

BREAKING WITH TRADITION: RETHINKING THE UBAID-ARABIAN
INTERACTION OF THE 6TH AND 5TH MILLENNIA B.C.E.

A Thesis

by

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ABSTRACT

The goal of this thesis is to argue that the bitumen-reed-boats utilized in the maritime trade between Mesopotamia and the Arabian Peninsula during the later Ubaid period (ca. 5300 - 4800 B.C.E.) probably originated as a Mesopotamian tradition, and not a coastal Arabian one. Therefore, Ubaid-Arabian interaction – known from the appearance of Ubaid pottery at coastal Gulf sites – can be understood by emphasizing tradition, technology, and consumption, since reed-boat technology appears to be deliberately rejected by local Arabian coastal communities, likely due to differences in social organization. By foregrounding technology, especially the technology of reed-boat building, this thesis examines the development of, and different reactions to, bitumen-reed boat technology in terms of disparate socio-cultural traditions, i.e., between “Mesopotamian” and “Arabian” communities. This thesis analyzes multiple complementary lines of evidence that include boat models, boat remains, bitumen, ceramic distribution, and faunal remains from published archaeological excavation reports, in order to establish that 1) bitumen-reed boat technology probably originated in southern Mesopotamia, 2) it spread elsewhere around Mesopotamia but not into the Arabian Peninsula, 3) it was not adopted by coastal Arabian communities because they had no perceived use for it, and 4) the unique material assemblage of the site H3 in Kuwait is a direct result of its location at the intersection of these two different spheres of tradition.

DEDICATION

To Astrid – *thank you.*

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1. INTRODUCTION

The Ubaid period in Mesopotamia (ca. 5500-3800 B.C.E.) begins after the development of small-scale sedentary agricultural strategies in the Neolithic period (ca. 9000-6000 B.C.E.) and takes place prior to the early-state systems that define the Uruk period (ca. 4000-3100 B.C.E.). Therefore, it provides a crucial window into the social processes underlying this transition. Nevertheless, the Ubaid period is not well understood due to an absence of written language produced by these communities, and limited excavations in Mesopotamia. Although Ubaid-period archaeological sites in Mesopotamia were previously overlooked by archaeologists in favor of sites from the preceding Neolithic and the succeeding Chalcolithic periods, which saw the rise of the first cities in the world, excavations of Ubaid-period sites surged in the 1970s and 80s. One consequence of archaeologists' attention to Ubaid-period sites was a wealth of excavation data describing an astonishing phenomenon – namely, the spread of a certain material cultural repertoire, especially ceramics, across a wide geographic area (Figure 1.1).¹ Yet much remains unknown about the exact mechanisms of nearly every facet of the spread of this material, known exclusively from the appearance of certain systematically occurring artifacts types at disparate sites. The current prevailing hypothesis within the scholarly literature, informed by recent excavations, is that the spread of Ubaid culture was a slow and uneven hybridization of local groups and non-local Ubaid material culture.²

The primary evidence for the spread of Ubaid material culture is the presence of Ubaid ceramics far outside of Mesopotamia, such as in Saudi Arabia where pioneering survey work undertaken by amateur archaeologist Grace Burkholder in the late

¹Henrickson and Thuesen 1989, 11-2.

²Carter and Philip 2010, 6-10.

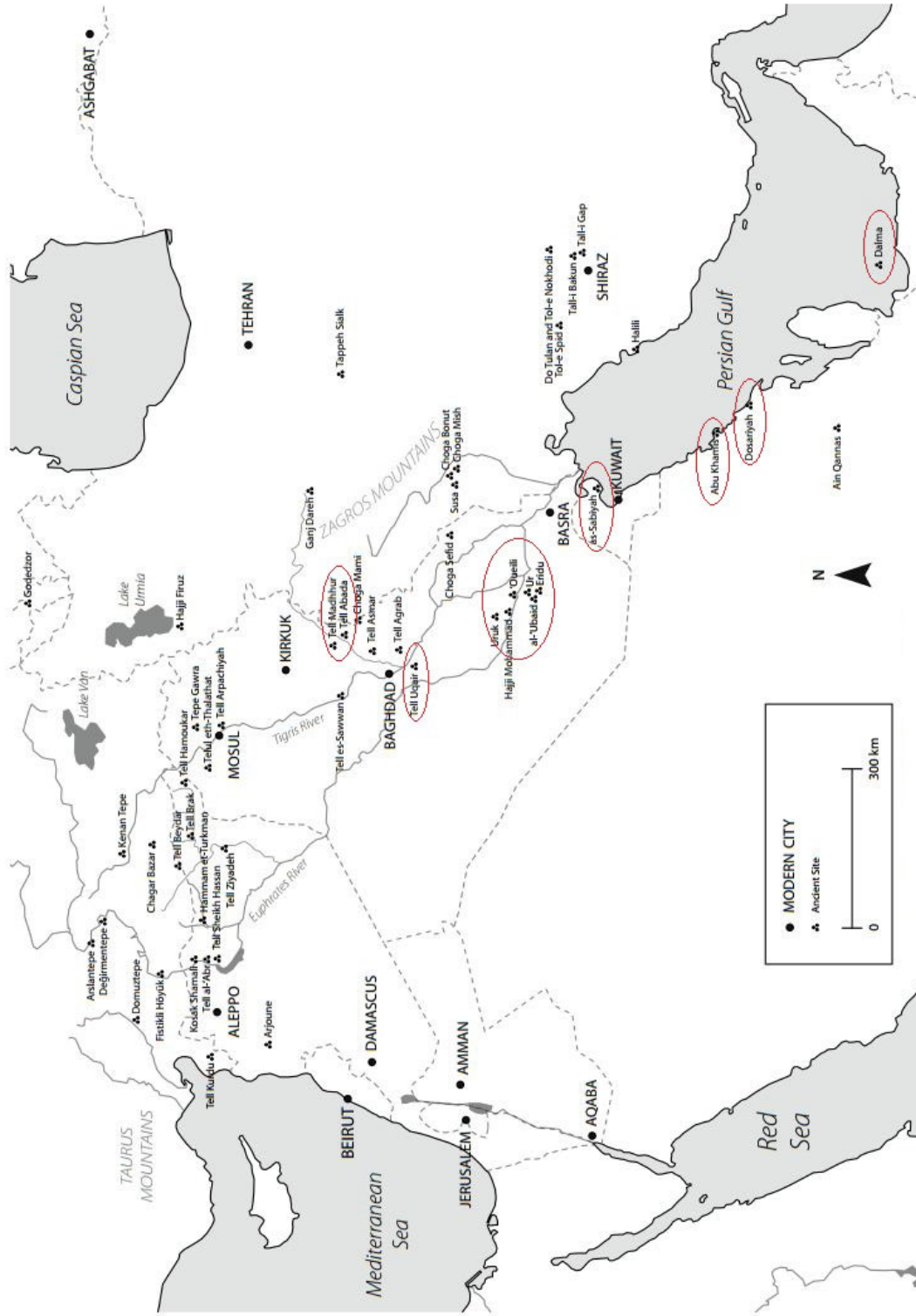


Figure 1.1: Excavated Ubaid-period sites in Mesopotamia and the eastern Arabian littoral; sites mentioned in the text are highlighted in red circles (after Carter and Philip 2010, X).

1960s along the eastern Saudi Arabian littoral brought the presence of Ubaid pottery to the attention of Mesopotamian prehistorians. Since then, many more Arabian archaeological sites that contain Ubaid pottery have been documented ranging from Kuwait through the Central Gulf to the coast of Oman.³ The primarily coastal orientation of these Arabian-Ubaid sites also led scholars to posit a maritime interaction by means of boats, citing as evidence the various boat models that surfaced during excavations in Mesopotamia. The reason for the interaction between these geographically disparate communities (Ubaid and Arabian), however, has been debated ever since (Figure 1.2).

Scholars, realizing that specific material culture originating in southern Mesopotamia spread across a wide geographic range, sought explanations for what appeared to be an “expansion” from southern Mesopotamia to nearby areas. Some early hypotheses went so far as to suggest southern Mesopotamian colonists emigrated to northern Mesopotamian sites, bringing their material culture with them. Unsurprisingly, early explanations for the presence of Ubaid pottery in the Gulf also followed the model of Mesopotamian expansion. Despite the appearance of Ubaid material at many sites, continuing research at archaeological sites outside of Mesopotamia seems to indicate that the adoption of Ubaid material was nonviolent, rather than the result of asymmetrical power relations or forced imposition by the southern Ubaid peoples.⁴ Therefore, it is significant that despite interaction between Ubaid and Arabian peoples, it does not appear that the local Arabian communities adopted any aspect of Ubaid technology. Among the suite of material culture rejected by the local Arabian communities, and pertinent to this thesis, is the tradition of boat-

³Burkholder 1972; Golding 1974; Masry 1974; Roaf 1976; Oates et al. 1977; Boucharlat et al. 1991; Jasim 1996; Uerpmann and Uerpmann 1996; Charpentier and Méry 2008; Smogorzewska 2013.

⁴Oates 1983; Akkermans and Schwartz 2003; Rothman 2004; Stein and Özbal 2007.

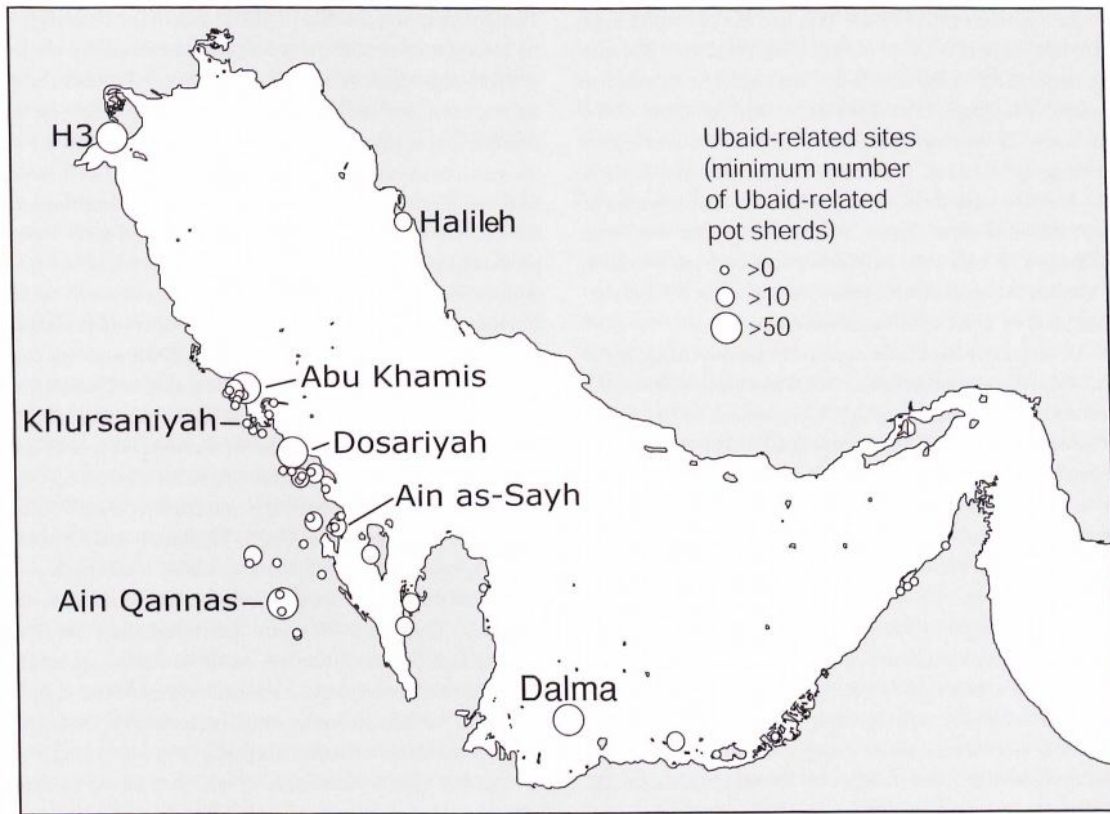


Figure 1.2: Arabian sites with the greatest number of Ubaid ceramics; circles are sized to number of Ubaid pot sherds (from Carter 2010, Figure 1.2).

building, which seems to have developed in southern Mesopotamian in the 6th millennium B.C.E. Due to the apparently selective refusal of Arabian communities to adopt Ubaid technologies, the Ubaid period presents an ideal situation in which to think about tradition, technology, and consumption as processes and problems within archaeological thought more broadly.⁵ All three are intertwined and inherent to understanding the acceptance of Ubaid material culture by some, and its rejection by others. Recently, many scholars have investigated tradition, technology, and consumption within archaeological research design and interpretation with productive

⁵Dietler and Herbich 1998; Lightfoot et al. 1998; Dobres 2000; Dobres and Robb 2000; Pauketat 2001a, 2001b; Lightfoot 2001; Dornan 2002; Dietler 2010.

results, and this thesis will situate the Ubaid-Arabian interaction in terms of these important concepts.

At its core, interaction between Ubaid and Arabian communities could not have taken place without boats that allowed for movement across a body of water. Nevertheless, these boats have yet to be considered beyond their basic function as transport. Part of the reason for this neglect may be due to the fact that as of 2014, it is still unclear to archaeologists working in Mesopotamia and Arabia, who during the Ubaid period was transporting the pottery; that is, in effect, who were the builders of the boats that transported this pottery?⁶ This thesis will argue that the bitumen-reed boats utilized in maritime trade between Mesopotamia and the Arabian Peninsula during the later Ubaid period (ca. 5300-4400 B.C.E.) probably originated as a Mesopotamian tradition, and not a local Arabian one. That is, although Ubaid sailors were bringing ceramic vessels in their boats, both groups played a role in conducting trade. With the latter in mind, it has yet to be stressed that this boat tradition was *deliberately* not adopted by local Arabian coastal communities. In this way, this thesis re-frames the interaction between Ubaid and Arabian communities in terms of consumption. Here, the focus on consumption is what was *not* consumed, rather than focusing on the Ubaid pottery that may have been adopted by Arabian communities. By foregrounding technology, tradition, and consumption, this thesis will consider multiple complementary lines of evidence that include boat models, boat remains, bitumen, ceramic distribution, and faunal remains from published archaeological excavation reports, in order to establish that 1) bitumen-reed boat technology probably originated in southern Mesopotamia and should be considered part of the Ubaid repertoire, 2) it spread elsewhere but not into the Arabian

⁶Magee (2014, 73) notes: “In other words, Ubaid sailors (or Arabian sailors going to Mesopotamia—we still don’t know who actually conducted this trade)...”

peninsula, 3) its rejection in the Gulf is probably because the communities there were not interested in it, and 4) the unique material assemblage of the site H3 in Kuwait, which has both Ubaid and local Arabian material culture, is a direct result of its location at the intersection of these two separate spheres of tradition.

1.1 An Introduction to Previous Hypotheses

As a result of the discovery of intrusive Ubaid pottery alongside local Arabian Neolithic material culture at various sites in the Gulf, scholars put forth several hypotheses to explain its occurrence. Abdullah Masry's synthesis of prehistoric Arabian sites positioned the eastern littoral of the Arabian Peninsula as a significant component of the Ubaid "sphere of influence" and suggested that perhaps "cyclical movements of hunters/gathers from east Arabia into the alluvial valley" may have precipitated the relationship between local Arabian communities and southern Mesopotamia.⁷ Along these lines, Burkholder, wishing to foreground the active role of Arabian communities, speculated that Ubaid ceramic technology originated in the Gulf at the site of Dosariya and (somehow) spread north, but this is almost certainly incorrect.⁸ The discovery of lithic artifacts in pre-Ubaid layers at Tell 'Oueili, an important Ubaid site in Mesopotamia, that display no similarity to Arabian Neolithic lithics, the later date of occupation at Dosariyah, and the absence of a local ceramic tradition in Arabia outside of the Ubaid sites effectively falsify both hypotheses.

Another hypothesis for the appearance of Ubaid ceramics in the Gulf derived from Oates et al.'s seminal study, which used INAA and petrographic analyses to definitively source the Ubaid pottery collected through excavation in the Arabian Gulf to southern Mesopotamia. Their study simultaneously established the dissimilarity of the local coarse-ware from Ubaid pottery, often found in tandem, and the

⁷Masry 1974, 205-7.

⁸Burkholder 1972, 269.

authors argued that seafaring merchants from the southern Ubaid cities sojourned to the Gulf.⁹ However, rather than transporting pottery with the intent to trade with local inhabitants, Oates et al. suggested that the Ubaid pottery in the Gulf were personal possessions of the travelers who had come seeking local resources such as fish or pearls, and the local coarse ceramics found alongside the Ubaid pottery were made by these same Ubaid travelers during their extended stay.¹⁰ Other scholars contend that this is implausible for several reasons, namely that the functional profile of most of the recovered Gulf Ubaid pottery is often decorated fine-ware oriented towards serving/feasting rather than storage or for carrying provisions.¹¹ Moreover, the appearance of Ubaid pottery at smaller and distant Arabian sites seems to suggest that it was traded amongst local populations, rather than brought by Ubaid people. The hypothesis that Ubaid pottery was an item of trade desired by the Arabian communities is further supported by evidence of extensively repaired ceramics, as well as local plaster vessels painted with Ubaid designs.¹² What exactly was being exchanged has yet to be confirmed, but many scholars suggest organic materials such as pearls, textiles/skins, and fish.¹³ Irrespective of what specific resources Ubaid sailors were seeking, most explanations for the Ubaid-Arabian interaction suggest some economic benefit, but new evidence from recent excavations at H3 in Kuwait

⁹The original study (Oates et al. 1977) suggested that Ur specifically was the place of manufacture but a later reevaluation of the data (Roaf and Galbraith 1994) concluded that, at best, Ubaid pottery in the Gulf can be sourced to southern Mesopotamia more generally.

¹⁰Oates et al. 1977, 232-33

¹¹Roaf and Galbraith 1994; Carter 2006, 2010; Carter et al. 2010.

¹²Carter et al. 2010, 4.

¹³Roaf and Galbraith 1994; Carter 2005, 2006, 2008; see Carter (2010, 199) for a full list of proposed items of exchange, with citations; Carter et al. 2010; Dreschler 2011. Although Oates (2012, 481) notes “Ubaid society is not known for ostentation,” referring to the ubiquity of Ubaid burials that exhibit infrequent or no ostentatious treatment and the absence of pearls in Mesopotamian Ubaid sites, a few points should be made. The absence of pearls from excavations in Mesopotamia – especially early ones – could be a preservation/recovery issue, and there is some evidence for economic differentiation/interest in ‘exotic’ or unique objects at Mesopotamian Ubaid sites (Jasim 1985; Carter 2010, 199).

adds another dimension to this interpretation.

Excavations at the site of H3 in As-Sabiyah, Kuwait were conducted in order to better elucidate relations between Ubaid and Arabian communities. In addition to Ubaid ceramics, local Arabian lithics and beads, and architecture (unusual at Arabian Neolithic sites), excavations revealed physical boat remains, a boat model, and a painted disk portraying a sailing vessel. The last objects, for the first time, provide substantial evidence that the Ubaid pottery in the Gulf was indeed transported there by boat.¹⁴ In addition to the bitumen slabs with reed and barnacle impressions, the discovery of a boat model contributes to our understanding of the Ubaid-Arabian maritime interaction. The model, when compared to the previously known boat models from various Ubaid sites in Mesopotamia, exhibits many similar features, and probably represents the same kind of bitumen-reed bundle boat. Although it is made in the local coarse ware, this particular model is said by the excavators to “no doubt ...[represent] a reed-bundle boat” and that “it depicts a sea-going vessel.”¹⁵ A painted disc, also from H3, depicting a boat with a bipod mast suggests that the ability to construct sailing vessels existed at this time, thus enabling long-distance journeys.

Besides providing concrete evidence for bitumen-reed boats, the excavations at H3 have called for a reevaluation of contemporary archaeological explanatory models as to why Ubaid pottery appeared in the Gulf. The authors of the recent H3 publication report posit a socio-political explanation for the appearance of Ubaid pottery in the Gulf. Rather than the exchange of the pottery being the result of an economically-

¹⁴Furthermore, the discovery of these bitumen slabs enabled further research into bitumen-coated reed-bundle boat construction; the physical boat remains from H3 have informed scholars about the bitumen boats of the later, well-documented Sumerian state-operated maritime enterprise recorded in cuneiform texts, and the archaeological experiments aimed at reconstructing those vessels (Vosmer 2000, 2001, 2003; Zarins 2008).

¹⁵Carter et al. 2010, 90.

driven need, Carter et al. see the interaction in terms of gift-exchange with the goal of accruing social capital, although whose goal it was to accrue social capital is never made explicit.¹⁶ Carter et al., evoking Mauss, suggest that giving gifts (in this case, the pottery) results in social capital because it makes the receiver inferior unless reciprocated.¹⁷ Gift giving is an “intrinsically political act, used in social transactions at many levels, including negotiation of status and alliance, and is frequently undertaken on a competitive basis.”¹⁸ This would mean that the giver (who is also the bringer?) of the pottery would gain something intangible, such as cooperation or social capital. However, Carter et al. affirm that “the complexity of Neolithic society has been seriously underestimated...coastal Neolithic communities in the Northern and Central Gulf played an active role in the conduct of long-distance maritime trade” and in their conclusion indicate that possession by the Arabian peoples of the pottery was a symbol of wealth, power, and status for those individuals.¹⁹

Because Marcel Mauss’s gift-exchange relies on three obligations – giving, receiving, and repaying –²⁰ implicit in this interaction is reciprocity from local Arabians, if Ubaid Mesopotamians were the givers of the pottery. However, if Arabians exchanged the pottery between each other, in addition to receiving pottery from the Ubaid traders (and indeed this is what Carter et al. seem to be suggesting), the motive of Arabian Neolithic peoples for engaging with Ubaid traders and the distribution of the pottery as it is found in archaeological sites is explained by the desire to accumulate status/power by means of gift-exchange. In other words, Ubaid pottery was sought by the local Arabian peoples as a non-local object – imbued with

¹⁶Carter et al. 2010, 4.

¹⁷Mauss 1990, 65, 75; Carter et al. 2010, 4.

¹⁸Carter et al. 2010, 4.

¹⁹Carter et al. 2010, 2.

²⁰Mauss 1990, 37-41.

meaning because of its non-local manufacture²¹ – in order to exchange it with other local groups as ceremonial gifts that reified status or wealth. Beyond repair holes in Ubaid pottery, evidence that this pottery was symbolic of social status or wealth for the Arabian communities is minimal. Moreover, if this pottery was internalized by local communities as a symbol of status into Arabian social systems, why does it not appear at inland or other sites around the Arabian Peninsula?

1.2 Another View: Tradition, Technology, and Consumption

Implicit in the archaeological evidence – Ubaid pottery on non-local shores – is a human interaction between geographically and socially disparate groups of people. Thus, the appearance of Ubaid material at Arabian sites presents an ideal case study with which to examine tradition, technology, and consumption in order to understand the nature of the exchange, not just in terms of objects but in terms of social negotiation. Traditions in archaeology are frequently discussed but rarely defined; recently, however, new perspectives on traditions and related behavior from the social sciences and humanities have gained traction in archaeology. These perspectives argue that traditions are dynamic processes – grounded in everyday human decisions and actions – rather than static, geographic, and representative of a single homogeneous culture or entity.²² Any new definition of tradition will require

²¹Mauss 1990, 42-3.

²²Bordieu 2013 [1977]; Lightfoot 2001; Pauketat 2001a; Latour 2005. Sackett (1977, 371) is exemplary of the generation of archaeologists that interpreted traditions in terms of static, time-space grids: “Now a key element in understanding this complementarity of function and style is to apprehend the fact that any given type of artifact is itself inherently dualistic and that, according to how it is viewed, it can present either a functional or stylistic aspect. Thus a double-row barbed harpoon can be regarded functionally as a dynamic element in the missile system of reindeer hunters, or, in its stylistic mode, as a diagnostic of stage VI of the Magdalenian culture of Upper Paleolithic Europe.” He equates an artifact to a time and place, wherein culture equals artifact, rather than (deliberate) practice makes artifact and artifact contains meaning beyond its time-space designation. However, this static interpretation is still prevalent in archaeological literature: Kahanov and Pomey (2004, 23-5) homogenize many communities under a ‘Greek Sewn Shipbuilding Tradition’ and report on the “evolution” of shipbuilding wherein designs “progress” from one “stage” to the next. This teleological argument (“They started with a round sewn hull,

adopting a version of practice-centered theory, or the “study of...what people did and how they negotiated their views of others and of their own pasts.”²³ What this framework permits (that a static understanding of tradition omits) is the consideration of human actors, recognizing that people – who understand *themselves* in a certain way – interact with things and each other to create traditions. Underneath this umbrella of practice-approaches falls technology studies, because technologies are the direct result of knowledgeable practice – a conscious human decision – and practiced knowledge.²⁴ Finally, interaction between groups of people is inevitable because societies do not exist in isolation, and the results of these interactions – in which ideas and objects are consumed and rejected on both sides – are discernible in the archaeological record.²⁵ Michael Dietler has investigated just such an interaction – or, the archaeology of consumption – but in the western Mediterranean, and this thesis is based on several of his ideas.²⁶

Located at the intersection of the three aforementioned perspectives are the boats that were instrumental in Ubaid-Arabian interaction. Hence, these boats serve as a proxy through which Ubaid and Arabian traditions can be examined. The specific way in which they were constructed and used functioned as a marker of identity and practice in Ubaid Mesopotamia, and the vastly dissimilar reaction of Arabian peoples to Ubaid lifestyles (compared to other groups who adopted Ubaid material culture) is best understood in terms of Dietler’s conception of consumption, in which “the selective domestication (or ‘indigenization’) of formerly foreign goods, practices, and tastes *and the rejection of others*” occur as a result of the negotiations between

with widely spaced frames and top timbers, and finished with a wine glass mortise-and-tenon jointed hull”) where ‘they’ is not even specified is what a dynamic-tradition framework tries to rectify.

²³Pauketat 2001a, 73.

²⁴Ingold 2000; Dobres 2000.

²⁵Dietler 2010.

²⁶While Dietler (2010, 59) researches colonization in the Mediterranean, he advocates that “the process of selective appropriation and indigenization is not something that is unique to colonialism.”

proximate peoples.²⁷ This idea of negative demand, wherein “there may simply be indifference to objects that do not fit within culturally structured categories, tastes, or dispositions and for which there is no perceived utilitarian or social use for such objects” is key in thinking about both the boats and agency of local Arabian communities.²⁸

The implication here, of course, is that a perceived use for something would lead to its adoption, but usefulness ranges beyond simple utility of an object. With this in mind, the fact that a suite of certain practices was selectively adopted by contiguous populations around Mesopotamia – albeit slowly and unevenly – is best explained by its use for constructing identity and ideology. Ubaid scholars more or less all agree that the “expansion seems to have taken place through...the replication of existing small systems, rather than the absorption of neighboring areas into a few large expansionistic chiefdoms.”²⁹ This model of interaction – the replication of small systems – relied on the adoption of certain Ubaid characteristics to demonstrate conformity to group identity at the public or private level. Communication between groups that led to this adoption of certain identity markers was probably encouraged by the practice of communal feasting since ceramics were the only artifact common across all sites. Given later developments in the Ubaid period (which is when the “expansion” reaches its greatest extent) that include both an ‘evolution of simplicity’ in ceramic style and an increase in the procurement of exotic goods via close inter-regional interaction and trade, communicating in this way is especially apropos.³⁰ Keeping this in mind – that the Ubaid spread hinged upon interaction and indicates

²⁷Dietler 2010, 55-74, emphasis mine.

