

ARCHAEOLOGICAL EVIDENCE FOR THE CONSUMPTION OF TOBACCO AND COFFEE IN OTTOMAN ARABIA

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This thesis is to examine the nature of the archaeological evidence for coffee and tobacco consumption in Arabia during the Ottoman period (sixteenth through the early twentieth centuries). The data used in this study are culled from survey projects carried out in Saudi Arabia during the Comprehensive Survey Program (1976 – 1981). I have refined the dates of the tobacco pipes (*chibouks*), which will allow for a finer grain chronology for the spread of coffee and tobacco based on the material culture. Additionally, pottery parallels used in conjunction with the tobacco pipe material will aid in refining the chronology for Ottoman-period sites in northern Arabia. A large portion of this project also involves an evaluation of the methodological issues facing researchers who are attempting to study Ottoman-period components in the Middle East, as revealed in the gross survey reports from Saudi Arabia. A final facet of this project is to draw a link between the artifacts associated with coffee and tobacco consumption, and the types of sites where they are found. By distinguishing the site types associated with coffee and tobacco through the analysis of archaeological finds, we can access a clearer picture of the distribution of those artifacts in Arabia that are associated with coffee drinking and tobacco smoking in order to tell where and whom was engaging in these activities.

ARCHAEOLOGICAL EVIDENCE FOR THE CONSUMPTION OF TOBACCO AND COFFEE IN
OTTOMAN ARABIA

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TABLE OF CONTENTS

LIST OF TABLES AND ILLUSTRATIONS.....	viii
CHAPTER 1: INTRODUCTION.....	1
Purpose of Study.....	1
Chronological Terminology.....	2
Hypotheses.....	3
History of the Arabian Peninsula from the Sixteenth through the Early Twentieth Centuries, The Ottoman Period.....	3
Overview of Ottoman Archaeology in the Middle East.....	8
Saudi Arabian Attitudes Towards Ottoman Archaeology.....	10
CHAPTER 2: HISTORY AND ARCHAEOLOGICAL SIGNATURE OF COFFEE AND TOBACCO CONSUMPTION IN THE MIDDLE EAST IN THE SIXTEENTH THROUGH THE EARLY TWENTIETH CENTURIES.....	13
Introduction of Tobacco to the Middle East.....	13
The Availability of Tobacco and Pipes in Arabia.....	16
Archaeology and the Consumption of Tobacco.....	18
Early styles of pipe-bowls in the seventeenth century.....	24
The variety of the eighteenth century.....	24
The standardization of the nineteenth century.....	26
The end of clay tobacco pipes in the twentieth century.....	26
Introduction of Coffee into the Middle East.....	27
The Availability of Coffee in Arabia.....	29
Archaeology and the Consumption of Coffee.....	31
CHAPTER 3: THE COMPREHENSIVE SURVEY OF SAUDI ARABIA.....	39
Introduction.....	39

The Comprehensive Survey.....	40
Comments on the Reports from <i>Atlal</i>	49
Conclusion.....	51
CHAPTER 4: ARCHAEOLOGICAL EVIDENCE FOR THE CONSUMPTION OF TOBACCO AND COFFEE IN OTTOMAN-PERIOD SAUDI ARABIA.....	52
The Assemblage.....	61
Central and Southwestern Provinces.....	62
206-48.....	63
210-15.....	64
210-48 and 210-62.....	65
Southwestern Province.....	66
217-79.....	67
Western Province.....	68
210-221.....	68
Northwestern and Northern Provinces.....	70
204-157 and 205-75.....	70
Ar-Rowdah North.....	71
CHAPTER 5: REDATING THE PIPES AND THE PORCELAIN CUPS.....	73
The Dates of Tobacco Pipes Found in Saudi Arabia.....	75
The Dates of Coffee Cups Found in Saudi Arabia.....	80
CHAPTER 6: DISCUSSION AND CONCLUSIONS.....	87
Site Structure.....	87
Explanations for the Distribution of Tobacco Pipes and Coffee Cups.....	91

Role of the environment.....	91
Role of the survey methods and recovery.....	94
Trafficked trade routes.....	95
Material culture associated with the use of tobacco and coffee imported.....	98
Alternative smoking paraphernalia.....	99
Methodological Considerations: Dating by Typology.....	100
Conclusions.....	103
Future Research.....	104
REFERENCES.....	105
APPENDIX A (copyright forms).....	116

TABLES

Table 3.1 Survey methodologies.....	45
Table 4.1 Survey reports containing Ottoman-period artifacts.....	53
Table 4.2 Tobacco pipes recovered during Comprehensive Survey Program.....	58
Table 4.3 Coffee cups recovered during Comprehensive Survey Program.....	60
Table 5.1 Tobacco pipe-bowl parallels and dates.....	76
Table 5.2 Coffee cup parallels and notes.....	81

ILLUSTRATIONS

Fig. 1.1 Map of the Ottoman Empire 1881 – 1912.....	5
Fig. 2.1 The <i>chibouk</i> and the European kaolin pipe.....	20
Fig. 2.2a Parts of the pipe-bowl.....	21
Fig. 2.2b Parts of the pipe-bowl.....	22
Fig. 2.3 Pipes available in Rosetta during the French occupation of Egypt.....	25
Fig. 2.4 Coffee houses (a) Turkish (b) Damascene (c) Arabian.....	30
Fig. 2.5 Coffee cups.....	32
Fig. 3.1 Map of Survey Provinces.....	42
Fig. 6.1 Map showing the distribution/site types where tobacco pipes and coffee cups were recovered.....	88
Fig. 6.2 Close-up of sites with tobacco pipes and coffee cups in the Mecca-Taif region.....	89
Fig. 6.3 Physical map of Saudi Arabia.....	92
Fig. 6.4 Saudi Arabia, main regions and cities.....	93
Fig. 6.5 Map showing the proximity of recovery sites to major highways.....	94
Fig. 6.6 Pilgrim routes up to the late nineteenth century.....	97

Chapter 1: Introduction

Purpose of Study

This project will determine the nature of the archaeological evidence for coffee and tobacco consumption in Arabia during the Ottoman period (sixteenth through the early twentieth centuries). The data used in this study are culled from survey projects carried out in Saudi Arabia during the Comprehensive Survey Program (1976 – 1981), whose reports are published in *Atlat: The Journal of Saudi Arabian Archaeology*. As part of this project, I have refined the dates of the tobacco pipes, which will allow for a finer grain chronology for the spread of coffee and tobacco material culture. Additionally, pottery parallels used in conjunction with the tobacco pipe material will aid in refining the chronology for Ottoman-period sites in northern Arabia. A large portion of this project also involves an evaluation of the methodological issues facing researchers who are attempting to study Ottoman-period components in the Middle East, as revealed in the survey reports from Saudi Arabia. A final facet of this project is to draw a link between the artifacts associated with coffee and tobacco consumption, and the types of sites where they are found. By attempting to distinguish the site types associated with coffee and tobacco through the analysis of archaeological finds, we can access a clearer picture of the distribution of those artifacts in Arabia that are associated with coffee drinking and tobacco smoking in order to tell where and whom was engaging in these activities. The archaeological evidence could provide interesting insights to Muslim behavior in the Ottoman period with regards to the legality of coffee drinking and tobacco smoking versus the actual, and at some time illegal, use of these substances.

We know from historical documentation about the use of coffee and tobacco in urban areas; the archaeological record provides the evidence for the spread and embeddedness of the consuming behaviors across all sectors and regions of the empire. (Baram 1999: 140)

Chronological Terminology

The Ottoman period in the Middle East is sometimes referred to as the Late Islamic period. For the purposes of this project, I am following the archaeological chronology preliminarily established by Whitcomb (1978) during his analysis of Islamic material culture recovered by the Survey Program from the al-Hasa oasis region in the Eastern province, supplemented by his later work on the chronology of medieval Islamic periods in Jordan (1997). Whitcomb found that after the Early Islamic period, ceramic types continue to be used in later periods, and thus while proving a cultural continuity, they make period designations very difficult between the Middle and Late Islamic periods (Whitcomb 1978: 98). The chronology he established (with a small modification of the Late Islamic II) is as follows: the Early Islamic period (600 – 1000 CE) corresponds roughly to the Umayyad and Abbasid periods; Middle Islamic I (1000-1200 CE) covers the Fatimid and part of the Crusader and Ayyubid periods; Middle Islamic II (1200 – 1400 CE) is early Mamluk; Late Islamic I (1400 – 1600 CE) is late Mamluk-early Ottoman; Late Islamic II (1600 – [1900] CE) corresponds to the Ottoman period (Walker 1999: 207). The Late Islamic periods are the most relevant to this project, as they include the entire Ottoman period and are characterized by the introduction of a number of imported ceramics, the first being Chinese porcelains (Whitcomb 1978: 103). In general, the material culture of the Late Islamic period reflects the increasingly strong interregional contacts of the day (Whitcomb 1978: 104). However, it should be noted, whether this archaeological chronology holds true to other areas within Saudi Arabia remains to be tested. This is the ongoing issue of

establishing firm regional chronologies based on the material culture when securely dated comparative samples are lacking.

Hypotheses

- 1) Pipes and coffee cups will be found in association with each other on Ottoman-period sites in Saudi Arabia.
- 2) There will be multiple varieties of pipes and cups on sites.
- 3) Pipes and cups will occur more commonly at sites associated with major settlements in the Hijaz region and along major pilgrimage routes.
- 4) Tobacco and coffee use (as evidence by the appearance of pipes and cups in the archaeological record) will be more prevalent after the seventeenth century.

History of the Arabian Peninsula from the Sixteenth through the Early Twentieth Centuries, The Ottoman Period

The Ottoman Empire emerged around the turn of the thirteenth and fourteenth centuries, in the northwestern corner of the Anatolian peninsula, also known as Asia Minor. Donald Quataert (2000: 13), an Ottomanist at Binghamton argues that the context for the rise and expansion of the state was: Turkish nomadic invasions that shattered the remnants of the central Byzantine state domination in Asia Minor (of which the Ottomans were one of many other Turkish players vying for control of the region); a Mongol invasion of the Middle East that brought chaos and increased population pressure on the frontiers; Ottoman policies of pragmatism and flexibility that attracted a host of supporters regardless of religion and social rank; and luck, that placed the Ottomans in the geographic position that controlled nomadic access to the Balkans, thus rallying additional supporters. Moreover, it was in the sixteenth century, under the rule of Sultan Süleyman the Lawgiver,

that the Ottomans experienced their golden age through a series of campaigns resulting in a vast expansion of their empire.

The sixteenth century was a time of great struggle for both the leadership of Islam and control of the Middle East (Lewis 1995: 114). The Ottomans were in constant battle with the Safavids of Iran. After a small victory by which the Ottomans were able to put the Safavids into check, they then gained enough strength to overthrow the Mamluk sultanate, which had dominated Egypt, Syria, and western Arabia for two and a half centuries. In a short war in 1516-17, the Ottomans put an end to the Mamluk regime in the Arabic-speaking nations, and brought these lands under their rule (Lewis 1995: 114). From this moment on, Ottoman suzerainty extended westwards across North Africa as far as the border with Morocco, southwards down both the African and Arabian coasts of the Red Sea, and eastwards into the waters of the Indian Ocean. In the latter part of the sixteenth century, the Ottomans gained control of the region that is modern Iraq, extending their influence to the Persian Gulf. The Ottoman sultans now “ruled over the two holy cities of Mecca and Medina and the Arab heartlands of Islam, the Hijaz. The one added greatly to their prestige; the other, to their responsibilities” (Lewis 1995: 114). The Ottoman sultanate claimed legitimacy as the universal Sunnite Muslim State. In 1517, an Ottoman presence was felt in the Hijaz, as “small garrisons were stationed there [Jeddah] and in Mecca, Medina, and other towns” (Yamani 2004: 3). The Ottomans became the protectors of the *hajj*, the pilgrimage that every Muslim must perform at least once in a lifetime as mandated by the fifth pillar of Islam.

Initially, all of the Arabic-speaking countries, as well as Anatolia and southeastern Europe, were included in the Ottoman Empire under a bureaucratic state forming a single

administrative and fiscal system, the Porte, with its capital at Constantinople, now Istanbul (Hourani 1991: 231). After gaining control of the holy cities, it became important that the



Fig. 1.1 Map of the Ottoman Empire 1881 – 1912
(after Birken, A. Tübinger Atlas des Vorderen Orients (TAVO)
Title of the Map, TAVO B IX 12: The Ottoman Empire 1881-1912 (12)
Publisher: Dr. Ludwig Reichert Verlag 1981 in Wiesbaden)

sultan's government keep the Arab provinces under its control, which again validated its legitimacy as the supreme Muslim state. However, much of these Arab provinces were a long way from the capital in Istanbul. After the first conquests, different systems of government developed, with varying balances between central control and local power (Hourani 1991: 226). The Hashimite *Asharif* ('the honorable', singular: *Sharif* or *Sherif*), were the ruling Hijazi families claiming descent from the Prophet Mohammad by tracing their lineage to his daughter, Fatima, and his first cousin, Ali ibn Abi Talib (Yamani 2004: 3). Fatima's two sons, Hussain and Hasan, founded the two main branches of Sharifian descent so a Hasanid *Sharif* controlled Mecca, while a Husaynid *Sharif* controlled Medina (Hourani 1991: 251; Yamani 2004: 3). Although the Sultan was technically ruler of the Hijaz since 1517, the Ottomans allowed the *Asharif* to freely manage the holy cities (Yamani 2004: 3). Furthermore, parts of the Arabian Peninsula, including the central Najd and surrounding desert regions, were never politically tied to the Ottoman Empire, but were dominated by territorial tribes of pastoral Bedouins who inhabited the desert, and by sedentary agricultural groups on the peripheries of the desert and around oases (Salibi 1979: 71). The Ottomans failed twice in attempting to extend their control into the Najd, which remained autonomous as a result (al-Rasheed 2002: 14). Therefore, the use of 'Ottoman period' throughout this project is a term of convention, as an actual Ottoman presence was not entirely secure during the sixteenth through the early twentieth centuries, especially in all the regions that now form the Kingdom of Saudi Arabia.

In the early eighteenth century, a movement arose in the Najd when the religious reformer, Muhammad ibn Abdul Wahhab, began to preach the need for Muslims to return to the teachings of Islam, blaming the corruption the Ottomans had caused in the holy cities

of Mecca and Medina (Quataert 2000: 51). The early Wahhabis viewed the cosmopolitan Hijaz, “with its versatile religious traditions...[as] rife with impurity and heresy” (Yamani 2004: 4). By the mid- eighteenth century, the Al-Saud chieftains of an oasis settlement in the southern Najd, Dir’aiyah, became associated with this movement known as Wahhabism, a unitarian movement attempting to abolish all innovation following the third Islamic century in order to return to a former state of purity (Salibi 1979: 79; Yamani 2004: 3 -4). Acting under a reformed Islamic state, the Wahhabis gained control of the lands eastwards towards the Gulf and northwards towards Iraq and Syria, and eventually moved westwards, seizing Mecca in 1802-03, and Medina in 1805 (Quataert 2000: 51; Yamani 2004: 4). In 1806, Al Saud rule extended over much of the regions included in contemporary Saudi Arabia (Yamani 2004: 4).

It was a severe blow to the Ottoman sultanate to lose control of the holy cities. Acting on behalf of the Ottoman state, Muhammad ‘Ali Pasha of Egypt sent an expedition to Arabia, which halted the Wahhabi expansion, as ‘Ali Pasha’s forces drove the Al Sauds out of the Hijaz and back into the Najd in 1813 (Salibi 1979: 79; Yamani 2004: 5). The Wahhabis and the Saud family were driven back to Riyadh, which became their capital in 1824, and the Sauds ruled this region until 1890 when Muhammad ibn Rashid gained control of Riyadh and gave authority to his garrison commander. The Saud family eventually fled to Kuwait (al-Rasheed 2002: 25). The Ottoman Sultan restored power to the *Asharif* in 1840, and “the Hijaz became a *vilayat* (province), with a *vali* residing in Mecca in winter and in Taif in the summer, his jurisdiction stretching from the *vilayat* of Damascus down to the border of the *vilayat* of Yemen” (Yamani 2004: 5). In 1869, the Suez Canal opened; and in 1900, the Hijaz Railroad was constructed, connecting Damascus to Medina.

Both improvements in transportation strengthened the Ottoman presence in Arabia, “provided easy access to Ottoman garrisons in the Hijaz, ‘Asir and Yemen [(both reconquered in the 1870s)], and made the *hajj* safer and faster” (Yamani 2004: 5).

Following the return of the Abdul Aziz ibn Saud from his exile in Kuwait in 1902, he regained control of Riyadh by killing the Rashidi governor and declared himself *amir* of Riyadh (al-Rasheed 2002: 26). Ibn Saud continued his advances, and his garrisons forced the Ottomans out of Al Hufuf in eastern Arabia in 1913. In a cunning move, ibn Saud waited while the Hashemite family, aided by the British, revolted against the remaining Ottoman forces in the Hijaz, successfully ending the Ottoman presence in Arabia during WWI. In a series of attacks to the major cities within the Hijaz following WWI, ibn Saud’s forces gained control of Mecca, Medina and Jeddah in 1924/1925, ending the Hashemite rule over the Hijaz (Yamani 2004: 9). In 1932, Abdul Aziz ibn Saud decreed “the merger of the parts of the Arabian Kingdom’ under his family’s name, and the Kingdom of the Hijaz and Najd and their Dependencies became the Kingdom of Saudi Arabia” (Yamani 2004: 10).

Overview of Ottoman Archaeology in the Middle East

The majority of archaeological projects conducted in the Middle East focus on prehistory, and the more distant eras of the historical past, typically ending with the Mamluk period just prior to the arrival of the Ottomans. There are numerous archaeological reports focusing on the rise of agriculture and settlements during the Neolithic, the great cities of the Bronze Age, the empires of the Iron Age, as well as the presence within the Middle East of the Classical civilizations of Greece, Rome and Byzantium. Baram and Carroll (2000: 3) suggest that the fact that there has been little sustained archaeological interest in the recent past if not due to the lack of material

remains, but to “ideological blinders” as to what constitutes an archaeological past. In fact, archaeologists often encounter Ottoman-period deposits on sites, only to bulldoze through and totally disregard the material remains to reach the deeper and more romantic elements of the archaeological record (Robinson 1985: 157).

Starting in the 1980s and 1990s, archaeology of the recent past – similar to North America’s historical archaeology – developed as a branch of Middle Eastern archaeology (Baram and Carroll 2000: 3-4). Advocating for the inclusion of Ottoman elements in studies of the archaeological and historical past of the Middle East, a number of researchers, historians, and journalists including Glock (1985), Kohl (1989), Silberman (1989), Seeden (1990) and Baram (1996) aided in developing Ottoman archaeology as a subfield. Unfortunately, Ottoman archaeology as a scholarly venture lacks a systematic framework for discussion as, comparatively, little research conducted in the region has focused on the material culture of this time frame, especially the Early Ottoman period (sixteenth and seventeenth centuries) (Baram and Carroll 2000: 4, 12; Schick 1997-1998: 563).

The Levant, in particular, has experienced an influx of research and publications beginning in the 1980s/1990s addressing the Ottoman-period components of archaeological sites. Drawing from the material remains recovered during the 1985-1987 excavations, Ghada Ziadeh published an article presenting the Ottoman ceramics from Ti‘innik (Taanach), Palestine (1995). Due to the absence of a systematic study of Ottoman ceramics in Palestine, Ziadeh (1995: 209) writes about the necessity of establishing a tentative typology of the Late Islamic/Ottoman ceramics, and the issues pioneering Ottoman scholars face with establishing a catalogue, dating the material, and

reconstructing complete forms from fragments. Excavations at the Crusader stronghold Belmont Castle (later the Ottoman village of Suba/Suza/Susa) in Jerusalem have produced the largest corpus of semi-complete and fragmentary clay pipes from the Levant (Simpson 2000a: 147). The Suba corpus is, to date, the most suitable means for drawing typological parallels and dating Ottoman pipes found throughout the Middle East, and is a basis for comparison used in this project in dating the clay pipes recovered during the Comprehensive Survey of Saudi Arabia.

Saudi Arabian Attitudes Towards Ottoman Archaeology

The tearing of the social fabric removed all but the negative images of Ottoman rule from the collective memories of the peoples of the Middle East and replaced the social dynamics and tensions of the region with small states based on nationalisms. (Baram 1999: 147)

Regions that were once part of the Ottoman Empire, including Saudi Arabia, have scarcely reported Ottoman-period artifacts. This phenomenon can partly be due to the ideological blinders of what constitutes an archaeological past within an area that has such a long history, as well as prehistory (Baram and Carroll 2000: 3). More than likely, the lack of interest in Ottoman remains from an indigenous perspective is intertwined with notions of nationalism, resulting in the inability to recognize how the material remains of an age of imperialism can be relevant to an Arab identity (Baram and Carroll 2000: 3). As Baram and many scholars have proposed over the past decades, incorporating the discipline of archaeology to uncover the recent past can only aid in “finding the commonalities in history for national groups that imagined their pasts as separate, [thus] countering the impact of colonialism and imperialism in the region by exposing historical trajectories” (Baram and Carroll 2000: vii).

Unfortunately, the Wahhabi movement within Saudi Arabia is behind the destruction of numerous Ottoman-period mosques and other monuments (e.g. the al-Ajyad castle, an eighteenth-century Ottoman fort in Mecca; the house of Sayyida Khadija in Mecca, where the Prophet Muhammad received some of his visions and his children were born) in order to promote their vision of Islam, and “to expunge the Islamic world of any remaining element of cultural and religious diversity” (Wheelan 2002: par. 12; Yamani 2004: 119). According to Carel Bertram, a historian of Ottoman art at the University of Texas, these moves are not Saudi plans for an erasure of the past, nor are they instances of cultural massacre, but are rather “a way for the Wahhabi sect to show that there is no form of Islam—on the ground, in the past, or in people’s memories—other than their own” (Wheelan 2002: par. 12). The most recent of these destructions happened soon after the Saudis came to power, in the 1920s, and again in the 1970s and 1980s (Wheelan 2002: par. 13). From its earliest appearance, Wahhabism has viewed many customs and rituals in the Hijaz, such as honoring the Prophet Muhammad by celebrating his birthday, visiting shrines, and participating in Sufi practices “as superstitious, if not heretical” (Yamani 2004: 4). In the conquests of the first Saudi State in the early nineteenth century, the Wahhabis destroyed all the holy tombs, mausoleums, burial grounds, domed mosques, and other buildings they considered to be un-Islamic in Taif and Mecca (Yamani 2004: 4). Wahhabi ideals of oneness with God, and their opposition of all innovation since the third Islamic century sanctioned these acts.

