

**Food and Feasts: Social Organisation in Early
Dilmun, c. 2050-1750 BC.**

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Chapter 1 – Introduction

1.1 Historical Introduction to Dilmun

During the Early Bronze Age (ca. 2300-1750 BC), the Dilmun civilisation was located on the island of Bahrain, the island of Failaka, located 12-17 km from Kuwait (Barta et al. 2008: 122), and Eastern Saudi Arabia (fig 1.1). It was at this time that Dilmun was at the height of its power, due to its important geographical location in relation to Mesopotamian trade routes and the rest of the Arabian Gulf and most importantly between Mesopotamia and the Indus civilisation (Roaf 2003: 25).

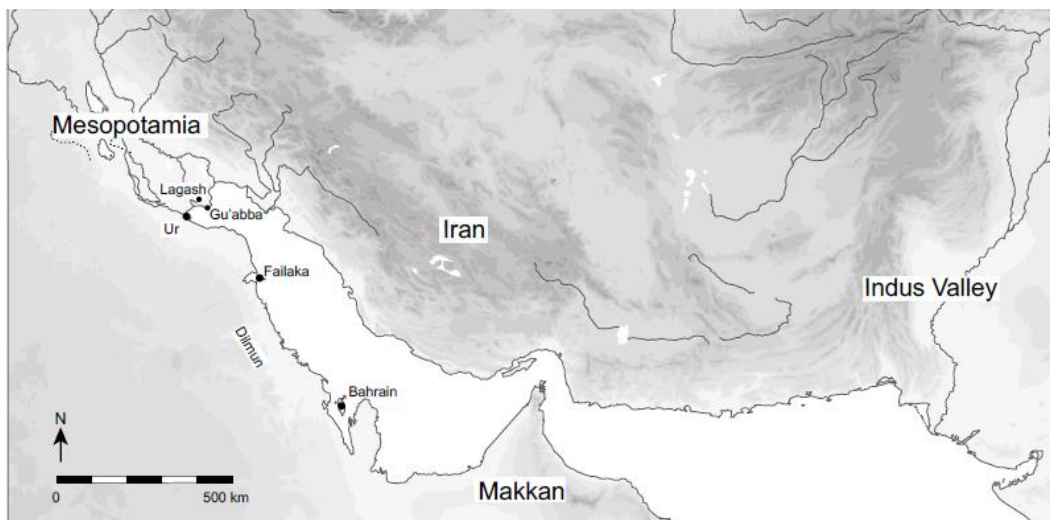


Figure 1.1. Map of the ancient Arabian Gulf. (Højlund 2016a: 8)

Dilmun encompasses a large period of time (ca. 2300-400 BC) and covered both the Bronze and Iron Ages. As a result, it is divided into three periods: Early (ca. 2300-1750 BC), Middle (1750-1000 BC) and Late (1000-400 BC) Dilmun (Timeline, Bahrain National Museum). This thesis will focus on the Early Dilmun period and more specifically dates relating to Qala'at al-Bahrain City IIA-c (2050-1750 BC). The chronology from this period is primarily based on the excavations from Qala'at al-Bahrain, Saar, the Barbar Temples and the Tells on Failaka (fig. 1.2) as well as pottery and stamp seal studies (Højlund 2007: 11-12).

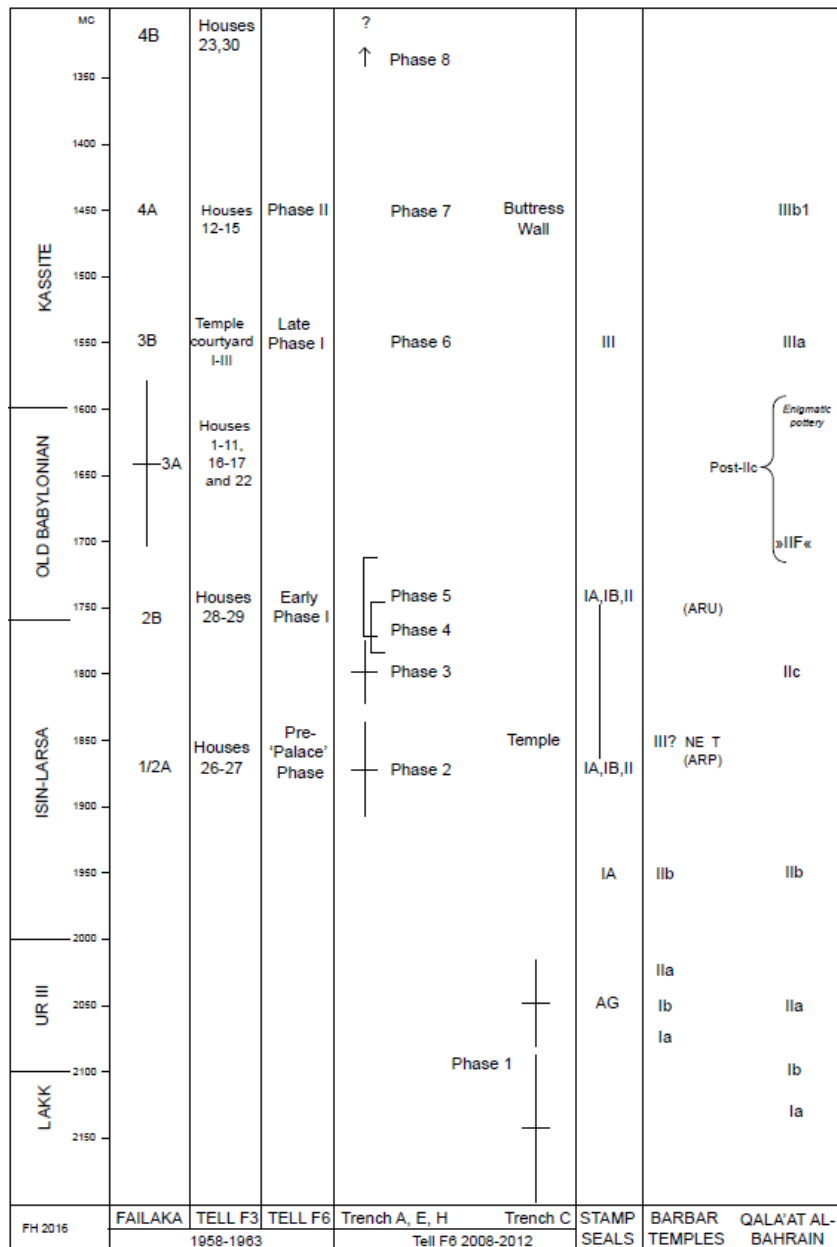


Figure 1.2. Chronology for Bahrain and Failaka. (Højlund 2016a: 12)

1.2 Climate and Topography of Bahrain

In Sumerian literature, Dilmun is referred to as both a city and a county (Larsen 1983: 47). It has also been construed as a mythological place as the Sumerian myth of Enki and Ninhursag states that Dilmun is “a blessed land, where natural ills and sickness and death do not exist.” (Bibby 1986: 193). As a result, some scholars, such as Lamberg-Karlovsky (1982), associated the myth with the numerous burial mounds and came to the conclusion that Dilmun was the Sumerian Paradise, or afterlife. However, the mentions of Dilmun in the Sumerian creation myths often focus on the sweet water, fields and farms (Larsen 1983: 33).

Bahrain has a number of fresh water springs situated across the island, primarily located in a zone encompassing the northeast and heading towards the southwest (Larsen 1986: 30). Settlements in the Early Dilmun appear to follow a similar pattern to the springs (Larsen 1983: 78). The fresh water springs, along with enough rainfall, would have allowed for the bountiful farms that were referenced in the myths (Larsen 1983: 188). This in turn would have produced enough capital for the emergence of a non-agricultural class which became highly visible at the end of the third millennium BC (Larsen 1983: 190).

Whilst the fresh water springs would have allowed for a level of self-sufficiency in regard to agriculture and domestication, the springs would have been highly susceptible to changes in sea level (Larsen 1983: 141). During the third millennium BC, the Arabian Gulf appeared to be at a relatively high level (*ibid.*). The climate during the fourth to second millennium BC appeared to be fluctuating between moist conditions and extreme aridification (Magee 2014: 44). During the periods of Qala'at al-Bahrain City IIa-c (2050-1750 BC) there appeared to be once more a shift from moist to arid (Rice 2002: 61-62). However, as this was at the beginning of the second millennium it would have not had a drastic effect on water available on the island.

1.3 Settlements

Current understanding of the Early Dilmun is somewhat problematic due to the destruction of burial mounds in Dhahran, Saudi Arabia and the limited Dilmun excavations that have occurred in Saudi Arabia (Al-Mughannam and Warwick 1986). Hopefully with the opening up of Saudi Arabia and the first archaeological conference having taken place there in November 2017, excavations focussing on the Early Bronze Age will begin and shed light on the region. Most of the information relating to Early Dilmun comes from excavations on Failaka Island and Bahrain.

1.3.1 Settlements in Bahrain

In Bahrain only four non-tumuli sites have been excavated and studied in any depth and these are Qala'at al-Bahrain, Saar, Barbar and Diraz (Crawford and Moon

2017: 5), although Saar does have tumuli and subterranean graves within the settlement's immediate vicinity. Sites such as the one in Al-Areen wildlife park, are known but unexcavated, whereas other sites are suggested in surveys but due to agriculture and extensive building it is difficult to definitively place the Early Dilmun settlements, with many likely destroyed (Crawford and Moon 2017: 5-6).

Qala'at al-Bahrain dates from the mid-third millennium BC but the Early Dilmun site cannot be fully excavated due to the presence of a Portuguese fort dating to the 16th century AD (Crawford and Moon 2017: 6). Qala'at al-Bahrain is an incredibly significant site due to the city wall dating to City II and its large size, with estimates saying it housed ca. 3,000 people (*ibid.*). The location, size and architecture of the site has been used to argue that it was the capital of Dilmun during the Early Bronze Age (Uerpmann and Uerpmann 1999: 635). It seems probable that Qala'at al-Bahrain was the main port in Dilmun, or at least in Bahrain, and therefore was crucial in the wider trading network of Arabia at the time.

There have been two extensive excavations at Qala'at al-Bahrain: Excavation 519 and Excavation 520. The data from the two buildings will be compared in subsequent chapters. Excavation 519 focussed on the central, monumental buildings in which a Dilmun palace was discovered. The palace covered an area of c. 280 sq.m. and pottery has dated it to Period IIb (Højlund and Andersen 1997: 16-17, Højlund 1997: 29). In comparison, Excavation 520 was situated towards the coast, at the edge of the tell and was comprised of smaller, private architecture (Uerpmann and Uerpmann 1999: 636).

Saar and Qala'at al-Bahrain will be the two main sites from Bahrain studied in this thesis, although other sites will be referred to. Saar's ancient settlement is located to the southwest of Qala'at al-Bahrain and it would have taken about two hours to walk between the two (Uerpmann and Uerpmann 2008: 72). The Saar settlement (ca. 2.25 ha.) is to the immediate north of a tumuli field and has two 'honeycomb' subterranean burial complexes (Crawford and Moon 2017: 8, 13).

Diraz is a settlement to the west of Saar and archaeological evidence suggests that it was a significant site, with a temple (Crawford and Moon 2017: 7). However, the

site has been disturbed to the point of being largely useless in regard to archaeological interpretation (*ibid.*). The excavations at Barbar, which began in the 1950s and had additional excavations undertaken in the early 2000s, have uncovered another temple site dating to ca. 2000 BC (Højlund *et al.* 2005: 105). The site contained three temples which were consecutively built on top of one another (*ibid.*). Excavations have only uncovered the temples and a fresh water spring, connected to the temples, but it has been suggested that sherd scatter might imply that the temple was in close vicinity to a settlement (Crawford and Moon 2017: 7).

1.3.2 Settlements on Failaka Island

Failaka Island became inhabitable for humans during the third millennium BC due to the sea levels falling (Højlund 2016b: 251). Excavations on Failaka Island have unearthed two tells, F3 and F6, dating to the end of the third millennium and the beginning of the second millennium BC in the southwest of the island, and the site of Al-Khidr in the northwest (Højlund 2016a: 7, Benediková and Barta 2010: 13). It is believed that Failaka became an outpost for the Dilmunites in the early second millennium BC, however it has been argued that the island was occupied prior to that by the Mesopotamian Ur III state (*ibid.*). This study, however, will only focus on the time in which Failaka was part of Dilmun, although Tell F6 does contain remains from both periods (*ibid.*).

Tell F3 will be studied briefly as it largely contains small domestic buildings, whereas Tell F6 primarily has two large buildings; one is a temple and the other has been named a ‘palace’ and as a result Tell F3 has largely been ignored (Højlund 2016a: 7). Tell F3 is the westernmost of the tells and measures c. 190m from north to south and c. 230m from east to west (Kjærøum and Højlund 2013: 11). A large area of the site was excavated between 1958 and 1963 and so published research on faunal and botanical remains are limited, however the site does contain ovens within some of the houses, which will be discussed later.

Tell F6 is situated in the north east area of the tell sites and it lies c. 200m away from Tell F3 (Kjærøum and Højlund 2013: 99). The primary excavations occurring at Tell F6 were between 1960 and 1963, with further excavations being undertaken

between 2008 and 2012 (Kjærøum and Højlund 2013: 99, Højlund 2016a: 7, 9). Additional excavations have occurred, but the two Danish excavations were the two most extensive. Tell F6, as previously mentioned, has both a ‘palace’ and a temple but excavations between the two larger buildings and to the southeast of the temple have uncovered additional structures (Højlund 2016a: 10).

The site at Al-Khidr is placed alongside a shallow bay and its strategic location has led many to believe it would have been used as a port in the past (Benediková and Barta 2010: 13). The site is made of three separate mounds (KH-1, KH-2 and KH-3) and two other smaller elevated areas between them, but only KH-1 has been excavated due to a large part of the site being fenced in an Islamic cemetery (*ibid.*). The site has two or three distinct occupation layers in the Bronze Age (Barta *et al.* 2010: 34). The site is not as well preserved as others, such as Tell F6 and Saar, due to medieval and more recent habitation as well as burrowing animal. Water and wind erosion also causes problems in regard to preservation as tidal waves do reach KH-1 (*ibid.*). Interpretations of the site are limited further due to the small scale of excavations that occurred, compared to large areas of sites being uncovered at other Gulf sites (Barta *et al.* 2010: 36). The site also had a limited number of immovable objects that could be interpreted as household items; there were only some potential fireplaces and a large number of storage jars (*ibid.*). Despite that, the portable material culture was quite rich at Al-Khidr and incorporated pottery, bitumen objects, stone implements and seals. Animal bones have also been uncovered (*ibid.*).

1.4 Burial Practices

Dilmun is best known for its burial tumuli, with the estimates of mound numbers ranging from 75,000 (Münzner 2014: 13) to 172,000 (During Caspers 1984: 1). The mounds have been categorised into ‘Early’ and ‘Late’; the Early mounds are largely based in Rifa’a and are somewhat cairn-like with larger stones, whilst the majority of mounds are the Late type and are larger, and covered with sand or gravel (Soweilah 1995: 196-197). The Late mounds are also organised in mound fields and there appear to be about ten of these cemeteries (Olijdam 2010: 141). A large proportion of the mounds are small and somewhat unremarkable, except for the sheer number of them.

There are additional burial practices such as the individual subterranean graves at Karranah and al-Hajjar (Olijidam 2010: 142) and the ‘honeycomb’ burial complexes, located at Saar, which consist of subterranean graves, each with a partial ringwall that intersect with one another to create the ‘honeycomb’ (Mughal 1983: 11). These burial practices will be referred to later on in the paper but will not be explored to the same extent as the tumuli.

1.5 Previous Research on this Topic

The archaeology on Bahrain has fascinated many scholars for centuries and excavations had already begun in the 1878 with the arrival of Captain Durand (Rice 2003: 3). Throughout the late 19th and early 20th centuries some of the larger burial mounds were excavated but it was not until the 1950s and the arrival of the Danish Expedition that widespread excavations of Qala’at al-Bahrain, the Barbar Temple, Failaka and countless burial mounds began to occur (Rice 2003: 4-5; Højlund 2007: 11). The 1980s and the publication Al-Khalifa and Rice’s *Bahrain through the Ages: The Archaeology* (1986) resulted in a renewal of interest in Bahrain and Dilmun.

Due to the limitations of archaeological techniques and research during the 1950s, and a lack of interest prior to that, the faunal and botanical remains are somewhat limited. Sites where it was decided to keep and record bones usually hand-picked the bones when they were clearly visible, rather than systematically sieve the excavated deposits (Uerpmann and Uerpmann 1999: 638). Whilst more modern techniques have improved, allowing for a more complete understanding of diet within Dilmun, limitations are still occurring in some excavations. The 2008-2012 excavations at Tell F6 on Failaka Island used sieves but did not take flotation samples (Yeomans 2016: 228). This means smaller fish species will be underrepresented and botanical research is near impossible. Preservation issues also mean that faunal and floral remains are limited. Despite limitations in data, there have been incredibly informative papers by authors such as Uerpmann and Uerpmann (1999, 2008) and Nesbitt (1993).

Current research is very much focussed on the respective areas of expertise; for example some authors' will write about archaeobotany or the zooarchaeology of the region but there is very little work on the social implications of diet and feasting in Dilmun during the Early Bronze Age, which this thesis will address.

1.6 Research Methodologies and Aims of this Study

This study aims to create a comprehensive approach to diet and feasting in the Early Dilmun period. As mentioned, previous studies have been primarily focussed on scientific approaches and methodologies to create datasets, whereas this thesis will focus on the social implications of diet and feasting and how it affects and reinforces organisation of Dilmun society. In order to answer my main research question: *Does diet and feasting reflect the social organisation in the Early Dilmun?* I will primarily be researching faunal and botanical remains from both settlements and burials, human teeth for information about diet and the depictions of hunting, feasting and animals on stamp seals. This information will be combined with theoretical interpretations of the social aspects of diets and feasts and how they can reinforce social status and positions within society.

Chapter 2 – Theoretical Approaches to Diet and Feasting

2.1 Introduction

The archaeological study of diet and feasting has long been associated with the status of an individual, or a group of people, within a society. Both diet and feasting studies usually prioritise the wealthy or higher classes with the upper echelons of society able to afford better foods - for example rarer animals or better cuts of meat. The upper classes can also afford grand displays of wealth, which are often associated with feasts (Halstorf 2017: 183). However, diet and feasting can explore issues of social organisation and hierarchy in a more nuanced way than simply dividing people into wealthy and poor, or upper and lower classes. This chapter will set out and explore the theoretical approaches that will be used in subsequent chapters to understand social organisation in Dilmun.

2.2 Theory and Status

Status can be an incredibly problematic concept for archaeologists. Ethnographical studies show that a person's status can change dramatically throughout their life. This might be a predetermined societal shift that is dependent on age, gender or childbirth (Fowler 2004: 44, Lucy 2005: 57). Alternative reasons for a person's change in status might be due to a highly prized skill, or because of political and economic changes. Therefore, it is important to note that status is not static, rather it is constantly being renegotiated between individuals and groups (Babić 2005: 75).

Status is not just reliant on an individual, a family group or a large collective, but instead is usually reliant on a combination of all three. Prestige bestowed upon on an individual will reflect on their family and town, and similarly, if an area is well renowned, a person or small group may be connected with their town. The majority of modern societies view people as bounded individuals; each unique and responsible for themselves. This concept is a relatively new phenomena which has been dated back to the late seventeenth and early eighteenth centuries AD (Harris and Cipolla 2017: 61). This does not mean that individuality did not exist prior to then, but it seems that there was a larger focus on groups, usually familial (*ibid.*). Furthermore, identity is an amalgamation of the traditional contributors, such as age

and gender, but is also heavily reliant on relationships with objects and people (Brück 2004: 76).

The focus on relationships and familial groups can arguably be seen by the abundance of open plan houses. These buildings do not distinguish between public and private areas of the house for individual familial members (Harris and Cipolla 2017: 61). For example, Building 205 at Saar contained three rooms: an outer room, an inner room and an enclosed yard (Killick 2005: 31). Whilst the building was enclosed, giving some privacy from neighbours and other familial groups, it appears that rooms were shared amongst everyone in the household - this seems to be a recurring feature across Saar (Killick 2005). Whilst the architecture of domestic buildings suggests identities reliant on familial relationships, the presence of burial mounds, mainly comprising single inhumations (Olijdam 2010: 142) suggests that Dilmun society was a hybrid of individuality and dividuality. As a result, changes in status would likely have affected the whole family and not just an individual.

