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The incense route: a study of its origin and development

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THE INCENSE ROUTE:
A STUDY OF ITS ORIGIN AND DEVELOPMENT

A Thesis

Presented to

The Faculty of the Department of History
San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Jerzy Marek Brozyna

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ABSTRACT

THE INCENSE ROUTE: A STUDY OF ITS ORIGIN AND DEVELOPMENT

by Jerzy Marek Brozyna

This thesis explores the question of the origin and development of the overland Incense Route between South Arabia and western Asia. It considers the ancient and modern literature regarding this issue, and identifies several underlying factors in the Incense Route's formation. Particular emphasis is placed on the domestication of the dromedary, the growth of South Arabian civilization, and the process by which a trade route was established across the Arabian Peninsula.

Research suggests that Egyptian maritime expeditions travelling to the incense marts of East Africa made contact with South Arabia in the early fifteenth century BCE. Interaction with Egypt exposed the less advanced South Arabians to desirable material goods, which the Arabians received in exchange for their aromatics. The establishment of the Incense Route in the early fourteenth century BCE marks the culmination of efforts by the South Arabians to reach the markets of the Near East.

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CHAPTER ONE:
USE OF AROMATICS IN THE ANCIENT WORLD,
AND THE SIGNIFICANCE OF THE INCENSE ROUTE TO MODERN
SCHOLARSHIP

The use of incense, which was one of the most important, sought after, and expensive commodities of the ancient world, dates from the time of the earliest civilizations.¹ By far the most common use for incense in ancient times was in connection with religious practice. The Sumerians burned incense to appease their gods and in purification ceremonies, the Harappans used it in the mother-goddess cult during the third millennium BCE, and Minoans included ritual incense burners in their grave goods. In Egypt, the pharaohs offered incense to the gods at all major ceremonies and burned it while praying to them for help, and the Assyrians burned incense while worshipping their sun-god at the temples of Nineveh. Numerous reliefs depicting incense burners separating the Assyrian king from the gods on the one hand, and his subjects on the other, further emphasize the centrality of incense in Assyria's religious-political life. Perhaps most striking in this religious context is the name of the main Phoenician deity Baal Hammon, which translated means "lord of the perfume altar."²

Incense played an important role beyond the religious sphere as well. Egyptian reliefs from the reign of Seti I (ca. 1305-1290 BCE) show besieged Palestinian city-states

indicating surrender by burning incense above the city walls, and this scene is repeated in the time of Ramesses II (ca. 1290-1224 BCE).³ The ancients made perfumes by mixing oil with incenses, or simply burned the incense as fumigants in palaces and temples.⁴ The Egyptians used incenses to scent clothes and make a type of chewing gum, which Egyptian women favored as a breath freshener.⁵ According to the Song of Solomon (3:6), King Solomon's couch was perfumed with incense.⁶ Incense was used as an insect repellent and air freshener in the ancient cities of the Near East and Mediterranean, where the warm climate and primitive sanitation bred swarms of flies and mosquitoes and permeated the air with bad smells.⁷ In like fashion, large quantities of incense were frequently burned with the dead in places where cremations were common.⁸ The inhabitants of Babylon lined the road to their city with silver altars filled with incense as a sign of surrender and welcome to Alexander the Great as he approached.⁹ Various incenses were widely believed to contain healing properties, and they were vital ingredients in ancient pharmaceuticals throughout Mesopotamia, Syria-Palestine, Egypt, and Mediterranean Europe.¹⁰

By far the most famous, expensive, and highly prized aromatics of the ancient world were frankincense and myrrh.¹¹ These two substances are gum-resins, or sap, which come from several varieties of trees that only grow in certain regions of southern Arabia and eastern Africa.¹² Frankincense is obtained from two types of the *Boswellia* tree (*B. Carterii* and *B. Frereana*), while the *Commiphora Myrrha*, as the name indicates, produces myrrh.¹³ Frankincense and myrrh were collected through tapping the trees by peeling back a few inches of bark in several places. This process, which is carried out in

May, exposed the sap to air that allowed it to solidify into “tears,” which were then harvested in autumn. Although the harvesting of these gums was usually done once a year, *Boswellia* trees were tapped twice per season at the height of their demand during the Roman period.¹⁴

While it is unclear when frankincense and myrrh first became common in the Near East, these two resins eventually replaced other aromatics as the incense of choice in the ancient world.¹⁵ Because of their superior smell and effectiveness as fumigants in ancient cities, frankincense and myrrh became favored luxuries of the wealthy.¹⁶ Frankincense, which produced a pleasant fragrance when burned, was used most often for religious purposes, and it appears throughout the Old Testament during special ceremonies and rites. For instance, frankincense was mixed with certain other aromatics to produce a distinct compound of incense reserved specifically for Yahweh (Exodus 30:34-37). It was also incorporated into the Sabbath, when ritual offerings of bread were made to Yahweh (Leviticus 24:7), and frankincense continued in use as an offering in Jewish rituals until the first century CE. Balls of what appears to be frankincense were found in the tomb of Tutankhamun, and they may have been placed there for use in the afterlife.¹⁷ Sappho mentions “bowls and vessels filled with . . . frankincense” in one of her poems, and Curtius notes that frankincense was among the incenses burned for Alexander by the Babylonians.¹⁸

Myrrh was used extensively in perfumes and cosmetics, especially for making scented oils, but it was also occasionally burned in the same fashion as frankincense.¹⁹ The Hatshepsut inscriptions at Der el-Bahri indicate that myrrh was burned in Egypt, and

it was also burned as incense in Assyria and Greece.²⁰ In the Old Testament, myrrh appears as a perfume for use on royal garments (Psalms 45:8), on a prostitute's bed (Proverbs 7:17), and by women (Song of Solomon 1:13, 5:5). The practice of scenting oil with myrrh to produce an ointment or perfume was evidently widespread among the royalty and nobility of the ancient world. Egyptian inscriptions state that Queen Hatshepsut applied myrrh scented oil to her limbs as a perfume, and the inclusion of myrrh oil in gifts to Egypt from King Tushratta (ca. 1360-1350 BCE) indicates that the practice was also known in Mitanni. Perhaps the most extensive use of myrrh as a body fragrance took place in the Persian court (Esther 2:12), where candidates for queenship were subjected to a "six-month series of beauty treatments employing oil of myrrh."²¹

More important than their pleasant scent or even religious applications, however, was the practical value these two resins had to ancient medicine. Indeed, while frankincense was occasionally used in the production of cosmetics and perfumes, particularly in ancient Israel, it was more commonly utilized for medicinal purposes. Frankincense appeared frequently in Greek and Roman medical texts, where it was an ingredient in medications prescribed for a myriad of health problems, from simple bruises and body aches to paralysis of the limbs and even hemlock poisoning. Myrrh was used for many of the same ailments in Mesopotamia that frankincense was applied to by the Greeks and Romans, but it was also used in treating ear, eye, and nose problems as well as bad breath. Although evidence of myrrh's use for medicinal purposes in Syria-Palestine is scarce, it was already known for its healing properties in Gezer during the Amarna period, when the prince of that city requested it from Egypt to treat some

ailment.²² According to Gus Van Beek, it is possible that the wine and myrrh mixture offered to Jesus just prior to his crucifixion (Mark 15:23) contained some pain-numbing qualities.²³

The best frankincense and myrrh were produced in South Arabia, and for centuries were imported into the Near East and Europe along the overland Incense Route.²⁴ The Incense Route itself terminated at various sites near the coast of the southeastern Mediterranean, depending on political conditions at various times in its history.²⁵ This trade route, made most famous by the Biblical story of the Queen of Sheba's visit to King Solomon in the tenth century BCE (I Kings 10:1-10; II Chronicles 9:1-9), had great economic, political, and social significance to the ancient world, and it often changed hands as competing states struggled to gain control over it. In the seventh century BCE, when records concerning the incense trade become more frequent, Assyria maintained suzerainty over the route's northern portions. By about 600 BCE, however, the Neo-Babylonian king Nebuchadnezzar secured his hold on these former Assyrian territories, and a half century later they were briefly seized by the expanding Persian Empire. In the mid-sixth century BCE, when the northern trade was again in Babylonian hands, the last Neo-Babylonian king Nabonidus (555-538 BCE) attempted to stabilize his crumbling state by an infusion of income generated from the Incense Route.²⁶ After the final collapse of Babylonia, the Persian Empire asserted indirect control over the Incense Route by taxing the northwestern Arabians a fixed sum of 1000 talents of frankincense annually, rather than holding the route by force.²⁷ The gradual rise of the Nabataean state in Edom established relative political stability along the North Arabian section of the

Incense Route until about 106 CE, when Nabataea was annexed by the Roman Empire.²⁸

Surprisingly, neither Alexander the Great, who will be discussed below, nor any of his successors ever secured control of the Incense Route itself.²⁹

As early as Herodotus' (ca. 484-425 BCE) time, however, both the resins and the peoples who held a monopoly on them enjoyed semi-legendary status in the ancient Mediterranean world. According to Herodotus, winged serpents inhabited South Arabian frankincense trees in great numbers, and attacked anyone attempting to approach them. The only way to harvest the resin was for the South Arabians to burn a substance called styrax, which evidently emitted a noxious smoke that drove the snakes away.³⁰ While it is safe to assume that South Arabian incense was not quite as difficult to obtain as Herodotus claims, it was still used sparingly even by royalty as late as classical times. According to one account, as a boy, Alexander was reprimanded by his tutor Leonides for burning too much frankincense and myrrh during a religious ceremony, and told sarcastically that he could stop using it sparingly only after he had conquered the frankincense-growing regions. After capturing Gaza, which was the northernmost redistribution point along the Incense Route at the time, Alexander sent Leonides 500 talents of frankincense and 100 talents of myrrh with a message to treat the gods with generosity.³¹ Although Alexander, who was planning a South Arabian campaign when he died in 323 BCE, cited the South Arabians' failure to send ambassadors to him as a pretext for war, Arrian (ca. 90-175 CE) states that Alexander was simply enticed by South Arabia's reputation for wealth.³²

Strabo's (ca. 64 BCE-25 CE) account of South Arabia is less fantastic than Herodotus', but it nevertheless serves to exemplify the riches commonly associated with frankincense and myrrh, and the value placed on these commodities at the time. Strabo describes the South Arabians as enormously wealthy as a result of the incense trade, and he portrays their homes as heavily inlaid with ivory and precious stones, and filled with gold and silver objects. Perhaps in an attempt to stress the extent of South Arabia's fortune, Strabo claims that incenses of many varieties were present in such abundance that they were burned for firewood.³³ Strabo also reports that the gold and silver acquired by South Arabians in exchange for their incense was never expended, and thus may account for its plenteousness in that area.³⁴ This view, undoubtedly little changed from Alexander the Great's time, encouraged a failed Roman attempt, in 25-26 or 25-24 BCE, to penetrate down the Incense Route to seize southern Arabia.³⁵

Perhaps the most informative ancient source on the economic importance of the trade in South Arabian aromatics is Pliny (23-79 CE).³⁶ Like Strabo, Pliny considers the South Arabians the richest people on earth, and he complains bitterly that the luxury items brought to Rome via the Incense Route were grossly overpriced.³⁷ Numerous taxes and expenses between South Arabia and the Mediterranean combined to drive up prices along the Incense Route. Pliny points out that by the time a caravan reached its destination, the retail price for a pound of frankincense (presumably in Rome) was between three and six denarii, while the same amount of myrrh went for three to fifty denarii.³⁸ The high price of South Arabian aromatics did not deter Romans from using large quantities of it in funerals. Perhaps the most extreme case noted by Pliny was

Nero's burning of more than a year's supply of Arabian incense at the funeral of his consort Poppaea.³⁹ Pliny estimates, apparently on the basis of Roman Treasury statistics, that Romans expended approximately 50 million sesterces, or 13.5 million denarii, every year on luxuries from South Arabia alone.⁴⁰

Despite the many uses of South Arabian incense, and the economic and political significance of the Incense Route in ancient times, the date of the Incense Route's inception remains surprisingly unclear. Indeed, the starting date of the Incense Route is so uncertain that, in many standard texts on ancient Near Eastern history, it is often given little or no mention at all, and consequently, its potential impact on early world events is rarely considered. For instance, in one standard university textbook of ancient Near Eastern history, A. Bernard Knapp's *The History and Culture of Ancient Western Asia and Egypt* (1988), the words "frankincense," "myrrh," and "Incense Route" do not even appear in the index. The closest Knapp comes to discussing the Incense Route is a reference made in passing to the "Arabian trade" which, like several other trade routes, converged on the North Arabian city of Teima in the sixth century BCE. Even here, however, Knapp stresses the importance of Teima as a hub in the international trade network rather than pointing out the economic importance of the aromatics trade with South Arabia.⁴¹

Two other university texts, *The Ancient Near East* (1998), by William Dunstan, and *The Ancient Near East: A History* (1998), by William Hallo and William Simpson, similarly fail to mention the Incense Route explicitly. Dunstan merely states that the Babylonian king Nabonidus may have attempted to form a trading empire in Arabia by

establishing colonies along its important caravan routes, and he briefly points to Alexander the Great's plans for an Arabian campaign. While Dunstan neglects, in both cases, to explain the significance of South Arabia or the "important" Arabian trade routes, Hallo and Simpson simply ignore Arabia and the Incense Route altogether.⁴² Even larger and more detailed works, such as Amelie Kuhrt's two volume *The Ancient Near East, c. 3000-330 BC* (1995), contain no discussion of when the Incense Route began, or of who initiated and controlled it. In fact, although Kuhrt scattered occasional references to the Incense Route throughout her nearly eight-hundred page book, she never discusses it as a separate topic, and appears to consider its origins a relatively inconsequential point.⁴³ Most disturbing of all, perhaps, the new *Cambridge Ancient History* does not contain a single index entry for "Incense Route," and provides no discussion of the development of this important trade route. Indeed, while the *Cambridge Ancient History* occasionally alludes to trade routes in northern Arabia, or to the aromatics trade, it does so in passing and sheds no light on the question of the Incense Route's starting date or its evolution.⁴⁴ The *Cambridge Ancient History* does make one specific, though brief, reference to the Incense Route; yet this deals with political-economic conditions in Canaan in the ninth century BCE, and discusses the trade in an already developed state.⁴⁵

Despite the apparent disinterest many scholars have in the starting date of the Incense Route, the question has great potential importance to the reconstruction of many specific aspects of ancient Near Eastern history. For instance, as a conveyer of luxury goods the Incense Route was undoubtedly a major economic factor at its terminus points, and probably influenced the political and military thinking of rulers within its proximity.

For example, if the Incense Route were already established by the late second millennium BCE, as some specialists on this topic suggest, it might have been a factor in the incessant warfare over the Levant between New Kingdom Egypt and its northern neighbors, Hatti and Mitanni. Questions arise, such as how were the small Syro-Palestinian city-states effected by the route, when did South Arabia, the source of high-quality frankincense and myrrh, start integrating itself into the Near Eastern world community, and which power initiated the trade in South Arabian aromatics? Finally, what did South Arabia contribute culturally and socially to other states through contact along the Incense Route, what did it borrow, and how was the early Incense Route operated? While most of these questions may never be answered, a thorough reconstruction of the Incense Route's development is, in itself, a valuable addition to the growing body of data on the ancient Near East, and will undoubtedly shed light on many, still poorly understood, aspects of this region's history.

CHAPTER TWO:
HISTORIOGRAPHICAL OVERVIEW OF THE INCENSE ROUTE,
FROM THE FIFTH CENTURY BCE TO THE PRESENT

Although the existence of an overland trade in incense is well attested from the late first millennium BCE, very little was done until the latter part of this century in the way of critically analyzing the origins of the Incense Route. This is due, in large part, to the lack of archaeological research conducted on the Arabian Peninsula to date, although knowledge of this part of the world has been greatly enhanced since excavations there began in the late 1950's. Unfortunately for scholars of the Incense Route, and particularly for those interested in reconstructing a history of the South Arabian frankincense and myrrh-growing regions of modern Yemen, field work has largely focused on the Persian Gulf coast of Saudi Arabia and Oman. Consequently, late nineteenth and early twentieth century scholars seeking to identify a starting date for the Incense Route had to develop theories supported primarily by classical and Biblical sources. A brief survey of the earliest sources regarding the Incense Route provides the necessary background for a discussion of later scholarship in this field.

