
IA/BS1	AUS-1001	85155	18916	100	37118	15	18875	29	776	1909	101	230984	853	4069	136	59
IA/BS3	AUS-1003	84494	13567	120	39970	20	18520	41	721	2452	88	249501	407	4215	149	91
IA/BS8	AUS-1008	80315	12261	81	38336	15	17639	27	600	1779	96	242631	339	4107	152	91
IA/BS11	AUS-1011	73331	22166	162	34007	26	15658	23	816	1439	70	235054	508	3889	144	104
IA/BS2	AUS-1002	38502	91069	244	23728	7	13651	21	319	7390	35	217170	1047	1993	52	48
IA/BS4	AUS-1004	34802	92307	330	22924	5	12474	21	277	6426	37	210897	1300	1966	74	63
IA/BS5	AUS-1005	33227	111561	279	19692	5	12416	14	243	6314	45	194168	1112	1759	50	52
IA/BS6	AUS-1006	30784	155702	392	18188	6	12376	13	280	5639	36	180687	1589	1549	63	41
IA/BS7	AUS-1007	29897	143316	322	20678	5	12654	17	268	4893	34	169169	2705	1677	49	36
IA/BS9	AUS-1009	32267	60002	393	40257	8	10695	12	365	4275	22	166765	806	1927	65	46
IA/BS10	AUS-1010	84310	14673	211	49343	27	12808	61	528	6365	38	204937	584	4936	212	92
IA/BS12	AUS-1012	31259	156960	489	21474	6	13373	16	305	5791	42	163089	1553	1621	63	40



## Chapter 4

# Artifactual Assemblage of Period III and the Platform Period

In this chapter I will discuss the artifacts found in the Period III buildings and those associated with the construction and use of the mudbrick platforms. This discussion will include ceramics and other artifacts that may be labeled "small finds," including iron, bronze, and soft-stone objects. I will also refer to small finds that are noted in the excavations records, but for which there are no photographs or drawings. Specific sherds and small finds are labeled with numbers (TY ##) that were given to the objects in the compilation of the database described in chapter 3.

### PERIOD III CERAMICS

#### Incised Sherds

Several sherds with rope-impressed or incised cordons were recovered from Period III deposits (fig. 4.1). Parallels for this type of decoration can be found in earlier periods (IVA) at Tepe Yahya (Lamberg-Karlovsky 1970:fig. 17d). Within the Near East, the type has a wide distribution with no specific regional or chronological focus. Finger-impressed cordons are also known from the north Iranian sites of Tepe Hassanabad Marafi (Kleiss 1997:abb. 9.1, abb. 11.2), Kalardasht (Kleiss 1997:abb. 26.5), and Tepe Sialk (Kleiss 1997:abb. 35.3). All of these examples are made in a hard grey ware that probably dates from the late second to the early first millennium B.C. A close parallel is found at Qala'at al-Bahrain in a coarse vegetal and mineral tempered ware (Kervran et al. 1987:pl. 1.1). The excavators compared this example to sherds dating from the eighth to seventh centuries B.C. at Hajar bin Humeid in Yemen (Kervran et al. 1987:88). Several Neo-Assyrian sites have produced material that compares to the examples under discussion. Khirbet Khatuniyeh, excavated as part of the British Museum's Saddam Dam Project, contained comparable examples from one of the earliest levels at that site, perhaps dating from the late second to early first

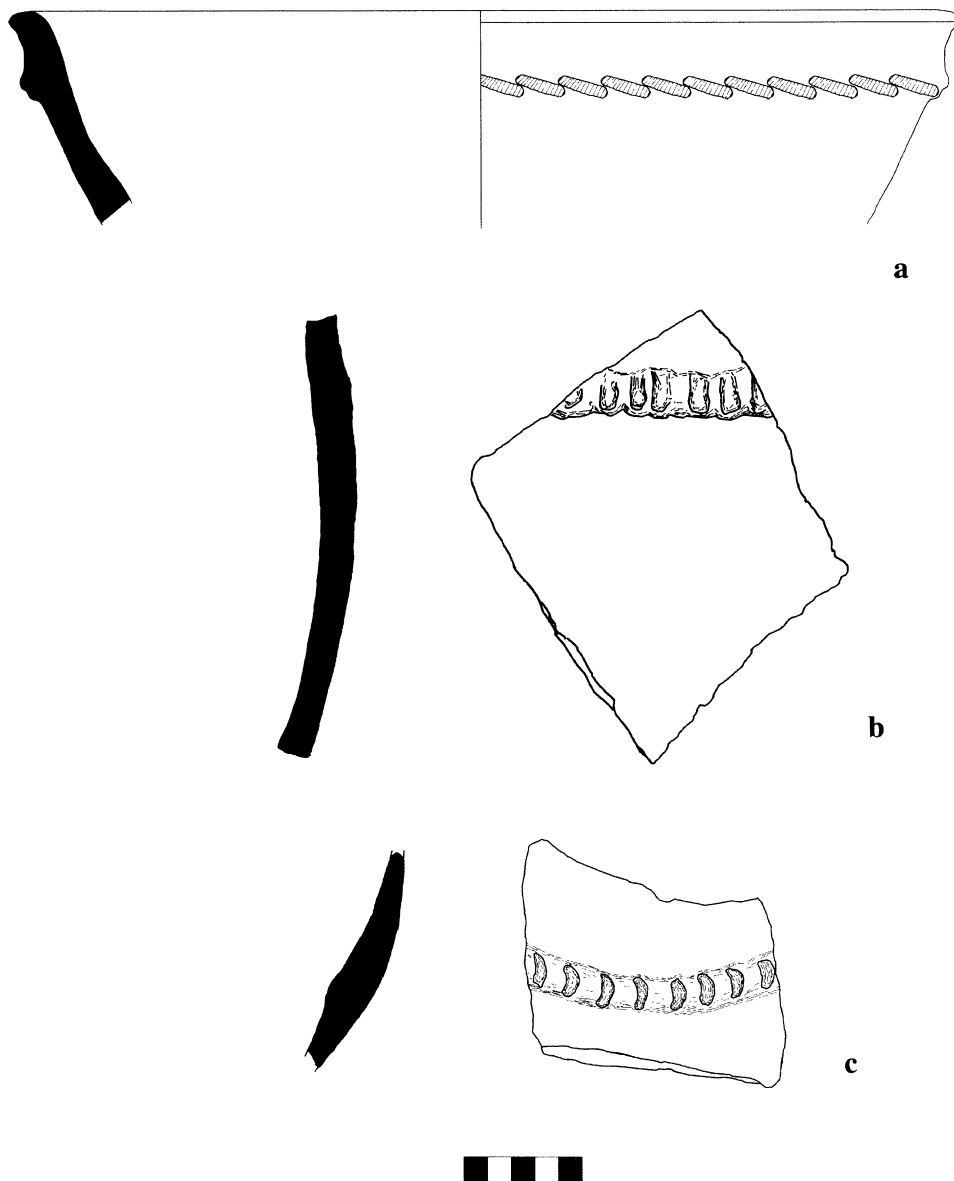
millennium B.C. (Curtis and Green 1997:figs 52.7, 28.12). The nearby site of Khirbet Qasrij provided another example securely dated to the first half of the sixth century B.C., which is extremely similar to the example from Khirbet Khatuniyeh (Curtis 1989:figs. 42.299, 300).

#### Painted Sherds

There are several painted sherds from Period III (fig. 4.2). TY 204 (fig. 4.2a) and TY 203 (fig. 4.2b) are both necked jars and are decorated with hatched pendant triangles in maroon and lines in light brown paint on a light brown/red surface. They appear to belong to a single stylistic group. Although generic parallels for this form of decoration can be found in the Achaemenid levels at Hasanlu (Dyson, in press a:fig. 6), Qal'eh Ismail Agha (Kroll 1977:abb. 6), and Ruyan Duyah Qal'eh (Kroll 1984:abb. 13), the complexity of the decoration and its occurrence on necked jars rather than bowls differentiates the Tepe Yahya examples. TY 213 (fig. 4.2e) is decorated with swirling lines in brown and red paint on a light orange ground. The style of decoration and the fabric of this piece differentiates it from the other painted examples. Specific parallels for this sort of decoration can be found at Nad-i Ali in Seistan where sherds with swirling bands in dark brown paint on a cream slip have been recovered in Period II (Dales 1977:42, table 1). Dales dates these sherds to the Achaemenid period (Dales 1977:105–107). He notes that this painted ware was indigenous to Seistan (Dales 1977:94–95). No parallels can be adduced for the other painted sherds seen in figure 4.2.

#### Spouted Vessel

Jars with loop handles and spouts similar to the spouted vessel in figure 4.3 were found in the tombs at Chamazhi Mumah in Luristan (e.g., Haerinck and Overlaet 1998:figs. 17.2, 3; 25.2; 29.1; 30.1, 2; 31.1, 2; 33.1; 35.2, 3). Those examples are dated to the eighth and seventh



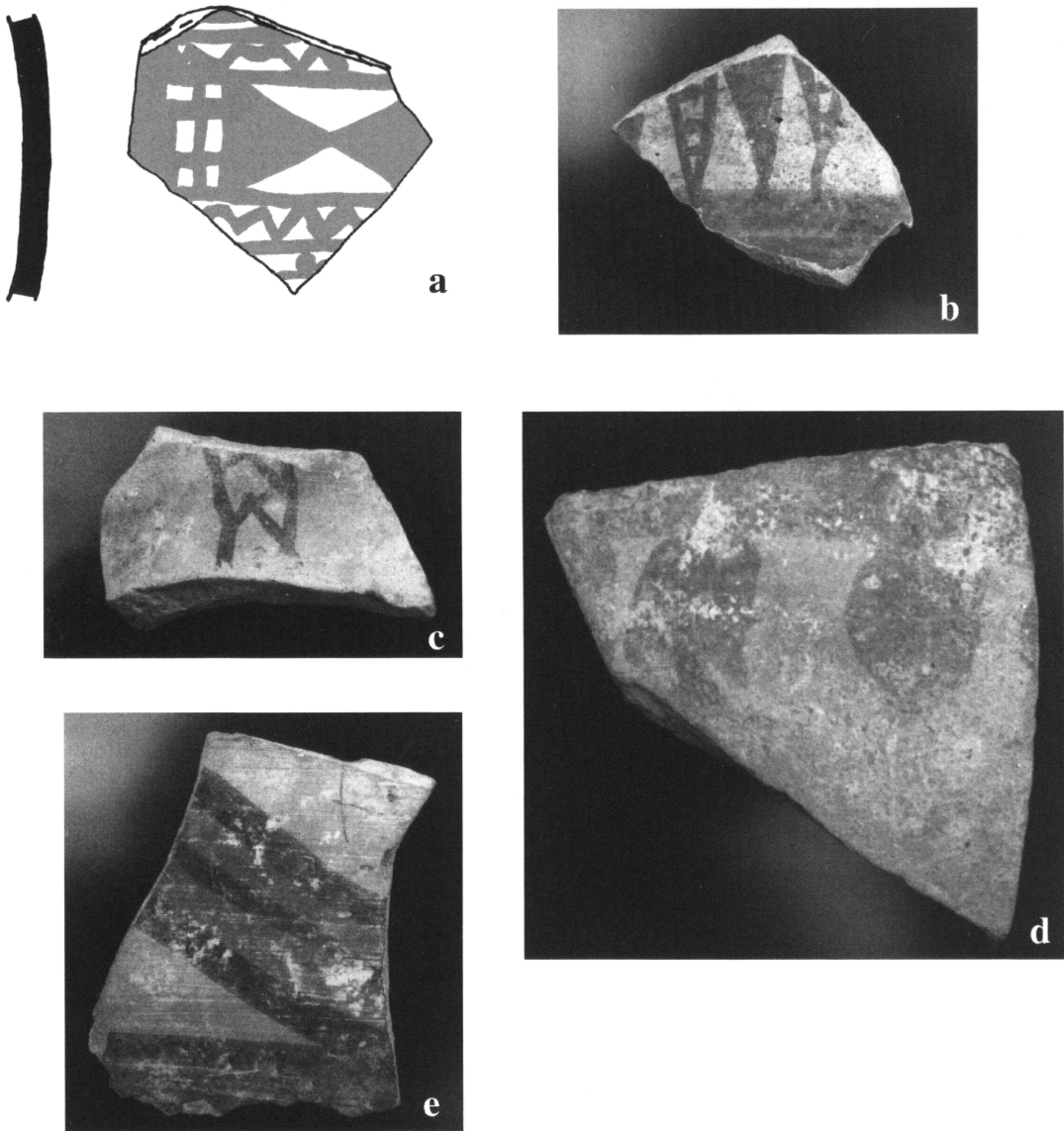
**Figure 4.1.** Period III ceramics, incised sherds. a. TY 200, fabric 3, brown (A.73.61); b. TY 475, fabric 2, buff (A.73.44.11); c. TY 196, fabric 1, orange (A.71.28). Scale in cm.

centuries B.C. From Susa levels 8 to 9 there are somewhat similar spouts that date from the eighth to seventh centuries B.C. (de Miroschedji 1978:fig. 53.8, 226, 227). A single example from the Achaemenid Village I at Susa was dated by Stronach to the seventh and sixth centuries B.C. (Stronach 1974:244, pl. 12).

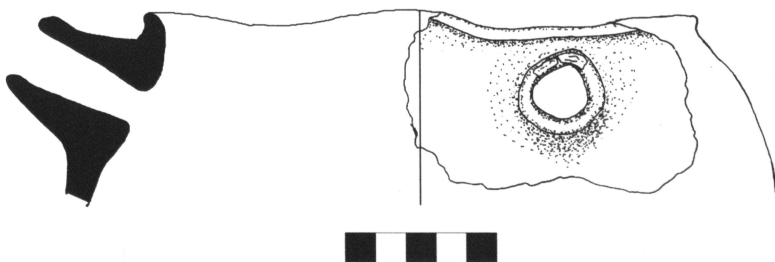
### Necked Jars

Four examples of jars with simple flaring necks were recovered in Period III deposits (fig. 4.4). Although this is a simple form, there are very good parallels for this

shape in southeastern Arabia during the Iron Age II period (ca. 1100–600 B.C.). Examples have been found at Hili 17 (Magee 1995:fig. 7.19), Hili 2 (Magee 1995:fig. 7.25), Muweilah (unpublished, collection at Sharjah Archaeological Museum), Tell Abraq (Magee 1995:fig. 4.19), and Rumeilah (Boucharlat and Lombard 1985:pl. 85). Although these parallels are quite generic, it should be noted that this form of necked jar differs completely from contemporary Mesopotamian necked jars. Contemporary jars are characterized by rolled or thickened rims (e.g., Curtis 1989:figs. 35, 36; Curtis and Green 1997:figs. 43–46).

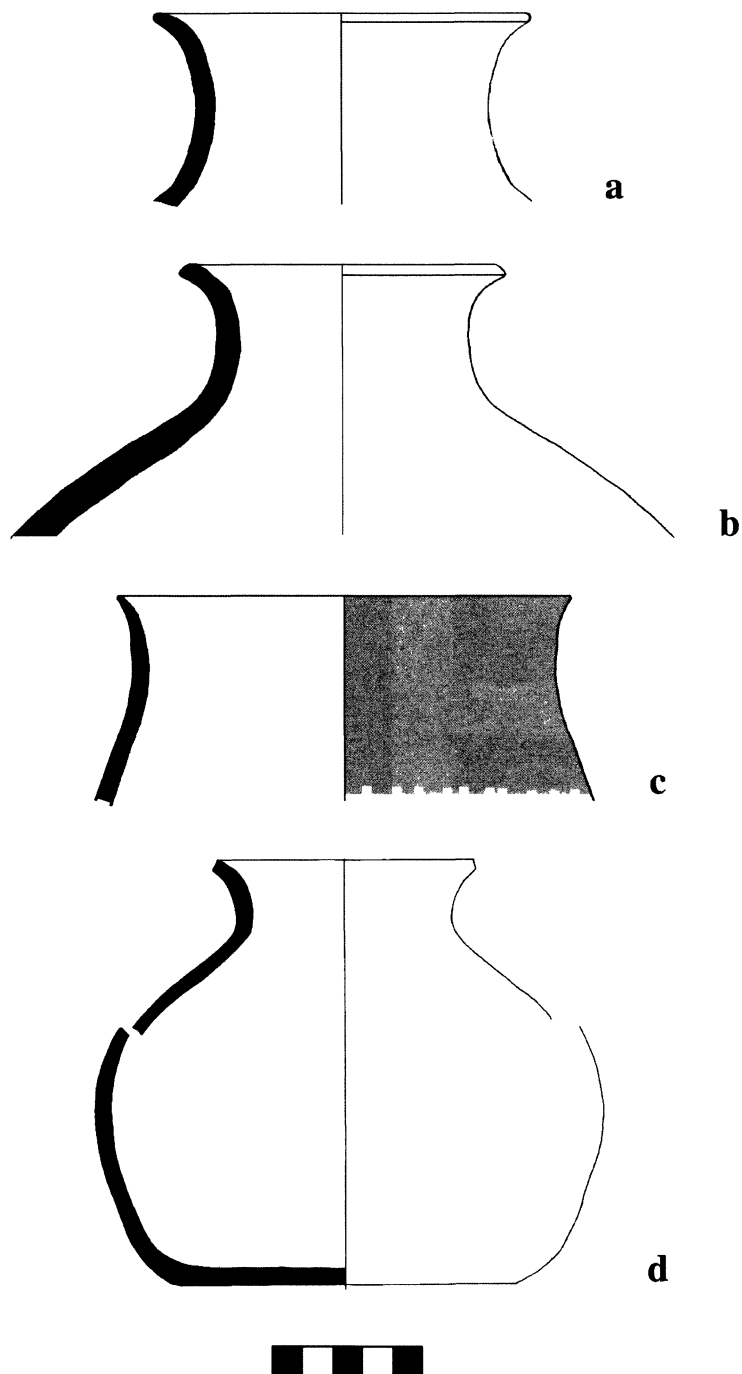


**Figure 4.2.** Period III ceramics, painted sherds (scale not available). a. TY 203, fabric 2, light brown (A.71.29); b. TY 204, fabric 2, light brown (A.71.29); c. TY 212, fabric 1, red-orange (A.73.44.12); d. TY 209, fabric 1, orange (A.71.28); e. TY 213, fabric 1, orange (A.73.44.12).



**Figure 4.3.** Period III ceramic, spouted jar. TY 206, fabric 4 (A.71.29). Scale in cm.



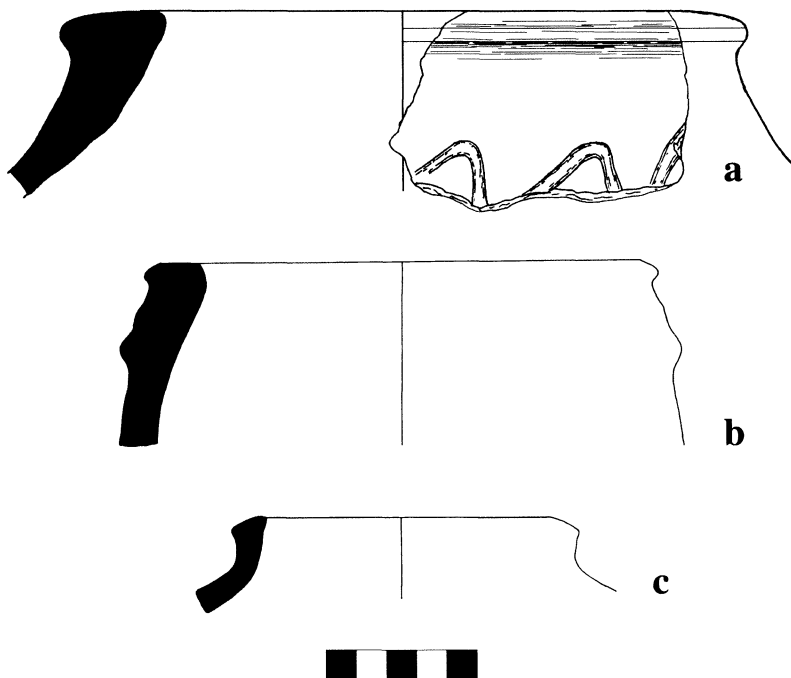


**Figure 4.4.** Period III ceramics, necked jars. a. TY 474, fabric 1, light brown (A.73.51.7); b. TY 476, fabric 3, orange (A.73.51.7); c. TY 472, fabric 1, brown, burnished red slip inside and out (A.73.44.12); d. no data, undecorated. Scale in cm.

### Storage Jars

Two different types of storage jars are represented in the Period III corpus (fig. 4.5). TY 225 has a rolled lip with a thickened band below the rim (fig. 4.5b). This unusual

sort of rim has exact parallels in the otherwise undated material from site 106, as described by Sajjadi, in the Bard Sir Plain (Sajjadi 1987:107). Similarly shaped vessels are also known from Susa levels 10 and 11 (de Miroschedji 1978:figs. 51.6, 52.6, 52.7) that are dated to



**Figure 4.5.** Period III ceramics, storage jars. a. TY 225, fabric 3, orange (A.73.44.1); b. no data, undecorated; c. no data, undecorated. Scale in cm.

the eleventh and tenth centuries B.C. and from Nad-i Ali (Dales 1977:pl. 17.7). A similar example dated to the “Early Iron Age” was recovered from the site of Nashteban in Iranian Azerbaijan (Kroll 1984:abb. 7.4, 7.5). The other type of storage jar has a collar rim (fig. 4.5a, c), and one example is incised with wavy lines below the rim (fig. 4.5a). The shape and the type of decoration is strongly paralleled at nearly all known Iron Age II settlements in southeastern Arabia (Magee 1995:fig. 4.33b). Examples are also known from Qala’at al-Bahrain (Kervran et al. 1987:fig. 7.2).

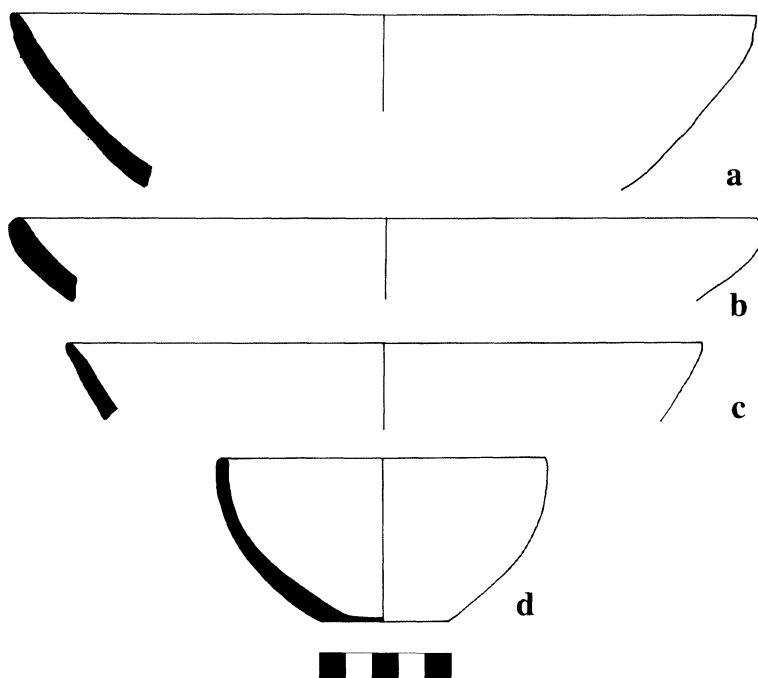
## Bowls

Several different types of bowls are found in Period III (figs. 4.6–4.10). These include simple-rimmed bowls (fig. 4.6), the only complete example of which (fig. 4.6d) has an incurving profile and a flat base. Similarly shaped vessels are the most common bowl form in the Iron Age II period in southeastern Arabia (Magee 1995:figs. 4.8, 7.1–4, 7.22, references). Examples with a burnished slip are known from northern Iran in the Meshkin Shahr plain (Ingraham and Summers 1979:figs. 7.23–25) and from Ruyan Durah Qal ‘eh (Kroll 1984:figs. 14.1–3). Even though such shapes are quite generic and one could argue against any meaning attached to such parallels, it is worth noting that the

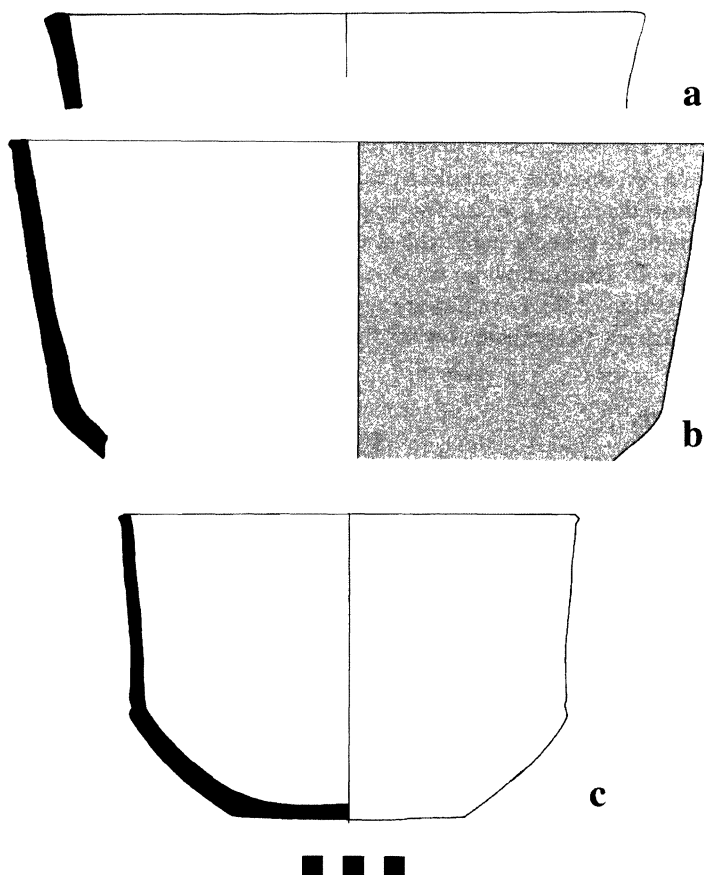
shape is not common in contemporary assemblages from Mesopotamia (e.g., Curtis 1989; Curtis and Green 1997) and Bahrain (Højlund and Andersen 1994).