2.3 Diet and the Everyday

Diet is often discussed in terms of archaeobotanical and zooarchaeological remains, a more scientific approach than the theoretical discussion of the role that agriculture and domestication played in the Neolithic (Pollock 2015: 8, Twiss 2012: 357). However, a theoretical approach to diet has emerged in the past twenty years and is continually evolving. Diet is a crucial aspect of social organisation within societies: certain food types can be restricted to particular people due to age, health, gender, pregnancy, religious beliefs, etc. (Halstorf 2017: 183). Furthermore, the physical act of consumption becomes embodied in societal behaviour and as a result, the presence or absence of specific foods, the processes to create a meal and meal time etiquette, amongst other dietary related activities, reinforces a person's position within, or outside of, society (*ibid.*).

Domestic meals are often overlooked when discussing social organisation in relation to food, as feasts are usually prioritised (Twiss 2012: 363). Whilst feasts are usually on a much larger-scale, similar efforts and results can be seen when discussing the daily diet. Food production and procurement means regular, if not daily work. People have to plant their crops and look after them as well as livestock.

In addition to this, harvesting, milking, butchering and other activities are carried out (Halstorf 2017: 84). These jobs, whether the resources are shared by the community or are owned privately, require multiple people working together (*ibid.*). Furthermore, even if an individual tended to their plants and animals without help from their family, similar timings of birthing season, planting and harvesting would result in interaction with other neighbours and groups. Therefore, even before food is ready to be harvested, it is facilitating a host of social interactions within families and the wider communities.

Specific food types can also be associated with status, class, wealth or a combination of the three. The concept of status has been briefly explored and whilst the three terms are often used interchangeably, status does not have a monopoly on class or wealth. Therefore, the discussion regarding hierarchical food products cannot be associated with only one of the categories. In England during parts of the Middle Ages, it was illegal for commoners to hunt and eat deer meat as the animals belonged to, and were a sign of, the aristocracy (Thomas 2007: 138). Therefore, the consumption of deer was reliant on class, rather than wealth or status. However, many of the nobles had both status and wealth. Furthermore, they maintained a monopoly on the food source by forbidding the sale of deer and only allowing them to be gifted (*ibid.*). Therefore, the presence of a hierarchical system can be reflected in different food types being available to different people; the higher echelons of society may have access to rare plants or animals, better cuts of meat, or foods that are labour- or time-intensive (Twiss 2007: 3). However, food does not just represent social inequality but constantly reinforces and renegotiates people's positions within society. For example, wealthy or high-status individuals may prefer a specific type of meat and so lower-status people may save up or use that specific meat to associate themselves with significant individuals and to present themselves as higher status (Twiss 2012: 368).

Gender can also be distinguished in relation to food, which in turn may reflect status. Some societies divide different food related roles according to gender, which reinforces their sexuality (Bray 2003: 3). Bray (2003: 5-6) states that food preparation and serving are often associated with female roles and that the increased pressure of preparing for the feasts meant that women played a smaller role in

possible religious, ritual or ceremonial aspects. It is important not to impose modern gender biases on prehistoric data, but it is worth noting that food may have had gender connotations. Furthermore, different food types can be reliant on gender, as well as wealth and status. In some ethnographical studies meat has been associated with male dominance (Bray 2003: 2).

Whilst an archaeological site can distinguish certain food types that were available and can even shed light on how they were processed or cooked by studying food related objects found at the site and by looking to ethnographical studies, it is important to remember that there were a variety of ways that foods could be prepared, cooked and eaten (Smith 2015: 480). These preferences depended on the foods available, ease of preparation, fuels, tools available and, most significantly, preference of taste (*ibid.*). Whilst the archaeological record is often rich with artefacts, bones and botanical remains that hint to a specific diet, there would still be a great variation in the final product. It is also worth mentioning that certain foods or specific recipes can also connect people with specific memories, of people both living and dead. Specific recipes and cooking methods can be passed down through the generations and as a result the food, or the act of cooking, can become an associative memory with a specific person or tradition (Halstorf 2017: 3). A serving receptacle or cooking pot that has been handed down would also create a similar connection.

The importance of recipes or specific dishes in relation to memory and connection with the past is important, but the act of cooking alone, regardless of its origin, is also very important (Russell 2012: 360). It can change, enhance and disguise flavours but more significantly it can amplify or destroy particular nutrients (*ibid.*). Furthermore, the different methods of cooking can also mark social distinctions: elaborate or simple meals can reflect wealth and reflect the types of food available to different people. For example, younger animals, or better cuts of meat, are often roasted, whilst older animals and cuts are stewed (*ibid.*). Whilst food types may be widely distributed on a particular site, different cooking methods and presentation techniques would also have represented variety within different groups and this may have been the result of flavour preferences but also different levels of wealth and status.

2.4 Social Implications of Feasting

Feasting has become a crucial aspect of interpreting the role of food in a social environment, because it amplifies and highlights the social connections that are forged and renegotiated with familial and communal eating. Dietler (2011: 181) describes feasting as “a form of ritual activity centred on the communal consumption of food and drink”. This activity can affect the social, economic and political aspects of people’s lives due to the symbolic power of communal food and drink and expressions of hospitality.

Smith (2015: 1216-1217) describes three types of feasts: feasts sponsored by individuals, community-driven feasts and a cargo feast. Feasts initiated and sponsored by individuals or a household are often there to highlight, or enforce, social inequalities (Smith 2015: 1216). These feasts are often carried out in order to gain political favours, prestige, and demonstrate power and authority and can often take years of saving and planning (*ibid.*). Community-driven feasts are often described as ‘potlucks’ with multiple individuals contributing food and drink (Smith 2015: 1217). These potluck feasts often create a communal feel and solidify social relationships; however, a hierarchy often still emerges due to a need for management and organisation (*ibid.*). The final type of feast is the cargo-type. This often requires an individual, who is selected by others, to sponsor a mass event (*ibid.*). This type of feast is often related to ritual calendars and connected with people who hold a specific office. These feasts may result in the individual absorbing the work and the cost within their own household, or they may call for the community to contribute (*ibid.*). Regardless of the type of feast and its original purpose, these events usually affect social, political and economic factors simultaneously.

Feasts allowed for new relationships to be forged, as well as develop, change and further previously established relationships. In addition, feasts and communal gatherings provide opportunities for exchanges of material culture, forging alliances, and may also be the place where disputes are resolved (Dietler 2011: 183). The differences between participants of the feasts can highlight hierarchies and social positions, as well as show social advancement and changes within groups.

This is not just due to differences in the food produced but is also shown through how people are serviced, seated, and interactions with other guests (Twiss 2012: 371). Furthermore, the presence or absence of certain people is also highly suggestive of social organisation. States in particular, but also individuals, use the feasts as a way to promote unity and community whilst preserving and emphasising distinctions (Pollock 2003: 18).

Many discussions of archaeological feasting and its social implications often assume that feasts were successful. However, Smith's (2015) paper *Feasts and Their Failures* highlights many of the problems that feasts can encounter and the subsequent effects an unsuccessful feast may have on the hosts and those who attended. A feast can often require years of work and can be a huge financial burden and has the possibility to cripple an individual or group, both socially and financially if things go wrong. Smith (2015: 1222-1224) mentions several possibilities that would cause a feast to fail, including unruly guests, not enough or too much food, the wrong types of, or incorrectly cooked, foods, violence, illness, poor weather, or breaches of etiquette, amongst others. It would be nigh on impossible to have a perfect feast but with so many ways for them to fail and ruin the host, the continued presence of feasts highlights the importance of them within society. As a result, a great deal of pressure would have been placed on the host, cooks and workers, and the feast would be the culmination of months, if not years, of work and preparation.

Feasting was not purely for the living; archaeological evidence shows that some societies associate food with the deceased and funerary practices. Food may have been purely for the deceased, the spirits or gods in the afterlife, the guests attending the funeral, or include both the dead and the living. The incorporation of food into grave goods may be a way to continue social bonds with the deceased or it may be a preventative measure with the living appeasing the dead (Pollock 2003: 26). However, Head (2013: 70) suggests that feasts associated with the deceased were more focussed on the needs of the living, rather than the dead. This might still mean that feasts were for the deceased in order to give the living peace of mind, however it could also be interpreted as a way to remember the deceased but also renegotiate individual and group identities and relationships.

2.5 Sensory Archaeology

Archaeology often focusses on tangible, material culture as that is usually all that remains. As a result, there is a predominance of focussing on sight, with the other senses often being neglected (Thomason 2016: 246). This chapter has discussed briefly the role of memory and taste, but it will be explored further in this section. There are five senses most commonly known in the western world: sight, hearing, touch, smell and taste. And all the senses would be engaged in the social act of group consumption: the smell and taste of food, the sounds of people talking and music playing, the feeling of others in close proximity, etc. (Pollock 2015: 10). The awareness of the role of senses in how people perceive the world would also reinforce distinctions between status and different groups of people: an individual may not have been invited to the feast, but the smells and sounds would constantly remind the uninvited person whilst the event was being held.

However, other societies have shown that there are more than five senses and some of these, such as balance, are prioritised over some of the “traditional” five senses (Hamilakis 2011: 210). In many past societies, alcohol appears to have had a significant role in feasts and social interaction. Alcohol would have transformative affects and as people became intoxicated, their perception, balance and other senses would undergo change and they would see the world in different ways (Joffe 1998: 298). Some foods, but also the general consumption of food, would have also created a transformation in how people interacted with the world and other people, but to differing degrees. Therefore, whilst senses beyond sight may be difficult for archaeologists to understand with any degree of certainty, it is important to remember that feasts, and everyday meals, would have affected a variety of senses.

2.6 Theoretical Approaches to Hunting

Another aspect of diet that can help distinguish a person, or group of people, from others is the role of hunted animals. The presence of the animals, as well as the physical act of hunting, can affect the social hierarchy. There seems to be a focus on hunting and the meat that is produced from the activity, yet its value seems to be overemphasized when studying the actual contribution of hunting to a diet (Russell 2012: 155). While meat is useful in providing protein, fats, calories, iron and

vitamin B12, the presence of vegetarians proves that meat is not a requirement to live (*ibid.*). Yet meat, and that from hunted animals in particular, has more of a symbolic significance, rather than nutritional. Some scholars (Fiddes 1991) suggest that by killing and consuming animals we are displaying human superiority over nature. Whereas Morris (1998: 186) suggests that it is about incorporating nature and the animal's life force into human society. The two approaches may be focussing too much on the symbolic value, but perhaps they highlight the different interpretations regarding domesticated and wild animals, which would suggest a higher level of respect for the wild animals and thus help explain the overvaluation of hunting within the diet.

A certain level of prestige is bestowed upon the hunter, as well as the animals and the people who consume their flesh. This is due to the level of risk attached to the hunting of larger, wild mammals (Russell 2012: 156). In regard to Bronze Age Dilmun, there appears to have been few large wild species that would have posed a threat. Instead, turtles and gazelle seem to have been the focus of hunters. Whilst hunting these animals would be less risky than hunting more dangerous creatures, a level of skill would still have been needed, thus allowing prestige to be bestowed on both the hunter and the hunted.

2.7 Conclusion

Feasts and diet have been explored separately in this chapter, alongside hunting and alcohol, this is in part due to the organisation of the chapter but was primarily a reflection of past work. Most archaeological studies contrast feasting and everyday meals, if they discuss them together at all. Indeed, Bray (2003: 1) describes feasting as a “communal food consumption event that differs in some way from everyday practice”. However, it is important to note that feasting and daily meals are very similar in function, form and meaning (Twiss 2012: 364) and therefore should not be viewed as entirely separate entities. They are both types of food behaviour and whilst different types of food might be used in specific rituals that are dependent on aspects such as gender, religion, status, amongst others, they are fundamentally similar at their core. Both, at their most basic, aim to feed people nutrition that is required to survive; but they both aim to create and renegotiate bonds between individuals and amongst groups. The scales might be different and the variety of

people and the purpose between each bond may vary, however the role of food and commensal eating is to interact with others and create long-lasting bonds that give people a place in society. The subsequent chapters will explore the different types of archaeological evidence regarding food and then discussed in relation to feasting and diet.

Chapter 3 – Faunal Remains

3.1 Introduction and Site Methodologies

One of the most important archaeological materials when trying to interpret diet in the past is animal remains; other types, such as plant remains, human remains, and architecture will be discussed in subsequent chapters. This chapter will primarily focus on animal bones recovered from Qala'at al-Bahrain, Saar, Barbar, the Failaka Tells and Al-Khidr. A variety of animal remains have been discovered in archaeological excavations and include a number of domesticated and wild mammals, as well as fish and turtles. The importance of animals in the Early Bronze Age diet in Dilmun, both for subsistence and for ideology within society, will be discussed in more depth in a later chapter. The primary function of this chapter is to explore the variety of animals present and assess what extent different species make up the archaeological record. The role of shellfish in Dilmun is not fully understood, and evidence for their contribution to diet is minimal, however, they will also be discussed briefly.

The excavation methods and approaches undertaken by different groups should be briefly highlighted here as they are problematic when dealing with comparisons of the sites. At Qala'at al-Bahrain, deposits were not sieved: faunal materials were hand collected, causing possible collection bias toward larger species and underrepresentation of birds, small mammals, and fish (Uerpmann and Uerpmann 1999: 638). The majority of Saar samples were sieved. Samples from Building 53, 207, 209, and the temple were analysed in their entirety, while samples from Building 205 was selected by random grid-square and Building 208 had only a quarter of its fish bones analysed. (Uerpmann and Uerpmann 2005: 293, 298). The excavations of Tell F6 sieved all samples, while at Al-Khidr a combination was used of both sieving for all, and flotation for some samples (Miklíková 2010: 266, Yeomans 2016: 228). Unfortunately, the Al-Khidr study has not published an in-depth faunal report so detailed data is not available. Faunal remains from the 1950s and 1960s excavations of Tell F6 were not analysed alongside material from the current excavations (Yeomans 2016: 228).

3.2 Fish

Subsistence strategies across Dilmun were heavily reliant on fish; in fact, fish dominate the faunal remains at Al-Khidr, Tell F6, Qala'at al-Bahrain and Saar (Miklíková 2010: 268, Yeomans 2016: 230, Uerpmann and Uerpmann 1999: 638).

Comparisons between fish from Saar and Qala'at al-Bahrain are problematic, not just for the differences in excavation methods which were mentioned above, but also because the buildings within the two sites have some variety. However, in general terms of numbers, the emperors (*Lethrinidae*) are the most popular fish at both Qala'at al-Bahrain and Saar, followed by the groupers (*Serranidae*), although at Qala'at al-Bahrain, groupers were more significant than the emperors in terms of weight of bones (Uerpmann and Uerpmann 1999: 638-639). Seabream (*Sparidae*) and trevally and jacks (*Carangidae*) were also popular at both sites (*ibid.*).

King soldier bream (*Argyros spinifer*) are common in Qala'at al-Bahrain yet rare in Saar. The same pattern can be seen for larger fish such as requiem (*Carcharhinidae*) and hammerhead (*Sphyrnidae*) sharks (Uerpmann and Uerpmann 2005: 298-299). This difference in diet is most likely due to the coastal regions where the two settlements fished: waters near Qala'at al-Bahrain are more open and deeper, with larger species populating the area; whereas near Saar there are small islands and the water is quite shallow (*ibid.*). Besides the variation in the larger fish there seems to largely be similarity in the species present in Dilmun sites (Miklíková 2010: 268, Yeomans 2016: 230, Uerpmann and Uerpmann 1999: 638). However, the role of smaller fish at Qala'at al-Bahrain is uncertain due to the problematic retrieval mentioned above (Uerpmann and Uerpmann 1999: 638).

Groupers, followed by emperors and then seabream seem to be the most popular species from Tell F6 on Failaka Island during the Phase II period (Yeomans 2016: 231). At Barbar, emperors and groupers seem to be absent in the archaeological record, although there are unidentified fish bones present (Bangsgaard 2003: 12). Furthermore, fish bones were only the third largest group of remains at the Barbar Temples, which is incredibly unique when compared to other Dilmun sites (*ibid.*). Although, like Qala'at al-Bahrain, the lack of sieving may have resulted in underrepresentation of smaller fish in particular (Bangsgaard 2003: 13).

3.3 Domesticated Mammals

Domesticated mammals constitute the second most significant proportion of the archaeological bone record after fish in relation to meat value (Uerpmann and Uerpmann 1999: 641). Whilst fish appear to have been the most significant contributor of protein to the Dilmun diet, red meat was important due to the high levels of iron it contained (Uerpmann and Uerpmann 1999: 644). The three main domesticated mammals which will be discussed in this paper are sheep (*Ovis aries*), goats (*Capra hircus*) and cattle (*Bos taurus*).

Donkeys also appear to have been domesticated at this time, as evidenced by a seal depicting a person riding a donkey (Uerpmann and Uerpmann 1999: 645). The skeletal remains of donkeys in Dilmun do not clearly show morphological features indicating their status as domestic or wild (*ibid.*). They do not appear to have been part of the diet of the Dilmun people and were more likely used for carrying people and objects (Uerpmann and Uerpmann 2005: 303).

3.3.1 Sheep and Goats

Distinguishing between the skeletal remains of sheep and goats is often difficult and where possible, they will be referred to as an individual species. However, the majority of the remains will be referred to as sheep/goat.

The sheep from Saar and Qala'at al-Bahrain differ in size and it has been argued by Uerpmann and Uerpmann (2008: 73) that the larger sheep from Qala'at al-Bahrain are a different species, originating from Mesopotamia. Uerpmann and Uerpmann (*ibid.*) argue that there would have had to have been a huge difference in climate between the two sites for the differences in size of sheep not to be the result of differing species.

At Qala'at al-Bahrain only faunal remains from the larger sheep species were uncovered, in both Excavations 519 and 520 (Uerpmann and Uerpmann 2008: 75). Remains recovered from Excavation 520 were of notably different quality to Excavation 519, originating from older animals and being the less valuable parts of the animal (*ibid.*). In contrast, the majority of sheep at Saar appear to have been a

local breed with very few of the larger sheep present (Uerpmann and Uerpmann 2005: 305).

At both Saar and Qala'at al-Bahrain, goats appear to have been a local breed: they shared similarities with other Arabian populations and were smaller than contemporary goats in Mesopotamia (Uerpmann and Uerpmann 1999: 645). Neither settlements appear to suggest that there was any management of goats beyond individual households, which is understandable as goats are more suited to the climate and require a great deal less care than sheep and cattle (Uerpmann and Uerpmann 1999: 644-645).

Sheep and goat bones, by weight, at Qala'at al-Bahrain make up approximately half of the domesticated mammals but at Saar they are more significant, making up about two-thirds of the record (Uerpmann and Uerpmann 1999: 641). Although not the dominant species, unlike Saar, sheep and goats have a significant presence at the Barbar Temples (Bangsgaard 2003: 9). For the bones that could be identified, 50 were sheep and 20 goats, meaning sheep were more than twice as abundant (Bangsgaard 2003: 10). A small number of the bones (n=13) had cut marks on the metapodials primarily, but they were also present on vertebrae, a humerus, femur, ribs and astragalus, which corresponds with dismemberment. The limited number of bones with cut marks may be the result of poor preservation (Bangsgaard 2003: 11). The sheep are generally smaller than those at Qala'at al-Bahrain, suggesting they may have been the local breed, whereas the goats are slightly larger (*ibid.*).

At Al-Khidr, Miklíková (2010: 269) acknowledges the presence of goats and sheep at the site but beyond that, little is said. Tell F6 identified one goat and one sheep/goat from Phase II (Yeomans 2016: 229). The number of identifiable remains from Phase II at Tell F6 is somewhat limited and numbers of each species are low and therefore problematic. However, twelve identifiable cattle bones were recovered, which could suggest a predilection for cattle over sheep/goats (*ibid.*). This will be explored further in a subsequent chapter.