While the classical writers do not discuss the origins or development of the Incense Route, often they do provide either eyewitness or second-hand accounts of conditions in South Arabia and along the desert route in their own time. But even these

sources do not always state that a contemporary overland trade in South Arabian aromatics existed. Herodotus, whose *Histories* provides the earliest information about South Arabia, merely states that South Arabians sent Persia an annual “gift” of 1000 talents (about 24.5 tons) of frankincense, but he does not discuss an Incense Route.⁴⁶ Theophrastus’ (ca. 372-287 BCE) *An Inquiry into Plants* provides the earliest textual evidence outside of the Arabian Peninsula regarding the people and political units of South Arabia, although again no mention of an Incense Route is made.⁴⁷ The first classical source explicitly to state the presence of an overland trade in frankincense and myrrh is Eratosthenes of Cyrene (ca. 276-196 BCE), who was quoted by Strabo. Eratosthenes identifies the South Arabian regions of “Cattabania” (Qataban) and “Chatramotitis” (Hadramawt) as frankincense and myrrh growing areas, from which he claims it took merchants 70 days to carry these products north to Midian (see map 1, page 35 for the location of sites mentioned in this chapter).⁴⁸ Based on Eratosthenes’ description of South Arabian cities and other inland portions of the Arabian Peninsula, Groom believes that Eratosthenes’ information was gathered from someone who actually traveled the Incense Route.⁴⁹ Another author quoted by Strabo is Agatharchides, who probably lived in the second century BCE. Although much of his information is similar to Eratosthenes’, Agatharchides’ discussion of the Arabian Peninsula is interesting because he describes a method of trade in which incense was carried for short distances through specific areas by intermediaries before being passed to the next group along the route. Agatharchides also makes it clear that the true beneficiaries of this trade in incense were the sedentary “Sabaei” and “Gerrhaei,” since he stresses the luxury of their homes.⁵⁰

One of the latest, but by far most important sources regarding the Incense Route is Pliny the Younger's (23-79 CE) *Natural History*, completed in 77 CE.⁵¹ Pliny identifies the kingdom of Saba in southern Arabia as the source of frankincense and myrrh, and he describes a high volume, well-organized trade in these commodities.⁵² Camels carried out all overland transportation of incense from the source area to the Mediterranean Sea, and Pliny gives a detailed itinerary of the main route. The first stop after the tree resin was collected was at the Sabaeon capital of "Sabota," (Shabwa) where a tax was levied on the incense. From there, carriers were forced to cross through the "country of the Gebbanitae," which apparently controlled the next portion of the Incense Route on the way to the Mediterranean, and to whom merchants also paid a tariff. The distance from the Gebbanitae capital at "Thomna" (Timna) to the city of Gaza is given by Pliny to be 1487.5 Roman miles (1368 English miles), divided into 65 stops for camels roughly 23 Roman miles apart. In Pliny's time it appears that the final destination of this incense was the Egyptian city of Alexandria, where the product was prepared for sale. Even with the extensive trade network described by Pliny, frankincense and myrrh were still clearly luxury items in the first century CE. According to Pliny, it cost merchants 688 denarii per camel-load in various transportation costs such as water, fodder, and lodging over the course of the voyage north. The final cost of the incense to the consumer varied between three to six denarii per pound.⁵³

In the pre-war period, scholars of the Incense Route were still hampered by a paucity of reliable archaeological evidence, and this resulted in a general lack of knowledge in this field. Perhaps the earliest modern scholar to consider at length any

aspect of the Incense Route is A.H.L. Heeren. Heeren relies almost exclusively on classical and Biblical sources to construct a loose model of the Incense Route that he feels began in the time of the Midianites, and was largely controlled by Phoenicians.⁵⁴ Heeren believes that caravans of camels were the primary carriers of South Arabian incense, and that camel-raising nomads eventually joined sedentary people in direct participation in the trade as merchants.⁵⁵ Unfortunately, Heeren does not provide a single date for his history of the trade but, since he begins his description with Midianites and Phoenicians, a late second millennium BCE date can be implied.

Scholarship remained essentially unchanged for one hundred years following Heeren's study. Nevertheless, one notable exception is A. Grohmann's 1922 study which, as rendered by Kjeld Nielsen, attempts to establish the major stations along the Incense Route based on Pliny and other classical sources.⁵⁶ The last modern scholar to develop a model based primarily on ancient textual evidence is C. Rathjens, whose position is also discussed briefly by Nielsen. Rathjens accepts the validity of Eratosthenes' and Pliny's estimates for the distance and time required in completing the Incense Route, but he feels that it was already established in the third millennium BCE. Furthermore, Rathjens argues that the route was conducted with caravans of donkeys that, according to him, were resilient enough to cross the Arabian Peninsula even with weighty loads.⁵⁷

In the early 1960's, William Foxwell Albright inadvertently formulated what is perhaps the best known and often cited opinion regarding the development and dating of the Incense Route. Albright had a significant impact on the study of the Incense Route by arguing that the dromedary was not domesticated prior to the beginning of the Iron Age,

and that the Arabian and Syrian deserts could not have been crossed prior to its domestication.⁵⁸ However, in 1970 Albright revised this opinion slightly on the basis of his study of the Biblical narratives dealing with the Midianites. In this article, Albright argues that the Incense Route was established no later than the fifteenth century BCE, and that prior to the domestication of the dromedary it was conducted by donkey caravans.⁵⁹ Albright discounts all archaeological evidence of domesticated camels, either dromedaries (one-humped) or Bactrians (two-humped), prior to the twelfth century BCE as unsupportable, and he points out that “there are no contemporary references to the use of camels in carrying goods or persons until well after the beginning of the Iron Age.”⁶⁰ Furthermore, Albright cites the extensive use of equids by the Egyptians in their mining and trade operations in the Sinai Peninsula and northwestern Arabia during the late fourteenth century BCE. Finally, Albright points out that the Egyptian word for “wild ass” or “onager” (*sw*) is the root word for “trader” (*swwtj*), which implies the extensive use of equids in mercantile and transportation activities.⁶¹

Albright views the development of South Arabian irrigation works between 1600-1400 BCE, and the establishment of the settlements of Timna and Hajar Bin Humeid in roughly 1000 BCE, as strong indicators of a growing trade in incense between South Arabia and the Levant. Albright argues that the extensive and costly water control devices in western regions such as Saba, Qataban, and Ma'in could not have been constructed without large amounts of capital which, he feels, did not become available until after the establishment of the Incense Route. In support of this archaeological evidence, Albright notes the increasing frequency with which frankincense and myrrh

appear in Mesopotamian and Syro-Palestinian texts after the fifteenth century. Albright also notes that myrrh appears twice as a gift from the king of Mitanni to the Egyptian pharaoh, although myrrh may also have traveled out of Egypt to the Levant. Finally, Albright states that the spread of north Semitic linear alphabetic script to South Arabia, which he feels began in the early fourteenth century BCE, can be attributed to interaction between Midianites and South Arabian caravaneers at the northern terminus of the Incense Route.⁶²

Albright concludes by suggesting that the overland Incense Route may have been initiated as a result of Queen Hatshepsut's successful expedition (ca. 1480 BCE) to Punt in search of frankincense and myrrh. Though he feels that frankincense and myrrh may have been carried north along separate routes, Albright feels that, in broad outline, incense caravans journeyed from territory controlled by the Hadramis and Sabaeans, north through the territory of Dedan and others, and terminated after a journey of several months in Midian. Albright concedes that a cross-desert journey by donkey caravan was undoubtedly more difficult, but he feels it was conducted nevertheless, albeit at a significantly slower pace than by the later dromedary caravans. As a result, Albright feels the price of frankincense and myrrh was undoubtedly higher before the domestication of the dromedary made the trade more efficient.⁶³

Brian Doe briefly touches on the establishment of the Incense Route, although he presents only a loose chronology of events rather than a true discussion of its development.⁶⁴ According to Doe, prior to the establishment of the Incense Route, frankincense and myrrh were carried overland from South Arabia to the Persian Gulf city

of Gerrha. At some unspecified time, presumably in the late second millennium BCE, this route fell into disuse as a result of constant political volatility in Mesopotamia, which was the main importer of South Arabian incense. Doe suggests that, as a result, South Arabian exporters were forced to find a different outlet for their incense and, at sometime probably in the late second millennium BCE, they began carrying it north along the Red Sea coast. As Doe points out, the choice of an overland route, rather than a maritime one, was likely due to the Red Sea being uncharted, infested with pirates, and too stormy for the small South Arabian boats to navigate safely.⁶⁵

Doe believes that this western route initially followed the previously established path used in the salt trade, and that caravans of donkeys and mules were utilized as carriers. Although Doe states that the dromedary was already domesticated by this time, he feels that it was used only for military purposes primarily in northern Arabia, and that it had not yet been introduced into the southern peninsula as a domesticated animal. Not until the dromedary became “domesticated” for use as a burden animal after the eleventh century BCE was it adopted for use along the Incense Route by South Arabian caravaners. Nevertheless, once the dromedary came into use as an incense carrier, Doe believes that it contributed significantly to the full development of the Incense Route by reducing the number of wells, and allowing caravaners to follow a quicker, more direct route through the desert.⁶⁶

Doe fixes the start of the fully organized camel-borne incense trade at no later than the tenth century BCE, and he stresses the importance of the Incense Route on the development of South Arabian culture and society.⁶⁷ Based largely on archaeological

evidence in the Hadramawt, as well as the queen of Sheba's visit to Israel, Doe claims that by the beginning of the first millennium BCE sedentary culture had already developed in South Arabia. Formerly belligerent nomadic tribes living along the Incense Route ceased their attacks on incense carrying caravans to institute regular tolls on them instead, and wealthy cities and even confederations developed throughout western Arabia based on income derived from the Incense Route.⁶⁸

Abdel-Aziz Saleh focuses primarily on reconstructing maritime routes between Egypt and Punt, yet he also makes several interesting observations regarding possible overland routes in Arabia.⁶⁹ The most important data regarding an Arabian trade, according to Saleh, is the arrival of *Gnbtw* in Egypt during the reign of Thutmose III, and the abundance of *'ntyw* in the Syrian markets during the same period. Saleh identifies the *Gnbtw* as the South Arabian "Gebbanitic Qatabanians" of the first millennium BCE, and suggests that both the *Gnbtw* and *'ntyw* arrived in the north by way of a land route across Arabia. Saleh further notes the fact that frankincense was periodically imported (albeit as tribute) from Syria-Palestine during Egypt's occupation of the region in support of this point.⁷⁰

Saleh is not specific regarding the details of the Incense Route, although he argues that the camel was not used on it until after its domestication in the late second millennium BCE. Rather, Saleh notes that during the Sixth Dynasty an Egyptian caravaner successfully traveled 1,725 kilometers with three hundred donkeys "laden with incense" and other commodities. Regarding conditions in central Arabia, Saleh suggests that Arabian semi-nomads may have functioned as intermediaries in the trade by

simply carrying incense “from one settlement to another,” or they may have actually been merchants who, presumably, transported it directly to the markets of Syria-Palestine. At any rate, Saleh argues that Egypt’s campaigns in southern Syria and along the desert during the New Kingdom may have been directed at securing the trade routes by which the incense traveled, and at extorting this commodity from the nomads in possession of it.⁷¹

Although they are not directly related to the overland Arabian route, Saleh points to two tomb reliefs dated to the reigns of Amenhotep II and Tutmosis IV-Amenhotep III depicting boats from Punt delivering goods to Egypt. Based on physical similarities between the people depicted on the reliefs and “long-haired Asiatics with tiny beards,” as well as the “Yemenite porters who still work in eastern markets,” Saleh suggests that direct trade between South Arabia and Egypt existed through central Arabia.⁷² But Saleh argues that rather than sailing up the Red Sea coast from South Arabia to Egypt, the fragile-looking boats represented in the reliefs likely sailed across the narrow Red Sea from some point, perhaps in northern Arabia, to the site of al-Quseir on the Egyptian coast near Coptos. Saleh points to an inscription found on the Sinai Peninsula in the time of Amenhotep III describing one Panehsi’s receipt of *'ntyw* from Punt.⁷³ Saleh points to a line in the text that literally translated reads “the two sides of the sea,” which may be interpreted as meaning that Panehsi traveled from one side of the sea to the other. Since, according to Saleh, the text alludes in another passage to “ferrying across the sea and landing at some undefined and foreign or hilly area,” and no mention is made of Panehsi traveling to Punt itself, Saleh argues that the incense was delivered to some point in

northern Arabia near Sinai.⁷⁴ Saleh points to several natural harbors along the Arabian coast used in classical times as collection and distribution centers in the incense trade. Although he admits that no evidence exists to indicate its use at such an early date, Saleh believes that South Arabian incense may have been brought by boat to the site of Eilat at the head of the Gulf of Aqaba.⁷⁵

Richard W. Bulliet contends that dromedary caravans were already transporting South Arabian incense to the Levant “with some regularity” by the beginning of the second millennium BCE.⁷⁶ But despite his early dating of both the overland trade in South Arabian aromatics and the domestication of the dromedary, Bulliet’s model for the Incense Route is one of slow evolution marked by several levels of development. Bulliet identifies three factors as important with regard to the Incense Route: the evolution of an efficient dromedary saddle, the Semitic migrations of 1500 and 1200 BCE, and the spread of dromedary herding to the Levant.⁷⁷

Bulliet states that, although most South Arabian pastoralists initially kept female dromedaries primarily as sources of milk and prestige, and rarely used them for riding or the transportation of goods, a few pastoralists were probably carrying small amounts of incense north by 2000 BCE.⁷⁸ At some point between 2000 and 1500 BCE, Bulliet argues that a more efficient saddle, developed for use on the Incense Route, was introduced by local, sedentary merchants who had taken control of the trade at about that time. Bulliet relies primarily on ancient depictions of dromedary saddling techniques, as well as on modern types still used by dromedary raising pastoralists on the Arabian Peninsula which he argues are reflective of ancient conditions in the area.⁷⁹ For example, Bulliet points out

that dromedary pastoralists in modern Oman, an area never closely connected with the Incense Route, to this day retain the most primitive and inefficient type of burden saddle.⁸⁰ The pastoralists of modern South Arabia and Yemen, on the other hand, utilize the later, sturdier design developed for the transport of incense.⁸¹

That the Incense Route was already well developed in the second millennium BCE is further attested to, in Bulliet's opinion, by the two Semitic migrations of 1500 and 1200 BCE. Bulliet believes that the motivating factor behind these moves to South Arabia was a desire to seize control of the trade in frankincense and myrrh.⁸² Moreover, the spread of dromedary domestication to the Horn of Africa and the island of Socotra in roughly 2000 BCE, which are both frankincense and myrrh growing regions, may have been connected to the incense trade. A similar factor attributed by Bulliet to the trade in incense was the development and spread of dromedary herding to northern Arabia around 1100 BCE. He argues that, even before the Semitic migrations, dromedary breeding pastoralists in South Arabia abandoned a purely subsistence type of camel herding, and probably began raising stronger male dromedaries for use on the Incense Route.⁸³ This new method of dromedary herding was introduced to the deserts of Syria and northern Arabia between 1500-1200 BCE, where little or no camel herding was known prior to this time.⁸⁴ Bulliet concludes by stating that South Arabian merchants, though dependent on camel herders, dominated the trade in incense and, until a later development in saddle design occurred in North Arabia, camel herders throughout the peninsula remained excluded from direct participation in the Incense Route.⁸⁵

Nigel Groom provides perhaps the most thorough discussion of the Incense Route.⁸⁶ Unfortunately, while Groom appears well-informed with regard to the operation of the Incense Route in its developed state, his discussion of its formation focuses primarily on discounting popularly held beliefs rather than on establishing a model for its beginnings. Nevertheless, based on a thoroughgoing discussion of relevant Old Testament texts, other ancient sources, and the domestication of the dromedary, Groom argues that the Incense Route cannot be safely dated prior to the sixth century BCE.⁸⁷

Groom states that the domestication of the dromedary was a critical factor in the development of the South Arabian trade in incense.⁸⁸ According to Groom, no regular overland route reliant on equids such as the donkey was possible between South Arabia and the Levant, since the long distances and arid conditions on the Arabian Peninsula would require an extensive, highly organized network of wells, of which no evidence exists. But although Groom contends that the dromedary was probably already used as a pack animal in southeastern Arabia as early as the end of the third millennium BCE, he sees no evidence to suggest that an overland Incense Route operated this soon. Indeed, Groom points to examples of central Arabian rock art along one probable path of the Incense Route to show that dromedaries depicted until well into the first millennium BCE clearly were not domesticated, since generally they were shown being hunted. Groom explains this peculiarity in part by stating that the dromedary was first domesticated in modern-day Oman, and that domestication spread slowly to the west from there. At any rate, though Groom feels that dromedaries were already becoming incorporated into

overland trade between Oman and Mesopotamia by no later than 2000 BCE, he finds no evidence for regular overland shipments of incense to the north at this time.⁸⁹

Groom implies that the frankincense and myrrh growing regions of South Arabia were relatively unknown to Mesopotamia and the Mediterranean world until perhaps as late as the first millennium BCE. He stresses, for example, that the Egyptian expeditions sent to Punt probably confined their travels to the coast of eastern Africa.⁹⁰ The Egyptian word *'ntyw* listed among the goods brought back from Punt, Groom feels, likely designates myrrh, which was more readily available in eastern Africa than was frankincense.⁹¹ Groom also points to Egyptian art depicting the expeditions, which appears to show people with “Negro,” or African features, as well as animals found in Africa but not in Arabia.⁹² Since myrrh is rarely mentioned in Mesopotamian and Levantine texts before the first millennium BCE, Groom theorizes that it probably made its way north through “hand-to-hand” exchange from South Arabia rather than along an organized trade route.⁹³ Finally, Groom argues that no evidence in North Arabia, Mesopotamia, or the Levant predating the South Arabian script (ca. sixth century BCE) discovered at Eilat has been found to suggest a South Arabian presence in these regions prior to that time.⁹⁴

Although he discusses them at length, Groom rejects the historical validity of the Old Testament narratives dealing with South Arabia or the Incense Route, and he identifies the writings of Herodotus as the earliest datable text to mention South Arabian incense.⁹⁵ Of particular importance to Groom are the Biblical passages dealing with Sheba, because they are widely assumed to refer to the South Arabian state of Saba, and

because the story of the queen of Sheba's visit to King Solomon (ca. 960-930) is set in the tenth century BCE.⁹⁶ In Groom's opinion, the cities mentioned in the Books of Isaiah, Jeremiah, and Ezekiel that often are associated with South Arabia (such as Canneh and Eden) more accurately should be identified with places in the Levant and Mesopotamia. Similarly, Groom feels that the "blue clothes" of Ezekiel 27:24 refer to the blue dye of Sidon and Tyre, and the "broidered work" and cedar chests mentioned in the same passage were products of Tyre rather than South Arabia.⁹⁷

Groom also rejects the commonly held belief that the queen of Sheba was from South Arabia because no epigraphical evidence of an organized state in South Arabia predates the sixth century BCE. Furthermore, the textual evidence gathered from southern Arabia indicates that male, rather than female, monarchs predominated, whereas northern Arabia had a tradition of queenship. At any rate, Groom doubts that any South Arabian monarch would have undertaken such a long journey to discuss trade matters with Solomon, even if an Incense Route existed as early as the tenth century BCE. Rather, Groom suggests that the queen of Sheba was probably the ruler of a North Arabian tribe of Sabaeans who may have feared Solomon's aggressiveness, or who needed to ensure safe passage for her goods along the trade routes intersecting his state. Finally, Groom notes that the gifts brought by the queen, such as spices, jewels, and gold, match exactly the goods carried by the merchants of Sheba listed in the Book of Ezekiel, a text which dates to the sixth century BCE.⁹⁸ Thus, Groom argues that no evidence for trade between South Arabia and the Levant can be established on the basis of the Old Testament, other textual evidence, or archaeology prior to the sixth century BCE.