The argument presented by Baram and Carroll, that there is a lack of interest in the recent past in the Middle East, is partially erroneous. That is to say, the Saudis have had an interest in the recent past. In fact, the first major restoration project in the country

involved Dir'iyah, the ancestral home of the Al Saud and the first capital of the Saudi state in the late eighteenth and early nineteenth centuries (Kesting 1990: par. 9). Saudi preservationists discovered that "the more you concentrate on restoring and preserving relatively recent urban settings, the more you will be able to draw on the sympathy of the wider public" (Kesting 1990: par. 9). This instance illustrates the importance of Arab nationalism, and it is this nationalism that is the major driving force behind Saudi Archaeology. On the other hand, the fact that Ottoman-period artifacts are included within the pages of *Atlal* hopefully suggests that ideas involving the complete preservation of all historical periods in Arabia are materializing. Additionally, the inclusion of the Ottoman era in the exhibition hall dealing with Islam and the Arabian Peninsula at the National Museum in Riyadh shows that Saudi Arabia is not attempting to erase this period of its past.

Chapter 2:
History and Archaeological Signatures of Coffee and Tobacco Consumption in the
Middle East in the Sixteenth through the Early Twentieth Centuries

Introduction of Tobacco to the Middle East

Tobacco first arrived in the Ottoman Middle East at the end of the sixteenth century, about a hundred years after its introduction into Europe from America (Grehan 2006: 1352; Shechter 2006: 16). Portuguese and other European sailors travelling around the Indian Ocean within the Red Sea and Persian Gulf introduced smoking by the beginning of the seventeenth century to the Arabian Peninsula, perhaps even as early as 1590 to Yemen and the Hijaz (Keall 1993: 279; Simpson 2000b: 14). Tobacco's introduction into Yemen occurred ten years prior to its being brought to Constantinople by English sailors and traders, who personally used tobacco (Laufer 1924: 61; Simpson 2000b: 14).

At first, tobacco was mainly the interest of physicians, as noted by Ottoman historian Ibrahim Peçevi, and was appearing in medical manuals by the end of the sixteenth century, as its leaves were prescribed as a remedy for bites and burns (Grehan 2006: 1354). Soon thereafter, in the early years of the seventeenth century, tobacco began to be smoked recreationally. A Palestinian scholar of the day, Mari'I bin Yusuf al-Karmi (d. 1623/1624), noted that in the first decades of the seventeenth century, tobacco was already smoked openly in "gathering places of the people, like the markets and streets" (Grehan 2006: 1355). As Grehan (2006: 1355) notes, these early smokers were probably townspeople, who could have more readily afforded this expensive import from America and the Caribbean. However, it was no time before regional merchants noticed the demand. By 1700, the Ottoman market was producing most of its own tobacco, which was grown in Macedonia, Anatolia, and northern Syria, particularly in the hills around the port

of Latakia, and after some time in Lebanon, and Palestine (Simpson 2000a: 171; Grehan 2007: 146). Persian and Kurdish varieties were also prized, known locally as *tunbak*, but were predominantly used in water pipes (*narghiles*) (Grehan 2007: 146). Local varieties allowed for the consumption of tobacco to become a pleasurable pastime for people from all levels of society (Robinson 1985: 152).

Middle Easterners did not smoke tobacco prior to the seventeenth century as made evident by the number of Islamic *fatwas* expressed by the Ottoman administration towards the lawfulness of smoking at this time (Keall 1993: 279). Because tobacco was not known at the time of the Prophet, it is not named in the Qur'an or the Sunna, which resulted in a debate over its legality to spread throughout the empire. The main question under debate was "if the consumption of tobacco was harmful to the user and his or her surroundings" (Shechter 2006: 17). Islamic scholars interpreted general guidelines stated in the Qur'an or the *hadith* to support their arguments for or against its use. Soon after tobacco's rise in popularity, the religious authorities in Mecca grouped it with wine, opium and coffee, and issued a *fatwa* banning it as an intoxicant (Simpson 2000b: 14).

Not only was the debate over the consumption of tobacco religious, but also political (Shechter 2006: 17). As early as 1610, an English traveler, George Sandys, wrote about seeing "an unfortunate Turk conducted about the streets of Constantinople... mounted backward on an ass with a tobacco-pipe driven through the cartilage of his nose, for the crime of smoking" (Fairholt 1859: 79). Two years later, Sultan Ahmed I (r. 1603-1617) issued a temporary ban on smoking (Simpson 2000b: 14). In 1631, Murad IV (r. 1623-1640) implemented a campaign against the consumption of tobacco and outlawed its cultivation in the empire, but this failed (Murphy 1985: 205). In 1633, after a devastating

fire in Constantinople, Murad IV outright forbade tobacco consumption and inflicted severe punishment on smokers, such as Mehmed Baha-i Efendi, who in 1634 had been dismissed and exiled for smoking (Birnbaum 1956 - 1957: 26; Lewis 1963: 136). During this time of smoking prohibition, many people preferred to use crushed tobacco as a snuff to avoid being caught with a pipe (Simpson 2000b: 14). Murad IV also banned coffee and ordered the closure of coffeehouses, where both coffee and tobacco were consumed (Brosh 2002: 10).

The bans by Murad IV and others before him did not produce his desired results, thus proving that coffee and tobacco consumption were already well rooted within the seventeenth-century Middle East (Shechter 2006: 17). In other words, smoking was not eradicated during these prohibitions. During the reign of Ibrahim (r. 1640 – 1648), in 1646, the Turkish government issued a decree allowing for the consumption of tobacco (Simpson 2000b: 15). Ra'eq (1991: 498) writes that the religious legalization of smoking was granted in a *fatwa* issued in the early years of the 1720s by Damascene *mufti* (Sunni Islamic scholar) al-Shaykh 'Abd al-Ghani al-Nabulsi (1641 – 1731) in his treatise entitled *al-Sulh bayna al-ikhwan fi hukm ibahat al-dukhkhan* ("Peace Among Friends Concerning the Legalization of Smoking"). Al-Nabulsi's position on the consumption of tobacco was that smoking is like food: if it hurts stop it; if it does not, why not smoke (Ra'eq 1991: 498). The question regarding tobacco's harmfulness remained a controversial issue for centuries to come. Nonetheless, it was not until the eighteenth century that tobacco consumption became a legitimate social practice (Shechter 2006: 17): "It is only in the coffeehouse illustrations of the eighteenth century and later that smoking seems to have become a moderately respectable pastime that could be freely illustrated" (Keall 1993: 279).

It should be noted that there is little evidence that suggests the smoking of narcotics, such as opium, hashish, and cannabis, took place in the Middle East prior to the introduction of tobacco, and “the mode of preparation or ingestion was different, as [an] oil or powder” (Taxel 2008: 44). Other methods for ingesting narcotics included as a food or drink (Brosh 2000: 5-6). In conducting his analysis of some 377 semi-complete and fragmentary clay pipes from Suba (Belmont Castle) in Palestine, Simpson (2000a: 147) mentions that forensic field kits for the detection of narcotics were used to sample the interiors of all pipe-bowls, “the aim being to test the relative importance of tobacco against the possible use of cannabinoids and opiates; this issue derives specifically from statements that pipes found in this region were used for smoking substances other than tobacco.” Only three of the 377 pipes showed possible evidence for the use of cannabis (Simpson 2000a: 171). Based on the various means in which narcotics were consumed outside of smoking, the fact that the Qur’an prohibits narcotics, and that the Suba corpus exhibited such a miniscule percentage of the possible use of clay pipes with substances other than tobacco, the present study assumes that all of the clay pipes recovered in Saudi Arabia were intended for tobacco consumption.

The Availability of Tobacco and Pipes in Arabia

Soon after tobacco’s introduction into the Ottoman Middle East, a number of regions within the empire became centers for tobacco production and distribution (Simpson 2000b: 15). Varieties of Indian, Syrian, Iraqi and Persian tobacco were imported and smoked in the Arabian towns (Simpson 2000b: 17). Burton (1856: 277), a nineteenth-century traveler, writes about his experiences in Medina: “There is an active provision trade with neighbouring Badawin, and the Syrian Hajj supplies the citizens with apparel

and articles of luxury—tobacco, dried fruits, sweetmeats, knives...” Local varieties of tobacco, known as *tittun* or *dokhân* (Arabic; Doughty 1888 v. 2: 63, 67), were also cultivated and widely consumed within Arabia by the nineteenth century (Doughty 1888 v.2: 243). Despite how or from where tobacco was procured, the one constant was that it was certainly in high demand. In 1682, al-Nabulsi declared, “Tobacco has now become extremely famous in all the countries of Islam...People of all kinds have used it and devoted themselves to it...I have even seen young children of about five years applying themselves to it” (Grehan 2006: 1355-1356).

From the late seventeenth century onwards, the tobacco pipe became a highly personalized possession, with ornamented varieties coming from pipe-maker guilds in Turkey, England, France, Greece, Egypt, Palestine, and Lebanon (Robinson 1985: 151; Simpson 2000a: 170; Pradines 2004: 283-284). Robinson (1985: 153) speculates that probably every town of any size had at least one pipe-maker, and that potters in villages could even turn out a few pipes from molds brought from a major center. That is to say, pipes were more than likely produced in Mecca and Medina, as smoking was popular within the heart of Arabia (Simpson 2000b: 14). Doughty (1888 v. 2: 508) notes in his *Travels in Arabia Deserta* that even the *Sharif* of Mecca engaged in tobacco consumption: “He sat upright on his diwan [*sic*], like an European, with a comely sober countenance; and smoked tobacco in a pipe like the ‘old Turks’. The simple earthen bowl was set in a saucer before him: his white jasmine stem was almost a spear’s length.” Burton (1856: 189) also notes the “half a dozen cherry-stick pipes” hanging high on the western wall of Hamid’s house, his host in Medina. Clay pipes were a preferable means for consuming tobacco, as they are very portable and, therefore more convenient to the highly mobile consumer (such

as a pilgrim making the *hajj*): “Some were short enough to be tucked into a sleeve when not needed or...when discretion was the order of the day” (Grehan 2006: 1356). Furthermore, clay tobacco pipes were readily available in any market and to customers from all levels of society (Grehan 2006: 1356).

Archaeology and the Consumption of Tobacco

From a Yemeni source written by al-Qasim, referring to the early seventeenth century, there existed two ways of smoking: “with water” or “dry”(Keall 1993: 279). This source also claims that smoking tobacco through a dry pipe was superior to the water method, which was done through *hookahs* or *narghiles*, a Middle Eastern innovation (Keall 1993: 279; Simpson 2000b: 15). For the purposes of this project, the material remains involved during the dry method, clay pipes, are explored.

The main device associated with tobacco consumption in the Arabian provinces was the oriental pipe, referred to in Turkish as the *chibouk* (Arabic: *shibuk*) (Robinson 1983: 265). The English-style kaolin pipes were likely to be more influential to styles in Istanbul, the imperial center of the empire, where tobacco and the English pipes reached Turkey by the agency of Thomas Dallam’s shipmaster (Robinson 1985: 153; Baram 2000: 149). The three-part *chibouk* style arrived by way of North Africa to the Middle East, and was readily adopted as the main means for smoking tobacco early in the seventeenth century (Robinson 1985: 153). The *chibouk* consists of three elements: the head or bowl (*lüle*, Turkish), the stem, and the mouthpiece. The bowls were made from a variety of materials including wood, stone, meerschaum, or even metal, but the usual material was clay (Robinson 1983: 265). The stems were made of various woods or reeds, and ranged in length from about one meter to four meters (Robinson 1983: 265). The mouthpieces were

usually made of amber, but could also be made of coral, and gold, enamel, and precious stones could be added “according to the taste and purse of the purchaser” (Robinson 1983: 266). Archaeologically, the bowls are the most widely recovered artifacts exhibiting the consumption of tobacco due to their fragility; once broken, the cheap clay bowls were discarded thus entering the archaeological record (Simpson 2000b: 15). The other pieces are rarely uncovered because the organic stems do not preserve, and mouthpieces tended to be reused (Baram 1999: 142).

Climatic and cultural differences led to the development of two different types of pipes in Europe and the Ottoman Middle East (Dekkel 2008: 114). Fairholt (1859: 208 - 209) suggests that the hot weather in much of the Middle East created a preference for the inhalation of ‘cold smoke’, while in the cooler weather of Europe, smokers preferred ‘hot smoke’. The technical solution to this issue of cooling the smoke within a dry pipe resulted in the three-part style (Dekkel 2008: 114). For instance, the longer stem length allows for the smoke to cool before it reaches the smoker, and wet silk was often applied to cover the stem to increase its cooling capabilities (Fairholt 1859: 208; Dekkel 2008: 114; Simpson 2000b: 15). The longer stems, up to four meters, were preferred in the hotter climes of the southern portions of the empire, while shorter stems, twenty centimeters to one meter, were used in the more northern, cooler climates (Dekkel 2008: 114). The varying lengths of stems are portrayed in numerous illustrations from the eighteenth and nineteenth centuries (e.g. *État Moderne* 1812 Tome Second, II.^e Partie 1817: Planche 92, 96, 99, III, V, XX - XXI, XXIV, XXVI - XXVII, A - E, K, ii; Hattox 1985: Plate 7 - 12; Robinson 1985: Plates 33-43; Brosh 2002: 11; Shechter 2006: 23; Grehan 2007: 36, 142, 147, 171, 183, 203).

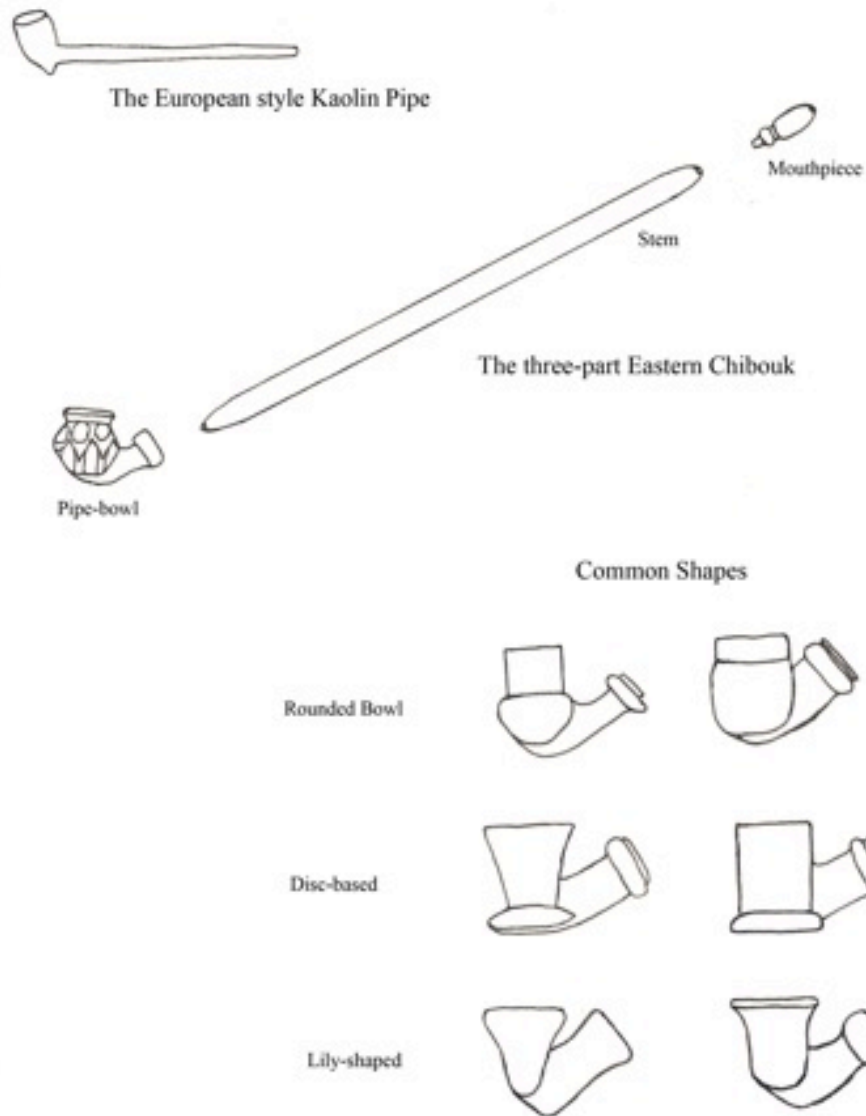


Fig. 2.1 The *chibouk* and the European kaolin pipe
 Outline drawings by JF Roberts (*after* Robinson 1985). Not to scale.

The pipe-bowl, or pipe-head, is composed of several parts. Where the stem connects into the bowl is referred to as the termination or the shank opening, which is on the shank end. Most of the time, a wooden stem was inserted into the shank opening, but it was not unheard of for the smoker to use the shank opening as a mouthpiece from which to draw the smoke. On some styles, the shank end is composed of both the termination and the wreath, a swollen circular piece that is often heavily decorated. Other styles just have the shank opening and the shank end. The shank connects via the keel to the bowl, which is either rounded, disc-based, or lily-shaped. Some of the pipes with rounded bowls have a connecting cylindrical rim (two separate parts), which can be straight or flared. All of these pieces are either plain, or decorated with impressed patterns.

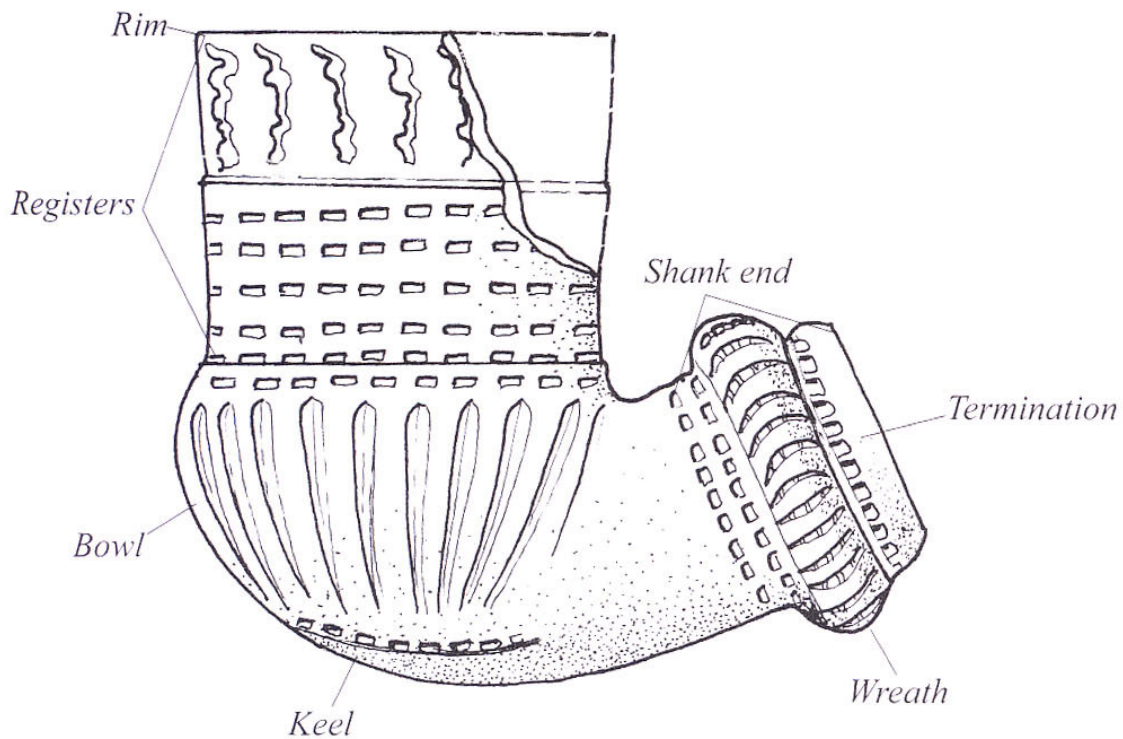


Fig. 2.2a Parts of the pipe-bowl
(after Dekkel 2008: 115) Not to scale.

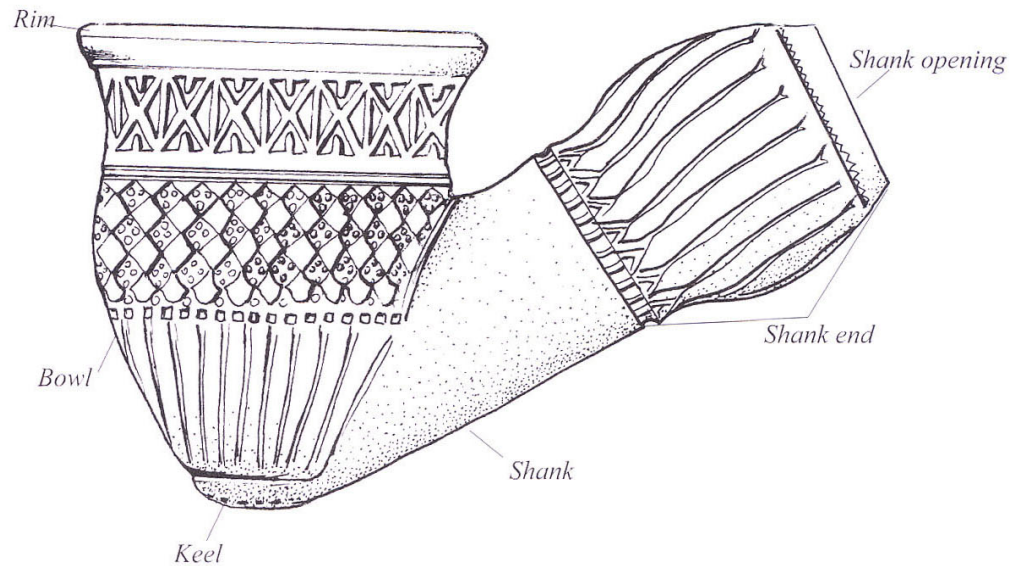


Fig. 2.2b Parts of the pipe-bowl
 (after Dekkel 2008: 115) Not to scale.

Robinson (1985: 157) describes the pipe-making process (adapted from Kocabaş 1962/63: 12):

Clay pipe [bowls] were made of specially washed and filtered fine clay, in two-part molds of stone or metal. The openings of bowl and shank were cut out afterward, when the clay was leather hard. After an undercoat (slip) of clay was applied the pipes were decorated with stamps, rouletting, incision, or inlay and marked with the monogram signature seal and were then fired. When ready, the pipes could be once more treated with a new layer of slip, polished with a felt cloth, and if desired, decorated with gold or silver leaf. They were then fired once more, at a low temperature (muffle fired); then after a final polishing, they were ready for sale.