The presence of sheep and goats in burial tombs will be discussed in greater detail during the chapter on feasting, but it is worth noting that it is primarily sheep and

goats that are discovered in tombs, although some fish and bird bones have been recovered but not analysed (Kveiborg 2007: 150). However, only c. 43% of burial mounds contained faunal remains, whilst 1% of subterranean graves were found to contain animal bones, and no Saar burial complex graves featured faunal material (Oljidam 2010: 149). Other animals, such as the desert hare and mongooses, are discovered occasionally, but these are likely to be intrusive species instead of an intentional presence (Kveiborg 2007: 150).

3.3.2 Cattle

Alongside fish, sheep, and goats, cattle are one of the most significant animals in the diet of the Dilmun population.

Cattle make up only a third of domestic faunal remains at Saar, possibly due to the effort required to maintain the animals in addition to the fact that the amount of meat produced would exceed the requirement for a household and preservation in hot countries would be problematic (Uerpmann and Uerpmann 2005: 306). Instead it is likely that the cattle were slaughtered only on special religious or festive days when there would have been commensal meals, which will be explored in greater detail in a later chapter (*ibid.*). In addition to only constituting a third of the diet from domestic mammals, the cattle bones uncovered here are smaller than their contemporaries at Tell Abraq or Qala'at al-Bahrain and the skeletal remains appear to be aged between two and four years, suggesting a primary focus on beef production, rather than dairy or use as a draught animal (Uerpmann and Uerpmann 2005: 304-305).

Unlike at Saar, cattle were as equally significant as sheep and goats in Qala'at al-Bahrain according to bone weight. The faunal remains are restrictive in interpreting different species of cattle; however, the cattle at Qala'at al-Bahrain are similar in size to the Mesopotamian cattle and there are depictions on seals of humped zebu and hump-less taurine cattle being present in the Gulf (Uerpmann and Uerpmann 1999: 641). At Qala'at al-Bahrain in Excavation 519, cattle bones appear to be from younger animals and are primarily bones that suggest better quality meat (*ibid.*). Whereas at Excavation 520, the faunal remains reflect older cattle, and skulls and tarsals are more common (*ibid.*).

The role of cattle at Barbar will be explored in greater detail in the chapter focusing on feasting; however, the presence of cattle bones at the site will be briefly explored here. 328 cattle bone fragments have been identified in the Barbar Temples, vastly outnumbering sheep and goats in both fragment weight and number of fragments (Bangsgaard 2003: 7). 444 fragments of a large ruminant have also been uncovered and it is likely that they are also cattle, as no other large ruminant has been identified at the site (*ibid.*). By studying the identified cattle remains, Bangsgaard (*ibid.*) has calculated that there was a minimum of twenty-three cattle consumed at the site. The cattle at Barbar have cut marks on only seven of the bones, although this could be the result of poor preservation; however, the cuts are consistent with dismemberment patterns (Bangsgaard 2003: 9).

In a similar situation to goats and sheep, at Al-Khidr the only published information states that cattle were present at the site (Miklíková 2010: 269). At Tell F6, some cattle remains were discovered and a few of the bones suggest they had been burnt (Yeomans 2016: 230).

3.3.3 Animal By-Products

This chapter has, and will, largely explore the role of meat in Dilmun diet, however, animals produce more than just meat, and this would have been a significant contributor to diet and the economy. Cattle can be used for meat, milk and labour. At Qala'at al-Bahrain morphological changes on some of the distal metacarpals and phalanges are indicative of cattle being used for labour (Uerpmann and Uerpmann 1999: 641). As well as cattle, goats and sheep can both provide milk and meat. Furthermore, sheep also provide wool. Milk would have been an important resource as it could be converted into cheese or yoghurt if it was in over-abundance (Uerpmann and Uerpmann 2005: 306, Killick and Moon 2005: 349). It is likely that all the domesticated animals were adapted to the heat, but goats in particular are well suited to aridity and do not require much care (Uerpmann and Uerpmann 2005: 306). It seems highly probable that all three animals were used for both meat and milk but there was a preference between the smaller ruminants for mutton and goat milk (*ibid.*), whereas cattle milk and meat were likely popular when available.

3.4 Wild Mammals

Besides fish, wild animals were not a major contributor to the Dilmun diet, although their societal importance may have been greater (Uerpmann and Uerpmann 1999: 640). Saar has a larger number of wild animals than Qala'at al-Bahrain and it has been argued that this is due to its geographical location: Saar is close enough to the sea to exploit the resources found there but it also has easy access to the southern, less populated areas of the island where wild land mammals would have been found (*ibid.*). Gazelles and dugong will be discussed in the following paragraphs, as well as, more uncommon wild mammals.

3.4.1 Gazelle

At both Qala'at al-Bahrain and Saar, gazelle was the most commonly hunted game (Uerpmann and Uerpmann 1999: 640). The horn-cores and skeletal remains of the males suggest that only one species of gazelle, the goitered gazelle (*Gazella subgutturosa*), was present in Bahrain at the time (*ibid.*). The lack of female horn-corns found suggests that the local female population was hornless and suggests a closer relationship to the Iranian sub-species, rather than the Arabian (*ibid.*). Saar contained more gazelle bones but as previously mentioned, this was probably due to their location. Two gazelle bones were also found at the Barbar temple (Bangsgaard 2003: 11).

Some gazelle bones have been discovered at Al-Khidr; however, they are not very common (Miklíková 2010: 269). Miklíková (*ibid.*) states that more gazelle bones were discovered in the Dilmun settlement in the southwest of Failaka but there are no records of this in Yeomans' (2016) paper, particularly dating to the Phase II period, which may be due to misidentification.

Whilst gazelle may not have been overly important to diet in nutritional value, the act of hunting the gazelle may shed light on the social implications of food in Dilmun and will be explored in Chapter 6.4.2.

3.4.2 Dugong

Dugong (*Dugong dugon*) are present in the archaeological record of some sites in Dilmun but they are not very common compared to other Bronze Age sites in the

Gulf during this period (Beech 2010: 7). At Qala'at al-Bahrain, there are relatively large numbers of bone fragments, but there are less at Saar. Uerpmann and Uerpmann (1999: 639) suggest that this is the result of people butchering and distributing the dugong at sea or at the coast prior to returning to Saar. It is also worth noting that dugong was not found in any of houses investigated at Saar, but it was present in the temple (Uerpmann and Uerpmann 2005: 302, de Moulins 2017: 110). Barbar, Al-Khidr and Tell F6 have not recorded any dugong finds.

As previously mentioned, the lack of dugong bones may be the result of butchering the animal at the coast. Although Dobney and Jaques (1994: 114-115) acknowledge that this is likely, they also state that it is possible that the waters may have been too exposed for the dugong, compared to other regions in the Gulf, or even that dugong was minimally important in the diet.

3.4.3 Other Wild Mammals

A variety of other non-domesticated mammals have been found at the various sites, but they are relatively uncommon, and a large proportion of these species were likely living in or near the settlements without being part of the Dilmun diet, i.e. black rats and mongooses (Uerpmann and Uerpmann 2005: 302). The mongooses are burrowing creatures and were not necessarily contemporary with the site.

The Arabian oryx (*Oryx leucoryx*) was discovered at Saar and Qala'at al-Bahrain, although are more commonly found in Saar (Uerpmann and Uerpmann 2005: 302). Dromedary camel (*Camelus dromedarius*) remains were also found at Excavation 519 at Qala'at al-Bahrain and at Saar although they are rare (Uerpmann and Uerpmann 1999: 640). There is no evidence that camels were domesticated this early, so they have been considered wild (*ibid.*).

Dolphin bones have also been uncovered from Saar, Qala'at al-Bahrain and Al-Khidr (Uerpmann and Uerpmann 1999: 639, Miklíková 2010: 269). Dolphin remains are far more common at Qala'at al-Bahrain than at the other two sites. Their presence indicates that dolphins were incorporated into the diet, it is just unknown as to what extent. They suggest that those who hunted, or caught, the dolphins may not have transported the entire animal back to the settlement, instead bringing back

the meat and leaving the majority of bones by the coast (Uerpmann and Uerpmann 1999: 639).

At Al-Khidr a piece of antler was discovered, but it is impossible to tell whether this indicates that deer were living on Failaka or whether it was a raw material transported from somewhere else (Miklíková 2010: 269).

3.5 Birds

The cormorant makes up the majority of bird bones excavated in Dilmun, and the two species which have been identified are the great cormorant (*Phalacrocorax carbo*) and the Sokotra cormorant (*Phalacrocorax nigrogularis*), with the latter being more commonly found at sites. At Qala'at al-Bahrain, cormorant bones were particularly numerous with 125 identified from Excavation 519 and a similar number being found at Excavation 520 (Uerpmann *et al.* 1997: 238). This suggests that cormorants were a popular part of the diet as Excavation 519 is part of the central area with better quality meat (Uerpmann and Uerpmann 1999: 641). Excavation 520 is closer to the shoreline, suggesting that cormorants were not just a by-product of fishing nets which were exploited (Uerpmann *et al.* 1997: 238).

Cormorant bones are less common at Saar (n= 22) than Qala'at al-Bahrain but some bones were present in all of the buildings which had their faunal remains examined, except for Building 207 (Uerpmann and Uerpmann 2005: 301). The Sokotra cormorant is the most common in the identified remains, while only one bone from a great cormorant was excavated (*ibid.*). In addition to the cormorants, a single bone fragment of the houbara bustard (*Chlamydotis undulata*) was also discovered, although very little can be said about its presence (de Moulins *et al.* 2017: 110).

At Al-Khidr cormorant bones are present in large quantities, suggesting a high significance in local diet (Miklíková 2010: 269). At Tell F6 during Phase II, there are no identifiable bird bones, although there are some burnt bird bones present (Yeomans 2016: 229, 230). Both sites are contemporary and located on Failaka, yet there is a significant difference in diet concerning cormorants. This may be because of difference in fishing techniques, as Bangsgaard (2003: 12) states that cormorants may have been a by-product of using fishing nets, as shooting the Sokotra

cormorant is difficult and there is no evidence of hunting birds specifically; however, a similar quantity of cormorant bones at both Excavation 519 & Excavation 520 at Qala'at al-Bahrain suggests that it may not be as simple as accidental capture of the birds (Uerpmann *et al.* 1997: 238). In regard to lack of cormorant bones at Tell F6, the birds may not have favoured that area. Data from both sites are problematic, as previously mentioned; however, with one site claiming large quantities of cormorant and the other reporting no bones, it is likely that diet in these two locations varied somewhat. This will be explored in greater detail in a later chapter.

The faunal remains from Barbar revealed only one Sokotra cormorant radial bone (Bangsgaard 2003: 12).

3.6 Turtles

On Bahrain, turtle bones have been found at Qala'at al-Bahrain and Saar. At Qala'at al-Bahrain, they encompass, after fish, the largest number of bones from wild animals (Uerpmann *et al.* 1997: 236). The size of the bones suggests that a number of the turtles were not fully grown when they were taken to the site, which implies that they were taken from the sea either by hunting or due to entanglement in nets (*ibid.*). Although Olijdam (2001: 196) argues that the number of turtles suggests deliberate hunting, rather than an accidental by-product of fishing. Regardless of whether they were caught accidentally, they had some dietary significance, with one humerus displaying cut marks indicative of butchery (Frazier 2003: 5).

At Saar, turtles appear to be far less common. As previously mentioned, an extensive analysis of animal bones from the site of Saar was not undertaken, with focus on only a few buildings. Among the buildings studied, only four bones were found, which weighed a total of 75 grams (Uerpmann and Uerpmann 2005: 301). Uerpmann and Uerpmann (1999: 639) have suggested turtles, along with other large marine animals, may have played a more significant role in the diet than the archaeological record implies. Like dugongs and dolphins, butchering may have occurred elsewhere, creating a misrepresentation in the record.

The fragments of turtle from Building 209 at Saar have been identified as the hawksbill turtle (*Eretmochelys imbricata*) and appear to be from adults (Uerpmann and Uerpmann 2005: 301). Bones from Excavation 520 at Qala'at al-Bahrain can also be identified as the hawksbill, although green turtle (*Chelonia mydas*) was also found (Uerpmann *et al.* 1997: 237). Excavation 519 only had one bone that could be identified to the species level, which was a mandible of the green turtle (*ibid.*)

Data for the Al-Khidr site, as previously mentioned, has not been fully explored and published and is somewhat problematic, Miklíková (2010: 269) states that turtles seem to have been exploited at the site during the Bronze Age, but number and weight of turtle bones as well as their respective species has not been published. At Tell 6 on Failaka, turtle remains are present in Phase II but are only represented with carapace fragments (Yeomans 2016: 230). One fragment has cut marks, which have been interpreted as a method to remove the turtle shell in order to use it as a raw material (*ibid.*). Whether turtles were exploited for meat at Tell 6 is therefore unknown, but likely not on a large scale if it did occur.

3.7 Shellfish

Shellfish are often studied separately from animal remains when studying dietary practice in Dilmun, which can result in them being forgotten or underrepresented in regard to their importance. The uses of shellfish, which incorporate marine molluscs, cuttlefish, and crabs, amongst others, are incredibly varied. They may have been used as bait, pottery temper, animal feed, containers, and jewellery (Miklíková 2010: 269): therefore, the extent to which they were incorporated into the diet is unknown.

Uerpmann and Uerpmann (1999: 639) state that crabs and cuttlefish (*Sepiida*) have had few bones discovered, making the role of shellfish in the diet difficult to determine. However, in Saar there were large numbers of shells discovered across the site (Crawford 1997: 38). Forty-nine species of gastropods and bi-valves were discovered at Saar, with the majority being marine (Glover 1995: 160). The pearl oyster (*Pinctada radiata*), clams (*Amianits umbonella* and *Marcia flammea*), the “murex shell” (*Siratus kuesterianus*), and the spiny oyster (*Spondylus exilis*) made up 70-90% of the number of shellfish (*ibid.*). Crawford (1997: 38) suggests that the

large numbers of pearl oyster shells indicated their role in Dilmun diet, rather than a preference for pearls, as although pearls were uncovered during the excavations, they were too small to be ornamental or used for jewellery. Qala'at al-Bahrain also had large numbers of marine shells found on site but only 173 shells from Excavation 520, dating from Phase Ia to Phase, V were kept and studied (Cataliotti-Valdina 1994: 455). From Phase IIa, the largest number of shells belonged to the pearl oyster (n=61) and has also been viewed as part of the diet for people who lived in Qala'at al-Bahrain (Cataliotti-Valdina 1994: 458).

Like turtles, cuttlefish and swimming crabs (*Portunidae*) were also exploited at Al-Khidr, but the extent of the exploitation has not been discussed (Miklíková 2010: 269). Miklíková (*ibid.*) also states that there were large numbers of marine molluscs. They are found scattered across Al-Khidr but in deposits which could represent shell working, subsistence deposits or construction (*ibid.*). There are many uses for shellfish and so it is unknown to what extent the molluscs were incorporated into Dilmun diet; however, many edible shellfish have been found, including *Pinna*, *Pinctada*, *Ostrea* and others (*ibid.*). The extent of shellfish exploitation at Tell F6 on Failaka has not been published.

3.8 Conclusion

The faunal remains from the sites discussed have many similarities: fish dominate the archaeological record, apart from at Barbar, followed by domesticated mammals, and these species contributed the majority of meat to the Dilmun diet (Uerpmann and Uerpmann 1999: 638, 644). The role of shellfish in diet is difficult to measure but appears to have been significant also, and wild terrestrial animals appear to have played a minimal role in diet, at least in terms of nutritional value (Uerpmann and Uerpmann 1999: 640). Other animals, such as the dugong, cormorants, and turtles had a strong presence in Qala'at al-Bahrain, but the role they played at other sites is unknown. Their relative lack of abundance is potentially due to cultural or geographical reasons but is most likely due to dismemberment occurring away from the settlement (Dobney and Jaques 1994: 114-115). Overall, the Dilmun people exploited the resources they had around them creating a somewhat varied diet, although fish and domestic animals were the most significant contributors.

Chapter 4 – Archaeobotanical Remains

4.1 Introduction

The people living on Bronze Age Bahrain and Failaka Island did not only consume meat; samples have been taken from Saar and Al-Khidr and archaeobotanical remains have been found (Nesbitt 1993, Hajnalová 2010). Dates appear to have been a significant part of the diet and will be discussed in some detail, here and in subsequent chapters. Domesticated barley was also found. Unfortunately, the preservation of archaeobotanical remains is incredibly poor due to winters with a lot of rain (Nesbitt 1993: 21). Very few plant remains have survived, and those that were found were charred (*ibid.*). During the Saar 1991 season, 6804 litres of soil were floated, and only 82g of charred botanical remains were found (Nesbitt 1993: 24). As a result, this chapter will focus on the archaeobotanical remains but archaeological finds and structures, as well as Sumerian texts, will briefly be explored alongside the plant remains.

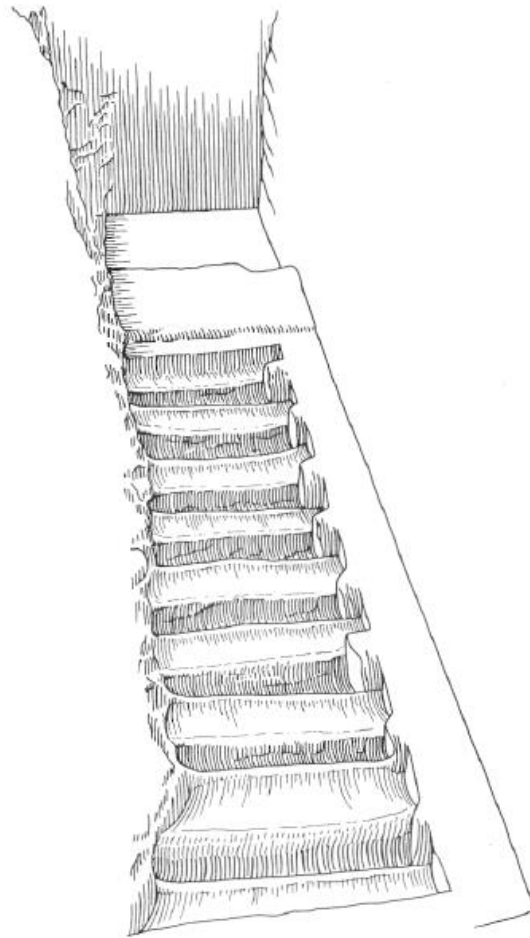
Many sites, such as Qala'at al-Bahrain, the Barbar Temples and Tell F6, had initial excavations in the 1950s and 1960s and as a result, archaeobotanical data is limited. Therefore, this chapter will focus on Saar and Al-Khidr. Sampling undertaken at Saar varied during the initial years. In 1990 samples were primarily taken from deposits with ashy content or evidence of burning (Nesbitt 1993: 21). In 1991 samples were taken from parts of any deposit (Nesbitt 1993: 22). At Al-Khidr, the site was divided into 2x2m squares and a sample was taken in every third square, as well as from any “interesting” contexts (Hajnalová 2010: 254). Al-Khidr also used hand-picking and also studied impressions made in bitumen (Hajnalová 2010: 256).

4.2 Dates

Dates, or more specifically date stones, are the most abundant archaeobotanical finds in Al-Khidr and Saar. At Saar, date remains from the 1991 samples weighed 66.1g out of 82g (Nesbitt 2003: 29). Date stones, and imprints of date stones and plants, number over 100 at Al-Khidr (Hajnalová 2010: 257). The Bronze Age excavations at Qala'at al-Bahrain during the 1990s uncovered 125 date palm

fragments when studying the charcoal remains – these were the only taxon found (Potts 2003: 39). Date stones have also been uncovered at Qala'at al-Bahrain (*ibid.*). There is some debate over whether dates on Failaka were imported or grown on the island (Potts 2003: 41). However, Willcox (1990: 47) states that stems of the date palm were preserved as charcoal, indicating that at least some dates were grown on Failaka.