Kjeld Nielsen is a proponent of an early date for the Incense Route.⁹⁹ Nielsen agrees with the opinion of Rathjens, who argues that donkey caravans were first used along the Incense Route as early as the third millennium BCE.¹⁰⁰ Nevertheless, Nielsen does point out that the cost of incense carried along this early route must have been nearly prohibitive due to the time and logistical difficulties involved in such a journey. But despite this previous use of equids, Nielsen feels that expansion of the Incense Route was greatly enhanced by the domestication of the dromedary, which he dates to roughly 2000 BCE.¹⁰¹ Nielsen argues that this event significantly eased travel along the Incense Route because it freed caravaneers of the network of wells required by donkeys, and the dromedary's greater strength and speed allowed for the movement of larger quantities of goods. Nielsen explains the lack of textual and archaeological evidence of dromedary use prior to the eleventh century BCE by stating that dromedaries "remained an exclusive Arab nomad or semi-nomad property for several centuries," and therefore did not permeate sedentary art and literature for several centuries after they came into use.¹⁰²

The crux of Nielsen's argument rests on the occurrence of frankincense and myrrh in middle to late second millennium BCE texts from Ugarit, Mitanni, and Egypt.¹⁰³ Of particular importance in Nielsen's view is the mention of *'ntyw* (denoting in his opinion both frankincense and myrrh), in Egyptian texts listing imports from the Levant starting in the reign of Thutmose III (ca. 1490-1463 BCE).¹⁰⁴ Although he does not discuss the possibility of a Red Sea route from South Arabia to the Levant, Nielsen argues that, since these resins come from trees that grow only in South Arabia and Somalia, they must have been carried overland.¹⁰⁵ Moreover, Nielsen concludes, because Egypt was importing

'*ntyw* from the Levant but also undertaking voyages to Punt, as exemplified by texts dating from the Fifth Dynasty, the Levantine '*ntyw* is likely to have come from southern Arabia.¹⁰⁶

Despite Patricia Crone's otherwise thorough study of Mecca's involvement in the Arabian caravan trade, Crone only touches briefly on the topic of the Incense Route and its development.¹⁰⁷ Perhaps because her study is set in the later Islamic period, Crone states that the question of the Incense Route's development and starting date "can be disposed of briefly, since it has recently been dealt with by [Nigel] Groom, whose conclusions may be accepted with slight modifications."¹⁰⁸ Crone's only modification to Groom's thesis, however, is a difference of one hundred years regarding the starting date of the Incense Route, which Crone places in the seventh, rather than sixth century BCE.¹⁰⁹ In either case, since Crone does little more than summarize Groom's arguments, her opinions regarding the development of the Incense Route warrant no further discussion.

Israel Finkelstein discusses the Incense Route in the context of its impact on the social and political situation in the Negev between the twelfth and eleventh centuries BCE.¹¹⁰ Finkelstein's 1988 study establishes the mid-twelfth century BCE as the latest date for the origin of the Incense Route and encompasses a wide range of related topics, although it largely ignores developments relevant to the incense trade occurring outside of the southern Levant.¹¹¹ Finkelstein finds evidence for the beginning of the Incense Route in the economic, social, and political changes that occurred in the Negev region between roughly 1200 and 1000 BCE, particularly at the site of Tel Masos and

surrounding areas.¹¹² More specifically, Finkelstein focuses on some of the processes involved in the incense trade's early development, such as shifts from nomadic to sedentary society, and the accumulation of wealth at the northern terminus of the Incense Route.¹¹³

Finkelstein opines that the domestication of the dromedary was an essential factor in the development of the incense trade, and that only through the utilization of the dromedary could large-scale overland exchanges of goods between South Arabia and the Levant take place. Finkelstein proposes that no overland trade existed between the Levant and South Arabia until after the Egyptian withdrawal from the Levant resulting from the invasions of the Sea Peoples in the mid-twelfth century BCE. While still powerful, Egypt diverted Arabian trade through the Nile Valley, which negated the value of domesticated dromedaries even if they were available. Once Egyptian influence disappeared, though, desert peoples quickly redirected trade over new routes through Midian and the Negev. Finkelstein also recognizes the possibility of the camel-borne Arabian trade developing gradually throughout the second half of the second millennium BCE, but not becoming fully developed until sometime following the Egyptian collapse around 1150 BCE.¹¹⁴ In either case, once established, dominance of the northern portions of the Incense Route brought great wealth to the pastoralist and nomadic communities occupying it. This wealth contributed to the establishment of a chiefdom centered on Tel Masos, and this in turn accounts for the sudden increase in sedentary populations in the Negev region.¹¹⁵ Finkelstein identifies the people of this semi-sedentary state as the Amalekites of I and II Samuel, argues that Tel Masos is probably the city of Ir Amalek destroyed by Saul, and

attributes the conflict between Israel and the Amalekites to a struggle over control of the Incense Route.¹¹⁶

H. Keith Beebe discusses the development of the Incense Route in a paper in which he discusses the domestication of the dromedary and its political and economic impact on the Near East during the early Iron Age.¹¹⁷ Beebe departs radically from the opinions of most scholars of the Incense Route by proposing that dromedary domestication first took place in northern Arabia, and that its use as a burden animal in the South Arabian incense trade contributed to the decline of Bronze Age Egypt and Assyria.¹¹⁸ Although Beebe constructs an interesting model for the period 1200-800 BCE, his thesis is less an argument than a chronology of possible events, and it relies heavily on several unsupportable assumptions.

Beebe identifies Canaanites, Aramaeans, and Arabs as possible domesticators of the dromedary and, on the basis of technological advancement relative to that of Arabs and Aramaeans, Beebe determines that Canaanites were the group most likely to have domesticated the dromedary.¹¹⁹ According to Beebe, Canaanites in the southern Levant probably fled into the deserts of Syria and Arabia to escape the Sea Peoples who ravaged the Levant around 1200 BCE. In the process of this migration, Canaanites came into increased contact with the dromedary, and quickly harnessed it as a burden animal.¹²⁰ Then, in rapid succession, a saddle was developed for the animal and nomadic life spread deeper into the desert as more people fled marginal agricultural lands.¹²¹ Eventually, interaction between sedentary peoples and nomadic camel-breeding societies in the Syrian and Arabian deserts led to the adoption of domesticated dromedaries for the

purposes of trade, and an overland route between South Arabia and the Levant developed.¹²² Beebe makes it clear that nomads bred dromedaries and probably held a monopoly on them for as long as several centuries after they were first domesticated.¹²³ Therefore, the incense route could not have developed until the domesticated dromedary spread to South Arabia as a herd animal of pastoral peoples, who then supplied settled populations with a superior, if not the only, means of transportation across the Arabian Peninsula.¹²⁴

Beebe does not establish a definite date for the origin of the Incense Route, but he appears to place it at between roughly 1100-1000 BCE.¹²⁵ In support of this conclusion, Beebe points to the establishment of caravan centers in the southern Levant such as Tel Masos, and he draws a direct connection between the growth of villages in the Negev and their function as transshipment points between South Arabia, Gaza, and the northern Levant.¹²⁶ Finally, as stated above, Beebe argues that the rapid political and economic decline of Egypt after 1200 BCE provides convincing evidence of the development of a camel-borne incense route through Arabia. Once the incense trade shifted overland from the Red Sea, Egypt suffered an irreversible economic setback while South Arabian and Levantine states prospered.¹²⁷

Jan Retso has written one of the most thorough studies of the origin of the Incense Route.¹²⁸ Similarly to Groom, Retso argues that the establishment of the Incense Route cannot be dated earlier than the middle of the seventh century BCE, a conclusion he bases mainly on archaeological and textual evidence from the Levant.¹²⁹ Retso stresses linguistic evidence, the interpretation of textual sources from Israel, Assyria, and Greece,

the earliest presence of frankincense and myrrh outside of South Arabia, and the domestication of the dromedary.¹³⁰ Based on his interpretation of this evidence, Retso proposes a model for the establishment of the Incense Route in Syria or western Arabia.¹³¹

Retso establishes possible trade connections between South Arabia and other regions in the Near East based on the spread of the root word *lbn*, meaning “white,” which is commonly found in words for “frankincense.” Retso believes that the South Arabian word for frankincense, *lbn*, was introduced along with the product it described, and therefore the first occurrences of the word in the Near East beyond South Arabia provide a relative chronology of its introduction into other regions. Retso notes that the earliest examples of this root are found in texts dated to the late eighth century BCE, although there is a gradual increase in the occurrence of the word from the seventh century BCE on. Since frankincense was “an imported, expensive and exclusive form of incense,” Retso argues that general terms for aromatics such as the Hebrew words *bosem* and *qtolet*, and the Akkadian *riqqu(m)*, cannot be assumed to refer to it.¹³² Retso departs from the majority view in identifying the Egyptian word *sncr*, rather than *'ntyw*, as frankincense, and since it is unrelated to the South Arabian root *lbn*, Retso suggests that prior to the first millennium BCE Egypt imported its frankincense from Nubia and Punt rather than Arabia.¹³³

Retso demonstrates that frankincense was not known in Israel prior to the middle of the seventh century BCE based on the dating of Old Testament books that mention it, the earliest of which, Jeremiah, was probably written at the beginning of the sixth century

BCE.¹³⁴ Similarly, the absence of frankincense in the Homeric poems, believed to have been written in the eighth century BCE, indicates that frankincense was still unknown to Ionian aristocrats at this time. Retso feels that similarities in the uses of frankincense, as described in the writings of Sappho (seventh century BCE) and in the Song of Solomon, suggest that these two texts are roughly contemporaneous, and that they may indicate early uses of frankincense in the two regions.¹³⁵ Retso also notes that frankincense replaced the burning of animal fat in most Israelite sacrificial offerings shortly after 610 BCE, and he points to the sudden, and slightly earlier, appearance in Palestinian homes of “cuboid alters” used for the burning of frankincense.¹³⁶ Finally, Retso concludes that no archaeological connection between the Levant and South Arabia can be safely established prior to the seventh century BCE, and therefore any frankincense arriving in Mesopotamia prior to this time must have been imported through the Persian Gulf.¹³⁷

Retso considers domesticated dromedaries a necessity for the development of the Incense Route, but the earliest archaeological evidence of dromedary use as burden or riding animals that he accepts come from the early ninth century BCE reliefs from Carchemish and Tell Halaf.¹³⁸ Retso also rejects most mention of domesticated dromedaries in the Old Testament as either anachronisms or later additions to the texts, particularly in the patriarchal stories.¹³⁹ In like fashion, though he feels the invasion by Midian described in Judges 6-8 probably occurred sometime before 1000 BCE, Retso feels that many of the details, such as the use of dromedaries by the Midianites, were added during the post-exilic period, and therefore after the domestication of the dromedary.¹⁴⁰ The Amalekites Retso feels are “a disguise for the Ishmaelites,” and

although he accepts the historicity of domesticated dromedaries in the Joseph story, which he identifies as the earliest datable mention of dromedaries, Retso places the writing of the story itself in the seventh century BCE. Because of inconsistencies with better documented facts from the time of Solomon, Retso feels a tenth century BCE date for the Queen of Sheba's visit to Israel is unsupportable. Rather, based on terminology in the text indicating late Assyrian times, the non-mention of frankincense, the presence of an Arabian queen, and similarities to the theology of later books such as Psalm 72, Retso places her visit to between 730-600 BCE.¹⁴¹

Retso cites evidence from Iran indicating that the domestication of the Bactrian camel was already under way in the third millennium BCE, and he feels that through contact with eastern Arabia, domestication of the dromedary began and continued to evolve on the Arabian Peninsula perhaps as early as 2500 BCE. Retso feels that settled people in South Arabia undertook dromedary domestication but, despite its early beginnings, domestication remained limited to simple exploitation of the dromedary for its milk, meat, and dung. Instead, Retso believes people inhabiting the northern steppes of Syria, where the availability of vast pasture lands, unrestricted by agriculture, provided the necessary ecological niche for large-scale herding of dromedaries to take place, first utilized the dromedary as a burden and riding animal. Therefore, Retso concludes that the dromedary's utilization after 900 BCE as a riding and burden animal may have been patterned, in the case of riding, after horse cavalry, which was already developed in regions north of the Fertile Crescent.¹⁴² Finally, the absence of any depictions of dromedary riding in South Arabia prior to 500 BCE, and evidence suggesting cultural and

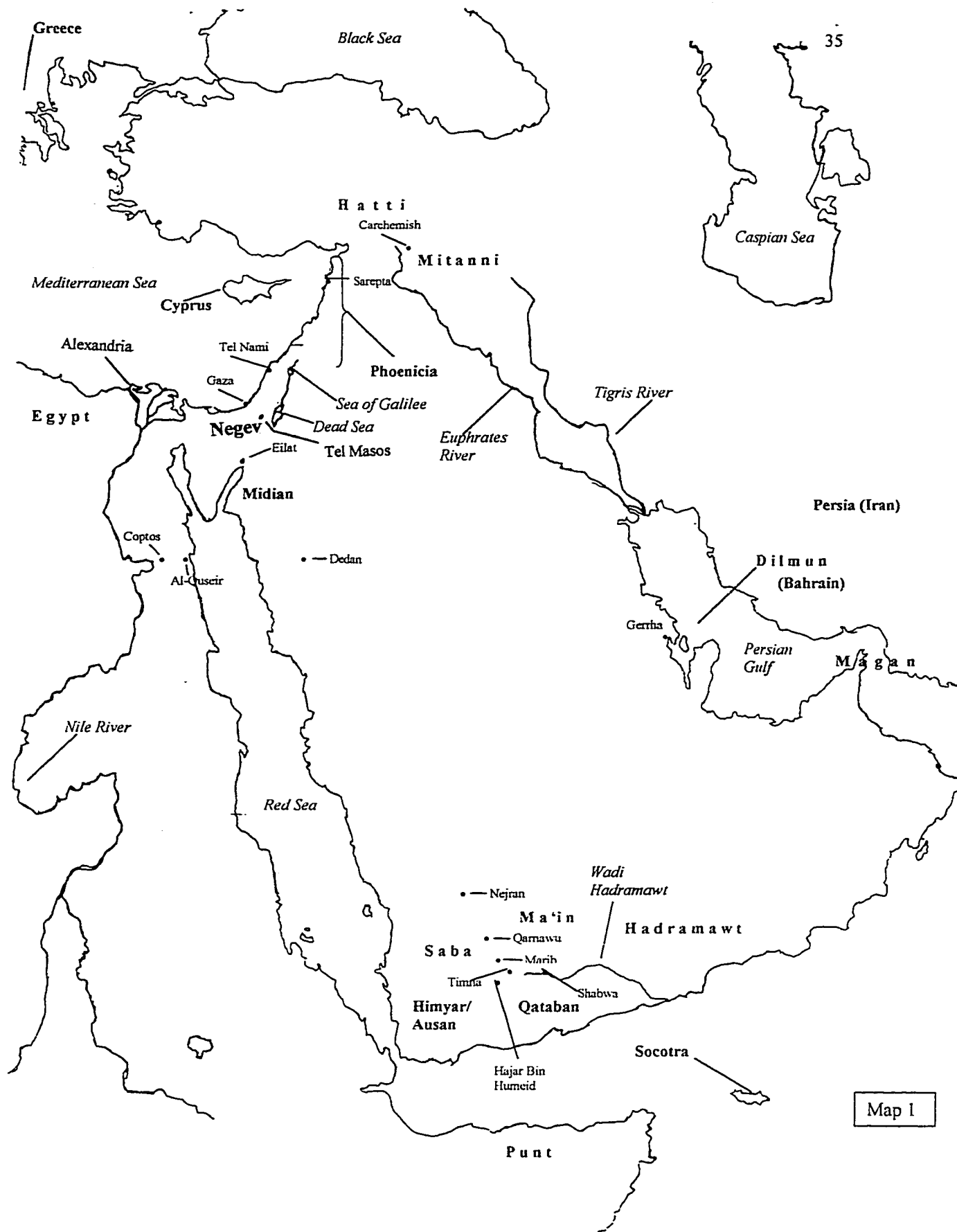
linguistic influences on South Arabia from the north, convince Retso that the Incense Route was initiated in Syria no earlier than the middle of the seventh century BCE.¹⁴³

Michal Artzy has written the most recent study of the Incense Route.¹⁴⁴ Artzy traces the dromedary-borne trade in incense back to the thirteenth century BCE based mainly on the contemporaneous increase in wealth at the Levantine site of Tel Nami.¹⁴⁵ He argues that the paucity of suitable agricultural land in the region of Tel Nami indicates that its wealth was derived from other sources, and the presence of Collared Rim Jars, which he believes were used as both maritime and overland transport containers, suggests a transshipment center.¹⁴⁶ Finally, Artzy argues that South Arabian incense may have been an important element in the general expansion of trade and importance of the Levant during the thirteenth century BCE, and that it may account in part for the interest held in the area by the Egyptian and Hittite Empires.¹⁴⁷

Artzy maintains that dromedaries were essential to the transportation of South Arabian aromatics to the Levant.¹⁴⁸ Collared Rim Jars are particularly important to Artzy in this context, even though he concedes that they are not necessarily indicative of a trade in incense. Since these jars were too bulky and heavy to be carried by donkeys, Artzy believes that dromedaries must have been used to transport them.¹⁴⁹ Although Artzy favors a fifteenth century BCE date for dromedary domestication, the use of Collared Rim Jars as transport containers pushes the date of dromedary domestication back to the thirteenth century BCE at the latest.¹⁵⁰ Artzy cites the opinions of Kjeld Nielsen and J.H. Breasted (1906) regarding Egyptian imports of South Arabian incense (*'ntyw*) from the Levant to establish the probability of an overland incense trade with Arabia. Artzy adds

that frankincense and myrrh may also have been shipped some distance north via the Red Sea before being transferred to dromedaries for transport over the final leg of the journey.¹⁵¹

Artzy points to Egypt's use of intermediaries in initiating other trading ventures, such as the earliest expeditions to Punt, and he stresses that the development of the Incense Route may have been shaped by similar factors. According to Artzy, nomadic or semi-nomadic peoples inhabiting the Arabian Peninsula "were the important link between Arabia, the sown lands and the established political systems," and that these nomads probably varied between work as intermediaries, bandits, caravan leaders, and mercenaries. He labels these people generically as the "Peoples of the Desert," and he equates them with maritime traders who he calls "Nomads of the Sea."¹⁵² Artzy feels that both peoples became acquainted with the Levant through involvement in the incense trade, and that once Egypt's position in that area weakened, both land and sea merchant-nomads settled in and rapidly seized control of the area.¹⁵³



Map 1

CHAPTER THREE:
ANALYSIS OF THE HISTORIOGRAPHICAL SOURCES,
WITH EMPHASIS ON KEY ASPECTS OF THE INCENSE ROUTE'S
DEVELOPMENT

The brief historiographical survey above demonstrates that almost no consensus exists among scholars about the Incense Route. While two or more scholars may reach the same conclusion regarding a general point, such as the starting date of the Incense Route, the conflicting arguments and evidence presented in support of those conclusions does not allow one to identify any broad “schools” among them. Rather than approach some agreement on even the most basic points, such as the presence of frankincense and myrrh in the Levant, numerous frequently unsupported assumptions and generalities have complicated recent work in this field. Nevertheless, even the most unsubstantiated reconstructions of the Incense Route at times raise interesting questions that, if properly and objectively investigated, impart clues helpful in establishing a viable model for the overland trade in incense. Therefore, rather than attempting to propose and test several models based on these conflicting theories, it is perhaps more useful to identify, isolate, and test their underlying arguments.