A single bowl with a carinated profile is illustrated from the Period III deposits (fig. 4.8). This piece is without doubt influenced by production in southeastern Arabia. The distinctive double-ribbed type of decoration is extremely common in southeastern Arabia, and exact parallels for the combination of ribbing and beveled rims can be found at the Iron Age II inland settlement of Hili 17 in the United Arab Emirates (Magee 1995:fig. 7.13).

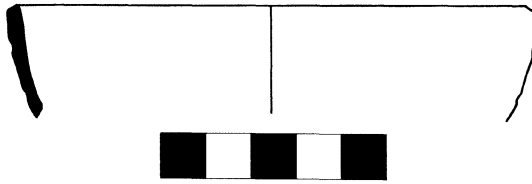
A distinctive bowl type is shown in figure 4.10. Four of the illustrated examples (fig. 4.10a, b, c, and e) form a homogenous group, which is labeled BMSW (brown maroon slipped ware) (Magee 1997). In the north of Iran, similar examples have been recovered through a German team’s work at Tepe Halaqu (Kroll 1984:abb. 3.8, 9), where they are dated to the Achaemenid period. Examples are known from Godin Tepe II (Young and Levine 1974:fig. 46.2, 11, 20; fig. 47.11) and Baba Jan I (Goff 1978:fig. 4.16, 17) and are dated from the sixth to fifth centuries B.C. Examples with a “red brown slip on both surfaces, highly burnished” and “red slipped on both sides, highly polished” have been recovered in the Bakhtiari Mountain region in Iran (Zagarell 1982:45, figs. 8.2, 5). Zagarell dates this material from “the 6th



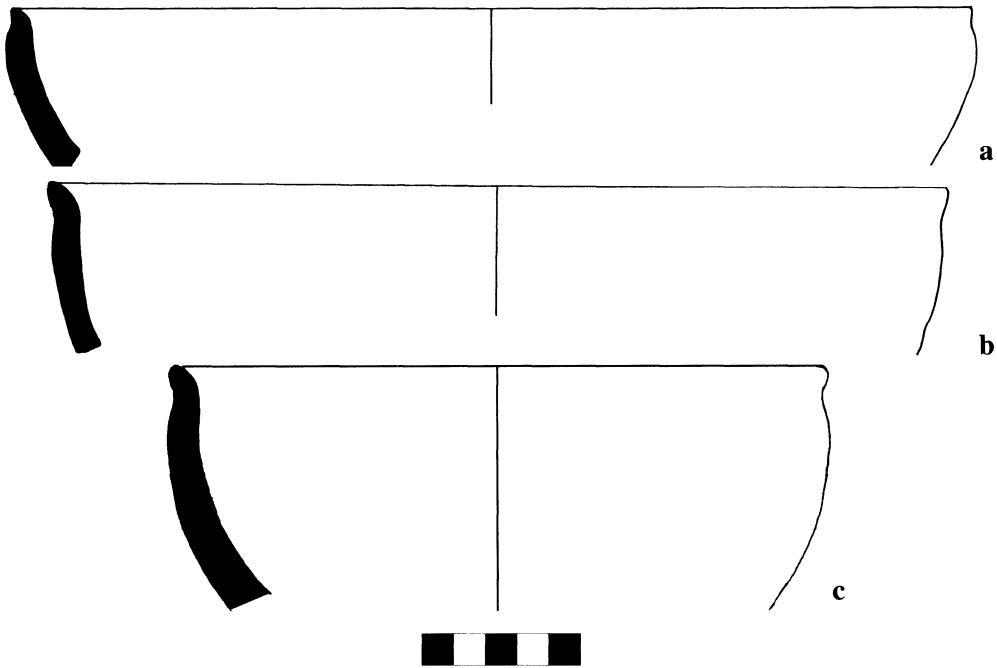
**Figure 4.6.** Period III ceramics, bowls.  
a–d. book drawings (no additional information available). Scale in cm.



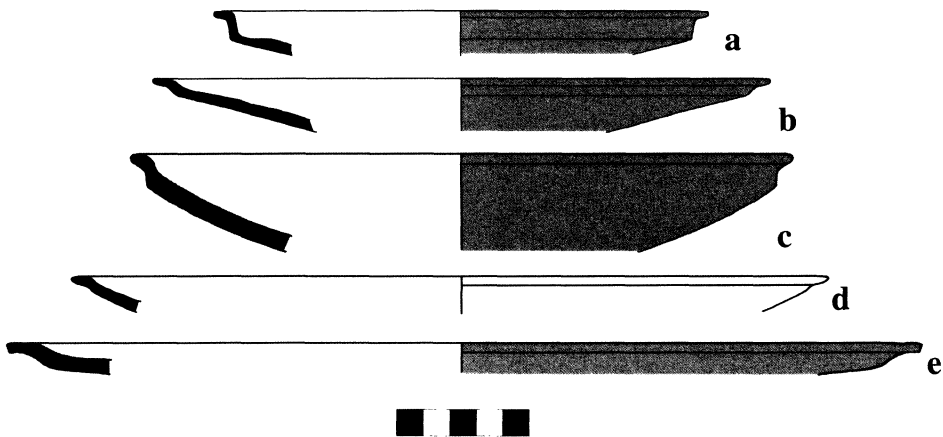
**Figure 4.7.** Period III ceramics, bowls.  
a. book drawing, undecorated; b. TY 469, fabric 1, brown, slipped red inside and out and slightly burnished (A.73.29); c. book drawing, undecorated. Scale in cm.



**Figure 4.8.** Period III ceramic, bowl. Book drawing (no additional information available). Scale in cm.



**Figure 4.9.** Period III ceramics, bowls. a. book drawing; b. book drawing; c. TY 473, fabric 1, red-orange, wet smoothed surface (A.71.54). Scale in cm.



**Figure 4.10.** Period III ceramics, bowls. a. TY 197, fabric 1, red-orange, brown maroon slipped ware (BMSW) (A.71.28); b. TY 468, fabric 1, red-orange, BMSW (A.73.51.4); c. TY 470, fabric 1, red-orange, BMSW (A.73.66); d. TY 471, fabric 1, red-orange, (A.73.44.11); e. TY 472, fabric 1, red-orange, BMSW (A.73.44.11). Scale in cm.

(to) early 5th century of the region" (Zagarell 1982:46). Closer to Tepe Yahya, examples are known from Achaemenid and post-Achaemenid deposits at Pasargadae (Stronach 1978:fig. 107.8–10) and from Tal-i Zohak in the Fasa plain (Hansman 1979:fig. 3.3, 4). Hansman describes two examples as "red/brown, fine; surface same, burnished" and "reddish brown, fine; surface same with reddish brown slip" (1979:fig. 3.3, 4). A solitary example of the shape with a "brown wash" came from the Eastern Fortification of Schmidt's excavations at Persepolis (Schmidt 1957:pl. 74.1).

The type shown in figure 4.10 is also known from Charsada in the North-West Frontier Province (Pakistan) where it is common from layer 27 and below (Wheeler 1962:40). Dittmann argues for a date prior to the end of the fourth century B.C. for these layers (Dittmann 1984:table 5). Examples have also been reported from Aligrama (Stacul and Tusa 1977:fig. 14j–k), Kalakoderay (Stacul 1993:fig. 17o), Bir-Kot-ghundai (Stacul 1980:30, fig. 5.1) and Ghaligai (Stacul 1969:fig. 13c) in the Swat Valley of northern Pakistan.

The type is also common in southeastern Arabia where it is considered a *leitfossil* for the Iron Age III period. Benoist's examination of the material from Rumeilah suggests that the shape is virtually absent from the later phases of the Iron Age III period (Benoist 1991:173), indicating that it belongs to the beginning of the Iron Age III period. It is, however, completely absent at the site of Muweilah, which was destroyed sometime after 760 B.C.

In Mesopotamia, examples of this type are not common on sites of the Neo-Assyrian period. They are, for example, absent from Khirbet Khatuniyeh, Qasrij Cliff, and Khirbet Qasrij in Assyria. In lower Mesopotamia, examples dating from the sixth to third centuries B.C. are known from Ur, Sippar, and Nippur (Rutten 1996a:fig 14).

### PERIOD III SMALL FINDS

Period III small finds included fragments of iron, bronze, and soft stone, as well as a bronze scabbard tip (fig. 4.11) and a complete soft-stone bowl (fig. 4.12). The presence of simple and decorated chlorite vessels at Tepe Yahya is a well-studied phenomenon, and there was undoubtedly local production at the site (Kohl 2001). Without a physical analysis of the stone, it is impossible to know if the vessel is chlorite and is locally produced. There is no doubt that, at the least, it copies southeastern Arabian soft-stone examples. The linear form of decoration is paralleled in examples that are common during the Iron Age II period (e.g., Lombard



**Figure 4.11.** Period III small find, scabbard tip. SF 2767, bronze (A.71.29). Scale in cm.

1982). The evidence for the export of such vessels throughout Iran and Mesopotamia in the late second and early first millennium B.C. lends credence to the suggestion that this bowl is imported from southeastern Arabia. Examples have been found at Uruk (Lindemeyer and Martin 1993:taf 70.1118, 1110, 1125), Haft Tepe (Negahban 1991:pl. 31.216, 7) and as far as Tell Fakhariyah in the Jazirah in northern Iraq (McEwan 1958:pl. 51.36).

### PLATFORM PERIOD CERAMICS

#### Decorated Sherds

Several examples of sherds with incised cordons (fig. 4.13) find the same parallels as those from Period III. Painted sherds can be divided into four stylistic groups based on the type of decoration: black-on-orange ware (fig. 4.14), black-on-white ware (fig. 4.15), and black-on-brown ware (fig. 4.16). These painted wares do not find parallels in contemporary painted assemblages in Iran and southeastern Arabia, and although they share some elements with the painted wares of the Achaemenid period, the differences are greater than the similarities.



**Figure 4.12.** Period III small find, bowl. SF 760, soft-stone (A.71.47.3). Scale in cm.

### Necked Jars

Most Platform period necked jars (fig. 4.17) are of the simple rimmed variety that was found in Period III and for which parallels in southeastern Arabia were discussed above. There is, however, one example with a flattened rim (fig. 4.17d) and one example with a flattened and rounded rim (fig. 4.17e).

### Storage Jars

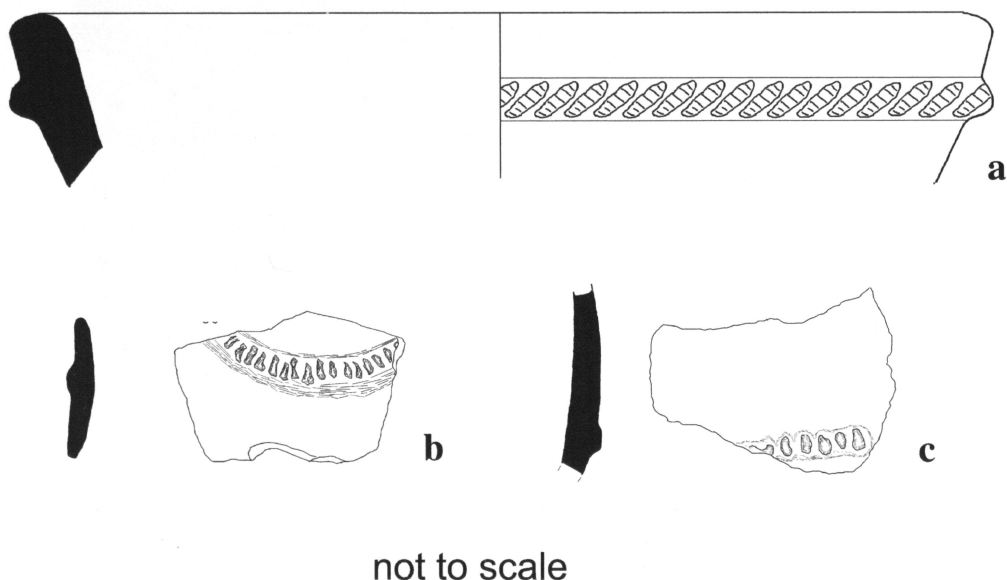
Examples of both collar rim (fig. 4.18) and thickened rim (fig. 4.19) storage jars are known from the Platform period. These jars find parallels in Iron Age II deposits at Tell Abraq in southeastern Arabia (Magee 1995:fig. 4.33a). A small closed vessel type with thin walls (fig. 4.20) can barely be called a storage jar, but it is included because it is a closed form. This type is without parallel in Iron Age Iran, but exact parallels can be found at the inland settlement of Rumeilah in southeastern Arabia (Benoist 1991:vol. 2:42, type K21). It represents 4.3 percent of the registered ceramics from Excavation 1EN and 6 percent from Excavation 2D at that site. The latter context is toward the last phase of Iron Age occupation while Excavation 1EN is of uncertain date. Nonetheless both phases fall within the Iron Age III

period (600–300 B.C.). A single example of a large vat (or a necked jar with beveled rim) was also recovered from the Platform period (fig. 4.21).

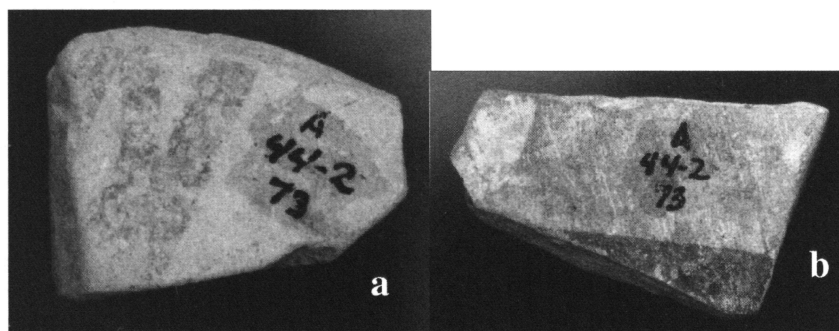
### Bowls

Bowls from the Platform period at Tepe Yahya are illustrated in figures 4.22–4.33. Bowls with simple rims (fig. 4.22), flattened rims (fig. 4.23), and incurving flattened rims (fig. 4.27) have been identified. Although the bowls with simple rims superficially parallel examples from Hellenistic deposits throughout the Middle East, it is important to note that the shape has an indigenous history in west and south Asia that stretches back into the first millennium B.C. They are, for example, found in Iron Age deposits in Sindh (Nissen 1994:fig. 4.1a–d) and in the Punjab at Taxila in Pakistan (Bhir Mound Period III, Sharif 1969:fig. 19.98; Period II, Sharif 1969:figs. 14.1–3). Achaemenid period examples are also known from Fars in Iran (Sumner 1986:fig. 2.6).

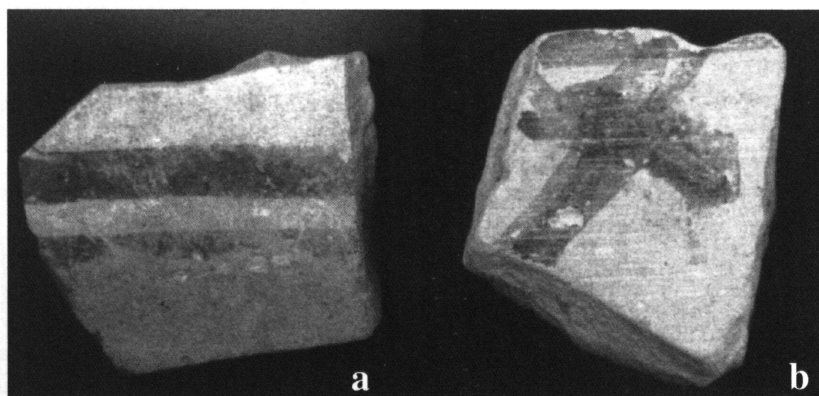
A number of quite large, thick-walled basins (fig. 4.24) vary in shape. Most have a flattened rim, some have a distinct flattened exterior rim surface (fig. 4.24a), and some a beveled rim (fig. 4.24d). Basins with a comparable beveled rim are found at Taxila (Period II, third century B.C., Sharif 1969:fig. 12.1), and the pronounced



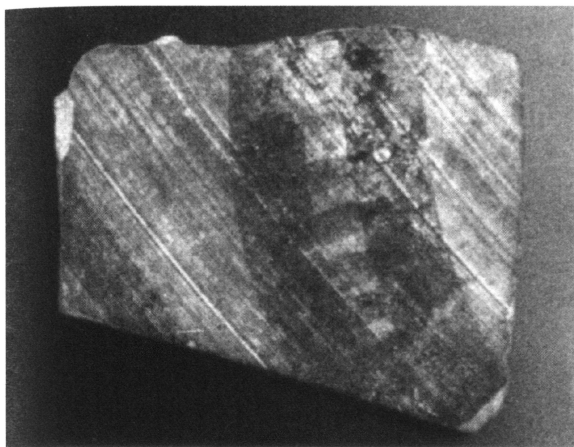
**Figure 4.13.** Platform period ceramics, cordoned and incised (scale not available). a. TY 248, fabric 2, orange-brown (A.73.44.2); b. TY 250, fabric 2, orange-brown (A.73.44.2); c. TY 232, fabric 3, grey (A.73.44.2).



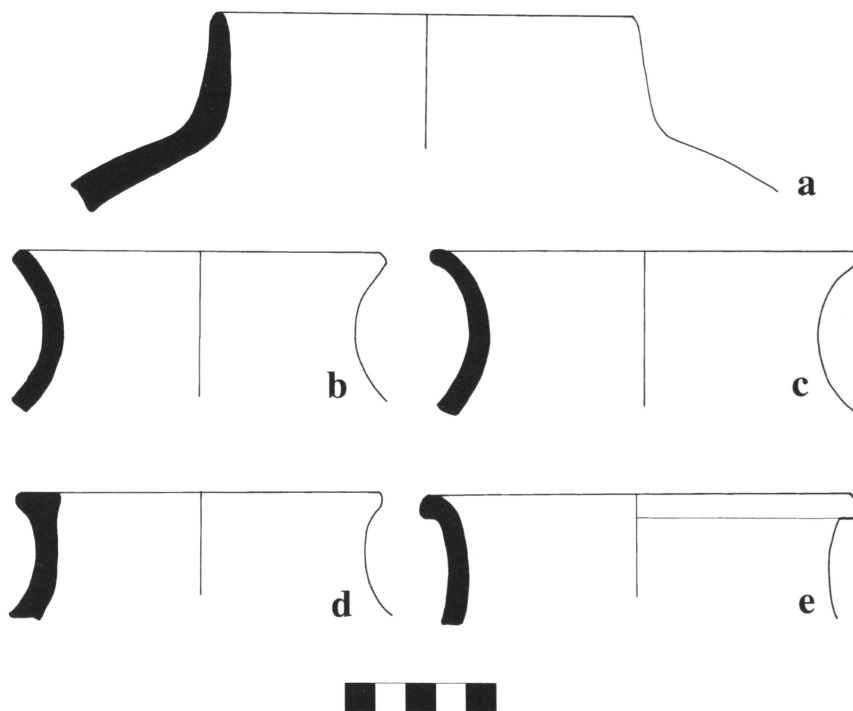
**Figure 4.14.** Platform period ceramics, black-on-orange ware (scale not available). a. TY 266, fabric 2, orange-brown (A.73.44.2); b. TY 256, fabric 2, orange-brown (A.73.44.2).



**Figure 4.15.** Platform period ceramics, black-on-white ware (scale not available). a. TY 255, fabric 2, orange-brown (A.73.44.2); b. TY 253, fabric 2, orange-brown (A.73.44.2).



**Figure 4.16.** Platform period ceramic, black-on-brown ware (scale not available). TY 264, fabric 2, orange-brown (A.73.44.2).



**Figure 4.17.** Platform period ceramics, necked jars. a–e. book drawings (A.73.44.2). Scale in cm.

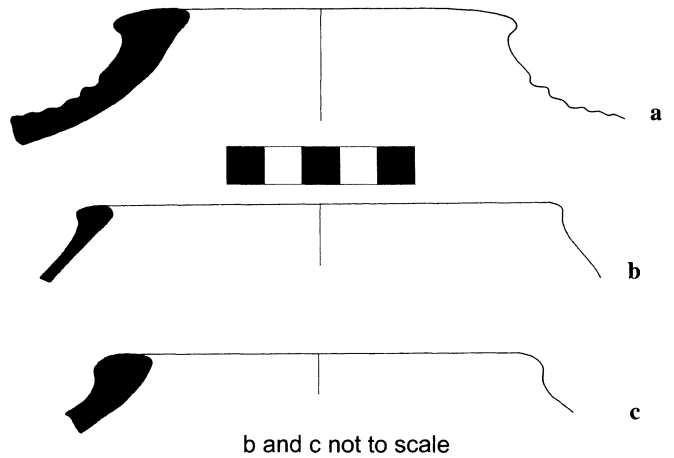
thickening of the wall in figure 4.24e is paralleled by several vessels from Achaemenid deposits at Nad-i Ali (Dales 1977:pl. 23), Dahan-i Ghulaman, and Tash Kurgan (Dales 1977:99).

A single example of a bowl with nailhead rim is illustrated from the Platform period (fig. 4.25). This unusual shape within the Tepe Yahya assemblage has parallels at Godin Tepe (Young and Levine 1974:fig. 46.8) and Hili 17 in southeastern Arabia (Magee 1995:fig. 7.12). Similar examples dating to the Achaemenid period are

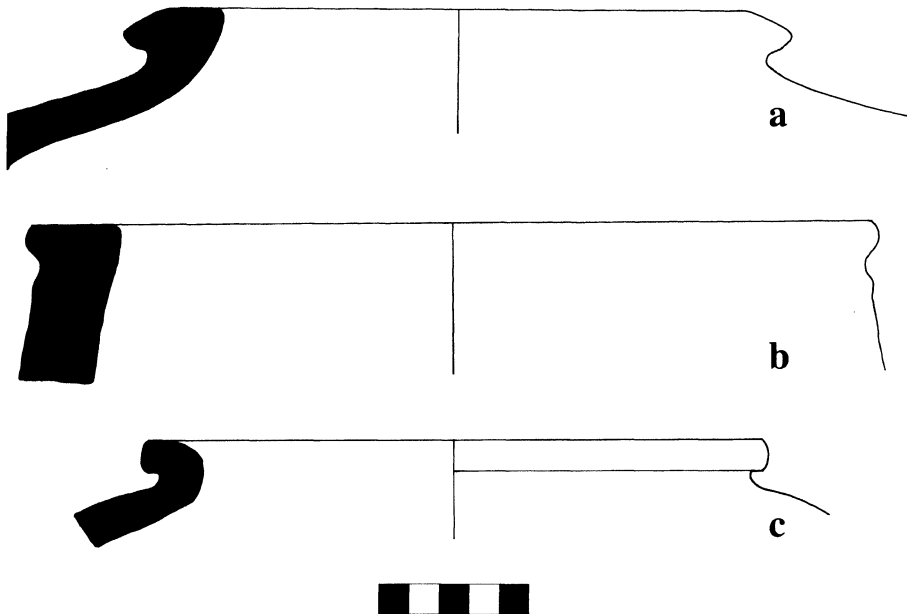
also found at Malyan and Persepolis (Sumner 1986:fig. 2d, e).

A very distinct form is a bowl characterized by grooves on the exterior face of the vessel (fig. 4.26). This vessel recalls similarly decorated examples from Bala Hissar at Charsada (Wheeler 1962:fig. 17.70). While an Achaemenid to Early Historic date for the levels in which the vessels were recovered was argued by Wheeler, Dittmann's (1984) reanalysis suggested an earlier time frame. It is worth noting that the form is also

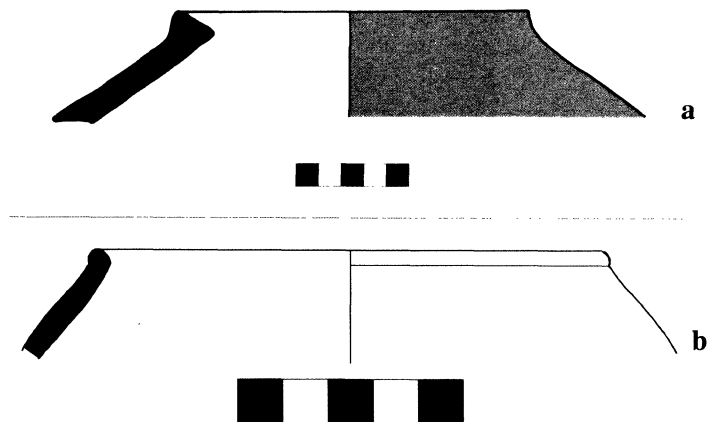




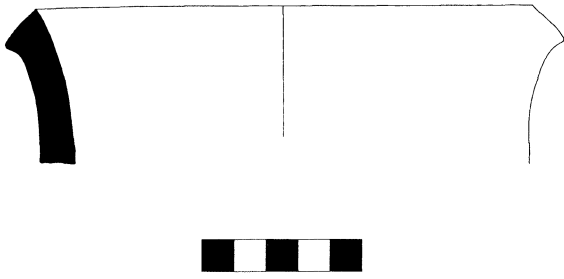
**Figure 4.18.** Platform period ceramics, collar rimmed storage jars. a-c. book drawings (A.73.44.2). Scale for figure 4.18a in cm.



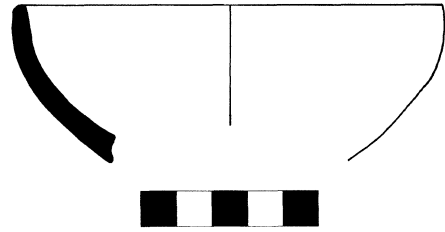
**Figure 4.19.** Platform period ceramics, thickened rimmed storage jars. a-c. book drawings (A.73.44.2). Scale in cm.



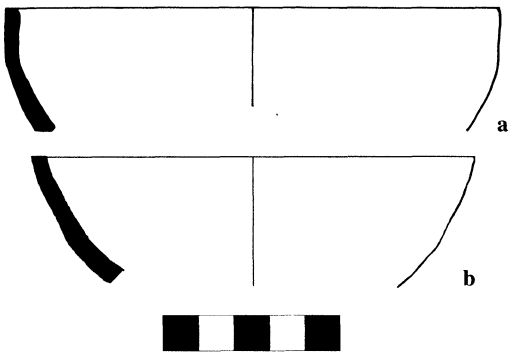
**Figure 4.20.** Platform period ceramics, storage jars. a. TY 238, fabric 2, with large pieces of mica, orange-red-slipped brown outside only (A.73.44.2); b. TY 244, fabric 4, orange-brown (A.73.44.2). Scales in cm.