Looking at the archaeobotanical remains, dates were an important food for people in Dilmun and to supply settlements, date cultivation would have been on a large scale (Nesbitt 1993: 36). Date gardens in modern Bahrain are of great importance for agriculture. The date trees are planted in rows with small irrigation channels leading to the date palms; the shade provided by the date plants and the water make the spaces between the trees ideal for growing other food crops (*ibid.*). Nesbitt (*ibid.*) states that this practice may be as old as date cultivation itself and might have been a practice employed by Dilmun society. Mesopotamian written sources do discuss date palm gardens in southern Iraq which appear similar to modern date gardens with fig, pomegranate, and apple trees growing, as well as grapes and cereals (Tengberg 2012: 143). Bahrain was well known for its fresh, underground water during the Early Bronze Age. This would have resulted in easily accessible water, making the creation and maintenance of date gardens relatively easy at the time (Potts 2003: 39). If this was how dates were cultivated, the poor archaeobotanical preservation makes it difficult to know what other species of plants were grown alongside the dates in the gardens during the Early Dilmun.



**Figure 4.1. Illustration of the *madbasa* uncovered at Qala'at al-Bahrain.
(Højlund 1990: 78)**

The practical role of dates in the diet is unknown, however, Nesbitt (1993: 32-33) explores some possibilities of date uses. The date palm had many practical uses in roofing and basketry for example, which can be attested for in the archaeological record because of bitumen (*ibid.*). The presentation and production surrounding the date fruit is less obvious in the record. Dates may have simply been eaten fresh or dried but more complex methods may have also been incorporated (*ibid.*). Dates may also have been incorporated into a juice or a date syrup, more commonly referred to as 'black honey' (Nesbitt 1993: 33). A *madbasa* dating to the mid second millennium BC was excavated at Qala'at al-Bahrain (Højlund 1990: 78). The *madbasa* (fig. 4.1) is a structure, made of troughs, which collected the juice from dates and was turned into date syrup or a fermented drink (Potts 2003: 40). A similar structure but with flat plastered floors was uncovered at Failaka (Nesbitt 1993: 33). This structure has been interpreted as a *madbasa* and is dated to c. 1750 BC (*ibid.*).

The Failaka *madbasa* is dated to the end of this paper's focus and the Qala'at al-Bahrain *madbasa* is a couple of centuries later. However, the presence of these structures indicated that date syrup was likely produced during the Early Bronze Age and therefore dates had a variety of roles within Dilmun life.

4.3 Cereals

Small amounts of barley have been discovered at Al-Khidr and Saar. Three domesticated barley grains (*Hordeum vulgare*) were uncovered at Al-Khidr (Hajnalová 2010: 257). At Saar, cultivated hulled barley (*Hordeum sativum*) was also found, alongside a few seeds of wild barley (de Moulins *et al.* 2017: 106). It is likely that the wild barley, as well as canary grass that was also found in small numbers, were arable weeds (*ibid.*). Barley was present in 58% of the 31 samples from Saar that were studied (Nesbitt 1993: 29). Despite the small dataset available, the number of samples barley was present suggests it was a significant contributor to the diet.

Chaff fragments were discovered at Saar and Al-Khidr, some of which has been identified as wheat (Hajnalová 2010: 257, de Moulins 2017: 106). This is unsurprising as free-threshing wheat and barley were found at sites in Mesopotamia, dating to the same period (Nesbitt 1993: 30). However, at all of the sites in Dilmun, emmer wheat has not been found (*ibid.*). This is unusual as emmer wheat was fairly significant in Mesopotamian diet and whilst the dataset is small, if emmer was important in Dilmun, some grains would likely have been discovered. The number of quernstones excavated at Saar, as well as potential chaff from threshing, indicates that there was some food-processing occurring in Dilmun (Crawford 1997: 38). Furthermore, the presence of a tannur in every house at Saar could indicate that wheat and barley were used in the production of flat bread (Nesbitt 1993: 30). Archaeobotanical evidence shows that cereals were present and were domesticated but the extent of their importance in diet is nearly impossible to determine.

4.4 Others

One seed of cultivated flax (*Linum usitatissimum*) was found in a sample at Saar (de Moulins 2017: 106). Crawford (1997: 38) suggests that it may have been

processed into an oil. Bitumen remains highlighted the use of date palm and reeds but besides the date, which has been discussed already, reeds do not appear to have had any dietary function (Hajnalová 2010: 257).

The archaeobotanical record of Dilmun is lacking in fruits and vegetables. The absence of vegetables is not unusual if the vegetables were eaten raw, however some fruit remains, beyond dates, should have survived (Nesbitt 1993: 37). Nesbitt (*ibid.*) discusses the sidr, or jujube, fruits which are popular on Bahrain today, but were also present in Oman, and the wood which was found at Failaka, during the Bronze Age. The stone of the fruit could have possibly survived uncharred, yet no evidence has been discovered. Domesticated grapes and pomegranate should also have reached Bahrain by the second millennium but there is no evidence of those fruits either (*ibid.*).

Sumerian texts do refer to the food named ‘sum-dilmun^{ki}’, which has been translated into ‘Dilmun onions’ or ‘Dilmun garlic’ (Potts 1990: 183). This onion was popular in Sumer under King Urukagina, and whilst these references are a couple of centuries prior to this paper’s focus it would be likely that it was still grown on the island. Unfortunately, there is no archaeobotanical evidence and whilst it contains the name ‘Dilmun’, it does not necessarily mean the Dilmun population grew the onions, or garlic, themselves (Nesbitt 1993: 37). Although Nesbitt (*ibid.*) acknowledges, as previously mentioned, that vegetables were unlikely to leave seeds if eaten raw and therefore, the possibility that onions were a part of the Dilmun diet cannot be dismissed.

4.5 Conclusion

As mentioned above, archaeobotanical data from Dilmun is problematic: data is limited due to the number of large excavations occurring in the 1950s and 1960s, in addition the poor preservation conditions on Failaka and Bahrain has resulted in minimal seeds being recovered, despite extensive sampling and flotation occurring at Saar and Al-Khidr, in particular. The archaeobotanical remains suggest that dates were incredibly important in the Dilmun diet and that barley and wheat also played a significant role. It seems likely that other fruit, vegetables, cereals and plants played a role in the diet, but without archaeological evidence it is near impossible

to prove. Furthermore, they most likely did not contribute to Dilmun diet in the same way as dates and barley.

Chapter 5 – Further Sources for Understanding Diet and Feasting

5.1 Introduction

The previous chapters have explored faunal and archaeobotanical remains and the representation of animals on seals. This chapter will encompass different sources of information that are useful when studying diet and feasting in the past. Studies on skeletal remains will be discussed with a specific focus on teeth and how they can inform on diet. Cooking installations will also be examined in an attempt to understand how food was produced in everyday life. Finally, the role of fresh water springs will be discussed.

5.2 Human Remains

Analysing human remains, particularly teeth, is important when trying to understand diet. The sheer number of animal bones in comparison with archaeobotanical remains could lead people to view meat as the most significant contributor to Dilmun diet, however skeletal studies (Littleton and Frohlich 1989, 1993) provide an alternative picture.

Attrition, dental caries and calculus were analysed on 75 skeletons from the burial mounds at Hamad Town and Saar (Littleton and Frohlich 1989). Dental attrition, the wearing of teeth, is quite low in the Bronze Age samples, although the anterior teeth have high wear (Littleton and Frohlich 1989: 64). This has been attributed to either a specific type of diet, although no suggestions have been put forward of what that diet may be, or the use of the anterior teeth as a tool (Littleton and Frohlich 1989: 69). An Islamic sample from Bahrain had higher general attrition rates which has been interpreted as the result of stone grinding tools incorporating dirt into the diet by means of grain production (*ibid.*). The presence of quernstones at Saar suggests grain production was part of the diet (Crawford 1997: 38), but attrition rates suggest grain was either not very significant, or the quernstones were effective in preventing dirt getting mixed into the grain. Attrition data suggests that Bronze Age Dilmun diet was largely a soft diet or that very different food processing was being undertaken compared to other regions of the Gulf and during later time periods (Littleton and Frohlich 1993: 441).

Barley from Dilmun was referenced in Sumerian texts, suggesting it had an important role, at least from an international perspective (Kramer 1963: 113). However, other Mesopotamian texts referenced the shipping of barley to Dilmun (Littleton and Frohlich 1989: 71). The dental records of the Bronze Age skeletons suggest that barley was not as significant in Dilmun diet. Yet barley has a presence in the archaeobotanical remains at Qala'at al-Bahrain, Saar and Al-Khidr, suggesting that barley was grown in Dilmun. It seems unlikely that the Dilmun population, which was largely self-sufficient, would transport barley when it was not a significant dietary contributor, especially as its widespread presence suggests it was not a high-status food. However, alternative interpretations of the role of barley in Dilmun may explain the lack of evidence in the dental records: beer and a porridge styled food. Beer, made from barley, was consumed across the ancient Near East and was a significant contributor to diet (Jennings *et al.* 2005: 279). The role, and presence, of beer in Bahrain during the Bronze Age is unknown and will be explored in a later chapter, but it could explain the lack of attrition.

Out of the sample studied, 49% of skeletons were affected by caries and only 30% were affected by calculus (Littleton and Frohlich 1989: 64, 66). Caries are caused by tooth enamel being destroyed by organic acids and calculus is the result of poor dental hygiene after a diet high in proteins and fats (Littleton and Frohlich 1989: 62). With nearly half of the sample having caries and less than a third being affected by calculus, a diet focussed on non-fibrous, tacky food and carbohydrates instead of protein would be likely (Littleton and Frohlich 1989: 69). A diet based largely on dates seems therefore probable, with meat contributing a smaller role than is perhaps expected when based on the archaeological record (*ibid.*).

The studies discussed, as previously mention, originate from the burial mounds at Hamad Town and Saar. Further studies should analyse remains from other cemeteries in order to see if there are any differences in dental pathologies as faunal remains differ between sites. Unfortunately, burial practices from Bronze Age Failaka remain elusive; however, a Kuwait-Georgian mission claims to have found burial mounds dating to the Early Bronze Age but they do not contain grave goods or human remains (Makharadze *et al.* 2017: 181). Therefore, analyses of dental

records from skeletal remains is restricted to the Bahraini and Eastern Saudi Arabian mound cemeteries, unless Failaka uncovers burial mounds with inhumations inside.

5.3 Ovens and Cooking Facilities

Cooking facilities at Saar seemed largely self-contained within individual buildings. Many of the buildings had three different fire installations that could be used for cooking: a semi-circular hearth, cooking pot support with a hearth and a tannur (Matthews and French 2005: 329). The majority of cooking appears to have occurred at the tannur and where the cooking pot supports were (*ibid.*). The variety would have enabled Saar residents to have baked, grilled, stewed and roasted food, allowing for a more varied diet than anticipated (*ibid.*).

The majority of buildings had two or three rooms: one 'inner' room that was roofed and a 'multi-purpose' room that was most likely outdoors. A building with three rooms usually had two outer rooms (Killick and Moon 2005: 347). It was in the outer rooms that the hearths and tannur were located (*ibid.*). People cooking outdoors but in an isolated, self-contained structure suggests a largely self-sufficient community with meals largely occurring between small family units rather than in large communal groups.

At Excavation 520, three ovens were found in a corridor of a house, nearby was another and a final oven was found in the corner of room 34 (Højlund and Andersen 1994: 67). Very little else is mentioned in the report regarding the ovens, except that they all dated to period IIa (*ibid.*). This oven is near the northern city wall and therefore the number of ovens is unusual. At Saar, there were multiple ovens, but they seemed to appear quite different from one another and hold different functions (Matthews and French 2005: 329). Whereas, at Qala'at al-Bahrain four of the five ovens were inset into the ground, with the other being a pot (Højlund and Andersen 1994: 67, 89).

At Tell F3 in Failaka, three houses dating to period 2 (c. 1900-1750 BC) were excavated (Kjærøum and Højlund 2013: 11, 16). None of the houses excavated showed any signs of ovens, however three structures to the north of house 29 have

been found (Kjærøum and Højlund 2013: 87). Closest to house 29 was an oven, slightly further away were two other structures that have been interpreted as either cisterns or ovens. All three were constructed of stones laid in clay (*ibid.*). The external ovens are very dissimilar to those at Saar and Qala'at al-Bahrain, and indeed, in the subsequent periods at Tell F3 where indoor ovens became more popular (Kjærøum and Højlund 2013: 17).

At Tell F6, the 2008-2012 excavations also contain evidence of hearths and ovens dating from Phase 2-3 (c. 1900-1750 BC) (Højlund 2016: 12). During Phase 2, a number of small hearths were uncovered in trench A; one was 5-6cm layer of clay in a depression in the sand and contained ash, charcoal, bitumen, clay, sherds of storage jars and copper fragments (Abu-Laban and Højlund 2016: 31). Its function is not known but cooking food could have been possible. In Phase 3, outside of the temple terrace, by the pavement (E138 and E143 in fig. 5.1) a large oven was built (Abu-Laban and Højlund 2016: 39). Inside the fill, there were layers of whiteish and greyish ash. Calcined animal bones were also found; fewer in the lower levels of the fill and becoming more common in the more recent layer where seven male, goat horn cores were found (*ibid.*). Abu-Laban and Højlund (*ibid.*) states that the oven was used repeatedly over a period of time, resulting in bones from earlier levels to become ash. One possibility of this oven was to destroy the sacrificial remains from the Temple, rather than use to cook food (*ibid.*).

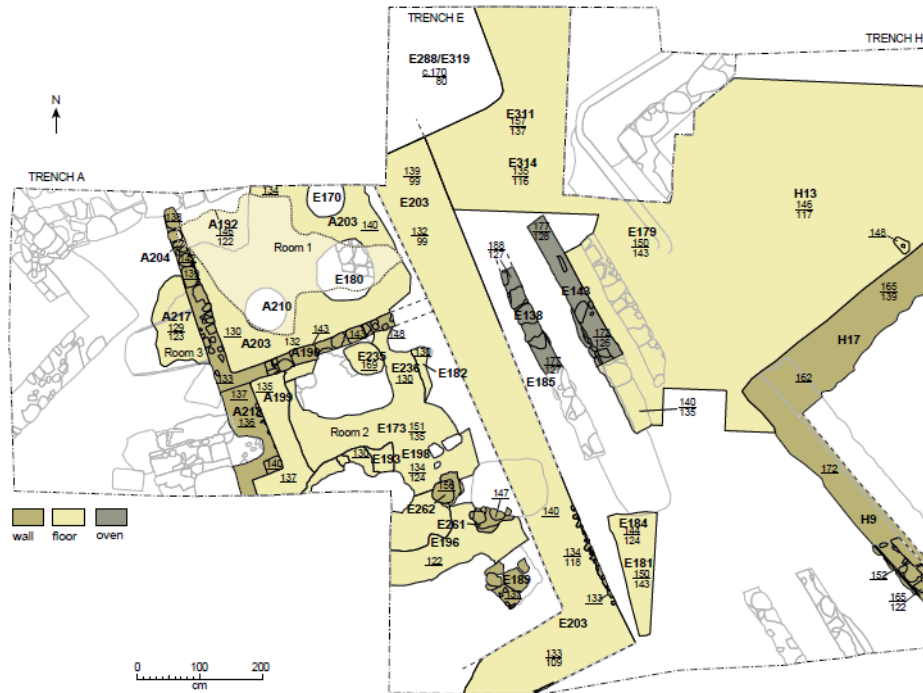


Figure 5.1. Plan of the structural remains from Trenches A, E and H.
(Abu-Laban Højlund 2016: 37)

At Saar, cooking installations were present in nearly every home, suggesting a fairly independent and self-sufficient economy (Matthews and French 2005: 329). Cooking and eating appeared to be a private manner associated with individual households. Whereas, at Tell F3 on Failaka Island, contemporary building structures appeared to not have ovens inside homes. Ovens were excavated outside of individual buildings which suggests that either cooked food was less significant in Tell F3 or there was a larger focus on communal diet. The building with five ovens from Qala’at al-Bahrain and the oven uncovered from Tell F6 also differ in style, location and potential function, with the oven from Tell F6 having been interpreted as a disposal for faunal waste. What is clear from the different sites is that cooking installations in sites varied greatly and that would have affected how meals were consumed and social interaction.

5.4 Stamp Seals

Stamp seals have been uncovered from all over Dilmun; from Failaka to Qala’at al-Bahrain, from burial mounds to burial complexes. The stamp seals incorporate Mesopotamian, Harappan and Gulf features and the imagery draws parallel with

glyptics from across the Near East, including Anatolia and Syria (Kjærum 1994: 323, Al-Thani 2005: 208). These objects depict a variety of different themes, but this paper will focus on those depicting animals, specifically human and animal interactions, as well as feasting scenes.

It is important to remember that stamp seals are open to a variety of interpretations. They may have depicted ideas and beliefs that were held at a local level or were a way of trying to introduce new ideas and values into society (Al-Thani 2005: 213). It is worth noting that the stamp seals have been divided into multiple categories, the main four being Persian Gulf, Proto-Dilmun and Early Dilmun and Late Dilmun seals (Crawford 2001: 16). The Persian Gulf and Proto-Dilmun seals depict animals largely, although humans are occasionally included. The Early and Late Dilmun seals are more complex in design and humans become a lot more common (Crawford 2001: 16-17). There are other subcategories, but this paper will focus primarily on the Early and Late Dilmun seals.

Animals and humans are depicted on seals both together and separately. In some scenes, animals and humans are present but interaction is not definitive (fig. 5.2), whilst other seals depict hunting (fig. 5.3). Seals also show humans touching or riding animals. The stamp seals contribute to archaeologists and historians understanding in relation to social interactions between humans, humans and gods, and humans and animals. The depictions also suggest which animals were thought highly of in Dilmun culture, for example a large proportion of the seals depicted animals with gazelle, antelope, and bulls being the most numerous (Kjærum 1983). Monkeys, fowl and a serpent or serpent-like creature were also popular on the seals (*ibid.*). With the exception of the bulls and fowls, wild animals appeared to have been held in higher regard than domesticates, which will be discussed in the following chapter. In addition, the presence of fowl in altar scenes (Kjærum 1983) might indicate that animals not visible in the archaeological record may also have been part of the diet or religious practices at the time.



**Figures 5.2., 5.3, Seals depicting human-animal interaction and hunting scene.
(Crawford 2001: 54, 52)**

5.5 Conclusion

Archaeobotanical and faunal remains are not the only contributors to understanding diet; human remains, cooking installations, and stamp seals are a few of the many different sources that can be used for interpreting food in the past. The skeletal remains suggest that despite faunal remains outnumbering plant remains, dates were more significant than meat in the daily diet. The cooking installations will be explored in Chapter 6.5, but the differences between site cooking facilities suggests a variation in how people would prepare and eat photos. Whilst human remains and cooking installations can infer about diet at the time, the stamp seals can give insight in how Dilmunites viewed themselves and the world around them.

Chapter Six – Food and Social Organisation

6.1 Introduction

Previous chapters have discussed the archaeological evidence available from Dilmun which contribute to the understanding of diet. Whilst food at its most basic is a nutritious substance that allows people to live and grow, the reality is that food becomes incorporated into society. Food allows people to reflect and distinguish themselves amongst others, as well as helps tie together communal units and create bonds (Dietler 2011: 181). As discussed in Chapter 2, identity is multi-faceted and therefore an individual's place in society is dependent on a variety of factors. Certain food types, or the absence of them, can highlight or perpetuate these social differentiations. This chapter will explore various aspects such as age, gender, and status, which can affect social hierarchy and organisation in regard to food and drink within the Early Dilmun.

6.2 Age

In modernity, children often eat and drink different foods than adults: a baby's diet is largely liquid based, with soft foods being introduced a little later. In addition, diet can be different for the elderly – they may have lost teeth and therefore require soft foods or be viewed as more expendable. Different life-phases, such as puberty or pregnancy, may affect diet also. Furthermore, alcohol in many societies had and has age and gender restrictions (Roderick 2014: 4).

Unfortunately, exploring age differentiations can be somewhat problematic, especially with such a small database like the one from Bahrain. Littleton and Frohlich (1989: 60-61) studied 75 skeletons from Saar and Hamad Town, and of the 75 skeletons, only six were under the age of twenty years; one skeleton was aged between 1-3 years, another between 3-6 years and the other four were aged at 15-20 years (Littleton and Frohlich 1989: 61). This is especially problematic as children up to the age of fifteen are often buried in subsidiary chambers of usually single inhumation mounds, whereas skeletons aged fifteen and over are often found in the main chamber (Frohlich 1986: 58). This suggests that the age of adulthood in Early Dilmun was around the age of fifteen (*ibid.*). Therefore, only two skeletal

remains from children during the Early Bronze Age have been examined. This means commenting on the diet of those aged under fifteen is not yet possible. Regarding human remains, the age categories for adults has been divided between 20-35 years (n=37), 35+ years (n=13), and unknown ages (n=19)(Littleton and Frohlich 1989: 61). This is due to the problems of aging over 35-40 years, which makes finding patterns regarding diet and the elderly nearly impossible.