²⁸Dietler 2010, 70.

²⁹Stein 1994, 43.

³⁰Stein (2010, 29) notes the “volume of trade in exotic goods seems to have reached a peak in the late Ubaid” while concurrently Kaarsgaard (2010, 57) suggests that “later Ubaid assemblages across Mesopotamia seem most suited to a system in which emphasis has been placed on daily, mundane acts of commensality.”

the deliberate replication of specific traditions – when thinking about the Ubaid presence in the Gulf is important. It is likely that the travelers brought more than just pottery with them; they traveled with their identity and daily practices as well.

At the same time as the sedentary urbanizing Ubaid communities in southern Mesopotamia, the coetaneous inhabitants of the Arabian Peninsula were practitioners of an aceramic, herder-gatherer lifestyle, markedly different from the sedentary agriculturists of Ubaid Mesopotamia. Because of their different lifeways, herder-gatherer groups require different conceptual tools with which to think about their daily lives and social negotiations. William Honeychurch provides just that in his synthesis of the archaeology of pastoral nomadic states. The herder-gatherers of prehistoric Arabia can best be categorized as “multiresource nomads” who “draw on agriculture, hunting, gathering, fishing, specialized crafts and services, exchange, and even participation in the labor market” while emphasizing flexibility to “readily adjust resource emphases, intensification, and degree of mobility to shifts in the local environment and social setting.”³¹ It is this flexibility that is key:

“The location and period of residence [is] a matter of choice...bringing households into new resource zones that offer alternative productive opportunities...Geographic circulation implies that internal and external relationships are mediated by space, distance, and dispersion...[suggesting]...a preference for maintaining options (i.e., flexibility), and the articulation of movement, scheduling, information gathering, and communication...a kind of knowledge that does not just facilitate trade but actually identifies trade as a possibility in the first place.”³²

No doubt the mobile groups of Arabia would have been familiar with proximate others and aware of their surroundings, especially their resources. This in itself – knowledge and flexibility alone – returns agency to local Arabian communities in terms of the Ubaid-Arabian interaction, in which the Arabian communities played

³¹Honeychurch 2014, 288.

³²Honeychurch 2014, 294-97.

an active role in the relationship by identifying trade (of goods or services), communication, scheduling, and possessing intimate knowledge of the landscape. Hence, the contribution of the Neolithic populations of Arabia in orchestrating interactions with Ubaid traders is significant, yet it should be acknowledged that the lifeways of the social collectives in Arabia did not change after contact with Ubaid Mesopotamia, at least not drastically for hundreds of years.³³ Therefore, it appears they chose to maintain their traditional lifeways despite the repeated interaction with Ubaid people. If indeed mobile Arabian groups had incorporated Ubaid ceramics into their social fabric, the implications for mobility, foodways, and many other factors would be substantial. That the local Arabians did not adopt the associated practices of the original intended function of Ubaid material culture (e.g., pottery and boatbuilding) might be due to their preference for, and tradition of, flexibility.

A more convincing explanation for the appearance of Ubaid pottery in the Gulf at select sites, when understood in terms of tradition and consumption, is that they represent places of interaction – that is, communication through commensal activity. Participation in these feasts by the local Arabians was a potential resource, and cultural exchanges no doubt occurred both ways, but Arabian communities did not integrate into Ubaid identity. Some Arabian communities appear to have adapted the ceramics, yet the other main component in these interactions – the bitumen-reed boats – were not incorporated into the Arabian herder-gatherer lifestyle. This selective refusal suggests a negative demand for Ubaid-identity material culture, likely stemming from an absence of perceived use for such technology.

³³Magee 2014, 73-4.

1.3 Structure of the Thesis

In order to argue for a boatbuilding tradition in Mesopotamia, this thesis begins with a chapter outlining boats as artifacts and a type of technology. Subsequently, it will define an archaeological tradition, and use this definition to understand the interaction between Ubaid Mesopotamia and Arabia as one of consumption. Though there are many ways to think about technology, especially prehistoric technology, a social constructionist view here is most appropriate for the purpose of this thesis. Tradition, technology, and social agency are crucial to conceptualizing the bitumen reed-bundle boats in Ubaid society, and it will become clear that this specific technology was precipitated by Ubaid social relations, and should be considered part of the Ubaid material cultural repertoire.

Following this conceptual framework, this thesis synthesizes the social contexts that are intrinsic to the boatbuilding tradition in each area – Ubaid Mesopotamia and Arabia – respectively. In particular, Chapter 3 covers Ubaid traditions that enabled a boatbuilding tradition and the spread of the technology – represented by boat models – and Chapter 4 first questions the usefulness of boats to coastal Arabian communities and then investigates the Ubaid-related Gulf sites with the largest Ubaid assemblages (and most information published), especially that of H3 which is argued to be unique among other Ubaid-Arabian sites. Spatial analyses (see Appendix A for GIS input) mapping the spread of boat models north along the Euphrates and evidence for bitumen and reed use alongside boats at those sites strongly suggest a Mesopotamian origin for the boats, while the simultaneous appearance of ceramics in the Gulf at particular sites alongside local culture, the location of important coastal resources such as pearls, and the almost complete absence of pelagic fish bones at Arabian sites suggest that local Arabians did not need or want boat technology.

To conclude, this thesis reviews the deliberate rejection of Ubaid culture on behalf of the local Arabian peoples, including these bitumen reed boats, suggesting that the meaning of the pottery in the Gulf may lie in social processes of interaction. Finally, if nothing else, this thesis can serve as a synthesis of many decades of archaeological research, providing information related to a very early maritime interaction at a glance, and exposing the gaps in our knowledge that need to be rectified in the future. It goes without saying that this thesis reflects only the current state of knowledge.

2. BOATS AS ARTIFACTS AND TRADITION

2.1 Boats and Tradition

What is a boat? Why should archaeologists care about them? In the field of nautical archaeology, boats have been defined, or more accurately, classified, in a multitude of ways: according to their ability to displace water, the shape of their hulls or type of rig, and even purpose for which the vessel was built.¹ Grouping or classifying vessels by these different means, which has dominated much of the scholarship of nautical archaeology since its inception as a branch of archaeology, can highlight different aspects of construction, trade and economy, or development of boat and ship design over time. Oftentimes, pursuing these questions overlooks the social and cultural processes that govern the creation of boats. At their very core, boats are fundamentally artifacts, albeit very large ones. Simply, they inform us about people's practices because they are the direct and unambiguous result of human innovation and activity. Boats, therefore, can and should be thought of as artifacts that facilitated, and still facilitate, the desire of people to "interconnect in ways that go far beyond the simplest possible forms...over considerable distances, time-depths, and...in general as solutions to problems."² It is this aspect, boats as solutions to problems and means to connect over distances, that is perhaps most meaningful to nautical archaeology.

It should be acknowledged that several scholars of nautical archaeology have contemplated boats and the nature of boatbuilding traditions. Frederick Hocker, one scholar that has addressed tradition in nautical archaeology, equates boat "traditions" and classic archaeological artifact typologies. He states that "these traditions

¹Hornell 1946; Hasslöf 1972; McGrail 1985; Steffy 1994, 10-4; Greenhill 1995.

²Knappet 2011, 58.

are defined by observable and or deduced physical characteristics” and believes “basic patterns or concepts can be recognized in a wide variety of boatbuilding traditions otherwise segregated into discrete regional or chronological units.”³ The definition of tradition that Hocker operates under without stating explicitly is the conventional definition of tradition. In other words, a previous generation of archaeological scholarship defined traditions “as persistent cultural traits that exhibited continuity with the past and could be delineated in time-space grids.”⁴ Though this definition has endured in some corners of regional archaeological research without challenge, recent scholarship in anthropology and other social sciences has reexamined and redefined the concept of tradition, casting it instead as “the means of continuously redefining cultural production through daily practices.”⁵ Lightfoot here particularly emphasizes the multiple meanings and dynamic nature of tradition – including social negotiations, identity, and change – and advocates multiscalar investigations in order to understand them.

Although it is clear that Hocker conceptualizes boat traditions in terms of identifiable construction characteristics in the archaeological record, he appends that trying to understand boatbuilding traditions “is a sort of psycho-archaeology, which seeks to reconstruct not just the ships and boats but also the ideas and thought processes that produced them....although it is often hidden behind complex jargon and theory.”⁶ In a departure from previous hypotheses on ship construction, Hocker extended the traditional and somewhat basic shell/skeleton divide into “three main areas: design, assembly sequence, and structural philosophy” wherein “structural philosophy is the way in which the shipwright intends the component timbers of

³Hocker 1991, 9; Hocker 2004, 2.

⁴Lightfoot 2001, 238.

⁵Lightfoot 2001, 250.

⁶Hocker 1991, 9.

the hull to distribute the different working stresses the vessel can be expected to encounter.”⁷ Here, contained within his ‘structural philosophy’, exists a glimmer of ‘reconstructing...the ideas and thought processes’ behind the construction of a boat or ship. He seems to recognize that boatbuilding is a dynamic process by noting that boatbuilders are “guided, in each case by the available materials and techniques, by the cultural background, as much as conscious choice.”⁸ It is curious then, that his ‘structural philosophy’ as it is, does not explore those cultural influences. Expanding his idea to include social processes and practices (per Lightfoot’s definition of tradition) in addition to physical limitations would perhaps be a more holistic and accurate picture of boat construction.

Another scholar that contemplated differences in boats around the world is James Hornell, an early nautical historian. He might have been one of the first nautical thinkers to emphasize the importance of natural conditions for boatbuilding in his singular mission to trace the ‘evolution’ of boat design.⁹ Intrinsicly, Hornell suggests the major differences in boatbuilding practices are related to the environment, but while certainly important, the environment is not explanation alone. There are many natural resources around today that groups of people choose not to use, and there have been human communities all over the world living near the water but choosing to not engage with it for food or transportation.¹⁰

⁷Hocker 2004, 6.

⁸Hocker 2004, 5.

⁹Hornell (1946, vii) is also dangerously teleological and traditionally static: “The major details of their construction will be reviewed and their geographical distribution in time and space will likewise be recorded. Some [boats] have failed to progress far beyond their primary condition—these are the dead ends of our subject; others have evolved into water-craft of considerable complexity, masterpieces...”

¹⁰Arnold (1995, 734) reports that only a few of more than 60 groups inhabiting the North American Pacific coast regularly constructed seafaring vessels and explains that “[r]easons for absences of seaworthy watercraft among other groups vary, ranging from inadequate raw materials for boat construction to few incentives to develop boats because of rough coastal waters or poor offshore resources.”

A third nautical scholar, Hasslöf, writing on the technology of shipbuilding, later suggested that boat yards were ideal places to investigate how different approaches, ideas, and ways of thinking are involved in selecting and passing on certain construction aspects, an important concept that might be closer to the heart of the matter.¹¹ This key concept – Hasslöf’s observation of the connection between technology and the cultural decisions that inform and develop traditions over time – is at the very core of nautical archaeology. One way to understand these traditions is to ask *how* boats were built, but not in the sense of physical construction. Rather, what are the dynamic social processes and decisions enabling the construction of boats? A body of literature in the social sciences and relevant to archaeology suggests that the answer lies in a combination of socio-cultural factors. Tradition in this sense is best explained in terms of Bordieu’s *habitus*, which suggest that actions contain meanings yet are perceived as ‘common sense’.¹² Building upon this idea is tradition as “the medium of change;” that traditions are part of dynamic negotiations between people and things and surroundings, consciously or unconsciously.¹³ In the same volume dedicated to reconceptualizing the archaeological tradition, Kent Lightfoot summarizes an alternative definition:

“In viewing cultural production as a negotiated historical process involving individual agency, it becomes clear that individuals and groups, depending on their values, beliefs, and motivations, may instigate very different kinds of cultural practices. If the performance of these practices persists long enough to become archaeologically visible, then we may be able to define them as distinct traditions.”¹⁴

¹¹Hasslöf 1972, 72.

¹²Bordieu (2013 [1977], 77-9) emphasized that “a given action in a given situation brings into play a whole body of wisdom, sayings, commonplaces, ethical precepts (‘that’s not for the likes of us’) and, at a deeper level, the unconscious principles of the ethos which, being the product of a learning process dominated by a determinate type of objective regularities, determines ‘reasonable’ and ‘unreasonable’ conduct for every agent...” and for this reason, “each agent, wittingly or unwittingly, willy nilly, is a producer and reproducer of objective meaning.”

¹³Pauketat 2001a, 80.

¹⁴Lightfoot 2001, 243.

Historical in this sense refers to the fact that “traditions are always in the process of becoming,”¹⁵ meaning that behavior in the present – those daily negotiations, decisions, and struggles of people and groups – is what makes traditions in the past. A particularly useful way to think about these decisions and tradition is in terms of persistence and resistance, and although resistance should be used with caution, it can be as simple as a decision to do the same thing, or something slightly different.¹⁶

In this manner, engaging with “complex jargon and theory” can actually help conceptualize boats within their social environment and help us focus on the data that are relevant to our overarching questions. Since boats in the archaeological record were made by people in a series of decisions and negotiations for various reasons within the confines of specific cultural mores, they should not be divorced from these facts. Moreover, the archaeological record has the potential to reveal this information: indivisible from these perspectives about tradition are concepts exploring how technology encodes cultural information, which is then preserved in artifacts. As is well established in archaeological literature, “the static material remains of the archaeological record are the archaeologist’s link for inferring the dynamic social processes accounting for them.”¹⁷ That is, archaeologists are not interested in the things themselves, but the people responsible for them since “material culture, as a dimension of practice, is itself causal...an enactment or an embodiment of people’s dispositions—a social negotiation.”¹⁸ It is these dispositions, solutions, actions, negotiations and operations by people, between people, and between things, that are responsible for material culture, and which in turn are ordered by material culture.

¹⁵Pauketat 2001a, 80.

¹⁶Lightfoot 2001, 242-47. Scarry (2001, 44-51) presents an archaeologically-informed case-study of resistance in daily life. The Apalachee consciously resisted the Spanish in a number of small ways: by maintaining an open house plan, producing traditional ceramic styles, eschewing new foods, maintaining traditional mortuary practice, etc.

¹⁷Dobres 2000, 142; Wylie 2002; Skibo and Schiffer 2008.

¹⁸Pauketat 2001a, 88.

2.2 Perspectives on Technology

Technology studies today can be found at the intersection of a variety of fields, including philosophy, anthropology, archaeology, sociology, history, political science, and material sciences; each offers a different (and often separate) lens through which to view technology and its implications for society. If it follows that boats are artifactual remnants of a form of technology, then one way to understand the role of boats in a society is to think about this phenomenon from a technological point of view. Miller, an archaeologist advocating archaeological approaches to technology, wonders what the study of technology can contribute to archaeology. A cohesive framework centered on technology “provides information about the development and acceptance of new objects and new production techniques, and about changes in past economies, social structures, and political organizations in relation to the invention or adoption of technologies.”¹⁹ What is implicit in this explanation is also the rejection of certain technologies, a point that will be addressed later; these instances one can view as persistent traditions or resistant traditions.²⁰

There are many ways that studying technology enhances archaeological research, especially for understanding tradition. One established set of perspectives embraced by many archaeologists relies on evolutionary modeling for its theoretical base, but these perspectives are often conceptually distinct from (and can be opposed to) more agentive approaches to technology.²¹ Although commonly employed for long-term technological trends such as the relationship between artifacts and human cognition, and tracing relationships between human groups through artifact typologies, models that deal with short-term change in evolutionary archaeology also exist. For instance,

¹⁹Miller 2007, 7-8.

²⁰See Lightfoot 2001; Scarry 2001.

²¹Kuhn 2004.

there are models of technological investment that suggest that there should be a correlation between high-yield activities and an investment in artifacts to achieve that which is most beneficial to the group; yet in instances where there seems to be technological investment that does not coincide with “encounter rates, yields or relative importance of particular resources”²² other explanations, especially socially-based incentives, can be invoked. In essence, if there appears to be an over-investment in technology that is not necessary for survival, or does not maximally benefit the group, then there is likely another explanation for why it is practiced. However, the primary disadvantages with these kinds of evolutionary perspectives on technology are twofold: 1) they generally focus on large-scale processes and in doing so, 2) fail to recognize variation in human groups with distinct social, symbolic, and cultural motivations. Simply, “there is usually more than one technology that satisfies the minimum requirements for any given task”²³ and by extension, is it crucial to recognize that technology and technological change are the direct result of human decisions. Pottery is an excellent example of this decision-making; there are many ways to solve basic problems of storage, portability, food preparation, and consumption – baskets and skins are alternative options – yet for a particular set of reasons unique to each situation, human populations choose to invest in ceramics, and often design them in vastly different ways. The investment in one particular technology or material over another equally suitable alternative “may be strongly influenced by the beliefs, social structure and prior choices of the society or group under study”²⁴ and hence, it is imperative to incorporate social and cultural considerations in the study of technology, especially for the study of boats.

Along these lines – the dual nature of technology and social processes – Dobres

²²Kuhn 2004, 564.

²³Killick 2004, 571.

²⁴Killick 2004, 571.

underscores the role of the Enlightenment in dividing the study of *tekhnē*, originally the marriage of knowledgeable practice and practical knowledge, and *tekhnē* (the craft) + *logos* (dispassionate, rational logic).²⁵ Thus the concept of technology, and subsequently its study, morphed into alien parts, one considering the thing produced and the other the rationale/method, but never both at the same time within social context.²⁶ Before the Enlightenment, and before the accompanying social implications of this split, including the gendering of labor that we experience today, technology was intertwined in the same dynamic social negotiations that create traditions. Dobres argues that:

“practical knowledge and knowledgeable practice instantiated each other through the experiences and meanings technicians gave to their interactions with each other and the material world, and how such knowledges and practices were guided by overlapping social, functional, rational, political, symbolic, and material factors.”²⁷

She highlights these factors in particular to juxtapose technology and the manufacturing of things in the ancient world with how we perceive technology today. Producers today generally no longer own the means of production, but in the past, production – governed by the aforementioned factors – was the result of a series of social negotiations with the producer as mediator between such factors, the physical materials, and the thing produced. The decisions that affected production were socially informed and inculcated through negotiations with identity and others; and it is precisely these negotiations and decisions that Hasslöf observed in the ship yard.

²⁵An example of this division from nautical archaeology is quoted from Steffy (1994, 23): “Ships and boats were conveyances...they were nothing more than structures for conveying someone or something from one place to another...Far too often they are placed on historical pedestals that tend to segregate them from fact, which clouds accurate interpretations of their true value to society. Ships and boats were merely objects used to accomplish specific ventures—nothing more, nothing less.”

²⁶Dobres 2000, 50-60.

²⁷Dobres 2000, 123.

Dobres affirms: “it is...artificial and inappropriate to tease apart ‘the social’ from ‘the symbolic’ from ‘the material’ in an effort to identify the separate contribution each makes to that whole.”²⁸ Hence, these concepts are applicable to nautical archaeology: this artificial divide Dobres cautions against is akin to examining hull construction (material) separate from the environment in which it was constructed - the ‘how’ (social) - separate from the other artifacts on board (symbolic), as if these pieces were conceived of separately in the past. Taken together, these aspects of a boat or wreck can inform nautical archaeologists about the social negotiations and decisions that went into the construction of a boat, but studied separately, the meaning of the boat is incomplete.

Considering the whole – material, social, and symbolic – is especially pertinent when examining early boatbuilding traditions, for in the absence of written information, it is the only way to understand them. Not only were the physical materials involved in building a boat important, but how they were procured and processed inherently involved negotiations between people in the community. These were certainly social acts (i.e., they took place in public amongst other people) involving cooperation and compromise among individuals. Because “technological practices are obviously constrained by the laws of physics and chemistry and by their geological, ecological and historical settings...but within these constraints there is usually more than one possible way of accomplishing a given technical task,”²⁹ the produced boat is a result of an initial series of decisions regarding materials. In the case of the Ubaid bitumen-reed boats, Ubaid communities were constrained and enabled by locally available raw plant and animal materials, geology, water, etc., but chose what to do with them. In addition to building boats when it was not necessary with

²⁸Dobres 2000, 98.

²⁹Killick 2004, 572.

very specific materials, they also chose how to use them. Similarly, why the Arabian peoples apparently chose not to use available resources or procure materials for the construction of boats must also be, in large part or small, socially informed.

Fortunately, the Ubaid period in Mesopotamia has provided archaeologists with the opportunity to understand dynamic social organization and relationships in the form of myriad material culture including pottery, architecture, and a host of other recurring artifacts. Of particular importance here are boat models, which illuminate the symbolic, and provide information on materials and the social aspects of this particular boatbuilding tradition as well. While the same variety of material culture does not exist for the local Arabian peoples, this does not mean that they were asocial, asymbolic, or atechological. Indeed, placing too much emphasis on technology “can convey the impression that mobile hunters and gatherers are somehow less fully human than people that live in villages and cities, that their worlds are less complex, less socially constructed and less imbued with ideology” but this bias might arise from the fact that nomadic groups typically make objects from materials that rarely preserve in the archaeological record, such as baskets or animal skins.³⁰ Rather, it is clear from all sites that the communities inhabiting the Arabian Peninsula practiced their own technological traditions, in the form of lithics and beads, and that there were material dimensions to their ideological practices (e.g., the dugong mound at Akab and burial at Jebel Buhais 18).³¹ With this conceptual framework, this thesis argues bitumen-reed boats were a meaningful product of Ubaid society; at the same time, these boats and related activities were clearly not meaningful to local Arabian groups.

One potential way to evaluate the meaning of the physical reed-boats to society

³⁰Kuhn 2004, 567.

³¹Méry et al. 2009; Beauclair et al. 2006.

is their manifestation in symbolic things, namely ceramic boat models and other depictions. While their provenance and other details will be discussed in more depth in the following chapters, their ubiquitousness alone is suggestive. Although they are found thus far only in Ubaid sites along the Euphrates or its tributaries, they are found in various, mostly non-ritualistic contexts at different sites. This might suggest that they were commonplace and inherent to every-day life, representing that “unconscious” form of knowledge that stems from practicing a tradition.³² These models might be seen as a manifestation of Heidegger’s intelligent awareness: “through embodied (phenomenal) and mediated experiences with material things, technicians simultaneously produce both material objects and an awareness of themselves as knowing agents.”³³ This suggestion – that the relationship between the artisan and the product he or she produces is a meaningful one – likely this extends to the artistic representations of these technologies as well.

2.3 Summary

In conclusion, three basic assumptions about technology inform the direction of this thesis. Although they can be considered for the other traditions practiced in each region as well (e.g., Ubaid pottery, Arabian lithics, etc.), those are separate investigations unto themselves. This thesis focuses on boats specifically, which can be understood in terms of the following:

1. Technologies are meaningful acts of social engagement with the material world that serve as a medium through which world views, values, and social judgments are expressed tangibly and reaffirmed or contested in daily practice.

³²Bordieu (2013 [1977], 113) writes “it is by ‘practical sense’ that an agent knows, for example, that a given act or object requires a particular place inside a house...”

³³Dobres 2000, 82 *sensu* Heidegger 1977, 1-19, 12: “Technology is therefore no mere means. Technology is a way of revealing.”

2. Technological practice produces not only practical knowledge and material things, but also personal and cultural understandings that can serve political ends.
3. Technologies are fundamentally about people, mindful communities of practice, and social relations of production.³⁴

Adopting this conceptual framework that highlights technological production and traditions as dynamic processes grounded in social negotiations and decisions permits a reassessment of the Ubaid-Arabian interaction. These social processes – navigating the social, material, and symbolic – are what precipitated the construction of bitumen-reed boats, and these boats in turn facilitated interaction between disparate groups of peoples. This interpretation of the Ubaid-Arabian interaction focuses especially on the decisions to consume – or not – as part of those social processes.

³⁴Dobres 2000, 125-26.

3. THE TABLE IS SPREAD: IDEOLOGY AND IDENTITY IN UBAID MESOPOTAMIA

Recent excavations at multiple Ubaid-period sites outside of southern Mesopotamia, across Arabia and in northern Mesopotamia, have permitted new understandings of the processes driving the spread of Ubaid material culture.¹ This chapter argues that tradition was fundamental to Ubaid ideology: more important than the artifacts themselves were the human actions they represented. In the Ubaid period, material objects facilitated interaction and communication between groups of agriculturalists living in Mesopotamia in the largest settlements up to that time, and ultimately, these objects and interactions fostered a common identity that different communities participated in through use of such objects. Among these Ubaid material objects are boat models that represent an Ubaid tradition of identity: the use and construction of the real bitumen-reed boats that the models emulate.

This chapter first outlines behaviors and traditions – mediated through objects – that were fundamental to Ubaid ideology and then the time-space dynamics of bitumen-reed boats in the context of these traditions. The archaeological evidence points to the early inception of a boatbuilding tradition in the marshy southern region of Mesopotamia. During the later Ubaid period ca. 5300-5200 B.C.E., boat technology – represented by boat models – appears to spread to other local communities in Mesopotamia along with other Ubaid identity markers and their associated behaviors, especially ceramics. This connection between artifact and the traditions they represent (i.e., the actions and decisions that comprise the tradition) is important for understanding Ubaid material at Gulf sites. The Ubaid assemblages in the

¹Henrickson and Thuesen 1989; Carter and Philip 2010.

Gulf, known through pottery that was brought in boats, likely represent identity through certain behaviors and traditions, rather than material objects alone.

3.1 Ubaid Traditions and Identity

Unfortunately, early excavations and research into Ubaid-period sites in southern Mesopotamia (or, the Ubaid “heartland”) were dedicated to formulating a temporal framework through pottery typology.² Consequently, contextual information from the early excavations is often lacking, without which it is difficult to interpret the social context of recovered Ubaid artifacts. Nonetheless, excavations outside of southern Mesopotamia have shed light upon social processes during the Ubaid-period, which can be used to understand the earliest Ubaid sites (i.e., sites with the longest stratigraphic sequence of Ubaid material). Excavations at Eridu, Al-Ubaid, and Tell el-Oueili in southern Mesopotamia indicate that the Ubaid material repertoire originated in the southern part of the contemporary state of Iraq sometime in the 6th millennium B.C.E. In the later Ubaid periods, beginning roughly in 5300-5200 B.C.E. and usually periodized as Ubaid 3-4, a suite of Ubaid material culture appeared that included very distinctive pottery, tripartite architecture, clay nails, flanged disks or labrets, communal cemeteries, and niched and buttressed public buildings. This material repertoire appears to have spread north along the Euphrates into Anatolia, east into the Susiana Plain in Iran, and south into the Arabian Peninsula. To this list of diagnostic Ubaid material culture may be added bitumen-reed boats, and their representation through models.