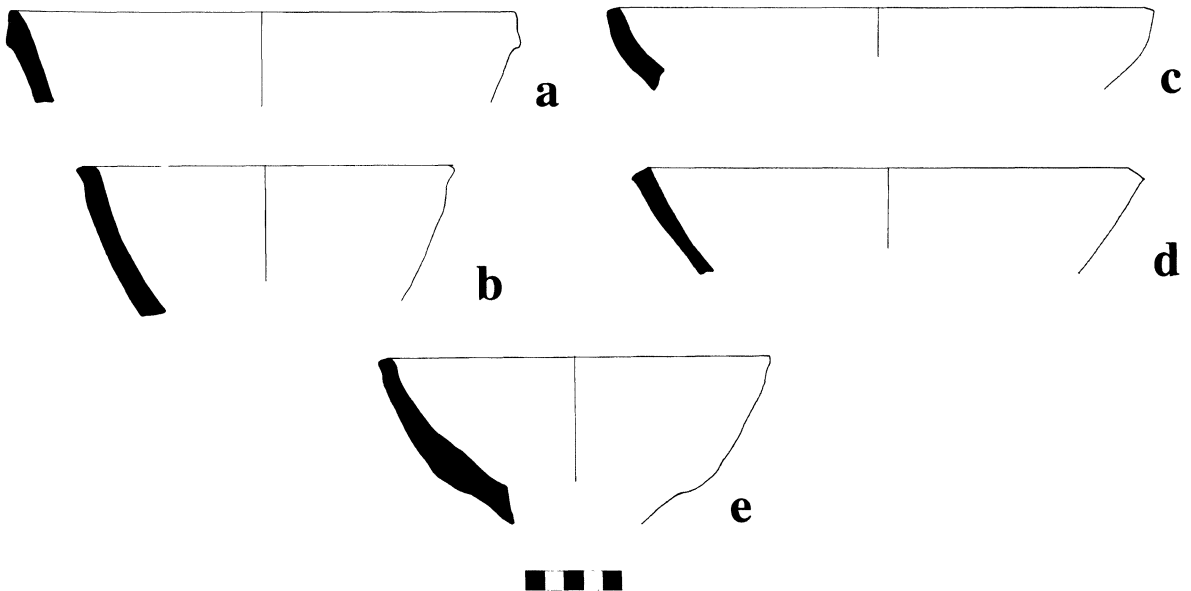
**Figure 4.21.** Platform period ceramic, vat or necked storage jar. Book drawing (A.73.44.4). Scale in cm.



**Figure 4.22.** Platform period ceramic, bowl with simple rim. TY 240, fabric 2, tan-orange (A.73.44.2). Scale in cm.



**Figure 4.23.** Platform period ceramics, bowls with flattened rims. a. book drawing (A.73.44.2); b. TY 459, fabric 1, orange, smoothed surface (A.73.44.3). Scale in cm.



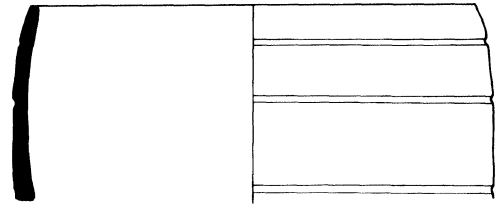
**Figure 4.24.** Platform period ceramics, basins. a–e. book drawings (A.73.44.2). Scale in cm.

absent at the Early Historic site of Tulamba but is found in Period III deposits (third–second century B.C.) at the Bhir mound at Taxila (Sharif 1969:fig. 17.7). It is not possible to know if the discrepancies are a result of cultural boundaries between these areas or inadequacies in site excavation and interpretation. In any event, the analysis by Allchin of the Bhir mound at Taxila redates most of the levels to earlier dates than were previously thought (Allchin 1995:130–131). Analysis of the unpublished diagnostic pottery from Wheeler's excavations at Charsada suggests that the type dates to the middle of the first millennium B.C. (see footnote 1 on page 45).

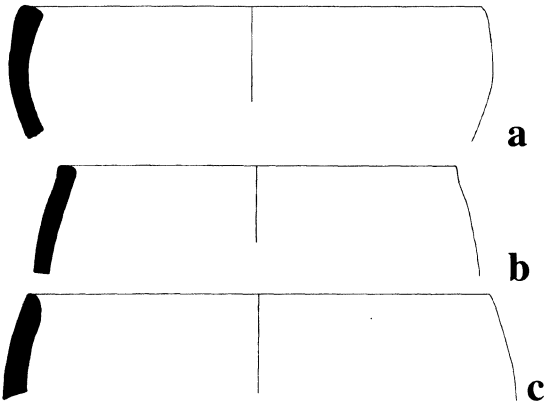
An unusual form (fig. 4.28) is a thickened ledge-rimmed bowl that finds few parallels in ceramic assemblages either in Iran or its borderlands. Although the bowl exhibits a general resemblance to ledge-rimmed bowls of the Achaemenid period, it is more likely a copy of stone bowls from the same era (see the discussion of



**Figure 4.25.** Platform period ceramic, bowl with nailhead rim. Book drawing (A. 73.44.2). Scale in cm.



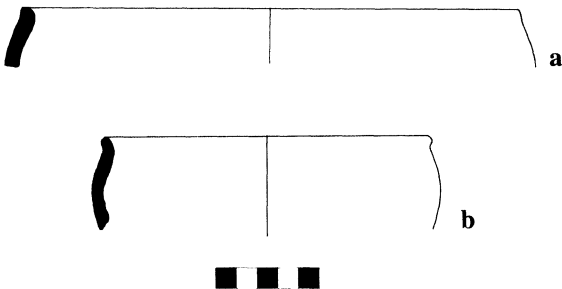
**Figure 4.26.** Platform period ceramic, bowl. Book drawing (A.73.44.2). Scale in cm.



**Figure 4.27.** Platform period ceramics, bowls with incurving flattened rims. a–c. book drawings (A.73.44.2). Scale in cm.



**Figure 4.28.** Platform period ceramic, thickened ledge-rimmed bowl. Book drawing (A.73.44.2). Scale in cm.



**Figure 4.29.** Platform period ceramics, bowls with slightly out-turned rims. a, b. book drawings (A.73.44.2). Scale in cm.



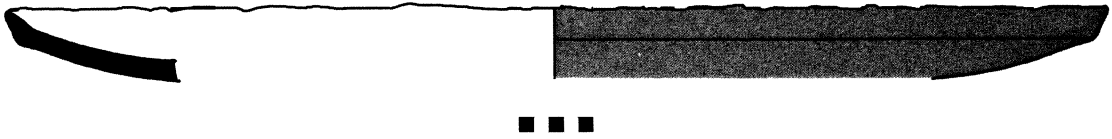
**Figure 4.30.** Platform period ceramic, tulip bowl. TY 272, fabric 2, light brown (A.73.44.3). Scale in cm.

ceramics in chapter 5). One of the examples illustrated by Gropp (1979:abb. 1) is a particularly close parallel, but it has a more pronounced foot.

Two examples of bowls with slightly out-turned rims are illustrated here (fig. 4.29). The form is too generic for any parallels to be meaningful. A more distinctive form is the tulip bowl seen in figure 4.30. Comparable examples are known throughout Iran dating to the Achaemenid period. For example, the form is found at Pasargadae (Stronach 1978:figs. 106.11–13), Tal-i Ghazir (Carter 1994:fig. 14.3), Fars (Sumner 1986:fig.

2.b [from Malyan]), and in the Bakhtiari Mountains (Zagarell 1982:fig. 8.1). In the north of Iran, examples are known from Hasanlu, although the sides of those bowls flare out more than the Tepe Yahya example (Dyson, in press b:fig. 7c). Examples are also found in the Zagros at Tureng Tepe IVB (Cleuziou 1985:fig. 18.2–4) dated to the Iron Age III period (ca. eighth and seventh centuries B.C.) (Cleuziou 1985:180–181). Cattenat and Gardin (1976:fig. 5) see the type as typical of the Achaemenid period in Iran.

Very good parallels for the tulip bowl form are found at Qala'at al-Bahrain in Period IVc–D (Højlund and Andersen 1994:fig. 459), which is dated to the Achaemenid period. The type is not commonly found in southeastern Arabia. There are a few examples with



**Figure 4.31.** Platform period ceramic, bowl with an offset-vertical rim decorated in BMSW style. TY 453, fabric 2, light brown (A.73.44.3). Scale in cm.

more sharply incurving walls from the site of Rafaq in Ras al-Khaimah (on display in the Ras al-Khaimah National Museum, U.A.E.) and from Hili 2 (Magee 1995:fig. 7.24). Both of these sites date from the Iron Age II to Iron Age III periods.

In Pakistan the tulip bowl is found at a number of late prehistoric to early historic sites. At Charsada, where it is described as an “abundant but not ungraceful drinking-bowl” (Wheeler 1962:40, fig 10.11), it is common from Layers 22 to 28. Wheeler suggests a date of the third and second centuries B.C. for these levels (Wheeler 1962:400); Dittmann raised this chronology to the fourth century B.C (Dittman 1984). The clearest stratigraphic evidence for the chronology of this type in Pakistan is derived from the Bannu Archaeological Project’s work at Akra in the North West Frontier Province. At the site many examples of similarly shaped vessels were found in deposits dated to before the Mauryan period in a part of the site that appeared to be abandoned before the Alexandrian conquest of that area (Khan et al. 2000). Given this range of evidence, it would seem that the appellation “Achaemenid bowl” used recently by Dusinberre (1999) is quite accurate.

A single example of a bowl with an offset-vertical rim decorated in BMSW style is recorded from the Platform period (fig. 4.31). Parallels in southern Iran are limited to one sherd from a site called Dō-Tulan in Fars. Stein reported on a brief sounding in 1936 in which graves, intrusive into prehistoric levels, were excavated (Stein 1937:218–221). In one of these graves a bowl with an offset-vertical rim was recovered (Stein 1937:pl. XXVII) alongside “several pieces of superior red-burnished ware” (Stein 1937:200). Stein suggested an early historic date for this material; this conclusion was reinforced nearly forty years later by Stronach’s excavation of two probably Achaemenid period burials at the site (Stronach 1978:figs. 105.7, 105.23). Parallels are also known from Period VA from Tureng Tepe in the north of Iran (Cleuziou 1985:fig. 18.8). This material is characterized by a highly burnished red to maroon slip. Period VA is dated to the Achaemenid period (Cleuziou 1985:183).

In contrast to the limited examples from Iran, bowls with offset-vertical rims are very common in the Iron

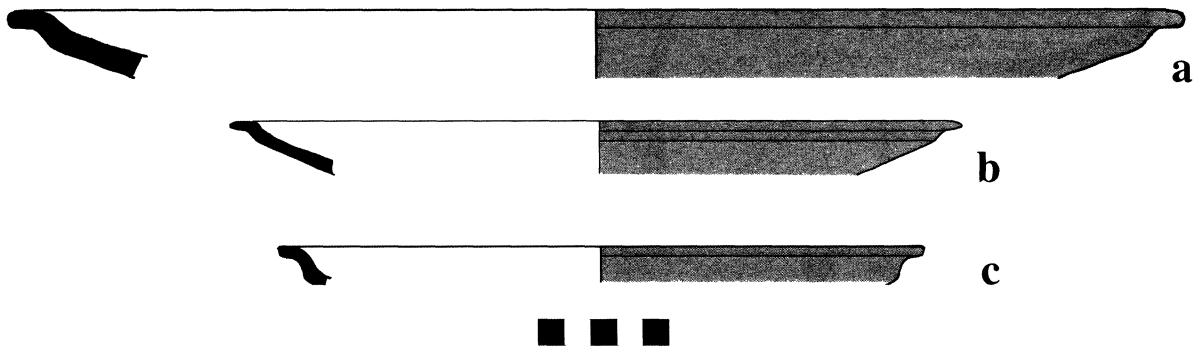
Age III period in southeastern Arabia and the Persian Gulf. Examples with a similar form of decoration in BMSW style are found at Rumeilah (Boucharlat and Lombard 1985:pls. 57–58), Tell Abraq (Magee 1995:fig. 4.9), and at Qala’at al-Bahrain (Højlund and Andersen 1994:1164–1165). To the east, similar forms are known from Mundigak (Vogelsang 1985:fig. 1) where examples are “slipped or self slipped mostly plain . . . generally smoothed especially on the upper part of the exterior” (Vogelsang 1985:65). Vogelsang attributes them to the Achaemenid period, although he notes that they might have an earlier origin. The earlier examples, however, are handmade as opposed to the fast wheelmade examples of the Achaemenid period (Vogelsang 1985:66).

At Kandahar bowls with offset-vertical rims are common at Site H, which is dated by McNicoll and Ball to the Achaemenid period (McNicoll and Ball 1996:figs. 192.14, 194.54). At Charsada examples are found in Layer 36b, which Wheeler dates from the fourth to third century B.C. (Wheeler 1962:fig. 16.58–59). These examples, which Dittmann convincingly redates to the early sixth century B.C. (Dittmann 1984:table 5), are less shallow than those found at Akra and may well be a variation of the collar-rim bowl that is purely indigenous in character. Bowls of this type are also known from Achaemenid period deposits at Akra in the North West Frontier Province, Pakistan (Khan et al. 2000:figs. 2d; 19e, f).

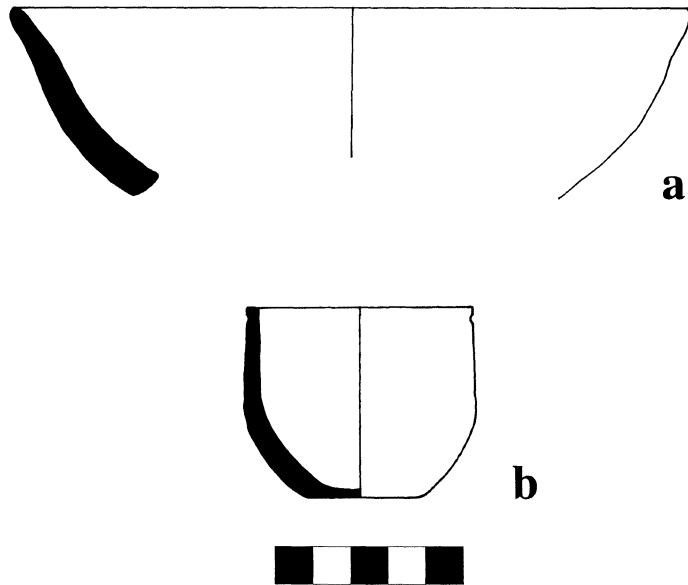
Other BMSW bowl forms are seen in figure 4.32. The carination on these examples is less pronounced than on others found elsewhere. Numerous parallels for this shape have been noted for the examples from Period III (see discussion above). There are also several sherds that cannot be classified according to the types discussed so far (fig. 4.33). These include a thick-walled bowl with a carinated and out-turned rim and a small bowl with an indentation below the rim.

### SMALL FINDS OF THE PLATFORM PERIOD

Amorphous pieces of bronze and iron were recorded from the Platform period. The indeterminate shape of the items precludes any discussion of parallels or comparisons.



**Figure 4.32.** Platform period ceramics, bowls. a. TY 451, fabric 2, light brown, BMSW (A.73.44.2); b. TY 456, fabric 2, light brown, BMSW (A.73.44.2); c. TY 458, fabric 2, light brown, BMSW (A.73.44.2). Scale in cm.



**Figure 4.33.** Platform period ceramics, bowls. a. bowl with carinated and out-turned rim; b. bowl with indentation below the rim. Book drawings (A.73.44.2). Scale in cm.

## Chapter 5

# The Artifactual Assemblage of the Intermediate Deposit and Period II

In this chapter, I will discuss the artifacts found in the Period II buildings and the deposit labeled “Intermediate.” This discussion will include ceramics and other artifacts, “small finds,” including iron, bronze, and soft-stone objects. The material from the Intermediate deposit was found in stratum 44 in Area A. This stratum overlay the mudbrick platforms but is earlier than the Period II village. It cannot be associated with contemporary architectural remains, but it may be the result of building in another part of the mound. The stratum is included here because it provides insights into shifts in material culture between these two important building episodes in the settlement.

### INTERMEDIATE DEPOSIT (A.73.44) CERAMICS

#### Necked Jars

Examples of necked jars found at Tepe Yahya include an unusual flaring neck and its possible base (fig. 5.1a). The shape recalls similarly shaped and decorated vessels from the mid-first millennium B.C. deposits at Charsada in Pakistan.<sup>1</sup>

#### Storage Jars

A distinctive form of storage jar is found in the Intermediate deposit (fig. 5.2). It is characterized by a smooth, sometimes shaved, exterior above a carination and a sandy, coarse finish below. It is known as a conical-cylindrical jar and has been found at numerous sites in Central Asia including Jaz Tepe, Erk Kala, Gjaur Kala, Ovlia Tepe, Patchmak Tepe, Boldaj Tepe, Kyzyl

Tepe, Kobadian, in Sogdiana, and in Khwarezm (Cattenat and Gardin 1976:230, figs. 3a–f). The appearance of these jars at Tepe Yahya coincides with their appearance in Afghanistan, Pakistan, and southeastern Arabia. They are, for example, known from Tulamba (Mughal 1967:fig. 18.19) and Nad-i Ali (Dales 1977: Type F13). In southeastern Arabia examples have been reported from Tell Abraç (Magee and Carter 1999:fig. 9.14), al-Thuqaibah (unpublished, in the collections of Sharjah Archaeological Museum), Kalba 4 (Magee and Carter 1999:fig. 9.15), and Sohar 11 (Humphries 1974:fig. 12.J).

#### Platter

Platters like the one recovered at Tepe Yahya (fig. 5.3) are not uncommon in Pakistan in the late Iron Age at Tulamba (Mughal 1967:fig. 19.1).

#### Bowls

Several examples of ledge-rim bowls decorated in BMSW style are recorded from the Intermediate deposit (fig. 5.4). In each case the rim that protrudes outward is quite thin. These examples bear a strong resemblance to a form that is common throughout Iran and its borderlands in the late Iron Age/Achaemenid period. It is common at Nad-i Ali in Seistan where it was recovered from Achaemenid period deposits in the two major campaigns of excavation at this site by Ghirshman (1939) and Dales (Dales 1977:97, Type F2). Nearby, in Persian Seistan (Scerrato 1966:fig. 58), it is found at Dahan-i Ghulaman. It also occurs in western Iran at Godin Tepe, where examples described as “Plain Buff Ware. Burnished” were recovered in Period II deposits (Young and Levine 1974:fig. 46.4, 6), and in Baba Jan I; both examples were dated from the sixth to the fifth century B.C. (Goff 1978:5). An example described as “Red-brown slip, burnished” came from Schmidt’s excavations at Persepolis (Schmidt 1957:pl. 74.8). The type is recognized by

1. The author had the opportunity to examine some of the unpublished material from Charsada in Lahore Fort in 2000. My thanks are due to the officers of Lahore Museum for their kind assistance and to Professor Farid Khan for arranging the visit.

Cattenat and Gardin (1976:fig. 6) as a *leitfossil* for the Achaemenid horizon in Central Asia. Examples have been found at Qala'at al-Bahrain, Period IVd (Højlund and Andersen 1994:224, figs. 1110–1111), where they are described as “reddish ware with a thick red burnished slip” and are dated to the Achaemenid period. Several bowls with carinated rims are also decorated in BMSW style (fig. 5.5). These are a slightly coarser form of the same type found in Period III (cf. fig. 4.10).

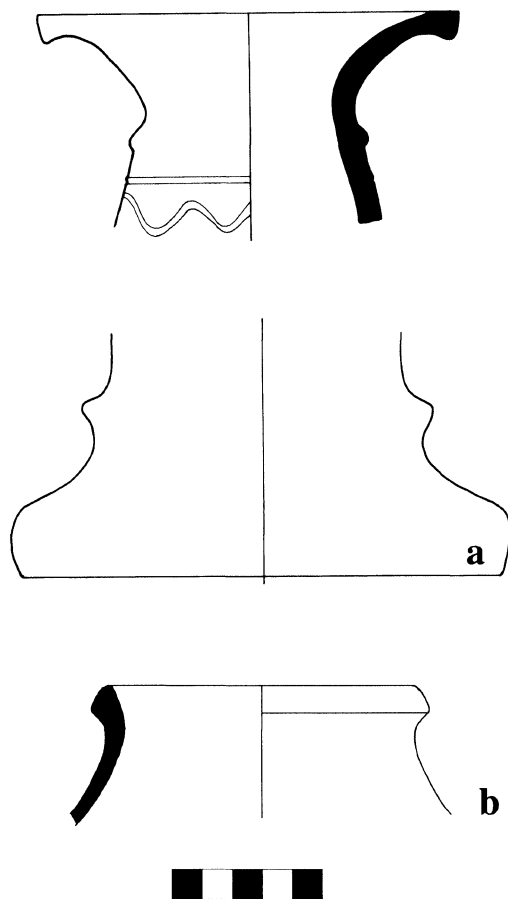
A simpler bowl form is seen in figure 5.6. This is the same type found in Period III (cf. fig. 4.6) for which the strongest parallels can be found in southeastern Arabia in the Iron Age II and III periods.

### INTERMEDIATE DEPOSIT SMALL FINDS

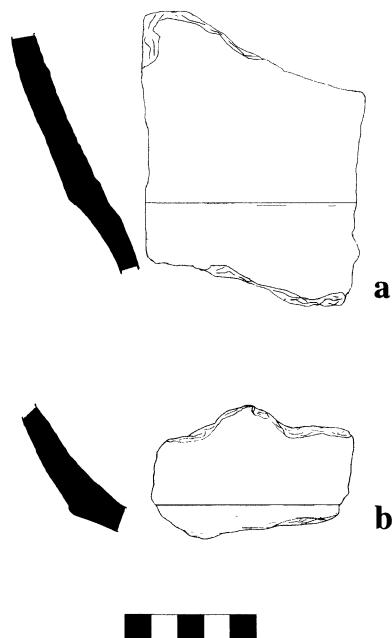
Fragments of iron, bronze, and soft stone and a carnelian bead were recorded in the Intermediate deposit. Of particular interest is a nearly complete stone vessel (fig. 5.7). The vessel is pedestaled and exhibits a distinct carinated body and ledge rim. To my knowledge, the find is unique in southeastern Iran and adjacent regions to the east and west. Such vessels are, however, common at the Achaemenid capital at Persepolis. Schmidt (1957: 80–83) discusses numerous examples from the Treasury, many of which carry inscriptions of Xerxes. The rim and foot of the Tepe Yahya example are paralleled separately on several examples from the Treasury (Schmidt 1957:pls. 52.1, 52.2c, 59.4). Some of these examples are inscribed. A sizable portion of the Tepe Yahya rim is missing in the area that is often inscribed on other examples, but there can be no doubt that the Tepe Yahya example is the same type as those found at Persepolis. As discussed below, this is of some importance for understanding the chronology of the Period II village, particularly in light of the fact that such vessels appear to belong to a restricted phase of the Achaemenid period.

### PERIOD II CERAMICS

The following discussion presents the Period II material from the Area A/AN1/AN2 sequence. While Area B could be stratigraphically divided into Periods IIA and IIB, it was not always possible to assign an individual sherd to either of these subdivisions. For this reason, where sherds can be assigned to either of the subdivisions, it is only noted in the figure captions.



**Figure 5.1.** Intermediate deposit ceramics. a. book drawing (1973.A.73.44); b. TY 466, fabric 2, light brown (1973.A.73.44). Scale in cm.



**Figure 5.2.** Intermediate deposit ceramics. a. TY 228, fabric 3, brown (A.73.44); b. TY 229, fabric 3, brown (A.73.44). Scale in cm.

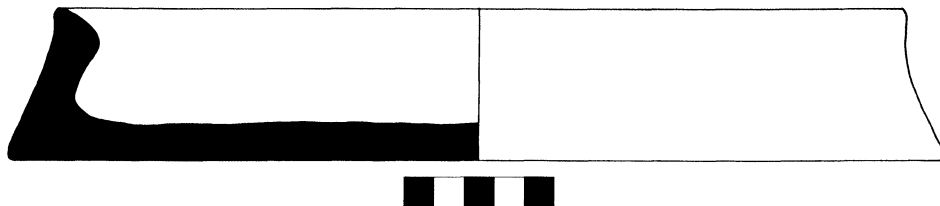


Figure 5.3. Intermediate deposit ceramic, platter. TY 118, book drawing (A.73.44). Scale in cm.



Figure 5.4. Intermediate deposit ceramics, ledge-rim bowls. a. TY 452, fabric 2, brown maroon slipped ware (BMSW) (A.73.44); b. TY 450, fabric 2, BMSW (A.73.44). Scale in cm.

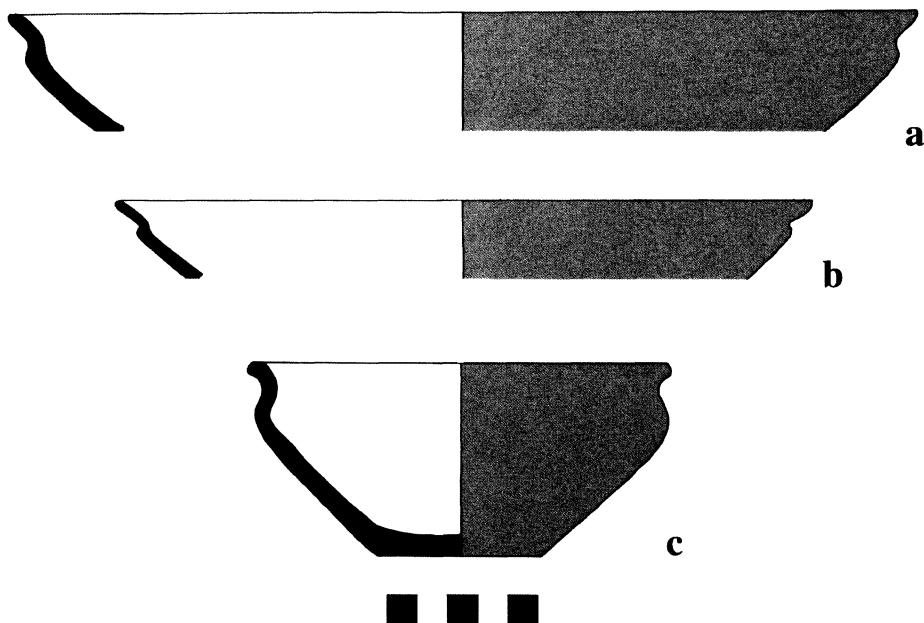


Figure 5.5. Intermediate deposit ceramics, ledge-rim bowls. a–c. book drawings, BMSW (A.73.44). Scale in cm.