Pipes gradually changed in response to the fashion of the day, and with the availability of tobacco (Robinson 1985: 152). Changes in the forms and types of tobacco pipe-bowls used in the empire from the seventeenth through the twentieth centuries provide a means for reliably dating Ottoman sites (e.g. Robinson 1983, 1985; Ziadeh 1995; Simpson 2000, 2002; al-Senussi and Le Quesne 2007; Dekkel 2008). Pipe-heads were

fashioned out of sandstone (*aorfys*, Arabic) by the Bedouin, and their use in Saudi Arabia, particularly during the nineteenth century, has been noted by travelers such as Doughty (1888 v.2: 180). However, these pipe-bowls cannot be dated, as they are rarely recovered in an archaeological setting, and have yet to undergo typological studies. Therefore, the clay tobacco pipe-bowl is the most diagnostic of the smoking implements used in Arabia during the Ottoman period. Changes in the size, shape, color and preferred decorative techniques are based on chronological and typological development from parallels to numerous corpora from regions throughout the Middle East (Simpson 2000a: 170).

Hayes (1980, revisions in 1992) is responsible for one of the first clay-pipe typologies, which is still a valuable reference for scholars working with Ottoman material culture. Reporting on over a thousand complete and fragmentary pipe-bowls from a Byzantine church in Istanbul, Saraçhane, Hayes constructed a chronology based on these finds, developing a typology dividing twenty-seven types into five categories (Baram 1995: 301). The five categories include: early types in fine light grey clay (seventeenth to early eighteenth century), early red-wares (from the eighteenth to the early nineteenth century), nineteenth century red-burnished (with maker's stamp), late types (post 1850), and imported pipe-bowls (based on the types of clays). Hayes is the first researcher to accurately date the clay tobacco pipe within the Ottoman period, as others have mistakenly dated the pipes as Roman (e.g. Carcopino 1968), or Mamluk (e.g. Ben-Tor and Rosenthal 1978; Turquety-Pariset 1982). Hayes' research was invaluable to later works, including Robinson's (1983, 1985) articles on the clay tobacco pipes from excavations of the Kerameikos, Corinth, and the Athenian Agora. Based on these studies by both Hayes and Robinson, archaeologists working in various regions that were once part of the Ottoman

Empire have been able to employ these typologies to describe their finds, and thus date clay pipe-bowls with centurial accuracy (Baram 1995: 301; e.g. Simpson 2000a; al-Senussi and Le Quesne 2007; Dekkel 2008).

Early styles of pipe-bowls in the seventeenth century

Typically, the earliest forms of pipe-bowls are fashioned from light, fine gray clays, resulting in an off-white, gray, yellow, light brown, or tan colored fabric. The use of white or pale gray clay probably echoes an English or Dutch prototype, but was replaced by red or buff clay by the end of the seventeenth century (Robinson 1983: 266). More importantly, are the shape and decorations. The bowls were very small, in comparison to later versions, as tobacco was still costly in the beginning of the seventeenth century because it was an imported commodity (Robinson 1985: 153). They also lacked the makers' stamps (Hayes 1980: 5). However, Dekkel (2008: 128) reported that production marks, mainly an early version of the rosette mark, appeared on the bottoms of bowls that lacked keels at the end of the seventeenth century at Baniyas. According to Baram (2000: 153), the earliest pipes had elongated shanks that were elbow-shaped and ended at a rounded wreath on the shank end. Other characteristics present on early forms recovered at Suba in Palestine were, as noted by Simpson (2000a: 147): narrow bore diameters, stepped-ring terminations, and restrained pattern-wheel rouletted decoration on the shank-end, or an absence of decoration.

The variety of the eighteenth century

The eighteenth-century types demonstrated a great diversity of shapes and colors (Baram 2000: 153). The fabrics tended to be earthen shades of red, or reddish-brown to light brown, occasionally with a coarser material and often lightly polished (Hayes 1980: 5;

Baram 2000: 153; Simpson 2000a: 149). At Baniyas, the change to the use of darker clay at the end of the seventeenth century was also noted, but instead of the use of red clay, it was to dark gray clay (Dekkel 2008: 124). Bowl shapes included rounded, sack-like, cylinder-shaped, or disc-shaped (Baram 2000: 153). The pipe-bowls also increased in size as tobacco became more easily available and less costly (Robinson 1983: 268). Simpson (2000a: 149) noted shorter shanks, and rounded bowls with a cylindrical upper portion, and the bowls tended to break along this junction. Both Baram (2000: 153) and Simpson (2000a: 149) noted that pipes from this time are characteristically heavily decorated with a variety of motifs and designs. By the end of the eighteenth or early nineteenth century, lily-shaped pipes were available at markets in Rosetta, Egypt.

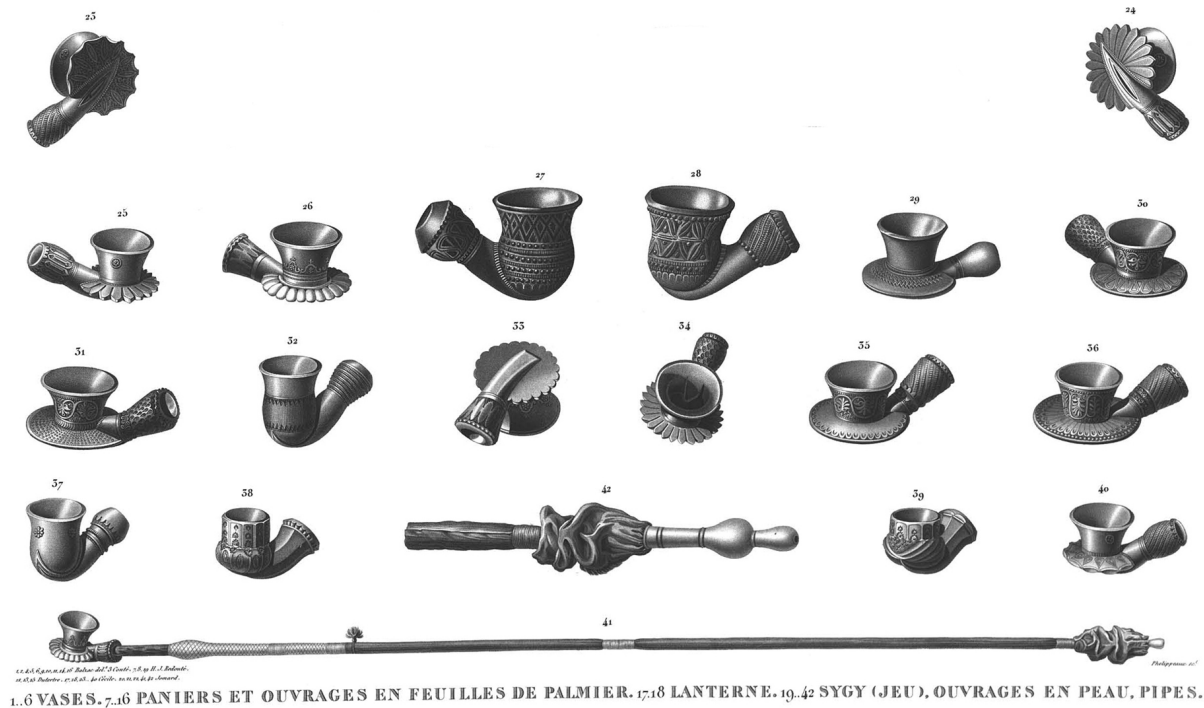


Fig. 2.3 Pipes available in Rosetta during the French occupation of Egypt (1798 – 1801) (*État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, drawn by the architect of the king Cécile)

The standardization of the nineteenth century

Beginning in the early and continuing to the mid- nineteenth century, pipes began to be standardized, as an acceleration of mass-production also constricted pipe-bowl variation to only a handful of types (Baram 1999: 143; Baram 2000: 152 - 153). This standardization occurred because tobacco cultivation came under the control of a French monopoly as part of the Ottoman Debt Authority (Baram 1999: 143). Reddish browns were the dominant colors, and the typical shapes were rounded or disc-shaped bowls (Baram 2000: 153). Simpson (2000a: 157) noted the prevalence of red-slipped burnished pipes, with larger bowl capacities and a thickening of the shank ends, as well as the presence of plain or decorated bowls and stamps, that may or may not be makers' marks. Typically, the swollen shanks had several rows of notch-rouletting. By the mid- to late nineteenth century, pipe-makers began to use fewer motifs or designs. Large lily shaped bowls were predominant, often decorated, and exhibit maker's marks (Baram 2000: 153). The lily form of pipe had been dated to the mid- to late nineteenth century in Istanbul, although this form was present in late eighteenth or early nineteenth-century Rosetta, Egypt.

The end of clay tobacco pipes in the twentieth century

According to Baram (2000: 153), the pipes of the late nineteenth to the early twentieth century were predominantly brownish red lily shaped bowls that are plain and rather large. The last clay tobacco pipe manufacturer closed in Istanbul in the 1920s, thus phasing out the popular use of these items in the region (Robinson 1985: 152). Scholars, such as Shechter (2006), also attributed the prevalence of the new fashion of smoking cigarettes as the sudden end of the clay pipe-bowl manner of tobacco consumption.

However, there is no clear-cut point in time at which tobacco-pipe smoking was abandoned for the now widely practiced cigarette and cigar smoking (Saidel 2008: 59). Although, the cigarette did make its way to the Ottoman Empire in the mid-nineteenth century (Shechter 2006: 28). Additionally, in British Mandate Palestine, clay tobacco pipes remained in use into the 1940s, as made evident by photographs of the day (e.g., Safieh 1999: 92, right photo, 93; Saidel 2008: 59). Surely, some of these once highly treasured items survived to be used long after the introduction of cigarettes to the region, due to reasons such as a rural versus an urban setting, the cost of each mode of consumption, and what was regionally available.

Introduction of Coffee into the Middle East

Coffee (*qahwa*, Arabic for the beverage) spread throughout the Middle East sometime within the mid-fifteenth century (Hattox 1985: 11). The coffee tree, which grows naturally in the mountainous regions of southwestern Ethiopia, was brought to Yemen sometime before the fourteenth century, and began to be cultivated from the fifteenth century onwards (Brosh 2002: 4). Coffee may have even reached Saudi Arabia as early as the thirteenth century (Ward 2001: 379). Although the exact date and reason for coffee's introduction are unknown, its origins as a beverage can be traced to Yemen through stories connecting its use to devotional rituals performed by the Sufis, Muslim mystics, especially during the *dhikr* ceremony, which tended to last all night (Hattox 1985: 14, 27; Brosh 2002: 4). Sixteenth-century Arab historian al-Jaziri, who wrote extensive records about the Sufis traditions in Yemen, mentions a prominent Sufi associated with the spread of coffee—al-Shadhili (d. 1418)—who was head of the Shadhiliyya order and is still considered to be the guardian of the port city of Mocha, where the coffee trade flourished during the Ottoman

period (Brosh 2002: 4). Al-Shadhili was introduced to coffee during his exile in the mountains of Yemen, and became a patron of coffee growers and coffeehouses when he returned home (Brosh 2002: 4).

Eventually, coffee spread to regions outside of Yemen. By the late fifteenth century, coffee was already introduced to the holy cities of Mecca and Medina, and by the early sixteenth century, it could be found in Cairo (Brosh 2002: 4-5). There is little direct evidence of how coffee came into general use in Yemen and other regions within the Middle East outside the Sufi meeting. However, Hattox (1985: 26-27) conjectures that the involvement of the Sufis in everyday affairs was one of the most important factors in the spread of coffee: "If coffee was an aid to the *dhikr*, it could also be of assistance to the tedious activities of the workplace; if it could be prepared at the meeting place of the order, so could it be prepared by one's wife or servants at home." Coffee was perhaps brought into other areas of the Arabian Peninsula by traders and travelers who left Yemen and were also Sufis (Hattox 1985: 27). Additionally, coffee was diffused throughout all the lands of Islam by Muslims, who returned from pilgrimages to Mecca and Medina, where they first encountered coffeehouses, and small portable stands selling the hot beverage, and eventually the beans (Brosh 2002: 5). By this manner, coffee then spread westwards to Egypt and Syria, to the central Ottoman lands, and eastwards to Iran (Lewis 1995: 162). Unlike tea, which was more popular in the Western world due to the direct access to supplies in India and China, coffee was a Middle Eastern monopoly (Lewis 1995: 162). Additionally, tea became more common in the Middle East during the late eighteenth to the early twentieth centuries, and was more so consumed in Iran and Turkey (Matthee 1996: 201). According to Matthee (1996: 201), within the Ottoman Empire, coffee and tea

became differentiated according to region. The Arab-speaking parts of the Ottoman Empire—Egypt, Syria, Iraq and presumably the Arabian Peninsula— “were among the first to become familiar with coffee after its spread from Yemen in the fifteenth century, and they never switched to tea” (Matthee 1996: 201). Tea was the more popular of the two beverages in Iran, Turkey, and Morocco (Matthee 1996: 201).

The Availability of Coffee in Arabia

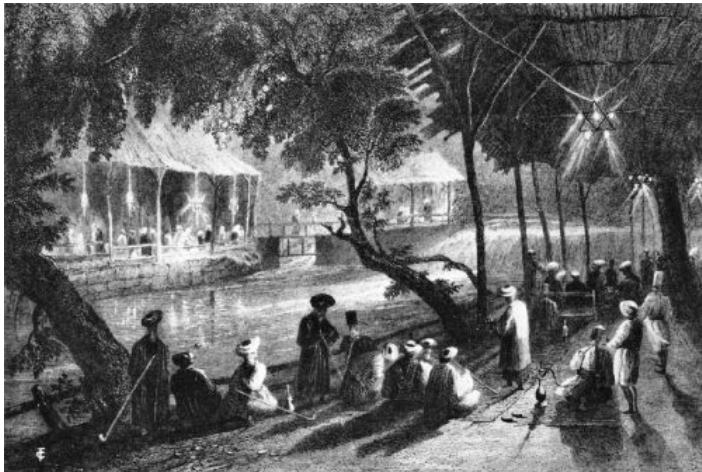
Historically, we know that coffee was used initially in the Sufis meeting, until the institution of the coffeehouse, which became the main public sphere where coffee drinking became interlocked with tobacco smoking (Grehan 2006: 1359). The marriage of these two commodities is represented by the Persian proverb “Coffee without tobacco is meat without salt” (Wilson). No known literary sources or traditions exist that provide information on when or where the first coffeehouses opened, but most agree that this Muslim establishment originated in southern Arabia, perhaps in Mecca early in the sixteenth century (Brosh 2002: 9). More than likely, before the establishment of coffeehouses, coffee was sold to the public from small, portable stands present in marketplaces and commercial centers (Hattox 1985: 79; Brosh 2002: 5). The preparation of coffee in private homes did not begin until the mid- to late seventeenth century, and even then the practice was mainly confined to the more affluent (Brosh 2002: 6). Coffee was traditionally served without milk or sugar, but sometimes flavored with cardamom, and the Arabs typically drank twenty-five to thirty cups a day (Ukers 1935: 540).

Almost as soon as coffee became a social pastime, both religious and political leaders attacked it. The first of a wave of oppositions against coffee, deemed a forbidden

beverage like wine (*khamr*) by many pious Muslims of the day, began in 1511 under the premise that it causes physical harm to the body (Hattox 1985: 30). Between 1525 and



(a) Turkish caffinet, early nineteenth century (drawn by Thomas Allom during his travels in 1837, originally published in 1838, Thomas Allom and Robert Walsh *Constantinople and the Scenery of the Seven Churches*. Fisher, Son & Co.: London)



(b) Riverside café in Damascus, nineteenth century (originally published in 1836, John Carne *Syria, the Holy Land, Asia Minor, &c. Illustrated. In a Series of Views Drawn from Nature by W.H. Bartlett, William Purser, &c.* Fisher, Son & Co.: London)



(c) Arabian coffee house, early twentieth century (?)

“The coffee-houses are filled with people during the whole day; and in front a shed is generally erected, under which persons also sit. The rooms, benches, and small low chairs, are very filthy, and form a contrast to the neatness and elegance observable in the coffee-houses of Damascus.” (Burckhardt 1829 v.1: 50; describing a coffeehouse in Jiddah)

Fig. 2.4 Coffee houses (all from Ukers 1935: 547, 551, 542)

1526, this opposition to coffee became an opposition to the activities taking place in the coffeehouses: jurist Muhammad ibn al-'Arraq directed officials to close down all coffeehouses in Mecca when he learned of the reprehensible things (*munkarat*) going on in them, yet he had long been acquainted with coffee while living in Medina and showed no sign of banning coffee itself (Hattox 1985: 37). Objectionable activities included political conversation (so much so that one Sultan placed spies within the coffeehouses for fear of a political coup), gaming (including chess, backgammon, and gambling), entertainment and performers (e.g. story-tellers, puppet shows, shadow plays, music, etc.) and, in some cases, hard drug use (e.g. opium) and "sexual desires" (Hattox 1985: 98 – 111). The earliest indication of the Ottoman officials being aware of the use of coffee within the Arab provinces comes from a 1544 decree prohibiting the use and selling of coffee in the Hijaz (Hattox 1985: 38). Few of these prohibitions lasted for any substantial length of time. From the late seventeenth century onward, the number of coffeehouses in Middle Eastern towns and villages increased considerably, and the coffeehouse "assumed a key role in the social lives of the population" (Brosh 2002: 6).

Archaeology and the Consumption of Coffee

In the Middle East, the custom of drinking "Arab coffee" involved it being decanted into tiny cups as the final step in a long, drawn out preparation process (Brosh 2002: 17). These serving cups, the primary archaeological evidence representing coffee consumption, are described in even the earliest accounts as being made of either clay or porcelain. The German physician and botanist Leonhard Rauwolff (d. 1596), who traveled to the Middle East and is the first European to describe the preparation and drinking of coffee, informs us of it being drunk from "deep little dishes of earthenware or porcelain" (Rauwolff 1971:

103). Porcelain cups were preferred, as they maintain heat well, but were only afforded by the wealthiest families because they were imported from China (Brosh 2002: 21). Most



Fig. 2.5 Coffee hawker, late nineteenth – early twentieth century (*from* “Social History of Turkish Coffee” <http://www.turkishcoffee.us>). Notice the small cups on the table and in their hands.

“Aside from the fact that early coffee cups were generally made of earthenware or porcelain, accounts differ as to their size and design. Some European engravings depict cups as large or larger than the typical mug today, but by most accounts the cups were indeed the same diminutive size as the standard Turkish coffee cup of the present. The design seems more akin to that of traditional handleless ‘Arab’ coffee cups.” (Hattox 1985: Plate 5)

people consumed coffee in cups that were made locally from glazed ceramic, and it was also this type of that was mainly used in coffeehouses (Brosh 2002: 21). Although, al-Jaziri in writing about the distinctions between cups used for coffee and wine, states that porcelain was present in Jidda (Hattox 1985: 86). In the Middle East, these small cups intended for coffee consumption had no handles, until the nineteenth century when the European market began to produce cups with handles for export to the Middle East (Brosh 2002: 21). Only a small amount of coffee was poured at a time, as it was customary to keep refilling the cups, and this also made the cups easier to handle, being filled with such a hot liquid. The little drinking cups associated with consuming coffee are often referred to as *fenjeyn*, *findjan*, or *finjan* (meaning 'small cup') (Lott 1867 v. 1: 16; Ukers 1935: 576; Brosh 2002: 21).

Porcelain cups were first imported to the Middle East from China in the sixteenth century, perhaps even as early as the fifteenth century, and the demand for them increased in the seventeenth century (Brosh 2002: 21; Watson 2004: 486). In fact, Chinese porcelain cups were an important part of the Red Sea trade, as made evident by the large finds from various shipwrecks (Brosh 2002: 21; Ward and Baram 2006: 137). By the mid-eighteenth century, southern Chinese kilns had centuries of experience in producing a special class of export wares for the Middle Eastern, or Islamic market (Ward 2001: 370). The potters at Jingdezhen in south China began to manufacture the first blue-and-white porcelain in the early decades of the fourteenth century (Watson 2004: 61). According to Dr. Oliver Watson (2004: 61), an expert in Islamic Art, "there is an accumulation of evidence that points to this new [blue-and-white] ware as being made specifically in a perceived Islamic style, and intended initially for export to the Middle East." However, the Chinese wares were more

than likely inspired by the Iranian (Persian) practice of underglaze painting using blue (Watson 2004: 61). Carswell (1985: 29) credits Persian merchants residing in China as commissioning these earliest blue-and-white porcelain wares. In terms of the designs present on these cups, the representations are mainly floral or geometric designs, which is in conjunction with the Islamic cultural and religious injunctions against the representation of living creatures (Ward 2001: 370). Chinese porcelain was far more costly than any locally produced ceramic (until the eighteenth century), and its desirability led potters to fabricate imitations (Watson 2004: 61). In other words, Chinese blue-and-white porcelains set the trend for luxury ceramics the world over (Watson 2004: 61).

Archaeologically, coffee cups (often found in association with tobacco pipes) have been found in excavations from the Balkans through the Middle East (Baram 1999: 137). Typically dismissed as 'too modern' by archaeologists conducting fieldwork in the region, very few archaeological assemblages concerning coffee cups have been collected from throughout the Middle East (Baram 1999: 144). Much of the information about Ottoman ceramics comes from art historians, while archaeologically, large finds of coffee cups have been recovered from shipwrecks within the Red Sea, as well as excavations throughout the Middle East (e.g. Watson 2004; Ward 2001). What can be noticed from the available materials is that the patterns for this class of material culture shift in terms of their orientation: from being heavily imported from China, to the local production of imitations of these Chinese varieties (at centers such as Iznik or Kütahya, discussed below), to the eventual replacement by Western styles and imports (Baram 1999: 144). Once porcelain production of less expensive wares in the likeness of Chinese exports shifted to centers in Europe, European porcelains became the new elite wares (Carroll 1999: 188). As a result,

the ceramics produced within the Ottoman lands became less valuable “and were produced mainly for nonelite consumers, or for use in what were considered traditional contexts, such as mosques” (Carroll 1999: 188).

Considering that much of the coffee consumed in the Middle East was with imitations, or locally produced ceramics, some archaeologists find these commodities “important as a way to accurately date artifacts and sites, to examine changing trends in ceramic style and associated meanings, or as a way to examine the processes of globalization and the expansion of global trade networks of the modern era.” (Carroll 1999: 178). The most notable and widespread ceramics of the Middle East were those produced in the centers of Iznik and Kütahya in Turkey, whose designs were influenced by the Chinese porcelains. Beginning in the late fifteenth to early sixteenth century, the Ottoman town of Iznik began to produce pottery wares, which were popular in the sixteenth and seventeenth century (Denny 1974: 76; Crowe 2008: 1). However, ceramic production at Iznik seems to be centered on dishes, jars, vases, and most notably tiles. Kütahya began manufacturing coffee cups at the beginning of the seventeenth century, made evident through a 1608 royal edict (*firman*) in which the craftsmen are referred to as ‘cup makers’ (Brosh 2002: 22; Carswell 1972 v.2: 6). Kütahya cups and saucers gained worldwide popularity during the eighteenth century, and displayed a variety of designs (Hayes 1992: 266; Crowe 2008: 1). Brosh (2002: 22) describes these Ottoman ceramics:

...the cups were made from frit, a substance composed mainly of quartz with a small amount of white clay. The vessels were covered with a white slip, decorated with blue paint in a variety of patterns, mainly floral, and coated with a transparent lead glaze. They were widely distributed throughout the Islamic lands, where they were used both in private home and, apparently, coffeehouses.