Scholars working on the Ubaid today, mostly at sites that lie outside Mesopotamia, prefer such terms as “horizon” or “phenomenon” rather than “the Ubaid” because it is clear now that it was not a homogeneous, uniform cultural entity with an

²See Oates (1960; 1987) for a discussion of Ubaid chronology, and a recent thesis (Streit 2012) attempting to synchronize the regional chronologies of the Levant and Mesopotamia.

asymmetrical center-periphery relationship. Rather, there were indigenous cultural groups around Mesopotamia that appear to have gradually adopted selected features of the Ubaid repertoire while maintaining local practices, or arguably, practicing/maintaining resistant traditions. Gil Stein summarizes decades of recent research and debate best:

“We can visualize greater Mesopotamia in the fifth millennium as composed of a set of distinct regions having different economic systems, and varying degrees of emergent social complexity. Although some regions (Ur/Eridu, central Mesopotamia, the eastern Jazira, and the Hamrin) seem to have shared in an emergent elite ideology encoded in exotic prestige goods such as stone maceheads and stone palettes, the broader linkages across the Ubaid horizon seem to have been grounded in other, more inclusive ideological spheres...”³

Stein formulated this definition from archaeological data at Ubaid sites in different geographic regions or zones – important for this discussion include south-central Mesopotamia (Eridu, Ubaid, Oueili, Uqair), the Hamrin (Tell Abada), and north-west Syria (Tell Mashnaqa) – that suggest local inhabitants in each region adopted different aspects of the Ubaid repertoire, often merging them with their own local traditions. It is clear from such case-studies of sites outside of southern Mesopotamia that the communities at each site practiced local traditions, among them agriculture and animal husbandry best suited to local environmental and ecological conditions. Yet, these communities also selected at least one of the Ubaid markers – such as tripartite architecture, public temples, figurines and other clay objects – in addition to a particular ceramic style, incorporating these markers into daily life.⁴ How these cultural markers spread was once a matter of serious debate, but increasingly it looks like it is precisely this mechanism – the decisions of individuals to participate in a larger group identity by means of selecting certain material symbols and then repeat-

³Stein 2010, 38.

⁴See Carter and Philip 2010 for multiple case-studies.

edly practicing them – that accounts for a widespread Ubaid tradition. Why groups adopted this material repertoire is still a matter of debate, but one possibility is that variation in environmental resources across the landscape created demand for cooperation between neighboring groups and zones in order to obtain other resources, thus resulting in an exchange network that could have been facilitated by sharing a common identity.⁵ One way to foster this identity – presumably which enabled communication and interaction – is through a form of “social technology,” or communal feasting.⁶ This hypothesis is supported by the fact that the ceramics are the only common Ubaid artifact across all sites (Figure 3.1). Not only do ceramics strongly suggests a public conformity to a specific ideology because of their quotidian nature, but their use might hint at a larger tradition of feasting. Public in this sense refers to the fact that others were meant to observe this conformity, and ideology in this sense is not necessarily religious (although public temples did exist at certain sites), but a form of group identity.⁷

Feasts are one such way to inculcate public identity, for they serve many purposes. Hayden explains “feasting [is] one component of ‘social technology’...the creation and maintenance of social relationships that are predicated on securing access

⁵Stein 2010.

⁶Hayden 2001, 26; Berman (1994, 29) suggests that the ubiquitous “Ubaid pottery style would have been more noticeable by its absence in a household than by its presence.”

⁷Excavations at Tepe Gawra (Stein 2010, 34) in the Jazira reveal that “the people of Gawra adopted Ubaid material culture incrementally and selectively, appropriating some items far earlier than others. This is especially clear when we focus on the ways that material culture can express distinction between the public and the personal components of identity. Public identity can be...expressed in material culture used in highly visible social domains such as ceramics, architecture, ritual paraphernalia or badges of rank...By contrast...one would expect personal identity to be materialized in small personal ornaments that would be most visible and [informative] in contexts such as face-to-face interaction. At Tepe Gawra, the first markers of Halaf identity to be replaced were ceramics and house form...similarly, highly visible Ubaid prestige goods or badges of rank, such as polished stone mace-heads, also appeared at an early date. By contrast, however, the longest-lived Halaf artifact types were small-sized markers of personal identity: seals, sew-on ornamental studs, and tanged pendants...”

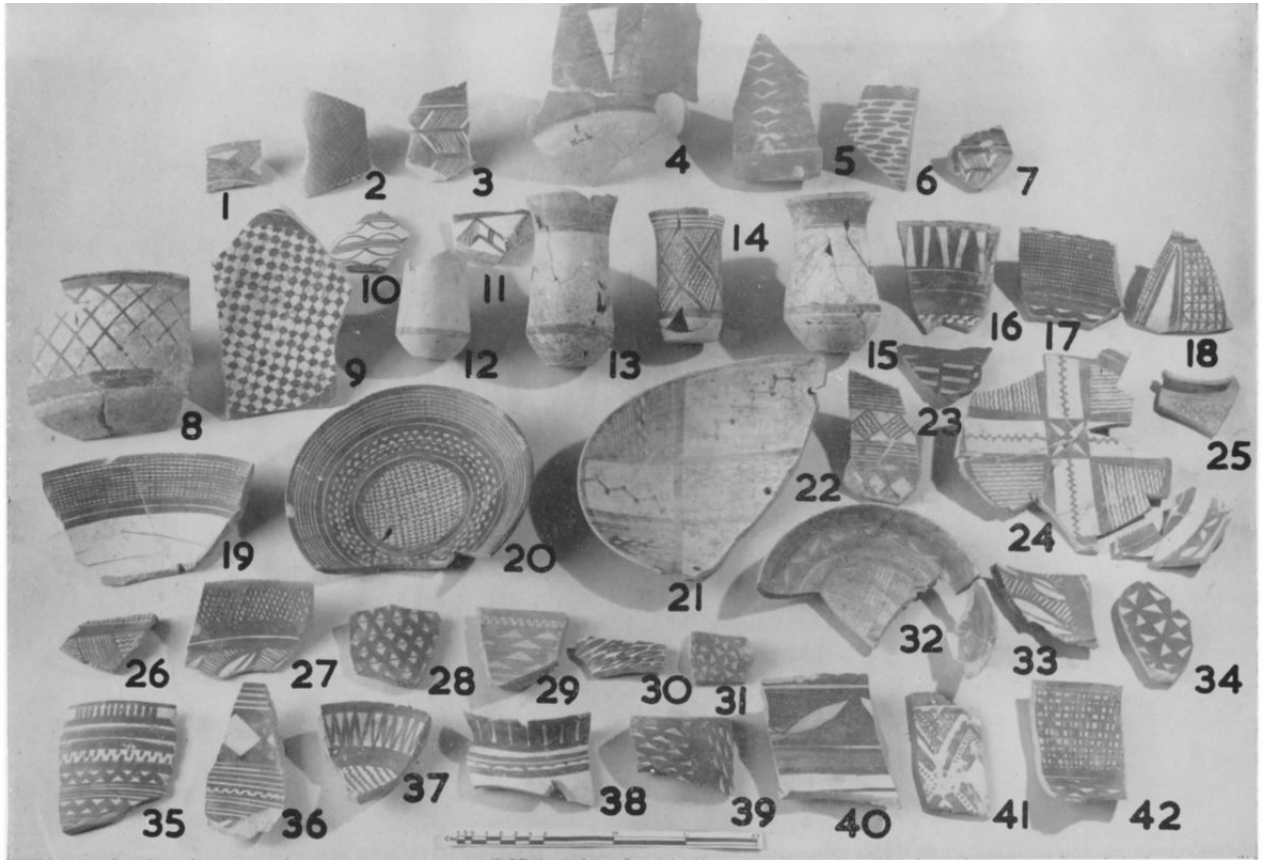


Figure 3.1: An assemblage of early Ubaid style ceramics from Eridu (from Oates 1960, 35: Plate V).

to resources, labor, or security.”⁸ Among these social relationships, the benefits of feasting include: fostering cooperation/creating alliances between different groups; attracting mates, labor, or allies; creating political power; soliciting favors; compensating for transgressions.⁹ While all of these benefits involve negotiations between people, they fall into two broader categories of motivation: “creating cooperation, alliance, or social distinctions on the one hand versus economic benefits on the other.”¹⁰ In either case, as a malleable, non-violent medium for accomplishing many objectives

⁸Hayden 2001, 26.

⁹Hayden 2001, 30.

¹⁰Hayden 2001 37.

– communication, exchange, attracting labor – it is possible that feasting was a serious component of Ubaid cultural identity. Studies on use-wear patterns of ceramic pottery suggest that such feasts were indeed commonplace and the persistence and development of Ubaid ceramics over time points to this as an enduring tradition.¹¹ It is probable that feasts were intended for different purposes at different times; commensal activity to encourage cooperation or exchange networks helped facilitate the transmission of Ubaid cultural material, whereas feasts to accomplish tasks, building projects, and harvests were also necessary for daily life.

Related to the importance of feasting in Ubaid culture is a study on Ubaid ceramics at sites in Iran that demonstrated the Ubaid ceramics were locally produced yet decorated in the same manner as ceramics at other Ubaid sites across the entire Ubaid horizon – from Iran to Syria – implying close interaction between groups of people from different regions.¹² Many of the Ubaid sites (Eridu, Tell Abada, and Tell Mashnaqa) have pottery kilns which also suggest local production, yet the ceramics are decorated homogeneously across time and space.¹³ Some ceramics were probably traded as well, but this conscious decision to decorate pottery in a specific way would be one way to signify identity, especially if those ceramics were used in interaction between groups of people.

Ubaid public identity appears to also have been expressed through body adornment, as with lip labrets and ear spools (Figure 3.2).¹⁴ The use of body ornaments

¹¹Kennedy (2012) studied use-wear patterns on painted Ubaid ceramics and plain ‘Copa’ bowls to determine whether the plain, uniform vessels (Copa bowls) were used by a central authority to distribute rations in a social system where elites controlled labor. He determined that these plain bowls were used less frequently and found in equal distribution with painted Ubaid ceramics inside domestic structures, suggesting that instead they were used occasionally during collective work events, and he argued that daily meals and commensal activity were intertwined with shared labor and household solidarity.

¹²Berman 1994.

¹³Moore 2002; Akkermans and Schwartz 2003.

¹⁴Stein 2010; Croucher (2010, 117) affirms: “Included in the category of adornments are labrets (lip plugs), most commonly worn through the bottom lip. Labrets are common finds from the

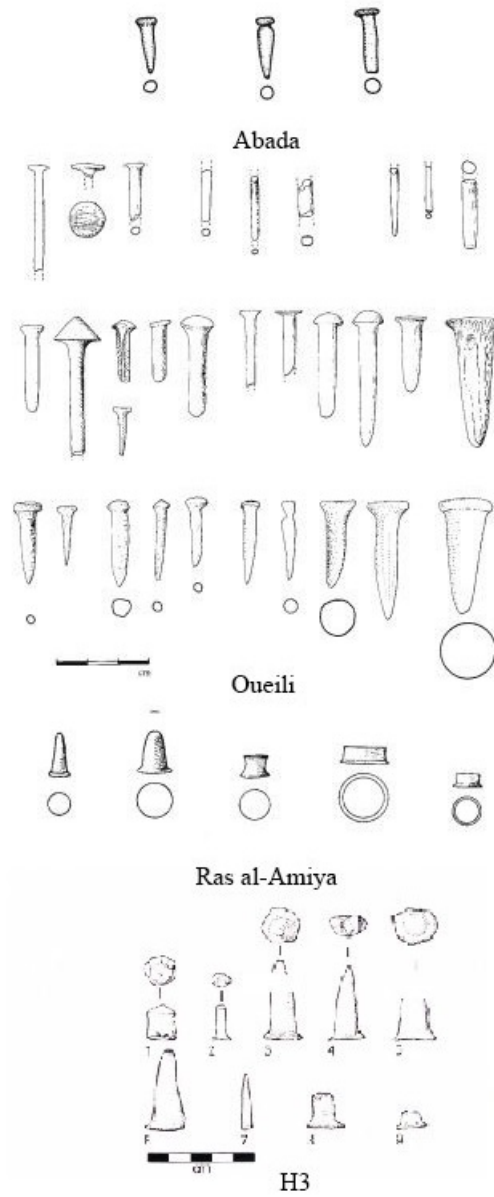


Figure 3.2: Assemblages of labrets from the Ubaid sites Tell Abada, Tell Oueili, Ras al-Amiya, and H3. These labrets, worn through the lip, and ear-spools may have been distinct body ornaments (after Stein 2010, 31: Figure 2.5.)

to “[mark] already-given aspects of social status of the individual person, or as me-
 Ubaid period. These have most famously been recorded from the Deh Luran Plain excavations, where a labret was found in situ against the mandible, with corresponding wear marks on teeth.”

dia for the communication of given social identities” assumes that these signals were understood in public.¹⁵ The ubiquity of these decorations across sites suggests that public, and intrinsically community, identity was important to the people of the Ubaid period. Moreover, while displaying these adornments included the wearer in a specific group (i.e. Ubaid identity), such public markers would result in the exclusion from others (e.g. Arabian populations), by virtue of being overtly public. Karsgaard undergirds the importance of community identity by suggesting the “evolution of simplicity” in the later Ubaid 3-4 ceramic designs (which coincides with its appearance at distant sites) and the trend towards more closed vessels reflect an effort to downplay the role of the individual in favor of a community and communal Ubaid identity, reinforced by daily group consumption that “foster social solidarity rather than to mark status differentials among individuals.”¹⁶ Furthermore, an analysis of household cooking and consuming practices at Tell Abada and Tell Madhur in the Hamrin suggests that cooking and dining occurred in specified areas. Food was prepared in side rooms or outside, and consumed in large, central rooms (decorated with wall paintings at Tell Madhur) where several people could gather. It appears that cooking ware was much plainer than the dining pottery, and two main vessel forms suggest either slow-cooking stew-like mixtures, or baking. These distinct ceramic vessels related to food preparation and consumption clearly structured and informed the Ubaid commensal tradition, an important component of Ubaid daily practice implemented in a very specific way.¹⁷

Thus, these studies converge to suggest that the Ubaid ‘expansion’ was actually a non-imposed spread of a visible community identity, of which feasting was a significant component. Traditions – e.g. using specific ceramics in feasting to

¹⁵Joyce 2005, 142.

¹⁶Karsgaard 2010, 57.

¹⁷Pollack 2010, 107.

communicate, maintain social relationships, and mobilize labor – were important to the Ubaid period, and common social ground led groups of people to adopt them because of a “perceived utilitarian or social use for such objects.”¹⁸ To this can be added the bitumen-reed boats as one of several Ubaid material identity markers and a distinctly Ubaid tradition. Based on the apparent spread of a very specific design known through boat models (Figure 3.3), it is argued that bitumen-reed boats were meaningful to Ubaid identity in addition to their utility for groups near water.

3.2 Building a Tradition in Southern Mesopotamia

Southern Mesopotamia, a region in the lowland-marshlands of the Shatt al-Arab, is home to the oldest Ubaid settlements – and the oldest boat models. While it has been recognized that early urbanism in this lowlands environment was enabled by wide, irrigable plains; abundant pasture lands extending into the foothills of the Zagros; and swamps and marshes,¹⁹ excavations in northern Mesopotamia and Anatolia demonstrate that during the Ubaid period consolidation and urbanism occurred without these specific resources.²⁰ Converging geological, sedimentological, and paleoecological work confirm that “by c. 6000 B.C.E...eustatic and local sea-level rise had extended the head of the Gulf as far inland as modern Basra” and “beyond the mid-Holocene ‘shore’ lay a quilt of salt marshes, lagoons, estuaries, and reed marshes.”²¹ This deltaic environment was a significant advantage to the southern Mesopotamians, and likely provided a variety of resources, including “food, fodder, fuel, and raw materials (minimally including fish, reeds, dates, flax, salt, dyestuffs, and shell)” not to mention valuable avenues for mobility and communication.²² It is

¹⁸*sensu* Dietler 2010.

¹⁹Adams 1972, 1978, 1981; Pournelle 2007; Algaze 2008.

²⁰Oates 1983; Akkermans and Schwartz 2003; Ur 2007.

²¹Pournelle and Algaze (In Press), 2; see also Al Ameri and Jassim 2011.

²²*sensu* Algaze 2001, 2008.





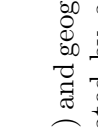



	Mashnaqa	Abada	Uqair	Uruk	Oueili	Al Ubaid	Eridu	H3
Ubaid 1	6000							
Ubaid 1	5800							
Ubaid 1	5600							
Ubaid 1	5400							
Ubaid 2	5200							
Ubaid 3	5000							
Ubaid 4	4800							
Ubaid 4	4600							
Ubaid 4	4400							
	4200							
	4000							

Figure 3.3: Temporal (dates uncal B.C.E. on the Y-axis) and geographic (sites are north to south, from left to right) representation of all Ubaid-period boat models. Date ranges, indicated by a gray line, correspond to the cal B.C.E. equivalent of Ubaid periodization (e.g. Ubaid 3) and follow Carter (2012, 349; Table 19.1). Boat images are the illustrations of the models found at each site from associated excavation reports.

precisely this “existence and persistence”²³ of the marshy environment in southern Iraq that enabled Ubaid communities to develop a lasting boatbuilding tradition.



Figure 3.4: An example of turtlebacks in Bubiyan Island, present-day Kuwait, indicated by an arrow. The arrow points to raised sections of dry land cut with water, giving the appearance of a turtle shell (Source: Google Earth 2015).

While it is clear from environmental data that many resources were available, Ubaid communities – faced with many options – chose which resources to use in particular, and for what purpose. In a reconstruction of mid-Holocene landscapes, Pournelle suggests conditions in southern Mesopotamia were such that settlement

²³Hritz et al. 2012, 13.

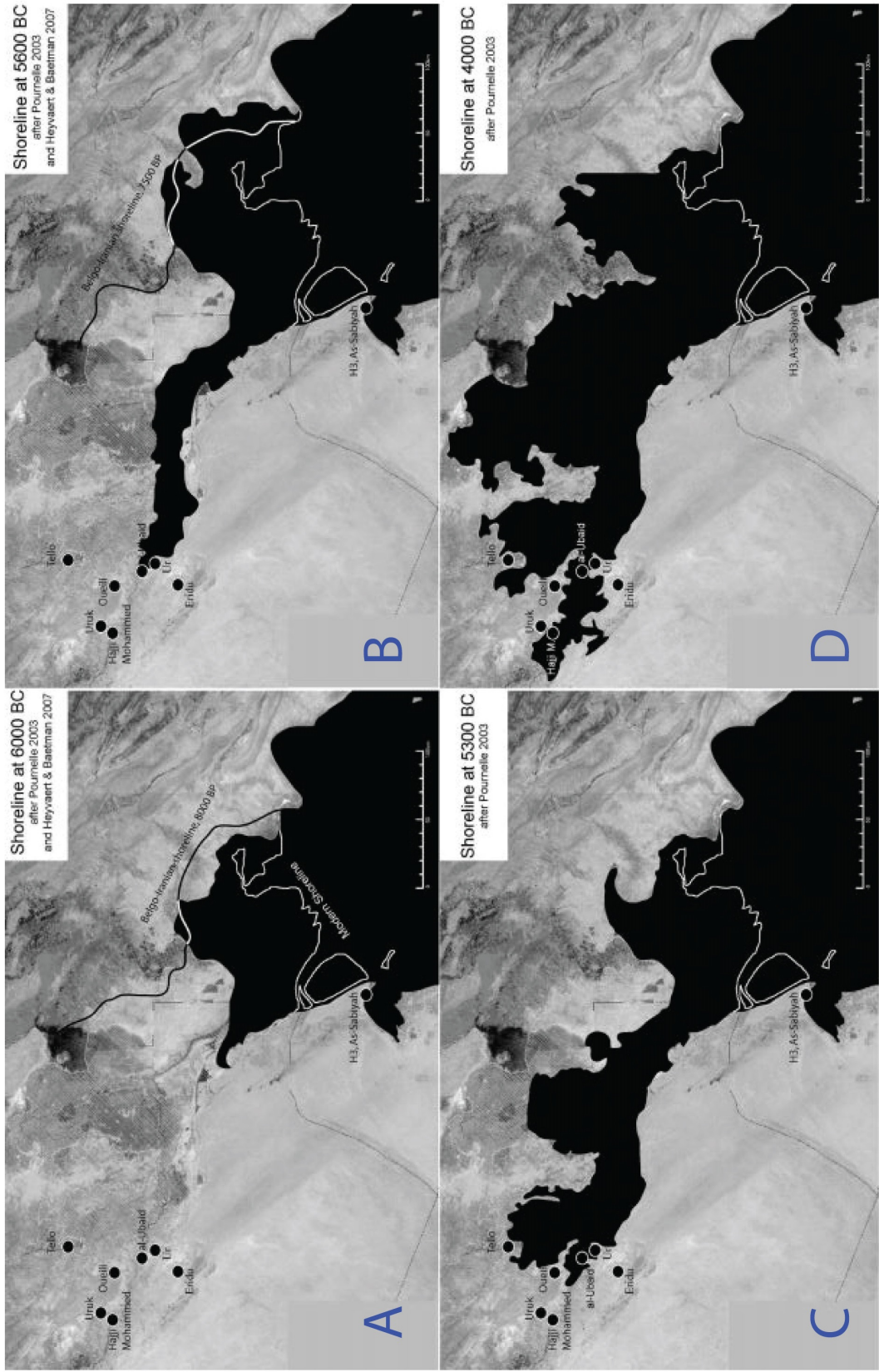


Figure 3.5: Geomorphological changes in southern Mesopotamia from 6000-4000 B.C.E. A-D correspond to the advancing headwaters of the Gulf during the chronological extent of the Ubaid period (after Carter 2010, 194; Figure 15.3).

would have been restricted to ‘turtlebacks’ that during flood seasons would “remain dry while the surrounding plain became inundated by sheets of floodwater.”²⁴ From this data it is easy to imagine how useful boats would have been during the wet seasons for early southern Mesopotamians, but while boats would have been undeniably useful for subsisting in a marshy environment, the decision to engage in seafaring was the result of an entirely different set of social processes, especially since it was not undertaken for necessary resources or survival. A reconstruction of geomorphological changes in the shoreline of the contemporary Persian Gulf as pertaining to the southernmost Ubaid cities – and corresponding to the longest estimates for the Ubaid period – may hint at the inspiration for southern Ubaid communities to engage in long-distance seafaring in the Gulf. In (Figure 3.5B), the shoreline at 5600 B.C.E. is seen just approaching the southernmost cities of Eridu, Ur, and al-Ubaid. Both al-Ubaid and Eridu were probably first occupied in the mid-sixth millennium B.C.E., and the earliest boat models from the Ubaid horizon come from Eridu and Oueili where the physical boats they represent would have aided mobility, communication, and probably even agricultural production in the southern deltaic environment.

Among the resources suitable for boat construction in southern Mesopotamia were reeds (Figure 3.6). Reeds appear in the archaeological record in the form of woven mats (possibly roofing material) and other artifacts at almost all of the Ubaid sites that contained boat models,²⁵ suggesting they were a versatile resource that Ubaid peoples were familiar with and chose to exploit for many purposes. Therefore, that the boat models are agreed to represent reed-bundle boats, indicates that the construction of the physical reed-bundle boats was probably an informed deci-

²⁴Pournelle 2003, 8. This formative process, which causes the land to look like the shell of a turtle, is how the southern Mesopotamian landscape probably appeared during the mid-Holocene, and can still be seen today at Bubiyan Island in Figure 3.4.

²⁵Jasim 1985; Lloyd et al. 1943; Huot 1980, 1989; Safar and Lloyd 1981.

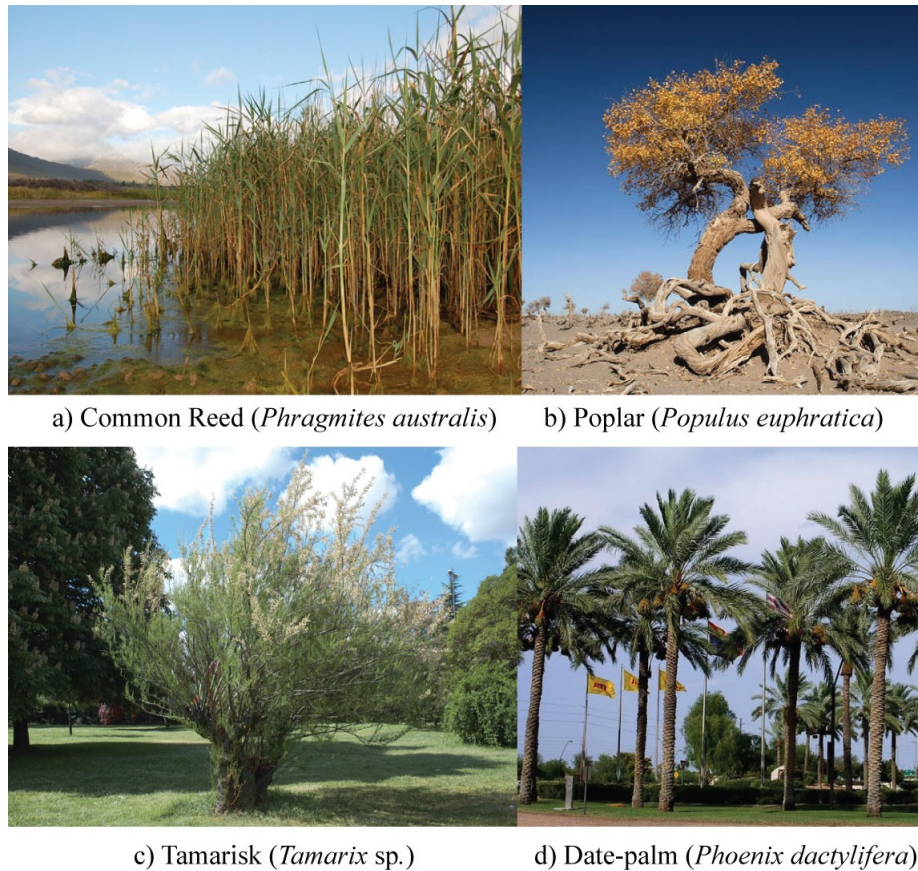


Figure 3.6: Plant species (a-d) recovered (presumably as wood charcoal) from flotation of Ubaid 4 layers at Tell Oueili (Huot 1989, 25-26; 1992, 193-4).

sion based on Ubaid practices already in place.²⁶ In addition, these boat models are often coated in a bitumen paint, likely representing a convenient waterproofing method. The use of bitumen itself is among the oldest deliberate Ubaid practices, made possible in southern Mesopotamia only through interaction and exchange with nearby groups. In the Ubaid 0-2 periods, the bitumen at Tell Oueili was imported from Iran, either Luristan, Khuzestan, or both (Figure 3.7); but beginning in the

²⁶See De Graeve 1981; Qualls 1981; Makela 2002 for iconography; additionally Carter et al. (2010, 89) note deliberate efforts to model the clay “to show long cylindrical shapes” and similarly Thuesen (2000, 76) reports “the clay model shows details which have made it possible for experts [Jan Skamby Madsen, the Viking Ship Museum, Roskilde, Denmark] on ancient boat technology to reconstruct the actual boat...built up by bundles of reeds...”