Nearly every theory of the Incense Route, when reduced to its most basic points, reveals several fundamental issues. The domestication of the dromedary, for example, is

of critical importance to the development of the Incense Route, and nearly every scholar of the overland frankincense and myrrh trade attempts to establish the date and place of its domestication. Most scholars argue that the dromedary was an absolute necessity as a burden animal in the Incense Route, and therefore no regular cross-desert route could have existed prior to its domestication. Several scholars, however, such as C. Rathjens, W.F. Albright, Kjeld Nielsen, and Brian Doe, contend that the donkey preceded the dromedary as primary burden animal along the Incense Route, and argue that evidence of an Incense Route exists prior to the use of domesticated dromedaries on it.¹⁵⁴ Nevertheless, establishing a rough date for dromedary domestication is critical because, if it were in fact domesticated prior to the earliest dates for the Incense Route suggested by proponents of donkey use, there would be no need for examining whether donkeys were used. Additionally, it is useful to identify the domesticators of the dromedary because that answer may provide clues that help establish where and by whom the Incense Route was initiated.

Though proposed dates for the domestication of the dromedary, like those of the Incense Route itself, vary by as much as 3000 years, the three periods suggested most often are: 1) 3000-2000 BCE; 2) 1500-1000 BCE; and 3) and 650-550 BCE period. Richard Bulliet, the foremost proponent of early domestication, argues that the dromedary was domesticated in the South Arabian regions of Hadramawt, Mahrah, and Dhofar by pastoralists between roughly 3000-2500 BCE (See map 2, page 55 for regions mentioned in this chapter).¹⁵⁵ The cornerstone of Bulliet's thesis rests on a hypothetical reconstruction of dromedary saddle evolution and dispersal, which he traces back from

the present-day and supports with several pieces of archaeological and textual evidence.¹⁵⁶ Nielsen, Nigel Groom, and Jan Retso fundamentally agree with Bulliet regarding the date of domestication, although they challenge him on other aspects of the Incense Route.¹⁵⁷ Nielsen merely states that dromedary domestication may have occurred around 2000 BCE, but he fails to develop this point further.¹⁵⁸ Although Groom suggests one of the latest starting dates for the Incense Route, he believes that the process of dromedary domestication began as early as 3500 BCE in southeastern Arabia. Groom refers to several unspecified archaeological finds that “give some indication of the knowledge if not the existence of domesticated camels in Mesopotamia, Palestine and North Arabia in the third millennium,” although he stresses the dromedary’s scarcity in these regions prior to the thirteenth or twelfth century BCE.¹⁵⁹ Groom does not specify whether it was sedentary or nomadic peoples who domesticated the dromedary, but he states that it did not reach the incense growing regions of South Arabia until perhaps the first millennium BCE.¹⁶⁰ Retso, a final champion of the third millennium BCE date, argues that the Bactrian camel was domesticated in Iran prior to the domestication of the dromedary, which first began taking place on the eastern Arabian Peninsula.¹⁶¹ Nevertheless, Retso argues that dromedary domestication in South Arabia remained limited to exploitation of the animal for its milk, meat, and dung, while utilization of the dromedary as a burden and riding animal was developed by pastoralists inhabiting the steppes of northern Syria in the ninth century BCE.¹⁶²

Albright, Doe, Abdel-Aziz Saleh, H. Keith Beebe, Israel Finkelstein, and Michal Artzy constitute the group that favors a late second millennium BCE date, with the

thirteenth and twelfth centuries cited most often. Though Albright essentially laid the foundation for this school, his argument is surprisingly weak. In short, Albright considers the domesticated dromedaries in the Abraham story to be late additions to the text, avoids specifying where domestication first occurred, and does not identify the domesticators.¹⁶³ Doe believes that dromedaries were initially domesticated for military purposes as cavalry mounts in northern Arabia or the southern Levant, perhaps as early as the Late Bronze Age.¹⁶⁴ According to Doe, the dromedary was domesticated for use as a burden animal only after the eleventh century BCE, at which point it was adopted as the primary incense carrier by South Arabian caravaners.¹⁶⁵ Saleh merely refers to Albright's dating of dromedary domestication without developing this point.¹⁶⁶

Beebe argues that nomadic Canaanites inhabiting the deserts of Syria and North Arabia domesticated the dromedary shortly after 1200 BCE.¹⁶⁷ Although he is vague on this point, Beebe implies that nomads adopted dromedary domestication throughout the Arabian Peninsula as it spread to the south where, presumably within a period of several years, South Arabian incense merchants utilized dromedaries as burden animals.¹⁶⁸ Finkelstein focuses on "the date of the beginning of the large-scale utilization of the camel as a pack animal," which he vaguely places in the late second millennium BCE and, although he does not explicitly state where domestication first occurred, Finkelstein's reliance on Bulliet implies a South Arabian origin.¹⁶⁹ Artzy suggests a fifteenth century BCE date for dromedary domestication based on Paula Wapnish's work at Tell Jemmeh and on Egyptian imports of South Arabian incense from the Levant in the time Thutmose III.¹⁷⁰ Artzy, like Finkelstein, fails to make clear where this domestication

occurred, and his broad discussion of the entire region between the Levant and South Arabia makes it difficult to speculate on this point.¹⁷¹

The likelihood of donkey or mule caravans being used in the overland incense trade is, as mentioned, another topic of great consequence to the reconstruction of a workable model for the Incense Route. On the surface, the question is essentially whether donkeys and mules were resilient enough to withstand the rigorous conditions prevalent on the Arabian Peninsula. But this relatively straightforward question raises several underlying and more important issues not apparent at first glance. For example, as Albright, Nielsen, and Groom point out, use of donkey caravans along the Incense Route would necessitate an extensive and well-organized network of wells, since equids require frequent stops for water.¹⁷² This point needs, of course, to be extended to the use of dromedaries which, although more resilient and resistant to heat and dehydration than equids, nevertheless need to be watered on occasion as well, particularly in the most arid summer months on the Arabian Peninsula.¹⁷³ This final point, in turn, raises the question of who established, protected, and maintained these vital watering holes. In other words, what were the socio-political conditions between South Arabia and the Levant, and at what point, approximately, did it become possible for overland merchants to transport their goods with relative ease, safety, and regularity?

Despite their importance, few scholars even touch on these questions, and even the classical sources give differing accounts of conditions on the central Arabian Peninsula. Agatharchides, for example, describes a method of transportation in which intermediaries carried the incense over specific, relatively short distances before passing

it to the next group along the trade chain.¹⁷⁴ It should be noted that Agatharchides' second century BCE narrative already reflects a high state of organization and a later stage in the Incense Route's development. Nevertheless, Pliny's thorough first century CE discussion of conditions along the Incense Route directly contradicts Agatharchides' account. Pliny makes it clear that South Arabian caravaneers traveled the entire length of the Incense Route, and that the route contained rests stops and watering stations, as well as various independent political units and permanent tariff-collection points.¹⁷⁵ Despite the contradictory descriptions, Agatharchides and Pliny may simply be relating conditions on the Incense Route in their own time, and therefore both accounts may be legitimate.

As noted above, Nielsen and Albright argue that a similarly well-developed situation must have existed by roughly 2000 and 1500 BCE respectively, although only Albright attempts a reconstruction of this route.¹⁷⁶ According to Albright, the southernmost portions of the Incense Route were operated and controlled by Hadrahmawt and Saba, the central regions were probably under Dedan, while Midianites held control of the northern section.¹⁷⁷ Albright makes no specific mention of conditions along the Incense Route, but he appears to accept Pliny's description of South Arabian caravans travelling the entire length of the Arabian Peninsula.¹⁷⁸ Doe alleges that urban centers developed throughout western Arabia by no later than 1000 BCE, and he implies that they coexisted with nomadic tribes.¹⁷⁹ Doe maintains, without citing evidence, that cities and states throughout western Arabia were established and grew wealthy through their association with the Incense Route, occasionally forming confederations to protect

themselves against local nomads, and, presumably, providing South Arabian caravaneers with food, water, and fodder.¹⁸⁰

Saleh, despite his late second millennium BCE date for dromedary domestication, argues that trade across the Arabian Peninsula was already well-developed by roughly 1500 BCE. According to Saleh, semi-nomadic peoples who inhabited the oases of Arabia transported goods in a relay-type fashion from one settlement to the next, either as merchants or mere carriers. Saleh adds that other nomadic and semi-nomadic herdsmen may have supplemented their incomes by exacting tolls on the caravans or by raiding them.¹⁸¹ It is unclear when, in Saleh's opinion, a continuous overland route between South Arabia and the Levant developed, but Saleh points to evidence on Egyptian tomb reliefs and inscriptions suggesting the presence of coastal transshipment centers in Arabia.¹⁸² In any case, Saleh maintains that the original beast of burden along the Incense Route was the donkey, and he points to instances of Egyptian donkey caravans travelling to Punt as early as the Sixth Dynasty.¹⁸³ Artzy, who dates the Incense Route to no later than the thirteenth century BCE, argues that nomadic and semi-nomadic peoples on the Arabian Peninsula were involved in the transportation of South Arabian incense, but he believes that their function was initially that of intermediaries "between . . . the established political systems."¹⁸⁴ Although Artzy fails to develop this point, it may be assumed that in this role as intermediaries, Arabian nomads utilized their knowledge of the desert to provide the necessary food, water, and protection to ensure safe passage for the incense caravans. Like Agatharchides, Artzy envisions a chain of local carriers

spanning the length of the Arabian Peninsula who simply transported the incense over a specific distance before passing it to the next group along the route.¹⁸⁵

Bulliet, Beebe, Retso, Groom, and Finkelstein are silent regarding conditions in central Arabia, although it appears that they believe no organized, sedentary states existed between South Arabia and the Levant at the time of the Incense Route's establishment.¹⁸⁶ Bulliet argues that South Arabian pastoralists simply began carrying small amounts of incense north before urban-based merchants from the southern peninsula monopolized the trade, but he says nothing of conditions in between.¹⁸⁷ Beebe implies that the entire central peninsula was uninhabited, since he argues that the cross-desert routes made possible by domesticated dromedaries lowered transportation costs because merchants avoided brigands and tariffs.¹⁸⁸ Retso places the beginnings of the Incense Route in the middle of the seventh century BCE but, interestingly, makes no mention of either sedentary society in central Arabia or nomadic involvement in the incense trade.¹⁸⁹ Although Groom does not place the spread of dromedary domestication to southwestern Arabia until the early first millennium BCE, his theory regarding "hand-to-hand" exchange of incense up the Arabian Peninsula prior to the establishment of the Incense Route implies some human presence in those regions.¹⁹⁰ Finkelstein, despite his thorough discussion of conditions in the southern Levant during the Incense Route's formative years, is silent regarding central Arabia and its inhabitants.¹⁹¹

With the exception of Finkelstein, whose opinion will be discussed below, scholars generally accept that the northern terminus of the Incense Route was, from the beginning, located somewhere in the Levant. While no amount of research is likely to

allow for a more site-specific identification than this, it is clear that scholars generally fail to recognize the overall importance of several underlying factors to this question. Specifically, every suggested date for the beginning of the Incense Route presupposes that the Levant was economically and politically advanced enough to maintain a steady market for South Arabian aromatics, either as the main consumer of these commodities, or as a transshipment point for their further export abroad. The relevant questions therefore are: when did Levantine society become developed enough to support a large and steady market for expensive frankincense and myrrh, or to warrant the difficult cross-desert journey by merchants? Do changing social, economic, and political conditions in the Levant at any given time suggest, as argued most effectively by Finkelstein, Artzy, and Beebe, a nascent trade in South Arabian incense?¹⁹² Finally, what (if any), evidence in the north exists to substantiate the frequently unsupported conclusions of scholars like Retso who argue that the Incense Route was initiated by northerners?¹⁹³

As noted above, proposed starting dates for the Incense Route fall into three time periods: 1) 3000-2000 BCE, as suggested by Bulliet, Nielsen, and Rathjens; 2) 1500-1000 BCE, as proposed by Heeren, Albright, Doe, Saleh, Beebe, Finkelstein, and Artzy; and 3) the 650-550 BCE dates identified by Groom and Retso.¹⁹⁴ Despite their early dating of the Incense Route, neither Rathjens nor Nielsen discuss conditions in the Levant in the third millennium BCE. In fact, Nielsen merely restates Rathjens' assumption that the Incense Route was already established in the third millennium BCE, although neither scholar offers evidence in support of this conclusion prior to the mid-second millennium BCE occurrence of frankincense and myrrh in texts from Ugarit, Mitanni, and Egypt.¹⁹⁵

The Egyptian texts are particularly important to Nielsen since they list imports of South Arabian incense to Egypt from the Levant beginning in the fifteenth century BCE which, in Nielsen's opinion, were undoubtedly carried north across the Arabian Peninsula.¹⁹⁶ Bulliet suggests that the overland incense trade was in its earliest stages by 2000 BCE, although he too fails to provide any contemporaneous archaeological or textual data from the Levant to bolster this conclusion. Nevertheless, Bulliet does point out that no sea route connected South Arabia and the Levant, and therefore an overland artery may have developed to provide direct access to Levantine markets.¹⁹⁷

Clearly the most often cited dates for the beginning of the Incense Route fall between roughly 1500 and 1000 BCE. Heeren's nineteenth century study, which places the beginnings of the Incense Route in 1000 BCE, is purely speculative and therefore need not be taken seriously.¹⁹⁸ Albright, perhaps the foremost proponent of the mid-second millennium BCE date, is relatively quiet regarding conditions in northern Arabia and the Levant in his discussion of the early Incense Route. Like Nielsen, Albright notes the appearance of South Arabian incense in Mesopotamian and Levantine texts beginning in the fifteenth century BCE and, as noted above, Albright argues that Midianites dominated the northernmost sections of the Incense Route.¹⁹⁹ Doe, who focuses exclusively on South Arabia, makes no mention of conditions in the Levant, and implies that a ready, previously untapped market for South Arabian incense was simply ignored until trade between South Arabia and Mesopotamia collapsed in the late second millennium BCE.²⁰⁰ Saleh maintains that the Levant imported South Arabian aromatics as early as the reign of Tutmosis III, when "great amounts of incense and frankincense,

'ntyw, are listed among the tributes of Syria to Egypt."²⁰¹ However, because Saleh stresses Egypt's control over Syria-Palestine so strongly, it is unclear whether he sees Egypt or the city-states importing these aromatics into the Levant, although Saleh clearly identifies Egypt as the initiator of the Incense Route.²⁰²

Surprisingly, in light of his otherwise poorly supported argument, Beebe is the first scholar to analyze critically and interpret events in the Levant and Mesopotamia with regard to the Incense Route. According to Beebe, Egypt originally imported, and presumably distributed for sale, South Arabian incense via the Red Sea.²⁰³ Beebe suggests that the collapse of Egyptian power in the Levant after the twelfth century BCE resulted, at least in part, from Egypt's loss of control over the transportation of South Arabian incense.²⁰⁴ The domestication of the dromedary, however, allowed non-Egyptian merchants to re-direct trade overland, thereby seizing control of the traffic in aromatics and its lucrative profits.²⁰⁵ Beebe cites the concurrent establishment of caravan centers in the southern Levant, and their presumed function as transshipment centers between South Arabia, Gaza, and the northern Levant, to suggest that their establishment was directly related to the development of the Incense Route shortly after 1100 BCE.²⁰⁶

Finkelstein cites evidence in the southern Levant similar to Beebe's, and he also identifies the mid-twelfth century BCE as the latest possible date for the beginnings of the Incense Route.²⁰⁷ Finkelstein notes Egypt's increased interest in southern Canaan between the late thirteenth to mid-twelfth centuries BCE to suggest that it may reflect the growing economic importance of these regions resulting from a nascent overland trade in incense.²⁰⁸ As long as Egypt maintained hegemony in the southern Levant, the pharaohs

were able to maintain control of and monopolize the Arabian trade and its profits. Finkelstein suggests that Egypt either forcibly redirected the Arabian trade through the Nile Valley during this time, or simply extended complete control over a particular desert route which, in either case, deprived nearby desert tribes of any economic benefits. However, Finkelstein argues, Egyptian control of the area weakened following attacks by the Sea Peoples, and the Incense Route fell into the hands of local desert tribes.²⁰⁹ These nomadic peoples, in turn, experienced “economic prosperity . . . on a scale previously unknown,” which resulted in the limited sedentarization of the Bersheba Basin and Negev Highlands, and the establishment of desert fringe trade centers like Tel Masos.²¹⁰