Kütahya wares had a wide distribution, appearing in lands all across the Ottoman Empire, “from at least as far afield as Jerusalem and Cairo in the East to Budapest (Buda) in the West, and Crimea in the North. A few even reached North America” (Hayes 1992: 266).

Imitations of Chinese porcelains were also produced in Mamluk Egypt during the fifteenth century, prior to the undertaking by Iznik. Unfortunately, little is known about the history of Egyptian wares in the fifteenth century, but what is available consists of “a mass of sherds, many bearing potters’ names, [which] indicate[s] a rich and varied industry” (Watson 2004: 417). The lack of whole pieces has resulted in little study of these imitations, especially vessel shape. What little information can be gained from the sherds shows that the potters were not just copying the styles of the latest Chinese imports, but were incorporating and mixing elements from Chinese porcelains as far back as the fourteenth century (Watson 2004: 422). The fact that Chinese styles from over a long period of time were transferred onto imitations will prove problematic when attempting to use imitation ceramic designs as a chronological marker. Egyptian frit-ware copies of Chinese blue-and-white porcelain wares continued into the sixteenth century, until the influence of Ottoman Iznik wares, and later Kütahya varieties appeared (Watson 2004: 417).

Safavid Iran too was preoccupied with making wares in styles imitating Chinese blue-and-white porcelain from the fifteenth through nineteenth centuries. According to Watson (2004: 449), towards the end of the sixteenth century, and especially during the seventeenth century, a range of styles and techniques involving blue-and-white developed, but there “was also polychrome underglaze painting perhaps distantly inspired by contemporary Iznik wares, monochrome glazed and slip-decorated vessels.” However, the

Iranian, or Persian, wares are more rudimentary than Iznik forms, and lack the technical quality in the drawing of the designs (Watson 2004: 459). Iranian wares are particularly known for the black-under-turquoise color scheme, which dates back to the end of the twelfth century (Watson 2004: 449).

This project will also provide the archaeological evidence for coffee consumption through the analysis of its associated material culture, the porcelain cups. Because it is widely known that small porcelain cups were used to serve coffee, these are the only examples from the material culture illustrated within the plates of the Comprehensive Archaeological Survey reports that can confidently be linked to coffee consumption. Surely, earthenware vessels were also used within the regions of Arabia, however these types are very similar to other utilitarian types having multiple purposes. Therefore, those cups only identified by the researchers as being 'porcelain coffee cups' or 'porcelain cups' are included within this project's Saudi corpus.

In terms of dating porcelain coffee cups, the primary means is to find a parallel in design and shape to a specimen from an archaeological context. However, this may prove to be difficult considering the reuse of such artifacts, as well as the intermingling of designs over long spans of time between the Far East and the Middle East. Chinese porcelains were also used throughout the entire span of the Ottoman period. Only if changes in design and/or shape can be noticed, will these types aid in refining the chronology. The same is true for the imitations produced in ceramic centers such as Iznik and Kütahya. Further issues are presented by the possibility that the recovered coffee cups could have been misidentified by the researchers as being porcelain, which technically could only be produced in China, and remained a Chinese monopoly until Europe discovered how to

manufacture it in the eighteenth century (Denny 2004: 44; Watson 2004: 24). Sir Robert Murdoch Smith (1877: 5, 7) writes that, “Persians made such beautiful earthenwares that they might well be mistaken for Chinese porcelain, at all events as regarded design, colour, varnish, and form.” It was not until the nineteenth century that the Islamic world was able to produce this fabric that requires pure clays and high firing temperatures (Watson 2004: 24). The porcelain- inspired Islamic glazed pottery was made from a quartz-frit fabric, which had the appearance of porcelain, but is not true porcelain (Smith 1877: 5; Watson 2004: 24-25).

Another potentially helpful detail in dating coffee cups is that in the late eighteenth century, coffee was drunk from one of these small cups placed in a metal holder, or *zarf*, “which protected one’s fingers from the heat” (Brosh 2002: 21). These holders were especially common in Syria and Turkey, and were predominantly used by the wealthy urban population, but were never used among the Bedouin (Brosh 2002: 21). Palgrave (1868: 39) also notes the prevalent use of *zarfs* in Egypt and Syria, but mentions their “rareness...in Arabia.” As these holders became increasingly widespread, the decorations on the cups changed: “since the lower part of the cup was concealed by the *zarf*, the decoration was mainly concentrated on the upper part” (Brosh 2002: 21). In the mid-eighteenth century, Europeans exported coffee cups with handles to the Middle East, and *zarfs* began to have handles as well; around the turn of the nineteenth century, cups with handles began to be manufactured in the Middle East (Brosh 2002: 21).

Chapter 3: The Comprehensive Survey of Saudi Arabia

Introduction

The data used in this study were collected in the course of the Comprehensive Survey of Saudi Arabia. The information is published in a series of preliminary reports, after each field season, in *Atlat: the Journal of Saudi Arabian Archaeology* (1977 – 1982). This chapter provides an overview of the methods of comprehensive survey conducted by the General Department of Antiquities and Museums and the international team of researchers involved during the field seasons.

At the time the various field seasons of the Comprehensive Survey were conducted (late 1970s early 1980s) the state of scientific archaeological research in the Arabian Peninsula was still in the early stages of development. Prior to the Survey, none of the land area had been systematically surveyed, although a considerable amount of observational data exists in the itineraries of early European travelers (Adams 1977: 21), and in the works of Arab historians (Masry 1981: 225). Unfortunately, a number of factors contributed to the inability of much archaeological fieldwork to be conducted, thus hampering the growth and development of archaeology in this region in the nineteenth and early twentieth centuries. Some of these factors included the harsh environment, the “political instability, the xenophobic tenets of Wahhabism, and the belligerence of Bedouin tribes” (Masry 1981: 222; Potts 1997: 78). However, there were several breakthroughs. The first instance of “serious arch[a]eological work” in Saudi Arabia was conducted in 1914 by Jaussen and Savignac (de la Société Française des Fouilles Archéologiques), who investigated in great detail the architecture and epigraphic remains of many sites in the Hijaz dating to the first millennium BCE (Masry 1981: 225). The early decades of the

twentieth century did witness the development of a volume of archaeological literature published in Arabic that became the foundation “for the modern scientific effort undertaken by the Western-trained local arch[a]eologists” (Masry 1981: 227-228).

Since 1950, archaeological work in Arabia has increased significantly. During this phase in archaeological research in the region, there was an emphasis on epigraphy, rock art, and ancient mining sites (Masry 1981: 233; Abu Duruk 1995: 69, 73). The Ministry of Education was instituted in 1373H (1953) by King Saud Abdulaziz, under which the General Department of Antiquities and Museums in Saudi Arabia was established in the 1960s (Abu Duruk 1995: 65; Ministry of Education, Kingdom of Saudi Arabia/About the Ministry). Beginning in 1972, detailed research began in Saudi Arabia, focusing on the presence of the Ubaid culture at sites in eastern Arabia (Masry 1981: 235).

The Comprehensive Survey

The Comprehensive Survey of Saudi Arabia was initiated in 1976, “with neither a historical nor a problem-oriented basis...involv[ing] the recognition of all arch[a]eological material from the Paleolithic to the Ottoman periods” (Masry 1981: 235). The General Department of Antiquities and Museums launched the Comprehensive Archaeological Survey with the aim of inventorying the country’s general archaeological resources over the course of five years (Masry 1979: 5). The Survey Program began in February of 1976 and ended in April of 1981, which included an additional year of exploration from the original plan. The survey was needed due to the destruction of sites following the initiation of the first five-year Development Plan sponsored by King Faisal bin Abdulaziz beginning in 1970, with continual work to the country’s infrastructure by King Khalid bin Abdulaziz who

launched the Second and Third Development Plans in 1975 and 1980 (Ministry of Education, Kingdom of Saudi Arabia/History).

Aside from documenting archaeological sites this project was also justified as a vehicle for the professional training of the scientific staff of the Department of Antiquities and Museums in the discipline of archaeology, still in its infancy in Saudi Arabia (Adams et al. 1977: 21). This educative element is represented by the collaborative nature of this project. Participants in the Survey Program included an international body of Saudi and foreign archaeologists and other specialists from the Department of Antiquities in Riyadh, and the Jordanian Department of Antiquities, as well as a number of academic institutions including Riyadh University, the University of Chicago, the University of London, Harvard University, the University of California Berkeley, Southwest Missouri State University, the University of Toronto, and Southeast Texas University (Masry 1979: 5; Ingraham et al. 1981: 80).

In order to prepare for the fieldwork, the Survey Program initiated a library and cartographic survey of extant published materials on the history and archaeology of Arabia. As a result, it was decided to begin the Survey in areas where an archaeological sequence was already well established, namely the Eastern and Northern Provinces (Masry 1979: 5). One field season was scheduled for each province. In the course of the Survey, the framework of this project was altered as it became evident that more than one field season was needed in particular provinces, especially in urban areas where rapid development threatened potential archaeological sites (Masry 1979: 5-6).

For logistical purposes, this nation—measuring 2,000,000 square kilometers—was subdivided into six provinces, corresponding to traditional historical-geographical regions:

the Northern, Northwestern, Western, Central, Eastern, and Southwestern Provinces (Adams et al. 1977: 21; Masry 1979: 5). A drawback with this project was the lack of



Fig. 3.1 Map of the Survey Provinces (c.f. Adams et al. 1977: Plate 1)

reliable maps encompassing an entire survey area and aerial photographs (at a scale of 1:60,000), which were present, but were out-of-date and of “indifferent quality” (Adams et al. 1977: 24). For instance, for the Eastern Province, a 1:50,000 map base was available for only the northern part of the surveyed region, forcing the research team to rely on an unpublished 1:100,000 map prepared by ARAMCO (Arabian American Oil Company) surveyors for the southern portion (Adams et al. 1977: 24). Due to the lack of proper maps, Adams and colleagues (1977: 24) had to rely on observing prominent escarpments to permit site location through the use of a hand-held prismatic compass and a three-arm protractor. In general, it appears that mapping the difficult and diverse desert terrain of Saudi Arabia can prove to be problematic:

The conventional topographical map at 1:50 000 or 1:100 000 scales, which portrays detail by lines and symbols and relief by contours and spot heights, is widely regarded as inadequate for depicting ill-defined desert landforms...there is no single style of presentation which can cope with the whole range of Arabian scenery. (Leatherdale and Kennedy 1975: 250)

In fact, Leatherdale and Kennedy (1975: 250) comment on the challenges the different types of landscape of the Arabian desert present to cartographers.

Complementary to field surveying for mapping purposes is the obtainment of aerial photography, which provides the details to be mapped (Leatherdale and Kennedy 1975: 249). Prior to the commencement of the Comprehensive Survey Program in 1976, Saudi Arabia had established a geodetic program to map the whole country at 1:50 000 and 1:100 000 scales, including the acquisition of more detailed and updated aerial photographs (Leatherdale and Kennedy 1975: 241), which was in progress at about the same time as the various phases of the archaeological survey. Needless to say, these new and improved maps were not available for all phases of the Survey Program.

The researchers who participated in the Comprehensive Archaeological Survey of Saudi Arabia were faced with the challenge of covering a region comprising more than 2,000,000 square kilometers of mostly desert terrain (Adams et al. 1977: 21-22). In an attempt to be both rapid and comprehensive, the archaeological methods employed were not intensive, besides the occasional small-scale soundings, and the surveys were mainly operated through vehicular transport (Adams et al. 1977: 24) (refer to **Table 3.1**). The desert terrain presented a real impediment, resulting in the inability of a thorough examination of the entire Kingdom:

Our inability to pursue problems in depth does not imply that we have attempted to follow a completely systematic search procedure and to employ a uniform grid in covering the surveyed terrain. Desert topographic conditions make such a procedure quite unworkable, and the immense size of the uncompleted task demands that priority be given to localities where sites are concentrated. (Adams et al. 1977: 22)

Therefore, primary attention was focused to oases, shorelines, and areas with seemingly permanent wells, while some attention was given to traditional connecting routes between the larger centers (Adams et al. 1977: 22-23).

The forbidding desert terrain, along with logistical problems, slowed the rate of progress. Initial ideas of complete coverage of all the Kingdom's lands were soon squashed, with a large amount of time spent in the field processing data, as well as dealing with administrative formalities, equipment maintenance, base camp movements, and inclement weather: "The concept of completeness is one that vanishes into absurdity" (Adams et al. 1977: 25). The researchers realized early on that all the immense Saudi Arabian land surface could not receive similar coverage, resulting in the implementation of "a system of priorities by which attention is devoted primarily to areas where the most concentrated and important ancient settlements are likely to be found" (Adams et al. 1977: 25).

Season	Date	Province	Researchers	Institutions Involved	Vehicular	Pedestrian	M.C. Collected	Soundings	Reference
2 nd /1 st	Feb-April 1979	Central/Southwestern	Zarins, Whalen, Ibrahim, al Jawad Mursi, Khan (scientific staff); Ghazdar, Jacobson, Gilmore (students); Sugairan (camp manager) [total staff: 18]	Southwest Missouri State University; Southwest Texas State University; Department of Antiquities and Museums, Ministry of Education, Riyadh	Yes	To some degree	Yes	Yes	Zarins et al. 1980
2 nd	Jan-April 1980	Southwestern	Zarins, al-Yish, Khan, al-Jawad Murad, Massey (scientific staff); Bouchard (artist/draftsman); Ayres, Millsap (students Southwest Missouri State Univ); al-Hashash, al-Hamam, Rusan (2 students and a staff from Univ Riyadh); al-Oteibi (site manager); Isenberger, Gilmore, Trapp (prepared plates) [total staff: 15]	Southwest Missouri State University; Department of Antiquities and Museums, Ministry of Education, Riyadh; University of Riyadh	Yes	To some degree	Yes	Yes	Zarins et al. 1981
1 st	Jan-April 1980	Western	Whalen, Killick, James, Morsi, Kamal; 8 camp staff members; Massey (prepared plates)	Southwest Texas State University; Department of Antiquities and Museums, Ministry of Education, Riyadh; University of London	Yes	To some degree	Yes	Not stated	Whalen et al. 1981

Season	Date	Province	Researchers	Institutions Involved	Vehicular	Pedestrian	M.C. Collected	Soundings	Reference
1 st /3 rd	Jan-April 1980	Northwestern/Northern	al-Sheikh, Abdul-Aziz, Rihani, Shatla, Ingraham, Johnson, Attayet, al-Hadidi, al-Saidi (scientific staff); Kharbush (camp director); plus 7 others	University of Toronto; Harvard University; Department of Antiquities and Museums, Ministry of Education, Riyadh; Jordanian Department of Antiquities	Yes	To some degree	Yes	Yes	Ingraham et al. 1981
2 nd /4 th (Final)	Feb-April 1981	Northwestern/Northern	Gilmore, al-Ibrahim, Murad, al-Qa'ud, ash-Shatla, al-Madani, ad-Doghaither, Trapp Jr.; al-'Otaybi (camp manager); Massey (maps and drawings); Zarins (helped interpret data and prepare final report)	Southwest Missouri State University; Department of Antiquities and Museums, Ministry of Education, Riyadh	Yes	To some degree	Yes	Yes	Gilmore et al. 1982

Table 3.1 Survey methodologies

However, human factors, such as intensive agriculture and rapidly expanding urban settlement, have prevented reconnaissance in some regions that were probably optimal for early settlement (Adams et al. 1977: 25-26). Land-leveling activities, along with the activities of amateur collectors and illicit diggers, have also contributed to the obliteration of surface remains. Therefore, the findings of the Survey for most of the Provinces are partial, rather than complete records.

In the Comprehensive Archaeological Survey Program, a 'site' is considered to be a small grouping of surface artifacts (Adams et al. 1977: 25). The sites are labeled using a binomial name, which roughly includes a regional designation number followed by the site number within that region. In documenting the various finds encountered during the course of the Survey Program, the researchers generally measured occupational sites by pacing, although sites that exhibited extensive surface architecture were plane-tabled (Adams et al. 1977: 24). Standing ruins, which were, in almost all cases, relatively recent mud-walled forts or *qal'as* dating to the Late Islamic period, were recorded by means of instant *Polaroid* photographs. In discussing the methods used during surface collections, Adams and colleagues (1977: 25) write:

Consistent with the extremely rapid coverage that must be achieved if the Survey is even to approach its proposed schedule, the surface collections had to be made so quickly that randomized, intensive sampling could not be employed and an 'index fossil' approach based only on diagnostic types was used instead.

Therefore, all the surface finds are located within a general area, but provenience, or actual contextual information is lacking.

In collecting material culture from the sites, the field parties encountered problems in seriating surface collections when local, well-established sequences from stratigraphic

excavations were not available for reference (Adams et al. 1977: 23). It was planned that specialists would later conduct more detailed studies of collections recovered from the field, including analysis of Islamic ceramics, Chinese porcelains, and non-artifactual materials such as bone and plant remains. For example, Whitcomb did perform a seriation of the ceramics and glass recovered from Islamic sites in the al-Hasa oasis region in the Eastern Province (1978: 95-113; Plates 76-84).

Comments on the Reports from *Atlat*

Each issue of the journal *Atlat* has a usual format of contents, divided into three parts. The first section contains the preliminary reports on the general regional surveys and specialized excavations carried out within the framework of the established Comprehensive Archaeological Survey Program. It was intended that in the future, these reports will be incorporated into separate and more detailed publications of the region by region surveys in monograph format (Adams et al. 1977: 23). However, almost thirty years after the publication of the final preliminary report, the status of these final monographs is unknown. The second section of each journal is reserved for the preliminary reports on the specialized surveys, such as pilgrim and trade caravan routes, ancient mining sites, and epigraphy (Masry 1982: 5). The final part of each issue is a general section “accommodating individual contributions, analytical, theoretical and comparative studies on Saudi archaeology and the surrounding areas” (Masry 1982: 5).

The current project utilizes the preliminary reports on the general regional surveys and excavations conducted by the Comprehensive Survey Program, in particular the sections dealing with Late Islamic/Ottoman remains. The preliminary reports of each field season were published within a year following the completion of the fieldwork. Every

report follows a standardized manner in presenting the information (i.e. an introduction including the aims and methodology of the survey season, the environmental descriptions, followed by the survey results divided into their respective prehistoric or historical era), which provides a straightforward means for a researcher to find the data on a specific time period, or area of interest. Although some of these chronological periods are not as detailed as others, they are, at the very least, mentioned as being present and will be explained in greater detail in the final monographs. The plates are particularly helpful, in that they provide maps of the survey regions, photographs of structures and rock art, architectural plans of structures, and separate material culture plates divided into lithic or ceramic categories.

The pages of *Atlal* contain the occasional discrepancy. A number of author's names have variations in the reports published throughout the course of the Comprehensive Archaeological Survey Program. Other incongruities exist between site names and numbers within the text, on the survey maps, and on the plates. Further errors have been noted on the maps of survey regions having cities in wrong areas, several plates illustrating material culture lack scales, and a few descriptions within the plates do not correspond with the correct illustrations. These problems are discussed throughout this project. Nevertheless, the reports are informative and helpful in providing the whole picture of a province's history, from the Paleolithic up to the recent historical eras. In all, given the limitations of the Comprehensive Archaeological Survey of Saudi Arabia to begin with, each season attempted to cover their respective province's regions as best as could be done, given the time constraints and logistical problems encountered. As a result, thousands of sites have been documented throughout the Kingdom of Saudi Arabia.

Conclusion

To assure the continuation of the Survey's contribution to future scholarly endeavors, the Department of Antiquities and Museums and the Ministry of Education established a Center near the Riyadh Museum in order to house the surface collections recovered from the field (Adams et al. 1977: 23). A *Polaroid* photo record was kept of surface collections of pottery, glass, stone and metal artifacts, "while many of the more diagnostic specimens were also drawn" (Adams et al. 1977: 24). These drawings compile the illustrated plates present at the back of the issues of *Atlatl*. The collections themselves have been permanently accessioned by the Riyadh Museum.

Fifteen years after the completion of the Comprehensive Survey, Dr. Hamid Abu Duruk (1995: 69) writes that thousands of archaeological sites have been recorded all throughout the Kingdom as a result of the Comprehensive Survey Program: "Sponsored by the government, this was undoubtedly one of the largest, most ambitious and comprehensive archaeological surveys ever conducted in any country." In 1985, some of the more significant sites located during the survey were excavated on a large scale (Abu Duruk 1995: 73). At other sites permanent markers were erected in the field so that both visitors and researchers could relocate particular archaeological features and sites (Adams et al. 1977: 23). Since the inception and completion of the Comprehensive Survey, archaeology is "thriving in Saudi Arabia and is making a major contribution to the exploration of [the] country's rich and very long cultural history" (Abu Duruk 1995: 73).

Chapter 4: Archaeological Evidence for the Consumption of Tobacco and Coffee in Ottoman-period Saudi Arabia

The international team of researchers who participated in the Comprehensive Archaeological Survey of Saudi Arabia collected a number of surface finds during the course of the project. The material culture recovered is representative of the Paleolithic to the Ottoman periods. The Comprehensive Archaeological Survey Program consisted of nine field seasons, starting in 1976 and ending in 1981, each having a Preliminary Report published in *Atlal*. Four of the nine seasons incorporated visits to two provinces, while the remaining five seasons concentrated on a single province. Out of nine survey teams, only four teams prepared preliminary reports containing information regarding recovered clay tobacco pipes and porcelain coffee cups (refer to **Table 4.1**). Since this project is mainly drawing parallels to clay pipes from dated contexts based on visual similarities, these four reports from Volumes 4 – 6 (1980 – 1982), along with an additional report from the Darb al Hajj Architectural Documentation Program of the Northern Pilgrimage Routes from Volume 8 (1984), are the only reports of use in providing the archaeological markers for the consumption of tobacco and coffee in Saudi Arabia.