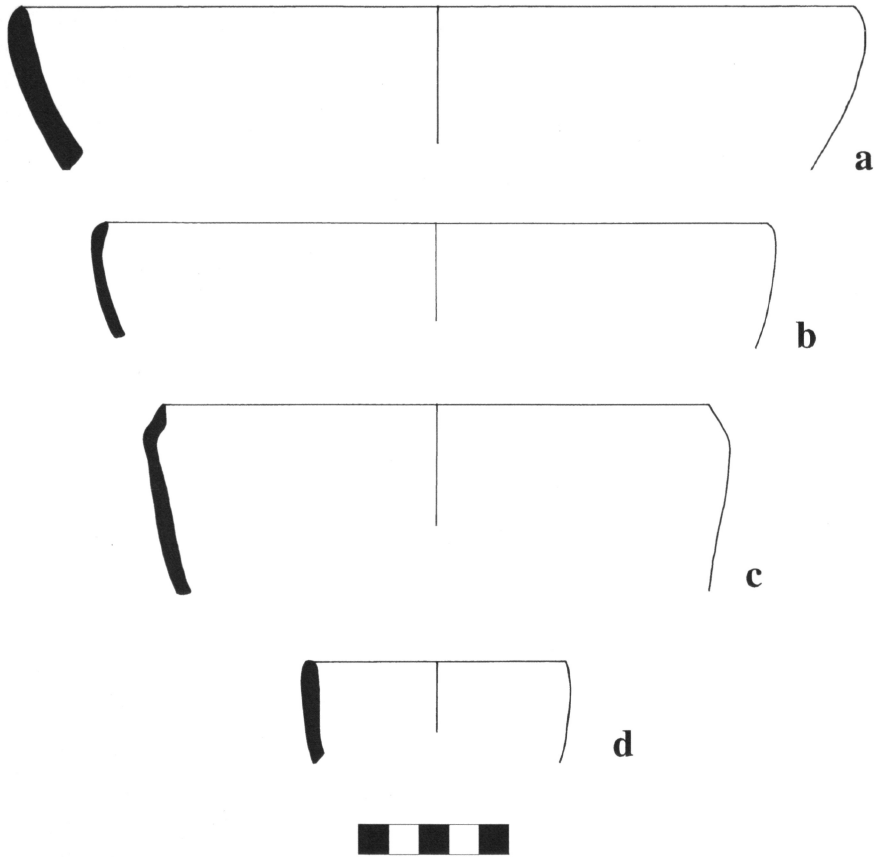
### Decorated Ceramics

The painted ceramics from Period II are illustrated in figures 5.8 to 5.16. Sherds classified as red-on-white ware, orange-on-buff ware, bichrome ware, and black-on-orange ware were identified, as was a sherd decorated in a unique bichrome fashion. Sherds decorated

with incised cordons were also identified. Each of these painted ceramics is discussed here in turn.

Red-on-white ware (fig. 5.8) was found in a range of shapes, including large bowls and closed storage forms. Decorative motifs vary, but wavy lines and hatched triangles are common. Although generic parallels can be made to Achaemenid period triangle ware from northern Iran

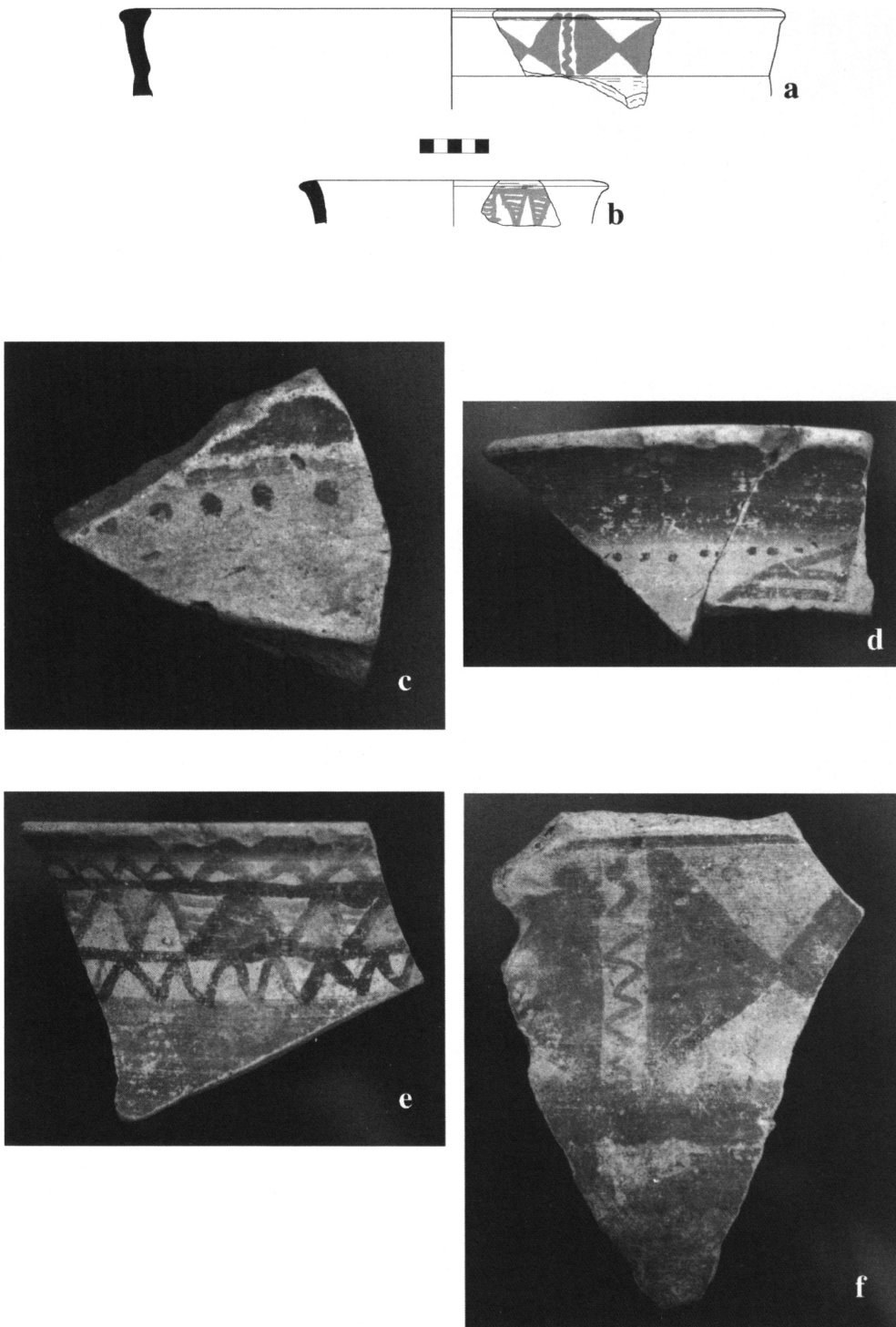




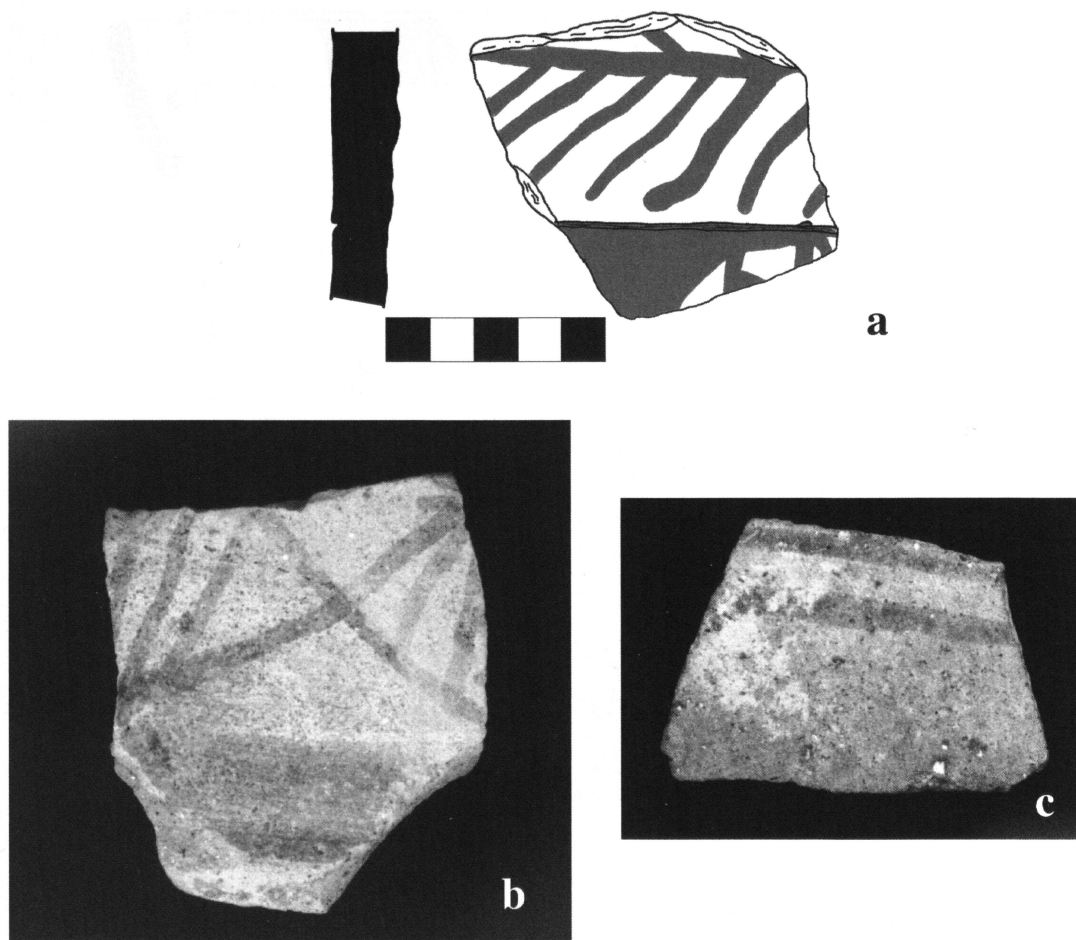
**Figure 5.6.** Intermediate deposit ceramics, ledge-rim bowls. a–d. book drawings (A.73.44). Scale in cm.



**Figure 5.7.** Intermediate deposit small find, pedestaled stone vessel with carinated body and ledge rim. SF 829, soft stone (AN2.73.26). Scale in cm.



**Figure 5.8.** Period II ceramics, red-on-white ware. a. TY 180, fabric 2, tan-brown (A.71.23); b. TY 66, fabric 2, brown (A.71.7); c. TY 176, fabric 2, brown (A.71.26); d. TY 37, fabric 2, brown (A.71.26); e. TY 436, fabric 1, light brown (A.71.8); f. TY 440, fabric 1, light brown (A.71.7). Scale in cm pertains to drawings.



**Figure 5.9.** Period II ceramics, orange-on-buff ware. a. TY 155, fabric 2, orange-buff (A.71.23.6); b. TY 159, fabric 2, orange-buff (A.71.23); c. TY 161, fabric 1, buff (A.71.23). Scale in cm pertains to drawing.

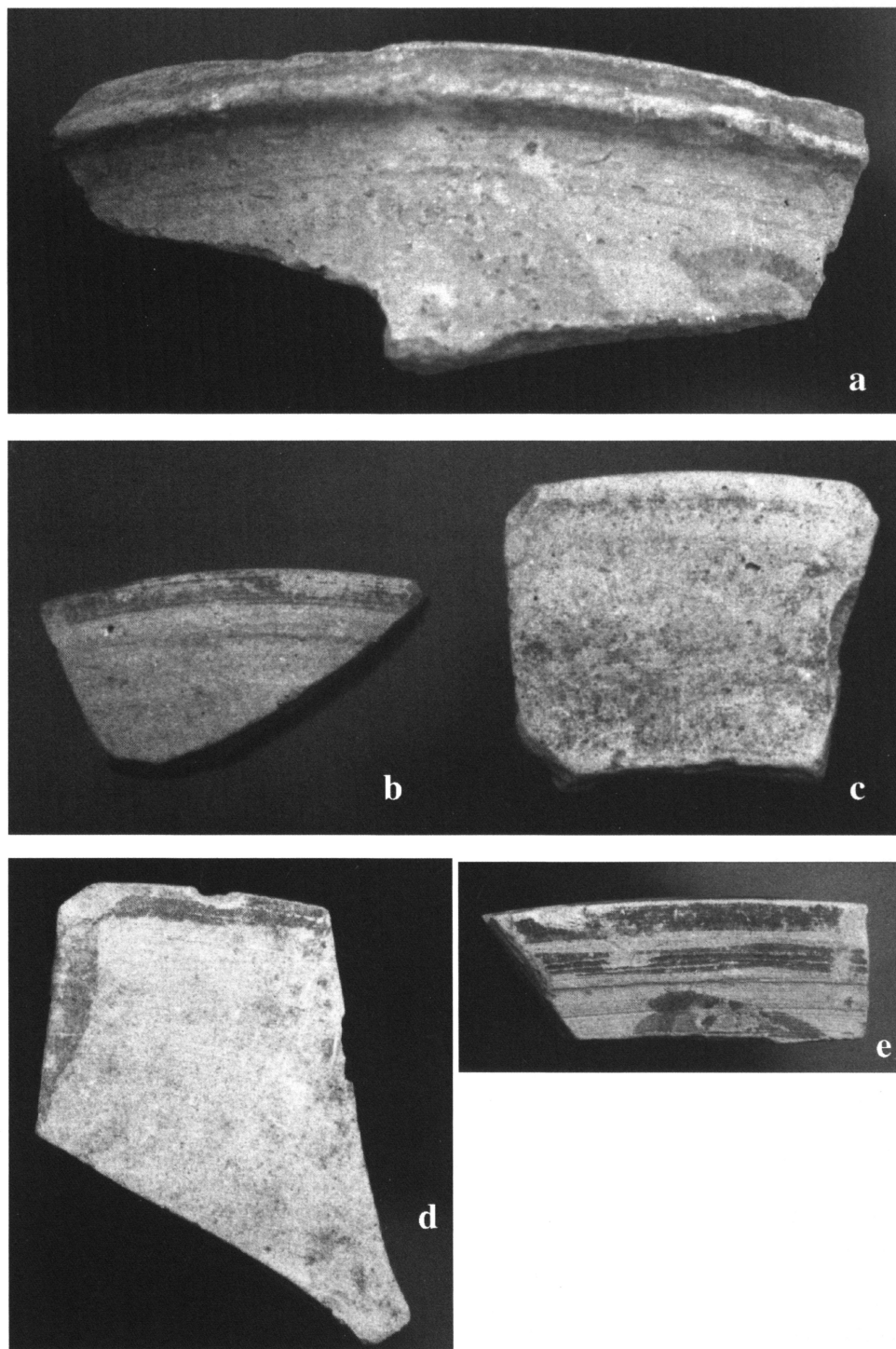
(Dyson, in press a, b) the decorative motifs that occur on this ware at Tepe Yahya do not occur with the same consistency and patterning as the Hasanlu examples.

Orange-on-buff ware (fig. 5.9) consists of orange decoration on a buff, undecorated ground. The two well-preserved examples from Tepe Yahya suggest that these vessels were decorated with loosely drawn geometric lines and diagonal stripes.

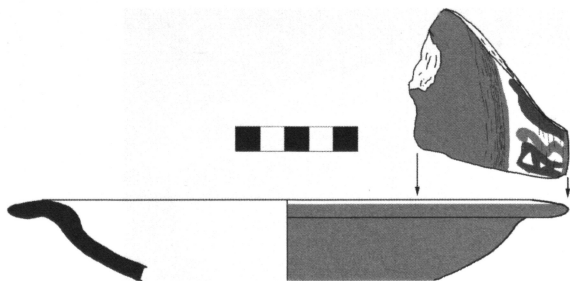
Several sherds of a bichrome ware were also recorded from Period II levels (figs. 5.10, 5.22a). No complete vessels were found, but most of the rims appear to belong to large open vats or bowls. Several of the decorative elements that occur in bichrome ware are shared with red-on-white ware, including hatched triangles and rows of dots. Also decorated in a bichrome fashion is a BMSW sherd of a small bowl (fig. 5.11). It is decorated with wavy red and black lines on the upper face of the unslipped rim.

Two examples of black-on-orange ware (fig. 5.12) were recorded from Period II levels. The decoration is in black to brown paint. One example is decorated with wavy lines (fig. 5.12a), and the other is decorated with multiple-line triangles (fig. 5.12b). No parallels are known for either sherd.

A single painted sherd (fig. 5.13) was decorated in a unique bichrome fashion that is much more complex than the decoration found on other bichrome sherds. Parallels for this piece can be found in Period IIIc at Pirak (Jarrige, Santoni, and Enault 1979:fig. 77.422) and at the sites of Malazai and Sulaimanzai in Baluchistan (de Cardi 1983:fig. 8.2, 13). The sherds from Malazai and Sulaimanzai were collected on survey by de Cardi, and she dated Sulaimanzai to the mid-second millennium B.C. on the basis of comparisons to Pirak IB (de Cardi 1983:17). De Cardi dated Malazai from the early third millennium B.C. onward (de Cardi 1983:19). There are also parallels from Hasanlu IIIA where Dyson has



**Figure 5.10.** Period II ceramics, bichrome ware (scale not available). a. TY 438, fabric 1, light brown (A.71.23); b. TY 182, fabric 1, brown (A.71.23); c. TY 183, fabric 1, brown (A.71.23); d. TY 285, fabric 1, brown (A.71.37); e. TY 154, fabric 1, orange (A.71.23.6).



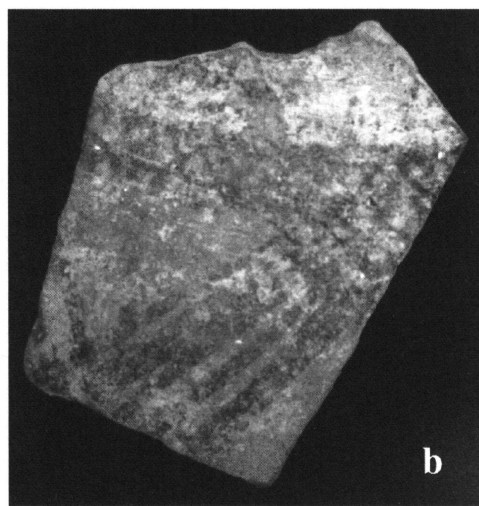
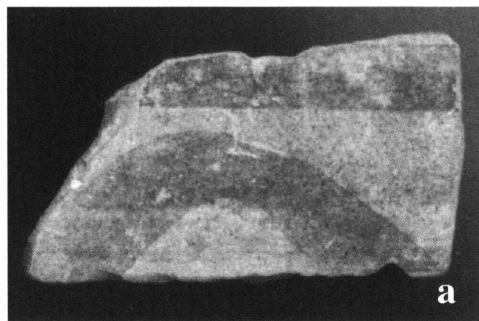
**Figure 5.11.** Period II ceramics, brown maroon slipped ware (BMSW) sherd decorated in a bichrome fashion. TY 133, fabric 1, buff-orange, BMSW and painted (A.71.12). Scale in cm.



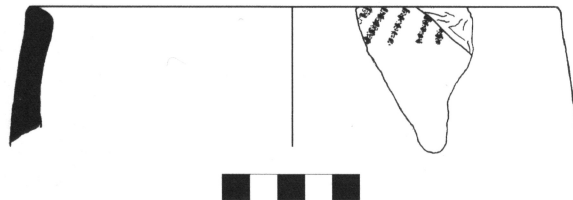
**Figure 5.13.** Period II ceramic, bichrome decoration. TY 292, fabric 2, brown (AN2.73.26). Scale in cm.

described bichrome painted ware. Some of these sherds contain the same pattern of triangles (or lozenges) decorated with alternating patterns of dark paint, light paint, and no paint (Dyson, in press b:fig. 5a–c).

In addition to a single example of an incised bowl (fig. 5.14), four sherds decorated with incised cordons are known from Period II (fig. 5.15, 85a). They are made in a variety of wares and, judging by the most complete example (fig. 5.27a), appear to be from large storage jars. Parallels for this form of decoration are provided in the discussion of Period III ceramics (on page 29 of chapter 4). Sherds with swirling cordons were also found in Period II (fig. 5.16). One sherd (fig. 5.15d) contains both undecorated cordons and a cordon decorated with incised dots. This form of decoration is paralleled in late prehistoric assemblages in Baluchistan, specifically at the sites of Durrah-i Bust and Kasu Nilag (Besenval and Sanlaville 1990:fig. t). The date of the Baluchistan material is open to question, but the soundings at Miri Qalat suggest that the Durrah-i Bust assemblage postdates the Harappan horizon

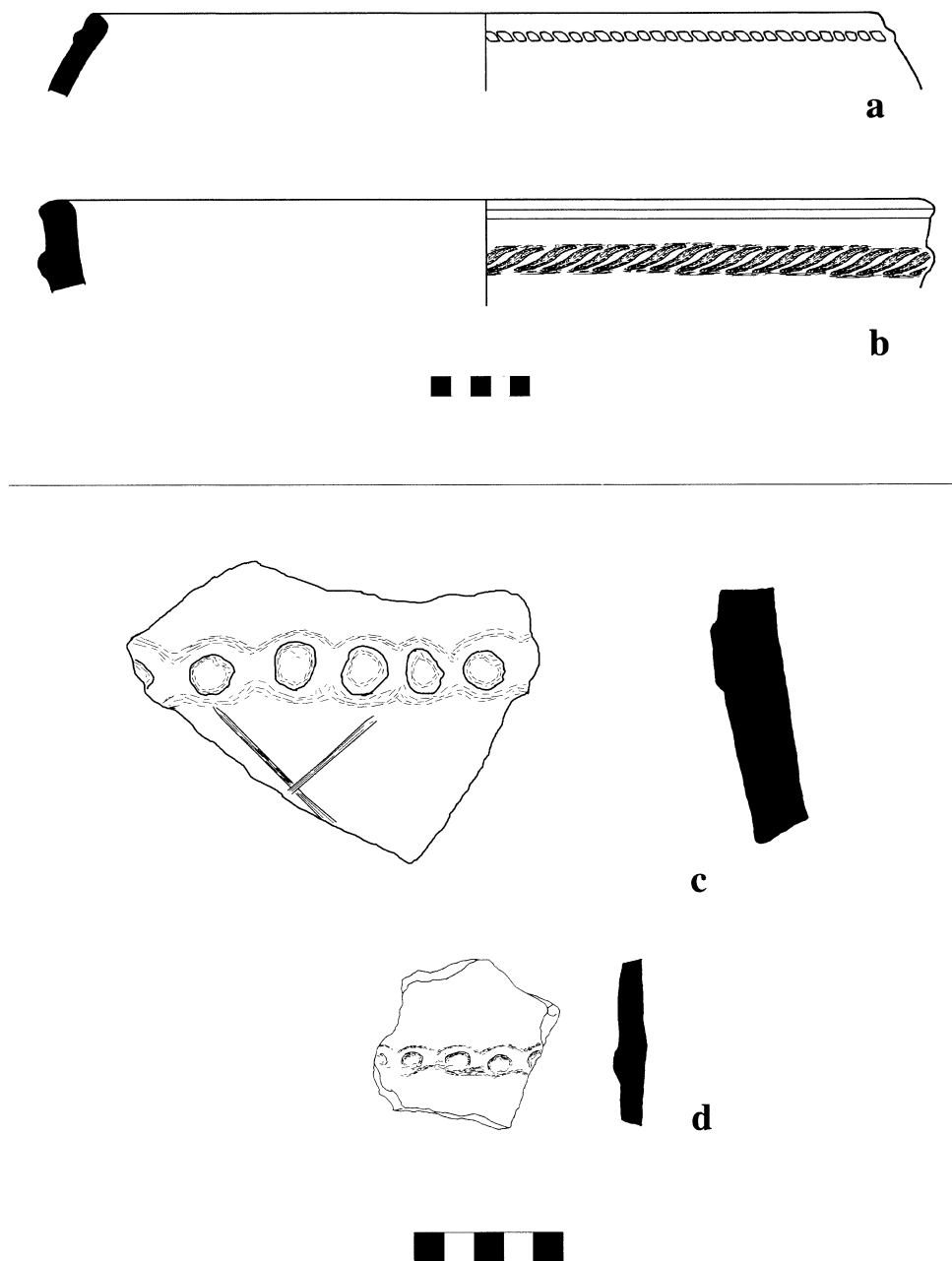


**Figure 5.12.** Period II ceramics, black-on-orange ware (scale not available). a. TY 432, fabric 2, light brown (A.71.21); b. TY 324, fabric 1, orange (AN2.73.9).



**Figure 5.14.** Period II ceramic, incised bowl. TY 333, fabric 1, orange-red (AN2.73.16). Scale in cm.

but predates Seleuco-Parthian material (Besenval and Sanlaville 1990:123). Similarly decorated sherds were found at a number of other sites in Baluchistan surveyed by Fairservis (1971) and, more recently, by Franke-Vogt (2001). As Franke-Vogt notes in reference to the chronology of these finds, “a more precise proposal than from the later first millennium B.C. to the first few centuries of the first millennium A.D. is not yet possible” (Franke-Vogt 2001:270).



**Figure 5.15.** Period II ceramics, sherds with incised cordons. a. TY 308, fabric 4, orange (AN1.71.10.4); b. TY 132, fabric 5, red (A.71.14.2); c. TY 158, fabric 3, orange (A.71.22); d. TY 116, fabric 5, red (A.71.12). Scales in cm.