Artzy suggests that the establishment of the Incense Route may account for the general expansion of trade activity throughout the Levant during the thirteenth century BCE, as well as Egyptian and Hittite interest in the area at that time.²¹¹ Artzy cites Nielsen’s opinion regarding the presence of frankincense and myrrh in the Levant in the time of Thutmose III, and he points to the sudden increase in wealth during the thirteenth century BCE at the Levantine site of Tel Nami.²¹² Artzy notes the scarcity of good agricultural land near Tel Nami to argue that its wealth must have been derived from trade, and he cites the presence of large transport containers known as Collared Rim Jars in support of this contention.²¹³ Artzy notes Egypt’s use of intermediaries in earlier trading ventures such as the Punt expeditions, and he suggests that a similar process may have taken place in the Levant with regard to the Incense Route no later than the thirteenth century BCE. Like Finkelstein, Artzy contends that Egypt utilized local desert tribesmen as caravaneers and intermediaries in connection with the overland incense

trade but, when Egyptian power weakened in the twelfth century BCE, these nomadic and semi-nomadic peoples rapidly settled in the Levant and assumed control of the Incense Route.²¹⁴

Groom, who dates the Incense Route to no earlier than approximately 550 BCE, makes no mention of socio-economic or political conditions in the Levant. In fact, Groom does little more than cite Herodotus' mention of South Arabia as the source of frankincense and myrrh, and point to South Arabian inscriptions found on jar fragments uncovered in a fifth to sixth century BCE context at Eilat.²¹⁵ Retso, who dates the beginning of the Incense Route to about 650 BCE, similarly offers no contemporaneous political or economic evidence in support of his thesis.²¹⁶ The crux of Retso's argument with regard to the north rests primarily on textual and archaeological data indicating the spread of frankincense during and after the mid-seventh century BCE. Of particular significance to Retso is the introduction of frankincense and incense burners into Palestinian homes and Israelite religious practices, as well as descriptions of frankincense use in Sappho and the Song of Songs.²¹⁷ Retso discusses the evolution of dromedary herding among Syrian nomads, as well as the dromedary's use as a cavalry mount by them, but he fails to relate these developments in any way to other evidence in the north suggesting some connection to the Incense Route. Rather, Retso merely asserts that dromedary domestication, like the Incense Route, was likely initiated in the north.²¹⁸

A final factor rarely considered by any scholar of the Incense Route is the state of South Arabian society at the supposed time of this overland trade's initiation. Since almost nothing is known of social or political conditions in the south prior to the first

millennium BCE, it is clear that the earliest proposed dates suggested for the starting of the Incense Route necessarily rely on a great deal of supposition and unsupportable hypothesizing.²¹⁹ Nevertheless, this is a question of overwhelming importance, particularly to the majority of scholars who argue that the Incense Route was started and controlled by South Arabians. To show that a regular trade in frankincense and myrrh occurred at any given time, factors in South Arabia similar to those considered in the Levant must be taken into account. For example, what was the nature of South Arabian society at the time of the Incense Route's beginnings, and is it of any consequence whether that society was nomadic or sedentary? At what point does archaeological or textual evidence begin to appear, and what, if anything, does it indicate regarding the formation of the Incense Route?

Unfortunately, despite the obvious importance of South Arabia to the Incense Route, few modern scholars discuss the region in more than a cursory manner. Although the focus of his thesis rests primarily on northern Arabia and the Levant, Albright briefly discusses changes in South Arabia he believes can be attributed to the influx of wealth derived from the Incense Route. The development of irrigation works and water control devices in Saba, Qataban, and Ma'in in the period 1600-1400 BCE, and the establishment of the settlements of Timna and Hajar Bin Humeid by approximately 1000 BCE, are interpreted by Albright as strong indicators of trade between South Arabia and the north.²²⁰ Similarly, Albright argues that the spread of the north Semitic linear alphabetic script to South Arabia can be dated to the early fourteenth century BCE, and he maintains that the method of transmission was through interaction between South Arabian

merchants and Midianites along the Incense Route.²²¹ Albright further implies that the South Arabians initiated the Incense Route by arguing that “the southernmost phase of the caravan route was arranged by the Hadramis and the Sabaeans,” although the incense passed through several other states before arriving in Midian.²²² It is apparent from Albright’s emphasis on settlements and irrigation schemes that he believes Sabaeans and Hadramis to have been sedentary peoples.²²³

Although Doe provides the most thorough overall history of South Arabia, he fails effectively to connect events in the south to the development of the Incense Route. While Doe argues that declining Mesopotamian markets for frankincense and myrrh forced South Arabian merchants to shift exports to the Levant, he is unable to offer any contemporaneous evidence to support his conclusion.²²⁴ Doe is equally unclear regarding the nature of South Arabian society both during and after the inception of the Incense Route, and he fails clearly to differentiate between sedentary and nomadic peoples in his discussion of their supposed struggles over control of the incense producing regions.²²⁵ Similarly, although he asserts the presence of various, presumably independent, sedentary and nomadic peoples between South Arabia and the Levant, Doe contends in another section that in the eighth century BCE Tiglath Pileser III “penetrated down the trade route, pushing the South Arabians back.”²²⁶ Bulliet makes little mention of social, economic, or political conditions in South Arabia during the formative years of the Incense Route other than to imply that South Arabian incense merchants were sedentary people, while South Arabian dromedary herders were nomadic.²²⁷ Bulliet does, however, point to a possible association between the trade in incense and changing dromedary-

herding patterns in the south, such as a shift away from the utilization of female dromedaries as mere food and prestige animals toward a focus on raising stronger males for riding and burden-bearing.²²⁸

Retso only discusses South Arabia in the final two paragraphs of his thirty-page article to stress its relatively late development and, presumably, the unlikelihood of an organized overland trade in incense prior to the seventh century BCE. Retso points to unspecified evidence suggesting that South Arabian material culture was strongly influenced by the north, and he argues that textual evidence places Sabaeans in the north in the eighth century BCE but in South Arabia in the sixth.²²⁹ Retso also points to similarities between the Sabaean language and the languages of Syria and western Arabia, as well as differences between the Sabaean dialect and the dialects of other South Arabian peoples.²³⁰ The rest of the scholars surveyed make no relevant mention of South Arabian society.

While this overview of the basic issues regarding the development of the Incense Route raises more questions than it answers, several important factors nevertheless come to light that help to focus and limit the scope of this investigation. Regarding conditions in the Levant, for example, it becomes immediately clear that none of the scholars surveyed above cites any archaeological, textual, or linguistic evidence of an Incense Route prior to the earliest appearance of frankincense and myrrh in the area beginning in the fifteenth century BCE. Although the earliest extant texts to mention these resins in the Levant are arguably not reflective of their very first appearance in the region, it is imprudent to project speculatively the presence of South Arabian aromatics in the Levant

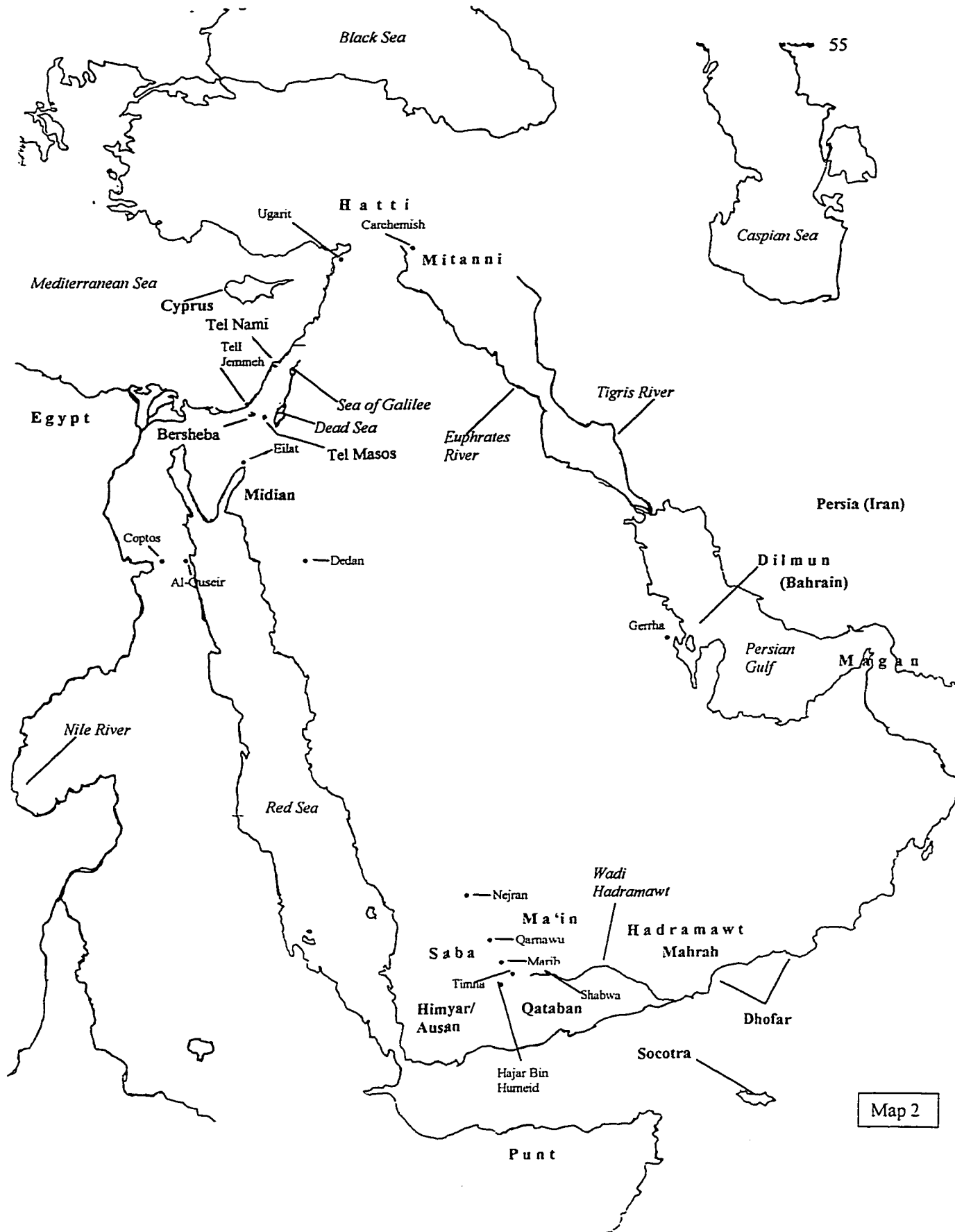
back five centuries or more, particularly in the absence of supporting evidence. The inability of proponents of the highest dates (ca. 3000-2000 BCE) suggested for the inception of the Incense Route to produce solid corroborating data of any kind from the Levant similarly casts doubt on the validity of their conclusions. For instance, Bulliet's statement that South Arabian incense was undoubtedly making its way north by 2000 BCE on the backs of camels, although he is certainly an authority on the domestication of the dromedary, is purely hypothetical and unsubstantiated by any relevant facts. In effect, then, Bulliet's assertion of this point is no more convincing than Heeren's equally unsubstantiated claim that Phoenicians initiated the Incense Route. A comparison to the social, economic, and political changes in the Levant highlighted by Finkelstein, Beebe, and Artzy, as well as the pointlessness of looking for evidence of the Incense Route in the absence of incense, clearly sets the parameters of investigation to no earlier than roughly 1500 BCE. Groom's and Retso's dating of the Incense Route appears to stem mainly from an overcautious need to show definite proof of frankincense and myrrh use in the Levant. But while their eighth-seventh century BCE time frame is certainly too late, it nevertheless provides a useful low date for the overland incense trade.

A thorough understanding of similar conditions and developments in South Arabia would be helpful in isolating a more specific date for the development of the Incense Route than the approximated (and tentative) 1500-550 BCE time frame established above. For example, any parallels between changes in, or the development of South Arabian society and the Levant, such as a roughly synchronous accumulation of wealth or sedentarization in both regions, may indicate the development of the Incense

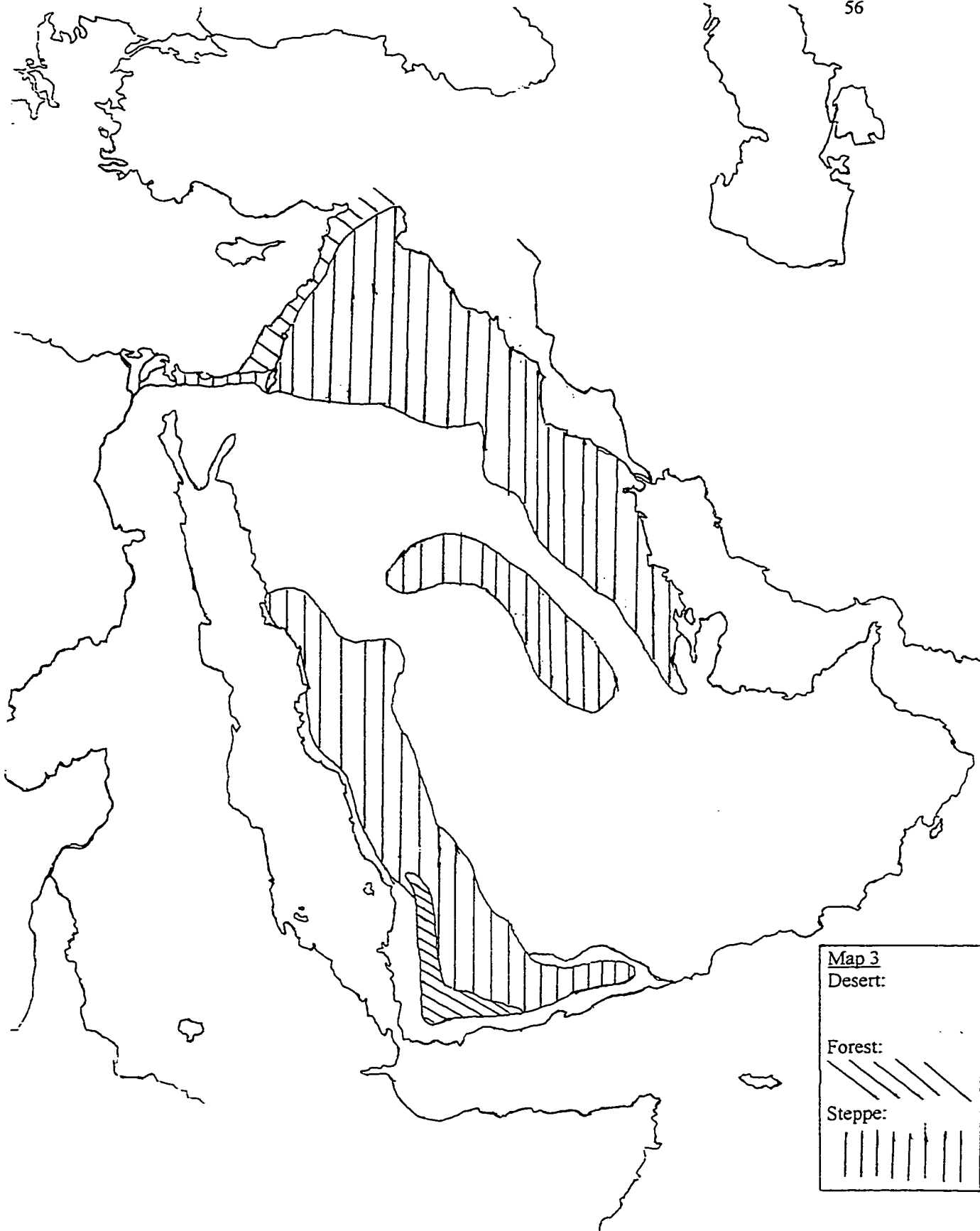
Route in a certain period. While it is clear that few scholars discuss South Arabia at any length, Albright, Doe, Bulliet, and Retso note several possible connections between north and south. Of particular significance in this context is Albright's discussion because he cites archaeological evidence between roughly 1600 and 1000 BCE that indicates an accumulation of wealth in the south at roughly the same time a similar process was under way in the Levant. But with the exception of Retso's study, which was written in 1991, most scholars discuss ancient South Arabia as it was understood in the 1970's, and therefore a thorough overview of recent work on the southern peninsula needs to be made before any further conclusions can be drawn.

Only after some pattern of interaction or overland trade between north and south is convincingly established can the central portions of the Arabian Peninsula be discussed. Although several scholars speculate on conditions in the regions between the Levant and South Arabia, no archaeological or textual evidence has been produced. Even Finkelstein and Artzy, who offer the most convincing and thoroughgoing discussions regarding both the peoples on the central peninsula and their possible involvement with the Incense Route, do little more than propose weakly supported hypotheses. Similarly, although Doe maintains that a rather advanced string of urban-based societies existed throughout the Arabian Peninsula, he too offers nothing in the way of concrete data. At any rate, since it is likely that peoples inhabiting the western coastal regions of the Arabian Peninsula were more culturally and socially related to South Arabia than the Levant, a better understanding of South Arabian society will help establish conditions in central Arabia between 1500 and 550 BCE.

Despite its overwhelming importance as a carrier of frankincense and myrrh, the suggested dates for dromedary domestication vary even more widely than the starting dates of the Incense Route itself. Interestingly, the majority opinion, as with the beginning of the Incense Route, also falls within the mid- to late-second millennium BCE, with the starting of the spice trade usually following shortly after dromedary domestication. Moreover, as previously maintained, the date of dromedary domestication holds significance because it may negate the necessity of establishing conditions on the central peninsula with regard to donkey use in the Incense Route. Similarly, identifying the original area of dromedary domestication, as well as its domesticators, may provide clues useful in establishing where and when the Incense Route began. If South Arabians domesticated the dromedary, for example, then the case for a South Arabian origin of the Incense Route is strengthened. Likewise, if the original domesticators of the dromedary were pastoralists or nomads, as Bulliet contends, then it is reasonable to assume that these peoples may have penetrated the Arabian Desert at an early date and been utilized as intermediaries or caravaners by sedentary states, as suggested by Finkelstein and Artzy. If indeed this is the case, then archaeological evidence indicating an established and well-developed trade route across Arabia, as described by Pliny, is no longer necessary. Therefore, even though the date of dromedary domestication is unlikely to narrow the one thousand-year window already established for the starting date of the Incense Route, locating the area in which it took place may help identify where the route started and how it originally operated.