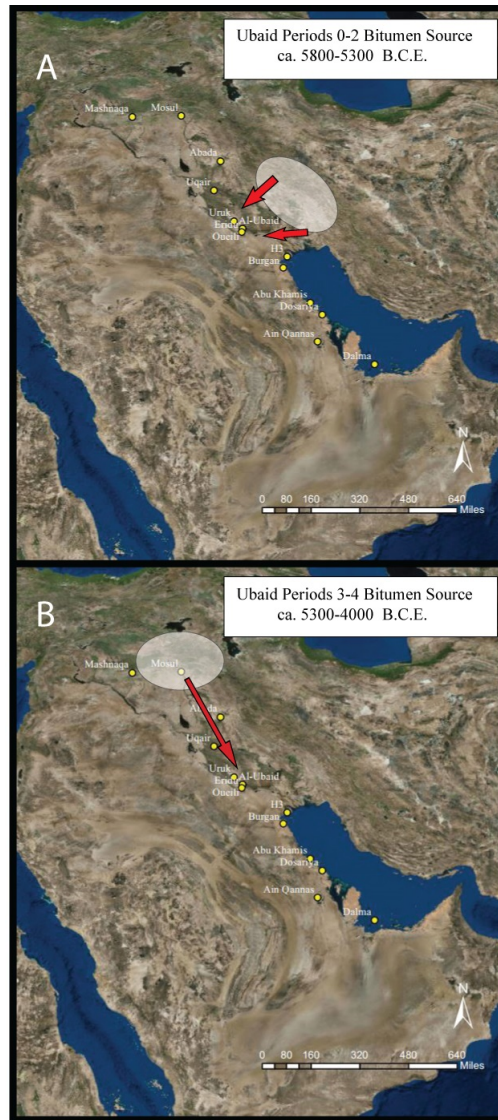


Figure 3.7: Bitumen sources based on artifacts from Tell Oueili (*sensu* Connan et al. 1999). Sites are marked in yellow, white elipses correspond to bitumen sources, and red arrows indicate direction of movement. (A) represents the early Ubaid periods when bitumen was imported from Iran, and during the later periods in (B) bitumen was imported from northern Mesopotamia near Mosul.

Ubaid 3 period – corresponding to the “Ubaid expansion” ca. 5300/5200 B.C.E.– the inhabitants at Tell Oueili received bitumen from northern Iraq instead, reflecting a conscious interaction between southern and northern communities for the first

time.²⁷ Bitumen and bitumen artifacts have been recovered at almost every Ubaid site as well, with their uses ranging from architecture to adhesion, and especially waterproofing of both baskets and drainpipes.²⁸ Thus, by the 6th millennium B.C.E. it is clear that most if not all Ubaid communities were engaging with the separate materials of bitumen-reed boats before they used them for boatbuilding (Figure 3.8).

Sometime in the later 6th millennium B.C.E., Ubaid communities decided to use both materials together for the construction of boats. In order to comprehend the potential scales of boat construction – and necessary social negotiations – using the materials reed and bitumen, two analogies can be invoked. While analogies can be misleading,²⁹ in this case, understanding the upper limits of what might have been possible in terms of time, effort, and required materials is necessary for understanding these boats as a Mesopotamian tradition. In an archaeological experiment, building a *titora* reed boat in the Lake Titicaca region, Bolivia (Figure 3.9), the boat reportedly:

“took the extended family of [a] master boat-builder...2.5 months to build the boat. On the day of the launch, the boat was 15 m long, 5 m wide, and 2 m high, and it used...approximately 1.8 million reeds. The boat weighed about 12 tons and took about 70 people 4 hours to drag it to the shore...There were stretches of hard work, but it was accomplished for the most part in a rather tranquil manner by a single...extended family. Large groups of people were needed only for short and rather festive efforts.”³⁰

The construction of the Lake Titicaca boat in particular offers suggestions as to how the Ubaid boats might have been constructed – with negotiated labor – and why they

²⁷Connan et al. 1999, 39-41; Connan and Van de Velde 2010, 5-7.

²⁸Hall and Woolley 1927; Safar and Lloyd 1981; Jasim 1985; see Moorey (1994, 335) for a list of uses, as well as Moorey (1994, 38, 63, 113, 171-2, 222, 256, 306) for specific contexts.

²⁹Wylie (2002, 153) adjudicates: “analogical inference is not categorically faulty or misleading; [it] can be strengthened by a careful appraisal of dissimilarities as well as similarities and, most important, by a discerning use of source-and-subject-side evidence to establish arguments for the relevance of specific similarities in observable properties...these strategies *will never establish interpretive conclusions with certainty, but they do offer a viable alternative to ‘artifact physics’ on the one hand and unconstrained speculation on the other.*”

³⁰Vranich et al. 2005, 22-4.



Figure 3.8: Location of boat representations (models), bitumen, and reed artifacts at Ubaid sites discussed in this text, ca. 5400-4400 B.C.E. Symbols correspond to legend in upper left.



Figure 3.9: The experimental *totora* reed boat sailing on Lake Titicaca. Note the bipod mast and upturned ends (from Vranich et al. 2005, 24).

might have been meaningful to their producers. The public investment of that much time and effort was surely deliberate even if the Ubaid boats were not quite as big; another series of experimental constructions confirms an enormous quantity of materials were necessary – especially bitumen. Tom Vosmer’s experimental construction of a 13 m long, 3rd millennium-Sumerian bitumen-reed boat, informed by cuneiform tablets and boat remains from Oman, required 800 kg of bitumen to waterproof and groups of up to 12 people working for several weeks.³¹

3.2.1 *The Boat Models*

Having established that social negotiations were fundamental to both the procurement of resources – bitumen in particular – and labor necessary for boatbuilding, we can begin to understand how bitumen-reed bundle boats were meaningful to south-

³¹Vosmer 2000, 2001, 2003, 51: “the reeds used were *Phragmites australis*,” see Figure 3.6A; Connan et al. 2005; Zarins 2008; see Ochsenschlager (1992, 2014) for a contemporary ethnographic analogy of bitumen-boatbuilding in the region of Mesopotamia.

ern Ubaid communities beyond their utility. The conscious decision of these groups to select specific materials and combine them into boats – through the cooperation of many – can be seen as part of what it meant to be an Ubaid community. That these boats carried meaning beyond a method of transportation is evident in the manufacture of their likeness in ceramic boat models. In fact, the earliest reported – albeit unpublished – boat model comes from the Temple Sounding on the floor of Level 17 at Eridu in southern Mesopotamia, the earliest level with a recognizable public building. Its provenience inside a public structure may be indicative of its social production and meaning, and the model indicates that boats were important from the first settlement at Eridu, ca. 5400/5300 B.C.E. According to Corethia Qualls, who published the only existing catalogue of Ubaid boat models, “the model of the bottom of a boat has one upturned end preserved...covered on all surfaces with thick bitumen paint...the original coils of clay remain visible and differentiated...the bottom retains the impression of a reed mat.”³² Besides indicating the presence of boatbuilding technology, this model clearly portrays – through the bitumen coating or paint – a very specific reed-boat waterproofing method, while the coiled ends and extant coils represent reed construction. These details suggest not only that the maker of the model was familiar with the construction process, but also that the earliest boats in southern Mesopotamia were constructed in a very particular way.

A later, well-known model from Eridu is exemplary of a dynamic tradition. While this model represents a sailing boat – and intrinsically the human decision to alter construction design in order to fulfill a different purpose – its representation through a ceramic model and placement in a communal cemetery affirm its social meaning.³³

³²Qualls 1981, 13.

³³While the identification of this model as a boat was contentious, it is now accepted as a model of a sailing boat. Strasser (1996) suggested that instead the model was a spinning bowl by citing examples from Egypt and Crete; Bourriau and Oates (1997) countered that evidence for spinning bowls in Mesopotamia contemporary with the model is non-existent. Unfortunately,

Although it cannot be concretely assigned to a time or a secure context, this model is periodized as Ubaid 4, ca. 4800 B.C.E. During the gap in time from the appearance of the first Eridu model (ca. 5400 B.C.E.) to the Ubaid 4 period model (ca. 4800 B.C.E.), communities in southern Mesopotamia had been engaging in seafaring based on the evidence of the appearance of Ubaid ceramics at an archaeological site in Kuwait. The sailing model indicates that these regular seafaring practices had become a tradition of southern Ubaid communities and that the inhabitants of Eridu were participants. Deliberately modeled construction features on the sailing model include five piercings in its periphery, which the excavators interpreted to be for the attachment of rigging and can be seen in Figure 3.10, and a maststep set forwards of amidships.

Two other unpublished models were recovered from Eridu, probably contemporary with the sailing model, including an “ordinary boat” according to the excavators, which must refer to non-sailing model, yet Qualls reports that this model is of a “broad-beamed boat with high sides and rounded, upturned ends sharply turned inward...three holes are extant in each of the sides, and one each at prow and stern.”³⁴ The differences in boat model morphology might be illustrative of the different purposes the real boats served, and their representation as models testifies to their importance in Ubaid communities. The final Eridu model is “another fragment from the end of another sailing boat”³⁵ which implies that the end of the model with

the unanalyzed faunal remains from Eridu cannot contribute to the discussion: an interesting study on the exploitation of wool in North Mesopotamia (Sudo 2010) informed by faunal remains and frequency/weight of spinning artifacts and frequency of shearing artifacts suggests that wool production began after the 5th millennium B.C.E. This model was found on a ‘platform’ above the grave of an elderly woman, but typically grave goods beyond beads or a pot in the communal cemetery were unusual in the Ubaid period. Only one grave-good retrieved from the burial of a woman has been cited as indicating social rank/differentiation: a male figurine depicted holding a scepter. See Daems (2010, 153-55) for a synthesis of Ubaid figurines and their meaning.

³⁴Qualls 1981, 14; Safar and Lloyd 1981, 230.

³⁵Safar and Lloyd 1981, 230.



Figure 3.10: The sailing model from Eridu with rigging added by the authors (from Safar and Lloyd, 1981, 227).

the maststep was preserved, although no images of it exist anywhere. Taken altogether, the multiple boat models from Eridu from the beginning of the settlement to the end of the Ubaid period, and representing different designs but all of a specific method of construction, testify to the longevity of a boatbuilding tradition at Eridu and probably all of southern Mesopotamia.

Roughly contemporary with the sailing boat model from Eridu are two models found at al-Ubaid and Oueili, which would have been on the shores of the bay by this time. Regrettably, the archaeological contexts of the boat models were not reported. The al-Ubaid model supposedly comes from “the primitive settlement”

that lies underneath the cemetery.³⁶ Interestingly, Woolley reports that “the houses had been built for the most part of reed matting liberally plastered either with clay mixed with dung or with earth mixed with bitumen”³⁷ and notes that “a model of a ‘belum’ or native boat, with canoe-like body and curled prow is eloquent of the life spent by these early marsh people.”³⁸ He also mentions fish-bones were found in the debris from the huts, but whether they were fresh or saltwater fish is unknown. Qualls’ catalogue description matches that of the excavators: “one end of a model which is very broad-beamed and has sides which rise only very slightly toward one end which is turned up in a tight coil” and has two holes for thwarts.³⁹ The fragments from Oueili are otherwise uninformative, yet as with the al-Ubaid model, the upturned or coiled ends indicate construction with reeds, and the use of reeds in other contexts at both sites suggest they were deliberately selected for use also in boat construction.⁴⁰ Finally, although the shoreline of the Persian Gulf in the Ubaid period never reached the city of Uruk, situated slightly north of Oueili, excavations at Uruk unearthed a boat model of a later date (ca. 4800-4600 B.C.E.) than the others in southern Mesopotamia.⁴¹ It is reportedly from a building in the area of the White Temple, and its form is rather slim.

In sum, the southern Ubaid sites are the oldest Ubaid settlements, and were founded in an extremely marshy, changing deltaic environment where the headwaters of the Persian Gulf reached their northernmost point by 4000 B.C.E. Available environmental resources – such as reeds – were utilized by southern Ubaid communities for the construction of boats, possibly encouraged by the aforementioned

³⁶Hall and Woolley 1927, 151-53.

³⁷Hall and Woolley 1927, 150.

³⁸Hall and Woolley 1927, 153.

³⁹Qualls 1981, 15.

⁴⁰Breniquet 1987, 143.

⁴¹Qualls 1981, 13.

geomorphology. The oldest boat model appears at Eridu around 5400 B.C.E., and in the later Ubaid period (ca. 5300/5200 B.C.E.), an increase in interaction across the Ubaid horizon – known from the appearance of Ubaid identity markers at other sites – coincides with the spread of Ubaid model boats to sites outside of southern Mesopotamia, thus insinuating the adoption of both reed-bundle boat technology and the practice of representing these boats as models were a direct result of Ubaid interaction and a deliberate decision to conform to Ubaid identity.

3.3 Moving North

In the later Ubaid periods ca. 5300-5200 B.C.E., Ubaid material culture appears at geographically distant sites to the north (Syria and Anatolia), east (Iran), and south of southern Mesopotamia (Arabian Peninsula). As mentioned in the introduction, it was this initial appearance of Ubaid material far from southern Mesopotamia that prompted scholars to posit an ‘expansion’ or take-over by southern Mesopotamian peoples, for at some sites, pottery that was manufactured in northern Mesopotamia prior to 5200 B.C.E. began to emulate Ubaid style ceramics at that time, circular architecture became tripartite, etc.⁴² However, recent excavations in northern Mesopotamia led scholars to argue that instead of implying cultural dominance of southern communities over northern ones, this change in pottery and other practices signified regional integration – or, adoption of Ubaid identity – because some Ubaid material markers were adopted while others were not.⁴³ The acceptance of Ubaid ceramics specifically in the north may have reflected a change in cooking and consumption from former practices, perhaps to facilitate communication with

⁴²Many studies to support this have already been cited. See Akkermans and Schwartz (2003) for a summary of Ubaid excavations in Syria; Stein (2010) for information on the transformation at Tepe Gawra; also Karsgaard (2010) and Campbell and Fletcher (2010).

⁴³Coming back to the idea of public/private identity, studies in northern Mesopotamia support the adoption of Ubaid identity at both levels: Stein (2010); Croucher (2010); see Carter and Philip (2010) in general.

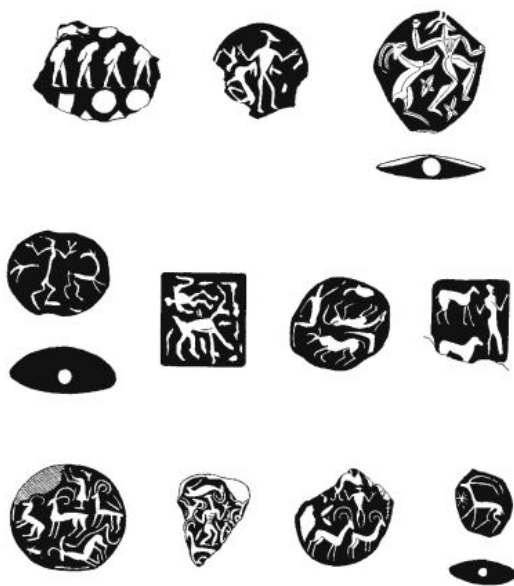


Figure 3.11: 5th-millennium B.C.E. stamp seals from Tepe Gawra (northwest Iraq). Stamp seals were a persistent local tradition in northern Mesopotamia (from Stein 2010: Figure 2.4).

other Ubaid communities throughout the horizon, as through feasting practices.⁴⁴

Although some aspects of Ubaid culture – especially ceramics design – were adopted by northern communities, several sites exhibit persistent local traditions. Architecture at Tell Abada in the Hamrin suggests hereditary economic differentiation, and unique traditions of grain storage using reed bundles, are both examples of such.⁴⁵ Other sites in northern Mesopotamia exhibit local features such as stamp seals or other administrative tools – not found in southern Mesopotamia – whose use persisted after the Ubaid style was adopted for other facets of life (Figure 3.11).⁴⁶ These local persistent traditions suggest that “inhabitants...participated in overlapping social networks through which various products, materials, and technologies

⁴⁴Campbell 2012, 424; Karsgaard 2010; Campbell and Fletcher 2010.

⁴⁵Jasim 1985.

⁴⁶See Campbell (2012, 424) for a summary of these sites.

were transferred...”⁴⁷ meaning that it was a deliberate local community choice to participate in these social networks, and doing so was likely facilitated through the replication of some specific Ubaid material culture.

3.3.1 *Boat Models of Northern Mesopotamia*

The first model found geographically north of southern Mesopotamia is from an Ubaid ‘house’ at Tell Uqair, but chronologically it probably dates to the Ubaid 4 period, ca. 4800 B.C.E. or later, although Tell Uqair is not well-dated. In other words, the spread of boat technology would be better understood if it were possible to definitively say at what point in the occupation of Tell Uqair the model appeared. Since occupation at Tell Uqair extended into the Chalcolithic (after the Ubaid period), the settlement may have only been established during the later Ubaid periods by an Ubaid community, in which case boat technology would coincide with initial occupation. The excavators provide no detail about the provenance of the model within the house, but they report that the floor of the house “was of mud here and there with traces of reed matting” and “besides pottery, it contained all the domestic objects which have come to be associated with the period: baked clay nails...flint, net weights, a single stamp seal, clay studs...traces of food–meat bones in one room and a heavy deposit of shells of freshwater mussels in another.”⁴⁸ The adjacent sounding revealed a “thick layer of reed matting or rushes” on virgin soil as the first sign of occupation, affirming both the availability of reeds and the decision to use them for construction.⁴⁹ The variety of material culture from the Ubaid house at Tell Uqair – especially the supposed stamp seal, perhaps from northern Mesopotamia? – testifies

⁴⁷Parker (2010, 359) uses Kenan Tepe as a proxy for other northern sites: “Data gathered at Kenan Tepe over the last six field seasons allow us to draw interesting conclusions about the nature of both the Ubaid-period settlement at Kenan Tepe and the Late Northern Ubaid cultural complex in general;” for other sites, see previous notes.

⁴⁸Lloyd et al. 1943, 149-53.

⁴⁹Lloyd et al. 1943, 149.

to increased interaction between communities within the Ubaid horizon during these later periods.

More can be said about the two models from Tell Abada in the Hamrin and the role of boats at the site, since they were recovered from the later phases of occupation. The ceramics from the initial occupation layers (Phase III) of Tell Abada are thought to represent a transition into Ubaid style ceramics from the prior ceramic tradition – a slow change in both human decisions and practice – and thus Phase III is a transitional phase. Levels II and I of Tell Abada, on the other hand, display more overt Ubaid identity markers, especially tripartite architecture with evidence of reed-matting roofs, although building sizes were variable with one larger and containing more luxury goods than the others (Figure 3.12).⁵⁰ Rolled reed mats were used to store grain in the latest phase – a practice only evident at Abada – suggesting reeds were a valuable resource at Abada, but they seem to occur more frequently in archaeological contexts in the later Ubaid layers. Two boat models were recovered, both from the later Ubaid layers (i.e., after the ‘transition’ layers):

“the first one (a) represents a boat with flared bows...very similar to wooden boats being used in Iraqi rivers today, called Balam. The second boat-model (b) is smaller than the previous one, and has incurved bows. This type of boat is closely comparable to one called Mashhoof which is used in the marsh area in Iraq today.”⁵¹

That the boat models appeared only in the later occupation phases means they were adopted – as was the boat technology they represent – along with more Ubaid identity markers. Moreover, there is a marked increase in the number of figurines after the Ubaid-transitional level, almost all representing sheep, bucrania, or dogs; the representation of boats alongside these specific animals (related to subsistence)

⁵⁰See Jasim 1985; also Oates 2012.

⁵¹Jasim 1985, 66.

indicate their importance to the community at Abada. It should be noted that balam on the Euphrates today can be sailing vessels: “the craft used on the Iraqi rivers were generally poled along the bank and when sailed, a rudder was attached to the stern,” so it seems sailing was useful for traveling along the river as well as seafaring.⁵²

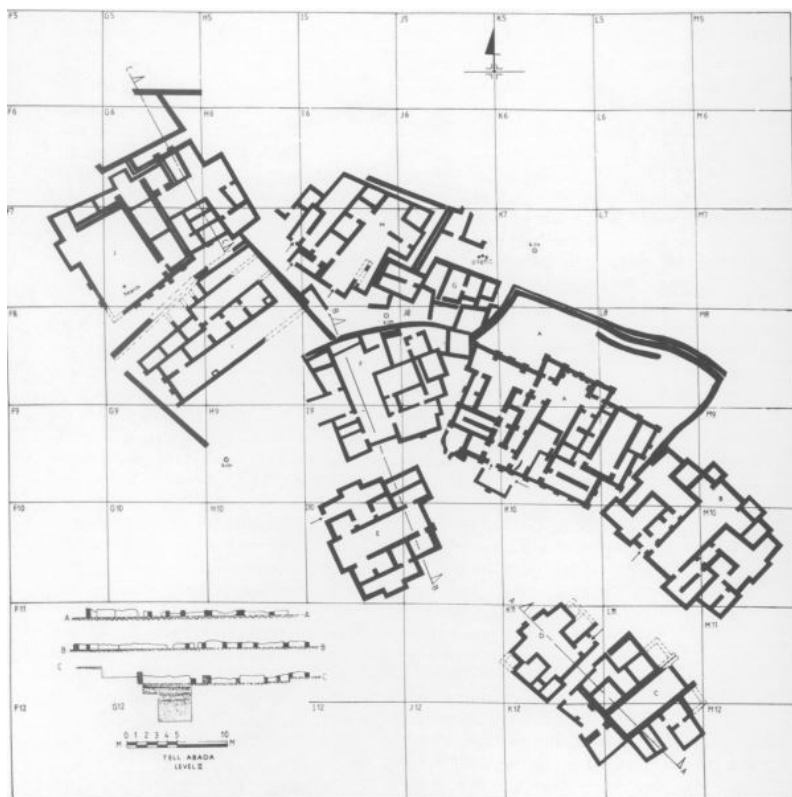


Figure 3.12: A schematic plan of Level II at Tell Abada, ca. 5200 B.C.E. Note the tripartite architecture (from Jasim 1985: Fig. 13).

Tell Mashnaqa is one of the few Ubaid sites with absolute dates, and thus the boat model from Tell Mashnaqa is the only securely dated Ubaid model. Stratum I – the earliest settlement at the site – dates from 5240-5080 B.C.E., while stratum

⁵²Agius 2002, 113.

III dates from about 5100 B.C.E. to about 4900 B.C.E.⁵³ Tell Mashnaqa was not occupied prior to the appearance of Ubaid material culture. Boat model fragments found in Stratum II, almost contemporary with initial settlement at Mashnaqa, are important because “they are the earliest representations of boats in the region,” implying that they arrived with the Ubaid cultural repertoire. Thuesen (2000, 76) notes:

“The clay models show details which have made it possible for experts on ancient boat technology to reconstruct the actual boat. The boat was built up by bundles of reeds and watertightened on the exterior surface with bitumen. The boat had a shape which made it suitable for river navigation and it probably could carry the members and belongings of a household. This find gives us a concrete view of the life of the early Ubaid settlers in the Khabur and their association to the river.”

Thuesen posits the use of boats by settlers – in this case, from southern Mesopotamia to northern Mesopotamia – because initial occupation at Tell Mashnaqa seems to be contemporaneous with Ubaid material. If indeed Mashnaqa was uninhabited prior to Ubaid material, it strongly suggests that bitumen-boat technology was a distinctly Ubaid tradition, brought with Ubaid settlers, or adopted through contact with other groups familiar with Ubaid culture.

3.4 Summary

Archaeological research in regional zones across the Ubaid horizon – southern and northern Mesopotamia and Iran – points to a common Ubaid identity shared by geographically disparate groups displayed through specific replicated traditions. The

⁵³Thuesen (2000, 72) reports 3 dates for stratum I: 6270BP+/-120; 6200BP+/-90; 6200BP+/-80 and 4 dates for Stratum III: 6110BP+/-80; 6040BP+/-95; 6050+/-80; 6010BP+/-80. “Calibrated age in calendar years is according to tables in Radiocarbon vol. 28 (1986) by means of the Seattle calibration programme, version 2.0. The intercept method has been used to calculate age interval corresponding to +/- 1 standard deviation. AMS dating was carried out by the AMS Laboratory, Institute of Physics and Astronomy, University of Aarhus, DK-8000 Aarhus C, Denmark.”

ubiquity and homogeneity of particular ceramic styles suggest community identity was facilitated through commensal politics and implies close or frequent interaction across the Ubaid horizon. In addition to feasting, it is likely that boats contributed to the cooperation between neighboring groups, providing transportation for objects and people. What all of the sites with boat models have in common, besides other components of Ubaid material culture, is their location near/on the Euphrates, one of its tributaries, or near the Gulf shoreline (Figure 3.13). This suggests boats were moving up and down the river and, if so, they would have been recognizable to others – a public indicator of Ubaid identity in addition to a method of transport.

The oldest bitumen-reed boat models come from Eridu, one of the first Ubaid settlements, insinuating this boatbuilding tradition originated in southern Mesopotamia. Around 5200 B.C.E. boat models start to appear at sites northwards along the Euphrates through to the end of the Ubaid; the morphology of the boat models suggest that reeds were used in their construction, and on occasion bitumen waterproofing methods are represented on the models as well. While it is possible that boats were indigenously conceived and constructed in each area, their representation through models, and the similar construction features that these models exhibit, suggest that the real boats were deliberately constructed in a specific way (i.e., bitumen-reed bundles). The decision to use these materials – especially bitumen, which did not occur naturally at every site – was an exclusively Ubaid practice during this period, and resulted in a recognizable Ubaid marker. Finally, it should be kept in mind that while these specific Ubaid traditions – ceramics, body adornments, bitumen-reed boats – served an inclusive purpose for communities around Mesopotamia, when these markers then accompanied the first southern Mesopotamians sailing into the Gulf, they would have had the opposite effect, signaling to Arabian communities that these visitors were overtly ‘other’.



Figure 3.13: The distribution of Ubaid boat models, 5400-4400 B.C.E. Boat symbol represents presence of boat model or representation, as indicated by the legend in upper left.

4. DYNAMIC TRADITIONS, SELECTIVE REFUSAL: UBAID-ARABIAN INTERACTIONS IN THE GULF

The inhabitants of the Arabian Peninsula practiced a markedly different lifestyle – and therefore, different traditions – from the sedentary agriculturalists of Mesopotamia, yet the coastal populations were on the edge of a burgeoning Ubaid trading and interaction zone. This chapter argues first that the multi-resource, aceramic nomadic groups on the eastern Arabian littoral had no perceived use for Ubaid technology, and instead viewed interaction with Ubaid groups as a potential new resource for production opportunities (*sensu* Honeychurch 2014). Through the interactions between both groups in these resource zones, a new and powerful tradition was forged at each site – enough to structure a relationship between Ubaid and Arabian groups for over 500 years – but without Arabian communities conforming to Ubaid identity as expressed through material practices. This blending of cultures into a unique Ubaid-Arabian custom is most evident at the site of H3 in Kuwait, likely due to its proximity to southern Mesopotamia. Archaeological evidence indicates that both groups occupied the site at the same time – Ubaid pottery and identity markers alongside Arabian lithics and faunal signature – while an abundance of pearl oyster and boat remains hint at the purpose of the site. While H3 is unique among other Ubaid-period sites in the Gulf in its development from a campsite to a semi-permanent or permanently occupied settlement, the other Arabian sites with Ubaid pottery appear to be an extension of this new tradition: the mutual meeting of coastal Arabian populations and Ubaid sailors for a common purpose, probably facilitated through commensal activity and involving procurement of resources (e.g. pearls).