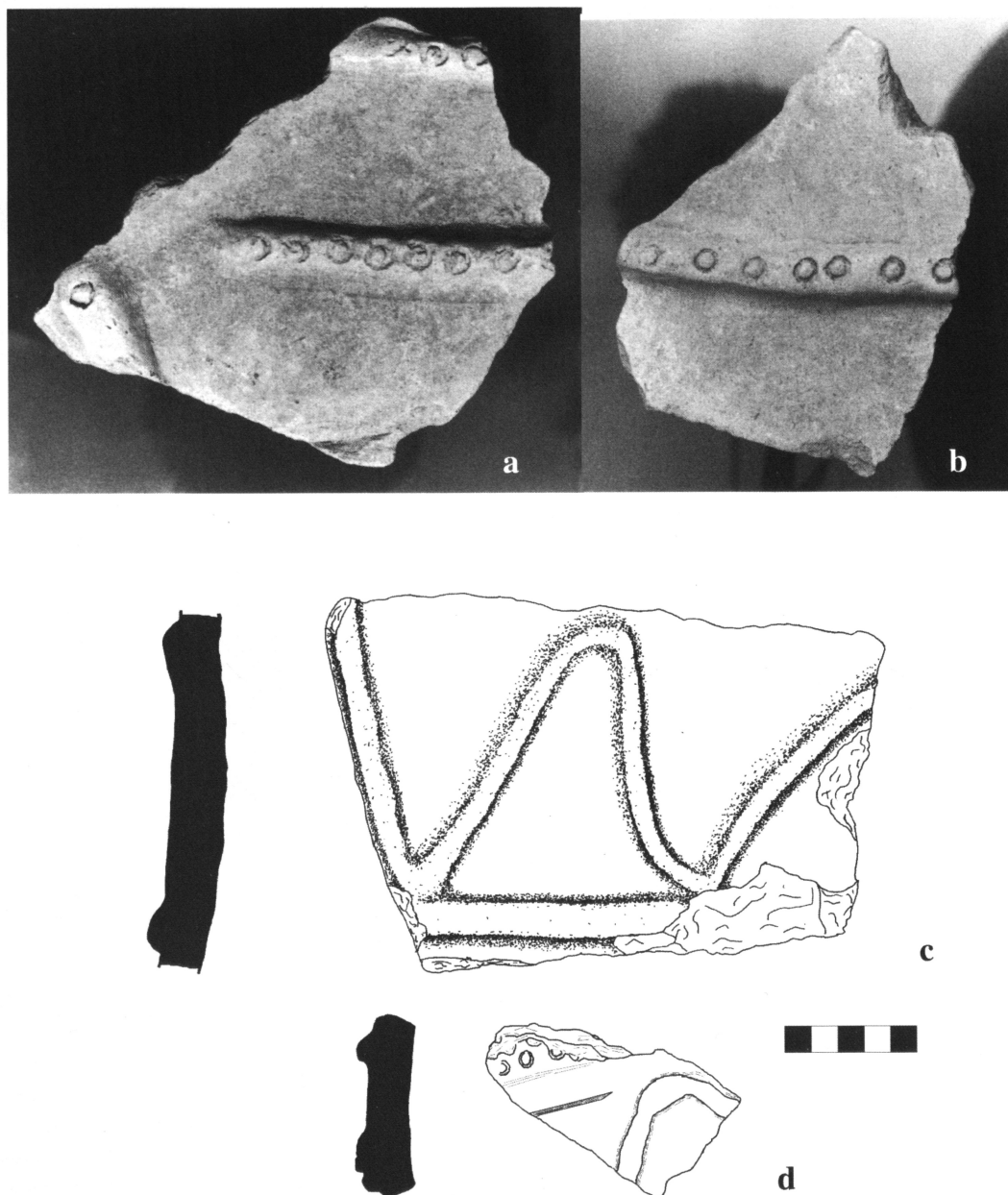
### Necked Jars

Several different types of necked jars were found in the Period II deposits (figs. 5.17–5.22). Most of these are also found in earlier deposits at Tepe Yahya. A new form in Period II is the necked jar with molded rim (figs. 5.21, 5.22).

### Storage Jars

Several different forms of storage jars were found in the Period II deposits (figs. 5.23–5.28). Most of these are also found in earlier Iron Age deposits at the site. A new form, however, is a small holemouth jar (fig. 5.28). This type is paralleled in southeastern Arabia in the Iron Age III period. From Rumeilah, Benoist (1991) identified it as a shape distinctive to Period II (Iron Age III) deposits at that site.





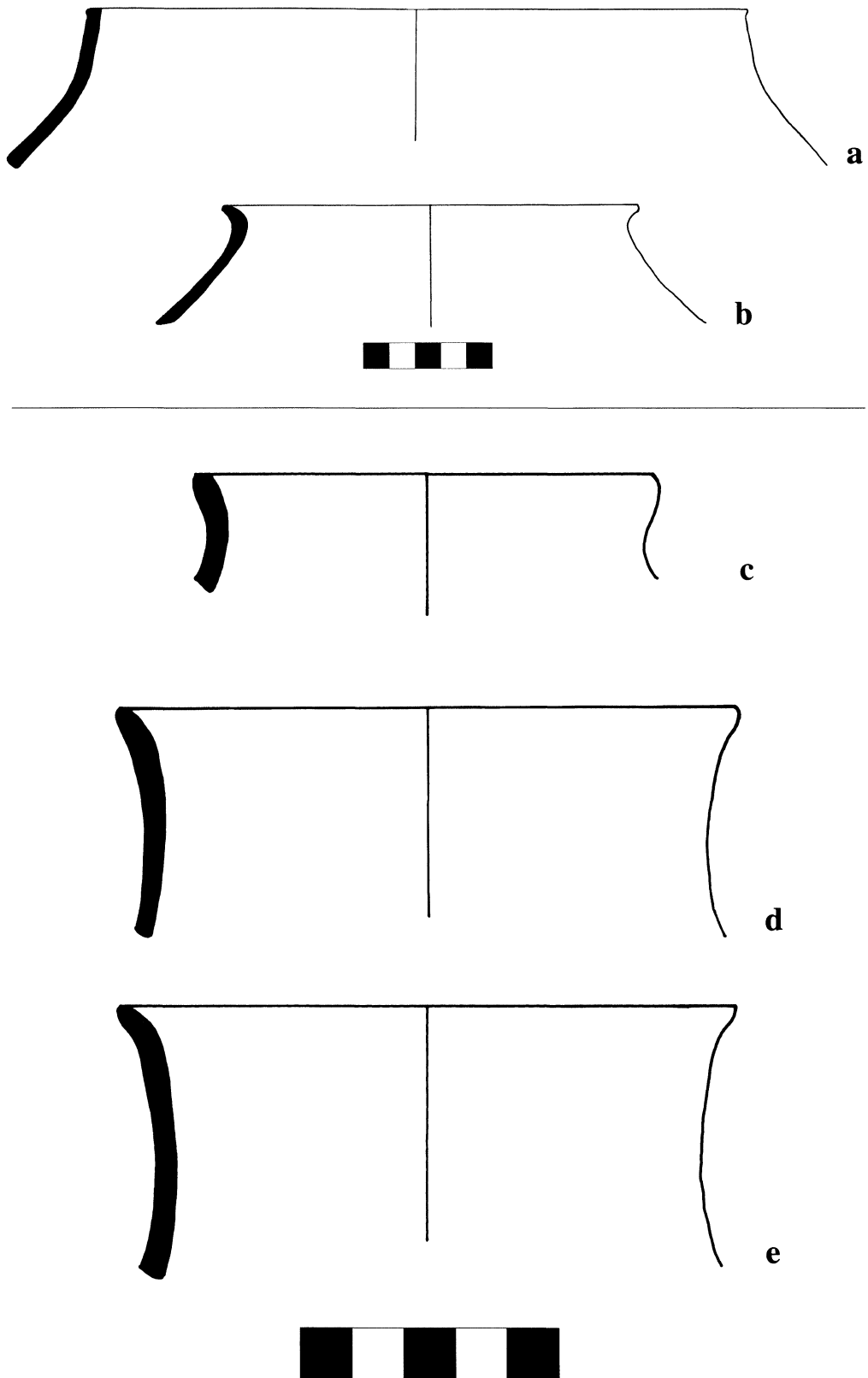
**Figure 5.16.** Period II ceramics, sherds with swirling cordons. a. TY 307, fabric 8, buff (AN1.71.9); b. TY 141, fabric 8, buff (A.71.21); c. TY 131, fabric 8, buff (A.71.14); d. TY 216, fabric 2, buff (A.71.15). Scale in cm pertains to line drawings only.

### Conical-Cylindrical Storage Jars

Several examples of this conical-cylindrical storage jar were recorded from Period II (fig. 5.29). They all contain the characteristic carination with a sandy exterior below the rim. The three examples show evidence for slab construction of the rim, as there is some fracturing along the slab lines. Parallels for this form are presented on page 45.

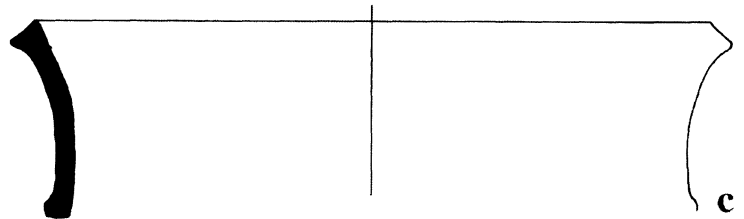
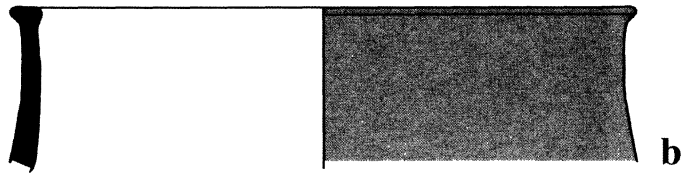
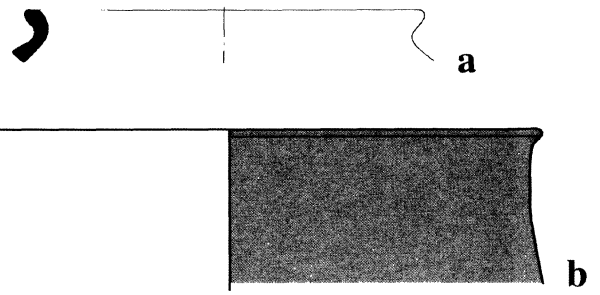
### Distillation Condenser and Tube

Two sherds interpreted as a distillation condenser and tube are illustrated in figure 5.30. These two sherds are treated together here because they are considered to be from the same functional set. The vessel contains a small lipped spout that measures just 2.5 cm in diameter. There are no other openings in the vessel. An unusual feature of the vessel is a pronounced protrusion near the pointed

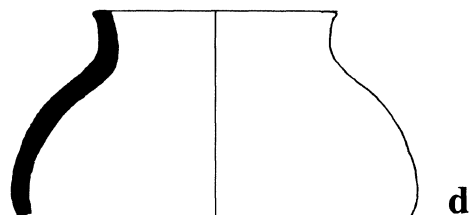
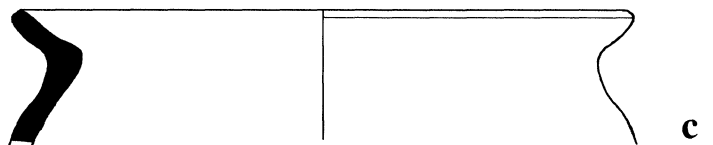
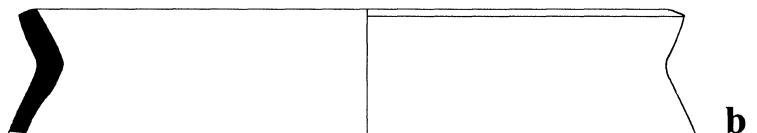
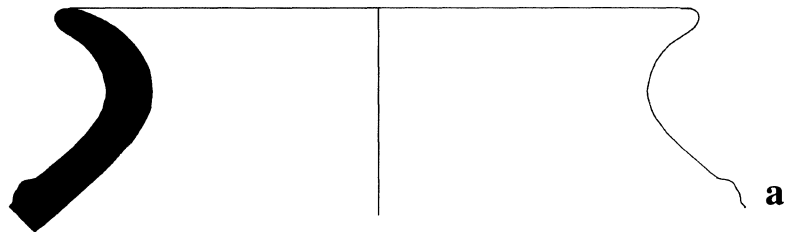


**Figure 5.17.** Period II ceramics, necked jars. a. TY 445, fabric 1, buff, slipped red inside and out (A.71.7); b–e. book drawings, Period II. Scales in cm.



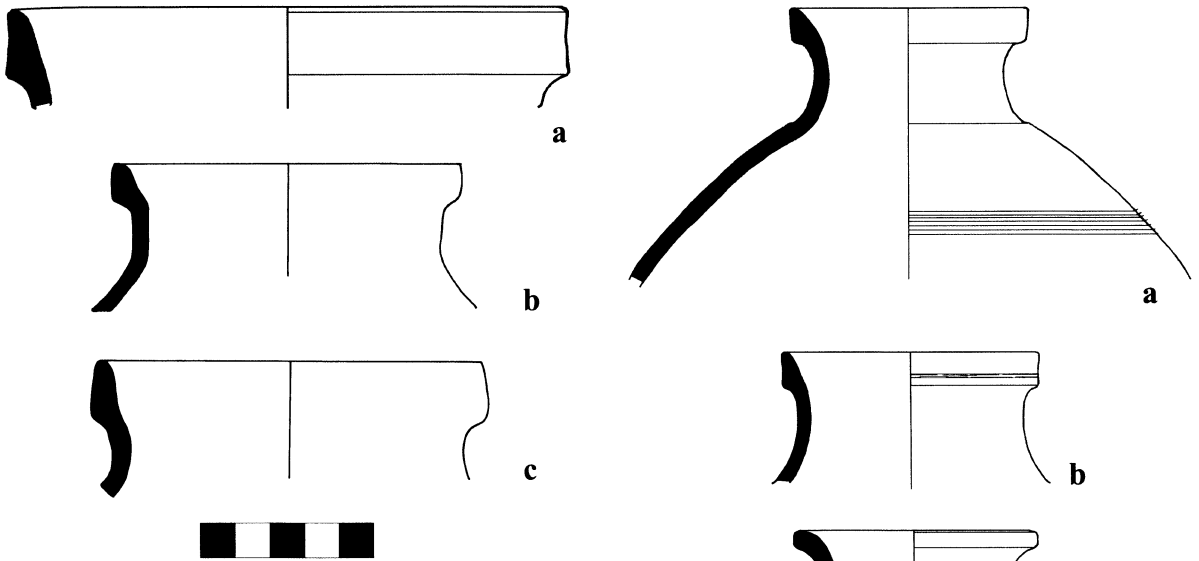


**Figure 5.18.** Period II ceramics, necked jars. a. book drawing; b. TY 433, fabric 2, red, slipped red inside and out (A.71.9.1); c. book drawing, Period II. Scale in cm.

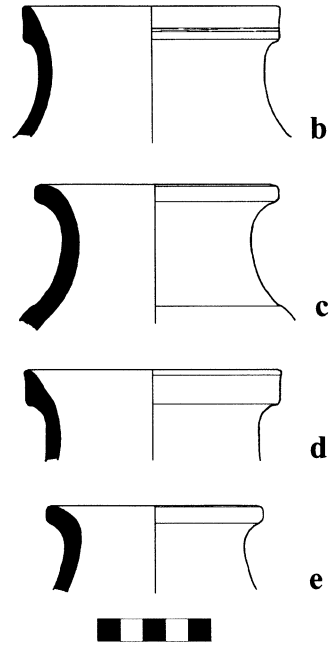


**Figure 5.19.** Period II ceramics, necked jars. a. TY 393, fabric 6, brown, Period IIA (B.68.T2.3); b. TY 380, fabric 6, grey black, Period IIA (B.68.T1.3); c. TY 356, fabric 6, brown, Period IIA (B.68.T1.9); d. TY 375, fabric 6, brown, Period IIA (B.68.T1.5). Scale in cm.

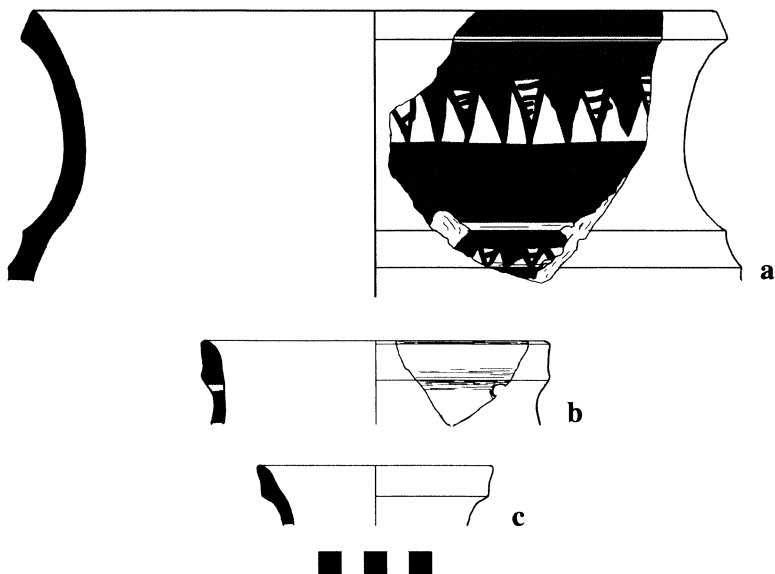




**Figure 5.20.** Period II ceramics, necked jars. a. TY 82, fabric 7, grey (A.71.7.1); b. book drawing, Period II; c. book drawing, Period II. Scale in cm.



**Figure 5.21.** Period II ceramics, necked jars with molded rims. a. TY 425, fabric 2, buff, Period IIB (B.68.10); b. TY 368, fabric 1, buff, Period IIB (B.68.T1.10); c. TY 412, fabric 6, grey, Period IIB (B.68.10); d. TY 360, fabric 2, light brown, Period IIA (B.68.T1.9); e. TY 409, fabric 2, light brown, Period IIB (B.68.10). Scale in cm.



**Figure 5.22.** Period II ceramics, necked jars with molded rims. a. TY 423, fabric 1, light brown, Period IIB (B.68.T2.5); b. TY 360, fabric 2, light brown, Period IIA (B.68.T1.9); c. TY 383, fabric 1, grey, Period IIA (B.68.T1.9). Scale in cm.

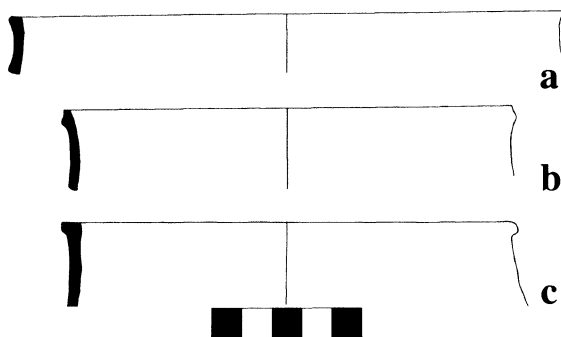


Figure 5.23. Period II ceramics, storage jars. a–c. book drawings (no additional information available). Scale in cm.

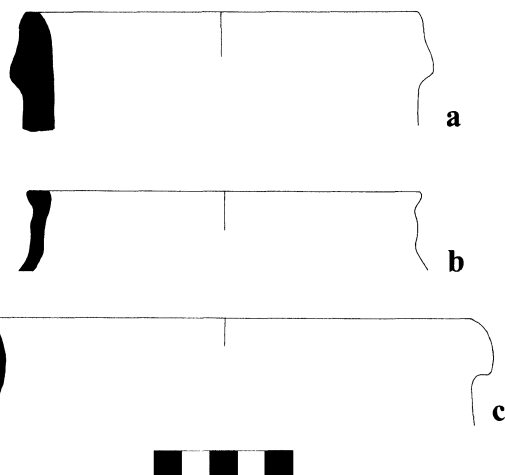


Figure 5.24. Period II ceramics, storage jars. a–c. book drawings (no additional information available). Scale in cm.



Figure 5.25. Period II ceramics, storage jars. a, b. book drawings (no additional information available). Scale in cm.

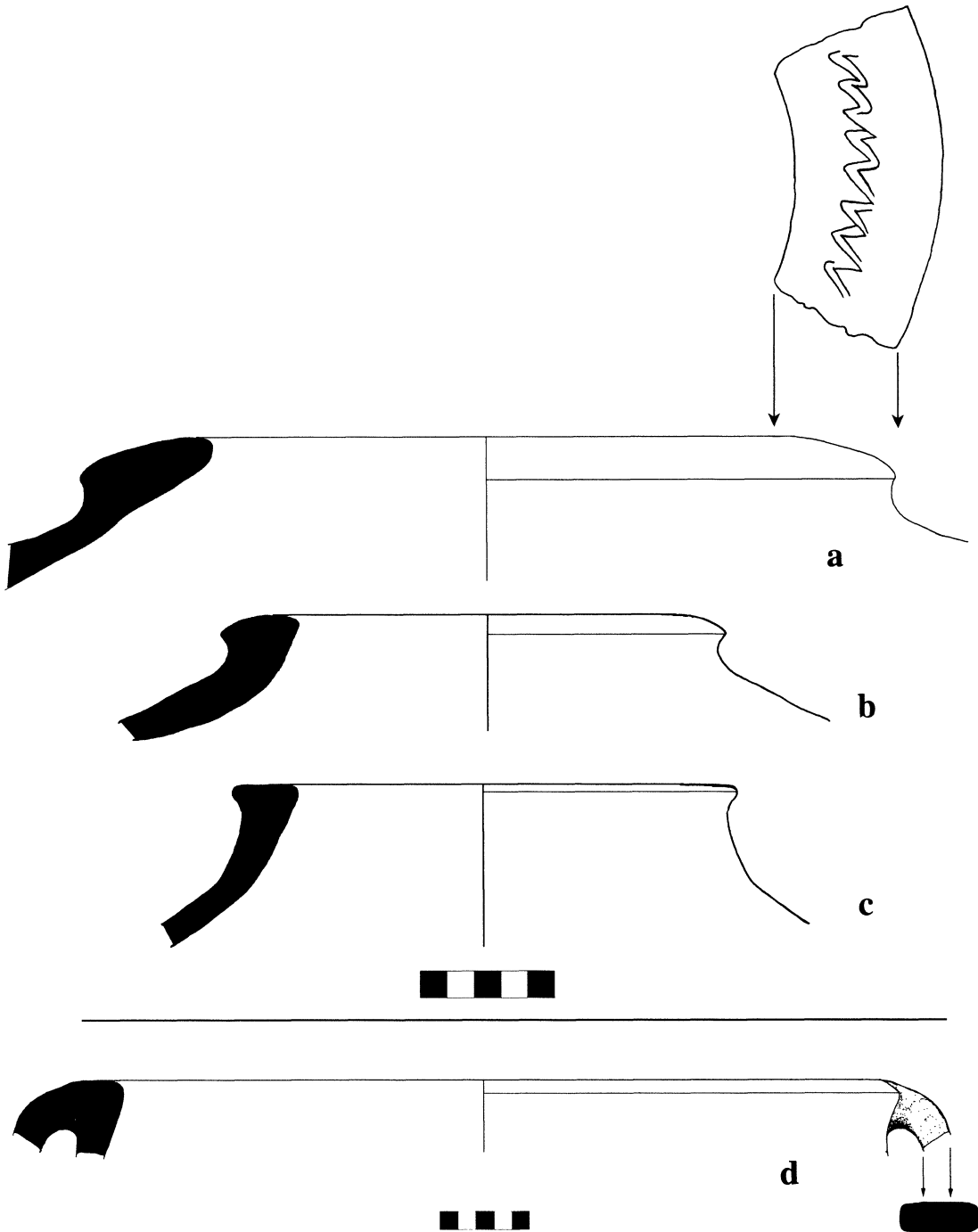
base. The most likely interpretation of this is that it is a condenser in a distillation installation. Exact parallels for this sort of vessel have been described by Allchin (1979), who details their occurrence at the post-Iron Age site of Shaikhan Deri near Charsada in the North West Frontier Province, Pakistan (fig. 5.31). Allchin notes that examples have also been found at Taxila (Sirkap), Rang Mughal, Charsada, Tulamba, and Damkot (Allchin 1979:770–771, 793–794). These condensers were used to receive the vapors from the heating vessel. The placement of the vessel in cold water caused the distilled vapor to condense into liquid. An interesting feature of the Tepe Yahya example is the presence of the protrusion mentioned above. Those illustrated by Allchin (1979:fig. 8) also contain this feature but are not as pronounced as in the Tepe Yahya example. In all likelihood this was used to hold the vessel on the lip of the cooling pot. The probable companion piece to this condenser is the tube seen in figure 5.30b. Such tubes were found in association with condensers at Shaikhan Deri (fig. 5.31) and

were used to transport the evaporated liquid from the heating vessel to the condenser. The Pakistani examples cited by Allchin all date to after the Iron Age, with the earliest dating from the third century B.C., and she comments that these are the earliest known such vessels in the subcontinent. It is worth noting, however, that similarly shaped tubular vessels are also known from Mundigak in Afghanistan (Casal 1961:fig. 130.1) from the late second and early first millennium B.C.

There is a remarkable degree of standardization in the size of the known examples of condensers. Using the formula and ratios set forth by Allchin (1979:772) it is possible to gain some idea of the capacity of the Tepe Yahya example in comparison to those examples known from Pakistan (table 5.1, fig. 5.32).