There are substantial differences between ‘young’ and ‘old’ adults in some dental conditions, such as attrition (Table 6.1) and calculus build up (Littleton and Frohlich 1989: 64, 66). The anterior teeth from the maxilla show high rates of enamel wear in the older adults compared to the younger skeletons (Table 6.1). However, these are probably the result of longer use of the teeth, rather than significant changes in diet (Littleton and Frohlich 1989: 62).

Table 6.1. Average Attrition Levels (Scale 1-10)(Littleton and Frohlich 1989: 64).

	All Adults	Adolescent	Young Adult	Old Adult	Male	Female
MAXILLA						
MOLARS						
Bronze Age	1.72	-	1.71	-	1.85	1.58
Iron Age	1.70	-	-	-	-	-
Islamic	2.46	1.69	2.42	3.21	2.89	1.77
PREMOLARS						
Bronze Age	3.95	-	3.78	4.00	3.73	3.90
Iron Age	2.54	-	-	-	-	-
Islamic	3.26	-	3.25	3.36	3.88	1.97
ANTERIOR						
Bronze Age	5.90	-	5.49	7.25	5.48	5.54
Iron Age	4.72	-	-	-	-	-
Islamic	3.59	1.43	3.65	4.22	3.54	3.59
MANDIBLE						
MOLARS						
Bronze Age	2.48	-	2.58	-	2.30	2.84
Iron Age	2.16	1.77	2.36	-	2.53	2.94
Islamic	2.81	1.38	2.82	3.57	3.50	1.59
PREMOLARS						
Bronze Age	3.53	-	3.69	-	3.79	3.54
Iron Age	3.40	1.50	3.35	-	3.60	3.50
Islamic	2.89	1.38	2.83	3.11	3.28	1.95
ANTERIOR						
Bronze Age	5.47	-	5.97	6.50	5.70	6.67
Iron Age	5.13	3.25	5.61	-	5.64	8.00
Islamic	3.64	1.44	3.60	5.08	3.45	3.79

Unlike attrition and calculus, the number of older individuals with caries (Table 6.2) is a lot less than expected, with only 25% of the older individuals having caries.

Whilst caries is less prevalent in the ‘old adults’ category compared to the ‘young adults’, there is a higher number of older individuals suffering from antemortem tooth loss (AMTL). 64.9% of young adults suffered from AMTL to some degree, whereas 84.6% of the older skeletons suffered from it (Littleton and Frohlich 1989: 67). AMTL was even prevalent in 50% of the sub-adults (*ibid.*). When looking at the number of teeth that were lost, rather than the number of individuals, older adults are once again the main sufferers from AMTL with 45.9% of teeth lost antemortem. Whereas sub-adults and young adults have 4% and 27.9% missing, respectively (*ibid.*).

Caries, as mentioned in Chapter 5, are often the result of tacky foods like dates and it seems unlikely that such a predominant food was cut out of the diet of the elderly. It is more likely that the number of individuals with caries decreased as AMTL increased. Unfortunately, Littleton and Frohlich (1989) do not discuss which areas of the maxilla and mandible most regularly suffered with AMTL. Nelson *et al.* (1999: 342) studied the remains of Iron Age skeletons in Oman and stated that caries affected the very young and suggested that dates were primarily eaten by children and whilst adults also consumed dates, not to the same extent. Whilst a different period, it is possible that this was the case in Early Dilmun as Littleton and Frohlich (1989) do not discuss caries in children.

Table 6.2. Number of individuals with caries (%). Littleton and Frohlich 1989: 64.

	BRONZE AGE	IRON AGE	ISLAMIC PERIOD
	‡	‡	‡
ALL ADULTS	49.0 (51)	35.5 (31)	83.3 (24)
YOUNG ADULTS	53.1 (32)	25.0 (4)	90.0 (20)
OLD ADULTS	25.0 (4)	66.7 (3)	50.0 (4)
MALES	40.7 (27)	40.0 (5)	81.3 (16)
FEMALES	66.7 (12)	25.0 (4)	87.5 (8)

Whilst the relationship between funerary rites and food will be discussed in further detail in Chapter 7, the grave goods suggest that there was no distinct pattern between age and what type of meat is present. Højlund (2007) compiled the book

The Burial Mounds of Bahrain: Social complexity in Early Dilmun which was used when exploring the animal bones in graves, due to its compiling of data and research into the animal bones. Mound 223 at A'ali contained the remains of a child and a sub-adult of unknown sex, also present was the remains of a sheep (Højlund 2007: 90-91). Whereas Mound 242, also at A'ali, contained the remains of a 10-15 year old as well as goat remains (Højlund 2007: 106-107). Both sheep and goats were also present in adult graves and there appears to be no correlation between the age of the skeleton and the animal remains, with goats often being juveniles regardless of the age of the person buried (Kveiborg 2007: 150).

Neither the dental studies nor the burial mounds suggest that specific food types were reliant on age, beyond that of infants. However, age may also have been reflected in practices that are not visible in the archaeological record. For instance, table manners may have dictated that the elderly were to be served first or last, or that they would have been the ones who signalled that eating could commence. Whilst modern western societies view the elderly as a burden and view age as a cycle that makes elders have a “childish dependency”, many societies had profound respect for the elderly (Lucy 2005: 57).

6.3 Sex and Gender

The term sex will be used interchangeably with gender within this discussion. The role of gender in relation to food is far more significant as gender roles are a social construction that affect and inform certain behaviours, whereas sex is biological (Gilchrist 2009: 1033). Sex often informs gender roles but, in some societies, there are more than two genders. Therefore, sex will be used when discussing the skeletal remains and gender when discussing more social roles.

Unlike the analysis of teeth in regard to age, the study suggests there may have been some difference in diet in regard to sex. Whilst attrition largely shows more wear in females, it is only their anterior teeth in the mandible which differs greatly (Table 6.1). The overall average of attrition rates suggests minimal variation between male and female. However, there are higher rates of calculus and caries in females (Littleton and Frohlich 1989: 64, 66). In particular, caries are more prevalent in woman by 26% (Table 6.2). Whilst AMTL is more prevalent in men (72.2%) than

women (64.7%), the number of teeth affected is higher in women: 37.9% compared to 29.2% (Littleton and Frohlich 1989: 67).

It is unlikely that diet was radically different for males and females; and if it was, the poor preservation makes it difficult to reconstruct the two diets. However, there may have been some differences occurring. Dates have been viewed as a significant contributor to the Dilmun diet and are also responsible for caries (Littleton and Frohlich 1989: 69). Therefore, the increase in caries may be the result of females consuming more dates. There are a number of reasons for this, a few of which will be outlined. With caries being prevalent with both men and women and the prominence of the date, it is highly unlikely that the date is a gendered food. Instead, it may be that division of labour was gendered. Women may have been responsible for food preparation and cooking, allowing them access to the foods. They may also have had a significant role in the harvesting of the dates. Alternatively, as previously mentioned in 6.2, Nelson *et al.* (1999: 342) put forward a suggestion that children were the primary consumers of dates. If this was the case, women would again have regular access to the dates.

Another explanation for the higher number of caries in women is that dates were consumed in different ways. Caries would suggest that the dates were being consumed either fresh or dried, however dates could also be made into a syrup called *dibs* or an alcoholic beverage (Jennings *et al.* 2005: 281, Nesbitt 1993: 31, 33). In regard to alcohol, dates may have been added to barley beer as both a flavouring and as a source of natural sugars to aid fermentation (Jennings *et al.* 2005: 281). Nesbitt (1993: 32) states that date wine did not become popular in Mesopotamia until the mid-first millennium BC, therefore it is highly improbable that dates were involved in wine making in Early Dilmun. *Dibs*, also known as black honey, is still popular in Bahrain today and is used as a sweetener in rice, bread and sweets (Nesbitt 1993: 33). If women were the producers of *dibs* or the alcohol, and women are often the producers of alcohol in certain societies (Jennings *et al.* 2005: 297), then they would have access to the dates prior to their conversion. However, it may also be that the products were gendered, and males were consuming their portion of dates through drinking alcohol.

The burial mounds were useful in suggesting that meat, and different types, was not reliant on age, due to the presence of goats and sheep in the graves of both adults and sub-adults. In regard to sex, unfortunately, it is more problematic. Only four sheep were positively identified, the rest were either goats or sheep/goat (Kveiborg 2007: 151). Whilst goats were present in both male and female graves, sheep were only present alongside male or unidentified skeletal remains (Højlund 2007). Mound 233, mentioned in section 6.2 due to a child and sub-adult interred within, contained sheep remains and it is possible that it is mother and child, which would suggest meat types were not reliant on gender, but without an identifiable female alongside a sheep, it is impossible to say whether gender influenced the type of meat distributed at death, and as an extension - life.

6.4 Status

Unlike gender and age, status is more visible within the archaeological record. This section will explore the differences in diet between houses and buildings in Qala'at al-Bahrain and Saar separately. In addition, the role of hunting and its social implications will also be explored and discussed.

6.4.1 Differences in Food Types

As mentioned previously, there have been two main excavations at Qala'at al-Bahrain: Excavation 519, a central excavation with monumental buildings, and Excavation 520, an area near the edge of the tell with small private buildings (Uerpmann and Uerpmann 1999: 636). Due to their locations within the site and the different types of architecture, differences in diet are unsurprising. Cattle bones from Excavation 520 largely come from older animals, whereas at Excavation 519 most of the bones reflect younger cattle (Uerpmann and Uerpmann 1999: 641). Furthermore, more cattle bones from 519 were of higher-meat value, for example, ribs, scapulae, and humeri. In comparison, Excavation 520 had a number of bones, such as the skull, teeth, and feet, which have a much lesser meat-value (*ibid.*). The pattern regarding age and types of bones present replicates itself with sheep and goat bones, with Excavation 519 receiving better quality meats (Uerpmann and Uerpmann 1999: 643). In addition to this, the presence of sheep is higher in Excavation 519, whereas goat appears to have been more popular in Excavation 520 (*ibid.*).

Whether the monumental architecture of Excavation 519 is a palace, an administrative centre, a combination of the two or something completely different, it is clear that a better quality of meat was present. The poorer families living on the edge of the settlement by the coast unable to buy the better cuts of meat that go to the higher status individuals is a logical conclusion. Whilst different food types are sometimes restricted to certain classes to depict a level of exclusivity to the upper echelons, there are very few differences between the species found at Excavations 519 and 520. Indeed, a large number of Sokotra cormorant bones were found at both Excavation 519 and 520 (Uerpmann *et al.* 1997: 228). This was somewhat of a surprise to excavators as the birds are difficult to shoot and there is no evidence to suggest bird hunting was common. Cormorant bones were expected at Excavation 520 due to its proximity to the coast, but the number of bones at both sites implies the cormorant was eaten (*ibid.*).

Due to the placement of Qala'at al-Bahrain Fort directly on top of the Dilmun settlement, excavations have been limited. However, the location of the monumental, wealthier location being central, and the poorer area located on the outskirts of the settlement is unsurprising. Whereas at Saar, the settlement is a lot smaller and the houses with foods that are likelier for higher status, or wealthier individuals are intermingled with the other houses (Fig. 6.1). However, status depicted and reinforced through food may not be as visible at Saar as it is at Qala'at al-Bahrain.

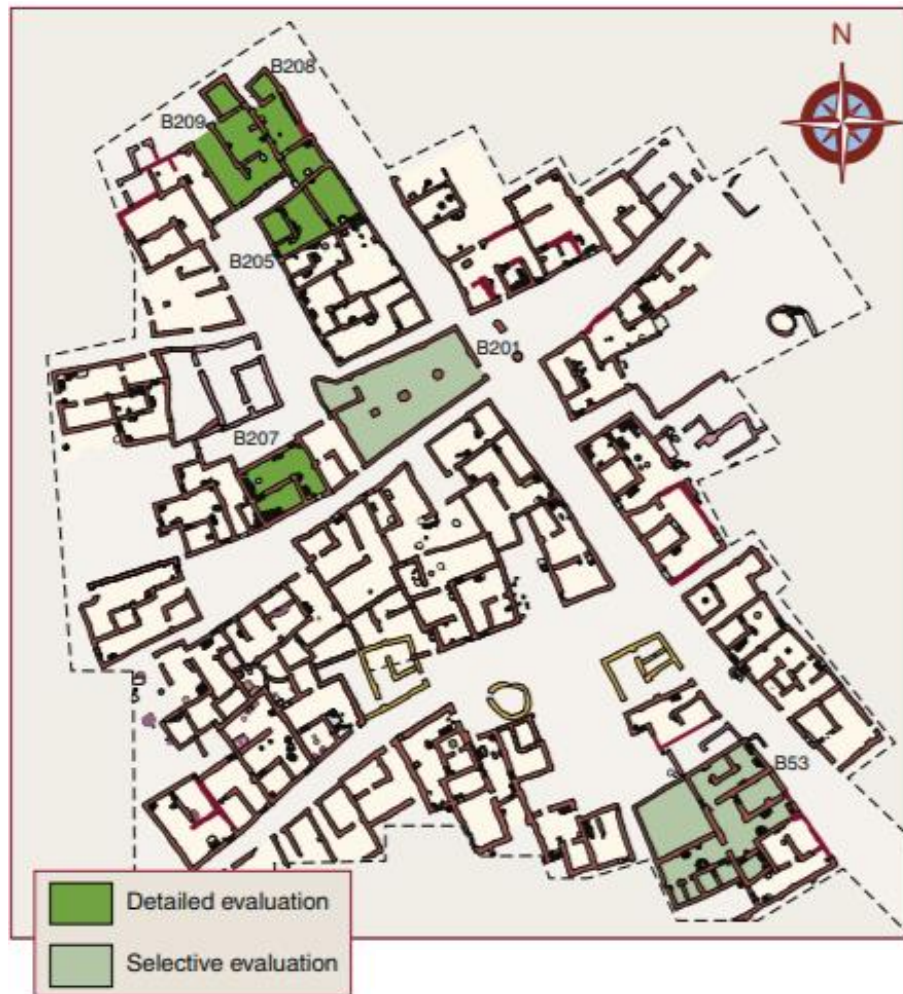


Figure 6.1. Map of examined faunal remains in Saar. (Uerpmann and Uerpmann 2005: 293)

Buildings 207 and 208 show size differences in emperor fish: the majority of emperors from Building 208 were between 37.5 and 47.5cm, whereas at Building 207 the majority measured 35cm in length (Uerpmann and Uerpmann 1999: 638). And when looking at domesticated mammal remains, sheep appear to make up the majority of animal bones, excluding fish, found in buildings, with goats secondary and cattle contributing a minimal amount to the diet (Uerpmann and Uerpmann 2005: 306). It has been suggested that cattle were usually slaughtered for special occasions as they produced too much meat otherwise, whereas sheep would have resulted in a manageable amount (*ibid.*). However, there is still variation between the buildings: Building 209, whilst still dominated by sheep and goats, has a larger weight percentage of cattle than expected, whereas Building 205 has very few (fig. 6.2). Whilst fish appear to be the primary meat contributor in the diet, each house

varies regarding weight of fish and mammal remains (Table 6.3). In Building 208, mammals make up only 3.4% of fish and mammal remains, whereas in Building 207 they contribute to 20.9% of the diet (Table 6.3).

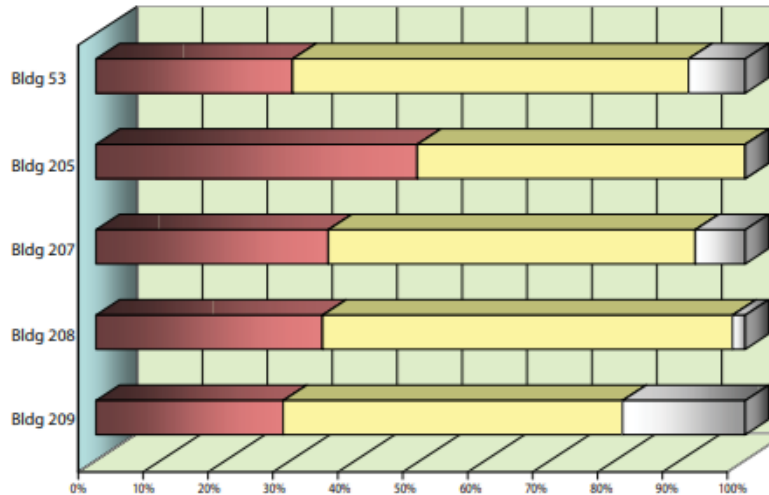


Figure 6.2. Percentage of domesticated mammals from Saar. Red represents goats, sheep are yellow, and cattle are white. (Uerpmann and Uerpmann 2005: 307)

**Table 6.3 Weights of fish and mammals.
(After Uerpmann and Uerpmann 2005: 293)**

Building	Fish (gm)	Mammal (gm)	Total (gm)	Mammal %
205	4,106	580	4,686	12.4%
207	2,433	644	3,077	20.9%
208	3,361	118	3,479	3.4%
209	5,397	228	5,625	5.9%

The buildings studied at Saar are all in close proximity with one another and follow a similar pattern in regard to diet, yet the faunal remains show that the different households varied in their food choices. The size disparity of the emperor fish in Buildings 207 and 208 may be the result of status or wealth but it is more than possible that the family who lived in Building 208 were larger than that of their neighbours and therefore required larger fish (Uerpmann and Uerpmann 2005: 299). The other differences between the houses may be the result of preference for particular foods, however, if cattle were primarily kept for special occasions in Saar then Building 209 may have been viewed as more affluent and of higher status.

However, the location of the buildings suggests that whilst status would have been important, it was not as clear and distinctive as in Qala'at al-Bahrain.

6.4.2 Hunting

Stamp seals were briefly discussed in the previous chapter, but the depictions of predominantly wild animals with very few domesticated animals, besides bulls and presumably fowl, suggests that people in Dilmun placed value on specific wild species. At both Qala'at al-Bahrain and Saar, as well as at other Early Dilmun settlements on Bahrain and Failaka, wild animals contributed a far less significant nutritional value than perhaps expected (Uerpmann and Uerpmann 1999: 640) but the presence of wild animals on stamp seals suggests their importance socially.

It is often assumed that hunted animals in an agricultural community would be a status symbol, however, skeletal remains of turtles were discovered in both Excavation 519 and Excavation 520 at Qala'at al-Bahrain (Uerpmann *et al.* 1997: 237). This suggests that turtles were available for a variety of people and not just a specific class or the wealthy. However, Excavation 519 contained a lot of bones from smaller, juvenile turtles (Uerpmann *et al.* 1997: 236) and between the two excavations at Qala'at al-Bahrain, it has been noted that the quality of meat consumed differs greatly (Uerpmann and Uerpmann 1999: 641).

Olijdam (2001: 197) states that hunting turtles at sea is far more uneconomical than catching adult females that come to land to lay eggs; it requires more skill and luck and might result in the capture of juvenile turtles, rather than the larger adults. However, hunting has a level of prestige attached to it and uneconomical production is often associated with the upper classes of society (*ibid.*). Therefore, the differences in size between the two excavations at Qala'at al-Bahrain may reinforce the role of status: at Excavation 519 the smaller turtles were uneconomical but prestigious, whereas the larger turtle remains at Excavation 520 may represent opportunistic hunting of turtles coming to land in order to breed. Whether the population who lived in Excavation 520 hunted the turtles out of hunger in bad years, desired variety of food, or hunted them to replicate the higher classes is unknown.

The presence of land based wild animals in the faunal record is higher at Saar than at Qala'at al-Bahrain (Uerpmann and Uerpmann 1999: 640). Saar is better situated to hunt animals, particularly gazelle, as it is nearer to the central and southern parts of the island, however it would be expected that Excavation 519 contained a larger proportion due to the high-status aspect of hunting. Once again it may be the result of the higher echelons of society residing at Qala'at al-Bahrain who received the hunted meat, with others not being able to afford gazelle. Whilst at Saar, the hunting of gazelle was a status symbol but with the population living in closer proximity to their prey, it was not as unattainable. However, Bahrain as an island would have had to have restricted hunting of gazelle, or imported them from abroad, in order to prevent extinction.