4.1 Seafaring Nomads?

It has been suggested that the appearance of Ubaid ceramics at certain sites in the Central Gulf littoral was the result of coastal Arabian peoples sailing to Mesopotamia to retrieve Ubaid pottery because the development of technology for seafaring was more likely to have occurred in a marine environment (Figure 4.1).¹ Furthermore, as noted in the introduction, scholars of this period are hesitant to assign the boatbuilding tradition to Ubaid Mesopotamians, probably to avoid undermining the role of local Arabian populations in Ubaid-Arabian interactions. This chapter argues that coastal Arabian communities did not practice a boatbuilding tradition before or after interaction with Ubaid groups, meaning they became aware of Ubaid boat technology through engaging with Ubaid people, yet deliberately did not adopt it for themselves. Foregrounding the deliberate decision of coastal Arabian populations to reject Ubaid material culture as negative consumption² allows for an alternative explanation of Ubaid pottery at certain Gulf sites; that is, interaction between Ubaid and Arabian groups – orchestrated by coastal Arabian nomads as part of their nomadic lifeways – as a new tradition involving commensal activity and industry, especially of boats (at H3) and pearls (all other sites).

The tradition of flexibility practiced in the Arabian Peninsula by nomadic groups, characterized by adaptation to “a mosaic of favorable microenvironments” beginning in the 6th millennium B.C.E.,³ enabled nomadic Arabian communities to develop various methods to subsist effectively in these environments. Communities in the Arabo-Persian Gulf Oasis – unsurprisingly, then – extensively utilized marine resources in addition to managing domesticated sheep/goat and occasionally domes-

¹Piesinger 1983.

²per Dietler 2010, 70.

³Rose 2010, 865; see also Potts 1990; Boivin and Fuller 2009, 117-30; Uerpmann et al. 2013; Magee 2014, 46.



Figure 4.1: Ubaid sites (indicated in yellow) discussed in this chapter: H3, Abu Khamis, Dosariyah, Ain Qannas, and Dalma.

ticated cattle. As the geomorphology of the coastline varies, so did the available resources; the exploitation of these varied resources is reflected in the types of fish and mollusks in archaeological assemblages.⁴ While the archaeological record clearly indicates that nomadic populations frequenting the coast adroitly managed marine resources, did these populations along the Central Gulf construct boats that they

⁴Beech and Glover 2005.

then could have used to conduct distant trade? Using an analogical case-study from Jean Arnold, who studied the impacts of boatbuilding technology on hunter-gather groups in coastal California, if the coastal nomads of Arabia developed an indigenous boatbuilding tradition, there may be one of “four kinds of impacts on the organization of maritime groups: dietary intake, labor investment and organization, communication and trade, and symbolic and ritual behaviors.”⁵ Fortunately, fishing in the Gulf for subsistence has received much scholarly attention since Mark Beech began working on the faunal assemblages from several of these Ubaid and other sites in the Gulf, permitting a study of fish in the diet of the coastal nomadic groups in question (and proxy for the use of boats).

Based on the most current archaeological data, the first fish hooks in the Arabian Peninsula are from coastal sites in Oman, generally dating to the Ubaid 4 period or after ca. 4700 B.C.E., implying a different fishing tradition in the eastern part of the Peninsula by the late 5th millennium B.C.E. (Figure 4.2 and 4.3).⁶ In fact, Beech has examined fish assemblages from some of the pertinent Ubaid-Gulf sites – H3, Dosariyah, and Dalma – in addition to others in Oman, and confirmed this difference:

“The evidence from the Gulf of Oman, however, suggested a different picture in that fishing in offshore waters appears to have been already practiced by the 4th millennium B.C.E. The distribution of shell fish hooks indicates that offshore fishing for larger fish was clearly carried out on the Omani coast.”⁷

Offshore fishing might have been influenced by the deeper waters surrounding Oman, as the “well-known upwelling off the coast of Ras al-Hadd on the Omani coast has already been noted to dramatically influence the concentration of fish stocks at certain

⁵Arnold 1995, 736.

⁶Beech 2002; Méry et al. 2008; Méry and Charpentier 2013.

⁷Beech 2002, 37.

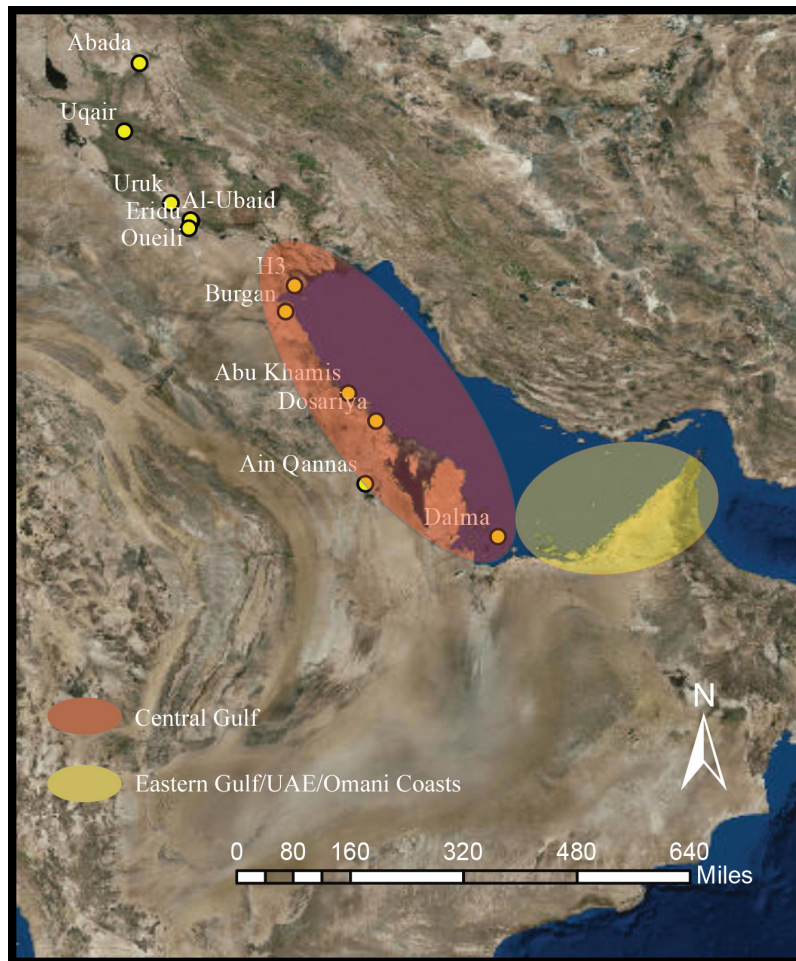


Figure 4.2: Geographic regions of the Gulf discussed in this chapter. Sites with the most Ubaid pottery are located in the Central Gulf, highlighted in red, while the Eastern Gulf is in yellow; key is in the lower left.

times of the year.”⁸ Based on the assessed differences in both faunal assemblages and fishing-related artifacts of the Central Gulf and Omani coast, if any group of people in the Arabian Peninsula were building boats, it was more likely to be the nomads of the Omani coast, who could have benefited from the local mangrove forests for building materials. Even then, the archaeological evidence does not confirm a full boatbuilding tradition until the 3rd millennium B.C.E. in the Peninsula. The

⁸Beech 2002, 37.

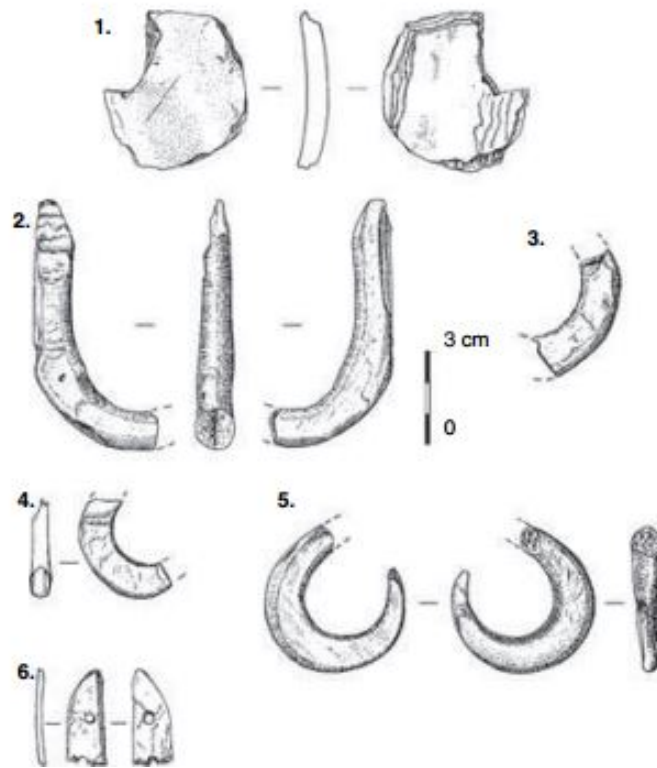


Figure 4.3: Fish hooks from Akab, near the Strait of Hormuz ca. 5th/4th millennium B.C.E. (from Méry et al. 2008: Fig. 2).

bitumen boat remains from Ras al-Jinz in Oman, often cited in comparison to the H3 boat remains, date to 2500-2000 B.C.E., that is, well over 2000 years after the Ubaid phenomenon. Moreover, the quantity of Ubaid ceramics at eastern U.A.E. and coastal Omani sites is negligible, refuting the idea that these coastal communities sailed to Mesopotamia to obtain pottery and back again during the Ubaid period.⁹ As fish hooks are completely absent from Ubaid-period sites in the Central Gulf, it is clear that the communities along the contemporary Saudi Arabian littoral employed

⁹Boucharlat et al. (1991, 68-9) report four Ubaid sherds and “several more” in the Emirate of Umm al-Qaiwain; Jasim (1996, 1) reports five pottery sherds dating to the Ubaid period at Hamriyah in the Emirate of Sharjah; Uerpmann and Uerpmann (1996, 131) report a ‘trace element’ of Ubaid pottery quantitatively speaking at sites around the lagoon of Umm al-Qaiwain.

different methods of fish procurement. Some worked bone instruments might have functioned as gorges, a type of fish hook, but the bone needles/awls could also be used for net manufacture (Figure 4.4).¹⁰ Because of the absence of fish hooks, a reconsideration of fishing techniques in the Central Gulf must be discussed, as the absence of fish hooks brings into question the related existence of, by proxy, fishing with boats in deeper water.

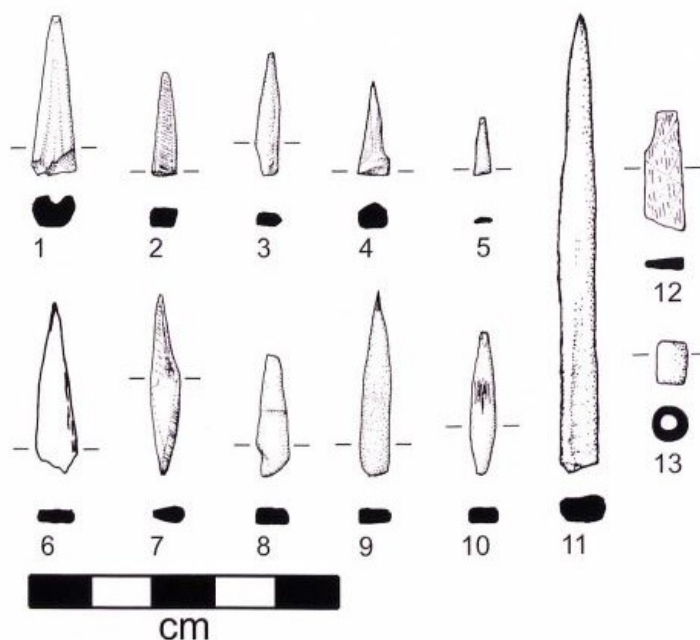


Figure 4.4: Worked bone needles/awls from H3 (from Carter et al. 2010, Fig 4.8).

The waters of the Persian Gulf are unusually shallow, ranging from 20-40 m in depth for most of the Gulf, and the waters around the coastal Central Gulf sites would not have been more than 20 m deep (Figure 4.5). This complicates an understanding of fishing techniques of the coastal Arabians in the 6th and 5th millennia B.C.E.

¹⁰Dreschler 2011, 78.

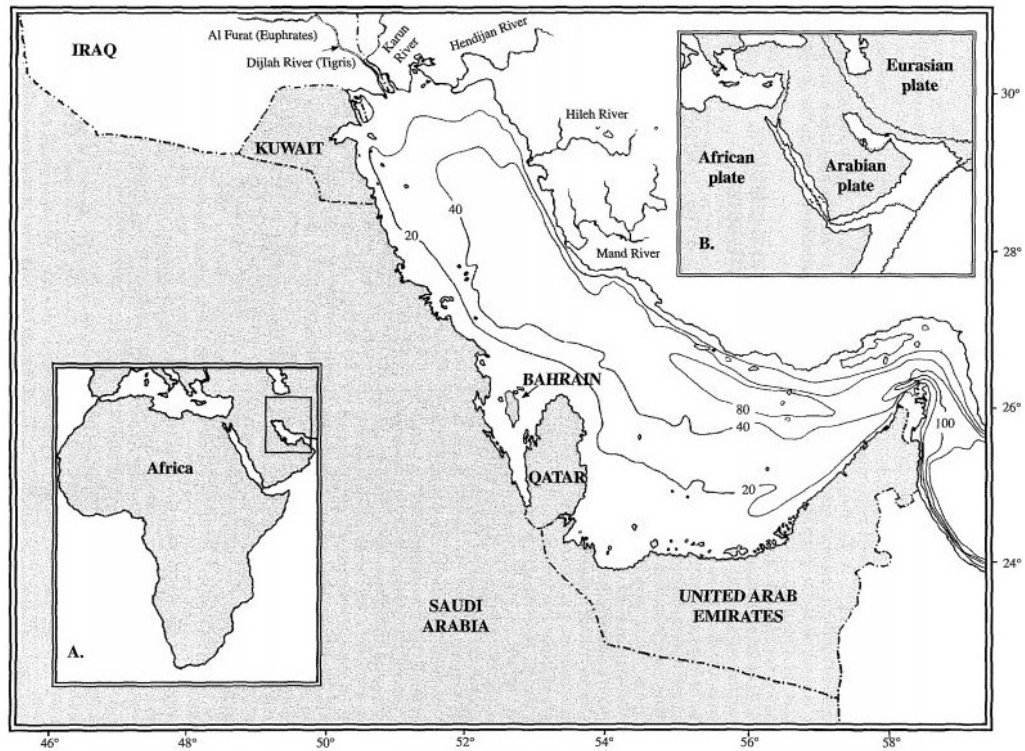


Figure 4.5: Bathymetry of the Persian Gulf. The waters around the eastern Saudi Arabian littoral are no deeper than 20 m (from Carpenter et al. 1997, Figure 1).

because fish, while already capable of moving between several habitats, would have been constrained by the depths of the Gulf. Predatory fish, for example, that usually dwell in deeper waters would be drawn to the shallows to feed. Thus, there is no diagnostic fish from any site in the central Gulf that indicates fishing in deeper water with a boat took place; the reported fish assemblages from H3, Dosariyah, and Dalma do indicate, however, that while marine resources made up the majority of the total faunal assemblages, the variety of fish taxa exploited at those sites could all have been caught inshore, in coastal and shallow waters. Moreover, seasonal patterns of fish migrations are important – tuna, for instance, are usually pelagic and inhabit open

water, but their migration route can bring them close to the shore.¹¹ The following tables (4.1 - 4.4) display fish data compiled from Beech’s faunal analyses, including the taxa/type of fish, minimum number of individuals (MNI), and habitat from the faunal assemblages at each site.¹² Even if there is no diagnostic fish that indicates the use of boats by coastal communities, it may be possible to evaluate changes in fishing practice (i.e., fish components of diet) after Arabian groups engaged with seafaring Mesopotamians. If the coastal populations perceived boats to be useful – or to fit within their culturally structured categories and tastes (*sensu* Dietler 2010) – then they might adopt the technology. If a boatbuilding tradition were adopted, it is argued that discernible change – in diet, organization, trade, or symbolic behavior – would manifest in the archaeological record.

Table 4.1: MNI identified marine fish from H3 of the total assemblage (3rd column) and MNI from select contexts across periods (subsequent columns). MNI count from Beech (2004, 241-43) and context (Period) information from Carter et al. (2010, 132).

Fish	Habitat	Tot MNI	Period 1	Period 2	Period 3	Period 4
Sea Catfish	inshore, muddy sandy bottom	44	14		7	7
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	10			5	2
Jack	coral reef, inshore, moderate, near coral reef, sand bottom	8		1	6	1
Scad	inshore, moderate, open water	21			21	
Requiem Shark	inshore, moderate, pelagic	13	2	1	5	3
Shark/Ray/Skate	variable?	16	3	1	5	5
Emperor	coral reef, inshore, sandy bottom	9	1		8	
Eagleray	shallow coastal water	2			2	
Flathead	inshore, moderate, muddy sandy bottom	1		1	1	
Sawfish	inshore, muddy sandy	8			4	
Tuna/Mackerel	inshore, moderate, open water	5		1	4	
Grouper	coral reef seagrass 6-200 m deep	36		4	27	2
King soldierbream	inshore, mod, offshore, muddy sandy	13		2	8	1
Seabream	coastal, muddy bottom, shallow-50 m	46	1	13	34	1
Haffara/ Goldstriped	estuaries, inshore, moderate, muddy sand, near coral, sandy	10	1		5	1
Queenfish	coral reef, inshore, moderate, near coral reef, sand bottom	1		2	1	
Total		243	22	26	143	23
	hand collected + sieved NISP	6600	119	1073	4647	623

¹¹Beech 2002, 37: “Tuna, in particular, are known to come close to shore and island masses at certain times of year...”

¹²Beech 2004.

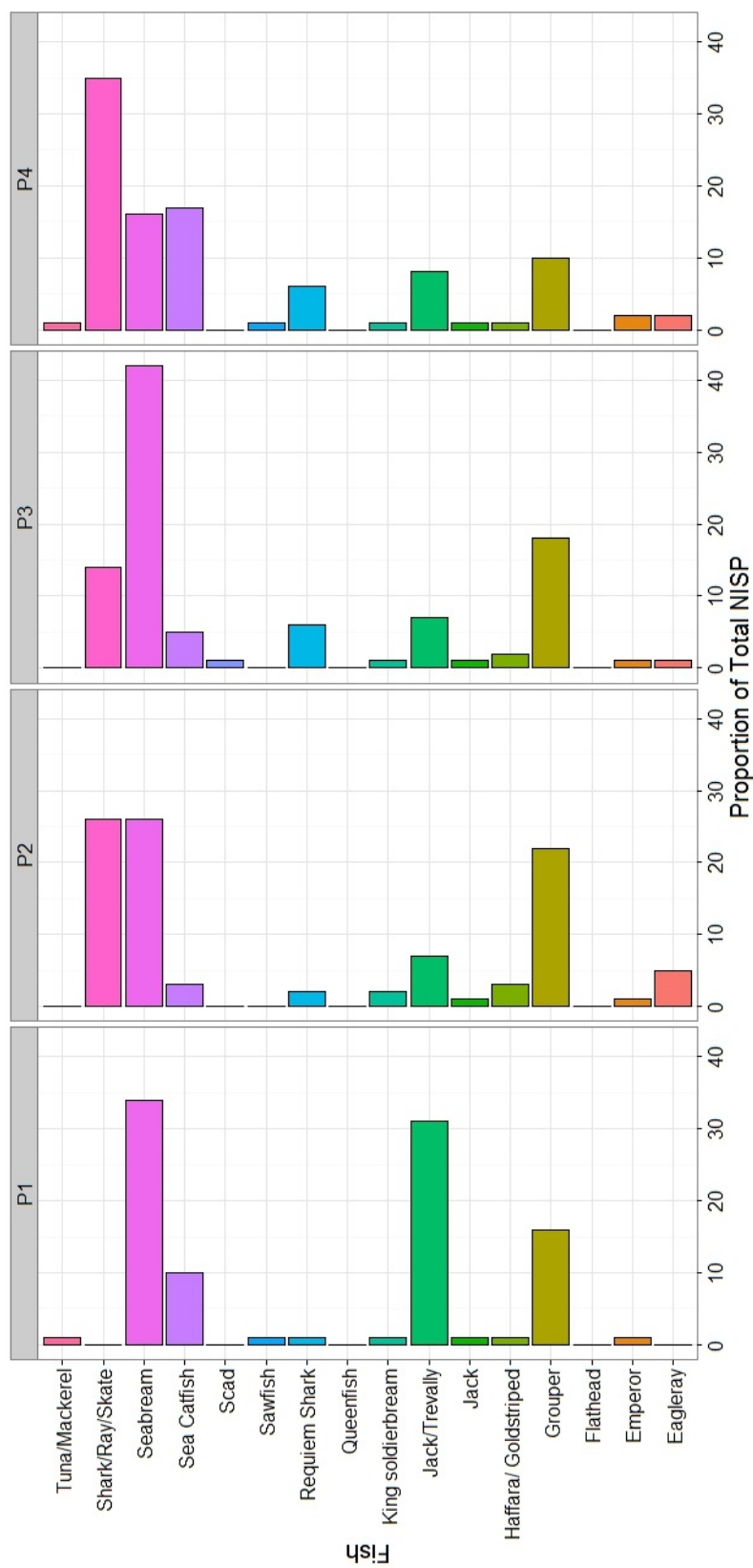


Figure 4.6: Relative proportion of fish taxa at H3 per occupation period according to NISP. The raw data is presented in Table 4.2.

Table 4.2: NISP identified marine fish from H3 per occupation period. Data from Carter et al. (2010, 136).

Fish	Habitat	Period 1 NISP	Period 2 NISP	Period 3 NISP	Period 4 NISP
Sea Catfish	inshore, muddy sandy bottom	14	29	119	80
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	45	75	168	36
Jack	coral reef, inshore, moderate, near coral reef, sand bottom	2	14	17	7
Scad	inshore, moderate, open water	0	0	21	0
Requiem Shark	inshore, moderate, pelagic	2	25	137	29
Shark/Ray/Skate	variable?	0	259	331	166
Emperor	coral reef, inshore, sandy bottom	1	11	26	9
Eagleray	shallow coastal water	0	55	26	9
Flathead	inshore, moderate, muddy sandy bottom	0	0	5	0
Sawfish	inshore, muddy sandy	2	2	2	3
Tuna/Mackerel	inshore, moderate, open water	2	2	2	3
Grouper	coral reef seagrass 6-200 m deep	23	220	415	49
King soldierbream	inshore, mod. offshore, muddy sandy	2	20	31	3
Seabream	coastal, muddy bottom, shallow-50 m	48	260	995	77
Haffara/ Goldstriped	estuaries, inshore, moderate, muddy sand, near coral, sandy	2	29	56	5
Queenfish	coral reef, inshore, moderate, near coral reef, sand bottom	0	0	10	0
Total		143	1001	2361	476

A few patterns from the faunal assemblage at H3 can be discerned, but unfortunately there are gaps in the data. Beech provides the MNI for the entire assemblage but does not report MNI by phase, only by number of individual/identified specimen or NISP (Table 4.1 and 4.2).¹³ Among other things, NISP here can indicate at minimum presence or absence of fish taxon in a given occupation period, and relative proportion of the NISP of each taxon to the total NISP per phase (Figure 4.6).¹⁴ For example, it appears that there are more seabream in Period 2 and 3 according to the NISP (Table 4.2), but there are more fish bones in total recovered from those periods as well. Thus, it is more difficult to evaluate if there were any changes in fishing practice accompanying the increased presence of Mesopotamian materials and technology without the MNI distribution across periods. Nonetheless, grouper and seabream, both of which can be caught in shallow coastal waters, were important

¹³There are discrepancies in the data between sources.

¹⁴Some problems with using NISP to measure taxonomic abundance are summarized in Lyman (2008, 29-38): NISP varies intertaxonomically because different taxa have different frequencies of bones and teeth; NISP is affected by butchering patterns; NISP is affected by differential recovery or collection; NISP is a poor measure of diet as some taxa provide more meat than others. These problems can be mitigated beginning in the field, but here, without access to primary data, it is best to air on the side of caution. The best way to estimate relative frequencies of taxa in faunal assemblages is with NISP, MNI, and specimen weight (see Reitz and Wing 2008, 202-13).

fish at H3, according to both the MNI of the entire assemblage (together 44% of the total MNI) and their presence across periods by NISP. In fact, the fish taxa exploited across occupation periods at H3 are fairly uniform, except for the appearance and popularity of shark/ ray/ skate (Chondrichthyes) in Periods 2 and 4, and a slight increase in requiem shark over time. The relative absence of shark/ ray/ skate in Period 1 may be the result of sample size bias, but it is an interesting trend regardless. Perhaps larger fish were sought to feed more people, but in actuality the sudden importance of shark/ ray/ skate could just be a reflection of environmental changes or seasonal occupation. Beech reports that most of the fish represented in the H3 assemblage were small or medium sized, generally between 20-50 cm¹⁵ but some of the sharks and rays may have been 2-3 m in size.¹⁶ As no fishing implements beyond net sinkers and potential bone fish gorges were recovered from H3, it is possible that these predatory sharks, which can inhabit coastal and shallow water (since that is where all the other fish would be), were hunted with spears or other weapons. Similarly, Chondrichthyes can inhabit a variety of water systems and depths and may have been hunted in shallow coastal waters.

The fish bone assemblages from other sites display a similar pattern – a variety of species with reliance on smaller, inshore fish – but the number of studied fish assemblages is not great. Contemporary with H3 were the settlements at Dosariyah and Dalma. As with H3, the total MNI of the faunal assemblage for Dosariyah by trench were reported, but not by occupation phase, with the exception of a few archaeological contexts (Table 4.3).¹⁷ The separate assemblages in each trench suggests only slight variation in species between trenches and therefore different areas

¹⁵Beech 2004, 87.

¹⁶Carter et al. 2010, 136.

¹⁷MNI counts and ‘contexts’ listed for excavation trenches at Dosariyah from Beech (2004, 243-47) have no accompanying chronological/stratigraphical data so I have omitted them from this table.

Table 4.3: MNI identified marine fish from Dosariyah, per trench. Unfortunately, information about the MNI per phase is unavailable. All counts from Beech (2004, 243-47).