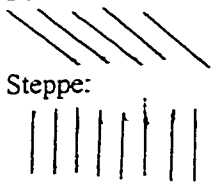
Map 2



Map 3
Desert:

Forest:

Steppe:



CHAPTER FOUR:
THE DROMEDARY AND THE
TIME AND PLACE OF ITS DOMESTICATION

By the end of the Pleistocene Period (ca. 8000 BCE), as today, only two types of Old World camels were still in existence: the one-humped dromedary (*Camelus dromedarius*), and the two-humped Bactrian (*Camelus bactrianus*). While camels of one type or another had originally spread throughout western Asia and as far west in Africa as modern Morocco, by 3000 BCE the dromedary was probably extinct in Africa, and only a few, if any, dromedaries existed in the Near East.²³¹ Over the course of its evolutionary process, the stockier Bactrian, which is better adapted to extreme cold and mountainous conditions, came to inhabit the Iranian Plateau and nearby regions, while the dromedary adapted to the desolate desert conditions of the Arabian Peninsula and the arid areas which border it.²³² As dromedaries, unlike many other animals, experience no change in bone structure through domestication, it is safe to assume that their other physical characteristics have also remained unchanged, and these will be discussed periodically as they become relevant.²³³

Several problems complicate the interpretation of the archaeological evidence, which is frequently the only data available, and the nature of these problems makes any interpretation largely a subjective matter. First, many of the early statuettes and figurines

recovered may or may not represent camels, much less domesticated camels. As Richard Bulliet and Ilse Kohler-Rollefson point out, proponents of an early domestication of the camel, such as Michael Ripinsky and Joseph Free, interpret many questionable objects as camels, even though they are often worn or damaged beyond recognition as anything other than animals.²³⁴ Second is the problem of determining the actual relationship between the evidence uncovered at a particular site and its surroundings, and this is frequently also done subjectively. Many objects clearly related to camels (such as bones and other remains, depictions on pottery, art, and hair), have been discovered at sites, such as those in Egypt, that appear to give no other indication of camel domestication or even habitation for the period under study.

In addition, several factors must be met for the domestication of any animal to take place. These include: appropriate climactic and environmental conditions for the animal to survive and multiply in; close proximity of large enough numbers of the animal to human populations; and some motivation for people to undertake the domestication of the animal.²³⁵ As noted above, the dromedary came to inhabit the torrid, predator-free Arabian and Syrian deserts, as well as the entire region of Mesopotamia and the Levant to southern Anatolia.²³⁶ It appears that the dromedary did not survive in the Sahara Desert, perhaps due to extermination by predators, or, as Bulliet believes, some other species of camel inhabited this region but was unable to adapt to the increasingly arid conditions. At any rate, according to Bulliet, Neolithic people probably encountered dromedaries only infrequently in the non-desert regions of the areas already mentioned, while they were relatively well-known to inhabitants of Arabia.²³⁷ One reason for the scarcity of

dromedaries near ancient population centers in these areas is due to their susceptibility to disease in non-arid regions, and to their difficulty in walking on muddy or rocky terrain. A further obstacle to camel domestication in urban and agricultural areas was the lack of space in ancient cities and pastureland for grazing near them. Unlike many other herd animals, camels require extensive grazing areas, and most agricultural land near cities was maximized for human consumption. Furthermore, cramped conditions in enclosed urban centers, coupled with the difficulty of penning camels (especially with other livestock), made domestication in such areas extraordinarily difficult. Finally, the earlier domestication and widespread use of donkeys may have slowed the adoption of camels, even among pastoralists and nomads.²³⁸

The following archaeological and textual evidence spans a period of over two millennia, and covers the four regions of Mesopotamia, Syria-Palestine, Arabia, and Egypt. In light of the above, a separate discussion of each region, rather than a strict chronological overview, will help reduce confusion as the evidence is introduced. The oldest archaeological evidence suggesting human contact with obviously wild dromedaries is a set of rock carvings from central and southern Arabia, which have been dated to about 10,000 BCE.²³⁹ Over the following several millennia, no archaeological data exist to suggest human contact with dromedaries anywhere in the Near East, Egypt, or Arabia, but a number of artifacts begin to emerge shortly before and during the historical period. An ancient refuse dump excavated at the Wadi Hadramawt, in southeastern Yemen, contained dromedary remains dated to between 3000 and 2750 BCE, while dromedary remains from sites in northeastern Oman, Hili and Umm an-Nar,

date to roughly 3000 BCE.²⁴⁰ Animal remains excavated at Hili from the late fourth to early third millennium BCE indicate that dromedaries were least numerous among several species including sheep, goats, cattle, equids, and dogs.²⁴¹ By the latter half of the third millennium, however, the greatest number of remains uncovered at Umm an-Nar belong to dromedaries. In D.T. Potts' opinion, evidence of very young, possibly newborn camels is a strong indication of domestication, since Umm an-Nar is a small island to which the camel could not have migrated on its own.²⁴² Surprisingly, archaeological evidence is remarkably scarce in the southern Arabian Peninsula after the Umm an-Nar find, although a few clay statuettes of dromedaries from Yemen have been dated to before 1400 BCE.²⁴³

The introduction of dromedaries to the island of Socotra and the Horn of Africa, however, lends support to Pott's theory of an early South Arabian domestication of the dromedary. As Bulliet points out, the Horn of Africa is really an island, as far as the dromedary is concerned, with high, impassable mountains to the west and north, and swarms of disease-carrying tsetse flies to the south. The only way dromedaries could have migrated to these two areas is if they were brought to them and, in both cases, this could only have been done by boat. In Bulliet's opinion, the most likely point of origin for these dromedaries is the southern coast of the Arabian Peninsula, where early maritime traders maintained contact with these areas and, in the case of Socotra, appear to have established colonies. Based on the presence of earlier and later non-indigenous domesticated animals introduced from southern Arabia, such as short- and long-horned cattle and the zebu, Bulliet places the introduction of the dromedary into Socotra and

Somalia at between 2500 and 1500 BCE.²⁴⁴ In light of the evidence from Umm-an Nar, which appears to precede that from Yemen, Bulliet's dates for the dromedary's introduction into Socotra and Somalia can safely approach the earlier date proposed, or roughly 2500 BCE.

Dated to roughly 7000 BCE, the earliest site containing camel remains uncovered in Syria-Palestine was "associated with many everyday items" of the Yarmukian culture inhabiting the southern shore of the Sea of Galilee.²⁴⁵ Later artifacts from Syria-Palestine include several camel models tentatively associated with the Old Kingdom (ca. 2900-2150 BCE), as well as a Sixth Dynasty (ca. 2323-2152 BCE) bronze figurine from Byblos.²⁴⁶ The most convincing evidence of camel domestication in Syria-Palestine is provided by the dromedary bones uncovered at Tell Jemmeh, which date from the fifteenth century BCE. Paula Wapnish attempts to explain the presence of these dromedary remains by proposing four models of "dromedary herd management," each of which would have left behind distinctive osteological evidence of a particular age group.²⁴⁷ Since the remains in question come from mature males seven to twenty years of age, and match the sex and age profile of dromedaries used for caravan work, Wapnish suggests that the Tell Jemmeh remains reflect the use of burden, and therefore domesticated, camels at that site from about 1400 BCE.²⁴⁸

Written evidence similarly suggests a second millennium BCE date for the presence of domesticated dromedaries in Syria-Palestine. The strongest argument for domestication in Syria-Palestine comes from a fourteenth century text called *The Travels of an Egyptian* (British Museum Papyrus No. 10247, Nineteenth Dynasty), which

mentions domesticated camels (presumably one-humped, in light of other evidence for this region) in Syria-Palestine.²⁴⁹ Significantly, this text describes the camel as “an animal of Syria and Palestine,” and this implies that it was not well-known in Egypt, since it warranted mention, and that it was common in Syria-Palestine, since the author seems to have associated it strongly with that region.²⁵⁰

A slightly later, but better known text is the Pentateuch. Based on differences in vocabulary, style, content, and theme within each book, however, it is likely that much of the Pentateuch was written and compiled from several sources over several eras.²⁵¹ According to this view, Genesis, which contains the story of Abraham and his camels, was compiled mainly from the “J” and “E” sources written between the tenth and ninth centuries BCE.²⁵² While Joseph Free and Millar Burrows argue that Abraham lived in the nineteenth or even the twentieth century BCE, this story cannot be safely dated to more than a century or two prior to its writing in the tenth.²⁵³ Thus, while the Pentateuch confirms the presence and importance of domesticated camels in the first millennium BCE, it does not push the date of domestication back significantly. In any case, stone reliefs at Tell Halaf in northern Syria (ca. 900 BCE), depicting a saddled dromedary with rider, provide clear evidence of the animal’s domestication in Syria-Palestine by the end of the tenth century BCE.²⁵⁴

In Mesopotamia, several depictions of dromedaries, dated roughly to between 4000 and 3000 BCE, have been discovered in association with the Uruk and Ubaid cultures, but it is not clear from these pieces if they are intended to represent domesticated or wild animals.²⁵⁵ A mutilated figurine discovered at the Anu Ziggurat,

which Marvin Mikesell believes to be a dromedary, has been assigned to the Ubaid period, and a copper amulet from Lagash, dating to the reign of Sargon (ca. 2350-2294 BCE), is stamped with the image of a dromedary.²⁵⁶ Interestingly, a Minoan steatite seal depicting a dromedary may feature artistic influences from northern Mesopotamia in the period 1800-1400 BCE, although it is a poor representation of the animal and, as Bulliet suggests, probably made by an artist who had no personal knowledge of dromedaries. Several dromedary figurines wearing saddles have been uncovered at Uruk, the oldest of which dates to about 1000 BCE, and reliefs and other Mesopotamian objects depicting obviously domesticated dromedaries occur throughout the first millennium.²⁵⁷

Written evidence regarding domesticated dromedaries in Mesopotamia becomes available at the end of the second and beginning of the first millennium BCE. A Neo-Assyrian text, known as the Kurkh Monolith, relates the Battle of Qarqar (ca. 854 BCE) in which a member of the opposing coalition, "Gindibu the Arab," is said to have fielded an army of 1000 dromedaries.²⁵⁸ In the eighth century BCE, Tiglath-Pileser III (r. 745-727 BCE) supposedly extracted a tribute of 30,000 camels and 5000 "bundles" of spices from Samsi, an Arabian queen, and the Display Inscription of Sargon II (r. 722-705 BCE) lists dromedaries among the tribute received from Samsi and one "It'amar the Sabaeen."²⁵⁹ Though the amount of tribute from Queen Samsi may be inflated, the tribute itself is supported by an Arabian text which verifies that it was in fact paid.²⁶⁰ Another tribute of 50 dromedaries and 1000 "loads" of herbs was received annually from an Arabian king by Esarhaddon (r. 680-669 BCE).²⁶¹ Little doubt remains as to the presence of domesticated dromedaries in Mesopotamia by the seventh century BCE, when the

influx of these camels created by Assyrian victories over the Arabs dropped their price from $1 \frac{2}{3}$ minas (=100 shekels) to a half shekel.²⁶² While the lowered price clearly indicates the dromedary's commonality in the seventh century BCE, it is similarly apparent that the number of dromedaries available in Assyria prior to this period was considerably smaller.

Sites in Egypt proper are rich with artifacts from the predynastic period, although poor artistic representations and heavily damaged remains often make identification with camels difficult. Two such examples, fragmentary remains of what appear to be camel bones found at the necropolis of Ezbet-el-Walda, and a possible drawing of a dromedary on an Amratian pot, are both predynastic. Three other artifacts, an ointment receptacle from Abusir-el-Melek (ca. First Dynasty), presumably of a dromedary, and two figurine camel heads from Abydos (ca. 3100 BCE) and Hieraconpolis (ca. 3000 BCE) are also questionable representations.²⁶³ Georg Schweinfurth dates a rock drawing of a man leading a dromedary, found at Aswan, to as early as 2250 BCE, although this date is fragile as it is based on the assumed age of some nearby inscriptions.²⁶⁴ With the exception of one find, a camel-hair rope dating from around 2500 BCE, there appears to be a gap of nearly one thousand years in Egyptian archaeological data with regard to the camel.²⁶⁵ A camel skull found in the Fayum with some pottery remains dates to the period 2000-1300 BCE, and two other pottery figurines, one from the cemetery of Deir Rifeh, and another from Benha, are probably from the eighteenth and nineteenth dynasties (ca. 1539-1186 BCE).²⁶⁶ The Deir Rifeh find is of particular interest, since in Ripinky's opinion it shows a dromedary laden with water jugs.²⁶⁷ Another dromedary,

depicted on a Mycenaean pot from the Late Helladic II period, suggests a date of 1500 to 1400 BCE. The pottery depiction may suggest some knowledge of the camel in Egypt, since the Mycenaean pot also depicts a cat and what may be a greyhound, and Mycenaean culture was at this time strongly influenced by Egypt.²⁶⁸ Dated to about 1000 BCE, a pottery figurine of a dromedary with water jugs, found in an Abydos tomb, provides the earliest clear depiction of a domesticated camel in Egypt.²⁶⁹

While no textual data from Egypt exists to indicate the presence of dromedaries, Ripinsky nevertheless argues that the Egyptians must have utilized them. Of particular importance to Ripinsky are Egyptian inscriptions describing overland expeditions to Punt. Although no mention of camels is made in the inscriptions, Ripinsky asserts, weakly, that the large quantities of incense needed by Egyptian temples could not have been carried by caravans of donkeys, and that dromedaries must have been used for this purpose.²⁷⁰ Kjeld Nielsen, in reviewing the same texts in addition to several others, points to numerous instances of shipbuilding by Egypt in preparation for the voyage to Punt. In fact, as early as the Old Kingdom period, Egyptian ships used specifically for this trade with Punt were called *gubliye*, although this name eventually “came to signify a ship utilized for ocean-going traffic in contradistinction to the boats used on the Nile.”²⁷¹

A closer examination of the evidence seems to support a theory of dromedary domestication first taking place in the southeastern Arabian Peninsula. It further appears that the first domesticated camels in Mesopotamia came into use around 1800 BCE, if we assume the earlier date for Mesopotamian influence on the Minoan seal. The earliest depictions and figurines of camels do not necessarily prove domestication, since many

obviously undomesticated animals were frequently portrayed on reliefs. Historical data confirms the presence of domesticated dromedaries in Mesopotamia by the beginning of the ninth century BCE, however, since they are mentioned with increasing frequency on Assyrian imperial inscriptions.

It is significant that even after domesticated dromedaries become common on Assyrian reliefs, they are always shown being ridden or led by foreigners.²⁷² It is also clear from the historical record that domesticated dromedaries were usually imported into Mesopotamia from Arabia. Another indicator of the camel's absence in early second millennium BCE Mesopotamia is the Code of Hammurabi (ca. 1750 BCE), which assigns value to a wide range of properties but omits camels, and the Mari tablets (ca. 1750 BCE), which mention donkey caravans, but none of camels.²⁷³ Ledgers from other Mesopotamian trade centers further support the scarcity of camels until relatively late in Mesopotamian history. According to records uncovered at Old Assyrian *karums* and *wabartums*, caravans of donkeys were used as a means of transport, but no reference is made to camel caravans.²⁷⁴ Finally, linguistic evidence indicates that names used for dromedaries were most probably loanwords from Arabic.

The Syro-Palestinian camel remains found at sites of early human habitation, such as the Yarmukian site near the Sea of Galilee, cannot be accepted as proof of domestication, since the bones may simply represent game animals. The Sixth Dynasty bronze Byblos piece presents the earliest possible depiction of a domesticated dromedary in this region, although its strong resemblance to a sheep makes it questionable. Coupled with the fact that this piece far precedes any other evidence, and that dromedaries appear

infrequently in the region even 500 years later, makes it difficult to accept as a domesticated dromedary. At any rate, the Cappadocian Tablets (ca. 1750 BCE), like those from Mari noted above, are mute regarding camels, and they too support the widespread use of donkey caravans.²⁷⁵ By 1300 BCE, however, dromedaries appear to have been common enough to be associated with Syria-Palestine, as *The Travels of an Egyptian* makes clear, and Paula Wapnish's interpretation of dromedary remains from Tell Jemmeh confirms their presence in the Levant. Although it is difficult to ascertain precisely when domesticated dromedaries became common pack animals in this area, a date of 1400-1300 BCE is reasonable.

Egypt presents the most abundant archaeological evidence indicating the presence of camels. Evidence of dromedary domestication in Egypt is uncertain at best, however, and most of the third and even second millennium depictions of supposedly domesticated dromedaries, like those believed to be carrying water jugs, are questionable. Even if the Abraham story in general dates back to the early second millennium BCE, it is possible that the camels were simply inserted into it by the time of writing; and the camel-hair rope found in the Fayum, like many early dromedary representations, may simply have been imported from another area. Most striking, however, is the lack of textual support to indicate that camels were commonly used, or that they were even known. Joseph Free, though he cautions against labeling the Abraham story an anachronism, agrees that no early Egyptian word for "camel" has yet been found, and admits that no camels are represented on tomb walls or in temples.²⁷⁶ Free does point to rock drawings of dromedaries in Egypt as proof of Egyptian knowledge of the animal, but only the Aswan

piece discussed below has any bearing on the question of domestication. According to Marvin Mikesell, the fact that Egyptian religious sects commonly venerated animals, even those deemed “taboo,” makes it peculiar that they would ignore the camel if it were known to them, although Ripinsky draws attention to a questionable association between the god Seth and camels.²⁷⁷ As William Albright points out, the tableau of Beni-Hasan (ca. 1892 BCE) portrays a small group of semi-nomads from Palestine accompanied by donkeys, but no dromedaries are depicted.²⁷⁸ Furthermore, the Hyksos were not accompanied by camels during their conquest of Egypt (ca. 1700-1650 BCE), nor are they known to have departed with any; and even the desert peoples who occasionally raided Egyptian settlements were donkey-nomads.²⁷⁹

Ripinsky’s comments on overland trade with Punt are unsupportable in light of Nielsen’s evidence, and until other data is found, Schweinfurth’s 2250 BCE date for the Aswan rock drawing cannot be accepted. Therefore, the earliest defensible date for the introduction of domesticated dromedaries into Egypt cannot precede the Assyrian invasion of the eighth century BCE, when dromedaries were utilized as water-carriers. Nevertheless, dromedaries must have been known to Egyptians by at least the fourteenth century BCE with the writing of *The Travels of Egyptian*. This date can be pushed back a century or two earlier if the Mycenaen pottery discussed above was in fact influenced by Egypt. In any case, Egypt can definitely be eliminated as a possible area of dromedary domestication.