Dr. Juris Zarins, who received his PhD from the University of Chicago in 1974, served as the archaeological adviser to the Department of Antiquities and Museums in the Kingdom of Saudi Arabia from 1975 – 1977 (Pathfinder CRM, LLC). He then became a member of the faculty in the Department of Sociology and Anthropology at Southwest Missouri State University in 1978, and was a Professor Emeritus in 2008. Dr. Zarins was involved in the preparation of every preliminary report in *Atlal* that recovered Ottoman-period tobacco pipes and coffee cups. He was a member of the scientific staff for the 1979

Season	Date	Province	Sub-regions	Ottoman Sites Identified (from textual info only)	Tobacco Pipes (from text)	Tobacco Pipes (from plates)	Coffee Cups (from text)	Coffee Cups (from text)	Reference
1 st /1 st (First)	Feb-April 1976	Eastern/ Northern	Al-Hasa Oasis/Yabrin Oasis/lower Wadi 'Ishaba (E regions); Yatib/al-Jawf/Ithra/northern Wadi 'I-Sirhan/Turayf (N regions)	None	None	None	None	None	Adams et al. 1977
2 nd	Feb-April 1977	Eastern	Dhahran/Nariya/Abqayq	1 (208-48)/mentioned Ottoman forts were used as collection sites, number unknown	None	None	None	None	Potts et al. 1978
2 nd	Jan-April 1977	Northern	Al-Majma'a/ Burayda and 'Unayza/al-Kuhayfiya-Ha'il/al-Jawf-Sakaka	None identified as Ottoman/ although 5 could be assigned to the Islamic period	None	None	None	None	Parr et al. 1978

Season	Date	Province	Sub-regions	Ottoman Sites Identified (from textual info only)	Tobacco Pipes (from text)	Tobacco Pipes (from plates)	Coffee Cups (from text)	Coffee Cups (from plates)	Reference
1 st	March-May 1978	Central	Wadi Dawasir drainage system/ Layla-Aflaj/Kharj Oasis	Ottoman phase at Raghib (212-75) based on presence of Ottoman blue wares (including blue and white porcelain)/ 25 identified as Islamic based on architecture and ceramics	None	None	None	None	Zarins et al. 1979
2 nd /1 st	Feb-April 1979	Central/South-western	Durma'-Shaqra/ad-Dawadami-al-Bijadiyya/Bisha-Ranya-Zulam/ Turaba-'Ashayra-Mahd adh-Dhahad	None identified as Ottoman/ although 27 attributed to some Islamic Phase/ Turkish fort 210-60 / Turkish green glazes and ceramic pipes found at "post-Abbasid sites" / smoking pipe found at Bisha (211-59)	Ceramic pipes ("post-Abbasid sites") / Smoking pipe Bisha (211-59)* Not illustrated.	Pl. 21 #22 (206-48) Pl. 23 #18 (210-15) Pl. 26 #17 (210-62) Pl. 26 #18 (210-48)	None	Pl. 23 #10 (210-15) Pl. 24 #3 (210-48) Pl. 24 #6 (210-48)	Zarins et al. 1980
2 nd	Jan-April 1980	South-western	Al-Ruf' al-Khali/Bi'r Hima-Nadijran/ Wadi Tathlith/ 'Asir highlands and foothills/Red Sea coast	11 sites: 217-79, 87,89,90,95,96,98,102,104,137; 216-210/ extensive Ottoman presence, based on architecture, imports (English and Dutch china plates and cups), clay pipes, and hand-painted coffee cups	Clay pipes	Pl. 27 #31 (217-79)	Hand-painted coffee cups	Pl. 27 #26 (217-79) Pl. 27 #27 (217-79)	Zarins et al. 1981

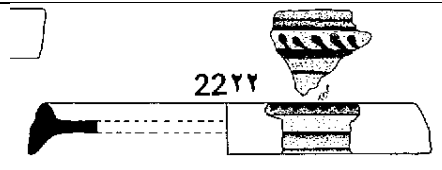

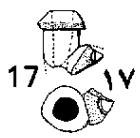
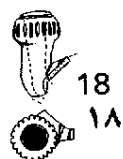

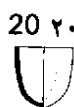
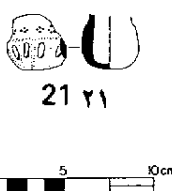
Season	Date	Province	Sub-regions	Ottoman Sites Identified (from textual info only)	Tobacco Pipes (from text)	Tobacco Pipes (from plates)	Coffee Cups (from text)	Coffee Cups (from plates)	Reference
1 st	Jan-April 1980	Western	Al-Baha/al-Qunfudah/al-Lith/Makkah/Khulays/Rabigh/Badr Hunayn/Medina	8 sites with Late Islamic/Ottoman pottery 210-103,116,158,170, 171,187,221;216-32/ 2 sites with Ottoman period ruins 210-93; 216-9/ 1 site with towers 216-39/ 2 fortified sites 205-121; 210-157/ 1 site with water conduit 210-156	None	Pl. 53 #20 (210-221) Pl. 53 #21 (210-221) Pl. 53 #23 (210-221) Pl. 53 #26 (210-221)	None	None	Whalen et al. 1981
1 st /3 rd	Jan-April 1980	North-western/Northern	Coastal plain and wadis on western slope of Hijaz mountains/ interior Hijaz/Midian region/Hisma/Tabuk region (NW regions); western Wadi Sirhan/ Widyan region (N regions)	4 certain 200-51,5,86,87 / 2 possible 204-7,49 / Turkish railway station Al-Akhdar 204-91/ a bi'r at Dhuba possibly of period 204-106/ large cisterns at Akhdar train station possibly of period 200-109 (all in NW regions)	None	None	None	None	Ingraham et al. 1981

Season	Date	Province	Sub-regions	Ottoman Sites Identified (from textual info only)	Tobacco Pipes (from text)	Tobacco Pipes (from plates)	Coffee Cups (from text)	Coffee Cups (from plates)	Reference
2 nd /4 th (final)	Feb-April 1981	North-western/Northern	Khaybar/Mada-in Salih-al-Akhdar/Rafha-Linah	scatter of Ottoman ceramics at fortress Hisn-Marhab 205-57a / scatter of Turkish wares at fortress Qala't al-Muazzam 204-162 (near rail station of Hijaz Railway, destroyed 17th century AD)	None	Pl. 33B #7 (204-157a) Pl. 33B #8 (205-79)	None	None	Gilmore et al. 1982
N/A	Jan-April 1983	Survey of Northern Pilgrimage Routes, Darb al Hajj Architectural Documentation Program	Northern Pilgrimage Routes	Ar-Rowdah North. Pilgrimage roads in western foothills of the Hejaz Mountains to the Red Sea coastal plain. Ceramics and architecture date the area to 150 to 75 years B.P.	None	Pl. 123 #5	None	None	Gilmors et al. 1984

Table 4.1 Survey reports containing Ottoman-period artifacts

field season to the Central and Southwestern provinces, as well as the 1980 season returning to the Southwestern province. Dr. Zarins also gave “much helpful advice” in the preparation of the preliminary report for the 1980 season to the Western province (Whalen et al. 1981: 57), as well as helped “in interpreting data and preparing the report” for the 1981 field season to the Northwestern and Northern provinces (Gilmore et al. 1982: 9). Without his recognition of these ‘modern’ artifacts, and their inclusion within the preliminary reports, this project could not have happened.

The initial step in data collection for this project involved an examination of the preliminary reports from each season in order to determine if pipes and/or coffee cups were collected. The data were then compiled into tables: the tobacco pipe artifacts and the coffee cup artifacts, respectively (refer to **Table 4.2** and **Table 4.3**). Each table presents the artifact’s illustration, the survey region/*Atlatl* reference, the researchers involved, the site number/plate description, and the artifact’s part (i.e. degree of completion). As the data used in this project are primarily black and white illustrations, the only reliable variables used for tobacco-pipe comparisons are the surface treatments (i.e. decorations and patterns) and the textual plate descriptions of the fabrics. Unfortunately, the small size of the original illustrations impeded the use of bore-hole diameter or any other measurements (i.e. length of shank, height of bowl, etc.) as variables to determine parallels to tobacco pipes from additional archaeological corpora. Therefore, the parallels drawn in this study are purely visual in application, for both the tobacco pipes and coffee cups.

Pipe Illustration	Survey Region/ Atlatl Reference	Researchers	Site No./ Plate Description	Pipe Part
 <p>22</p> <p>1 (after Zarins et al. 1980: Pl. 21, I. 22)</p>	Central/ Southwestern 1980 Vol. 4 Plate 21 Item 22	Zarins, Whalen, Ibrahim, Mursi, Khan	206-48, Buff ware, green glaze. * erroneously depicted as a vessel	Partial Shank (Shank end/term- ination)
 <p>18 1A</p> <p>2 (after Zarins et al. 1980: Pl. 23, I. 18)</p>	Central/ Southwestern 1980 Vol.4 Plate 23 Item 18	Zarins, Whalen, Ibrahim, Mursi, Khan	210-15, Brown ware, grits buff ware, spout, purple glaze.	Base of Bowl
 <p>17 1V</p> <p>3 (after Zarins et al. 1980: Pl. 26, I. 17) (after Zarins et al. 1980: Pl. 26, I. 18)</p>	Central/ Southwestern 1980 Vol. 4 Plate 26 Item 17	Zarins, Whalen, Ibrahim, Mursi, Khan	210-62, Gray ware, red slip, grit temper, pipe.	Shank/ Partial Bowl
 <p>18 1A</p> <p>4 (after Zarins et al. 1981: Pl. 27, I. 31)</p>	Central/ Southwestern 1980 Vol. 4 Plate 26 Item 18	Zarins, Whalen, Ibrahim, Mursi, Khan	210-48, Gray ware, fine temper, red slip, pipe.	Shank/ Partial Bowl
 <p>31 31</p> <p>5</p>	Southwestern 1981 Vol. 5 Plate 27 Item 31	Zarins, Murad, Al- Yish	217-79, Clay pipe, gray ware, incised decoration.	Partial Shank
 <p>20 20</p> <p>6 (after Whalen et al. 1981: Pl. 53, I. 20)</p>	Western 1981 Vol. 5 Plate 53 Item 20	Whalen, Killick, James, Morsi, Kamal	210-221, Cream coloured. Pipe bowl fragment. Ottoman.	Bowl Rim
 <p>21 21</p> <p>7 (after Whalen et al. 1981: Pl. 53, I. 21)</p>	Western 1981 Vol. 5 Plate 53 Item 21	Whalen, Killick, James, Morsi, Kamal	210-221, Brick red exterior. Brownish grey on inside. Finely Levigated. Punctate design on outside. Ottoman pipe.	Partial Shank (Shank end/term- ination)






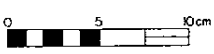



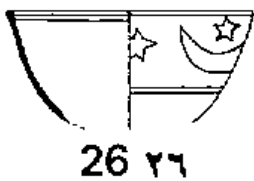
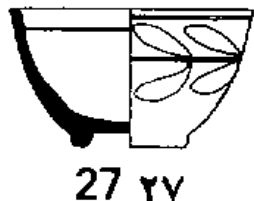
Pipe Illustration	Survey Region/Atlas Reference	Researchers	Site No./ Plate Description	Pipe Part
 <p>23 ۲۳</p> <p>8 (after Whalen et al. 1981: Pl. 53, I.23)</p>	Western 1981 Vol. 5 Plate 53 Item 23	Whalen, Killick, James, Morsi, Kamal	210-221, Brick red pipe mouthpiece, Late Islamic/ Ottoman.	Partial Shank (Shank end/term- ination)
 <p>26 ۲۶</p> <p>9 (after Whalen et al. 1981: Pl. 53, I. 26)</p>	Western 1981 Vol. 5 Plate 53 Item 26	Whalen, Killick, James, Morsi, Kamal	210-221, Orange slip, gritty fabric. Reddish- brown paint on exterior. Ottoman pipe.	Bowl Keel
 <p>7 ۷</p> <p>10 (after Gilmore et al. 1982: Pl. 33B, I. 7)</p>	Northwestern/ Northern 1982 Vol. 6 Plate 33 B Item 7	Gilmore, Ibrahim, Murad	204-157a, Fine, grey ware, medium grit temper, impressed design.	Complete Pipe
<p>(after Gilmore et al. 1982: Pl. 33B, I. 8)</p>  <p>8 ۸</p> <p>11</p>	Northwestern/ Northern 1982 Vol. 6 Plate 33 B Item 8	Gilmore, Ibrahim, Murad	205-79, Fine red ware, well levigated, roulette design.	Bowl Rim
<p>(after Gilmors et al. 1984: Pl. 123, I. 5)</p>  <p>5 ۵</p> <p>12</p> 	Ar-Rowdah North. Survey of Northern Pilgrimage routes. 1984 Vol. 8 Plate 123 Item 5	Gilmors, Hiwah, Resseni	Sherd of Pottery covered with a layer of underlaid on the outside and inside tends to reddish colour. Looks to be a part of pipe, has projected decorations of a wide stripe embracing parallel vertical lines.	Partial Shank (Shank end/ term- ination)

Table 4.2 Tobacco pipes recovered during the Comprehensive Survey Program

Coffee Cup Illustration	Survey Region/ Atlal Reference	Researchers	Site No./ Plate Description	Coffee Cup Part
 <p>(after Zarins et al. 1980: Pl. 23, I. 10)</p>	Central/ Southwestern 1980 Vol. 4 Plate 23 Item 10	Zarins, Whalen, Ibrahim, Mursi, Khan	210-15, White porcelain, blue on light blue glaze.	Almost whole, no base
 <p>(after Zarins et al. 1980: Pl. 24, I. 3)</p>	Central/ Southwestern 1980 Vol. 4 Plate 24 Item 3	Zarins, Whalen, Ibrahim, Mursi, Khan	210-48, Hand painted porcelain, red and green design, coffee cup.	Complete
 <p>(after Zarins et al. 1980: Pl. 24, I. 6)</p>	Central/ Southwestern 1980 Vol. 4 Plate 24 Item 6	Zarins, Whalen, Ibrahim, Mursi, Khan	210-48, Porcelain, light blue glaze.	Base
 <p>(after Zarins et al. 1981: Pl. 27, I. 26)</p>	Southwestern 1981 Vol. 5 Plate 27 Item 26	Zarins, Murad, Al- Yish	217-79, White porcelain, hand-painted coffee cup.	Almost whole, no base
 <p>(after Zarins et al. 1981: Pl. 27, I. 27)</p>	Southwestern 1981 Vol. 5 Plate 27 Item 27	Zarins, Murad, Al- Yish	217-79, White porcelain, hand-painted coffee cup.	Complete

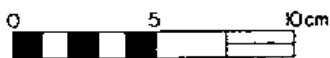


Table 4.3 Coffee cups recovered during the Comprehensive Survey Program

In the course of this study I encountered a number of problems with the data presented. For example, Zarins and colleagues mention that a pipe was found at Bisha (site number 211 – 59): “Material remains were quite extensive, particularly at Bisha...Of a finer nature, we found both real and imitation celadon, and a smoking pipe of the type found in the Taif area (Pl. 26)” (Zarins et al. 1980: 29 - 30). However, on Plate 26, the only pipe illustrations are two examples from sites 210-62 and 210-48, both characterized as forts or watchtowers at Taif, where “ceramic pipes” are also listed in the recovered material remains (Zarins et al. 1980: 29). Consequently, it appears that the Bisha pipe illustration is missing; and since there are two types from Taif, it is hard to say to which example the researchers are referring as being similar to the Bisha pipe.

Due to the time lag between the various seasons of the Comprehensive Survey Program, their publications, and the publications of the first pipe typologies, the researchers were only able to rudimentarily analyze the pipes recovered during the course of the Survey. In other words, the data collection and publication of the tobacco-pipe materials by the Comprehensive Survey Program occurred at a time when there was an absence of publications concerning this type of data. Therefore, the researchers, if they even reported such artifacts, could only identify the finds as Ottoman pipes, and make some general observances about the ceramic fabrics. No pipe typologies were yet in existence for reference to chronological markers, such as the overall pipe-bowl shape, length of shank, or fabric color.

The Assemblage

The focus of this study is a dozen clay pipes and five coffee cups. Eleven clay pipes were recovered during the Comprehensive Archaeological Survey of Saudi Arabia. A

twelfth pipe was recovered during a survey of the Northern Pilgrimage Routes (see Gilmors et al. 1984: 143-161; Plate 123 Item 5), which was technically not a phase of the Comprehensive Survey Program, but is nonetheless included in this project. What follows are the circumstances in which each tobacco pipe and coffee cup was recovered during the Survey seasons, which usually concentrated on a single regional province. In some cases, the survey universe included two provinces, and the reports were written in a manner that combined the information from both regions. In these instances, the survey maps provided within the plates were consulted to determine which province the sites are formally located.

The preliminary report for Ar-Rowdah North was the only one to contain information providing the exact coordinates for the site. The locations of the remaining sites are approximations based from the survey maps contained within the plates of each report. The distance was measured from the surveyed site to the nearest city by making a tick mark on a piece of paper, and then comparing this length to the scale provided in order to approximate kilometers. A map was then compiled using Google Earth. Within Google Earth, distances from the base cities to the sites were measured using the 'ruler tool' set to kilometers. Once the general location of the site was determined, the topographical zones on both the plate survey maps and the map in Google Earth were compared to check the accuracy of the measuring tool and to relocate the sites from a geographical perspective.

Central and Southwestern Provinces

The survey universe included the Western Najd up to the foothills of the 'Asir, which is located within the Arabian Shield (Zarins et al. 1980: 9). In terms of archaeological methods, the "survey efforts were concentrated within certain areas of the larger region to

be surveyed. Within these selected locales, intensive survey was carried out as well as general transects” (Zarins et al. 1980: 9). The methods employed during the 1979 season (February 4 through April 8) involved a combination of vehicular and pedestrian survey that sampled various environments, and also resulted in greater coverage of the survey universe (Zarins et al. 1980: 9). This fieldwork resulted in the documentation of 267 sites that ranged in date from the Middle Acheulean to nineteenth-century C.E. (Zarins et al. 1980: 10). There are twenty-seven sites attributed “to some phase of the Islamic period” (i.e. Abbasid, post-Abbasid, or Medieval Islamic), in addition to the twenty-two dam and mining sites mainly dating to the Early or Middle Islamic periods (Zarins et al. 1980: 29). No sites are explicitly identified as belonging to the Ottoman period, or containing Ottoman-period artifacts, although nineteenth-century Islamic forts were noted in the Taif area. In fact, the only mention of the term Ottoman is in reference to these forts in a separate section of the report: “...pottery which would appear to be contemporaneous with Ottoman period wares found at the qal’ats in the study areas” (Zarins et al. 1980: 23).

Site 206-48

A fragment of a smoking pipe was collected at Site 206-48. Within the report, there is an inconsistency in the name of this site. In the text it is identified as site 206-48a, however, in Table 9 and in the plates accompanying it is identified to as site 206-48 (Zarins et al. 1980: 27; Plates 21,25). For our purposes this location is referred to as Site 206-48.

Site 206-48 is one of four mining sites (gold and silver) located in the ad-Dawadami area, formally within the Central Province. The site is approximately 60 kilometers west and slightly to the north of Riyadh. There are architectural remains, however, there is no description of them within the text, nor are they illustrated in this report. Large

impedimenta, such as basalt and granite grinding stones, are found on the surface of this site. Evidence of metallurgical activities is provided by the presence of slag on this site. A range of Abbasid-period ceramics were found on the surface including red wares and a buff ware with a blue-green glaze, which is characteristically Abbasid. Vessels made of steatite and limestone stone are also present. Lastly another category of material culture present is glass, in various colors, such as yellow-green, blue-green, or green glass (Zarins et al. 1980: Plates 21, 25).

The illustration of the pipe-bowl fragment from Site 206-48 is erroneously depicted as a being part of a vessel (Zarins et al. 1980: Plate 21, Item 22). The ceramic sherd itself is somewhat triangular in shape, and does not resemble the piece that is positioned in the vessel profile image. Furthermore, the two images that are shown as being part of one vessel have different decorations. I suggest that this sherd is misidentified and that it is actually a partially preserved shank. This sherd is described as being made of a buff ware with a green glaze. Because this site has no other material culture present from the Late Islamic period, it is categorized within this project as an ephemeral occupation during the Ottoman period.

Site 210-15

Site 210-15 is approximately 40 kilometers northeast of Taif, and is formally located within the Southwestern Province. Here local farmers exposed a large number of structures along with extensive material remains (Zarins et al. 1980: 29). For example, they inadvertently exposed large brick kilns, which are “post-Abbasid” in date (Zarins et al. 1980: 29). The date is based on the plan of the structures and the accompanying material culture/pottery (Zarins et al. 1980: 29). The ceramics collected at this site include plain

red wares with a buff slip, green wares with a glazed decoration, imitation celadons, Turkish blue wares, and other glazed yellow and green wares. These ceramics speak of an Ottoman presence in the region.

Among the pottery collected at Site 210-15 is a fragment of a tobacco pipe and a sherd from a coffee cup. The former is made of a “brown ware, grits buff ware ...[with a] purple glaze” and is also misidentified as a spout (Zarins et al. 1980: Plate 23, Item 18). The latter is described as being “white porcelain, [with a] blue on light blue glaze” (Zarins et al. 1980: Plate 23, Item 10). Within this study Site 210-15 is categorized as a built site with associated Ottoman-period architecture and/or material remains, even though it is uncertain if the structures are Ottoman or not.

Sites 210-48 and 210-62

Site 210-48 is situated approximately 40 kilometers northeast of Taif, within the Southwestern Province (Zarins et al. 1980: 11). Note that the map illustrating the location of this site, as well as Site 210-62, is incorrect. For example, Taif and Turabah are south and more to the east of Jeddah, not north of it as represented in this figure (Zarins et al. 1980: Plate 1A). Standing at this site are the remains of a fortified watchtower made of “local stone” (Zarins et al. 1980: 29). The presence of buff wares, red wares, and brown wares lead the survey team to attribute this site to the “post-Abbasid” period that cannot be dated to a more specific timeframe within the Islamic period (Zarins et al. 1980: 29).

Among the pottery collected at Site 210-48 are sherds from a clay smoking pipe as well as two sherds from the same number of coffee cups. The sherd from the clay smoking pipe comprises the shank, which is connected to a small portion of the bowl, and is described as “gray ware, fine temper, red slip, pipe” (Zarins et al. 1980: Plate 26, Item 18).

The sherd from one is hand-painted porcelain with a red and green design, while the other cup is porcelain covered with a light blue glaze (Zarins et al. 1980: Plate 24, Items 3 and 6).

Site 210-62 is approximately 47 kilometers northwest of Taif, and approximately 60 kilometers west and slightly north of site 210-48. This site also contains the extent remains of a fortified watchtower made of “local stone” (Zarins et al. 1980: 29). The sherds collected from the surface of this site include primarily buff wares, red wares, and brown wares that attributed to the post-Abbasid period (Zarins et al. 1980: 29). One fragment of a smoking pipe, comprising the shank connected to a small portion of the bowl was picked up at this site, and is described as “gray ware, red slip, grit temper, pipe” (Zarins et al. 1980: Plate 26, Item 17).