Fish/ Trench	Habitat	MNI
Surface		
Jack	coral reef, inshore, moderate, near coral reef, sand bottom	3
Requiem Shark	inshore, moderate, pelagic	2
Tuna/Mackerel	inshore, moderate, open water	2
Sawfish	inshore, muddy sandy	2
Shark/Ray/Skate	variable?	1
Grouper	coral reef seagrass 6-200 m deep	4
Seabream	5-100 m, shallow 10 m	10
		24
Trench 1		
Sea Catfish	inshore, muddy sandy bottom	5
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	1
Requiem Shark	inshore, moderate, pelagic	4
Shark/Ray/Skate	variable?	2
Eagleray	shallow coastal water	2
Sawfish	inshore, muddy sandy	1
Tuna/Mackerel	inshore, moderate, open water	4
Grouper	coral reef seagrass 6-200 m deep	5
Seabream	5-100 m, shallow 10 m	63
Stingray	inshore, muddy sandy bottom	1
Barracuda	surface, reef, sea grass	1
Emperor	coral reef, inshore, sandy bottom	1
King Soldierbream	inshore, mod, offshore, muddy sandy	19
Haffara/Goldstriped	estuaries, inshore, moderate, muddy sand, near coral, sandy	23
Parrotfish	coral?	2
		134
Trench 5		
Sawfish	inshore, muddy sandy	1
Shark/Ray/Skate	variable?	1
Grouper	coral reef seagrass 6-200 m deep	4
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	3
Emperor	coral reef, inshore, sandy bottom	1
Seabream	5-100 m, shallow 10 m	15
Tuna/Mackerel	inshore, moderate, open water	7
		32
Trench 7		
Sea Catfish	inshore, muddy sandy bottom	3
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	17
Requiem Shark	inshore, moderate, pelagic	3
Eagleray	shallow coastal water	1
Emperor	coral reef, inshore, sandy bottom	3
Flathead	inshore, moderate, muddy sandy bottom	1
Grouper	coral reef seagrass 6-200 m deep	15
Tuna/Mackerel	inshore, moderate, open water	3
Seabream	5-100 m, shallow 10 m	137
Parrotfish	coral?	2
		185

of the site, but this could reflect seasonality of both fish and occupation, and the total assemblage from the site indicates that smaller, shallow-water coastal fish such as the seabream dominated the assemblages at Dosariyah as well. In fact, 267 out of the total 375 identified MNI from Dosariyah were seabream of some variety (71%), and the majority of fish at the site were small, between 20-30 cm. However, a few grouper, seabream, jack and tuna bones came from individuals 80-110 cm in length, but they are rare and their context is not specified. The infrequency of larger specimens compared to a consistent reliance on smaller fish suggest that the focus on fishing was for smaller fish, and that the large specimens were not regularly sought. Worked bone recovered from the site could be related to the manufacture of fishing nets or gorges, as no fish hooks were recovered.

The assemblage of Dalma contains the greatest number of fish taxa of the Gulf sites, a greater proportion of which might have been caught in open water, but this is probably a function of the enormous faunal assemblage (over 17,000 bones were recovered). Dalma is an island settlement where domesticated ovicaprid bones were recovered from the site, meaning that they were transported there initially.¹⁸ The transportation of domesticated caprines does not necessitate the use of boats, however, as rafts made from wood or reed and animal skins could have sufficed. Dalma also has pre-Ubaid occupation layers, yet it appears that the fish assemblage (i.e., the number and taxa of fish) is almost completely uniform from the earlier occupation phases to the later ones (Figure 4.7). Interestingly, Beech suggests that larger specimens were more important during the earlier phases, but this is probably also a function of sample size: 13,019 NISP were recovered from Phases 3-4, while only 4,839 are reported for the surface, Phase 1, and Phase 2 combined (Table 4.4). Thus, it cannot be ruled out that larger fish were caught in the later phases but

¹⁸Beech and Glover 2005, 99.

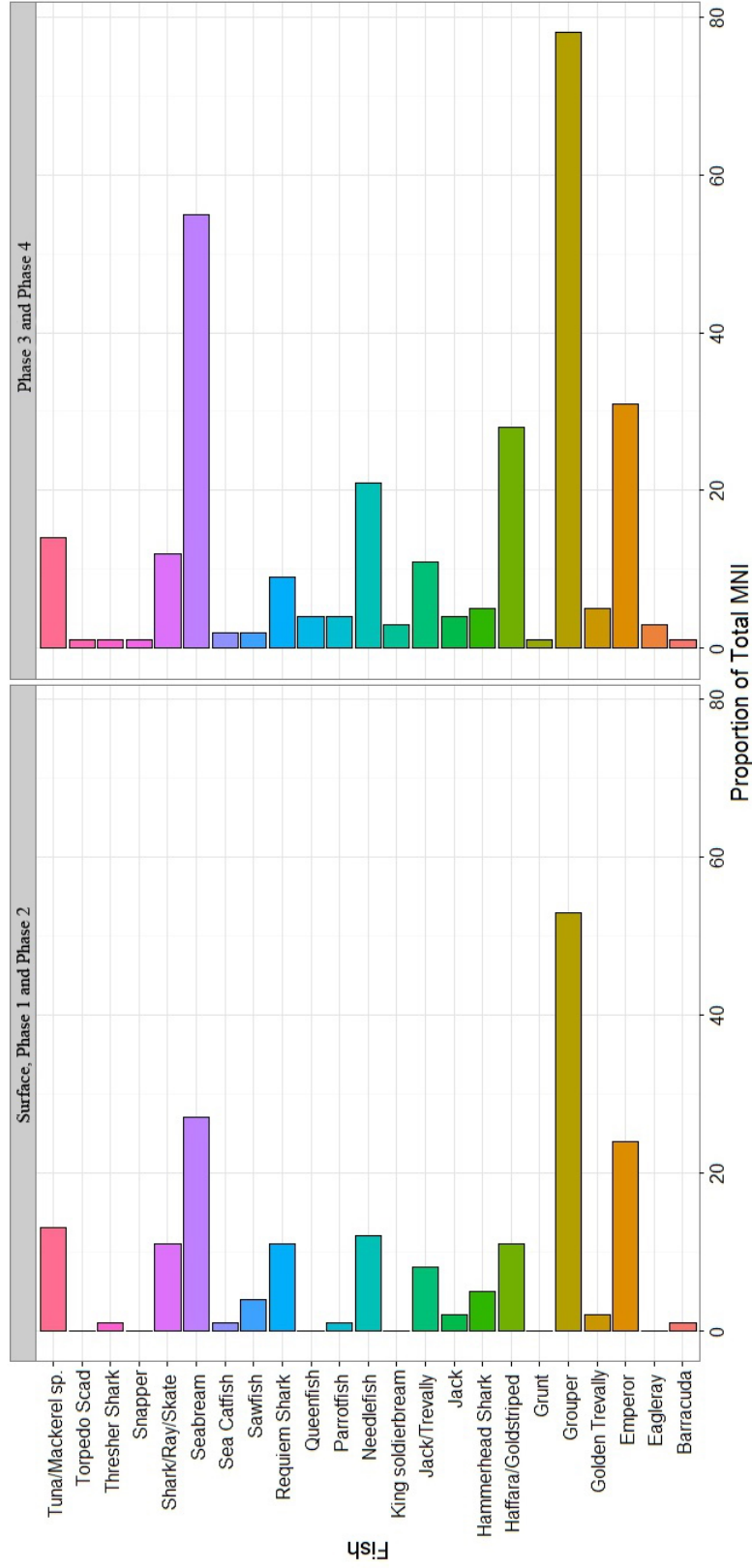


Figure 4.7: Relative importance of fish taxa at Dalma (MNI to total MNI) pre-Ubaid phases (Phases 3 and 4 on the left), and phases with Ubaid material (Phases 1-2 and surface on the right). The raw data is presented in Table 4.4.

were not recovered; however, the current data suggests that when the inhabitants of the island were interacting with seafaring peoples in later periods, they were not using boats for catching large fish. Dalma is located offshore of the U.A.E., closer to the Strait of Hormuz than the Central Gulf sites, which may have influenced the variety of fish taxa and size of fish specimens in the assemblage, as seasonal upwellings driven by the Indian monsoon bring nutrients and other fish to the area, which would attract predatory fish such as the sharks in the Dalma assemblage.

Table 4.4: MNI identified marine fish from Dalma. The MNI of each taxa from the total faunal assemblage is presented in column 3, while occupation was combined into an earlier phase (Phases 2-4) and a later one (Phases 1, 2, and surface deposits). All data from (Beech 2004, 247-50).

Fish	Habitat	MNI Total	Sur-Phase 2 MNI	Phase 3-4 MNI
Thresher Shark	surface dwelling pelagic	2	1	1
Requiem Shark	inshore, moderate, pelagic	20	11	9
Needlefish	surface dwelling	33	12	21
Hammerhead Shark	coastal pelagic	10	5	5
Jack/Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	19	8	11
Shark/Ray/Skate	variable?	23	11	12
Grunt	likely inshore	1	0	1
Emperor	coral reef, inshore, sandy bottom	55	24	31
Eagleray	shallow coastal water	3	0	3
Sawfish	inshore, muddy sandy	6	4	2
Parrotfish	coral?	5	1	4
Tuna/Mackerel sp.	inshore, moderate, open water	27	13	14
Seabream	5-100 m, shallow 10 m	82	27	55
Grouper	coral reef, seagrass, 6-200 m deep	131	53	78
Sea Catfish	inshore, muddy sandy bottom	3	1	2
Snapper	reef, rocky, 9-60 m	1	0	1
Barracuda	surface, reef, sea grass	2	1	1
Jack	coral reef, inshore, moderate, near coral reef, sand bottom	6	2	4
Golden Trevally	coral reef, inshore, moderate, near coral reef, sand bottom	7	2	5
Torpedo Scad	coral reef, inshore, moderate, near coral reef, sand bottom	1	0	1
Queenfish	coral reef, inshore, moderate, near coral reef, sand bottom	4	0	4
King soldierbreem	5-100 m, shallow 10 m	3	0	3
Haffara/Goldstriped	5-100 m, shallow 10 m	39	11	28
Total MNI		483	187	296
NISP		17858	4839	13019

H3, Dosariyah, and Dalma were locations of Ubaid interaction, if the sites with the densest concentrations of Ubaid ceramic remains assemblages do indeed indicate places of interaction between groups (Ubaid and Arabian). At these sites, there does

not appear to be an obvious change in fishing practice after coastal nomads met with seafaring Ubaid people, because the same types of fish were utilized across all of the phases at each site, with a consistent reliance on small fish (20-50 cm) such as seabream, whereas boats would allow for the capture of larger and deeper-water fish. Dalma is perhaps the most informative site for assessing change in fishing practice, as it was probably inhabited by Arabian communities before Ubaid sailors brought their pottery. The assemblage at Dalma indicates, however, that the same fish were caught across all occupation phases, and by proxy, the same fishing methods were likely employed.

The remaining Ubaid-Arabian site of interaction in the Central Gulf is Abu Khamis, but unfortunately the faunal assemblage cannot be interpreted due to lack of temporal resolution at the site. The fish bones from Abu Khamis were only preliminarily studied and revealed that “shark/ray/skates, jacks/trevallies and tuna/mackerel were all common, with groupers and seabream also present”¹⁹ but without any information on size, count, or provenience, it is difficult to assess the overall fishing practices at the site. A large amount of oyster shells in the assemblage may indicate a sandy, shallow, or inter-tidal environment, and it is possible the fish at Abu Khamis were caught with nets and baskets, as they appear to have been at other nearby sites. In support of this suggestion, bone awls were recovered that may have been used for net-making.

In sum, the existing fish assemblages and archaeological evidence in the Central Gulf at this time, i.e., the absence of fish hooks, minimal change in exploitation of fish taxa, a reliance on smaller fish, and the occasional appearance of large or deep-water fish, do not provide indirect evidence for an indigenous boating tradition used for fishing, nor a significant change in fishing practices after Ubaid sailors arrived with

¹⁹Beech 2002, 36.

their cultural materials. Further archaeological research is necessary; for instance, one question is whether or not the variety of fish caught would have been possible without the use of a boat. That is to say, at least 15 different taxa of fish were represented in the archaeological record at all sites, but this variety might be indicative of opportunistic fishing, rather than deliberate exploitation of a certain species, or it could be a reflection of seasonality of both fish migration and human occupation.²⁰ Ethnographic studies suggest that most nomadic groups that depended on fish or sea mammals for subsistence used boats, but they “rarely practice[d] open-sea or off-shore fishing and avoid[ed] open-sea travel if possible.”²¹ Analogously, the extent to which Arabian coastal nomads depended on marine resources for overall subsistence is unknown, but if the coastal nomads did build boats for fishing, they probably did not use them to engage in trade or travel great distances.

Even without boats, however, there are a great number of ways to fish; the faunal assemblages indicate that Arabian nomads were quite capable at fishing and probably had a repertoire of fishing techniques at their disposal (for analogous fishing practices see Figure 4.8). Gathering resources by hand with minimal equipment is surprisingly effective: although generally associated with a small-scale fishery, but production can increase in scale when products such as pearls are the main focus and many people work together.²² The range of activities that involve hand-picking or minimal fishing equipment includes digging in sand, collecting stranded fish from the beach, picking mollusks and other shellfish from coastal pools or lagoons, bailing water out of small pools, and wading into shallows or low tide to locate and capture shellfish/fish on the sea bottom or set traps. Diving or swimming extends the range

²⁰Arnold (1995, 735) suggests that “a significant increase in potential subsistence yields occurs with the development of oceangoing boat technology.”

²¹Pickard and Bonsall 2004, 277.

²²Gabriel et al. 2005, 14-9.

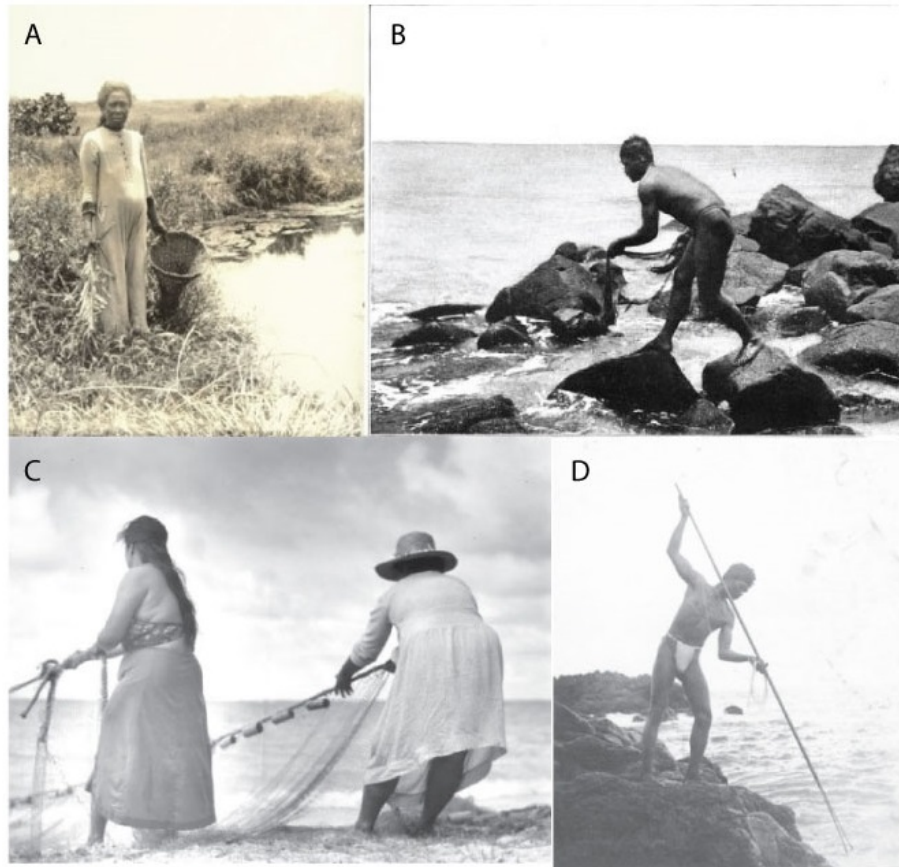


Figure 4.8: Coastal fishing methods used in Hawaii, ca. 1890-1930s: Gathering or trapping with a basket (A); Individual cast/throw netting (B); Beach seining, note the participation of women (C); Spear fishing (D) (photos from Bishop Museum Archives, Honolulu, Hawaii: <http://www.hawaiialive.org/topics.php?sub=Early+Hawaiian+Society&Subtopic=119> accessed March 2015).

of possible methods to include setting fishing gear, driving fish into nets, grabbing stupefied fish, or spearing/hunting fish.²³ Spearing can also be done from shore, and fishing at night by attracting fish with light is also an effective option. Nets come in a variety of types, including the cast net (net sinkers have been recovered from Gulf sites) and beach or small seines.²⁴ Small seines can be made more effective

²³Gabriel et al. 2005, 21-30.

²⁴Gabriel et al. 2005, 314-28 and 432-48.

by driving fish into the net or building fishing weirs (artificial barriers) to corral them, and beach seines can be larger and set by a swimmer without employing a boat. It should also be mentioned, because of the presence of potential bone gorges at some Ubaid Gulf sites, that line fishing may have been practiced. This could be conducted from shore, and long lines could also have been set from shore, with sinkers to position them.²⁵

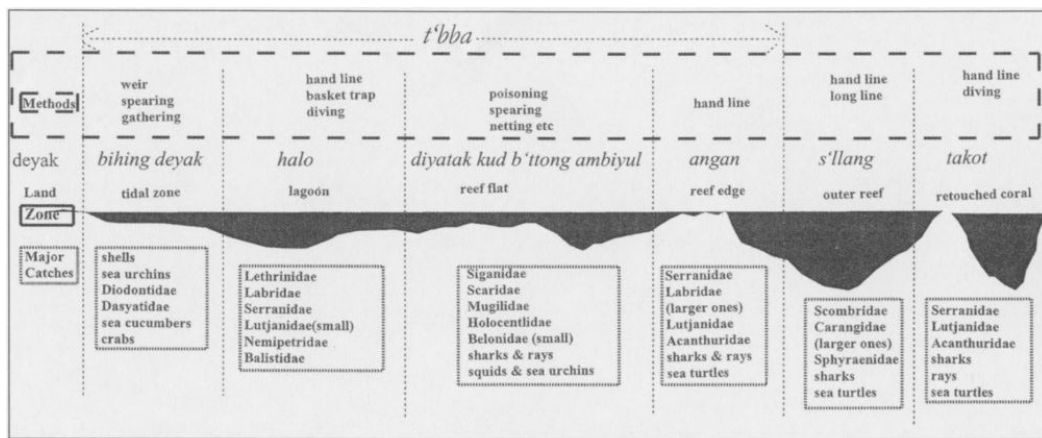


Figure 4.9: Marine environments and associated fishing methods in Polynesia. The following fish listed in each environment are also found in Gulf assemblages: various shell-fish/mollusks, Serranidae (Grouper), sharks and rays, Lethrinidae (Emperors), Mugilidae (Mullet), Scombridae (Tuna) and Carangidae (Jack/Trevelley) (from Ono 2010: Figure 4).

Rouja observed the Bardi of Australia employ many of these same methods for fishing – displaying a keen knowledge of both fish habits, habitats, and ocean tides – including poisoning, spearing while swimming, fishing at night, stunning, and trapping.²⁶ Moreover, the Bardi, primarily exploiting mangroves, utilized mangrove wood rafts and canoes on occasion for deeper-water expeditions. All of these options

²⁵Pickard and Bonsall 2004, 282.

²⁶Rouja 1998, 164-71. Analogously, Kirch and Dye (1979, 72) observed that most of Lapita fishing methods (Polynesia) took place inshore, and involved netting, spearing, poisoning, etc.

suggest it was certainly possible for the Arabian coastal nomads to have subsisted on the sea without the use of boats, but they may have chosen to use simple rafts of reed or wood, or even animal skin floats. These ephemeral methods might be more compatible with a nomadic lifestyle, employed on an ad-hoc basis, and likely derived from existing practices, like carrying water in skins. Making an occasional raft or float could have potentially increased fishing yields or the variety of a catch, but site chronology in relation to the amount of fish consumed per occupation would need to be better understood in order to make an accurate assessment; it may have simply been sufficient to fish from the shore (Figure 4.9).

4.1.1 Discussion

Returning to the analogy drawn from Arnold's suggestion that if a coastal group develops a boat tradition, accompanying it would be changes in diet, labor/organization, communication and trade, or symbolic/ritual behaviors, there appear to be no ostensible changes in the lifeways of coastal Arabian peoples after engaging with Ubaid seafarers. Little is known about the social organization of Arabian groups at this time, so no changes can be assessed based on current knowledge; however, the archaeological assemblages at Ubaid-period sites in the Gulf appear to be unchanged (i.e., extremely uniform) over the 500 years of Ubaid-Arabian interaction in the Gulf, suggesting that the same patterns of occupation were repeated at every interaction.²⁷ The archaeological record also does not indicate a change in marine contribution to diet, although how much these groups relied on fish for consumption compared to their herds or local cultivation (like dates, at Dalma and H3) is also uncertain. There have been no symbolic or ritual contexts relating to boats found outside of H3, a

²⁷The burial at Jebel Buhais 18 is among the only information for social organization at the turn of the 6th millennium B.C.E., and the grave goods do not suggest social differentiation. There are signs of violence, however. See Kiesewetter et al. (2000); Kiesewetter (2006).

site unique amongst all the Arabian sites because of its extensive architecture, likely permanent or semi-permanent occupation, and potential Ubaid inhabitants. There is direct evidence for the final element – communication and trade – but if the boat tradition was practiced by a different group of people, i.e., Ubaid Mesopotamians, then the presence of non-local goods is not a result of an Arabian boatbuilding tradition. The distribution of handfuls of Ubaid pottery sherds at smaller Arabian sites along the eastern littoral – in addition to evidence for stone, obsidian, and shell object movement – indicate that communication and trade occurred between Arabian groups, but almost certainly without the use of boats.

To conclude, it is possible that the coastal Arabian peoples had a boatbuilding tradition, but it is not reflected in the archaeological record. Based on their own traditions or lifeways, they may have preferred ad-hoc watercraft instead, which would require no maintenance and little organized labor to construct. On the other hand, there is more – and longer – evidence for labor/organization, communication and trade, and symbolic/ritual behavior related to boats associated with the Ubaid peoples of southern Mesopotamia. Based on these observations, the presence of Ubaid ceramics at certain Gulf sites is more likely the result of seafaring Mesopotamians visiting the shores of the Central Gulf than coastal Arabian populations sailing to Mesopotamia. Even after repeated interactions between seafaring Ubaid people and coastal Arabian communities, the archaeological record indicates a deliberate non-conformity to Ubaid boatbuilding techniques, implying no desire or need for the Ubaid method of boat construction (bitumen and reeds).

4.2 An Ubaid-Arabian Tradition?

Having established that the coastal Arabian populations probably did not have a boatbuilding tradition for the importation of non-local goods, Ubaid sailors must



Figure 4.10: The distribution of Ubaid pottery, boat representations, pearls/pearl shells, and Arabian Coarse Ware in archaeological contexts by ca. 4800 B.C.E. Symbols correspond to legend in upper left.

have traveled to the Gulf with their pottery in boats. Moreover, if the pottery was retrieved from Mesopotamia and arrived in the Gulf through the physical movement of nomadic groups, it would suppose a chain of settlements along the coast, and the distribution of ceramics would probably be different.²⁸ Instead, there appear to be a few ‘centers’ of concentrated pottery, and the ceramics radiate out to a lesser degree along the coast, but not inland.²⁹ The appearance of pottery is especially cacophonous in Arabian sites because prior to the Ubaid period, Arabian communities were aceramic.³⁰ Hence, this chapter proposes that the large Ubaid-related sites in the Gulf – i.e., the sites with the greatest abundance of Ubaid ceramics – represent very specific places where Mesopotamian peoples, sailing in boats with pottery, engaged with the local Arabian peoples by creating a new resource opportunity (for labor) that coastal Arabian populations chose to accept as part of their lifeways. Additional archaeological data, especially evidence for industry at these sites – like abundant quantities of pearls/pearl oyster shell – support this hypothesis (Figure 4.10).

The hypothesis that Ubaid sailors interacted with Arabian communities at select few sites can be evaluated. Since most of these major Ubaid period sites in the Gulf do not have pre-Ubaid layers (that is, H3, Dosariyah, and Abu Khamis had Ubaid pottery at the very start of their human occupation), their founding represents a deliberate decision, likely for a very specific purpose, that somehow involved Ubaid pottery. With no prior Arabian ceramic tradition, the Ubaid pottery at these particular sites must have been used for a specific purpose, yet afterwards the majority of Ubaid ceramics were not taken with the nomadic communities upon departure, suggesting that ceramics did not fit with Arabian lifeways. On the other

²⁸Uerpmann and Uerpmann 1996, 135-36.

²⁹see Figure 1.2 in Introduction for a map.

³⁰Magee 2014, 52; see any Arabian Neolithic excavation report.

hand, the seasonal occupation of both Ain Qannas and Dalma appear to pre-date contact with Ubaid people, meaning both sites were frequented by local Arabian communities before Ubaid material culture – or people – arrived. Thus, because there are sites with ‘pre-contact’ occupational layers, and other sites that emerged only with the arrival of Ubaid pottery, consumption of Ubaid material culture – if any – should be visible in the archaeological record. In other words, unlike the communities in northern Mesopotamia that adopted certain Ubaid characteristics through interaction – architecture, body adornment, burial practices, boats – it appears that coastal Arabian communities rejected the Ubaid material repertoire, instead “creat[ing] cultural innovations that ‘fit’ largely within the perceptions of what constituted proper...behavior,”³¹ or rather complemented their nomadic lifestyle.

The primary challenge to understanding Ubaid-Arabian interactions is chronological, both in how the Ubaid-Arabian interaction is usually represented in scholarship, and with the absolute dating of Ubaid period Gulf sites. Ubaid-Arabian interaction, understood through the appearance of Ubaid pottery at several local Arabian sites, did not take place as a single event. Instead, periodic interactions over a span of several hundred years occurred, but unfortunately, the excavations undertaken in the 1970s that utilized absolute dating methods produced very large error rates, making chronological inference difficult, and small sites were not dated at all. When the relative chronology of a site is indicated with an Ubaid chronological marker (e.g. Ubaid 4), is it generally unclear which strata or phase the Ubaid pottery was found in. This chapter compiles the available chronological data – including relative and absolute dates – from the sites with the greatest amount of Ubaid ceramics in order to clarify these interactions in terms of time and space, and ultimately in interpretation: the longevity and changing spatial foci of the interactions imply serious coordination on

³¹Lightfoot 1998, 216.

behalf of both groups, and the persistent refusal of coastal Arabian communities to adopt Ubaid identity – in sharp contrast to communities around Mesopotamia – is likely because of their propensity for flexibility.