### Cooking Vessels

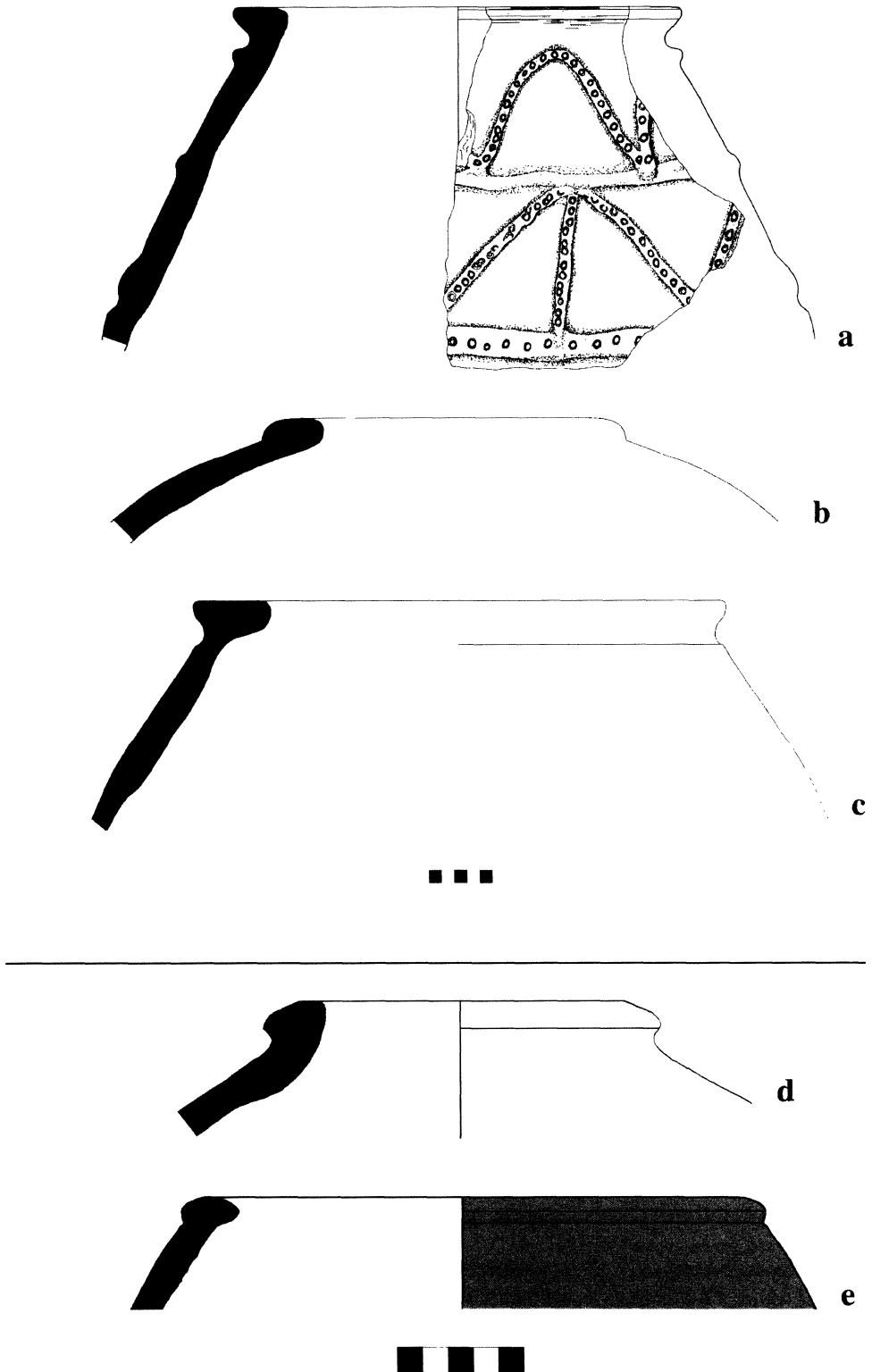
Period II at Tepe Yahya saw a noticeable increase in the quantity of cooking vessels with twenty-six examples



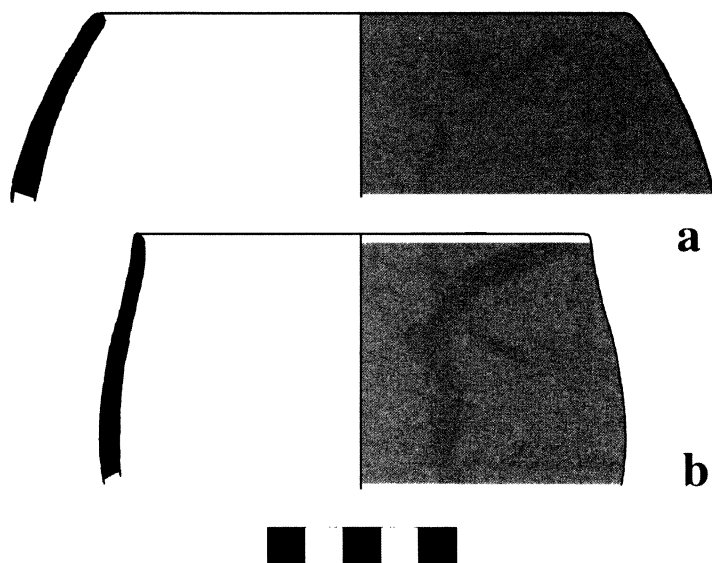
**Figure 5.26.** Period II ceramics, storage jars. a. TY 414, fabric 3, grey, Period IIB (B.68.9-10); b. TY 347, fabric 4, red-brown, Period IIA (B.68.T2.6); c. TY 348, fabric 4, red-brown, slipped white inside and out, Period IIA (B.68.T2.8); d. TY 346, fabric 4, red-brown, Period IIA (B.68.6). Scales in cm.

recorded (most of these were too friable to be drawn). All of the examples are made in a very coarse mica-tempered ware that is commonly blackened on the exterior. Two basic shapes are evident. One type contains a

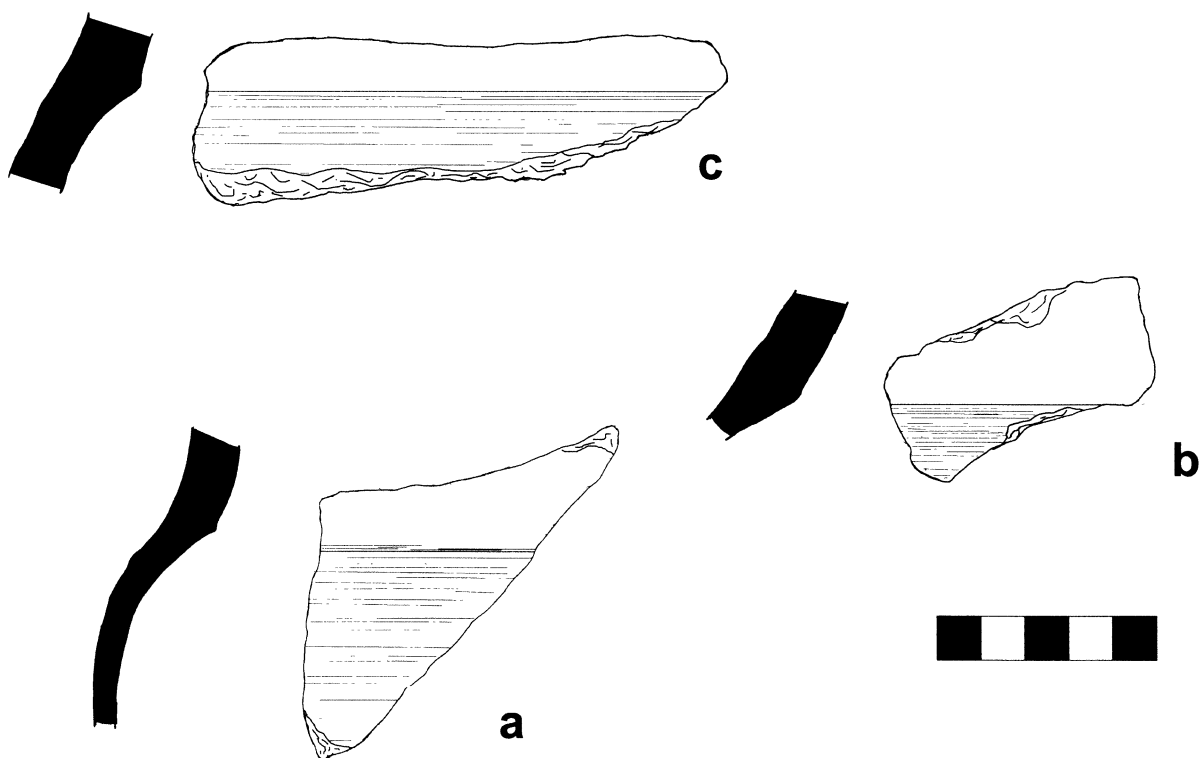
straight neck, and the other a flaring and curving neck. There are no size differences between these types, and cooking vessels as a whole appear to be quite uniform in size.



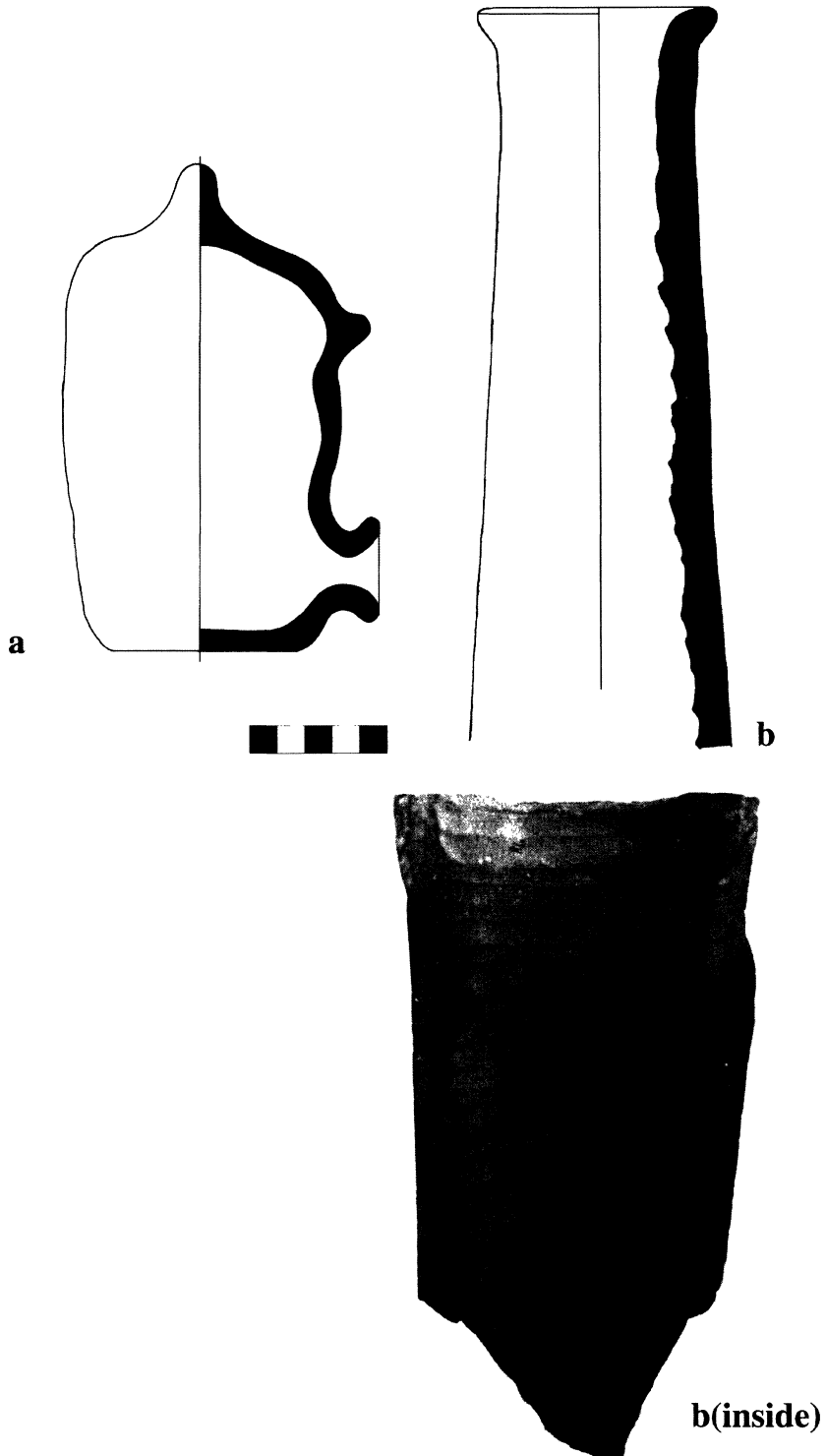
**Figure 5.27.** Period II ceramics, storage jars. a. TY XX (number not available), Period IIA (B.68.T1.2); b. TY 373, fabric 1, orange-red Period IIA (B.68.T1.2); c. TY 378, fabric 2, buff, Period IIA (B.68.T1.7); d. TY 344, fabric 2, red-brown, Period IIA (B.68.T2.6); e. TY 392, fabric 1, brown, slipped red inside and out, Period IIA (B.68.T2.3). Scales in cm.



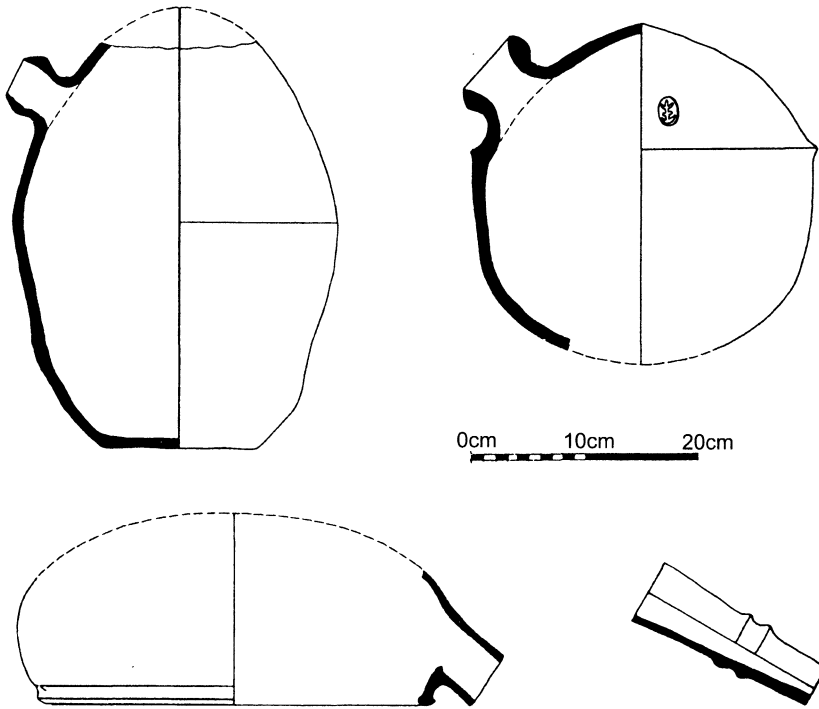
**Figure 5.28.** Period II ceramics, holemouth storage jars, BMSW. a. TY 364, fabric 1, buff, Period IIA, slipped red inside and out (B.68.T1.9); b. TY 358, fabric 1, orange, slipped red inside only, Period IIA (B.68.T1.9). Scale in cm.



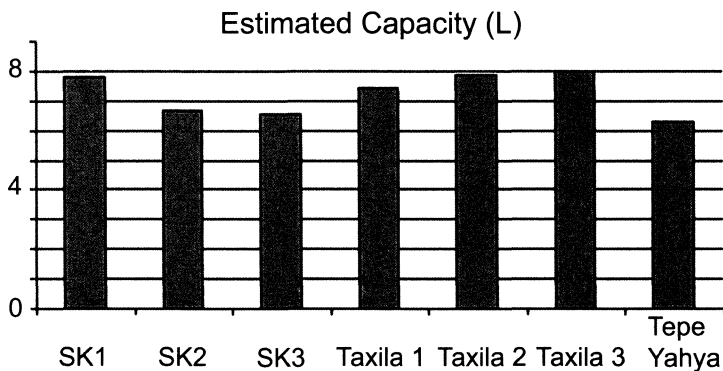
**Figure 5.29.** Period II ceramics, conical-cylindrical storage jars. a. No additional details available (A.71.6.3); b. TY 189, fabric 3, red-brown (A.71.23.8); c. TY 104, fabric 3, orange (A.71.13.1). Scale in cm.



**Figure 5.30.** Period II ceramics, distillation condenser and tube. a. TY 123, no additional details available (A.71.13); b. TY 89, fabric 2, red-brown (A.71.13). Scale in cm pertains to line drawings.



**Figure 5.31.** Condensers and associated equipment recovered at Shaikhan Deri near Charsada in the North West Frontier Province, Pakistan (after Allchin 1979:fig. 7).



**Figure 5.32.** Estimated capacity of condensers from Tepe Yahya and sites in Pakistan using formula proposed by Allchin (1979:772).

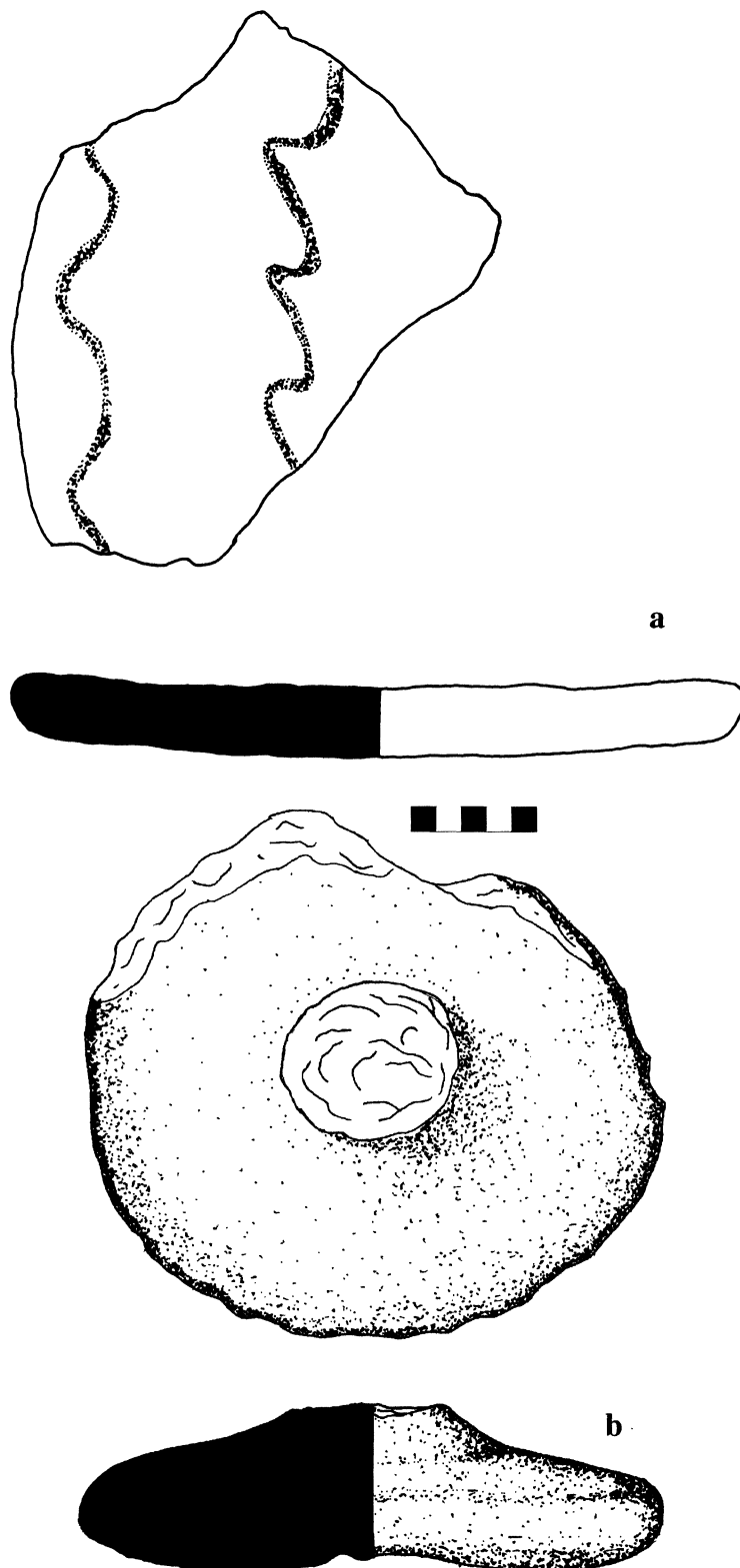
**Table 5.1.** Estimated size of condensers.

Site	Radius (cm)	Height (cm)
Shaikhan Dheri 1	11.00	20.50
Shaikhan Dheri 2	11.00	17.50
Shaikhan Dheri 3	11.25	16.50 (?)
Taxila 1	11.20	18.80
Taxila 2	10.51	22.70
Taxila 3	11.70	18.60
Tepe Yahya	11.50	18.60

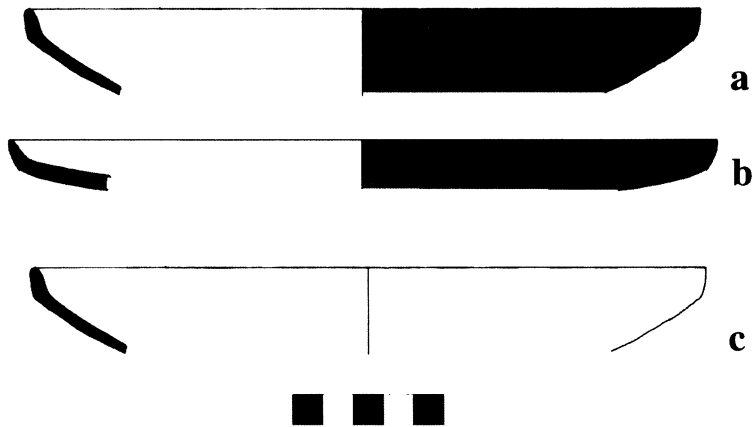
### Lids

Several lids were recorded from the Period II levels. Simple flat forms (one of the two examples is shown in fig. 5.33a) and decorated forms (fig. 33b) were identified. The decorated example has excellent parallels in Iron Age II and III deposits at the sites of Rafaq 2 (Phillips 1998:fig. 13), al-Madam (Benoist and del Cerro Linares 1998:fig. 13), and Tell Abraq (Magee 1995:fig. 4.42e).

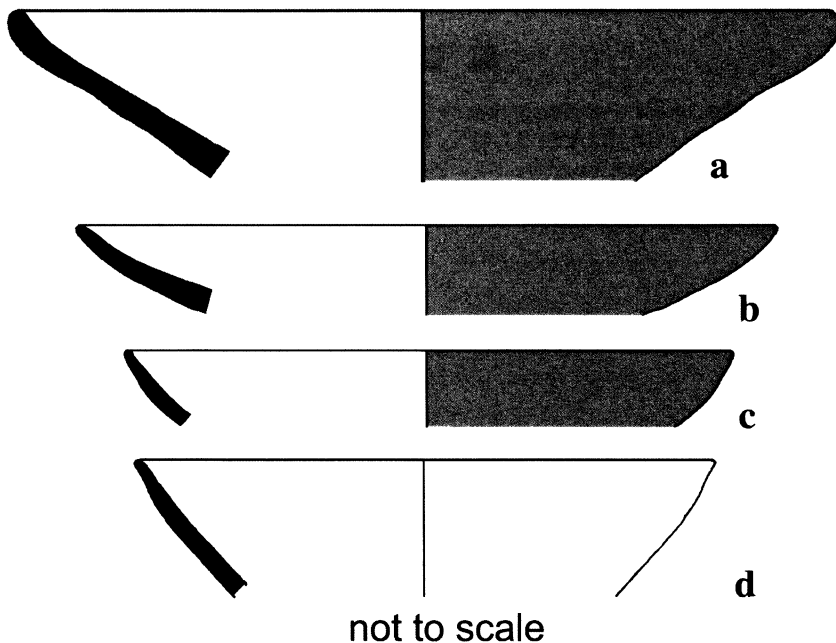




**Figure 5.33.** Period II ceramics, lids. a. simple, flat form, TY 109, fabric 3, orange-brown (A.71.11); b. decorated form, TY 334, fabric 3, brown-buff (AN2.73.20). Scale in cm.



**Figure 5.34.** Period II ceramics, bowls with offset vertical rims. a. TY 231, fabric 2, tan-buff, slipped red inside and out (A.71.3); b. TY 446, fabric 2, brown, slipped red inside and out (A.71.12); c. book drawing. Scale in cm.

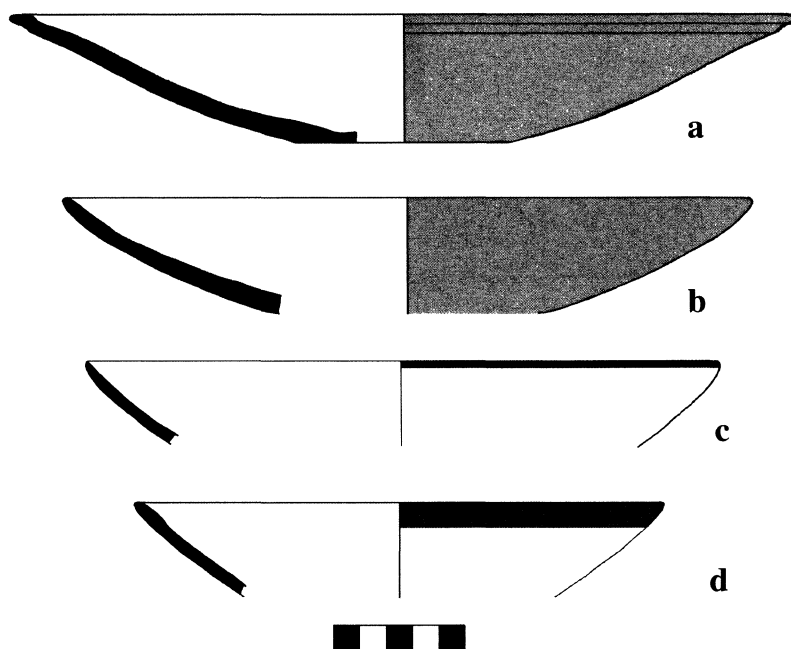


**Figure 5.35.** Period II ceramics, bowls with simple rims (scale not available). a. TY 365, fabric 1, BMSW, Period IIB (B.68.T1.10); b. TY 405, fabric 1, BMSW, Period IIB (B.68.10); c. TY 350, fabric 1, BMSW, Period IIB (B.68.T1.10); d. TY 408, fabric 1, Period II (B.68.10).