It is also worth noting that stamp seals not only depict wild animals, but some also portray men hunting (fig. 6.3). These depictions are of men (Crawford 2001: 24), suggesting that the hunter was a masculine role and therefore an avenue of prestige and social glorification that was likely closed to females. However, it seems probable that being a successful hunter was a positive social factor as it would have required skill and intelligence, despite its minimal contribution nutritionally (Russell 2012: 156). It is unknown if specific people were hunters and sold the meat to people, or if the act itself was a status symbol largely restricted to the upper classes. If it was an activity for the upper classes to participate in, which has been a common occurrence throughout time, it may be that the hunt itself is a ritual and the consumption of the meat is only part of the event (Russell 2012: 163). Russell (*ibid.*) stated that the ritual hunting cases she has uncovered, both ethnographical and historical, are all from societies with domestication and agriculture as the hunting becomes unusual and special.



**Figure 6.3. Hunter carrying animal carcasses (used for fig. 5.3 also).
(Crawford 2001: 52)**

Overall, the social role of hunting is unknown within Dilmun. It is possible that hunting certain animals was a highly prestigious event only available to people of a certain class or status. However, it may only the meat that was important to the wealthy, upper elite as it changed their diet and distinguished them from others. The nutritional role is minimal, but the symbolic role was clearly very important, as seen by numerous seals that depict wild animals and hunting scenes.

6.5 Diet in the Capital vs. the ‘Provinces’

The differences in diet within sites has been explored above, however, there are significant differences between different sites as well. Qala’at al-Bahrain has often been described as the capital of Dilmun, Saar a town, and Failaka has been interpreted as an outpost (Højlund 2013: 543). Therefore, it is probable that variation in social organisation can be witnessed between the different Dilmun sites.

At Qala’at al-Bahrain, there is a larger presence of cattle bones in the archaeological record than at Saar. As mentioned previously, it is likely that cattle produced too much meat for the people of Saar, and so were kept for feasts (Uerpmann and Uerpmann 2005:). Whilst Saar was a smaller town than Qala’at al-Bahrain, 84 buildings have been uncovered and the site was not excavated in its entirety (Killick 2005: 7). The meat from cattle would not have been wasted if distributed amongst the people at Saar. This could suggest Saar was comprised largely of smaller domestic units that were mainly self-sufficient (Uerpmann and Uerpmann 2005: 306). Another interpretation might be that there was a visible imbalance of wealth and therefore some families could not afford beef, except on special occasions,

however the difference in meat quality from Excavations 519 and 520 at Qala'at al-Bahrain suggests that is unlikely. The availability of cattle may also have been the cause in Saar: a certain level of animals need to remain in the herd for breeding purposes and cattle may have been primarily used for labour and milk, making the number of cattle available for meat less than expected (*ibid.*).

Whilst cattle only made up a third of bone weight of domesticated mammals at Saar, at Qala'at al-Bahrain they constituted half of the weight (Uerpmann and Uerpmann 1999: 641). The presence of cattle in both Excavation 519 and 520 might suggest that families were less self-sufficient than those at Saar. This would explain why cattle were found in Excavation 520 far more regularly than at Saar.

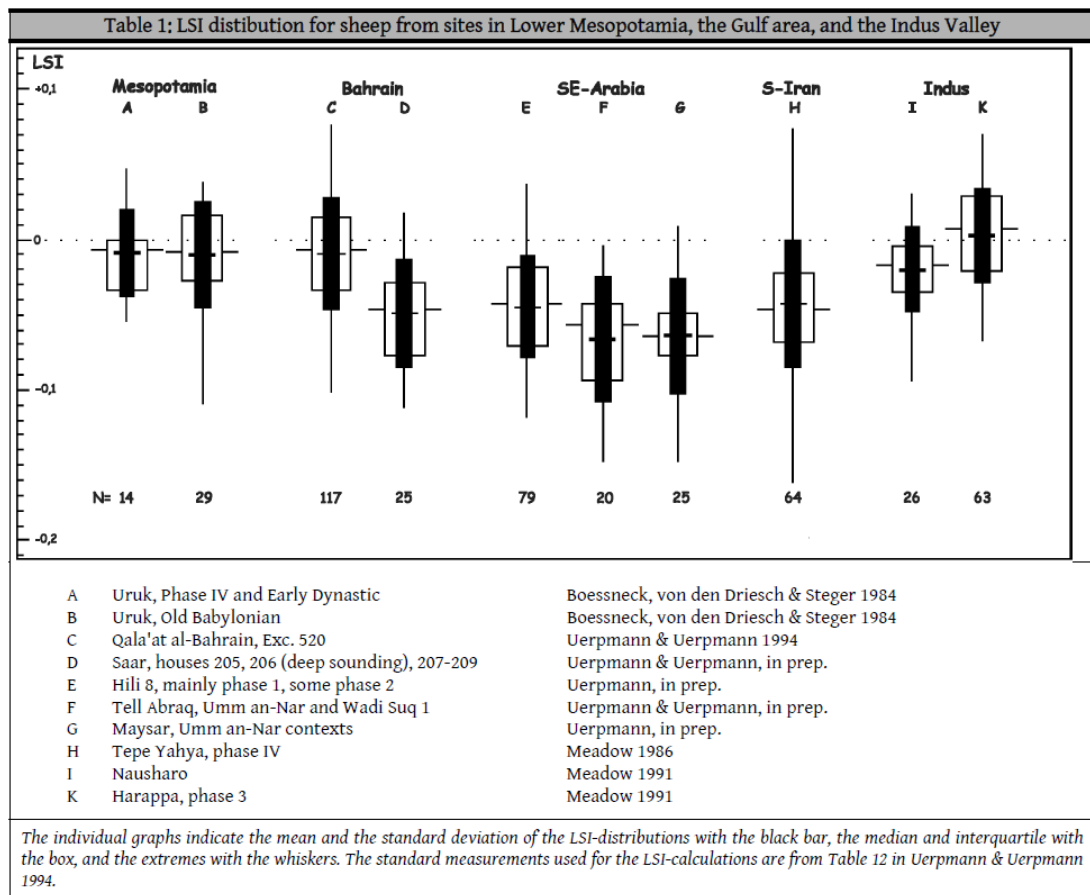


Figure 6.4. LSI-distribution of sheep. (Uerpmann and Uerpmann 2008: 73)

Sheep at Qala'at al-Bahrain are a lot larger and more closely resemble the sheep from Mesopotamia than those at Saar (Fig. 6.4). Whilst size can often reflect different environments, the closeness of the two sites suggests that these are

different species, imported from the mainland (*ibid.*). The larger sheep from Qala'at al-Bahrain are present in Excavations 519 and 520. The sheep remains, like the cattle and the majority of the animal bones discovered, show differences in regard to age and meat value compared to that of Excavation 519 (Uerpmann and Uerpmann 2008: 75). Sheep of an equivalent size were found at Saar but are associated with a house dating to City IIc and the majority of sheep found were of a smaller, local breed (*ibid.*). This reinforces the idea of a more self-sufficient economy at Saar, whilst Qala'at al-Bahrain had access to foreign imports and wider-scale market system. This did not mean that Saar was unable to access certain food types or did not exchange goods at markets, fish at Saar were likely caught by fishermen who traded with inhabitants of Saar (Uerpmann and Uerpmann 2005: 299). However, certain food types would have been more difficult for people from Saar to access, which in turn may have made them a more significant food item in relation to status, wealth and prestige.

Failaka, as previously mentioned has often been interpreted as an outpost for Dilmun merchants and traders (Højlund 2013: 543), it would also have been a crucial area for refuelling and as a point of entry for the mainland Mesopotamia (Ashkanani and Tykot 2013: 247). Types of ceramic found in Tell F6, including from the Palace, are typical of Barbar pottery, whereas others appear to originate from Mesopotamia or the Indus Valley (Ashkanani and Tykot 2013: 259-261). Ashkanani and Tykot (2013: 263) suggest it is highly feasible that the Barbar pottery was made in Bahrain and transported to Failaka. This suggests that there was a lack of ceramic production occurring on Failaka, supported by an absence of kilns discovered in the archaeological record (Kjærøum and Højlund 2013: 87), and therefore the people of Failaka had a reliance on material culture from external sources. However, this also means that people on Failaka had better access to a wider variety of serving dishes and other ceramics which can play a significant role in the preparing and presentation of food.

Højlund (2013: 543) states that Tell F3 contained small houses for individual families however there are a lack of ovens inside of the houses dating to c. 1900-1750 BC. At least one oven, but possibly two others, were uncovered to the north of house 29 (Kjærøum and Højlund 2013: 87). This greatly differs from the ovens

located inside of houses at Saar and Qala'at al-Bahrain. It is possible that occupation on Failaka was not permanent, or was not planned to be permanent, and therefore shared ovens were built. The shared ovens would make the preparation and consumption of food a much more communal event. Families or groups of individuals may have made larger meals and eaten together, rather than as individual family units. If they did, however, make meals for only their family unit, they would still have to negotiate the use of ovens with others and cook in groups.

6.6 Conclusion

Exploring the role of diet in regard to social organisation and hierarchy is problematic: no woman is just female, they are young or old, poor or wealthy, a mother or sister and so on. Therefore, when exploring diet, it is impossible to untangle all of the threads that make someone that person. Having said that, whilst exploring age in regard to diet was problematic, the discussion on sex and gender suggests that there were differences in diet between the different genders. Status also gave clear evidence between different classes, or between wealthier and poorer people. Whilst social complexity and an emergence of different classes is expectant in an important trading civilisation, the variation between settlements was more surprising. The trading post, the small town and the city are all three different types of settlement and therefore differences are expected, however three different economies appeared to be in force and differences in diet and architecture show the complexity and variation within Dilmun at the time.

Chapter 7 – Feasting in Dilmun

7.1 Introduction

This chapter will explore a variety of different ‘feasting’ activities that may not conform to purely traditional ideas of feasting, therefore it will be defined as a communal food event that differs from the everyday (Bray 2003: 1). Feasting is often associated with the emergence of social hierarchy as well as renegotiating identity, power and relationships within and between communities (Bray 2003: 1). Feasting at its most basic is about a group eating and drinking together, but it is also far more complex. It can affect political, social and economic identities and regarding social relationships, it must be repeatedly reinforced (Pollock 2015: 9). Feasting is not restricted to just the living population: gods and the dead are often included in commensal acts. These feasts may incorporate the living as well as deities or the dead, or it may exclude them except for feast preparation. This chapter will explore feasting in Dilmun between the living, the gods, and the dead and how it may affect social organisation.

7.2 Feasting Amongst the Living

Evidence for feasts amongst the living in Early Dilmun is scarce. It was clear some forms of commensal acts were occurring in temples and in burial mounds that likely included the living, but for evidence of feasting, excluding religious and mortuary practices, the primary sources are stamp seals. However, the stamp seals depicting communal food events are largely relating to the drinking scenes. Therefore, this section will primarily explore the idea of gender and feasts and, in particular, the role of alcohol.

7.2.1 Alcohol Consumption

The consumption of alcohol is an important part of social cohesion and evidence of alcohol is found across the ancient Near East. Alcohol is an embodied material culture: it is made specifically to be destroyed which is done through the ingestion of alcohol by the human body, a transformative process for both the person and the alcohol (Dietler 2006: 233). This relationship between drink and human is significant, particularly in ritual, because of alcohol’s psychotropic properties

which change how humans see and interact with the world and with other people (*ibid.*). Douglas (2003: 11-12) states that alcohol allows the construction of an ‘ideal world’, where the world makes sense out of the chaos. Therefore, alcohol would have been particularly important for emerging complex societies, where significant change was occurring, and new relationships and world viewpoints were being forged (Joffe 1998: 298).

Evidence of alcohol consumption in Dilmun is problematic; stamp seals depict people drinking but it is unknown if the art on the seals represent Dilmun practices or if they are the result of neighbouring cultures and their influences (Al-Thani 2005: 215). It seems probable that alcohol consumption was a part of Dilmun life as it seems improbable that Dilmun seals would depict concepts and rituals foreign to them. The majority of stamp seals portray symposia scenes, with two figures drinking from a jar with a straw (fig. 7.1) (Al-Thani 2005: 217). Others show single figures with drinking straws or a figure, or figures, drinking from a cup (*ibid.*). Drinking alcohol with a tube is present not just in Dilmun depictions, but is visible across the Near East, particularly in Syria and Anatolia (*ibid.*). By the early second millennium, it was no longer represented in southern Mesopotamia, further suggesting that alcohol consumption was a Dilmun practice and not just an imitation (*ibid.*).



Figure 7.1. Figure drinking from a straw. (Crawford 2001: 59)

Scholars, such as Brunke (2011: 175), have stated that the jars with drinking straws contained beer, in order to prevent swallowing lumps of fermented by-product. There are two main schools of thought regarding beer production: one using a mix of sprouted and unsprouted barley grains and the other requiring the barley be made into bread first (Jennings *et al.* 2005: 279-280). Both methods would have resulted in dregs at the bottom, requiring a straw to avoid them. This beer would have had

an alcohol content of between 3-6% (Jennings *et al.* 2005: 279). Killick and Moon (2005: 349) state that vats were discovered at Saar which appear similar to descriptions in Mesopotamian texts about the brewing of barley beer.

The depictions of drinking on stamp seals, alongside the potential brewing vats, and the presence of barley in the archaeobotanical record all suggest that the consumption of beer occurred in Early Bronze Age Dilmun. It is not known whether beer was made only for feasts and important occasions or whether it was a regular part of the diet or whether the fresh water springs in Bahrain would have lessened the need for the regular, dietary production of beer. Drinking is depicted as being a significant event and in a period with an emerging social complexity, alcohol would have forged new relationships and would have simultaneously affected people's mindsets.

7.2.2 Gender Roles and Feasting

The role of women and feasting within Dilmun is unclear but this subsection will further explore the role of alcohol in regard to women, as well as, their absence on seals depicting feasts.

In a number of societies, both past and modern, women and men have a different relationship with alcohol: this may result in women drinking less, abstaining from alcohol or drinking different kinds of alcohol (Dietler 2006: 236). Interpreting the relationship between women and alcohol, and more significantly the relationship between women, alcohol, and men during the Early Bronze Age in Dilmun is impossible to do with any certainty. However, the stamp seals that show drinking scenes appear to be all male individuals (Crawford 2001: 24, Kjærsum 1983: 76-82). This could imply that women were not supposed to drink, or that it was not elevated in the same sense as men drinking was. Despite the majority of figures on seals appearing to be men, women have been depicted on seals showing erotic scenes (Crawford 2001: 24). Furthermore, the majority of seals discovered in burial mounds were accompanying men, although some were found in the graves of women (Mound S.137.3) and children (Mound S.267.3) (Ibrahim 1982: 51, 58). This might suggest that the iconography targeted male interests and as a result, the lack of imagery depicting women drinking on seals cannot disprove the relationship

between women and alcohol. It does, however, suggest that there was a level of disparity between males and females. Alcohol may have also been restricted by class, status, and age as well as gender (Dietler 2006: 236).

An alternative approach to gender and alcohol is that in many non-industrialised societies, alcohol production fell to women (Dietler 2006: 236). Dietler (*ibid.*) states that there are two main viewpoints: first, that women were being exploited and put in their place, or secondly, that the brewing of alcohol allowed a certain level of independence and put the woman in an important, central role in regard to commensal feasts and even in maintaining good relationships with the gods. Indeed, the role of producing the beer for feasts and festivals would have been very important. The brewing of barley beer would have taken 6-9 days when using bread and 10-16 days using the germinating method (Jennings *et al.* 2005: 286). The shelf life of barley beer at this time would have been around 7 days: therefore, only one batch could have been made within the time frame (*ibid.*). Regardless of which gender or person had the responsibility of brewing, this would have been an important and busy role leading up to the feast.

As mentioned, the role of brewing would have resulted in a significant responsibility, but also honour, being placed upon the brewer. The same may be said for food preparation. If food preparation and brewing were indeed based on gender, then a great deal of time leading up to, and during, the feast would have been consumed for women (Bray 2003: 6). This may have resulted in the women being side-lined for the actual feast.

The lack of women on seals, as previously discussed, does not necessarily mean that women were not involved and present in the actual feast. They may have been separated from the men and attending their own feast, or the different settlements may include or exclude women according to their own traditions that are not depicted on seals. However, the absence of women on seals does suggest a gender divide was present in the Early Dilmun, whilst most of the art on Dilmun seals derives from Mesopotamia and Syria, the seals themselves are local, and the design would either reflect ideas that are easily understood within society, or be a way of attempting to integrate new values (Al-Thani 2005: 209, 213). It seems likely that

with the number of seals that depict scenes reminiscent of feasting (Kjærums 1983: 36-51, 74-82; Al-Thani 2005: 222-224), that feasting was not a new idea to the Dilmunites, and therefore reflect society to some degree and women were potentially excluded from feasting alongside males.

Whilst women are glaringly absent on stamp seals, a cylinder seal from a burial mound in Hamad Town depicts a female figure (Denton and Al-Sindi 1996: 188). The seal is somewhat crude, but depicts a seated female, likely a goddess, who is holding a cup towards a male (Denton and Al-Sindi 1996: 188-189). This seal appears, so far, to be unique (Denton and Al-Sindi 1996: 190). It is not an erotic scene, and whilst female goddesses do appear on seals, they occur much later than the IIa-c period (*ibid.*). This seal might suggest that attitudes regarding women were beginning to change and they were allowed alcohol, signalled by the cup, and to be involved in ritual and feasting scenes. It may also have been acknowledging the continued presence of women at feasts, or it may be that her status as a goddess made her an exception. However, it is also worth noting that the goddess appears to be offering the cup to the male, rather than drinking from it herself, so there is still the possibility that women were not meant to partake in alcohol.

7.3 Feasting Amongst the Dead

Whilst the evidence for feasting purely amongst the living is limited in Early Dilmun, feasting, or ritualistic food behaviours, that involve death has a great deal more evidence. Animal bones from the burial mounds, as well as other potential foods, and religious beliefs will be explored to see if feasting and the dead can shed light on aspects of Dilmun society.

Sumerian myth discusses the afterlife as a depressing and dark place where the dead have only dirt and clay to eat (Katz 2007: 171). If the Dilmunites shared this belief, which is probable as they share a number of deities, then the food found in the burial mounds would be logical. Furthermore, dead spirits could rise and attack the living if their burial rites were not sufficiently performed (Laursen 2017: 294). Therefore, it was in the best interests of the living to perform the correct rites and to satisfy the deceased. However, not all of the burials contained animal bones: 55% of the non-Royal burial mounds contained faunal remains, 5% of the burial complex graves

and only 1% of the subterranean graves (Table 7.1) (Olijdam 2010: 147). Furthermore, there are differences between the mound cemeteries (Table 7.1). However, these numbers will not be entirely accurate as several of the mounds excavated in the 19th and early 20th century most likely contained bones, but they would not necessarily have been saved or recorded. Recent excavations have found a few fish and bird bones, but the extent of their presence is so far unknown (Kveiborg 2007: 150). Therefore, it is highly probable that these small bones were present in a number of mounds but were missed in past excavations. Furthermore, bitumen-coated jars and baskets, plates, beakers and other ceramics have been found in graves and it is possible that food that leaves no visible evidence was served to the dead in these receptacles (Højlund 2007: 133-134).