Southwestern Province

Survey work was carried out in ‘Asir, including the highlands bordering the al-Rub’ al-Khali, as well as the highlands situated along the Red Sea (Zarins et al. 1981: 9). Survey work began on January 27 and concluded on April 11, 1980, and the total staff numbered fifteen people. In terms of the archaeological methods employed during this field season, geographical subregions were selected, and within these areas, two methods of survey were employed: “1) a general transect incorporating multiple ecological and geographical locales, and 2) intensive survey within the same unit, recording every possible site within the area” (Zarins et al. 1981: 9). Within the subregions, a total of 180 sites were recorded, ranging in date from pre-Acheulean/Acheulean lithic material to early twentieth-century historic settlements (Zarins et al. 1981: 10).

In discussing the Islamic period within this survey universe the researchers mention that the settlement remains can be divided into four basic divisions: Caliphate/Ummayid,

Abbasid, Ottoman, and Medieval/Local. Of particular importance are the extensive Ottoman-period remains that dot the landscape, particularly along the Red Sea coast (Zarins et al. 1981: 32). Unfortunately, an exact number of Ottoman-period sites is not provided. During the Ottoman period, the political conditions of the Tihama and 'Asir regions "were quite fragmented with political power emanating in turn from Turkey, Yaman [sic], and central Arabia" (Zarins et al. 1981: 32).

Site 217-79

Site 217-79 located in the Abu Arish area, and is approximately 15 kilometers northwest of Jizan. At the site, 217-79, the Ottoman-period building style was recognized, and is characterized "by the use of thin, fired bricks (15X10X5 cm.) alternating with local stone and lava blocks. Many sites are architecturally distinctive and complex using barrel vaults, rounded, tapered towers with ventilation shafts and relieving arches" (Zarins et al. 1981: 32-33; see Plate 13B for architecture similar to that found at site 217-79). Other material remains besides the tobacco pipe fragment include a tan ware with exterior orange paint, dark green glass, hand-painted coffee cups, and dark brown glass with Chinese lettering (Zarins et al. 1981: Plate 27). The tobacco pipe fragment is described as a "[c]lay pipe, gray ware, incised decoration" (Zarins et al. 1981: Plate 27, Item 31). Each of the coffee cups is described as being "[w]hite porcelain, hand-painted coffee cup" (Zarins et al. 1981: Plate 27, Items 26 and 27). For obvious reasons, the site is classified within this project as a built site with associated Ottoman-period architecture and/or material remains.

Western Province

The first season of survey in the Western Province recovered four pipe-bowls. The area surveyed during this season extended from the high inter-mountain valleys of the Al-Bahah and Baljurashi region, in the 'Asir mountains, to Medina, including the Red Sea coastal plain from Al-Qunfudah to Badr Hunayn inland to Medina (Whalen et al. 1981: 43). The survey team left Riyadh on January 27 and returned on April 20, 1980, and the total staff consisted of thirteen people. The particular aims of this field season were threefold:

1) to locate and describe sites and to ascertain patterns of sites of different periods within a geographical and environmental context; 2) to contrast distributional patterns between regions of the Western Province and, where possible, with other regions of the kingdom; 3) to indicate sites which require excavation or conservation, so that steps might be taken to preserve them. (Whalen et al. 1981: 43)

A total of 327 sites were recorded by the Western survey team, ranging from lithic sites to Islamic sites, which were subcategorized into Ports, Hejerah route sites, or sites dating to the Late Islamic/Ottoman, and Medieval/Recent Islamic (Whalen et al. 1981: 45).

Site 210-221

Site 210-221 is located approximately 10 kilometers north of Khalys, and is one of eight sites found with pottery of Late Islamic/Ottoman date. This site is described as a cemetery covered by a thin scatter of pottery (Whalen et al. 1981: 54). Other material culture found at this site includes two examples of chaff and grit temper with either orange slip with brown paint, or brown paint on orange slip (Whalen et al. 1981: Plate 53, Items 24 and 26).

Four pipe-bowls were collected at this site. Unfortunately, the descriptions for each of the four smoking pipes that accompany Plate 53 (Whalen et al. 1981) are seemingly mislabeled, as descriptions of the designs and the parts of the pipe represented do not

match. For example, the description of the 'punctate design' of Item 20 does not correspond with the figure. Instead, the description for Item 21 more accurately describes the smoking pipe identified as number 20, "Cream coloured. Pipe bowl fragment. Ottoman" (Whalen et al. 1981: Plate 53, Description 21). The pipe labeled as Item 20 is the only complete pipe-bowl of the four. Conversely, the description for Item 20 applies to the illustration of Item 21: "Brick red exterior. Brownish grey on inside. Finely levigated. Punctate design on outside. Ottoman pipe" (Whalen et al. 1981: Plate 53, Description 20). Furthermore, the illustration of Item 21 is upside down; shank ends are usually depicted with the shank opening upwards. The profile drawing also fails to depict the bore hole, or shank opening. The next pipe is illustrated as Item 23, and is described under Item 17. Item 17 is illustrated as a rim piece from a larger vessel, so the description for Item 17 certainly does not match the illustration: "Brick red pipe mouthpiece. Late Islamic/Ottoman" (Whalen et al. 1981: Plate 53, Description 17). The last pipe fragment is illustrated as Item 26, and is described under Item 23: "Orange slip, gritty fabric. Reddish-brown paint on exterior. Ottoman pipe" (Whalen et al. 1981: Plate 53, Description 23). Colors of fabrics and paints are provided within the descriptions, and would certainly aid in fixing this mix-up had the illustrations been in color and not black-and-white outlines.

Site 210-221 is the only site within this project that is categorized as a cemetery. The case of tobacco pipes having been recovered from a cemetery presents an enigma. Most Muslims did not pitch tents near cemeteries, forcing one to wonder if the people who discarded or lost these pipes recognized the area as a cemetery (Saidel 2010, personal communication).

Northwestern and Northern Provinces

The fieldwork in the Northwestern and Northern provinces was carried out by a crew of eight from February 6 to April 14, 1981 (Gilmore et al. 1982: 9). The survey team set out with four objectives: to conduct a general archaeological reconnaissance in the previously unvisited areas of the Northern and Northwestern Provinces, to gather data which would aid in answering the multitude of questions raised during the first five years of the archaeological survey of the Peninsula, to gather environmental data, and to note sites and regions where further intensive investigation would be the most effective in providing valuable archaeological data (Gilmore et al. 1982: 9-10). In terms of methodology, the researchers used a “grab sample technique” for the collection of surface materials, surface remains were sketch mapped, and limited soundings were made “to clarify structures” (Gilmore et al. 1982: 10). The fieldwork in both provinces recorded a total 204 sites ranging in date from the Lower Paleolithic through recent historical sites.

Sites 204-157 and 205-79

Two clay smoking pipes were collected at sites 204-157 and 205-79 in the Northwestern and Northern provinces, respectively. The site descriptions for both locations are wanting. For example, while structures are present at these sites, the nature of the architecture at both locations is not described in this report (Gilmore et al. 1982: 15, Table 3). There is also an unfortunate discrepancy in the site name that appears on Plate 33B and on the survey map on Plate 2. For example, on plate 33B, one site is identified as Site 204-157a. On the survey map there is a locality identified as Site 204-157. Presumably, this discrepancy is attributed to typographical error (refer to Gilmore et al. 1982: Plate 2 and 33). Furthermore, this sixth volume of *Atlal* appeared a few months later

than the normal publication date “due to technical difficulties in the preparation of the bilingual manuscripts” (Masry 1982: 5). Hereafter I will simply refer to this site as 204-157.

A complete pipe was picked up at Site 204-157, which is located approximately 160 kilometers north of Al 'Ula. This site is situated along the abandoned Hijaz Railroad, which follows an old track: “This route has a rich history; its winding way through narrow wadis...was a major north-south road throughout antiquity, beginning as an overland trade route from South Arabia; it later became an important Darb al-Hajj (pilgrimage road) in Islamic times” (Gilmore et al. 1982: 11). The clay pipe found at this location is made of a gray ware that contains a medium grit temper. The exterior is impressed with a design (Gilmore et al. 1982: Plate 33, Item 7), however, the nature of this design is not clearly represented in the plate and it is not mentioned in the report. Aside from this clay pipe there are other Turkish period ceramics present at this site (Gilmore et al. 1982: 18, Table 4). The second clay smoking pipe was found at site 205-79, which is approximately 30 kilometers northwest of Khaybar. This intact smoking pipe is made of a well levigated fine red ware that has a roulette design on the exterior (Gilmore et al. 1982: Plate 33, Item 8). On account of the lack of detail concerning the date of the structures at both sites, they are considered ephemeral sites within the context of this study.

Ar-Rowdah North

A twelfth clay smoking pipe was collected during a survey of the Darb al-Hajj Pilgrimage road (in the report, spelled 'Darub'). The purpose of the survey project was to “document Islamic architecture associated with pilgrimage routes through the Kingdom of Saudi Arabia” (Gilmors et al. 1984: 143). The staff of this project numbered eighteen

individuals who were in the field from January 14 to April 8, 1983. During this survey they documented eleven Islamic sites that contained Ottoman-period material culture, and the pipe was recovered from one of these sites, Ar-Rowdah North. The site is categorized within this project as a built site with associated Ottoman-period architecture and/or material culture.

A fragment of a clay smoking pipe was recorded at the site of Ar-Rowdah North, which is located approximately 1 kilometer southwest of al-Buthayniah (Gilmors et al. 1984: 149). The pottery collected from the surface of the site varied in date from the Middle Islamic period to the recent past. A variety of architectural remains were documented at this location including a *qasr* (palace), *qala'h* (fort). The former is most likely dated to the end of the Middle Islamic period and the latter varied in date from 150 to 75 years BP (Gilmors et al. 1984: 151).

The tobacco pipe found at Rowdah North, also spelled Rowdha, is described in the report as a “[s]herd of pottery covered with a layer of underlaid on the outside and inside tends to reddish colour, looks to be a part of a pipe, has projected decorations of a wide stripe embracing parallel vertical lines (Northern Rowdha)” (Gilmors et al. 1984: Plate 123, Item 5). It should be noted that there is no scale present on Plate 123; and within the text, the site is spelled ‘Rowdah’ while on the Plate, it is ‘Rowdha.’

Chapter 5: Redating the Pipes and the Porcelain Cups

As a result of a series of typological studies published after the completion of the Comprehensive Survey, the pipes collected in the course of this fieldwork can be redated (Hayes 1980, 1992; Robinson 1983, 1985; Simpson 2000, 2002; al-Senussi and Le Quesne 2007). In other words, the clay smoking pipes from the comprehensive source can be redated to a particular century within the span of the Ottoman Empire's occupation in the Middle East. The redating of these smoking pipes is based upon comparative parallels drawn, which were published after the completion of the Comprehensive Survey. These comparative samples come from securely dated excavation levels, or from levels with associated material such as coins and pottery that can be accurately dated, and have also undergone further typological studies by being compared to corpora from throughout the Middle East.

The clay pipe assemblage from Suba is the largest published corpus from the Levant, and is the primary reference used for drawing parallels with the Arabian Survey corpus. Suba is a British Mandate and Ottoman-period village situated to the west of Jerusalem in Israel. The 377 semi-complete and fragmentary clay pipes from Suba were studied by St John Simpson (2000a). Simpson divided the pipes into groups based on fabric, form and surface treatment. He used Robinson's (1985) terminology in order to describe the decorations on the exterior of the pipes. The ceramic types established by Simpson were dated by the context of the deposits and also the use of typological parallels with other pipe assemblages (Simpson 2000a: 147).

An additional source used to date the pipes from the Comprehensive Survey is the clay pipe assemblage from Quseir. This site is an Ottoman and Napoleonic fortress that is

situated on the Red Sea coast of Egypt (al-Senussi and Le Quesne 2007: 170-191). The Quseir catalogue is based on the typology established by St. John Simpson in his analysis of the large corpus from Suba (Simpson 2000a), supplemented by a study of twenty-three pipe-bowl fragments from Tell Jezreel (Simpson 2002) (al-Senussi and Le Quesne 2007: 174). Although the Suba material represents a Palestinian pipe-making tradition, and the Quseir material represents an Egyptian pipe-making tradition, both provide a more comparable assemblage than the published groups from Greece and Istanbul (see Robinson 1985; Hayes 1992) (al-Senussi and Le Quesne 2007: 174-175). That is to say, Palestine and Egypt border or had strong trading ties with Saudi Arabia, thus allowing for similar pipe-bowl traditions to circulate throughout this region of the empire.

Comparative analysis with related pipes found in other parts of the Ottoman Empire—including Turkey, Bulgaria, Croatia, Greece, Mytilene, Malta, Egypt, Lebanon, Iraq and Yemen—imply the existence of regional traditions of manufacture with some distinctive local products being identified. The continuing study and publication of further groups from different parts of the Empire, together with closer attention to Ottoman historical sources should enable the closer definition of these different industries. (Simpson 2002: 159)

Aside from Suba and Quseir this study also uses the clay pipe assemblages from Baniyas in Israel, and Bab al-Baraiyya in Egypt (Pradines 2004: 283-284, 289-291; Dekkel 2008: 113-164). The former might have been a pipe production center for the Golan region during the Ottoman period in Palestine (Dekkel 2008: 117). Furthermore, the types of pipes originating at Baniyas also reached the southern parts of Palestine, and Egypt (Dekkel 2008: 117). Bab al-Baraiyya also contains evidence suggesting that tobacco pipes were also fabricated at this site (Pradines 2004: 283).

Judging from the available fragments, at least one example of all three forms—rounded, lily and disc-shaped bowls—was recovered during the Comprehensive

Archaeological Survey in Saudi Arabia. There are potentially four rounded-bowl types, one lily-shaped (or transitional sack-like) bowl, and one disc-shaped pipe-bowl. It is almost impossible to determine the bowl shape from the appearance of the shank, the most widely recovered part.

The Dates of Tobacco Pipes Found in Saudi Arabia

The majority of the pipe-bowls have strong parallels to types dated to the eighteenth and nineteenth centuries, although a few extend this date range into the late seventeenth century (refer to **Table 5.1**). Four of the twelve pipe-bowls (33%) compare with types dated to the late eighteenth or early nineteenth century. Three of the twelve (25%) compare with types dated to the end of the seventeenth or eighteenth centuries, but are closer to the latter in date. As some pipes had more than one parallel, the date ranges could be extended to include the latter part or early part of a century, or a particular century was repeated, putting more weight on that end of the range (represented in **Table 5.1** by an *). Two specimens (17%) closely parallel designs that are firmly dated to the eighteenth century. Two (17%) have parallels that firmly date these pipes within the nineteenth century. Unfortunately, one pipe-bowl (8%) could not be dated, as it did not resemble any type found within the Middle East. Additionally, the drawing of the pipe did not include a helpful profile view, illustrating where the shank connects to the pipe-bowl, a vital characteristic for dating another prevalent tobacco-pipe style of the day, the kaolin pipe (refer to Binford 1978).

N	Province	Site	Type of Site/Settlement (from text)	Date	Atlat Reference	Parallels	Notes
1	Central*/ South-western	206-48	Mining site (gold, silver) in the ad-Dawadami area. Dated to Abbasid period. Material culture includes green and yellow-green glass, buff wares, Abbasid wares, steatite bowls, and limestone vessels.	18 th Century	Zarins et al. 1980: Plate 21 #22	Suba, Fig. 13.2: 33, 39 (Simpson 2000a: 151)	This shank-end is erroneously depicted as being part of a vessel. Due to the misrepresentation, the scale at which this piece is depicted is also disregarded. It is depicted as being much larger than typical shank ends. Glazed pipes were produced in Greece and Yemen during the seventeenth and eighteenth centuries, and have been noted from Istanbul and Arabia (Simpson 2000a: 152).
2	Central/ South-western*	210-15	al-Maba'uth, where local farming activity exposed a large number of structures and material remains were extensive. Material culture includes plain red wares with a buff slip, green wares with a glazed decoration, imitation celadons, Turkish blue wares, and other glazed yellow and green wares. A coffee cup was also recovered at this site.	End of 18 th – Early 19 th Century	Zarins et al. 1980: Plate 23 #18	Baniyas, Fig. 4.11: 66 (Dekkel 2008: 147); Bab al-Barqiyya, Type D (Pradines 2004: 291); see also (État Moderne 1817 Tome Second, II.e Partie: Planche ii, Items 25, 26, 34, 40)	This base of this disc-shaped pipe is erroneously described as being a spout. Referenced in Simpson (2000b: 16) as being a sherd found in the Najd that is "insufficiently diagnostic to determine when or where [it] was made." This piece compares to the parallel at Baniyas in that both have a broad flat disc, designed as a flower, and the shank connects at an acute angle to the bottom of the bowl, creating below it a broad, flat rectangular stand.

N	Province	Site	Type of Site/Settlement (from text)	Date	Atlat Reference	Parallels	Notes
3	Central/ South-western*	210-62	Fort/Watchtower built of local stone, dated as post-Abbasid. Material culture includes buff wares.	Late 18 th – Early 19 th Century	Zarins et al. 1980: Plate 26 #17	Suba, Fig. 13.3: 42, 44, 46, 48 (Simpson 2000a:154); Quseir, Fig. 73: 31 (al-Senussi and Le Quesne 2007: 185)	A rather short and stout shank-end, with a minute portion of the bowl present. Compares to parallels in that this piece has a splayed shank-end with notch rouletting or relief decorations towards the bowl.
4	Central/ South-western*	210-48	Fort/Watchtower built of local stone, dated as post-Abbasid. Material culture includes red wares, light brown wares, buff wares with a blue-green glaze, brown wares, pink buff wares, blue wares, and two porcelain coffee cups.	End of 17 th - *18 th Century	Zarins et al. 1980: Plate 26 #18	Suba, Fig. 13.1: 12, 17 (Simpson 2000a: 148); Quseir, Figure 72: 11 (al-Senussi and Le Quesne 2007: 179; Baniyas, Fig. 4.10: 53 (Dekkel 2008: 145)	A longer and thinner shank-end than the previous example, also with a minute portion of the bowl present. Compares to parallels in that the shank-end is swollen and impressed with notches, while the lower bowl is decorated with double incised lines.
5	South-western	217-79	Associated Ottoman architecture includes barrel vaults, rounded, tapered towers with ventilation shafts and relieving arches. Material culture includes European imports including English and Dutch china plates and cups, and two hand-painted coffee cups.	19 th Century	Zarins et al. 1981: Plate 27 #31	Suba, Fig. 13.4: 96, 97 (Simpson 2000a: 156)	This shank-end is decorated with incised or impressed lines.

N	Province	Site	Type of Site/Settlement (from text)	Date	Atlat Reference	Parallels	Notes
6	Western	210-221	Cemetery with a thin scatter of pottery.	?	Whalen et al. 1981: Plate 53 #20	Does not resemble any type found native to the Middle East.	Although this piece is illustrated as item 20, the correct description is under item 21. This pipe bowl reminds one of the European kaolin pipe.
7	Western	210-221	Cemetery with a thin scatter of pottery.	End of 17 th - *18 th Century	Whalen et al. 1981: Plate 53 #21	(?) Baniyas, Fig. 4.4: 6, Fig. 4.7: 26 (Dekkel 2008: 133, 139); Bab al-Barqiyya, Type C (Pradines 2004: 291)	Although this piece is illustrated as item 21, the correct description is under item 20. This piece is depicted as a pipe-bowl, which is inaccurate, and is also upside down. It more accurately resembles a shank end, despite the absence of a bore-hole.
8	Western	210-221	Cemetery with a thin scatter of pottery.	*18 th – Early 19 th Century	Whalen et al. 1981: Plate 53 #23	Suba, Fig. 13.3: 48 (Simpson 2000: 154); Quseir, Fig. 73: 20 (al-Senussi and Le Quesne 2007: 185)	Although this piece is illustrated as item 23, the correct description is under item 17. Compares in swollen shank-end with simple notch-rouletted decoration.
9	Western	210-221	Cemetery with a thin scatter of pottery.	19 th Century	Whalen et al. 1980: Plate 53 #26	Suba, Fig. 13.6: 129, 136, 137 (Simpson 2000a: 162)	Although this piece is illustrated as item 26, the correct description is under item 23. This piece compares to the parallels in that it has a diamond/triangular arrangement of small stamped impressions inside converging double-incised lines.

N	Province	Site	Type of Site/Settlement (from text)	Date	Atlat Reference	Parallels	Notes
10	North-western/ Northern	204-157a	Not discussed within the text. Listed in a table as being a post-Neolithic site with structures present. Also listed in a table as having Turkish ceramics present. Located along the derelict Hijaz Railroad.	End of 17 th – 18 th Century	Gilmore et al. 1982: Plate 33B #7	Quseir, Fig. 73: 26, 27 (al-Senussi and Le Quesne 2007: 185); Baniyas, Fig. 4.6: 24 (Dekkel 2008: 137); Bab al-Barqiyya, Type B (Pradines 2004: 290)	This pipe resembles a rounded bowl with a flared rim, and also a lily-shaped pipe. However, the fabric and length of the shank suggest an earlier date than the typical lily pipe. It may be a transitional type, like the sack-like bowls present at Baniyas, that is an intermediate between the rounded bowl and the lily-shaped bowl (Dekkel 2008: 125).
11	North-western/ Northern	205-79	Not discussed within the text. Listed in a table as being a post-Neolithic site with structures present.	18 th Century	Gilmore et al. 1982: Plate 33B #8	Suba, Fig. 13.2: 28 (Simpson 2000a: 151); Quseir, Fig. 72: 1, 5, 13 (al-Senussi and Le Quesne 2007: 179); Bab al-Barqiyya, Type B (Pradines 2004: 290)	Compares with parallels in having a rounded lower bowl with a cylindrical vertical upper bowl. Decorated with zigzag pattern-wheel rouletting on the upper bowl, and double incised lines on the lower bowl.
12	Survey of Northern Pilgrimage routes. Not a phase of the Saudi Arabian Comprehensive Survey Program.	Ar-Rowdah North	Pilgrimage roads in western foothills of the Hejaz Mountains to the Red Sea coastal plain. Ceramics and architecture date the area to 150 to 75 years B.P.	18 th – Early 19 th Century	Gilmors et al. 1984: Plate 123 #5	Suba, Fig. 13.1: 12 (Simpson 2000a: 148); Quseir, Fig. 74: 39 (al-Senussi and Le Quesne 2007: 189)	Compares with the swollen shank-end decorated with vertical impressed lines.

Table 5.1 Tobacco pipe-bowl parallels and dates

An unusual smoking pipe was collected at Site 210-221. This pipe is made of a cream colored fabric and the shape of the pipe bowl resembles the lower half of an egg. Based upon the data at hand it is clear that this smoking pipe does not resemble a *chibouk*, however, it is reminiscent of British Kaolin pipes. Kaolin pipes, white clay pipes with stems in one piece, were widely used in England, Holland and France (Robinson 1983: 265). Unfortunately, the poor illustration, which lacks a profile view, along with the limited—and erroneously presented—description, does not allow for the classification or re-dating of this pipe (Charles Ewen 2010, personal communication).