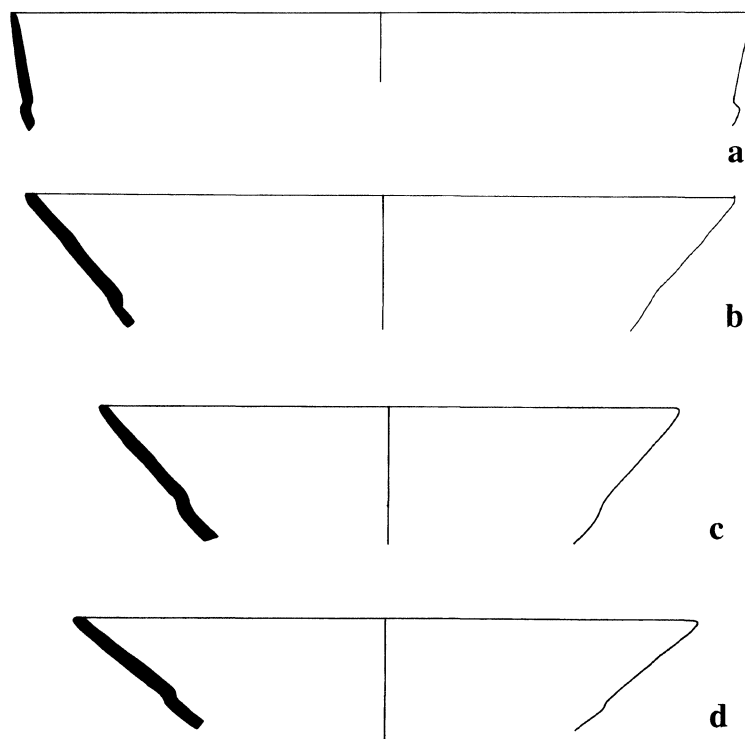
## Bowls

The most notable feature of the bowls in Period II (figs. 5.34–5.44) is the increase in examples of fine BMSW forms including bowls with offset vertical rims (fig. 5.34), bowls with simple rims (figs. 5.35, 5.36), carinated bowls with everted rims (figs. 5.39) or ledge rims (fig. 5.40), and bowls with ledge rims (figs. 5.41, 5.42). Tulip bowls are also much more common than in previous deposits (fig. 5.37).

New forms include bowls with a rounded and/or flattened rim (fig. 5.38). Parallels for this type of rim can be found at Hili 17 in southeastern Arabia (Magee 1995:fig. 7.12) and from Qala'at al-Bahrain, where a glazed example is noted (Højlund and Andersen 1994:fig. 1037). Several examples of bowls with collar rims (figs. 5.43, 5.44) are also new to Period II. Some larger examples of this form are carinated below the rim (fig. 5.44). This type seems to be related to the subcontinental tradition of collar-rimmed bowls (e.g., Nissen 1994).



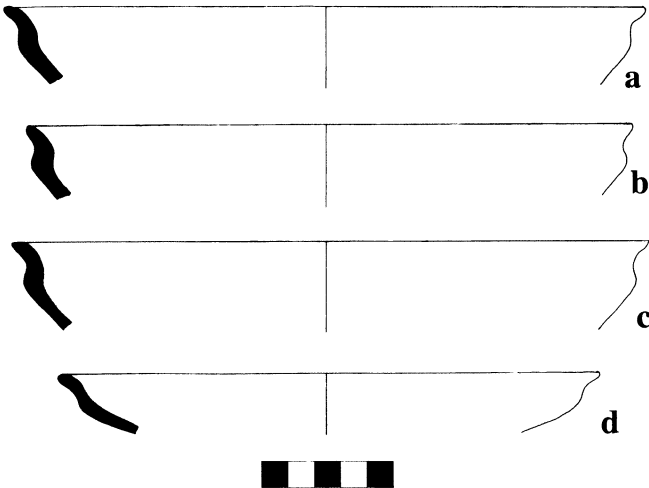
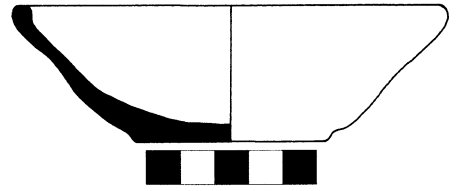
**Figure 5.36.** Period II ceramics, bowls with simple rims. a. TY 426, fabric 1, BMSW, Period IIA (B.68.T1.2.1-4); b. TY 416, fabric 1, BMSW, Period IIA (B.68.T1.2.1-4); c. TY 395, fabric 1, BMSW, Period IIA (B.68.T1.2); d. TY 376, fabric 1, Period IIA (B.68.T1.5). Scale in cm.



not to scale

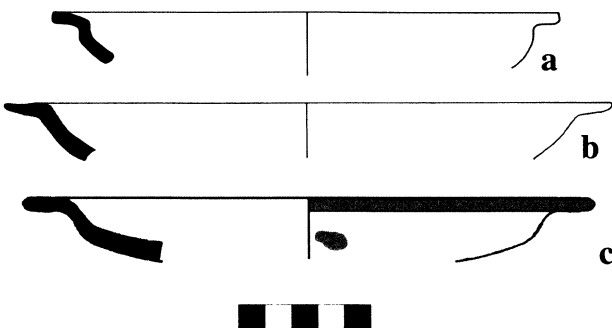
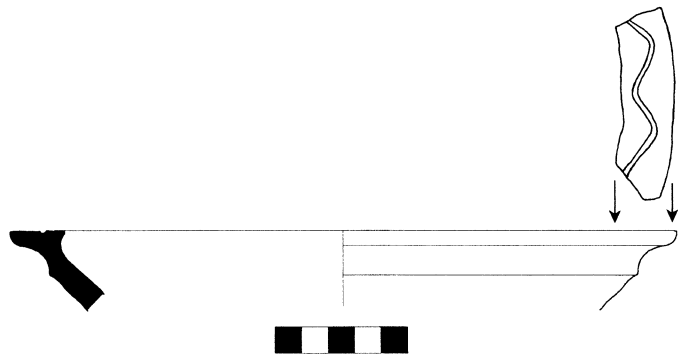
**Figure 5.37.** Period II ceramics, tulip bowls (scale not available). a. TY 62, book drawing, Period II; b. TY 175, fabric 1, buff (A.71.23); c. TY 78, fabric 2, buff (A.71.6.3); d. TY 79, fabric 2, buff (A.71.6.3).

**Figure 5.38.** Period II ceramic, bowl with rounded and/or flattened rim. Book drawing (no additional information available). Scale in cm.

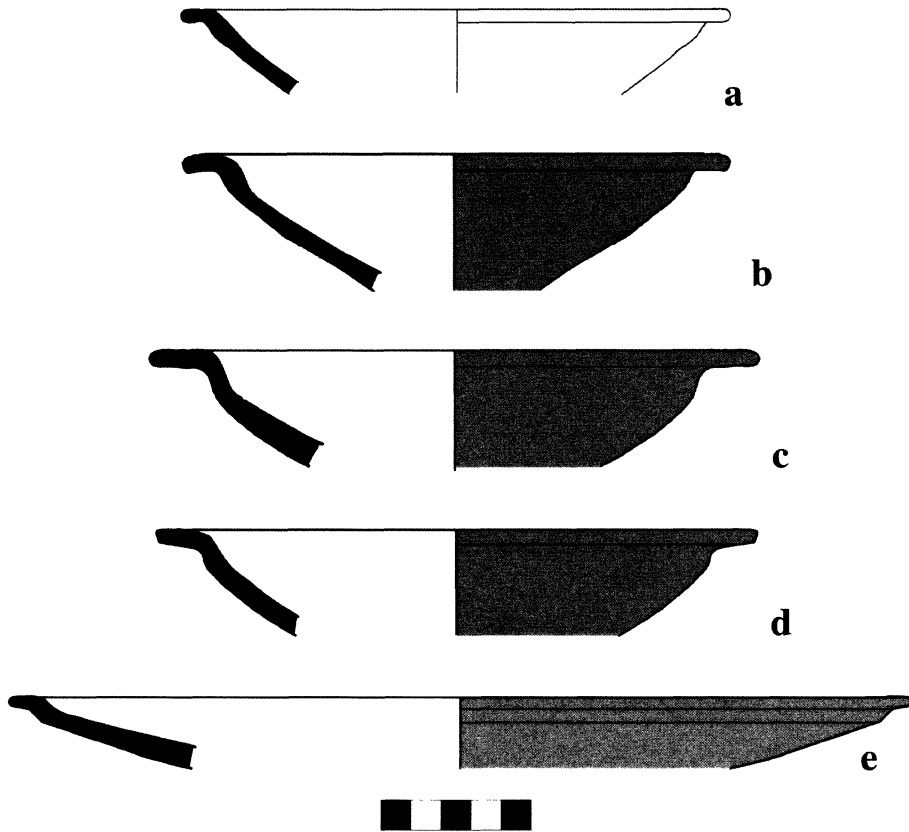


**Figure 5.39.** Period II ceramics, carinated bowls with everted rims. a–d. book drawings (no additional information available). Scale in cm.

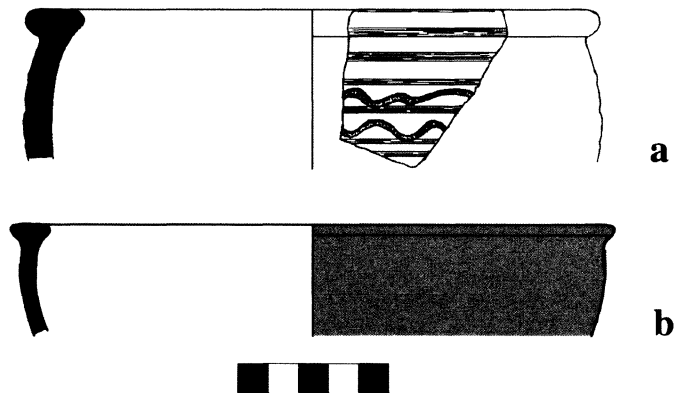
**Figure 5.40.** Period II ceramic, carinated bowl with ledge rims. TY 398, fabric 1, buff, Period IIA (B.68.T1.2). Scale in cm.



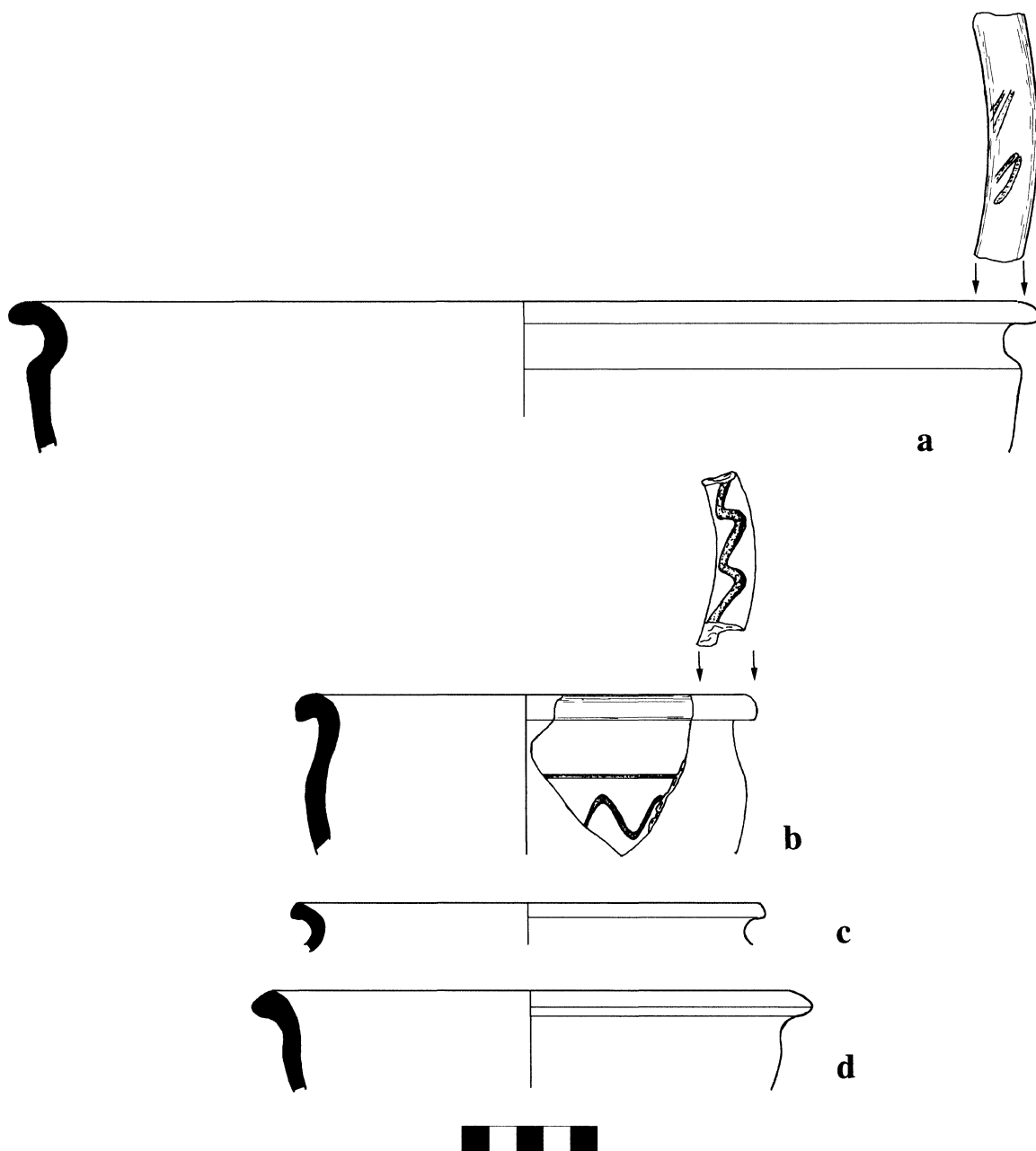
**Figure 5.41.** Period II ceramics, bowls with ledge rims. a, b. book drawings; c. TY 435, fabric 1, light brown (A.71.8A). Scale in cm.



**Figure 5.42.** Period II ceramics, bowls with ledge rims. a. TY 381, fabric 1, red-orange, Period IIA (B.68.T1.2); b. TY 421, fabric 1, red-orange, BMSW, Period IIA (B.68.T1.8); c. TY 357, fabric 1, buff, BMSW, Period IIA (B.68.T1.8?); d. TY 420, fabric 1, red-orange, BMSW, Period IIA (B.68.T2.5); e. TY 419, fabric 1, red-orange, BMSW, Period IIA (B.68.8). Scale in cm.



**Figure 5.43.** Period II ceramics, bowls with collar rims. a. TY 394, fabric 1, buff, Period IIA (B.68.T2.2); b. TY 359, fabric 1, buff, BMSW, Period IIA (B.68.T1.9). Scale in cm.

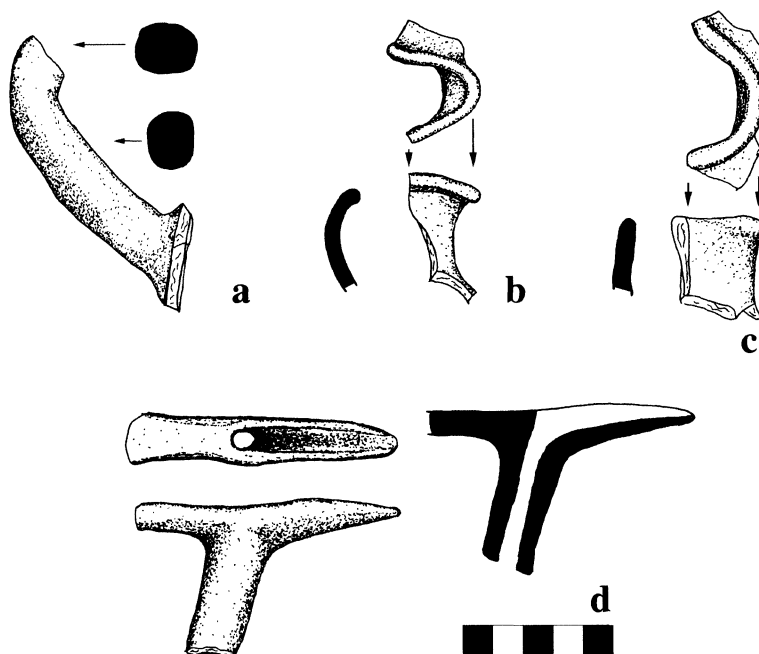


**Figure 5.44.** Period II ceramics, bowls with collar rims and carination below the rim. a. TY 351, fabric 4, buff, Period IIB (B.68.T1.10); b. TY 395, fabric 1, buff, Period IIA (B.68.T1.2); c. TY 342, fabric 1, red-orange, Period IIB (B.68.T2.10); d. TY 415, fabric 2, tan, Period IIB (B.68.10). Scale in cm.

### Spouts and Handles

A handle (fig. 5.45a), two pinched, possibly trefoil, spouts (fig. 5.45b, c), and a grey bridge-spout (fig. 5.45d) were recovered from Period IIA deposits. In the first publication (Lamberg-Karlovsky 1970) the bridge-spout was noted as important for understanding the chronology of the Iron Age settlement at Tepe Yahya. It

is not necessary to present the multitude of parallels in western Iran for this shape. Instead, note that the shape is a *leitfossil* for the Iron Age II period (ca. 1100–800 B.C.). Even though the shape does appear later, the fine elongated nature of this example fits well into the Iron Age II time frame. Given the other evidence for the chronology of Period II and the earlier Iron Age levels at Tepe Yahya, the spout seems to be out of context. Its



**Figure 5.45.** Period II ceramics, spouts and handles. a. TY 145, fabric 1, buff (A.71.17); b. TY 99, fabric 1, buff (A.71.13); c. TY 284, fabric 1, buff (A.73.35.1); d. TY 168, fine grey ware, grey, Period IIA (B.68.T2.5-6). Scale in cm.

mere presence, however, suggests that there must be contemporary occupation at or in the vicinity of the site.

Of more interest than the chronological significance of the bridge-spout is the regionwide distribution of such forms. There is no doubt that this shape is most common in western and northwestern Iran at Hasanlu, Sialk, and a number of other sites. Further to the south and southeast it becomes much less common. The recent publication of the Iron Age III graveyards in Luristan (Haerinck and Overlaet 1998) provides no evidence for the appearance of the shape. A single example from the Taimuran culture in Fars has been published by Overlaet (Overlaet 1997:fig. 4). Given its virtual absence in the south and southeast of Iran, it is curious that the bridge-spouted vessel is not uncommon on Iron Age II sites in south-eastern Arabia. It has been found at numerous sites in inland and coastal Oman (Kroll 1991) and the United Arab Emirates as well as at Qala'at al-Bahrain and in the al-Hajjar burial complex (Magee 1997). In recent excavations at Muweilah in the United Arab Emirates, a single room in Building 2 contained over thirty examples, most of them decorated (Magee 2002). It is possible, therefore, that the example found at Tepe Yahya reflects trade with the Gulf rather than the west and northwest of Iran. Against this one must note that the examples found in the Gulf and Arabia tend not to be made in fine grey ware like the Tepe Yahya example.

## PERIOD II SMALL FINDS

### Metal Finds

Included in the metal finds from Period II were several pieces of iron. These include three fragments of an iron blade or spear (fig. 5.46), all of which are badly corroded. A less corroded and complete trilobate and socketed arrowhead was found in Period II deposits (not illustrated). The introduction of this type of arrowhead has been discussed widely and dates from the seventh century B.C. through to the Achaemenid period (cf. Cleuziou 1977:194).

### Soft Stone

Several soft-stone artifacts were recovered from Period II deposits and include beads or buttons or disks (figs. 5.47 and 5.48). These seem relatively common in earlier assemblages at Tepe Yahya, and there is no reason to think that they are not local in production.

### Clay Figurines

Two clay figurines were found in Period II deposits (fig. 5.49). One is that of a four-legged animal decorated with dots. The closest parallel for this figure is found at the

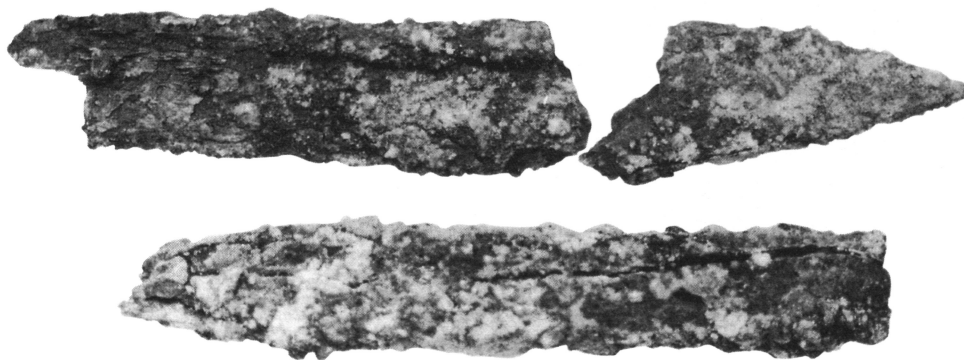


Figure 5.46. Period II small find, iron blade or spear fragments (approximately 10 cm in length).

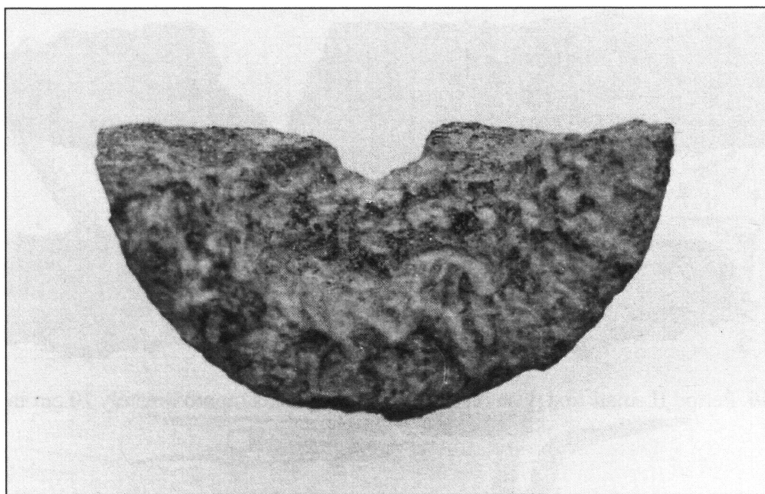


Figure 5.47. Period II small find, soft-stone button.  
Scale in cm.

site of Muweilah in the United Arab Emirates. At that site, a camel figurine decorated with dots on top of a lid was recovered in a context dating between approximately 750 and 600 B.C. (Magee 2002). Too little of the Tepe Yahya example is preserved to ascertain whether or not it is a camel. The second figurine consists of the

torso of a female whose neck is decorated with a series of punctures. Although only a fragment of the figurine is preserved, it is comparable to similarly decorated female figurines in Pakistan, particularly Wheeler's "baroque ladies" of Charsada (Wheeler 1962:pl. XXII-XXV).





**Figure 5.48.** Period II small find, soft-stone disk (approximately 3 cm in diameter).



**Figure 5.49.** Period II small finds, two ceramic figurines. Scale in cm.

# Chapter 6

## The Chronology of Iron Age Tepe Yahya

### INTRODUCTION

Nearly thirty years have passed since most of the material presented in the preceding chapters was excavated. No new evidence has come from southeastern Iran since the Tepe Yahya excavations took place. However, intensive fieldwork in neighboring regions, particularly southeastern Arabia and Pakistan, have spurred complete revisions of Iron Age chronology. This research, combined with advances in C14 calibration and interpretation, permits a complete revision of the chronology of the Iron Age settlement at Tepe Yahya.

### C14 EVIDENCE FROM TEPE YAHYA

Eight carbon samples were analyzed from the Iron Age deposits before this reanalysis of the Tepe Yahya material commenced. Advances in radiocarbon technology and calibration and the areal limitation of the existing samples (all were from Area B) encouraged testing of additional samples to clarify the chronology of the sequence. The old (GX and WSU) and the new samples (Wk) are seen in table 6.1 and have been calibrated according to the latest agreed calibration curve published by Stuiver and Reimer (1993). The calibrated ages are quoted according to the Probability Method, which provides a more accurate assessment of the calendric age of a sample by taking into account its Gaussian distribution (Bowman 1990:47). Only the two-sigma ( $2\sigma$ ) ranges are presented, as this accounts for 95.4 percent of the sample's deviation, and thus there is only a 1 in 20 chance of being incorrect.

Definitive stratigraphic proveniences could be assigned to four samples from Area B that were analyzed (these were existing samples). Two samples, GX 1733 and WSU 875, came from a deposit (B.68.T.1.10) that lay below the initial floor level of the B.68.T.1.9 building. They come from the same deposit and are statistically the same at a 95 percent confidence level ( $T = 1.47$ ,

$x2 (0.5) = 3.84$ ), so both dates could be combined to produce a single radiocarbon date of  $2562 \pm 130$ . It should be noted that even this averaged date contains a first standard deviation error that is three to four times greater than that regularly achieved now. Another sample (GX 1729) came from a deposit that appears to be later than B.68.T.1.10 but also earlier than the construction of the B.68.T.1.9 building. A fourth sample (WSU 874) was recovered on the first floor level of the B.68.T.1.9 building (B.68.T.1.9.2).

These four samples, which provide three dates, offer an important stratigraphic sequence that transcends the construction of the B.68.T.1.9 building. Their calibrated ages are presented in table 6.1. It is clear that they span most of the first millennium B.C. This is both a function of the large margin of error and the nature of the relatively flat calibration curve in the middle of the first millennium B.C. Since the dates are stratigraphically sequential, it is possible to analyze them using Bayesian statistics (see Buck et al. 1991), and this was done using the OxCal program. These results are listed in the " $2\sigma$  Posterior Probability" column in table 6.1. The Bayesian modeling has not significantly altered the results, except that it is now possible to conclude that the B.68.T.1.9 building was built after 830 B.C. and continued to be used into the seventh century B.C. Such conclusions are necessarily broad and can be refined by further consideration of the artifactual evidence.

Five new samples from the Area A sequence were analyzed at the Waikato Dating Lab in New Zealand (table 6.1). These were in stratigraphic order, and the latest two samples (WK 10148 and WK 10149) could be combined because they were statistically the same at a 95 percent confidence level ( $T = 0.00$  and  $x2 (.05) = 3.84$ ) and they came from the same building phase. The five dates span from Period III buildings (WK 10145 and WK 10146) through the Platform period (WK 10147) and into Period II (WK 10148 and WK 10149). Their calibrated ranges prior to Bayesian analysis are listed under " $2\sigma$  Prior Probability" in table 6.1. Since

**Table 6.1.** Radiocarbon dates for Tepe Yahya. Calibrated by Calib 3.0.3c. (Excludes samples with insufficient stratigraphic detail.)