If Mesopotamia, Syria-Palestine, and Egypt are eliminated as probable areas of camel domestication, only Arabia remains a possibility.²⁸⁰ Though textual and

archaeological evidence in Arabia itself is not plentiful, circumstantial evidence from the Arabian Peninsula nevertheless suggests that dromedaries were domesticated there. For instance, the dromedary's early presence on small off-shore sites such as Umm an-Nar by no later than the beginning of the third millennium BCE is a strong indicator of domestication, and the presence of dromedaries in Socotra and Somalia further supports a theory of South Arabian domestication. Here the dromedary thrived, and it was no doubt a relatively common animal to the inhabitants of southern Arabia, where the Empty Quarter, as the central Arabian desert is known, closely bordered regions inhabited by humans.²⁸¹ Inhabitants of the northern Persian Gulf coast of modern Oman appear to have survived primarily through hunting and fishing, although, as mentioned above, archaeology reveals the presence of some domesticated cattle and other livestock by the beginning of the third millennium BCE.

Bulliet may be correct in arguing that coastal fishermen and sailors initially captured dromedaries and kept them for their milk, but it was most likely pastoralists who first utilized the dromedary as a burden animal in connection with the movement of supplies from camp to camp.²⁸² Dromedary herding is an exceptionally difficult, if not impossible, pursuit for sedentary peoples, whether urban or agriculturalist. According to Hilde Gauthier-Pilters and Anne Innis Dagg, dromedaries graze in widely dispersed herds that thin even further during periods of extreme aridity or drought. Furthermore, dromedaries tend to "sample" vegetation as they graze by taking no more than a few bites from a particular plant before moving on, regardless of the quality or nutritional value of the plants encountered. Dromedaries have been observed to move as much as 5

kilometers in 2.5 hours of grazing, and the typical herd spends approximately 8-12 hours per day feeding.²⁸³ Theoretically, a herd can travel nearly 25 kilometers per day in search of food. Frederick Zeuner stresses that domesticated dromedaries have generally been allowed to maintain their normal, free-ranging life, mainly because they cannot be kept in stables or pens.²⁸⁴ Similarly, Zeuner adds that camels of both types are bad-tempered and, in the case of males, dangerous during breeding season, as well as difficult to keep with other domesticated livestock. Therefore, as Zeuner argues, the likelihood of agriculturalists or urban-dwellers keeping domesticated dromedaries is slim.²⁸⁵

On the other hand, the dromedary has much to offer peoples living in agriculturally marginal or useless lands. Indeed, as Ilse Kohler-Rollefson points out, dromedaries thrive in the arid conditions of the inland Arabian Peninsula, and can therefore be kept far-removed from agricultural areas. Similarly, dromedaries can survive on “thorny, fibrous and often salty plants” in areas unsuitable for other livestock or domesticated crops.²⁸⁶ Therefore, since South Arabian pastoralists were the only group able to maintain the lifestyle necessary for dromedary herding to take place, it is not unlikely that they gradually adopted the dromedary into their existing herds.²⁸⁷ Indeed, the obvious advantages of herding a resilient animal like the dromedary to people inhabiting the harsh and resource-scarce environment must have provided further encouragement to them. Finally, the people of southern Arabia could invest the time necessary to domesticate the dromedary, since it was not yet an important factor in their survival or economy.²⁸⁸ The fact that domesticated dromedaries appear in areas with close ties to southern Arabia by about 2500 BCE also provides strong support for

domestication in this area. If Bulliet's dates for the introduction of the dromedary into Socotra and East Africa are correct, then the earliest stages of the domestication of the dromedary can be reasonably dated to around 3000 BCE in the southeastern coastal regions of the Arabian Peninsula.

CHAPTER FIVE:
EGYPTIAN IMPERIALISM, THE DER EL-BAHRI RELIEFS, AND THE
SIGNIFICANCE OF 'NTYW' IN SYRIA-PALESTINE

Archaeological evidence from southeastern Arabia indicates that dromedary domestication was already underway in the third millennium BCE, and therefore removes from consideration the northern theory of camel domestication espoused by H. Beebe and Jan Retso.²⁸⁹ Similarly, since osteological evidence from Tell Jemmeh, as interpreted by Paula Wapnish, establishes the introduction of domesticated dromedaries into southern Canaan in the period 1400-1300 BCE, the donkey-caravan reconstructions of the Incense Route espoused by William Albright and Brian Doe are also unlikely.²⁹⁰ But while some route of transmission for South Arabian aromatics was certainly in place no later than the Amarna period, when myrrh first appears in the historical record in the Levant, a more critical analysis of the Levant and Egypt in the Late Bronze Age reveals several potential problems.²⁹¹ For example, while it is clear that myrrh was present in the Levant as early as the first half of the fourteenth century BCE, it appears only infrequently in texts relating to Syria-Palestine during the Late Bronze Age. It is difficult to imagine that the (albeit high) cost of myrrh was enough to compel South Arabian merchants, if they were in fact the carriers of this aromatic, to invest in an apparently small and presumably stagnant market. Clearly, if the Egyptian occupation of Syria-Palestine was as destructive

to the local economy as it is frequently stated, some other factor must have been present during the Late Bronze Age to initiate it. On the other hand, if the Canaanite economy did maintain some measure of stability, and the effects of the Egyptian tributary burden is exaggerated, then the paucity of information regarding South Arabian incense in the Levant may be attributed to the general lack of sources in Syria-Palestine from this period. In either case, a closer look at the social, economic, and political conditions in the Levant during the middle to late second millennium BCE offers valuable insight into the problems noted above.

The most distinguishing feature of the Late Bronze Age in Syria-Palestine is Egypt's dominance of the region.²⁹² Following roughly one hundred fifty years of subjugation by the Hyksos, Egypt embarked on a policy of expansion that quickly brought most of the city-states of the Levant under its control.²⁹³ Amelie Kuhrt divides the entire New Kingdom period in the Levant into four distinct phases based on changing political conditions in the region.²⁹⁴ The first, from the reign of Amose I to Hatshepsut (ca. 1552-1469 BCE), was marked by a series of Egyptian military campaigns during which sites throughout Syria-Palestine associated with the Hyksos were destroyed.²⁹⁵ Tutmosis I fought against Mitanni in Syria, pushing his army as far north as the western bank of the Euphrates River and setting up a stela, while his successor Tutmosis II clashed with Syro-Palestinian nomads.²⁹⁶ With the exception of Gaza and the nearby site of modern Tell el-Ajjul, presumed to be the ancient Sharuhem, however, Egypt did not retain any territory in the Levant during this time. In the second period, from Tutmosis III to Tutmosis IV (ca. 1469-1403 BCE), Egyptian control was established through the

imposition of an imperial organization in the Levant itself. This was accomplished mainly by Tutmosis III, Amenhotep II, and Tutmosis IV, who campaigned regularly in Syria-Palestine.²⁹⁷ Indeed, Tutmosis III headed sixteen military expeditions into Syria-Palestine alone, during the first of which he defeated a coalition of over one hundred Syro-Palestinian cities supported by Mitanni.²⁹⁸ Egyptian hegemony in the area, as Kuhrt points out, resulted in the kings of Canaanite city-states now owing “[their] throne[s] to the pharaoh, which [they] had obtained by formal protestations of loyalty, symbolized by valuable gifts and demonstrated practically by supplying the Egyptian troops.” Moreover, Egypt demanded regular tributary payments, provisions for the Egyptian army, and additional troops from the local rulers when required.²⁹⁹

During the period between the reigns of Amenhotep III and Horemheb (ca. 1403-1305 BCE), which distinguishes the third phase, Egypt’s control of the Levant was already well established.³⁰⁰ Regular tribute to Egypt was a feature of this period, and additional gifts to the pharaoh, as well as the provisioning of Egyptian armies on the move, were also demanded of the Canaanite kings.³⁰¹ Another interesting feature of this era was the conflict that existed between the city-states under Egyptian rule, and the nearly total dependence they had on Egypt for their defense.³⁰² In fact, as Göstra W. Ahlström points out, the Amarna letters contain numerous examples of intra-city conflict in Syria-Palestine during the fourteenth century BCE, and this situation probably made it easier for Egypt to administer these territories.³⁰³ The fourth period (ca. 1305-1134 BCE) was initially marked by an intensification of control over the Levant beginning in the reign of Seti I, but ended with Egypt’s complete loss of this region in the reign of

Ramesses VI.³⁰⁴ A return to frequent military campaigns throughout Syria-Palestine, resulting from increasing nomadic pressure as well as resumed hostilities with the Hittites, marked this phase of Egypt's occupation.³⁰⁵ Large numbers of Egyptian troops were stationed throughout Syria-Palestine at this time and, in addition to the regular tribute demanded from the city-states, the burden of feeding these armies fell to them as well.³⁰⁶ Egyptian control disintegrated rapidly in the final years of this period and, by the end of the twelfth century BCE, the remaining Egyptian strongholds in the Levant had disappeared.³⁰⁷

It appears that Egypt's occupation of the Levant had an adverse effect on the cities and towns of this region.³⁰⁸ In contrast to the relative florescence of the Middle Bronze Age, a significant drop in urban population and a changed settlement pattern marked the Late Bronze Age.³⁰⁹ Although sources from the Eighteenth Dynasty are vague, Rivka Gonen cites archaeological evidence to argue that Egypt's campaigns in the Levant during the Late Bronze I (ca. 1550-1400 BCE) destroyed large numbers of Canaanite city-states.³¹⁰ While many of these sites were resettled during the Late Bronze II (ca. 1400-1300 BCE) period, Gonen points out that several large cities were abandoned at this time, and therefore the subsequent real growth in hectares of settled areas between the Late Bronze I and II totaled only about 10%. Small settlements began to reappear during the Late Bronze III (ca. 1300-1150 BCE), but these were mostly Egyptian forts and residencies that Gonen does not include in her estimates of the native sedentary population.³¹¹ According to David C. Hopkins, Palestine alone "fell short of recovering even half of its former sedentary population in cities, towns, and villages" during the

Egyptian occupation, and Gonen approximates that the total number of sedentary sites decreased as much as 60%.³¹²

According to Shemuel Ahituv and Nadav Na'aman, tribute, taxes, military campaigns and mismanagement by Egyptian officials coupled with the destruction of the Levant's agricultural base to ruin the economies of the city-states.³¹³ Ahituv points to a Nineteenth or Twentieth Dynasty text from Lachish that registers quantities of grain in the hundreds and thousands of "units" collected as tribute over a period of only two months from a small surrounding area.³¹⁴ Based largely on economic data gathered from the Amarna Letters, which he stresses only covers a period of seventeen to twenty eight years, Na'aman points to the thousands of silver shekels sent to Egypt by various Levantine cities, as well as other goods such as glass, wood, and copper.³¹⁵ In addition to this tribute, Na'aman and Kuhrt note the collection of supplies by the Egyptian military in preparation for its various campaigns, and the inclusion of vassal troops as contingents in the Egyptian army.³¹⁶ These were additional expenses levied on the dynasts of the Canaanite cities which, presumably, were not reflected in a lowering of annual tribute.³¹⁷ Finally, Na'aman and Ahituv note that Egypt deposed several dynasts and their cities became the property of the pharaoh or, in some cases, were donated to Egyptian religious temples.³¹⁸ In cases where a particular city was destroyed and its inhabitants were dispersed, as happened with Shunem, Burquna, and Harabu, Egypt typically seized the fields and had them worked by *corvee* laborers drafted from neighboring cities.³¹⁹

It appears, then, that the city-states of Syria-Palestine bore a heavy financial burden under Egyptian rule. The decreased population alone must have had a disastrous

effect on agriculture, and when one adds the cost of supporting the Egyptian occupation forces and administration to the annual tribute, few surplus goods could have remained to pay for luxury items like frankincense and myrrh. But while the (admittedly infrequent) presence of these aromatics in the Levant suggests that some form of trade in them existed, the occurrence of incense in the historical record further complicates the issue. The earliest possible mention of either frankincense or myrrh is the “dry ‘*ntyw*” of Tutmosis III’s reign where it is listed as tribute from *Retenu* (i.e., Canaan), but no particular city is mentioned in the records.³²⁰ Nigel Groom doubts the authenticity of this substance, apparently because it is qualified with the word “dry.”³²¹ This is the only mention of “dry” ‘*ntyw* in the historical record and, since Egyptians were already familiar with both frankincense and myrrh already in the third millennium BCE, it is questionable whether “dry” ‘*ntyw* really was a genuine form of one of these substances. Albright cites the presence of oil scented with myrrh in a fourteenth century ritual text from Ugarit, but the remaining three occurrences are found, like much of the Egyptian information from this period, in the Amarna Letters.³²² Myrrh is included twice among the gifts sent to Egypt from Mitanni during the reign of King Tushratta, and a request for myrrh by King Milkilu of the South Palestinian city of Gezer is also recorded.³²³

Most intriguing, perhaps, is the geographical distribution of the aromatics mentioned in the textual sources. With the exception of the “dry ‘*ntyw*” from *Retenu*, which is not site-specific, and the request of King Milkilu, which actually indicates its absence in the south, the remaining mentions of myrrh come from the northern reaches of Syria.³²⁴ Although he does not touch on this particular problem, Retso maintains that any

South Arabian aromatics present in the Levant during the second millennium BCE must have arrived via the Persian Gulf or Egypt, but this assertion is difficult to defend.³²⁵ Albright, who discusses the chronological appearance of these aromatics in the Near East, points out that frankincense is not mentioned in Babylonian texts until the fourteenth century BCE, and he makes no mention of myrrh at all.³²⁶ Despite the admitted scarcity of ancient texts, it is difficult to accept that not a single mention of this incense would be found during a period of over seven hundred years between Babylonia and the Levant if it existed. Similarly, if Egypt was an exporter of incense to Mitanni, why was it sent back twice in the form of a gift from that state to the pharaoh? While the Ugaritic ritual text does not provide evidence one way or the other in this matter, King Milkilu's request for myrrh is interesting. However, if the overland Incense Route was still in an early stage of development during the Amarna period, it is possible that Gezer could not compete with Egypt, Mitanni, Ugarit, or the wealthier Canaanite cities for what little myrrh was available in Syria-Palestine at this time. At any rate, it is significant in this context to note that Milkilu's stated purpose for requesting myrrh was as a medicament, so at least in this case it was apparently considered necessary for treating some ailment, and apparently was not desired strictly for its pleasant smell.³²⁷

Clearly only Egypt and Mitanni controlled the economic resources needed either to organize or to initiate a trade in South Arabian incense. Although the wealthier city-states of southern coastal Canaan undoubtedly had the required capital to purchase these resins, incessant conflict between them precluded any potential involvement in overseeing a major venture such as the Incense Route.³²⁸ And while it is not impossible

that Mitanni imported these resins in the fourteenth century BCE, its distance from the probable terminus point of the Incense Route in northern Arabia makes it unlikely that Mitanni ever controlled any part of the trade itself. Therefore, since Egypt was the wealthiest and strongest power in the immediate area, it is most probable that the New Kingdom was a major recipient of these goods as they came within reach of southern Canaan.