The Dates of Coffee Cups Found in Saudi Arabia

Unfortunately, the coffee cups recovered from Saudi Arabia could not be re-dated more specifically through the use of Middle Eastern archaeological parallels, as none could be found. However, some interesting comparisons can be noted (refer to **Table 5.2**). The shape of cup two from the Saudi Corpus (site 210-48) resembles the form of a Kütahya example from Saraçhane (c.f. Hayes 1992: 267, Fig. 100: 5; Plate 43: 91.5). Kütahya began producing Chinese imitations by the end of the seventeenth century. The second coffee cup from site 210-48 also resembles the shape of a Kütahya example from Saraçhane (c.f. Hayes 1992: 267, Fig. 100: 14). The last two cups from the Saudi corpus, both from site 217-79, and possibly cup three from site 210-48, are similar in shape to some examples characterized by Hayes as Iznik wares and derivatives (c.f. Hayes 1992: 251, Fig. 95: 29). Iznik began to produce ceramics in the late fifteenth century through the seventeenth century, and reached its zenith during the sixteenth century (Denny 2004: 43).

N	Province	Site	Type of Site/Settlement (from text)	Atlatl Reference	Notes
1	Central/South-western*	210-215	al-Maba'uth, where local farming activity exposed a large number of structures and material remains. Material culture includes red wares with buff slip, green wares with glazed decoration, imitation celadons, Turkish blue wares, other glazed yellow and green wares, and a tobacco pipe.	Zarins et al. 1980: Plate 23 #10	Design appears to be floral/foilage. Small flower-like linear design connected to ovular shaped leaves/foilage. It is rather small compared to the other cups recovered during the Survey Program. Perhaps its small size is indicative of an early date when coffee was newly introduced throughout the Middle East, a similar phenomenon to the change in size of tobacco pipe bowls over the centuries. The floral design on this white porcelain, blue on light blue glaze cup is somewhat similar to a floral design on an Iznik dish, dated c. 1570-75, housed at the Musée de la Renaissance, Ecoen (c.f. Rogers 1989: 883, Fig. 106). Could potentially be dated to the 16th century.
2	Central/South-western*	210-48	Fort/Watchtower built of local stone, dated as post-Abbasid. Material culture includes red wares, light brown wares, buff wares with a blue-green glaze, brown wares, pink buff wares, blue wares, and a tobacco pipe.	Zarins et al. 1980: Plate 24 # 3	Design appears to be a column of florals, between columns of a petal/scale-like motif. The top portion of the interior has a parallel lines framing double zigzag lines with three dots in a downward triangle. Shape resembles a Kütahya example from Saraçhane, Turkey (Hayes 1992: 267, Fig. 100: 5; Plate 43: 91.5). The design is similar to a Kütahya cup from Tabán, a Turkish district near Buda Castle in Hungary (Gerelyes 2008: 75, Fig. 2) and from Istanbul (Davies and Davis 2007: 85, Fig. 4.17). Both the shape and the design are similar to a cup found in Thebes (Davies and Davis 2007: 82, Fig. 4.13). Could potentially be dated to the 18th century based on the similarities in polychrome designs of the Kütahya example from Istanbul.
3	Central/South-western*	210-48	Fort/Watchtower built of local stone, dated as post-Abbasid. Material culture includes red wares, light brown wares, buff wares with a blue-green glaze, brown wares, pink buff wares, blue wares, and a tobacco pipe.	Zarins et al. 1980: Plate 24 #6	Plain design. Shape similar to a Kütahya example from Saraçhane (Hayes 1992: 267, Fig. 100: 14), as well as 17th century Persian cups from Hungary (Gerelyes 2008: 76, Fig. 3). Parallels rather speculative due to the cup's degree of completion.

N	Province	Site	Type of Site/Settlement (from text)	Atlas Reference	Notes
4	Southwestern	217-79	Associated Ottoman architecture includes barrel vaults, rounded, tapered towers with ventilation shafts and relieving arches. Material culture includes European imports including English and Dutch china plates and cups, and a tobacco pipe.	Zarins et al. 1980: Plate 27 #26	Top two-thirds of the cup is decorated with an Islamic moon and star motif, framed by two parallel lines. Colors unknown. Similar in shape to some examples characterized by Hayes as Iznik wares and derivatives (1992: 251, Fig. 95: 29). Very similar in shape and design to 17th century Persian coffee cups recovered in Hungary (Gerelyes 2008: 76, Fig. 3).
5	Southwestern	217-79	Associated Ottoman architecture includes barrel vaults, rounded, tapered towers with ventilation shafts and relieving arches. Material culture includes European imports including English and Dutch china plates and cups, and a tobacco pipe.	Zarins et al. 1980: Plate 27 #27	Top two-thirds of the cup is decorated with a simple double-leaf pattern. Colors unknown. Similar in shape to some examples characterized by Hayes as Iznik wares and derivatives (1992: 251, Fig. 95: 29). A similar simple leaf and stem pattern can be seen on a Kütahya blue-and-white design on a dish housed at the Victoria & Albert Museum and a coffee pot from Arts Décoratifs in Paris (Crowe 2008: 5, Fig. 8, 8a; inv. 597-1874/dish; Crowe 2008: 4, Fig. 7; inv. 8214/coffee pot). This design is dated to the first quarter of the 18th century. Very similar in shape and design to 17th century Persian coffee cups recovered in Hungary (Gerelyes 2008: 76, Fig. 3). Could potentially date to the 17th or early 18th century.

Table 5.2 Coffee cup parallels and notes

Although no concrete archaeological parallels could be noticed with the existing Middle Eastern corpora, one can make speculations with reference to the shapes and designs present on the 'porcelain' coffee cups in the Saudi Arabian Survey corpus based on examples from the works of art historians, and excavations from elsewhere in the Ottoman Empire. Ibolya Gerelyes' report (2008) on the oriental pottery in archaeological finds in Hungary provides some interesting similarities. The design of a Kütahya cup, dated to the early eighteenth century, recovered from the Tabán, a Turkish district near Buda Castle is similar to the design of cup two from site 210-48 (c.f. Gerelyes 2008: 75, Fig. 2; Zarins et al. 1980: Plate 24, Item 3). Although the shape of the cups does not match, the Saudi cup has a flared rim while the Kütahya example from Hungary is a rounded almost bowl-like shape, the designs have similarities. Both have a ring of zigzag lines along the top interior rim, with a very ornate exterior design involving geometrics and florals covering the whole surface of the cup. The designs are also reminiscent of another Kütahya coffee cup dating to the eighteenth century from Istanbul, although the shapes do not match (Davies and Davis 2007: 85, Fig. 4.17). However, a Kütahya coffee cup from Thebes, found during excavations at Pelopidou Street, is similar to cup two in both shape and design (Davies and Davis 2007: 82, Fig. 4.13, right). Unfortunately, the example from Thebes is not dated, therefore this comparison is the most conjectural in terms of providing a date. What can be said is that cup two of the Saudi Arabian corpus is more than likely an eighteenth-century Kütahya coffee cup, strictly based on similarities between the polychrome designs.

The same report from Gerelyes (2008) also provides a more striking comparison, between cups four and five from site 217-79 (and perhaps cup three from site 210-48) to examples from Hungary based on both shape and design (c.f. Zarins et al. 1981: Plate 27,

Items 26 and 27/cups four and five; Zarins et al. 1980: Plate 24, Item 6/cup three). The examples recovered at Buda Castle are examples of seventeenth-century Persian coffee cups (Gerelyes 2008: 76, Fig. 3). The shapes of both the Persian types and those recovered from Arabia are large, rounded and bowl-like tapering to a small base. The designs are very simple designs on the exterior consisting of a repeated scroll pattern encircling the upper two-thirds of cup, and a linear band encircling both the upper exterior and interior rims. The simple leaf-and-stem pattern on cup five of the Saudi Arabian corpus is also very similar to a Kütahya blue-and-white design on a dish housed at the Victoria & Albert Museum and a coffee pot from Arts Décoratifs in Paris (Crowe 2008: 5, Fig. 8, 8a; inv. 597-1874/dish; Crowe 2008: 4, Fig. 7; inv. 8214/coffee pot). This “debased version of an Iznik flower spray” design is also illustrated in black on the back of a polychrome dish illustrating the archangel Gabriel, dated to 1718, also housed at the Victoria & Albert Museum (Crowe 2008: 5-6, inv. 279-1893). Crowe (2008: 5) dates this type of decoration to the first quarter of the eighteenth century based on these examples. Considering the form of the Saudi cup, and the fact that the design is perhaps a Kütahya imitation of an earlier Iznik design (and is only a simple representation of part of the overall design), cup five could potentially be dated to the seventeenth or early eighteenth century. Further research on Persian coffee cups, along with the connections between the kilns at Iznik, Kütahya, and those in Persia could provide information on the spread of these types throughout the Ottoman period. As it turns out, the Ottoman Empire “became an international crossroads not only of artistic commerce but of artistic ideas” (Denny 2004: 13).

Coffee cup one in the Saudi Arabian corpus is unique, compared to the other four cups recovered during the Comprehensive Survey Program (c.f. Zarins et al. 1980: Plate 23, Item 10; from site 210-15). It is rather small, and almost resembles a sake cup. Perhaps its small size is indicative of an early date when coffee was newly introduced throughout the Middle East, a similar phenomenon to the change in size of tobacco pipe bowls over the centuries. The floral design on this white porcelain, blue on light blue glaze cup is somewhat similar to a floral design on an Iznik dish, dated c. 1570-75, housed at the Musée de la Renaissance, Ecoenen (c.f. Rogers 1989: 883, Fig. 106). Based on the design, and the speculation about the small size, this cup could hypothetically be dated to the sixteenth century.

Based on these conjectural parallels through the use of the Buda Castle site in Hungary, sites in Greece, and works discussing Ottoman-period ceramics, cup one of the Saudi Arabian corpus may be a sixteenth-century example. However, it is difficult to determine if this tiny cup is imported Chinese porcelain, or a local imitation. Cup two is more than likely an eighteenth-century Kütahya example, and is therefore not porcelain, but frit-ware. Cups three through five have some likeness with examples produced at Iznik and Kütahya, as well as some striking similarities to a group of seventeenth-century Persian coffee cups. Finding exact parallels to coffee cups has proven to be difficult, given the apparent sharing of ideas in terms of ceramic design between production centers in China, Turkey, Iran, and possibly other kilns within the lands under Ottoman influence. Furthermore, it seems that the dating of ceramics is highly dependent on the colors and the manner in which glazes and paints were applied during the firing process. Given the black-and-white nature of the illustrations representing the Saudi Arabian corpus, the very curt

descriptions for the coffee cups, and the lack of color descriptions for cups four and five, the parallels presented are speculative at best. It could be the case that the paint on cups four and five is black, or dark, which would make them even more similar to the Persian coffee cups recovered at Buda Castle in Hungary.

Chapter 6: Discussion and Conclusions

Site Structure

The majority of the clay tobacco pipes collected in the Comprehensive Archaeological Survey came from two types of sites—ephemeral and built sites (refer to **Fig. 6.1** and **Fig. 6.2**). Diagnostic sherds from clay tobacco pipes were recovered from three ephemeral sites and five built sites. In this study, an ephemeral site is defined as being occupied for a brief period of time during the Ottoman period due to the fact that these sites only yielded one tobacco pipe and no other Ottoman-period artifacts, as far as can be determined from the preliminary reports. All three ephemeral sites have tobacco pipes dating to the eighteenth century. There is the possibility, however, that the pipe from Site 204-157 may be dated from the late seventeenth to eighteenth century. The ephemeral nature of these sites combined with the finds of individual pipe at these locations may be a reflection of mobility; alternatively, it could be attributed to the survey methods employed by the researchers (Zarins et al. 1980; Gilmore et al. 1982).

The five built sites are representative of the Ottoman administrative presence in Arabia. Within the context of this research, a built site is defined by the presence of tobacco pipes and/or coffee cups found in association with Ottoman-period architecture, and in some cases, other Ottoman-period material culture. For instance, the types of structures present at these locations include either a fort, watchtower, or structure constructed in typical Turkish design. A number of these constructions were most likely garrisoned by Ottoman troops (c.f. Hourani 1991; Lewis 1995; Quataert 2000; Al-Rasheed 2002). Site 210-15 is considered to be a built site due to the presence of undefined structures and large ceramic kilns within the area. The tobacco pipes recovered from the built sites



Fig. 6.1 Map showing the distribution/site types where tobacco pipes and coffee cups were recovered

Ephemeral sites are designated on the map by a blue wavy icon. The yellow house icons represent sites where only a tobacco pipe was found, and the purple-pink house icons represent sites with both a tobacco pipe and coffee cups.



Fig. 6.2 Close-up of sites with tobacco pipes and coffee cups in the Mecca-Taif region

mainly range in date from the eighteenth to nineteenth century. Five coffee cups were also recovered from three of these built sites, but proved to be undiagnostic, as exact parallels

could not be found in the available materials. Furthermore, the preliminary reports failed to specify the number of structures present at these sites, as well as where the material culture was recovered in relation to the structures. Until the final publication of the Comprehensive Archaeological Survey Program regional monograph reports, the true nature of these sites cannot be determined with confidence.

Given the preliminary nature of the survey reports, limited inferences can be drawn concerning the sites where pipes and coffee cups were recovered. There is one site, however, that was explicitly defined by the researchers as being a cemetery with a thin scatter of pottery with a Late Islamic/Ottoman date (Whalen et al. 1981: 54). It is uncertain as to how Whalen and colleagues (1981) identified this site as a cemetery, considering that most graves are unmarked (Peterson 1994: 53), other than the occasional pile of stones (Insoll 1999: 57). Four clay tobacco pipes were recovered, and range in date from the end of the seventeenth century to the nineteenth century. The presence of a cemetery so close to Mecca, and along a coastal road, is most likely representative of the high rate of mortality on the *hajj* (Peterson 1994: 53). Peterson (1994: 53) writes that the reasons for a presence of cemeteries along *hajj* routes are:

(1) the advanced age of many of the pilgrims (people are not usually rich enough to undertake the Hajj and provide for their families until late middle age); and (2) the Hajj, until recent times, was an extremely arduous journey, during which pilgrims were exposed to extremes of heat and cold, as well as to the physical exhaustion of travelling such vast distances.

The thin scatter of pottery, including the four clay tobacco pipes, may be associated grave goods to those buried in this location. It has been noted by Woolley and Lawrence (1936: 44) that at "Kossaima (Egypt) the dead man's shirt, head cloth, pipe, camel stick and cap

were all left as offering on, rather than in, the grave.” Additionally, we have photographic evidence of a pipe being left on top of a grave in the Sinai (c.f. Matson 1980 Vol. 2: 282).

Explanations for the Distribution of Pipes and Coffee Cups

The prevalence in this assemblage of eighteenth and nineteenth-century pipe types is not surprising given that at this time tobacco smoking was legally and religiously sanctioned. As a result, local varieties of tobacco were grown in the Levant and the price for this commodity dropped significantly between the seventeenth and eighteenth centuries (Grehan 2006: 1355-1356). Aside from local cultivation, tobacco paraphernalia was available for purchase in most markets. In these locations smokers were offered a variety of pipe styles for sale. In the early nineteenth century, Burckhardt (1829 v. 1: 65) writes about the markets in Jidda: “Thirty-one tobacco-shops, in which are sold Syrian and Egyptian tobacco, tombac, or tobacco for the Persian pipe, pipe-heads and pipe-snakes, cocoa-nuts, coffee-beans...The Egyptian tobacco...is the cheapest, and [is] in great demand throughout the Hedjaz.” Tobacco was also available during times of religious and political persecution against its use: “During the power of the Wahabys, tobacco could not be sold publically; but as the Bedouins of the Hedjaz are passionately fond of it, persons sold it clandestinely in their shops, not as tobacco or *dokhan*, but under the name of ‘the wants of man’” (Burckhardt 1829: 66). Therefore, the scarcity of clay tobacco dry pipes recovered by the Comprehensive Survey may be due to a variety of factors.

Role of the environment

The distribution and prevalence of clay tobacco pipes and coffee cups found along the western coast of Saudi Arabia may be attributed to topographical conditions. For example, a natural line of division exists, which runs roughly from north to south, parallel

to the Red Sea. On the western side is an area of volcanic rock, comprising the coastal plain, or Tihama, which rises into ranges of hills and plateaus, then into higher mountain ranges of the Hijaz and 'Asir (Hourani 1991: 89-90). To the east of this line, heading towards the Persian Gulf, are sandy deserts—the Nafud in the north and the Empty Quarter in the south—separated by a rocky steppe, the Najd (Hourani 1991: 90). Furthermore,



Fig. 6.3 Physical map of Saudi Arabia
 The *Rub 'Al Khali* Desert is Arabic for the Empty Quarter.
 (<http://www.zim24travel.com/map.php?page=asia-saudi-arabia>)

most of the large population centers developed along the western coast in the Hijaz region during the Islamic periods, just north of 'Asir, in the north-central Najd during times of Wahhabis uprisings, and to the east in Hasa during the Ottoman period (al-Rasheed 2002: 6

- 8). In other words, the Arabian Peninsula is “divided into a number of areas differing from each other in physical nature and, at most periods, in historical development” (Hourani 1991: 89).

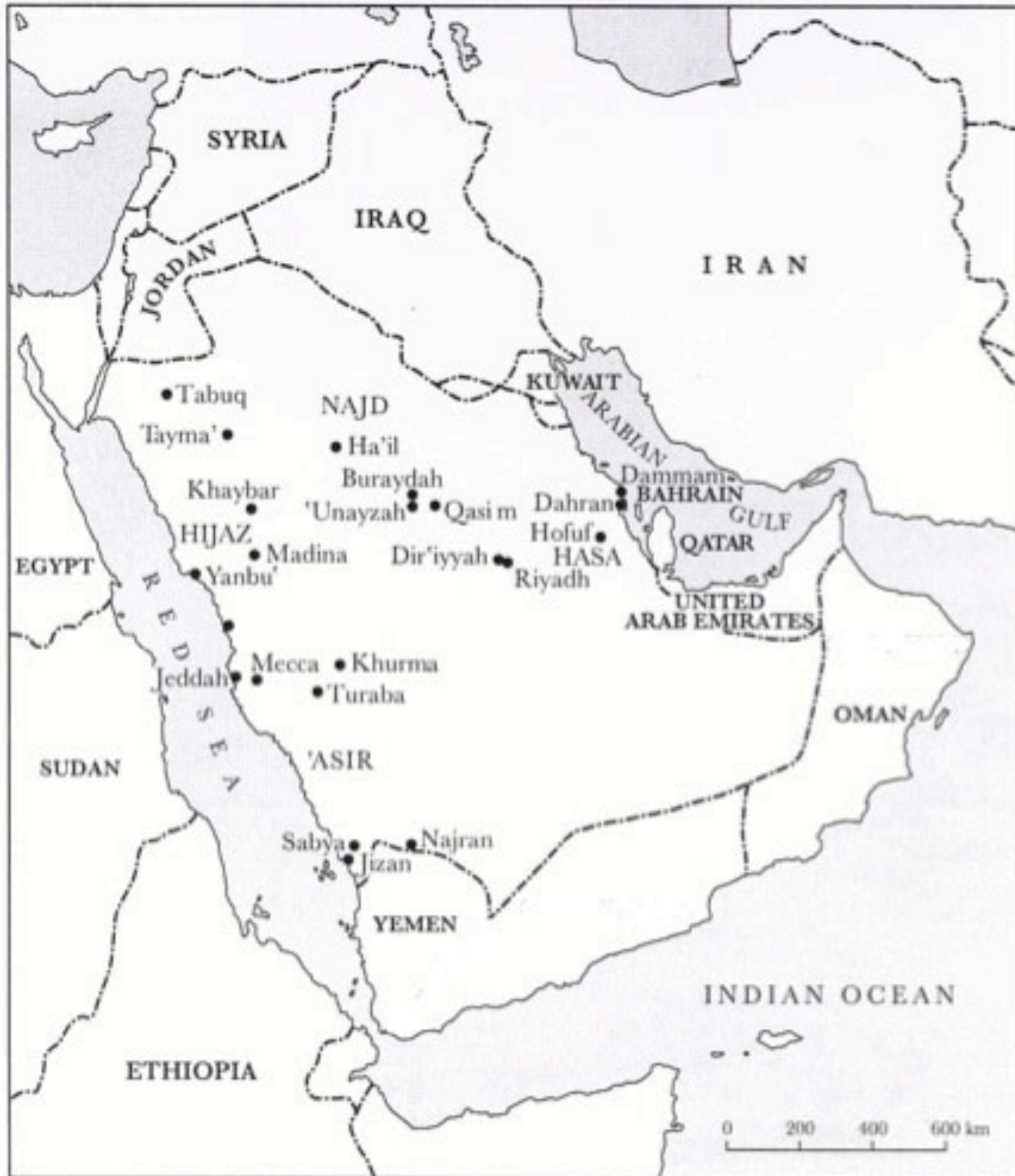


Fig. 6.4 Saudi Arabia, main regions and cities (after F. Clements 1979, *Saudi Arabia*, *World Bibliographical Series*. Clio Press: Oxford)

Role of the survey methods and recovery

From the onset of the Comprehensive Archaeological Survey Program, the researchers made reference to the difficulty of traversing the desert terrain, and their inability to cover all regions. In order to survey as much of the land as possible, given the logistical issues of covering such a large landmass, the predominant means through which the surveys were carried out involved vehicular transport and simple surface recovery. The majority of the tobacco pipes and coffee cups recovered during the Survey Program are located not too far from major highways. Therefore, the potential for tobacco pipes and

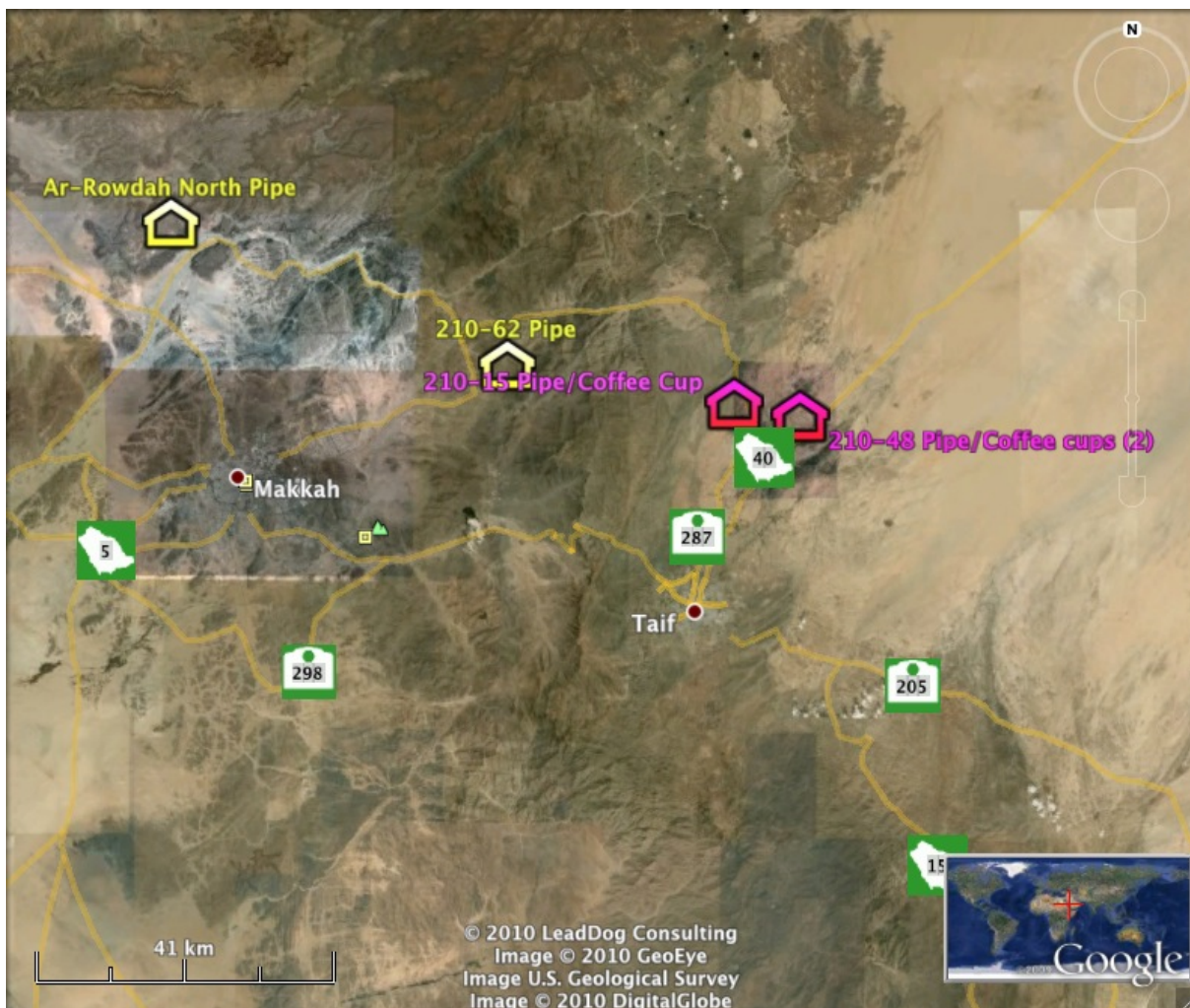


Fig. 6.5 Map showing the proximity of recovery sites to major highways

coffee cups to exist in areas far removed from the major highways and roads in Saudi Arabia does exist. However, given the survey methods employed during the Comprehensive Survey Program, site selection, and ultimately the recovery rate, depended on the area's proximity to said highways, as well as the ease at which the researchers could traverse the difficult terrain.