4.2.1 First Stop? H3, Kuwait

As seen in Figure 4.11, the site of H3 in Kuwait is the earliest excavated site considered part of the Arabian peninsula or “Arabian herder-hunter-gatherer culture” to have contact with Ubaid communities from southern Mesopotamia. Occupation at the site, which is represented by four phases, the first of which developed from a ‘campsite’-type occupation, then later into something more permanent with standing architecture, began around 5400 B.C.E., about a century before Ubaid material appears at sites in northern Mesopotamia.³² This is significant for several reasons: Ubaid pottery was present from the initial occupation of H3, indicating interaction between an Arabian community or communities and southern Mesopotamians, yet the archaeological assemblage at H3 over the course of its occupation (ca. 5400-4800 B.C.E.) differs from sites in northern Mesopotamia, discussed in Chapter 3, where Ubaid material slowly replaced older traditions. H3 instead seems to be a blending of both local Arabian and Ubaid culture, a site where two disparate lifestyles came together and created a new tradition, possibly centered around Ubaid pottery and boat repair/maintenance; but the marked rejection of Ubaid identity is the crucial difference between Ubaid-period sites in the Gulf and Ubaid-period sites elsewhere around Mesopotamia.

The development of a new tradition at H3 that blended both Ubaid and Arabian lifeways is best illustrated by slight changes in daily practice at the site over

³²Carter et al. 2010, 292-95. The two Period 1 dates are: 6480+/-45 BP and 6160+/-40 BP; and the Period 2 date is 6135+/-50 BP; all dates were calibrated according to atmospheric data from Reimer et al. (2004) using OxCal v3.10.

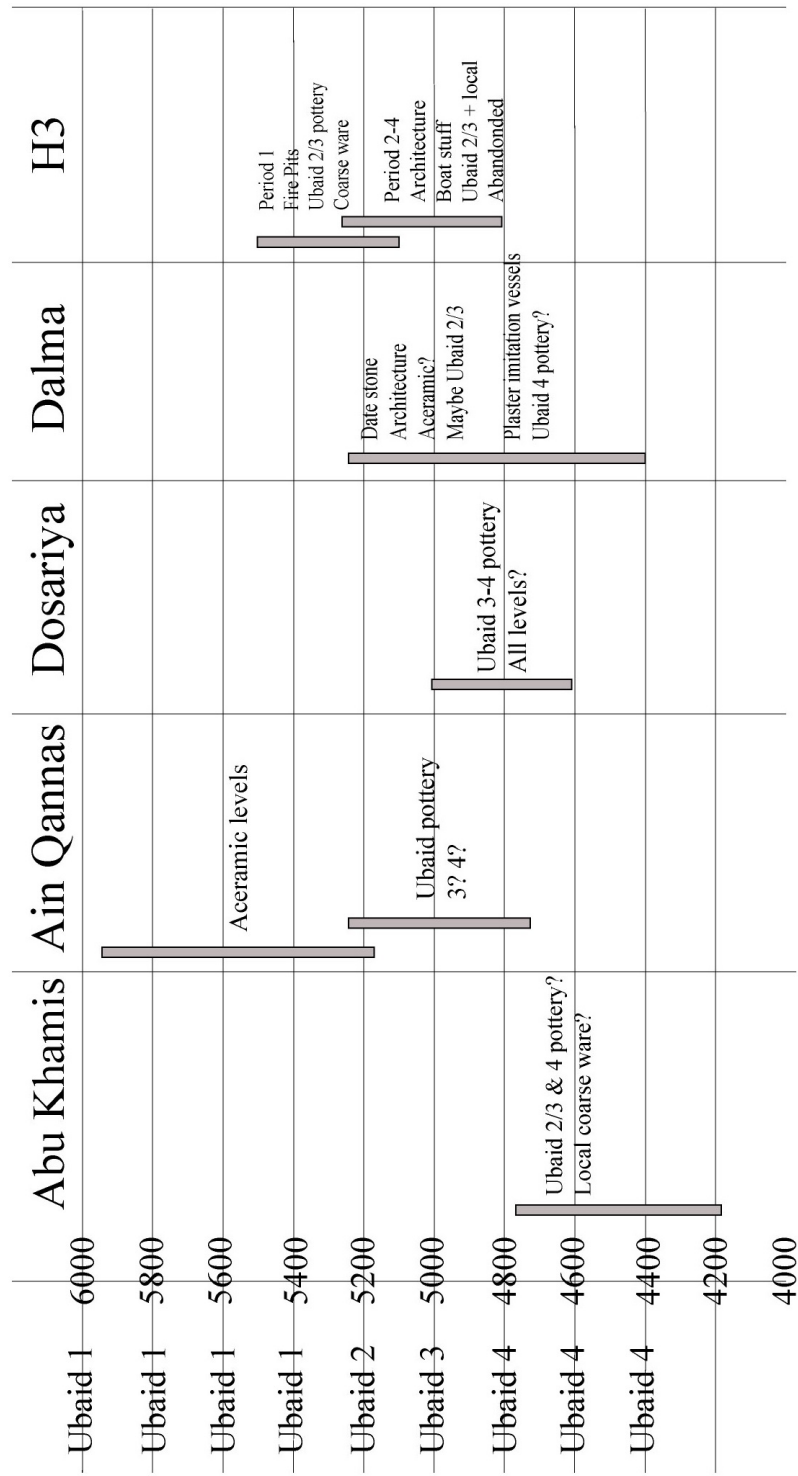


Figure 4.11: Chronology of Ubaid-related activity in the Gulf. All date ranges illustrated by the grey line are cal B.C.E. at the two sigma level except for Abu Khamis, which is one sigma. At H3, 6480+/-40 BP and 6135+/-50 BP provide a date range for the initial occupation, and the absence of Ubaid 4 pottery designs indicate site abandonment ca. 4800 B.C.E.; Dalma's occupation ranged from 6395+/-60 BP and 6220+/-45 BP to 5830+/-45 BP; Dosariyah dates from 6640+/-40 BP to 6430+/-40 BP; Ain Qannas was occupied sometime between 7060+/-445 and 6655+/-320 BP; only one date for Abu Khamis exists at 7060+/-255 BP (after Carter et al. 2010; Beech and Glover 2005; Dreschler 2011).

time. Period 1 corresponds to the initial occupation of the site and is represented by a series of firepits, resembling a “camp site” with firepits constituting the only architectural feature.³³ Ubaid and ‘local’ pottery were found in tandem with lithics and beads manufactured in the Arabian tradition in this period, but it is considered “fundamentally Arabian Neolithic with a strong Mesopotamian Ubaid component”³⁴ because aspects of the site during this phase – firepits, lithics and beads – are more similar to other Arabian Neolithic campsites across the Peninsula than they are to Ubaid settlements. Therefore, the Ubaid pottery appears to be an intrusive element, pointing to contact with southern Mesopotamia. The presence of ‘local’ pottery at this time, however, is noteworthy because current data suggests a widespread Arabian ceramic tradition is not established until the 3rd millennium B.C.E., well after the Ubaid period, with potential antecedents in the 4th millennium.³⁵ That is to say, the only pottery in the Arabian Peninsula at this time occurs exclusively at sites with Ubaid pottery, implying that the two are somehow related. The non-Ubaid pottery at H3 is known as Arabian Coarse Ware – a red, straw-tempered ware – and is only found in tandem with Ubaid ceramics at Ubaid-related sites in the Gulf (Figure 4.12).³⁶ While it is thought to be manufactured in the Central Gulf at sites like Dosariyah, where it appears similar in form and function and twice as frequent, H3 was occupied potentially 300-400 years prior to Dosariyah.³⁷ Thus, it is doubtful that the Coarse Ware at H3 came from the Central Gulf, and may mean that

³³Carter et al. 2010, 11, 13-4.

³⁴Carter et al. 2010, 15.

³⁵See Magee (2014, 107-9) for an overview of ceramic production in Arabian after the Ubaid period.

³⁶The presence of domesticates is attested in the phytolith report, so it is possible that the ‘chaff’ temper in the Coarse Ware is an agricultural product. Whether the wheat and barley was brought (unprocessed?) from Mesopotamia or grown locally (perhaps casually) at H3 is unknown.

³⁷Carter et al. (2010, 36-8) admit that the H3 Coarse Ware is a type “well known from Ubaid-related Neolithic sites of the Central Gulf region...the Central Gulf is its presumed provenance...where it is proportionally at least twice as frequent.”

the local Arabian population in Kuwait developed an indigenous pottery tradition. The production of this specific pottery and its use almost exclusively for cooking or storage across Ubaid-period sites in the Gulf – except for the inland site Ain Qannas – while the Ubaid pottery is oriented toward serving, suggests a structured scheme of pottery use and presentation was in place at H3.³⁸ Alternatively, it is possible – given that Coarse Ware only ever occurs in contexts with Ubaid pottery and Ubaid cooking wares in Mesopotamia are generally plainer – that it was made locally by Ubaid people for use in commensal activity (Table 4.5). The most obvious implication for the use of pottery at these Ubaid-Arabian sites is a change in foodways, but how the inhabitants were processing plant and animal products into food via cooking practices is yet unclear.

Table 4.5: Presence or absence of Ubaid pottery, Arabian Coarse Ware, and pearls or pearl shells at Ubaid-Arabian Gulf sites.

Site	Dates of Occupation	Ubaid Pottery	Arabian Coarse Ware	Pearling
H3	5300-4900 B.C.E.	Yes	Yes	Yes
Dosariya	5000-4400 B.C.E.	Yes	Yes	Yes
Dalma	5200-4500 B.C.E.	Yes	No	Yes
Ain Qannas	5200-4800 B.C.E.	Yes	No	No
Abu Khamis	4800-4400 B.C.E.	Yes	Yes	Yes

Periods 2-4 at H3 are characterized by extensive building and re-building/re-modeling activities using local beach-rock and sandstone in a dry-stone construction method.³⁹ The architecture does not resemble architecture found in Mesopotamia. During occupation period 2, Ubaid pottery – of the 2/3 style designation – becomes

³⁸However, Carter et al. (2010, 36-8) sampled some nearby clay sources and concluded that “there is nothing to suggest that Arabian Coarse Ware was manufactured at H3, and it seems more likely that it was brought from elsewhere, perhaps the Central Gulf.”

³⁹Carter et al. 2010, 16.



Figure 4.12: Arabian Coarse Ware (top) and Ubaid pottery (bottom) from Dosariyah. Scale not included in original image (from Burkholder 1972, 2680).

more common at the site (Figure 4.13), while other Ubaid material identity markers, such as labrets (lip plugs) appear for the first time, suggesting intensified contact with Mesopotamia. Shell bead and jewelry manufacturing in the Arabian tradition continues in Phase 2, and the first bitumen slabs with reed impressions and barnacles also appear at this time (more or less 100 years after the initial occupation of the site). The transition from the first ‘campsite’ occupation phase to one with standing architecture and greater frequency of Mesopotamian objects aside from the pottery, especially body ornaments, suggest that the relationship between the local Arabian community and Mesopotamians was becoming more formal. The presence of bitumen slabs stripped from reed-bundle boats beginning in Period 2 mark the nascent stages of a new, collective-work tradition.

In Period 3 a series of contiguous chambers, frequently adjusted or divided, was built across the mound, suggesting an ‘ad hoc’ and flexible use of space. While one chamber appears to have been repurposed from an animal pen into a bead/shell jewelry workshop, another chamber continued to be filled with (presumably bituminous)⁴⁰ soot, suggesting a continuation of certain pyrotechnic practices (possibly boat-related) on the one hand, and an investment in more permanent occupation on the other. The most artifacts and bitumen remains come from this phase, as well as a boat model found in a the aforementioned workshop along with a pierced pearl. It is thought that Period 3, if any, represents the most permanent occupation of the site, and the presence of both distinct material traditions suggests that inhabitants

⁴⁰Carter et al. 2010, 21, 197: “An attempt was made to obtain a radiocarbon date from [this chamber, but it] produced an impossibly early date of 8235+/-45. Presumably there was slight contamination with bitumen, which may hint at the nature of the activities that created the blackened deposits.” Furthermore, the phytolith profile “may be compatible with the presence of a high proportion of reeds...the C3 dominance in the two samples suggests either cooler, wetter conditions and an expansion of C3 grassland; or a bias in the samples with the deliberate use of gathered C3 grasses; or perhaps that the phytoliths were derived from reeds, i.e., *Phragmites* spp.”

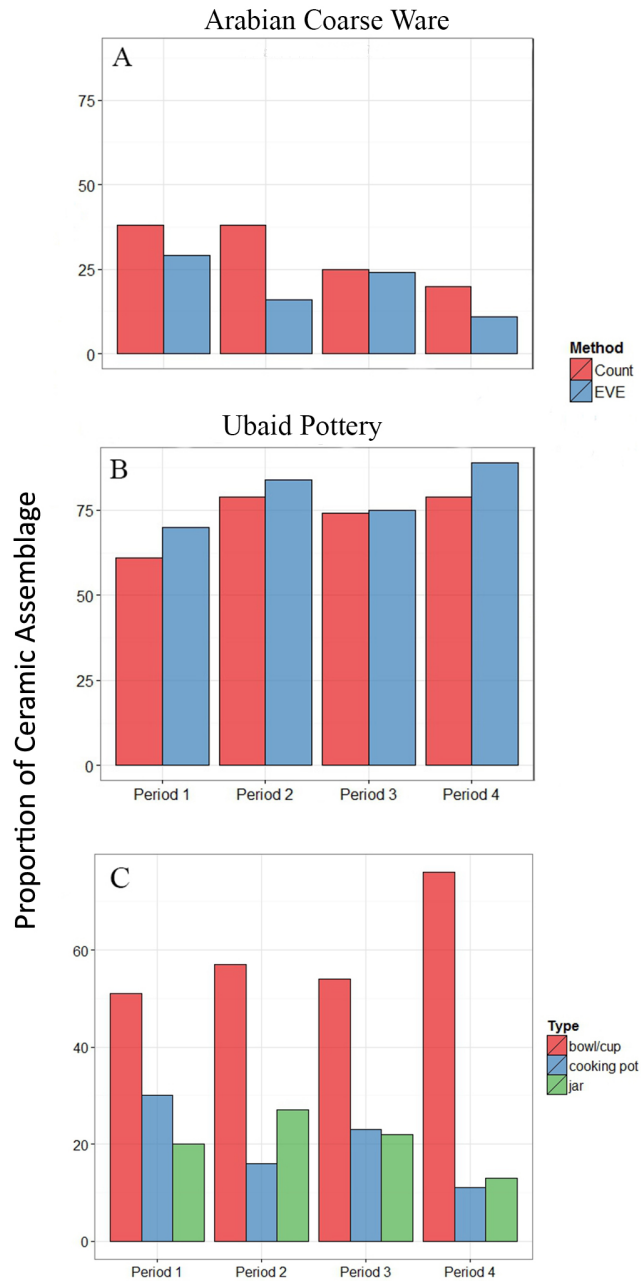


Figure 4.13: Proportion of Ubaid and Arabian Coarse Ware to total pottery per occupation phase at H3. (A) illustrates proportion of ACW to total pottery sherds recovered per period; (B) illustrates the proportion of Ubaid pottery to total pottery through occupation phases; (C) breaks all pottery down into functional categories based on vessel form (after Carter et al. 2010, Figures 3.3, 3.5 and 3.11).

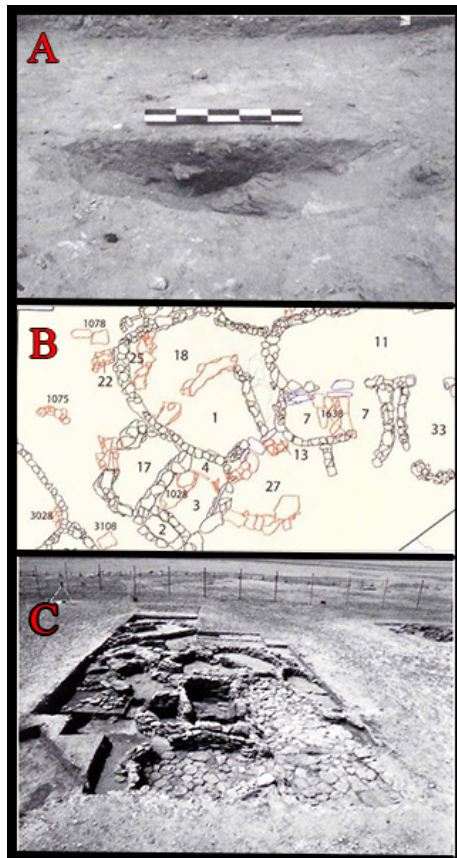


Figure 4.14: Image illustrating the development of H3 from a campsite to a semi or permanently occupied settlement. In Period 1 (A) firepits constituted the only architecture at H3; Periods 2-4 were characterized by building and remodeling, denoted by black and red lines in (B); and (C) is a photo of the main excavation trench at the end of the excavation; in the foreground of (C) are the main workshop chambers corresponding to Period 4, while the area in the far right corner is ‘Area G’ where the most Mesopotamian objects were recovered (after Carter et al. 2010, Figure 2.4. 2.6, and Plate 11).

from both communities were physically in residence.⁴¹ Period 4 activity reflects repairs to some chambers, perhaps after a period of site abandonment, but some new buildings were added as well (Figure 4.14). During this last occupation phase at the site, a cache of Mesopotamian-style adornments or personal effects were found in an area thought to be for habitation. These include flanged discs, nails/plugs,

⁴¹Carter et al. 2010, 30-1.

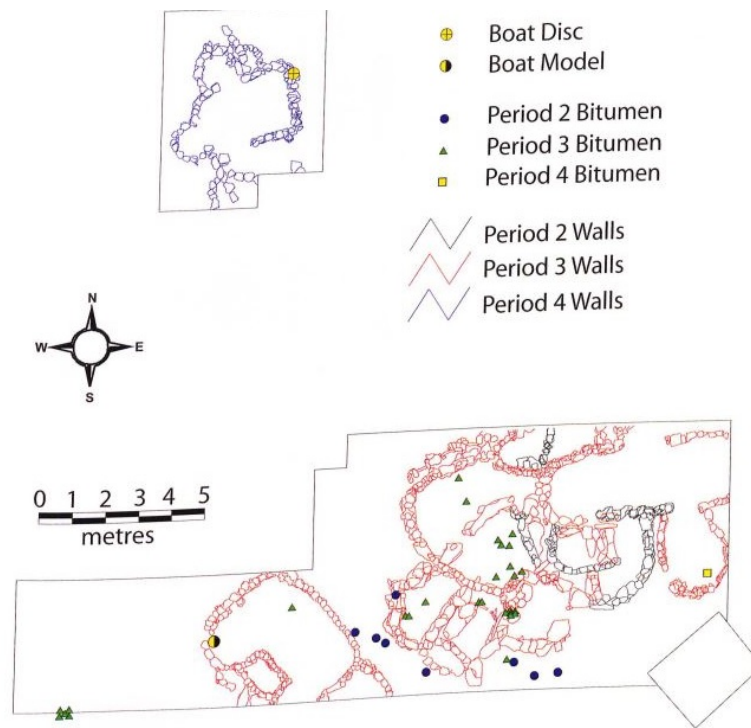


Figure 4.15: Spatial distribution of boat-related finds at H3 (from Carter et al. 2010: Plate 23).

which also may have been worn, and various small objects such as a small painted ceramic disc re-purposed from an Ubaid sherd and depicting a boat with a bipod mast. Despite the proliferation of objects of Mesopotamian manufacture, Arabian lithics and shell jewelry were present at the site during this phase as well. Bitumen finds are fewer during this final period (only 2 pieces, versus 36 in phase 3), and the authors suggest this decrease meant Ubaid boats were visiting the site less frequently (Figure 4.15).⁴²

4.2.1.1 *Collective Work?*

The most interesting artifacts recovered from the site are the physical remains of bitumen-reed boats in the form of bitumen slabs (Figure 4.16C). Not only do they

⁴²Carter et al. 2010, 101.

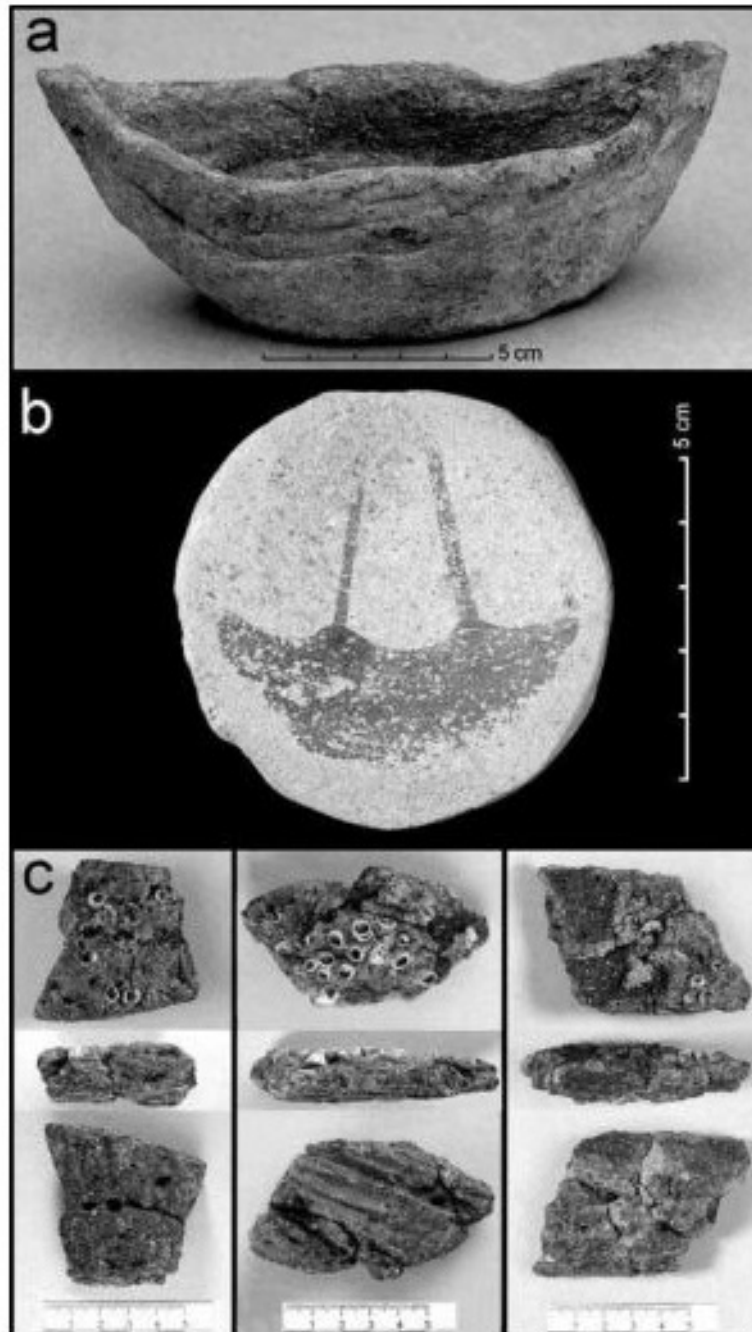


Figure 4.16: Boat-related finds from H3, periods 2-4. (A) is a boat model from Period 3 made in the style of Arabian Coarse Ware; (B) is an Ubaid sherd re-worked to depict a boat with a bipod mast from Period 4; (C) are bitumen boat remains with visible barnacles. Boat remains were present at the site from Periods 2-4 (from Carter 2010: Figure 15.2).

illuminate aspects of bitumen-reed bundle boat construction, but their deliberate removal and storage from boats suggests that H3 was an important site for bitumen recycling, and possibly boat repair or maintenance. Moreover, the symbolic representation of boats – the boat model and painted disk (Figure 4.16 A-C) – testify to the importance of boats at H3, where social interaction hinged upon their very existence. If boat repair was a main focus at H3, the labor necessary for such activity deserves consideration. There is little doubt that the bitumen came from seagoing vessels: 18 of the bitumen pieces had barnacles on the opposite face of the reed impressions, identifiable to the species level. That they occur on opposite sides corroborates the idea that the bitumen slabs came from an outside waterproofed layer on seagoing boats; moreover, the barnacles – identified as *Balanus trigonus* – are “found throughout the Gulf and forms in quiet water at low tide level or below” and reach the size of the examples seen on the H3 pieces in 2-6 months.⁴³ The bitumen recovered from H3 was sourced to a local surface seep at Burgan,⁴⁴ and a certain chamber in the building used throughout periods 2-4 may have been used for making the bitumen amalgam; extensive burning took place inside of it, and the abnormal radiocarbon result for the sample taken from that chamber suggests that bitumen contamination caused the error.⁴⁵ These finds – deliberately stored bitumen slabs from boats, produced from local bitumen – strongly suggest that H3 was both an important stop and place for boat repair or recycling.

While more local than the bitumen sources in Mesopotamia, the surface seeps at Burgan are still over 100 km away – over 60 miles – from H3. Walking 10 miles a day would result in a two-week round trip at minimum. In addition to procuring

⁴³Carter et al. 2010, 98

⁴⁴Carter et al. 2010, 101; see also Connan et al. 2005.

⁴⁵See note 40.

and carrying (probably solid chunks in skins, baskets?)⁴⁶ the significant quantity of bitumen probably required to produce the amalgam, the amalgam then had to be manufactured, combining bitumen with other inclusions, mostly vegetal, that also had to be collected. The implications of the amount of time and labor for producing or maintaining this bitumen coating are such that many people were likely to be involved in the process; moreover, knowledge of the available environmental resources (i.e., the surface seepages at Burgan) likely belonged to the nomads that frequented the area. It may be that boats were infrequent visitors at H3, otherwise occupation would have to be longer than seasonal. That the barnacles were at minimum two months old is suggestive; the journey from Eridu to H3 is over 300 km along the coast – at 5 knots a day, a trip of at least 37 days – yet the bitumen slabs were made from Burgan bitumen, meaning the recycled bitumen was originally produced at or near H3.

Clearly, boats were an important part of the occupation at H3 since they were also represented symbolically with a model and a painted disc. A boat model – found against the wall of a bead/shell jewelry workshop – is reportedly “carefully modeled to show specific features.”⁴⁷ Interestingly, it was made from Arabian Coarse Ware, presumably by an inhabitant of H3, and its features suggest an intimate knowledge of boat construction by including the representation of extant reed bundles and three piercings, possibly for rigging. The model – from Period 2 in which the first bitumen remains and architecture appear – coincides with increasing boat-related activity at the site. It is tempting to see the production of a boat model as an Ubaid tradition – given the earlier model from Eridu – representing the establishment of a reed-boat tradition at H3, and the painted disc from the final phase of occupation– lost or

⁴⁶Moorey 1994, 332.

⁴⁷Carter et al. 2010, 89.

discarded in a midden-like deposit outside of the ‘residential’ compound – testifying to the longevity of bitumen-reed boat production/repair at H3, a deliberate focus at a strategic site.

4.2.1.2 *Commensal Activity*

H3 lies at the intersection of two distinct traditions (i.e., Ubaid and Arabian), and thus its entire material assemblage is unique among Ubaid-period sites in the Gulf. The Ubaid pottery assemblage – over 66% of which was a bowl or cup – was oriented towards serving and consumption, while the local coarse ware was used primarily for cooking. Although this combination of distinct pottery styles (Ubaid and Coarse Ware) is not unique to H3, it is the first occurrence of pottery at all in an area with no prior ceramic tradition. Moreover, the development of the site through occupation phases and the boat-related industry give the pottery assemblage additional context that is absent from other Ubaid-Arabian sites. Furthermore, the faunal remains at the site suggest that marine resources, especially fish, were important for subsistence and probably a contribution of the coastal nomads to all of the inhabitants at the site. Yet, in later phases there is a greater reliance on domesticated mammals, which might indicate a change in foodways, or population at the site.⁴⁸ Arabian lithics and shell/bead jewelry manufacture took place in standing workshops at H3, indicating occupation by a local population, while Mesopotamian-style personal artifacts (especially body ornaments designed to publicly mark their wearers) imply the presence of Ubaid people as well, but the real purpose of the site seems to be centered around boats, probably their repair.