Table 7.1. Percentage of animal remains in City IIa (left) and City IIb-c (right) burials. (After Olijdam 2010: 148)

	Σ	Animal			Σ	Animal	
tumuli	66	42	64%	tumuli	51	22	43%
Burial Complex	24	0	0%	Burial Complex	17	0	0%
subterranean tombs	5	0	-	subterranean tombs	83	1	1%
<i>Total</i>	95	42	44%	<i>total</i>	151	23	15%
tumuli				tumuli			
<i>'Ali</i>	18	14	78%	<i>'Ali</i>	29	13	45%
<i>Saar</i>	14	4	29%	<i>Saar</i>	13	4	31%
<i>Karzakkan</i>	26	22	85%	<i>Karzakkan</i>	5	5	-
<i>Dar Kulayb</i>	3	2	-	<i>Malikiyah</i>	1	0	-
<i>Umm Jidr</i>	5	0	-	<i>Dar Kulayb</i>	2	0	-
Burial Complex				<i>Umm Jidr</i>	1	0	-
<i>Saar (South)</i>	24	0	0%	Burial Complex			
subterranean tombs				<i>Saar (South)</i>	17	0	0%
<i>Karranah 2</i>	1	0	-	subterranean tombs			
<i>Shakhura A-3</i>	4	0	-	<i>Karranah 1</i>	34	1	3%
				<i>Karranah 2</i>	48	0	0%

The presence of domesticated mammals in some graves but not others suggests that faunal remains in death had some level of status ascribed onto them. Sheep and goats constitute the majority of bones found in the burial mounds and out of those that have been positively identified, there are four times more goats than sheep (Kveiborg 2007: 150). However, in the royal mounds that contained identified

animal bones (Mound 8, 10, 12, and 35), sheep have been identified as the only domesticate (Laursen 2017: 55-56, 59, 70). This suggests that sheep were a higher status food when it came to the dead; possibly due to the popularity for mutton over goat in life. In addition to sheep, Mound 0A 208 contained likely dugong tooth fragments (Laursen 2017: 74); whilst not very nutritious, it would have represented a high-status individual. Katz (2007: 171) has suggested that the food remains at Ur III may have represented a daily meal that would have been consumed by the living. If this was the case for Dilmun, one might expect the presence of cattle, and a greater representation of sheep in the graves. However, it would explain why there is an absence of bones in some graves if fish bones can be proven to be regular occurrence in future excavations.

Feasts, as previously mentioned, bring together groups of people in order to renegotiate and reevaluate their relationships and social contributions and this would be particularly important when someone had died. However, if Katz (*ibid.*) is correct and that the deposits reflect the everyday meal, feasting alongside the dead may have been unlikely. In addition, cattle bones would once again be expected in the mounds if a feast occurred alongside the burial rites.

7.4 The Gods and Ritual Food Offerings

In this chapter, feasting has been discussed in relation to the dead, as well as in regard to the consumption of alcohol, but the religious implications of feasting are also very important. Religion would have been incorporated into all aspects of feasting, however, evidence from Dilmun temples and stamp seals suggest that a specific rituals and offerings also occurred. The importance of cattle, deposits from Barbar, activity within Saar temple and the iconography of stamp seals will be examined in order to extrapolate potential relationships between the Gods and the living and how this would have affected Dilmun society.

Information about Dilmun religious practices in literature are somewhat problematic as the information derives from Sumerian myths. Dilmun was associated as the birthplace of the Sumerian gods, however, Dilmun also had Indus influence (Rice 2002: 144). Furthermore, Dilmun was an independent state at this point which means that Mesopotamian religious beliefs cannot be directly placed

onto Dilmun society. However, three inscriptions were found on ceramics from Royal Mound 8 and they mention the “Palace of Yaglī-el” and one of the inscriptions refers to Yaglī-el as the “son of Ri’ mum, Servant of Inzak of Akarum” (Laursen 2017: 357, 359). Inzak was the Akkadian name for the Sumerian god Enshag and he was one of the most important Dilmun dieties (Rice 2002: 251). The ceramics suggest that there were some similarities between Sumerian and Dilmun beliefs, and whilst it is useful to have Sumerian mythology help understand Dilmun rituals, it is important to not let it dominate interpretations.



Figure 7.2 Bronze bull head from Barbar. © Hermitage Museum

7.4.1 The Sacred Bull and Barbar

The role of cattle in feasting has been briefly mentioned in Chapter 6; that due to the size of cattle and the amount of beef they would produce, in smaller settlements it is likely that they were usually slaughtered for feasts and special days (Uerpmann and Uerpmann 2005: 306). However, cattle and more specifically bulls, clearly had an important religious role within Dilmun society. The Barbar temples had deposits dominated by cattle bones, in addition the bronze bull head (fig. 7.2) was found at Barbar, and stamp seals depict a number of bucrania (fig. 7.3) and ‘bullmen’ (fig. 7.4).



Figures 7.3. and 7.4. Stamp seals depicting bullmen and bucrania.

(Al-Thani 2005: 234, 256)

At the Barbar temples, 2415 fragments of faunal remains (Table 7.2), which date to the Early Dilmun, have been uncovered (Bangsgaard 2003: 7). The cattle are the best represented in terms of weight and number (Table 7.2). However, there were a distinct lack of larger limb-bones and the fragmentary nature means the MNI (minimal number of individuals) is 23 (Bangsgaard 2003: 7). Cattle were clearly the dominant species at the temple.

Table 7.2. Fragments and bone weight of animals from Barbar.

(After Bangsgaard 2003: 7).

Species	Number of fragments	Fragment %	Bone weight	Weight %
Cattle, <i>Bos taurus</i>	328	32.2%	5537g	74.4%
Large ruminant	444	43.5%	783g	10.5%
Cattle + large ruminant	772	75.7%	6320g	84.9%
Sheep, <i>Ovis aries</i>	50	4.9%	352g	4.7%
Goat, <i>Capra hircus</i>	20	2.0%	106g	1.4%
Sheep/Goat	178	17.5%	664g	8.9%
Sheep and goats	248	24.3%	1122g	15.1%
Total	1020		7442g	

The lack of long bones may be the result of poor preservation; however, the ribs and cranium are present, and they would also be affected just as severely by preservation issues as the limb bones (Bangsgaard 2003: 8). This suggests that the long bones had been omitted from deposits intentionally. Seven cut marks on the cattle's metapodia and phalanges were found, these cuts are consistent with

dismembering (Bangsgaard 2003: 9). The small number of butchering marks is not surprising due to the poor preservation (*ibid.*).

Sheep, goats (Table 7.2), fish, and gazelle were also present at the Barbar Temple (Bangsgaard 2003), however the role of cattle will be the focus of this discussion. At least 74.4%, but more likely closer to 84.9%, of the bone weight belonged to cattle. Compared to Excavation 519 at Qala'at al-Bahrain, in which cattle comprised 48.6% of the domesticated mammal bone weight from the site (Uerpmann *et al.* 1997: 245), Barbar obviously had a preference for cattle. Furthermore, the cattle at Barbar were slightly larger than those at Qala'at al-Bahrain (Bangsgaard 2003: 9). The abundance of cattle remains, in addition, to their size suggests that cattle, or bulls, were a significant part of religious iconography (Bangsgaard 2003: 14). It is unknown whether the significance was for an individual deity that was worshipped at Barbar, or whether cattle have a larger religious importance, unconnected with an individual god or goddess.

Different areas of the site suggest that a number of activities were occurring: the central platform contained minimal bone fragments, this suggests that the area was regularly cleaned (Bangsgaard 2003: 16). The Eastern Court was filled with bones and contained bones such as the carpal and tarsal bones, and the cranium, suggestive that this was the location of the butchering (*ibid.*). The northern part of the oval platform contains the largest number and weight of bones, of which 65% are burnt white (*ibid.*). Other parts of the site contain fragments that are slightly burnt, but not heated to the same degree or regularity (*ibid.*). This suggests that the area was possibly an area for food offerings, however, the extreme heat used might suggest it was a place to dispose of waste (*ibid.*).

It is possible that the missing long limb bones were given to the gods as offerings, however, a larger presence would still be expected. It is also possible that certain parts of the slaughtered animal were given to the gods, whilst other parts were shared amongst worshippers, or consumed by the priests. In Mesopotamia, after offerings to interpret the divine, good-omened meat would be consumed by those living (Scurlock 2002: 399).

Ethnographical and historical studies, as well as the absence of women on seals that depict feasting and drinking, suggest that women may have been consigned to the preparation of food, and possibly also serving, for social feasting. However, a scene on a stamp (fig. 7.5), depicts a divine central figure drinking whilst a naked figure serves him (Crawford 2001: 75). The figure is likely a male as women are very clearly distinguished as females in the stamp seals in which they are depicted (Al-Thani 2005: 218). This would suggest that whilst the role of serving was possibly a female role, in relation to the gods, it was the men who carried out specific offerings and communicated with the gods. Another seal (fig. 7.6) shows a clothed figure holding the drinking straw to a seated deity. The seals may depict a priest or a king carrying out his religious duties, rather than a civilian. In fact, direct interaction, which is what the seals depict, may have only been possible through the priests and offerings would have had to have gone through them.



Figures 7.5. and 7.6. Divine beings drinking with human attendants.
(Crawford 2001: 75, Al-Thani 2005: 129).

7.4.2 Performing Rituals at the Altar

Thin sections of areas within the temple, as well as analysis of the faunal, botanical and mollusc remains were undertaken from the temple at Saar. The thin sections, in particular, hinted to different activities that may have occurred within the temple.

A surprising number of plant remains survived and within 52 thin samples, date palm was found in all of them. There were some cereal grains and a few seeds, but the botanical sample was dominated by the date palm (Matthews *et al.* 2017: 59). The absence of date stones may be the result of regular cleaning of the temple, however it might also be indicative of the role of date palms, which are a common feature in stamp seals (Kjærnum 1983). Furthermore, it is possible that the remains were originally part of a serving plate or food, and part of the offering. Bone

fragments were less common, occurring in 16/52 (31%) of the sections and the fragments were too small to identify (Matthews *et al.* 2017: 62). However, they were present on top of, and on the side of the altars (*ibid.*).

The faunal analysis of larger fragments included fish, sheep/goat and cattle as the predominant species, although the fragments were only small in number (de Moulins *et al.* 2017: 107-108). The species of fish seemed to replicate those from Qala'at al-Bahrain and Saar (de Moulins *et al.* 2017: 107). Other species were found in smaller numbers, including, three teeth from a dugong, oryx bones, and two carpals from a dolphin (de Moulins *et al.* 2017: 110). Some of the sheep/goat remains had knife marks on the ribs, suggesting butchering, however none of the fragments showed signs of being burnt (de Moulins *et al.* 2017: 108, 110). The thin-sections alongside the faunal remains make it appear probable that food offerings were taking place at the temple.

However, other activities were also occurring. There is possible evidence for the pouring of libations and the burning of incense due to staining and anhydrite layers on the altar (Matthews *et al.* 2017: 63, 65). Whilst further analysis is required to confirm both activities, it seems probable. It seems likely that water also played a significant role, possibly relating to washing, within the temple, as there was a higher ratio of inedible, fresh water shells compared to edible shellfish (de Moulins *et al.* 2017: 114). The thin-sections picked up on a small number (<2%) of shell fragments within the deposit composition, but they were present in 7/52 (13%) of the samples (Matthews *et al.* 62).

Like at Barbar, although with a lower proportion of cattle bones, ritual offerings would have allowed for a form of interaction between the divine and the living. The evidence from the thin-sections and the molluscs, suggests that rituals were far more complex than a simple food offering. This reinforces the idea of priests undertaking the position of servant to the gods. It also gives them a certain status as it is their responsibility to communicate with the gods and appease them through the rituals which would have been undertaken. Individuals may have been able to make offerings on non-religious days, but it is likely that they still would have had to have acted through the priestly agent. Furthermore, by practicing these specific religious

roles, the status of the priest would have been reinforced and given them a vital role within society. The status of the priests before their position is unknown; it is possible that they were high-status individuals that were selected by the king, or the role may have been available to people from all classes.

7.5 Conclusion

The stamp seals originating from Early Dilmun depict drinking scenes which suggest that feasting did occur, as the local production of seals would probably require imagery that was familiar to the Dilmunites (Al-Thani 2005: 213). Status would have been emphasized and a recurring feature of feasts: whether someone was invited, status of the other guests, and where people were sat, amongst other status-laden aspects. Status was also continuously reinforced for priests through the practicing of religious rituals. Status was not static however, which may have allowed for people to increase their social standing with positions such as priesthoods. The flexibility of status can also be witnessed through the deceased's ability, or more specifically, the ability of the deceased's family, to manipulate an individual's status dependent on the food offerings placed in the grave. Food offerings appeared to suggest different status, especially regarding the difference between sheep and goats. Like diet, it appears that feasting and food offerings were susceptible to gender roles. The extent to which this occurred in burial practices is less clear. Overall, the feasting and food offerings which occurred during the Early Dilmun reflect the social complexity visible in everyday diet, but also within material culture, architecture and burial mounds.

Chapter 8 – Conclusion

8.1 Introduction

This paper has explored the role of food and feasting in regard to social organisation in Early Dilmun. Animal bones, archaeobotanical remains, human skeletal remains, architecture, and the iconography of stamp seals have been examined and discussed in relation to age, sex and gender, and status. Additionally, dietary differences between settlements were explored in order to garner a better understanding of what affect diet may have had on the social organisation and hierarchy within Dilmun. This chapter will summarise the main arguments and will offer suggestions on why and how diet affected the social organisation in the Early Dilmun. Finally, this chapter will conclude with a brief discussion on what future studies could contribute to the understanding of diet and feasting in Dilmun.

8.2 Social Organisation in Early Dilmun

By Period IIa-c, Dilmun has become increasingly complex, both socially, administratively, and economically. Studying the preparation, presentation, and consumption of food and alcohol, in both everyday practices and larger commensal feasts can help understand and provide interpretations on how gender, status, and relationships were performed and portrayed within Dilmun society.

Unsurprisingly, social status was visible within the archaeological food record. Whilst foods were similar across and between settlements; the quality of the cuts of meat, in addition to the age of the animal, and to what extent a particular species was incorporated into the diet, were all indicative of social status. The role of archaeobotanical remains in relation to status was not as visible, but diet likely reinforced social positions. Wild mammals and turtles suggest hunting was present and whilst it contributed only minimally to the diet, it is probable that hunted animals were a high-status food item. Whether the wealthy and upper echelons of society hunted the animals themselves for sport, or just bought the prized meat is unknown.

Whilst foods could reinforce social standing, it may also have provided the opportunity for manipulation of status as well. If burial practices and religious beliefs were similar to that of the Sumerian's, then the presence of wealthier grave goods or higher-status foods being placed within the grave may have allowed for an individual's status to improve once they moved on into the afterlife.

In regard to feasting, the archaeological evidence in Dilmun is minimal. However, the iconography on a number of stamp seals suggests that feasts, but more specifically, alcohol played an important role in bonding, forming alliances, as well as seeing the world in a new light. Religious dedications might also be indicative of feasting, regardless of whether humans were involved in the consumption of the food, the preparation and presentation of foods to give to the gods resulted in a renewal of relationships between the person and the divine, as well as between individuals and the religious administrative.

The role of gender regarding food was also a crucial aspect of social organisation in the Early Dilmun. Skeletal remains suggested that diet varied between sexes in some manners, namely the increased number of caries for women, which possibly reflects how dates were being eaten at the time. Furthermore, the absence of women on stamp seals that depict drinking scenes suggests a probable gendered element to feasting. It is feasible that women were involved in preparing food and alcohol for the feast but were not included within the guests. Another alternative is that women were present and involved but were not depicted in the iconography at the time. However, both possibilities indicate that inequality between genders was a factor in Dilmun life. It is also highly likely that the role of priest was a male role and as a result, the presenting of food became a masculine role when involved with the divine.

Whilst there are many contributing factors to identity, gender and status are two such facets that social organisation was based upon. In the Early Dilmun, food and diet could reflect aspects of individual's and their families' identities, and this would have shaped how people interacted with them and how social bonds were formed. The everyday meal had a more powerful impact on social organisation than is often credited; the embedded and habitual nature of food preparation, cooking

and consumption would have highlighted but reinforced social standing. At the same time, the feasts had another significant role; like the normal diet, it could reinforce social bonds on a larger scale, but it could also transform the living, with the aid of alcohol, and could also connect the living with the deceased and the gods.

8.3 Further Study

As previously mentioned, a large number of mounds have been excavated without any data being published. In addition, Barbar, Saar, and Qala'at al-Bahrain are the only extensively excavated and published sites within Bahrain. Hopefully within the near future, other settlements will be excavated in order to explore the similarities and/or differences between diet and feasting practices in smaller settlements. This will be helpful for better understanding the role of settlements besides Qala'at al-Bahrain and how such sites were organised socially, economically and administratively. Further excavations at Tell F3 would also be useful, as the preparation of meals, and therefore how people interacted with food and one another, appears different than what was practiced in Bahrain.

Whilst there are numerous ways in which knowledge of the Early Dilmun could be expanded, further skeletal analysis would be particularly useful in understanding social roles and life in Early Dilmun. In particular, isotope analysis, if possible, would be very beneficial to understanding diet and could potentially highlight more elusive patterns in social behaviour. Residue analysis of ceramics from the burials would also be advantageous; if Katz (2007: 171) is correct that burial practices replicate the everyday meal, it might shed light on the components of the meal. Even if it is not the case, it would confirm suspicions of food besides animal remains in the mortuary practices.

Finally, I believe scholars need to engage more with gender studies in relation to Early Dilmun. The 2017 release of Steffen Terp Laursen's *The Royal Mounds of A'ali in Bahrain: The Emergence of Kingship in Early Dilmun* engages deeply with theory, particularly in regard to identity and death, and provides a better understanding of the social complexity in Dilmun but fails to engage with the role of women.

Despite limited data and research that is available for study, I have attempted to provide a detailed, theoretical approach to understanding diet and feasting and how it is guided by and affects social organisation within Early Dilmun. Hopefully, future research and more scientific analyses will enable us to further explore the topic.

Abstract

This study combines theoretical approaches towards diet, feasting, and social organisation with the archaeology of Early Dilmun to further the understanding of Early Bronze Age society in Bahrain and on Failaka Island. This research attempts to explore how relationships were forged, and subsequently renegotiated, through food and drink, and what affect this would have on society.

The data used to explore the social connotations of food within Dilmun is comprised of faunal remains, archaeobotanical remains, human skeletal remains, the architecture of cooking facilities, and stamp seals. Aspects of Sumerian myths, rituals, and beliefs are also incorporated in parts. The faunal remains largely come from burial mounds and settlements, however sites such as the Barbar temples are also examined. The compiled data was then studied in regard to age, gender, sex, and status. The relationships between the living and the dead, as well as between the living and the gods was also explored.

Whilst further study would be beneficial, with particular emphasis on isotopic analysis of human teeth and residue analysis of the ceramic deposits in graves, the research did extrapolate some possible patterns that could reflect the social values of Early Dilmun: gender disparity seemed to occur with the absence of women from drinking scenes. Furthermore, analysis of human teeth also suggested some difference in diets between the two sexes. Whereas, age shows no distinct patterns that would suggest that the population underwent major dietary changes for social reasons.

Dilmun between 2250-1750 BC was undergoing a transformative process where society, status and organisation became more complex. This is reflected by increasingly elaborate burial practices and rituals. It also allows for diet to reflect on social inequality between houses, areas, and settlements. The three main settlements that were compared with one another were Tell F3 on Failaka, Saar, and Qala'at al-Bahrain in Bahrain. The three sites varied in their functions: Tell F3 was likely a trading outpost for Mesopotamia and the rest of the Gulf, Saar was a small town, and Qala'at al-Bahrain was the capital of Dilmun. Therefore, the social and administrative organisation, as well as the economy, seemed to greatly vary and that was reflected in the diet.

The food, and the practices associated with the food, in many ways mirrored the emergence of the increasingly complex society, which enabled better understanding of Dilmun regarding status and social organisation in the Early Bronze Age.