Further issues that could have resulted in such a low recovery rate involve the modern nature of the objects that represent tobacco and coffee consumption. It seems that only a few of the members of each scientific staff were trained archaeologically to recognize the potential range of artifacts that could be present at any given site. More than likely, several pipes and cups were thrown out or not recorded simply because they were thought to be of a more modern origin, and therefore not of any archaeological significance. Furthermore, collection biases could have arisen for survey teams composed of mainly Saudi researchers, given the nature of their attitudes towards an Ottoman governance of Arab lands and newly founded notions of nationalism. Finally, the preliminary reports themselves can at times be very rudimentary in their descriptions of Late Islamic/Ottoman sites and artifacts.

Trafficked trade routes

Although impressionistic, the distribution of clay smoking pipes collected during the Comprehensive Survey coincides with two areas that were heavily trafficked during the seventeenth through the early nineteenth centuries. First, *chibouks* were collected along the Red Sea coast of Arabia, and the clay pipes from this area have stylistic parallels with those unearthed at Quseir, Egypt. During the seventeenth through the early nineteenth centuries, Quseir functioned as a point of departure for Muslim pilgrims to embark for the

Arabian port of Jeddah (Le Quesne 2007: 28). Upon landing at Jeddah these pilgrims would continue on their Hajj to Mecca and Medina (Tuchscherer 2004 in Ward 2004: 157-164). An advantage of departing from Quseir is that Upper Egyptians were exempt from customs duties. This is important as many pilgrims carried and sold trade goods in order to finance their trip (Shaw 1962: 105). Furthermore, there was a trade connection between Quseir and Jeddah, in that the large quantities of Upper Egyptian wheat sent for use in the Hijaz were exported from Quseir (Le Quesne 2007: 28). In other words, Quseir was part of a regional system, “redistributing the agricultural wealth of the Nile Valley to agriculturally less productive areas such as the Hejaz” (Le Quesne 2007: 28). In the early nineteenth century, Burckhardt (1829 v.1: 44) writes, “During my stay at Djidda [(Jeddah)], scarcely a day passed without some arrival by sea, chiefly from Yembo and Cosseir [(Quseir)]; and there were constantly forty or fifty ships in the harbour.”

The second area that was heavily trafficked was segment of the Hajj pilgrimage route that extended from Tabouk to Al 'Ula (refer to **Fig. 6.6**). In this area, surveyors collected clay-smoking pipes at sites (204-157 and 205-79) located along a major Syrian caravan route. The Syrian caravan was the chief route for Turkish, Syrian, and Persian pilgrims (Shair and Karan 1979: 600). After the Ottomans came to power in the early sixteenth century, “the Syrian caravan started from Istanbul gathering pilgrims on the way through Anatolia and Syria. Pilgrims rested at Damascus for several weeks before continuing the journey to Mecca” (Shair and Karan 1979: 600). Eventually, the Ottoman government decided to construct the Hijaz Railroad roughly along the route used by the camel caravans to Mecca (Ochsenwald 1980: 28 – 29). The 610-kilometer stretch between Tabouk and Medina was completed in 1908, and the Hijaz Railroad was presented to the

Ottoman people “as a work of religious charity. It was dedicated to improving the pilgrimage and to the protection and economic betterment of the Holy Cities of Islam” (Ochsenwald 1980: 52, 60). Ottoman control of the Hijaz Railroad ended in 1919, with the fall of the empire to the Arabs (Ochsenwald 1980: 147). Site 204-157 is located along the now derelict Hijaz Railway (Gilmore et al. 1982: Plate 2).

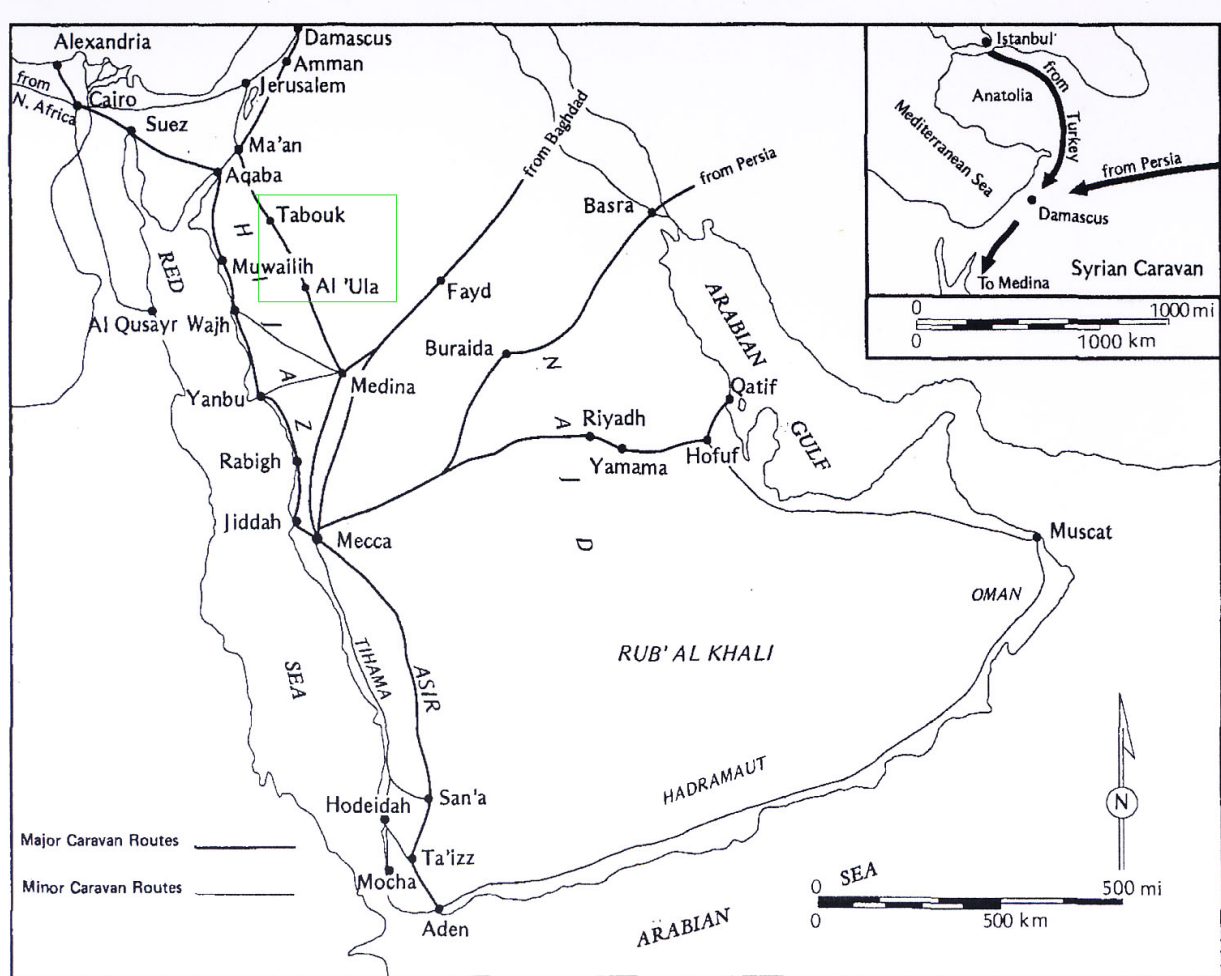


Fig. 6.6 Pilgrim Routes up to the Late Nineteenth Century. Area under discussion is demarcated by a green rectangle. (Springer Netherlands, *GeoJournal: An International Journal on Human Geography and Environmental Sciences* (3.6) 1979: 599-608, “Geography of the Islamic Pilgrimage”, Shair and Karan Fig. 1, Pilgrim Routes up to the Late 19th Century, © Akademische Verlagsgesellschaft. Wiesbaden. Reproduced with kind permission of Springer Science and Business Media.)

Material culture associated with the use of tobacco and coffee imported

The prevalence of sherds from tobacco pipes and coffee cups found in the environs of Jeddah and Mecca provide evidence of the consumption of tobacco and coffee. However, it seems that both coffee cups, and clay tobacco pipes were simply trade items that were not locally produced in the Hejaz. Sources on the markets in Mecca do not mention the presence of craft guilds, a characteristic of many Ottoman towns including Cairo, and point out that artisans were few in number (Faroqhi 1994: 168). Damascus and Aleppo in Syria had an estimated 160 to 180 craft guilds in the seventeenth and eighteenth centuries, and a number of guilds dealing with tobacco smoking emerged in the eighteenth and nineteenth centuries following the religious legalization of smoking (Raf'eq 1991: 498). In fact, Faroqhi (1994: 168) writes, "the normal base for local trade was also missing, as there were no agricultural products of the immediate vicinity...nor local manufactures. Meccan trade for the most part was long-distance trade." In other words, Mecca survived as a result of the pilgrims and trade.

A similar situation can be said of Jeddah in the early nineteenth century. That goods in the Hijaz were mainly imported is present in the writings of Burckhardt (1829 v.1: 29):

The people of Djidda are almost entirely engaged in commerce, and pursue no manufactures or trades but those of immediate necessity. They are all either sea-faring people, traders by sea, or engaged in the traffic with Arabia. Djidda derives its opulence not only from being the port of Mekka, but it may be considered as that of Egypt, of India, and of Arabia; all the exports of those countries destined for Egypt first passing through the hands of the Djidda merchants. Hence, it is probably richer than any town of the same size in the Turkish dominions.

Not only are the majority of the goods imports, but the "inhabitants of Djidda, like those of Mekka and Medina, are almost exclusively foreigners. The descendants of the ancient Arabs who once peopled the town, have perished by the hands of the governors, or have

retired to other countries” (Burckhardt 1829 v.1: 26). In other words, Burckhardt (1829 v.1: 27) has painted the picture of the population in the Hijaz as being settlers from Egypt, Syria, India, and Anatolia and their descendants, who remain in the area “to keep up an active commerce with their native places.”

Furthermore, there is evidence that some tobacco pipes used in Arabia were made in other regions of the Middle East. This is illustrated by the E.H. Brown collection, which is housed at the Pitt Rivers Museum (Accession numbers 1960.4.1 through 1960.4.30)¹. This collection of thirty smoking pipes comprises “a variety of plain, decorated and green glazed pipe bowls: splash-glazing is occasionally found on eighteenth-century pipes in Palestine and Lebanon yet the use of an overall green glaze is suggestive of Yemeni manufacture as part of the Hays tradition” (Simpson 2000b: 16). Literary evidence provided by Doughty (1888 v. 1: 246) notes that some of the Bedouin in Arabia smoked “the *sebîl*, or earthenware bent tube of the Syrian *haj* market.” Doughty’s observation combined with the parallels for the pipes studied in this survey provide evidence that the types clay smoking pipes found in various regions of the Middle East were also circulating within Arabia.

Alternative smoking paraphernalia

Further speculations regarding the low recovery rate of clay tobacco pipes in the *chibouk* style outside of the western regions could be the result of the Arabian preference for other types of smoking apparatuses. Simpson (2000b: 15) writes about the familiarity of water pipes, a seventeenth century Persian invention, across the Middle East.

¹ The individual accession record, that provides a brief description of each pipe, can be viewed at the website of the Pitt Rivers Museum, <http://databases.prm.ox.ac.uk/fmi/iwp/cgi?-db=PittRiversCollectionsOnline&-loadframes>. These records are accessible by performing a search by the accession number.

Particularly in Arabia, a large coconut with a tall wooden stem known as a Madinah Shisha or a *narghile* (*hookah*) was used in nineteenth-century Mecca and Jeddah, and are illustrated by the Dutch Orientalist Snouchk Hurgronje following his visit in 1885 (Pesce ed. 1986: 110-111). Portable varieties of water pipes were also in use. According to Simpson (2000b: 16) a drawback with smoking water pipes is that they are highly impractical to use when one is in transit. For instance, he suggested that this type of nicotine delivery system is smoked “during the regular halting-places of a caravan.” The practicality of the dry pipe made this a preferred method for consuming tobacco. However, Burckhardt (1829 v.1: 50) goes as far to say that the “common pipe is little used in the Hedjaz, except by Turkish soldiers and Bedouins.”

The paucity of clay smoking pipes may also be explained by the fact that some populations, such as the Bedouin, made their own tobacco pipes (*aorfys*) out of sandstone (Doughty 1888 v.2: 180). According to Doughty (1888a: 246) the best sources of stone for carving pipes were found two days below Héjr [Meda'in Salih] and by Teyma. Burton (1856: 97) also observed the pipes of the Bedouin:

Their own pipe-tubes were of coarse wood, in shape somewhat resembling the German porcelain pipe. The bowl was of soft stone, apparently steatite, which, when fresh, is easily fashioned with a knife. In Arabia the Badawin, and even the townspeople, use on journeys an earthen tube from five to six inches shorter than the English “clay,” thicker in the tube, with a large bowl, and coloured yellowish-red. It contains a handful of tobacco, and the smoker emits puffs like a chimney. In some of these articles the bowl forms a rectangle with the tube; in others, the whole is an unbroken curve, like the old Turkish Meerschaum.

Methodological Considerations: Dating by Typology

As demonstrated in a contemporary French source, change in material culture is not instantaneous. In particular, this source—*Description de L'Égypte, ou Recueil des*

Observations et des Recherches—illustrates that various styles of clay tobacco pipes present in the Egyptian city of Rosetta during the French occupation of Egypt (1798 – 1801) (*État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, drawn by the architect of the king Cécile) (refer to **Fig. 2.3**). The range of types present in this illustration demonstrates that specific forms of pipes chronologically overlap with one another. The image also demonstrates that lily pipes are older than Baram and Robinson believed. For example, Baram (2000: 153) and Robinson (1983: 272) date the lily pipe to mid- to late nineteenth century, however, this plate demonstrates that lily pipes were available as early as the late eighteenth to early nineteenth century (c.f. *État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, Items 32 and 37). In other words, the current pipe typologies, which are mainly based on the pipe-bowl shape, are in need of refinement.

All three of the forms illustrated on Planche ii are also represented in the corpus from the comprehensive survey: the rounded bowl with a vertical cylindrical rim (e.g. *État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, Item 38, 39; Gilmore et al. 1982: Plate 33 B, Items 8 (pipe 11 in Saudi corpus), the lily-shaped bowl (e.g. *État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, Item 27, 28, 32, 37; Gilmore et al. 1982: Plate 33B, Item 7), and the disc-shaped bowl (e.g. *État Moderne* 1817 Tome Second, II.^e Partie: Planche ii, Item 23 – 26, 28 – 31, 35 – 36, 40 – 41).

While there may be some typical features that characterize the pipe-bowl forms, these typologies may not always be true for every region within the Ottoman Middle East. Additional factors such as accessibility to markets, number of local guilds or producers and their preferred moulds, as well as regional tastes can influence what is noticed archaeologically. Furthermore, when only certain portions of pipes are recovered within

the field, mainly shank ends, these prove to be more difficult to date by using typologies that are mainly established based on the overall bowl shape. Based upon the clay pipe assemblage from Baniyas, Dekkel (2008: 125) proposed that the shank is more chronologically diagnostic than the bowl:

The shanks and especially the shank ends are of greater importance than the bowls for the purpose of dating and typological division into subtypes. The instances in which absolutely identical bowls appear with different shanks are almost nonexistent at Baniyas. The opposite is the rule: different bowls appear with identical shanks. The shank ends exhibit clear morphological development; it is possible to delimit the duration of the existence of each phase of their development with relative confidence.

A problem using general typologies for dating is that it is hard to account for transitional or intermediate types. For instance, one complete pipe recovered during the Comprehensive Survey exhibits characteristics associated with two different types of pipes, those with a rounded bowl and flared rim, and those with a lily-shaped pipe-bowl. As a result, this tobacco pipe could be broadly dated from end of the seventeenth to the late nineteenth century. The latter date is based on the fact that this particular pipe has a short shank, an early characteristic, and a lily-shaped bowl, a supposedly mid- to late nineteenth-century characteristic that we now know was present in Egypt as early as the late eighteenth century. Instead, I suggest that this pipe, from site 204-157, should be more specifically dated to the eighteenth century based on parallels with similar forms found at Bab al-Barqiyya, Baniyas and Quseir. Where would hybrids such as this be placed within the established typologies? Clearly there are going to be outliers and types that do not fit within any typology, especially since the typologies that are currently available have been formulated for regions outside of Arabia (i.e. Palestine, Egypt, Turkey, Greece).

Conclusions

The presence of clay tobacco pipes and coffee cups along the western coast of Saudi Arabia shows that the consumption of these commodities was occurring in this region of the Middle East from the late seventeenth century to the nineteenth century. Although the data set containing the material remains for the consumption of coffee and tobacco in Saudi Arabia is rather small and fragmented, this study provides the stepping stones for future research regarding these Ottoman-period artifacts. Further archaeological evidence can only shed new light on the history of the adoption and practice of tobacco smoking and coffee drinking in Saudi Arabia. The eventual location of *in situ* pipes from an archaeological context, coupled with the discovery of kilns and workshops that once produced Arabian variants of clay tobacco pipes would aid in establishing a typology, whether based on bowl-shape or shank-ends, for this region of the Middle East. Further studies of alternative nicotine delivery systems, such as the Bedouin stone pipe-bowls, would also be an interesting undertaking to see if they developed new shapes and designs, or crudely copied *chibouk* styles.

Coffee cups, on the other hand, had a much higher re-use rate when compared to the fragile clay pipe-bowl. The prized status of Chinese porcelains in particular resulted in the fabrication of imitations (as far as we know) in Turkey and Iran, which could easily result in a frit-ware imitation being misidentified as true porcelain during cursory field analysis. Certain tests—similar to the ones used by American historical archaeologists in the field to identify various wares (i.e. pearl ware, cream ware)—would need to be developed to aid in fixing this problem. In the Middle East, sherds of coffee cups have not undergone much study due to their modern status.

Finding exact archaeological parallels to coffee cups has also proven to be difficult, as many of the archaeological reports provide only simple descriptions. Much of the information we know about Ottoman and Chinese ceramics is drawn from the research of art historians, who are able to compare large collections of almost pristine specimen. In using the appearance of the coffee cups, particularly the designs, it seems that the dating of ceramics is highly dependent on comparing the colors and the manner in which glazes and paints were applied during the firing process. Very often, the colors become faded and can even change within an archaeological context, resulting in the diagnostic values of the colors to become hidden. It is understandable why the Comprehensive Survey Program intended to have specialists analyze the porcelains recovered in Saudi Arabia.

Future Research

The archaeological evidence for these commodities is viable to studies involving the spread of coffee and tobacco throughout the Middle East. As the current project has shown, there are certain methodological issues in formulating *chibouk* typologies, mainly stemming from the question of which is more diagnostic, the pipe-bowl or the shank ends? In order to answer this question, more intact examples of *chibouk*-style pipes from archaeological contexts throughout the Middle East are needed to gain some resolution. Researchers conducting archaeological work in the Middle East must strive to report Ottoman-period artifacts in order to remove the stigma of clay tobacco pipes and coffee cups as being 'too modern'. In terms of the distribution of these artifacts exhibiting the consumption of tobacco and coffee, a hypothesis to be tested involves the recovery of more tobacco pipes at ephemeral sites, versus the recovery of more coffee cups at village (or more sedentary) sites.

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APPENDIX A

Fig. 2.3 Pipes available in Rosetta during the French occupation of Egypt (1798 – 1801)

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Fig. 2.5: Coffee Hawker, late 19th. early 20th century Postcard, Mehmet AKGUL Collection.
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Fig. 6.6 Pilgrim Routes up to the Late Nineteenth Century. Area under discussion is demarcated by a green rectangle.

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