The relationship that seems to have developed from what may have been an

⁴⁸The presence of *Hordeum* (domesticated? barley) in Period 3 is worth noting. It is unlikely to be wild, which means that it might have been brought from Mesopotamia, possibly for consumption (Carter et al. 2010, 196).

accidental encounter – the Period 1 campsite – into a structured one, judging by the investment in standing architecture in subsequent occupational phases, appears to be a new tradition at H3, wherein Ubaid peoples in their reed-boats frequented the site and were repeatedly met by an Arabian community or communities. Though the purpose for meeting is unknown, the archaeological evidence for boat-related industry suggests it was an important activity at the site, labor which would have been impossible without an intimate knowledge of the landscape. How these groups not only communicated, but maintained a relationship from generation to generation (ca. 5400-4800 B.C.E.) merits serious consideration.⁴⁹ One possible explanation lies in the use of social technology – feasting – which explains the persistent presence of Ubaid ceramics at H3. Their concentration at this site, rather than a distribution at campsites in others areas of the Peninsula in addition to the fact that Arabian nomadic groups were previously aceramic, indicates a locus of use and intimates that they were not entirely compatible with a nomadic lifestyle, as not all the ceramics were taken with the local nomadic community upon abandonment of the site, neither seasonal nor final. While the archaeological record indicates that some ceramics were absorbed and traded among other local nomadic groups, the densest concentration of ceramics occurs at specific sites and requires an alternate explanation: the ceramics were used in commensal activities to communicate with local populations and solicit help with production (e.g., boats, or pearls); these sites of interaction were likely viewed as resource zones by the local populations that Ubaid material culture did not transcend beyond.

⁴⁹A contemporary communal burial site at Jebel Buhais 18 in the U.A.E.– if the analyzed human remains represent similar physiology of other Arabian groups at this time – indicate that human lifespan was 20-30 years, and that these nomadic groups rotated on a seasonal basis. See Magee (2014, 62-7); Kiesewetter (2006); Uerpman (2008); Uerpman and Uerpman (2008); Dreschler (2012, 488-89).

4.2.2 *Changing Loci*

The later phases of H3 are essentially contemporary with Ain Qannas and Dosariyah, and possibly Dalma (although it is unclear at what point Ubaid pottery at Dalma appears), and it is argued here that these sites represent an extension of Ubaid-Arabian practices to other locations. Based on the discussion above, the repeated interaction and cooperation between Ubaid and Arabian communities may have enabled H3 to function as a destination, or stop, along the way to Dosariyah. The probability that Ubaid sailors chanced upon the inhabitants of Dosariyah is highly unlikely, but it might have been through the local knowledge of the H3 nomadic community – of resources in the landscape, including other local nomadic groups – that contact was then established at Dosariyah, at least 500 km away from H3 along the coast. Chronologically, Dosariyah is the next site to contain Ubaid materials, and was first occupied at the same time as Ubaid pottery appears, suggesting coordination between Ubaid and Arabian communities (see Figure 4.11 again for chronology).⁵⁰

Dosariyah is described by its excavators as a “a campsite of mobile human populations where zones of activities shifted during time” based on a current absence of architecture or other large-scale permanent features at the site.⁵¹ Thousands of Ubaid sherds (Figure 4.17) were reported alongside local pottery and both were “present during the whole stratigraphic sequence,” meaning it was occupied by Arabian people from the beginning and visited by Ubaid people at the same time.⁵² A large number of potsherds that show repair have been highlighted by the excavators

⁵⁰Dreschler (2011, 74) reports the following dates obtained from pearl oysters: 6545+/-40; 6465+/-45; 6430+/-40; 6640+/-40 calibrated with a marine correction of 180+/-53 years (Southon et al. 2002); lab code KIA. Calibrated two-sigma BCE dates indicate the longest occupation range was 5192-4581.

⁵¹Dreschler 2011, 79.

⁵²Dreschler 2011, 76.



Figure 4.17: Ubaid pottery sherds from Dosariyah (Frifelt 1989: Fig. 2).

to suggest that the pottery was meaningful to the Arabians as a desirable object, and may hint that these interactions were infrequent. Pearl oyster shells make up more than 90% of the marine shell assemblage, indicating that perhaps Dosariyah was primarily a pearling site, and the worked bone artifacts indicate potential net manufacture as no fish hooks were found. Although no architecture or post holes have been discovered yet, plaster bits might indicate that there was some type of (temporary?) dwelling. Dosariyah, with its variety of marine resources including pearls, may have been a desirable destination for Ubaid sailors. Most likely, Ubaid traders learned of other interested Arabian communities – and local Arabian groups

learned of a new resource opportunity – from their contacts at H3, and the ceramics were similarly employed as social technology for communication at Dosariyah; the same combination of Ubaid pottery and local ceramics occurs at Dosariyah, suggesting their use was similar in purpose. It is possible that afterwards Ubaid ceramics were transferred or adopted by the Arabian peoples; however, the dense concentration of ceramics at this specific site, occupied periodically for centuries by both groups, suggests that the purpose of the ceramics was related to use, and that use was clearly restricted to select areas.

Ain Qannas is the only inland site to have Ubaid ceramics, and it does not appear to have local ceramics alongside the Ubaid material, which led Masry to suggest that it was part of the ‘earlier phase of the contact situation’,⁵³ by which Masry – the excavator – meant a southward sweeping expansion of Mesopotamian material that included the technological know-how of pottery-making. He also notes that the ratio of Ubaid pottery to stone tools is very low in this area. A better analysis of the pottery at Ain Qannas, including sherd totals, would be immensely helpful in understanding its occurrence at the site; although Ain Qannas is one of the sites with the most Ubaid ceramics, the amount is almost certainly not the same as Dosariyah or H3.⁵⁴ Ain Qannas is, however, the best evidence to support the argument that the pottery was absorbed by local Arabians as a status-bearing object or importance because it appears at an otherwise typical Arabian campsite. Is this evidence of local inter-group trade? Does the assemblage at Ain Qannas support the possibility of seasonal movements? Perhaps the pottery at Ain Qannas came from Dosariyah, or perhaps it was the same group of people from Dosariyah who stopped and camped at

⁵³Masry 1974, 132.

⁵⁴As the actual count of pottery from Ain Qannas is unknown and unpublished, yet Carter included Ain Qannas on his chart of Ubaid sites (see Figure 1.2) as a site with greater than 50 sherds, it is included in this discussion, but the sherd count for both Dosariyah and H3 number in the thousands.

Ain Qannas with some pottery on their inland route. Ain Qannas has an occupation history that predates the Ubaid material, and a shift in the lithic types from the earliest to middle aceramic layers might indicate that different nomadic groups used the same site over time; it was likely located near a large lake during the duration of its use, but there is no ostensible resource in the archaeological record that would have attracted Ubaid people or necessitated collective work.⁵⁵

4.2.3 An Enduring Tradition

The previous section argued for a first phase of Ubaid activity in the Gulf, probably beginning around 5300 or 5200 B.C.E. at the site of H3 in Kuwait, where it appears that Ubaid people and Arabian people came together to exchange goods, services, and feast for several centuries. At H3, Ubaid boats were being repaired, maintained, or recycled, a process that required cooperation from local coastal nomads whose knowledge of the landscape enabled the procurement of boat materials. This agreement between the Ubaid and Arabian populations to meet at H3 over time is evident in the archaeological record in the development of standing architecture, and the continuity of both Arabian and Ubaid practices simultaneously throughout the entire occupation of the site. Chronologically, slightly after boat-related activity begins at H3, other sites in the Gulf with desirable resources such as pearls were frequented by both Arabian and Ubaid people, based on concurrent Arabian artifacts and Ubaid pottery, indicating a deliberate decision by both groups to do so.

This pattern of mutual Ubaid and Arabian site selection continues into the 5th millennium B.C.E. – or the Ubaid 4 period – at the sites of Dalma and Abu Khamis, suggesting that what was occurring at these sites was beneficial enough to both groups for it to endure across centuries. Moreover, the repeated archaeological oc-

⁵⁵Dreschler 2012, 488.

currence of Ubaid pottery alongside Arabian artifacts – lithics, beads, worked bone – suggests a controlled interaction wherein Arabian communities and Ubaid people met for a new purpose; that these sites do not display adoption of Ubaid material culture in the same way as northern Mesopotamian sites did is indicative of negative demand for Ubaid material culture/identity. Dalma may be the exception among these Ubaid-Gulf sites in that it was occupied prior to Ubaid material culture, but as it provides no evidence for change in lifeways of the nomadic inhabitants after interacting with Ubaid people, it corroborates the idea of a collective-work agreement and the selective refusal of Ubaid material culture.⁵⁶ Carbonized date stones at Dalma provided absolute dates, establishing that occupation at Dalma began towards the end of the 6th millennium B.C.E., but this early occupation – noteworthy

⁵⁶There are some inconsistencies in reports about the pottery from Dalma, both about quantity and date/type. Carter (2010, 292) indicates that the pottery of Dalma is “mostly Ubaid 4, as far as one can tell from the limited sample, but at least one sherd bears a motif which is found in the Ubaid 2/3 and 3 periods. Decorated plaster vessels are also found at Dalma, resembling imitations of Ubaid 4 bowls.” This suggests that there were few sherds dating to 4800 B.C.E. or after. Dreschler (2012, 492) reports: “In addition to more than 35,000 stone artifacts, typical pottery of late Ubaid 3-4 type was recovered” and he cites Beech et al. (2000). Ubaid 3 designs would potentially push Ubaid interaction at Dalma back a few centuries. Beech et al. (2000, 42-3) suggest “It was previously thought that the nature of the Ubaid pottery at site DA11 indicated settlement during the fifth or early fourth millenniums BC (Ubaid 3-4) although the radiocarbon dates suggest a substantial revision of this interpretation.” The only way the pottery designation would need to be reevaluated is if pottery was found in the same level as the sample from which the radiocarbon date was revised, but in their report (2000, 41-4), the authors list six phases, with the post holes in Phase 5 and the carbonized date stone from Phase 4 (dated to the 6th millennium B.C.E.), along with ‘plaster vessel fragments’. It is not mentioned which phase the Ubaid pottery came from (stratified deposits? Flavin and Shepherd 1994, 127-8), but they do mention that most of the plaster vessels were plain except for a few that are decorated, and those are supposedly in the Ubaid 4 style. Were plaster vessels present in all phases of occupation but only decorated in the later phases? Due to these inconsistencies, I am going by Carter et al.’s statement (2010), as theirs is the most recent evaluation of pottery from Dalma. Therefore, if Dalma had Ubaid 4 pottery, it would have appeared around 4800 B.C.E., and the early radiocarbon date means there were prior, pre-Ubaid layers (that may have had plain plaster vessels). Carter et al. (2010, 4) also says “small amounts of Ubaid pottery along with plaster vessels made in imitation of Ubaid ceramics implies that communities in that region had restricted access to Mesopotamian pottery but wished to engage in similar patterns of consumption” so perhaps Dalma’s status as a site of intense Ubaid-Arabian interaction, if the true amount of Ubaid ceramics is small, is in question. See Figure 4.11.

for date consumption or cultivation – predates contact with Ubaid people.⁵⁷ What is more, architecture was already established on the island settlement prior to Ubaid contact, and the presence of domesticated ovicaprids bones led the excavators to suggest “long-term settlement on the island, rather than occasional visits during fishing or trading trips.”⁵⁸ Pearl shells were significant components of the assemblage and likely indicate a pearling industry, and if indeed Dalma was inhabited permanently, it would present an appealing stop for Ubaid sailors. Ubaid pottery that arrived on the island appears to have stayed on the island, and some of the local plaster vessels were painted in imitation of Ubaid 4 style ceramics, perhaps indicating the importance of Ubaid pottery to the local community at Dalma, but more likely, since the “majority of vessels [were] bowls or dishes,”⁵⁹ they were designed to fit the Ubaid tradition of community fostering cooperation through communal feasting. The use of plaster and Ubaid ceramics on Dalma island could reflect this practice; no changes besides the appearance of Ubaid pottery in the later phases at Dalma are evident in the archaeological record, meaning the community at Dalma was selective about Ubaid material culture in the creating of an Ubaid-Arabian cultural innovation.

Abu Khamis is perhaps the best representation of another deliberate Ubaid-Arabian location, previously unoccupied by either group, and chosen for its resources: it “consists almost completely of marine mollusks...[indicating] substantial economic activities at the site that focused on the collection of oysters [and] excavations could

⁵⁷Beech and Shepherd 2001; Boivin and Fuller 2009, 135-6 Dates for Dalma are as follows, from Beech et al. (2000, 42): 5110+/-160 B.C.E. for the lower levels and 4670+/-130 B.C.E. for the upper levels. Carbonized date stones were submitted to the Research and Reactor Centre radiocarbon lab at the University of Glasgow for AMS dating. Calibrations were made with Struvier et al (1998) to the two-sigma range. Carter et al. (2010, 293) report the following BP dates for Dalma: 6165=/-55 BP; 6395+/-60 BP; 6220+/-45; 5830+/-55 BP; 5830+/-45 BP; these dates are also in Glover and Beech (2005, 99).

⁵⁸Beech et al. 2000, 45.

⁵⁹Beech et al. 2000, 43.

not confirm the existence of an actual settlement there.”⁶⁰ Although an earlier investigation at the site noted local pottery, fish and mammal bones, reed-impressed plaster pieces, and bone awls, an artifact assemblage similar to the other Ubaid-Gulf sites, the quantity of Ubaid pottery is unknown, as is the duration of occupation at Abu Khamis.⁶¹ One radiocarbon date from the 1970s provides an enormous range of error, but at the one sigma level, it indicates occupation in the 5th millennium (ca. 4800 B.C.E. or later), thereby suggesting that Ubaid-Arabian interaction continued throughout the 5th millennium B.C.E.⁶²

4.3 Summary

The appearance of Ubaid ceramics at coastal Arabian sites raised the possibility that Arabian populations were responsible for importing the pottery via boat. This chapter argued that there is no indirect archaeological evidence to support an Arabian boatbuilding tradition by evaluating fishing practices at Ubaid-Arabian Gulf sites, whereas archaeological evidence strongly suggests an Ubaid boatbuilding tradition. Accepting that Ubaid sailors arrived on the shores of the Arabian Peninsula permits elaboration on two related points: the role of nomadic populations in coordinating interaction, and what affect these interactions had on local coastal groups. Understanding Arabian nomadic groups as ‘multi-resource nomads’ means that opportunities for trade – which include the ‘exchange’ of labor – were viewed as a resource in the landscape in the same way as other environmental resources. The decision of nomadic Arabian groups to engage with Ubaid people resulted in an

⁶⁰Dreschler 2012, 493.

⁶¹Masry 1974, 157.

⁶²The only radiocarbon date obtained in the 70s (Masry 1974) had such a wide range at the 95% CI that I opted to report the 68% range (which contains the mean) in Figure 4.11, placing the site squarely in the 5th millennium, and probably the Ubaid 4 period. Carter et. al (2010, 293) provided the following date: 5565+/-255 BP which calibrates to an enormous span 5000-3800 B.C.E. at the 95% CI.

agreement to meet at specific sites – requiring coordination from both groups – for several centuries. Although the sites of this interaction appear to change geographically, what they have in common are specific resources, such as pearls, and in the case of H3, bitumen for boat-building. This data suggests that the nature of interaction at these specific sites involved procurement of said resources, and the presence of Ubaid pottery may mean that communication occurred commensally. Furthermore, that some sites were specifically founded by both groups at the same time indicates the purpose of the site and the pottery were probably related; these sites are places of a new Ubaid-Arabian tradition.

Two sites with Ubaid pottery were occupied by coastal nomads before Ubaid material culture appeared, and those sites permit an evaluation of changes in Arabian lifeways. The archaeology of these sites do not indicate any obvious changes in Arabian lifeways from interacting with non-local Ubaid groups – aside from the appearance of Ubaid pottery in the previously aceramic archaeological record, everything else remains the same – insinuating that there was no demand among Arabian groups for Ubaid material culture.

5. CONCLUSION

Dietler suggests that one way to understand agency in archaeological contexts of encounter is to “focus on the process of consumption...[to] look much more carefully at the particular *things* that were actually consumed and the *ways* they were consumed; that is, we must examine the specific properties and contexts of these objects and practices and try to understand the social and cultural logic of the desire for them and the social, economic, and political roles that their consumption played.”¹ Because this thesis revolved around encounter, namely between southern Ubaid and nearby communities in Mesopotamia, and Ubaid communities and the geographically and socially disparate Arabian communities over a period of 500 years or longer (5300-4800 B.C.E.), echoing Dietler, one way to understand the interaction is through the specific *things*, i.e., bitumen-reed boats and Ubaid pottery, and the way they were consumed (or not). By examining the encounter between Ubaid and Arabian communities through how boats and pottery were consumed, it becomes salient that the reaction of nearby Mesopotamian communities to Ubaid material culture (the boats and pottery) and the reaction of Arabian communities differed. That is to say, the archaeological record indicates the adoption of Ubaid material culture, especially ceramics and boats, by communities around Mesopotamia, but not in the Arabian Peninsula. Recognizing this difference in reaction to Ubaid traditions, manifested in material objects, permits a reconsideration of agency in Ubaid-Arabian interactions. This thesis argued just such a reconsideration: while the bitumen-reed boats were utilized to transport Ubaid pottery to specific sites along the eastern Arabian littoral, the arrival of Ubaid objects appears to be the result of social nego-

¹Dietler 2010, 57.

tiations between both groups. In other words, local Arabian communities played a major role in facilitating the arrival of Ubaid pottery at coastal sites because their nomadic lifeways enabled the coordination necessary for such interactions to continue for centuries. However, the archaeology of these coastal Arabian sites with Ubaid pottery indicate that Ubaid objects were not adopted by local Arabian communities, as they were elsewhere in Mesopotamia.

In order to understand the encounter between Ubaid and Arabian people through archaeological Ubaid bitumen-reed boats, Chapter 2 argued for boats as a kind of artifact – produced by humans – and highlighted the role of daily practice and negotiation in creating them. By drawing on recent anthropological and archaeological literature that reconstructs archaeological ‘traditions’ as public negotiations between people and materials through time, the decisions made by people to do something in a specific way (or to do it in a different way) can be read in the archaeological record. With regards to boatbuilding traditions, the decisions implicit in the process of building boats include the decision to build boats in the first place, and the selection of environmental resources to do so. Furthermore, understanding boatbuilding as a type of technology, argued in Chapter 2 as the best way to situate boats in their socio-cultural environment, allows for understanding the role of boats – especially in periods without written language – in fostering public identity through their construction and use. In this way, the deliberate decisions of Ubaid communities to build boats, specifically bitumen-reed boats, were the result of public negotiations between people and things (choice of materials) and people and people (cooperation in construction), and thus represented a form of Ubaid identity. These boats then enabled the decision to engage with other groups of people, especially distant Arabian communities.

Chapter 3 argued that specific traditions and material manifestations of identity

were crucial to the Ubaid period in Mesopotamia. That is to say, archaeological excavations outside of the southern Mesopotamian Ubaid ‘heartland’ demonstrate that the spread of Ubaid objects from southern Mesopotamia, where the oldest Ubaid sites are located, does not appear to have occurred through coercion or violence, and thus the arrival of Ubaid objects appears to be the result of social negotiations between groups of people sharing a common suite of material goods. The Ubaid objects most salient to identity and tradition appear to be the distinctly decorated ceramics that occur at each site; produced locally yet decorated homogeneously across the Ubaid horizon – from Anatolia to Iran – these ceramics imply public conformity to Ubaid identity because of their quotidian nature. Moreover, they were probably used for a specific purpose, argued in this chapter to be feasting. Drawing on ideas about feasting as social technology, these ceramics – used in feasts – fostered relationships between groups of people in Mesopotamia, encouraging cooperation and communication. Other archaeological evidence, especially the appearance of body adornment at multiple Ubaid sites, corroborates the idea of a common public identity in Ubaid period Mesopotamia. With this context of Ubaid public identity in mind, it is possible to understand the spread of Ubaid bitumen-reed boat technology, known through the appearance of boat models at multiple sites, all molded to represent reed construction, as an Ubaid tradition and public-identity marker that cultivated community through their construction and use.

Chapter 4 began by questioning the prior hypotheses that coastal Arabian communities practiced an indigenous boatbuilding tradition and used those boats to import Ubaid pottery from Mesopotamia. As one of the goals of this thesis was to demonstrate that the bitumen-reed boats used in Ubaid-Arabian interaction – known archaeologically from the site of H3 – were products of an Ubaid tradition, Chapter 4 looked at fishing practices of Arabian sites in the Central Gulf as indirect evidence

of a boatbuilding tradition. Although the studied faunal assemblages of Central Gulf sites from the Ubaid period are few in number, the published analyses indicate that the coastal inhabitants relied consistently on small fish, while larger fish occurred only occasionally in the assemblages. No fishhooks have been found at any archaeological site in the Central Gulf as of yet, so the fishing methods employed by these early coastal nomads probably involved nets, baskets, weirs, and hunting. The site of Dalma has both pre-Ubaid and Ubaid phases, and the faunal assemblage from both phases indicates no change in fishing practice. Therefore, there is little to no indirect evidence from the fish remains to suggest that the coastal Arabian populations practiced a boatbuilding tradition for fishing, and even less likely, a boatbuilding tradition for trading across bodies of water.

The second part of Chapter 4, having established that the Ubaid pottery in the Gulf was brought by Ubaid sailors to the shores of the Central Gulf, argued that the sites with Ubaid pottery were locations of interaction between Ubaid and Arabian groups, beginning at the site of H3. H3 is the earliest Arabian site with Ubaid material, indicated by radiocarbon dates, and contains both Arabian and Ubaid material culture. The presence of distinct cultural materials from both groups at the site of H3, rather than the adoption or blending of both material cultures as seen at sites around Mesopotamia, suggests an occupation by both groups. Evidence in the archaeological record at H3, namely, bitumen boat remains, points to boat-related activity at the site, probably revolving around repair or maintenance, as does the development of standing architecture for industry surrounding reed boats and shell/bead jewelry manufacturing. At the same time, Mesopotamian style trinkets and adornments were recovered from the site, but they do not occur at Arabian sites outside of H3. Thus, the data from H3 point to a site that was periodically inhabited by both Arabian and Mesopotamian people, implying coordination from both parties

in repeated encounters over several centuries. It was argued in Chapter 4 that, because of the evidence for a boat-related industry and presence of Ubaid pottery at H3 but not outside of the site, the Ubaid pottery was used in feasting to enlist the help of the local Arabian community for boat repair/maintenance. That Arabian communities prior to the Ubaid period were aceramic suggests little to no need for Ubaid pottery. Through repeated encounters at H3, a new tradition was forged, combining the Ubaid tradition of feasting with specific ceramics, and the Arabian nomadic lifeways in which opportunities for work or exchange were a type of resource. No evidence suggests that Arabian communities adopted Ubaid traditions or material culture, as Ubaid objects aside from the pottery are not found at other Arabian sites, and fishing practices do not seem to have changed. By extension, understanding the interaction between Ubaid and Arabian people in terms of a new custom surrounding collective work makes it clear that Arabian communities were selective about Ubaid material culture (i.e., not adopting Ubaid objects), and chose instead what worked best for them (engaging in collective work). The other Gulf sites where interaction took place are the sites with the greatest abundance of Ubaid sherds, Dosariyah, Abu Khamis, and Dalma. Most were deliberately founded with joint Ubaid-Arabian material culture, and there is archaeological evidence for pearling activity at all sites. That some Ubaid pottery appears at smaller sites along the eastern Saudi littoral and U.A.E./Omani coasts indicates that few ceramics were taken with the nomadic groups upon departure (seasonal or final) from the sites with the greatest concentration, and the faunal assemblages from these sites also indicate no change in fishing practice, as might have accompanied the use of boats. Therefore, it appears the Arabian communities had little desire for Ubaid technology or objects.

In conclusion, the purpose of this thesis was not to delineate two separate traditions maintained along distinct geographic lines, but rather to highlight the so-

cial negotiations that unfolded between two groups practicing distinct traditions. The encounter between these two groups was made possible by the construction of bitumen-reed boats, but if those boats were not considered as the sum of their constituent parts (i.e., the material, social, and symbolic), information about the implications and incentives of the Ubaid-Arabian interaction would be lost. As was argued in Chapter 2, being explicit about the social and cultural ties to the manufacture of these bitumen-reed boats allows for a broader understanding of tradition and consumption in Mesopotamia and Arabia during the Ubaid period. Reconsidering the encounter between Ubaid and Arabian people in terms of boats and material culture, a proxy for greater tradition and consumption, highlights how local Arabian communities played an active, rather than passive, role in creating opportunities for exchange, and yet negatively consumed Ubaid identity markers, particularly Ubaid-style boats.

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APPENDIX A

ID	Site	LAT	LONG	datesBC	phase	boatrep	bitumen	reed	ubpot	locpot	pearl	pelag	coast
1	Mashnaqa	36.288425	40.79463889	5100	1	2	NA	NA	Y	NA	NA	NA	NA
2	Abada	34.191111	44.995	5100-4800	1	2	Y	Y	Y	NA	NA	NA	NA
3	Uqair	32.783333	44.683333	4800-4400	2	1	Y	Y	Y	NA	NA	NA	NA
4	Uruk	31.322222	45.636111	4800-4400	2	1	NA	NA	Y	NA	NA	NA	NA
5	Oueili	30.955609	46.046645	5200-4800	1	1	Y	Y	Y	NA	NA	NA	NA
6	Al-Ubaid	30.972222	46.030556	5200-4800	1	1	Y	Y	Y	NA	NA	NA	NA
7	Eridu	30.815833	45.996111	5800-4400	1,2	4	Y	Y	Y	NA	NA	NA	NA
8	H3	29.6416666	48.15055556	5200-4800	1	2	Y	Y	Y	Y	Y	23	184
9	Dosariya	26.877	49.818	5000-4500	1	0	Y	Y	Y	Y	Y	44	373
11	Dalma	24.513125	52.310919	4800-4400	2	0	N	NA	Y	Y	Y	80	480
13	Ain Qannas	25.5905555	49.6102777	5200-4800	2	0	N	NA	Y	N	NA	NA	NA
14	Abu Khamis	27.451061	49.262328	4800-4400	2	0	N	Y	Y	Y	Y	NA	NA
16	Burgan	29.110833	47.966667	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	Mosul	36.34	43.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = unknown or unreported in publications
Burgan and Mosul are bitumen sources
Dates are related to boat models and trade
Reed = Y if impressions were found during excavation
Pearl = Y if pearls OR pearl shells were present
Pelagic count includes fish in yellow from Tables 4.1--4.4
Boatrep includes boat models and the painted disc from H3