Sample	Provenience	Radiocarbon date	2 $\sigma$ Prior Probability	Relative Contributions to Probabilities	2 $\sigma$ Posterior Probability	Relative Contributions to Probabilities
GX 1733	B.68.T1.10	2495 $\pm$ 140	Calibrated average date: 1000–350 B.C.		Calibrated average date: 1050–450 B.C.	
WSU 875	B.68.T1.10 Period II	2930 $\pm$ 330	Calibrated average date: 1000–350 B.C.	1.00	Calibrated average date: 1050–450 B.C.	1.00
GX 1729	B.69.T1.1.1	2540 $\pm$ 130	1000–350 B.C.	1.00	830–380 B.C.	1.00
WSU 874	B.68.T1.9.2	2260 $\pm$ 160	800 B.C.–a.D. 50	1.00	700 B.C.–A.D. 150	1.00
WK* 10145	Period III A55	2568 $\pm$ 63	840–410 B.C.	1.00	840–540 B.C.	1.00
WK 10146	Period III “for burnt hall”	2493 $\pm$ 67	800–410 B.C.	1.00	790–450 B.C.	1.00
WK 10147	Platform Period A44.3	2420 $\pm$ 60	770–390 B.C.	1.00	670–380 B.C.	1.00
WK 10148	Period II A9	2280 $\pm$ 57	Calibrated average date: 410–220 B.C.		Calibrated average date: 410–200 B.C.	
WK 10149	Period II A13	2279 $\pm$ 57	Calibrated average date: 410–220 B.C.	1.00	Calibrated average date: 410–200 B.C.	1.00

\* WK = New dates conducted at Waikato Dating Lab in Waikato, New Zealand.

these dates were also stratigraphically sequential, it was possible to model them using Bayesian statistics using the OxCal program. The results permit the following conclusions: Period III at Tepe Yahya did not come to an end before approximately 790 B.C.; the final platform of the Platform period was not constructed before 670 B.C.; and the Period II village did not end before 410 B.C.

### ARTIFACTUAL EVIDENCE

The numerous ceramic parallels noted in chapters 4 and 5 provide varying amounts of information on the chronology of the Iron Age settlement at Tepe Yahya. For Period III, most of the ceramics are quite local in character. Combined with the lack of any nearby stratified settlement, this renders the pottery comparisons of little chronological use. Some parallels can be drawn to material from Seistan, particularly to the site of Nad-I Ali, but it would be unwise to place too much chronological emphasis on these, since this site is still poorly understood in terms of its chronology and stratigraphy. The spouted vessel seen in figure 4.3 has wider parallels

in material from Luristan (Chamazhi Mumah) and Susa, and there is agreement at these two sites that the form belongs to the eighth and seventh centuries B.C. The single example from Achaemenid Village I at Susa might extend the life of this form into the early sixth century B.C. Of equal importance is the ribbed bowl seen in figure 4.8 for which parallels were drawn to ceramics from southeastern Arabia. It was noted that this form was limited to the Iron Age II period in southeastern Arabia, which is dated from 1100 to 600 B.C.

The most important artifact class for chronological purposes is brown maroon slipped ware (BMSW). Parallels for this complex have been presented in the discussion above (see chapters 4 and 5). The only solid anchor for this material within Iran is its occurrence at Persepolis (noted in chapter 5), which suggests a date in the fifth century B.C. However, the clearest evidence for the full date of BMSW is its occurrence in southeastern Arabia. This type of ceramic is found at a number of Iron Age III sites, and as I noted in chapter 2, some of this material appears to have been imported from southeastern Iran, from the vicinity of Tepe Yahya. In southeastern Arabia, BMSW occurs with bronze socketed trilobate

arrowheads at Rumeilah (Boucharlat and Lombard 1985:60), and not one sherd of it has been found at the settlement of Muweilah. Radiocarbon evidence suggests that Muweilah was destroyed sometime after 760 B.C. This ceramic type is most common just before the appearance of a new material culture (the *pre-Islamic récent A*), which can be solidly dated to about 250 B.C. on the basis of palaeographic, archaeological, and historical evidence.

The combined evidence suggests a late seventh century B.C. date for the appearance of BMSW. Although BMSW is most common in the Platform period and Period II, several sherds were found in the Period III village suggesting that Period III continued into the middle of the seventh century B.C. As discussed in more detail above, this chronology is supported by the C14 data from the Platform period, which follows Period III without a hiatus, and for which a beginning date of 670 B.C. can be argued.

The recovery of the pedestaled soft-stone vessel (fig. 5.7) provides another important piece of chronological data. It was found in the Intermediate deposit (A44). As noted in chapter 2, the exact nature of this deposit is unclear but it predates the construction of Period II, and the minimal depth of the intervening deposit suggests that there was no significant hiatus between the last mudbrick platform and Period II (cf. fig. 2.7b). The most convincing parallels for this piece are found on stone vessels that often carry an inscription of one of the Achaemenid kings. Convincing parallels have been made to material from Persepolis, including several vessels that are inscribed with the name of Xerxes. Although it is not known if the Tepe Yahya example dates to the time of Xerxes, there can be little doubt that it dates to the Achaemenid period. For this reason, the soft-stone vessel is evidence of a fifth century date for the beginning of the Period II village—a date that is in complete accordance with the C14 samples from the Period II village.

The end-date of Period II is more complex. Conventionally, the Iron Age in southwest Asia ends with the conquest of Alexander the Great in 332 B.C. This political event is viewed as the terminus for a material culture

phase in this region even though very little evidence has been presented from any site to support the notion that the conquest is mirrored in a material culture shift.

The end-date for BMSW, the most prominent artifactual characteristic of the Period II levels, is not clear on the basis of excavated Iranian sites. The central issue is that no excavated site in southern Iran has so far provided evidence for discrete fourth and third century B.C. occupation. The excavation of Tall-i Takht at Pasargadae, for example, revealed the presence of an occupation that ran from before the fourth century B.C. down to approximately 280 B.C. (Stronach 1978:183). Southeastern Arabia provides a clearer picture. The excavation of the site of Mleiha has provided evidence for a material culture horizon beginning in approximately 250 B.C. (Mouton 1992). Although burnished fabric is known from that site (Mouton 1992:43), the forms made in this fabric are completely dissimilar to those made in BMSW from Tepe Yahya (Mouton 1992:13). To the extent that southeastern Arabia appears to mirror the changes that occurred in southeastern Iran in the Iron Age, the Mleiha material is persuasive evidence that BMSW was no longer common after the middle of the third century B.C. A similar date should be sought for the end of Period II.

## CHRONOLOGICAL SUMMARY

It is possible to outline a new chronology of Iron Age settlement at Tepe Yahya by drawing the evidence together. Periods IIa and IIb have been assigned a span of 125 years, this figure being no more than a division of the approximately 250-year span for Period II suggested by the evidence. The outline is as follows (all dates are approximate):

- Period III: 800–650 B.C.
- Platform period: 650–500 B.C.
- Intermediate period 500±20 B.C.
- Period IIa: 500–375 B.C.
- Period IIb: 375–250 B.C.



## Chapter 7

# Reflections on the Iron Age Settlement at Tepe Yahya and the Late Prehistory of Southeastern Iran

It must be acknowledged at the outset of this chapter that the archaeological record from Tepe Yahya reflects a small sample from a single settlement in a much broader, largely archaeologically unknown part of Iran. Nonetheless, in this final chapter I offer several speculative remarks and pose additional questions in an effort to interpret the archaeological evidence in light of the wider economic and political processes that characterized this part of ancient southwest Asia in the first millennium B.C. If this interpretive essay provides some impetus for further problem-orientated archaeological research in the region, then it will have fulfilled its aim, even if such fieldwork proves some, or indeed most, of the essay incorrect.

### PERIOD III

The first issue to address is the hiatus that separates the Period III occupation from the latest Period IVA levels. We do not know for certain when the Period IVA occupation ended, but in previous publications it was assigned an end-date of approximately 1400 B.C. (Beale 1986:11). The settlement was abandoned, therefore, for 600 years. Two questions arise: what was the cause of this abandonment, and what led to its reoccupation?

Archaeological fieldwork has clarified many of the sequences from Sindh through to eastern Arabia for this period. This work indicates that there is a decline in archaeologically visible settlement. The survey conducted by Prickett revealed little evidence around Tepe Yahya for this time frame (Prickett 1986). Similarly, the survey undertaken by Sajjadi identified few settlements dating between 1500 and 800 B.C. throughout southeastern Iran (Sajjadi 1987). As Franke-Vogt (2001) has recently shown, the term “Dark Age” is not completely inappropriate for this time frame in Pakistan. Other than the settlement at Pirak in the Kachi plain, there is very little evidence for permanent settlement in the Punjab, Cholistan, Makran, Sindh, and southeast Baluchistan

(Franke-Vogt 2001:249). In southeastern Arabia, the Late Bronze Age and Iron Age I periods (ca. 1500–1100 B.C.) are known from only a handful of sites (Magee and Carter 1999).

Theories that emphasize the collapse of a “global” economic system may seem attractive explanations for the decline in settlement intensity. It is certainly the case that the “decline” of Harappan urbanism sometime in the middle of the second millennium B.C. was coincident with a decrease in visible settlement in the Indo-Iranian borderlands. While we need not envision Fairservis’s “Vedic Night,” the hypothesis that the disruption of the political and economic system of Harappan urban complexity affected other areas is convincing. Of course, southeastern Iran may have been influenced equally by the Mesopotamian and Elamite world systems. The Middle Elamite period witnessed an appreciable expansion of power and influence with, for example, the expansion of settlements such as Liyan. In other words, the position of southeastern Iran between two areas that experienced the emergence of complex urban society in the third millennium B.C. makes it difficult to attribute change within the local settlement patterns to the influence of either system. It is particularly difficult to attribute change since both systems experienced different economic and political trajectories in the second millennium B.C. Into these competing streams, one must contour the arguments of Hiebert and Lamberg-Karlovsky (1992), which point to the presence of BMAC-related materials on the Iranian Plateau in the early second millennium B.C. as evidence for the influx of Indo-Iranians.

An alternate approach is to examine the high-resolution paleoclimatic data that is becoming increasingly available for this part of southwest Asia. Southeastern Arabia, southeastern Iran, and Baluchistan lie on the marginal climatic zones of the Middle East and are therefore very susceptible to the effects of climate change. Recent analysis of the geochemistry of sediments in the Arabian Sea has suggested that the period from around 1900 to 1100 B.C. was one of intensified

winter monsoon activity (Lückge et al. 2001). The effects of this change are not immediately obvious, but it is arguable that the increase in rainfall led to a highly dispersed settlement system in which there was no dominating central place based on irrigation agriculture. Rather, smaller specialized settlements that exploited niched terrestrial resources may have existed. These smaller settlements may be less archaeologically visible than larger, irrigation-based agricultural settlements. Inherent in this very tentative hypothesis is the idea that the increased *extensification* of the settlement system led to archaeological invisibility rather than to actual abandonment or depopulation of the area. Scientific and systematic surveys of the areas from Kerman to Sindh, largely lacking in the archaeological fieldwork conducted thus far, could provide data on this issue.

Whatever the cause of the diminished visibility of settlements, it is evident that sometime at the end of the second and beginning of the first millennium B.C., there was a rapid increase in archaeologically visible settlements throughout eastern Arabia, southeastern Iran, and the Indo-Iranian borderlands. In eastern Arabia, this increase is reflected in the growth of oasis polities along the flanks of the al-Hajjar mountain range. In the southern Indus Valley, areas of the North West Frontier Province, and Baluchistan, large protohistoric settlements, possibly urban, are increasingly attested (Franke-Vogt 2001: 280–281; Khan et al. 2000). In southeastern Iran itself, in addition to the reoccupation at Tepe Yahya, settlements have been noted in the surveys conducted by Sajjadi (1987) and Prickett (1986:222, Sites 1, 15, 22, 41, 24, 34, 161, and 216; including sites labeled as Yahya II and mid-first-millennium B.C. and later), while Williamson's survey around Minab revealed some evidence for early first millennium B.C. occupation (Magee 1995).

Paleoclimatic evidence supports the possibility that this transregional increase in settlement is coincident with a period of increasing aridification (Lückge et al. 2001:280–282). The archaeological evidence from southeastern Arabia suggests possible responses to this climatic change. As noted in chapter 1, the period after 1100 B.C. in that region is characterized by the use of *qanat* irrigation (Boucharlat and Lombard 1985, Cordoba 2002, Magee 1999). *Qanat* irrigation may be viewed as a response to increasing aridification and the inability to practice traditional forms of well, run-off, or flood irrigation agriculture that rely on predictable rainfall and a relatively accessible water table. A reliance on *qanat* irrigation would have led to larger settlements and increased social costs such as labor control and the emergence of elites. These are well documented in the archaeological record from southeastern Arabia as is the expansion of intra- and interregional trade to provide

elite and status goods (Magee 1999). Whether or not a similar explanatory mechanism can be argued for southeastern Iran and areas to the east is unclear. Given the presence of *qanat* irrigation in the recent past in the Soghun Valley and the evidence for contact and trade with southeastern Arabia, it seems likely that *qanat* irrigation was used. The introduction of this irrigation technique can, therefore, be very tentatively highlighted as an important factor in the resettlement of Tepe Yahya (Period III).

The lack of excavation at other Iron Age settlements of this period hinders an understanding of how a newly occupied settlement in southeastern Iran and areas to the east was regionally organized. The available archaeological evidence does not permit answers to questions about important issues, such as the complexity of hierarchical settlement systems or the presence or absence of a monocentric distribution of power. Nonetheless, the absence of any certain southeast Iranian toponym in the annals of the Neo-Assyrian or neo-Elamite kings and the lack of evidence for the penetration of neo-Elamite culture into this area (as is evident outside Khuzistan at Kul-e Farah, for example [Vanden-Berghe 1963]) might passively support the hypothesis of a dispersed, polycentric regional settlement system. Perhaps, the lack of a centralized “state” authority enabled this system to avoid the attention of the major powers. Such was the case for southeastern Arabia at this time, which rated only a single mention in neo-Assyrian records and had a polycentric settlement system, albeit one in which intense intraregional trade and interaction were commonplace (Magee 1999).

The archaeological evidence from Period III reinforces a picture of relative regional autonomy. On the whole, the ceramics are stylistically local in character and this is reinforced by the PIXE-PIGE analysis that indicates the importance of local ceramic production. It is interesting to note, however, that where parallels can be drawn for the Period III material they are more often than not to material in south and southwestern Iran, eastern Iran, and southeastern Arabia. For the latter region, a single steatite vessel provides evidence for contact, but given the wide distribution of this type of artifact, it would be surprising if there were no contact between these two proximal areas.

The internal organization of the settlement during Period III is impossible to gauge given the limited nature of the excavations. The two apparently nondomestic structures, surrounded by a fortification wall and containing a water channel, may be evidence of a localized economic and political polity whose power resided in the control over the *qanat* and its products. Of course, this hypothesis is speculative given the limited evidence, and only further excavation can confirm or refute it.

## PERIOD II: THE PLATFORM PERIOD

Soon after the end of the Period III village, two mudbrick platforms were constructed at Tepe Yahya, marking a unique stage in the history of the settlement. In a preliminary publication we placed their construction in the context of contemporary political events in Iran, most notably in the years before Darius's accession to the throne in 521 B.C. and the formalization of the Achaemenid Empire (Lamberg-Karlovsky and Magee 1999). In doing so, we refrained from attempting to correlate historical events with artifacts from Tepe Yahya, but rather we examined the geopolitical milieu in which the inhabitants of Tepe Yahya initially could have constructed these platforms. In that article, we suggested that the platforms may have been used as a recognizable symbol of power by a local leader at Tepe Yahya. The critical issue here is to understand the wider economic and political context of the platform construction.

In our earlier publication, we noted that the vast majority of similar platforms are found in Afghanistan and Central Asia, most dating to the beginning of the Iron Age (Lamberg-Karlovsky and Magee 1999). However, Ghirshman (1939) and Dales (1977) revealed evidence at Nad-i Ali for a monumental mudbrick platform of a slightly later date. Dales presented the most comprehensive dating of this platform and suggested a date of the Median to Achaemenid period (Dales 1977: 104–105). Besenval and Francfort's (1994) redating of the platform to the Bronze Age is based on too little evidence to carry weight. Helm's excavations at Kandahar revealed a similar citadel platform, which he compared to the one at Nad-i Ali (Helms 1997:4). He dated the Kandahar platform to Epoch 1 or the period just before the Achaemenid conquest.

Although the function of these platforms is not known, at the least they represent social organization and labor investment, and they must have been a powerful symbol of independence and autonomy in the landscape. The three major known pre-Achaemenid Iron Age sites of southeastern Iran and Afghanistan (Tepe Yahya, Nad-i Ali, and Kandahar) display, therefore, similar organizational traits in the period before the Achaemenid conquest. A further reflection of regional common ground for these sites is in the somewhat scanty evidence for burial practices, in particular the use of above-ground stone-constructed cairns. The distribution of this burial type extends across southeastern Iran (Lamberg-Karlovsky and Humphries 1967:fig. 3), Afghanistan, and Pakistan, and possibly related examples may occur in Central Asia. Stein noted approximately 5,000 cairns in the Dashtiari and adjoining regions of Baluchistan (Stein 1937:160–165), and the Tepe Yahya expedition

noted over 600 in the Soghun Valley (Lamberg-Karlovsky and Fitz 1987:747). In the most complete study of the southeast Iranian examples, Lamberg-Karlovsky and Fitz suggested a date from around 600 B.C. onwards (Lamberg-Karlovsky and Fitz 1987:748), *correlating with the chronology of the Platform period*. In Fars, by contrast, Stein noted only about 150 cairns (Stein 1937:160–165), and on the basis of limited artifactual evidence, some of them appear to date to the Parthian or Sasanian period (Stronach 1978). Those found in Fars are also sometimes constructed from a series of platforms that are accessed through tunnels or recesses (Stein 1937:fig. 13; Lamberg-Karlovsky and Humphries 1967:271), which differentiates them from those found in Kerman or Baluchistan. The evidence strongly suggests a distinct burial practice in southeastern Iran and areas to the east, but one which does not extend into the area that became the heartland of the Achaemenid Empire.

Do these shared economic and symbolic characteristics represent some form of ethnic or political connection between southeastern Iran and south-central Asia? Biscione has argued that in the early first millennium B.C. a series of settlements in Afghanistan and Turkmenistan were linked by painted pottery and mudbrick platforms (Biscione 1981). He suggested that towards the seventh century B.C. this phenomenon is represented at Nad-i Ali and by the presence of distinctive red and white painted pottery. Does the presence of the mudbrick platform at Tepe Yahya suggest that the settlement became part of this system in the seventh century B.C.? If so, does this provide a political, or even ethnic, context for the revolts that occurred with Darius's accession to the throne, such as the revolt of Vayasadata near modern-day Tarom in southeastern Iran (Vallat 1993:275) in which the rebels fled to Afghanistan and were defeated near Sattagydia, a satrapy likely identified with Bannu in the North West Frontier Province, Pakistan (Khan et al. 2000)? There is undoubtedly much historical data from classical sources and Achaemenid inscriptions that provide alternate explanations for these events, but further investigation of the archaeological evidence may provide a broader economic and cultural context in which to place these political processes.

## THE ACHAEMENID PERIOD AND PERIOD II

Kerman, in which Tepe Yahya would have been included, is only mentioned once in Achaemenid royal inscriptions. In DSf 30-35 (Kent 1953:144) it is noted that *sisoo* wood or wood of the *jag* tree (Old Persian



*yaka* tree) was brought from Kerman and Gandhara for Darius's palace at Susa. This botanical evidence does little to illuminate Kerman at this time since this type of tree (*Dalbergia sisso* Roxb.) is found in the Indian subcontinent, southeastern Iran, and Afghanistan (Tengberg and Potts 1999). Kerman is also mentioned in nine published Persepolis Fortification Tablets and twenty-six unpublished texts (Vallat 1993). These texts mention a certain *Karkis* who was obviously an important official, while the discovery of an Achaemenid stone weight of Darius in Kerman (Schmitt 1985:823) indicates the economic integration of the region into the Achaemenid heartland. As Schmitt points out, however, Kerman is not mentioned as a separate province in DS, and he suggests that it was joined with the satrapy of Persis (Schmitt 1985:822–823). In strategic terms, there can be little doubt that it was important for the Achaemenids to control this region since copper and iron deposits are found in quantity both near the coast and in the inland valleys (Morrison 1968:figs. 113, 119; Briant 1984:93).

In examining the archaeological evidence contemporary with these economic and political events, I am mindful that the traditional approaches to the archaeology of the Achaemenid Empire have focused on the search for Iranian-inspired artifacts as evidence for the presence of ethnic Persians. As has been pointed out by numerous scholars (e.g., Sancisi-Weerdenburg and Kuhrt 1990; Sinopoli 1994), such approaches are of questionable relevance in examining ancient imperial structures because they do nothing more than confirm or contradict the historical record. An approach that seeks to understand the social and economic impact of imperialism upon local populations and that contextualizes these processes within propagandistic imperial records can lead to a more nuanced interpretation.

At Tepe Yahya Period II, two main alterations in the archaeological record can be considered as roughly contemporary with the establishment of the Achaemenid Empire: first, the presence of "Achaemenid" tulip bowls and, second, the production and trade of BMSW. We will consider each of these in turn.

Significant quantities of fine, wheel-made tulip bowls are a feature of Period II at Tepe Yahya.<sup>1</sup> They represent a highly standardized form both in fabric and in size. Comparable examples are known in Achaemenid period deposits from Asia Minor through Mesopotamia into Iran and northern South Asia (see chapter 5). Their

standardized form suggests a limited function that, given the representation of earlier examples on Neo-Assyrian reliefs, may be associated with ritual banqueting and feasting. In discussing this vessel type at Sardis, Dusinger (1999:101) suggests that they represent the "assimilation of new cultural impetus." Specifically, she suggests that the vessels represent non-elite emulation of elite banqueting habits in which silver or gold vessels were used. It is assumed that these "elite" rituals emulated Persian courtly behavior or were conducted by Persian administrators themselves.

The widespread occurrence of wheel-made tulip bowls at sites containing Achaemenid period deposits suggests that their presence may be one of the few indicators of a legitimizing strategy that was critical to the emergence and maintenance of the empire. In assessing the evidence for a legitimizing ideology, most attention has focused on the Persepolis reliefs and figurative representations on minor arts such as coins and seals (e.g., Root 1979). These undoubtedly played an important role in the formulation of official ideology, although the extent to which these forms can permeate down to a village level (as at Tepe Yahya) with the desired effect is debatable. Rituals such as banqueting and feasting are much easier to replicate at any societal level, and such rituals formed an important part of royal ideology in the Achaemenid period. In this context, Briant's (1996) "ethno-classe dominante" may have played an important role as a conductor and perpetrator of such rituals, even if as pointed out by Sancisi-Weerdenburg (1990) there are problems with the "ethnic" identification of such a class. More detailed information on social and economic processes in the immediate pre-Achaemenid east and more *archaeological* evidence on Persian social practices would shed more light on this issue. At the very least, the appearance of tulip bowls should not be taken as evidence for a Persian or Achaemenid presence. Rather, these vessels must be viewed within the context of social activities that may have served to legitimize Achaemenid authority and its economic manifestations, namely, the supply of raw materials to the court.

While the presence of tulip bowls at Tepe Yahya might be interpreted as evidence for an emulated imperial center practice, other data suggest a more complicated configuration of trade and hierarchical relations between Tepe Yahya and other outlying "peripheries" of the empire.

Iron artifacts are found throughout the Iron Age layers at Tepe Yahya. The presence of local iron sources and the occurrence of limited quantities of slag at the site suggest that some production may have taken place. We have noted the presence in Period II of a furnace with crushing equipment that may have been used in the processing of ores. In Iron Age southeastern Arabia, a

1. There are isolated examples found in earlier deposits, which should come as no surprise since the periodization of Tepe Yahya does not coincide precisely with the historical events under discussion.

region with which Tepe Yahya clearly traded in this period, iron is very rare and remains a luxury metal, only to be used and traded by elites within settlements. For example, the greatest number of iron artifacts thus far discovered in the Iron Age (nineteen) are found in one columned building at Muweilah, which also contains evidence for imported painted ceramics and incense burners (Magee 1999). Although we have no definite evidence for the origins of these iron artifacts, southeastern Iran remains a most likely source given its proximity and the presence of iron ores. With the highly burnished BMSW, which is found in southeastern Arabia at this time, we are on a surer footing. The PIXE-PIGE data are highly suggestive that this material was produced in the vicinity of Tepe Yahya and exported to southeastern Arabia. As noted in a previous publication (Magee 1997), the vessel types in which this ware is made may copy much rarer metal bowls. In southeastern Arabia, BMSW was, like iron, limited in its distribution. It is found in small quantities in large settlements (e.g., Rumeilah: Boucharlat and Lombard 1985) or in graves of this period. Although detailed contextual studies of its distribution are still lacking, it is likely, therefore, to have served as a luxury commodity that may have carried a similar sociosymbolic function to iron. It is tentatively suggested, therefore, that Tepe Yahya was engaged in the production of status goods that may have been important in social hierarchies in a neighboring region.

In assessing this evidence, I would like to emphasize a nonlinear approach to understanding empires and their provinces, or more broadly, centers and peripheries. The region around the settlement of Tepe Yahya may have reshaped social practices and, possibly, even its local economy with the pressure of centralized Achaemenid control, but of equal importance is its participation in trade systems with neighboring regions. In engaging in such trade, settlements such as Tepe Yahya could have maintained a degree of economic autonomy from the imperial center. Through the production and reception of regionally specific goods that were *not* fil-

tered or channeled by the imperial center, it is entirely possible that practices that served to symbolically and culturally challenge strategies of imperial control, or at least reinforce local identity, were fostered. There is simply too little evidence to insist on such an interpretation at present, but the data from Tepe Yahya is instructive in that it provides a framework in which to begin to ask questions that move beyond those imposed by the historical and epigraphic record with all of its political and geographical bias.

## CONCLUSIONS

While it is the case that the archaeology of the first millennium B.C. in southeastern Iran remains largely unknown, the preceding remarks underscore the fact that the many biases and assumptions underpinning the direction of archaeological fieldwork are a significant determinative factor for current perceptions of the mosaic of economic and political spheres that constituted ancient southwest Asia. Evidence from Tepe Yahya provides important information on its economic and political lifeways that may reflect broader processes in an area that was once deemed peripheral to the main centers of economic and political power in the Middle East and south Asia. These processes are not simply determined by the economic or political imperatives of the center, but rather embody processes of adaptation during periods of increasing environmental stress, economic reorganization, and resistance to increasing outside control. Underlying these changes is a connection with other peripheral areas of the Middle East and south-central Asia, for which a lack of written sources has too often been interpreted as evidence for their marginal and unimportant status. Further archaeological research should provide a more complete picture of the Indo-Iranian borderlands in the first millennium B.C. and in so doing may highlight the role of what were significant autochthonous and allochthonous factors in shaping ancient settlement patterns in this region.



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