Bibliography

- Abu-Laban, A., Højlund, F. 2016. Phase 2. The thick-walled buildings in Periods 1-2. In F. Højlund and A. Abu-Laban (eds.) *Tell F6 on Failaka Island: Kuwaiti-Danish Excavations 2008-2012* pp. 31-35. Aarhus: Jutland Archaeology Society.
- Al-Khalifa, S.H.A., Rice, M. 1986. *Bahrain through the ages: the Archaeology*. London: Routledge.
- Al-Mughannam, A.S., Warwick, J. 1986. Excavations of the Dhahran Burial Mounds, Third Season, 1405/1985-1986. *Atlat* 10: 9-55.
- Al-Thani, H. 2005. *Making Dilmun Seals Speak: Stylistic Elements of Dilmun Glyptics and their Implications for Social and Economic Life in Early Dilmun c. 2000-1800 BCE*. PHD Thesis. University College London.
- Ashkanani, H.J., Tykot, R.H. 2013. Interregional Interaction and Dilmun Power in the Bronze Age: A Provenance Study of Ceramics from Bronze Age Sites in Kuwait and Bahrain Using Non-Destructive pXRF Analysis. In R.A. Armitage, J.H. Burton (eds.) *Archaeological Chemistry VIII* pp. 245-267. Washington: American Chemical Society.
- Babić, S. 2005. Status, identity and archaeology. In M. Diraz-Andreu, S. Lucy, S. Babić, D.N. Edwards (eds.) *The Archaeology of Identity* pp. 67-85. London: Routledge.
- Bangsgaard, P. 2003. Animal Bones from the Barbar Temple. In H. Andersen and F. Højlund (eds.) *The Barbar Temples vol. 2: Appendices* pp. 7-16. Manama: Ministry of Information.
- Barta, P., Benediková, L., Ďuriš, J. 2010. Settlement patterns and stratigraphy of the site. In L. Benediková (ed.) *Al-Khidr 2004-2009: Primary Scientific Report on the Activities of the Kuwaiti-Slovak Archaeological Mission* pp. 32-54. Kuwait: National Council for Culture, Arts & Letters.
- Barta, P., Benediková, L., Hajnalová, M., Miklíková, Z., Belanová, T., Shehab, A.H. 2008. Al-Khidr on Failaka Island: Preliminary Results of the Fieldworks at a Dilmun Culture Settlement in Kuwait. *Tüba-Ar: Turkish Academy of Sciences Journal of Archaeology* 11: 121-134.
- Beech, M. 2010. Mermaids of the Arabian Gulf: Archaeological Evidence for the Exploitation of Dugongs from Prehistory to the Present. *LIWA* 2(3): 3-18.
- Benediková, L., Barta, P. 2010. Geography and Topography. In L. Benediková (ed.) *Al-Khidr 2004-2009: Primary Scientific Report on the Activities of the Kuwaiti-Slovak Archaeological Mission* pp. 13-17. Kuwait: National Council for Culture, Arts and Letters.
- Bibby, G. 1986. 'The land of Dilmun is holy...' In S.H.A. Al-Khalifa, M. Rice (ed.) *Bahrain through the ages: the Archaeology*. London: Routledge.
- Bray, T.L. 2003. The Commensal Politics of Early States and Empires. In T.L. Bray (ed.) *The Archaeology and Politics of Food and Feasting in Early States and Empires* pp. 1-13. New York: Kluwer Academic.

- Brück, J. 2004. Material metaphors: The relational construction of identity in Early Bronze Age burials in Ireland and Britain. *Journal of Social Archaeology* 4(3): 307-333.
- Brunke, H. 2011. Feasts For The Living, The Dead, and The Gods. In K. Radner, E. Robson (eds.) *The Oxford Handbook of Cuneiform Culture* pp. 168-184. Oxford: Oxford University Press.
- Catliotti-Valdina, J. 1994. Shells. In F. Højlund, H.H. Andersen (eds.) *Qala'at al-Bahrain. Volume 1: The Northern City Wall and the Islamic Fortress* pp. 455-458. Moesgaard: Jutland Archaeological Society.
- Crawford, H. 2001. *Early Dilmun Seals from Saar: Art and Commerce in Bronze Age Bahrain*. Ludlow: Archaeology International.
- Crawford, H. 1997. The site of Saar: Dilmun reconsidered. *Antiquity* 71: 701-708.
- Crawford, H., Moon, J. 2017. Early Dilmun and the Saar Settlement. In H. Crawford, R. Killick, J. Moon (eds.) *The Dilmun Temple at Saar* pp. 1-14. Ludlow: Moonrise Press.
- de Moulins, D., Moon, J., Irving, B., Glover, E. 2017. Food Remains. In H. Crawford, R. Killick, J. Moon (eds.) *Dilmun Temple at Saar* pp. 105-114. Ludlow: Moonpress.
- Denton, B.E., Al-Sindi, K.M. 1996. An Unusual Cylinder Seal from the Cemetery of Hamad Town on Bahrain. *Arabian archaeology and epigraphy* 7: 188-194.
- Dietler, M. 2011. Feasting and Fasting. In T. Insoll (ed.) *The Oxford Handbook of the Archaeology of Ritual and Religion* pp. 180-195. Oxford: Oxford University Press.
- Dietler, M. 2006. Alcohol: Anthropological/Archaeological Perspectives. *Annual Review of Anthropology* 35: 229-249.
- Dobney, K.M., Jaques, D. 1994. Preliminary report on the animal bones from Saar. *Arabian archaeology and epigraphy* 5: 106-120.
- Douglas, M. 2003. A distinctive anthropological perspective. In M. Douglas (ed.) *Constructive Drinking* pp. 3-15. London: Routledge.
- During Caspers, E.C.L. 1984. Dilmun: International Burial Ground. *Journal of the Economic and Social History of the Orient* 27: 1-32.
- Fiddes, N. 1991. *Meat: A Natural Symbol*. London: Routledge.
- Fowler, C. 2004. *The archaeology of personhood: an anthropological approach*. London: Routledge.
- Frazier, J. 2003. Prehistoric and Ancient Historic Interactions between Humans and Marine Turtles. In P.L. Lutz, J.A. Musick, J. Wyneken (eds.) *Biology of Sea Turtles, Volume II* pp. 1-38. CRC Press.
- Frohlich, B. 1986. The human biological history of the early Bronze Age population in Bahrain. In S.H.A. Al Khalifa and M. Rice (eds.) *Bahrain through the ages: the archaeology* pp. 47-63. London: Routledge.
- Gilchrist, R. 2009. Sex and Gender. In C. Gosden, B. Cunliffe, R.A. Joyce (eds.) *The Oxford Handbook of Archaeology* pp. 1030-1048. Oxford: Oxford University Press.

- Glover, E. 1995. Molluscan evidence for diet and environment at Saar in the early second millennium BC. *Arabian archaeology and epigraphy* 6: 157-179.
- Hajnalová, M. 2010. Archaeobotany at Al-Khidr. In L. Benediková (ed.) *Al-Khidr 2004-2009: Primary Scientific Report on the Activities of the Kuwaiti-Slovak Archaeological Mission* pp. 254-265. Kuwait: National Council for Culture, Arts and Letters.
- Halstorf, C.A. 2017. *The Social Archaeology of Food*. New York: University of Cambridge Press.
- Hamilakis, Y. 2011. Archaeologies of the Senses. In T. Insoll (ed.) *The Oxford Handbook of the Archaeology of Ritual and Religion* pp. 208-225. Oxford: Oxford University Press.
- Harris, O.J.T., Cipolla, C.N. 2017. *Archaeological Theory in the New Millennium: Introducing Current Perspectives*. London: Routledge.
- Head, R.J. 2013. The Politics of Feasting in the Ancient Near East. In D.L. Belnap (ed.) *By Our Rites of Worship: Latter Day Saint Views on Ritual in Scripture, History and Practice* pp. 69-82. Utah: Religious Studies Center.
- Højlund, F. 2016a. Introduction. In F. Højlund and A. Abu-Laban (eds.) *Tell F6 on Failaka Island: Kuwaiti-Danish Excavations 2008-2012* pp. 7-12. Aarhus: Jutland Archaeology Society.
- Højlund, F. 2016b. Summary and conclusions. In F. Højlund and A. Abu-Laban (eds.) *Tell F6 on Failaka Island: Kuwaiti-Danish Excavations 2008-2012* pp. 251-260. Aarhus: Jutland Archaeology Society.
- Højlund, F. 2013. Dilmun: Beyond the Southern Frontier of Mesopotamia. In S. Bergerbrant, S. Sabatini (eds.) *Counterpoint: Essays in Archaeology and Heritage Studies in Honour of Professor Kristian Kristiansen* pp. 541-547. Oxford: BAR 2508.
- Højlund, F. 2007. *The Burial Mounds of Bahrain: Social Complexity in Early Dilmun*. Moesgaard: Jutland Archaeological Society Publications.
- Højlund, F. 1997. Dating Evidence. In F. Højlund and H.H. Andersen (eds.) *Qala'at al-Bahrain. Volume 2: The Central Monumental Buildings* pp. 27-33. Moesgaard: Jutland Archaeological Society.
- Højlund, F. 1990. Date Honey Production in Dilmun in the mid 2nd millennium BC: Steps in the Technological Evolution of the Madbasa. *Paléorient* 16(1): 77-86.
- Højlund, F., Andersen, H.H. 1997. The Early Dilmun palace. In F. Højlund and H.H. Andersen (eds.) *Qala'at al-Bahrain. Volume 2: The Central Monumental Buildings* pp. 16-26. Moesgaard: Jutland Archaeological Society.
- Højlund, F., Andersen, H.H. 1994. The Barbar and pre-Barbar horizon. In F. Højlund, H.H. Andersen (eds.) *Qala'at al-Bahrain. Volume 1: The Northern City Wall and the Islamic Fortress* pp. 59-68. Moesgaard: Jutland Archaeological Society.

- Højlund, F., Bangsgaard, P., Hansen, J., Haue, N., Kjærum, P., Lund, D.D. 2005. New excavations at the Barbar Temple, Bahrain. *Arabian Archaeology and Epigraphy* 16: 105-128.
- Ibrahim, M. 1982. *Excavations of the Arab Expedition at Sar El-Jisr, Bahrain*. Manama: Ministry of Information.
- Jennings, J., Antrobus, K.L., Atencio, S.J., Glavich, E., Johnson, R., Loffler, G., Luu, C. 2005. Drinking Beer in a Blissful Mood: Alcohol Production, Operational Chains and Feasting in the Ancient World. *Current Archaeology* 46(2): 275-303.
- Joffe, A.H. 1998. Alcohol and Social Complexity in Ancient Western Asia. *Current Anthropology* 39(3): 297-322.
- Katz, D. 2007. Sumerian Funerary Rituals in Context. In N. Laneri (ed.) *Performing Death: Social Analyses of Funerary Traditions in the Ancient Near East and Mediterranean* pp. 167-188. Chicago: Oriental Institute Chicago.
- Killick, R. 2005. The Archaeological Sequence. In R. Killick, J. Moon (eds.) *The Early Dilmun Settlement at Saar* pp. 7-24. Ludlow: Archaeology International Ltd.
- Killick, R. 2005. Individual buildings in detail. In R. Killick, J. Moon (eds.) *The Early Dilmun Settlement at Saar* pp. 25-148. Ludlow: Archaeology International Ltd.
- Killick, R., Moon, J. 2005. Social and economic organization. In R. Killick, J. Moon (eds.) *The Early Dilmun Settlement at Saar* pp. 347-352. Ludlow: Archaeology International Ltd.
- Kjærum, P. 1994. Stamp-seals. In F. Højlund, H.H. Andersen (eds.) *Qala'at al-Bahrain. Volume 1: The Northern City Wall and the Islamic Fortress* pp. 319-350. Moesgaard: Jutland Archaeological Society.
- Kjærum, P. 1983. *Failaka/Dilmun: The Second Millennium Settlements. Volume 1: The Stamp and Cylinder Seals*. Aarhus: Jutland Archaeological Society.
- Kjærum, P., Højlund, F. 2013. *Failaka/Dilmun: The Second Millennium Settlements. Volume 3: The Bronze Age Architecture*. Aarhus: Jutland Archaeological Society.
- Kramer, S.N. 1963. Dilmun: Quest for Paradise. *Antiquity* 37: 111-115.
- Kveiborg, J. 2007. Animal bones from the Aali, Saar and Dar Kulayb mound cemeteries. In F. Højlund (ed.) *The Burial Mounds of Bahrain: Social Complexity in Early Dilmun* pp. 149-154. Moesgaard: Jutland Archaeological Society Publications.
- Lamberg-Karlovsky, C.C. 1982. Dilmun: Gateway to Immortality. *Journal of Near Eastern Studies* 41(1): 45-50.
- Larsen, C.E. 1986. Variation in Holocene land use patterns on the Bahrain Islands: construction of a land use model. In S.H.A. Al-Khalifa, M. Rice (eds.) *Bahrain through the ages: the Archaeology* pp. 25-46. London: Routledge.
- Larsen, C.E. 1983. *Life and Land Use on the Bahrain Islands*. Chicago: University of Chicago Press.

- Laursen, S.T. 2017. *The Royal Mounds of A'ali in Bahrain: The Emergence of Kingship in Early Dilmun*. Moesgaard: Jutland Archaeological Society.
- Littleton, J., Frohlich, B. 1993. Fish-Eaters and Farmers: Dental Pathology in the Arabian Gulf. *American Journal of Physical Anthropology* 92: 427-447.
- Littleton, J., Frohlich, B. 1989. An Analysis of Dental Pathology and Diet on Historic Bahrain. *Paléorient* 15(2): 59-75.
- Lucy, S. 2005. The archaeology of age. In M. Diaz-Andreu, S. Lucy, S. Babić, D.N. Edwards (eds.) *The Archaeology of Identity* pp. 43-66. London: Routledge.
- Magee, P. 2014. *The Archaeology of Prehistoric Arabia: Adaptation and Social Formation from the Neolithic to the Iron Age*. New York: Cambridge University Press.
- Makharadze, Z., Kvirkvelia, G., Murvanidze, B., Chkhvimiani, J., Ad Duweish, S., Al Mutairi, H., Lordkipanidze, D. 2017. Kuwait-Georgian Archaeological Mission – Archaeological Investigations on the Island of Failaka in 2011-2017. *Bulletin of the Georgian National Academy of Sciences* 11(4): 177-186.
- Matthews, W., French, C. 2005. Domestic space at Saar: the microstratigraphic evidence. In R. Killick, J. Moon (eds.) *The Early Dilmun Settlement at Saar* pp. 325-338. Ludlow: Archaeology International Ltd.
- Matthews, W., French, C., Lawrence, T., Cuttler, D., Jones, M. 2017. Activities inside the Temple: the Evidence of Microstratigraphy. In H. Crawford, R. Killick, J. Moon (eds.) *Dilmun Temple at Saar* pp. 51-71. Ludlow: Moonpress.
- Mikliková, Z. 2010. Animal bones from Al-Khidr. In L. Benediková (ed.) *Al-Khidr 2004-2009: Primary Scientific Report on the Activities of the Kuwaiti-Slovak Archaeological Mission* pp. 266-274. Kuwait: National Council for Culture, Arts and Letters.
- Morris, B. 1998. *The Power of Animals: An Ethnography*. Oxford: Berg.
- Mughal, M.R. 1983. *The Dilmun Burial Complex at Saar: The 1980-1982 Excavations in Bahrain*. Manama: Ministry of Information.
- Münzner, M. 2014. The Dilmun Burial Mounds of Bahrain: An introduction to the site and the importance of awareness raising towards successful preservation. *DigIt* 2(1): 12-18.
- Nelson, G.C., Lukacs, J.R., Yule, P. 1999. Dates, Caries, and Early Tooth Loss During the Iron Age of Oman. *American Journal of Physical Anthropology* 108: 333-343.
- Nesbitt, M. 1993. Archaeobotanical evidence for early Dilmun diet at Saar, Bahrain. *Arabian archaeology and epigraphy* 4: 20-47.
- Olijidam, E. 2010. Probing the Early Dilmun funerary landscape: a tentative analysis of grave goods from non-elite adult burials from City IIA-c. In L. Weeks (ed.) *Death and Burial in Arabia and Beyond* pp. 141-152. Oxford: Archaeopress.

- Olijdam, E. 2001. Exploitation of sea turtles in the early Dilmun period (c. 2100-1900 BC). In *Proceedings of the Seminar for Arabian Studies 31*: 195-202. London: Brepols.
- Pollock, S. 2015. Towards an archaeology of commensal spaces. An introduction. In S. Pollock (ed.) *Between Feasts and Daily Meals* pp. 7-28. Berlin: Tupoi.
- Pollock, S. 2003. Feasts, Funerals and Fast Food in Early Mesopotamian States. In T.L. Bray (ed.) *The Archaeology and Politics of Food and Feasting in Early States and Empires* pp. 17-38. New York: Kluwer Academic.
- Potts, D.T. 2003. Date Palms and Date Consumption in Eastern Arabia During the Bronze Age. In The Emirates Center for Strategic Studies and Research (ed.) *The Date Palm: From Traditional Resource to Green Wealth* pp. 33-50. New York: I.B. Tauris.
- Potts, D.T. 1990. *The Arabian Gulf in Antiquity*. Oxford: Clarendon Press.
- Rice, M. 2003. The British Contribution to the Archaeology of Bahrain: The Early Years. In H. Crawford (ed.) *The Archaeology of Bahrain: The British Contribution* pp. 1-6. Oxford: BAR 1889.
- Rice, M. 2002. *Archaeology of the Arabian Gulf*. London: Routledge.
- Roaf, M. 2003. Excavations at Diraz East and A'ali East. In H. Crawford (ed.) *The Archaeology of Bahrain: The British Contribution* pp. 25-29. Oxford: BAR 1889.
- Roderick, P. 2014. *Alcohol: a history*. North Carolina: University of North Carolina Press.
- Russell, N. 2012. *Social Zooarchaeology: Humans and Animals in Prehistory*. Cambridge: Cambridge University Press.
- Scurlock, J. 2002. Animal Sacrifice in Ancient Mesopotamian Religion. In B.J. Collins (ed.) *A History of the Animal World in the Ancient Near East* pp. 389-404. Leiden: Brill.
- Smith, M.L. 2015. Feasts and Their Failures. *Journal of Archaeological Method and Theory* 22: 1215-1237.
- Soweilah, A. 1995. A Typology of Dilmun Burial Mounds. In S. Campbell, A. Green (eds.) *The Archaeology of Death in the Ancient Near East* pp. 196-198. Oxford: Oxbow.
- Tengberg, M. 2012. Beginnings and early history of date palm garden cultivation in the Middle East. *Journal of Arid Environments* 86: 139-147.
- Thomas, R. 2007. Food and the Maintenance of Social Boundaries in Medieval England. In K. Twiss (ed.) *The archaeology of food and identity* pp. 130-151. Carbondale, IL: Center for Archaeological Investigations.
- Thomason, A.K. 2016. The Sense-scapes of Neo-Assyrian Capital Cities: Royal Authority and Bodily Experience. *Cambridge Archaeological Journal* 26(2): 243-264.
- Timeline*, Dilmun Hall – Permanent Exhibition, Bahrain National Museum, Manama. Visited 7th January 2018.
- Twiss, K. 2012. The Archaeology of Food and Social Diversity. *Journal of Archaeological Research* 20(4): 357-395.

- Twiss, K. 2007. We are what we eat. In K. Twiss (ed.) *The archaeology of food and identity* pp. 1-15. Carbondale, IL: Center for Archaeological Investigations.
- Uerpmann, H., Uerpmann, M. 2008. Trading Mesopotamian Sheep to the Lower Gulf and Beyond? In E. Olijdam and M. Uerpmann (eds.) *Intercultural Relations Between South and Southwest Asia. Studies in Commemoration of E.C.L During Caspers (1934-1996)* pp. 72-77. Oxford: BAR S1826.
- Uerpmann, H., Uerpmann, M. 2005. Animal bone finds and their relevance to the ecology and economy of Saar. In R. Killick, J. Moon (eds.) *The Early Dilmun Settlement at Saar* pp. 293-308. Ludlow: Archaeology International Ltd.
- Uerpmann, H., Uerpmann, M. 1999. The animal economy of ancient Dilmun in the light of faunal remains from excavations at Saar and Qala'at al-Bahrain. *Isimu 2*: 635-646.
- Uerpmann, H., Uerpmann, M., Van Neer, W. 1997. Animal bones from Excavation 519 at Qala'at al-Bahrain. In F. Højlund and H.H. Andersen (eds.) *Qala'at al-Bahrain. Vol 2: The Central Monumental Buildings* pp. 235-264. Aarhus: Aarhus University Press.
- Willcox, G. 1990. The plant remains from Hellenistic and Bronze Age levels at Failaka, Kuwait. A preliminary report. In Y. Calvet and J. Gachet-Bizollon (eds.) *Failaka: Fouilles Francaises 1986-1988*. Lyon: GDR Maison de l'Orient.
- Yeomans, L. 2016. Animal bones. In F. Højlund and A. Abu-Laban (eds.) *Tell F6 on Failaka Island: Kuwaiti-Danish Excavations 2008-2012* pp. 228-238. Aarhus: Jutland Archaeology Society.

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