Abdel-Aziz Saleh is the first scholar to make the connection between Egypt's strong presence in the Sinai and the appearance of frankincense and myrrh in the Levant.³²⁹ According to Saleh, Egyptian interest in the copper and turquoise mines of the Sinai Peninsula may have brought Egypt into contact with the nomads of the Wadi Arabah and northern Hejaz areas.³³⁰ While Saleh does not dispute that Queen Hatshepsut's expedition arrived in eastern Africa, the Der el-Bahri inscriptions suggest to Saleh that it may also have arrived at a previously unexplored area near but not necessarily in eastern Africa. The specific passage, which relates the god Amun's description of the incense trade prior to the Hatshepsut expedition, implies that the queen's expedition was the first actually to reach Punt, although it was a place with which Egypt had earlier, indirect contact through intermediaries.³³¹ But since it is fairly clear from earlier inscriptions that this statement is untrue, Saleh argues that the passage indicates contact with a nearby incense-producing region like South Arabia.³³² Moreover, artistic representations discovered in two fifteenth century BCE tombs (numbers 143 and 89) commemorating the delivery of trade-goods by Puntites, Saleh argues, show individuals physically similar to Arabians.³³³ Most significant is Tomb 143 (ca. 1438-

1412 BCE), which contains a representation of two fragile-looking “sailing rafts” delivering an incense tree from Punt to Egypt.³³⁴ Although N. de G. Davies suggests that these craft sailed all the way from Punt to al-Quseir on the Red Sea coast near Coptos, Saleh maintains that these boats were likely not used for crossing such great distances (See map 4, page 95).³³⁵ Rather, Saleh suggests that they may have been ferryboats utilized mainly for crossing short distances like those between the Arabian and Egyptian coasts, and that their site of embarkation was a “second intermediary point” somewhere north of the Arabian incense growing regions.³³⁶

The most convincing evidence, however, comes from an Egyptian stele discovered on the Sinai Peninsula and dated to the reign of Amenhotep III (ca. 1403-1364 BCE). Described on the stele is the voyage of one Panehsi, who is said to have supervised Egypt’s turquoise mining operations in the area, to some unspecified “hilly or foreign area” to receive *’ntyw*. Saleh points to an interesting passage in the text that, if translated literally, indicates that Panehsi traveled “to the two sides of the sea.”³³⁷ Saleh argues that the pick-up point of this incense was near Paneshi’s base of operations in Sinai, and that the unnamed body of water may refer to the Gulf of Aqaba. Since a ship is mentioned as delivering this *’ntyw* to the meeting place, Saleh suggests that South Arabian incense was sailed up the Arabian Peninsula to some point in the Hejaz region where it was handed over to Egyptian authorities. Although Saleh points out that Eilat (Ezion-Geber) was not an important harbor until the tenth century BCE, he argues that it may have seen limited use in the incense trade. More significant, however, is the presence of natural harbors in the Hejaz and the fact that Panehsi did not travel to Punt himself.³³⁸

While Saleh's argument convincingly establishes the possibility of South Arabian involvement in the incense trade, it does not establish the presence of an overland Incense Route. In fact, the representations of boats in connection with the supposed Arabians in the Egyptian tomb reliefs, as well as the mention of Puntites bringing incense to some coastal area by boat to Paneshi, provide strong arguments against such a route. On the other hand, if the Arabians depicted in the tomb reliefs were only sailing across the Red Sea to al-Quseir, their starting point in Arabia must have been very near the Sinai Peninsula already. But while Saleh states that South Arabians sailed across the Red Sea to deliver incense to al-Quseir, he implies that they sailed north to deliver these goods to Paneshi.³³⁹ Even if it is assumed that several "second intermediary" points were already present at various sites along the Arabian coast, why was incense delivered to the northern tip of the Gulf of Aqaba? As Richard Bulliet points out, sailing in the northern Red Sea is difficult because of shifting underwater hazards and choppy waters.³⁴⁰ Moreover, while southerly winds during the monsoon season ease travel south from the Gulf of Aqaba, it is more difficult to voyage north beyond the twentieth parallel.³⁴¹ Any boats arriving at the northern tip of the Gulf of Aqaba obviously sailed north to get there, but Saleh himself points out that the Arabian sailing rafts portrayed on the tomb reliefs were probably not used for long-distance coastal traffic.³⁴² In either case, if Paneshi travelled by ship to meet the Arabian craft, as Saleh suggests, both parties were forced to beat against the wind.³⁴³ While this scenario is more believable in terms of Paneshi's arrival, since Egyptian ships featured oarsmen in addition to sails, it is unlikely in the case of the fragile sailing rafts landing in al-Quseir described by Saleh.³⁴⁴

A more obvious question is why South Arabians would have bothered to get themselves involved in such a logistically complicated route in the first place. One explanation for this alternate route is that South Arabian merchants were either forced, or saw some benefit in, establishing direct trade with Egypt by avoiding eastern Africa. Since, as M.C.A. Macdonald points out, South Arabian frankincense and myrrh were of superior quality to the African varieties, it is not illogical to surmise that such large consumers of these products as the Egyptians were interested in acquiring it.³⁴⁵ Perhaps the East African incense merchants prevented the importation of South Arabian myrrh because they feared, or had already experienced, the effects of competition against them. If true, this further supports the hypothesis of an eastern, or Arabian coast point of embarkation for these incense-carrying boats. Of similar importance in terms of the development of the overland Incense Route is that South Arabians likely came into contact with other peoples on the Arabian Peninsula in the course of this trade, particularly if Saleh's "second intermediary" points did in fact exist. If the boats from Arabia merely sailed across the Red Sea, as Saleh suggests, then the incense they carried must have traveled overland to the site or sites of embarkation.³⁴⁶

Michal Artzy develops Saleh's thesis by pointing to archaeological evidence suggesting that connections between the nomadic peoples of northwestern Arabia and southern Jordan existed during the Late Bronze Age. Based largely on two essays by Peter Parr, Artzy suggests that nomads inhabiting the Syrian and Arabian deserts worked as incense carriers for some sedentary state in the Near East. While Artzy does not specify which "established political system" actually controlled the trade, he suggests that

it could have been the Hittites, Ugarit and other coastal cities, or even Cyprus. Artzy cites Egypt as a possibility, but he also suggests that Egypt may have simply taxed the incense as it passed through various cities on its way to some final destination.³⁴⁷ At any rate, Artzy points to the accumulation of wealth and incense burners at the coastal Levantine site of Tel Nami between the late thirteenth and early twelfth centuries BCE to argue that at least one branch of the Incense Route terminated there (See map 5, page 96 for Artzy's reconstruction).³⁴⁸ In general, however, Artzy traces the main portions of the Incense Route from coastal Arabia north along the eastern side of the Dead Sea and Jordan River to Beth Shean. From there Artzy's reconstructed Incense Route splits, with one portion branching north off to Damascus, while the other travels on to Tel Nami and Tell abu-Hawam where they disperse in every direction by land and sea. The most intriguing feature of Artzy's reconstruction is the southern sea and land routes leading to Egypt which, interestingly, begin only after the products are carried north through Beth Shean and Megiddo.³⁴⁹

Artzy's reconstruction of the Incense Route suffers from several potential problems. For example, Egyptian control, from 1300 BCE on, was established in Sinai at least as far east as Timna and the future site of Ezion-Geber, so any incense on its way north from Arabia is likely to have come within its reach.³⁵⁰ If it is accepted that Egypt was the dominant power near the northern terminus of the Incense Route, why did it not monopolize the trade and redistribute the incense for a profit? A more obvious question, perhaps, is why the incense traveled north all the way to Beth Shean and Megiddo before being sent back south via Lachish or Tel Nami, since a quicker and more direct route to

Egypt and Canaan existed across the Sinai Peninsula or southern Negev. Even if Egyptians were not in complete control of the Incense Route, whatever quantities were destined for it would more logically go west directly from northern Arabia. On the other hand, if Egypt did control the route, why did it not funnel the incense toward the larger port-cities of southern Palestine and distribute them from there?

Artzy alludes to a general expansion of economic activity in the Levant during the thirteenth century BCE, but this was a period of political turmoil and, as Gonen points out, only marginal recovery in Canaan.³⁵¹ Also, as pointed out above, the complete absence of frankincense and myrrh outside of Mitanni and Egypt during the Amarna period does not support Artzy's reconstruction of an extensive web of secondary incense-conveying routes in Syria-Palestine. It is relevant that, as Hopkins makes clear, due in large part to the tumultuous political and economic state of the Levant during the thirteenth century BCE, large numbers of sheep and goat pastoralists known as *Sashu* flooded into the border regions of Syria-Palestine.³⁵² Egypt came into increasing conflict with these people, particularly from the reign of Ramesses II (ca. 1304-1237 BCE) on.³⁵³ Although the term *Sashu* "was a generic designation of . . . tribal peoples who were linked with a variety of territories across the Egyptian sphere of influence," they are most often associated with the Moab-Edom area.³⁵⁴ According to Artzy's proposed reconstruction of the Incense Route, one of the most expensive and difficult to acquire luxury items passed, presumably on a regular basis and without incident, through one of the most dangerous regions bordering Syria-Palestine at the time.

Finally, Artzy cites two essays by Peter Parr in which Parr suggests a possible connection between the thirteenth-twelfth century BCE pottery style known as “Midianite Ware,” concentrated in the Timna-Qurayyah region of northwestern Arabia, and the development of similar styles in Edom and Khuraybah (See map 4, page 95 for areas discussed by Parr).³⁵⁵ But the Edomite pottery, which precedes that of Khuraybah by about two hundred years, is dated at the earliest to the eighth century BCE, or roughly half a millennium after the period discussed by Artzy.³⁵⁶ Furthermore, while Parr maintains that Midianite Ware may indeed have influenced the Edomite style, he points out that Midianite pottery was itself probably influenced by a contemporary Egyptian type. In fact, Parr refers to Saleh’s argument, discussed above, in suggesting that the Egyptian influence on Midianite pottery may be connected to the Incense Route, and also points out that Midianite Ware shards are found in minute quantities at Lachish, Jdur, Tell Fara, Tel Masos, and Amman.³⁵⁷ Artzy’s proposed reconstruction of a northbound Incense Route through western Jordan might explain the Midianite pottery shards found in Amman, but it ignores the more plentiful sites in southern Palestine.

Incidentally, Parr forcefully reverses his previous argument regarding strong ties between the northern Hejaz and southern Jordan in the latter of his two articles cited by Artzy.³⁵⁸ Parr notes the development of “oasis urbanism” in Tayma and Qurayyah in roughly 1300 BCE, as well as the development of smaller, probably associated settlements scattered along the valleys leading from these larger oases to the Red Sea. Parr reasons that the process of sedentarization in this region was more likely due to its connection with the incense trade than with any possible employment of the locals in

nearby Egyptian mining operations. In fact, although his interpretation of the article is questionable, Parr cites Israel Finkelstein's reconstruction of the Incense Route to draw a possible connection between the roughly simultaneous decline of Tel Masos and the settled regions east of the Wadi Arabah during the Late Bronze-Early Iron Age transition.³⁵⁹ While Parr claims that "Tel Masos was abandoned as a consequence of the collapse of Egyptian power in Canaan," Finkelstein clearly states that "[i]n the time of Stratum II, Tel Masos reached its largest size and achieved its greatest prosperity."³⁶⁰ Finkelstein dates Stratum II from the end of the twelfth to the late eleventh centuries BCE and, in fact, contends that its rise in importance developed as a result of Egypt's collapse.³⁶¹ Finkelstein further argues that the population of Tel Masos was probably heterogeneous, and that it likely included nomads who profited little prior to the collapse of Egyptian domination in the region precisely because of the monopoly Egypt had on the incense trade.³⁶² The decline of Tel Masos, Finkelstein maintains, resulted from Israel's interest in the incense trade, as well as King Saul's desire to secure his southern borders from any potential threat.³⁶³

It appears, at any rate, that stronger cultural, economic, and political ties existed between the southern Canaan-Sinai region and the northern Hejaz, than between the Hejaz and southern Jordan. Moreover, the decline of "oasis urbanism" in the eleventh century BCE roughly coincides with the abandonment of Tel Masos although, as Parr points out, the Tayma-Qurayyah region appears to have reverted to pastoral-nomadism while Tel Masos was simply eclipsed by Israelite administrative centers at Arad and Bersheba.³⁶⁴

Although the available evidence is not plentiful, a reasonable reconstruction of the Incense Route's development in the north can be made. If Saleh's interpretation of the Der el-Bahri reliefs is correct, it can be accepted that Hatshepsut's early fifteenth-century expedition to Punt was the first to arrive in South Arabia. Moreover, if understood in this way, the inscriptions also suggest that South Arabia and Egypt were in earlier, indirect contact with each other through (East African?) intermediaries in the incense trade.³⁶⁵ Although Saleh's interpretation cannot be proven, it is unreasonable to suppose that Egypt had no knowledge of South Arabia despite roughly a millennium of contact with eastern Africa. Egyptian expeditions to Punt began as early as the Fifth Dynasty (ca. 2494-2345 BCE), and were already common during the Middle Kingdom (ca. 2040-1730 BCE).³⁶⁶ As George F. Bass notes, the protagonist of *The Shipwrecked Sailor* "was spotted and saved by the crew of another Egyptian ship within only four months."³⁶⁷ While it is true that some of the animals depicted on the Der el-Bahri relief, like the giraffe and rhinoceros, are found only in Africa, Bulliet convincingly demonstrates that South Arabians probably migrated to the frankincense and myrrh-producing regions of Somalia and Socotra sometime between 2500 and 1500 BCE.³⁶⁸ If this migration was connected to the incense trade, which seems logical and is suggested convincingly by Bulliet, then South Arabia's inclusion under the term "Punt" seems obvious.³⁶⁹ The fact that the name "Punt" was apparently applied to South Arabian and East African 'ntyw-producing regions is also not surprising. Since it is likely that South Arabia was associated most strongly with the same, highly sought after aromatics as those found in East Africa, it is possible that Egypt viewed Arabia as a mere extension of the same

region.³⁷⁰ This association was doubtlessly made prior to Queen Hatshepsut's expedition since, according to this reconstruction, South Arabian myrrh was probably already available on the African side of the Red Sea.

The two tomb reliefs (dating to ca. 1438-1408 BCE) pointed out by Saleh suggest that Arabian merchants were already arriving in al-Quseir by no later than the middle of the fifteenth century BCE, and they probably continued doing so until the beginning of the fourteenth century BCE. The approximately fifty-year period between Hatshepsut's expedition and Amenhotep II's reign allows sufficient time for the development of at least a semi-regular land and sea route for the delivery of South Arabian incense by the producers. Saleh's suggestion that a "second intermediary point" existed somewhere in Arabia is reasonable, especially since sailing the length of the Red Sea was a difficult and dangerous task.³⁷¹ At any rate, several factors acting on both parties likely combined to expedite the establishment of direct trade between South Arabia and Egypt. For instance, the superiority of South Arabian incense undoubtedly encouraged Egyptian efforts to attain it, and the South Arabians must have realized the financial incentive of establishing direct trade with the pharaohs. Another factor may be that over-exploitation of *'ntyw*-producing areas in eastern Africa forced Egypt to expand its search for the product. The magnitude of the demand for *'ntyw* in Egypt is exemplified by the 80,000 "measures" of this product brought from Punt by a single Fifth Dynasty (ca. 2494-2345 BCE) expedition.³⁷² It is also possible, as suggested above, that competition for the Egyptian market between intermediaries working for Egypt and East African incense-merchants led to friction and, perhaps, reduced access for Arabian myrrh to the East African outlets.

Such a situation is not difficult to imagine since, as D.M. Dixon points out, the failure of Egypt's many attempts to transplant *'ntyw* trees might have resulted from intentional damage caused to the roots by Puntites.³⁷³ If Dixon is correct, then these people clearly identified, and acted decisively against, any potential threat to their monopoly. Most significant, however, is Saleh's reasonable supposition that the Arabian maritime expeditions to Egypt embarked from some point in central or northern Arabia. The difficulty of sailing north on the Red Sea supports Saleh's point, and it establishes the probability of an overland trek between South Arabia and the launching spot for Arabian incense boats. At any rate, a more detailed discussion of the overland Incense Route's development will be made in a later chapter.

The inscriptions at Sarabit el-Khadim describing Panehsi's meeting with the incense carriers are ambiguous and, for that reason, add several possible dimensions to a reconstruction of the Incense Route's development. Saleh offers two possible interpretations of the inscription's meaning. The first is that Panehsi was directed to meet a ship from Punt at some undefined place, perhaps at the traditional disembarkation point for incense-bearing craft at al-Quseir.³⁷⁴ Saleh rejects this possibility on the basis of the inscription's wording, which he takes literally to mean that Panehsi traveled from "one side of the sea to the other," as well as an allusion in the text to a "foreign or hilly" region.³⁷⁵ But a less controversial point against the al-Quseir argument is that the messenger dispatched to Panehsi, presumably from Memphis, traveled nearly half the distance between the Egyptian capital and al-Quseir just to reach Sarabit el-Khadim, where Panehsi resided. More obviously, since al-Quseir functioned as a major point of

arrival and departure for incense-laden ships, it is reasonable to assume that capable officials were already prepared to receive whatever traffic entered this port.³⁷⁶

The second option assumes that Panehsi was sent east, perhaps as far as Ezion-Geber on the northern tip of the Gulf of Aqaba, although Saleh himself points out that current evidence does not support such a conclusion.³⁷⁷ But a factor not considered by Saleh is the Red Sea's "peculiar wind regime," that eases maritime travel going south for most of the year, but nevertheless inhibits northbound voyages because of stormy weather.³⁷⁸ In light of this obvious hindrance, if incense were carried north by sea then it is logical to assume that it was offloaded at the nearest, most convenient location for both parties. Saleh identifies the large area between South Arabia and the northern Hejaz as possible sites of disembarkation for these ships, but again he points to several sites used in later times stretching from modern Jiddah to classical Leuke Kome.³⁷⁹

Another possibility is that Panehsi's meeting with the incense carriers took place on the eastern coast of the Sinai Peninsula, since that area was also both "foreign" and "hilly." As noted above, it appears that South Arabian incense was already being carried overland some distance up the Arabian coast before being ferried across the Red Sea, and the embarkation point was probably in northern Arabia. The Sarabit el-Khadim inscription's most relevant passage regarding this question directs Panehsi to "go forth on the sea coast to foretell the wonders of *Pwenet* (Punt) and to receive the '*ntyw* . . . brought by the chiefs in their *hmnty* ship . . . with the goods (literally "tribute") of numberless hill countries."³⁸⁰ It is possible that in the period between the time of the incense deliveries depicted on the tomb reliefs and Panehsi's mission roughly fifty years

later, the overland route was extended as far as the Gulf of Aqaba region. Indeed, since most of the incense bound for Egypt was probably destined for the capital at Memphis, such a northern focus is not unreasonable to assume. Rather than carry incense all the way around the northern tip of Aqaba, where no permanent Egyptian presence existed at this time, it was easier to simply sail across the narrow neck and meet Panehsi in eastern Sinai.³⁸¹ Panehsi could then sail around the peninsula or travel overland across it, and return via the same route. This interpretation is in keeping with the accepted translation of *gswy W3d-wr* (meaning no more than one side of the sea), which does not require a “special case” scenario as proposed by Saleh.³⁸² Interestingly, although Saleh argues that this phrase implies two coasts, or two sides of the sea, he does not translate it in this way in his discussion of the Hatshepsut relief, where the phrase also occurs.³⁸³ At any rate, if this “one side of the sea” interpretation of *gswy W3d-wr* is correct, then the presence of South Arabian aromatics near the Sinai border no later than 1367 BCE is established. This date roughly coincides with the earliest appearance of myrrh in the Levant as provided by the Amarna Letters, as well as the 1400-1300 BCE timeframe for the introduction of domesticated dromedaries to Tell Jemmeh as suggested by Paula Wapnish.³⁸⁴

The rise of urban societies in the oases of northwestern Arabia in approximately 1300 BCE, as well as possible Egyptian influences on “Midianite” pottery styles strongly suggests some affiliation between the desert-dwellers and Egypt. These “urban oases” are situated in a region perfectly suited for the conveyance of South Arabian aromatics, and their appearance is roughly synchronous with Egypt’s establishment of a permanent

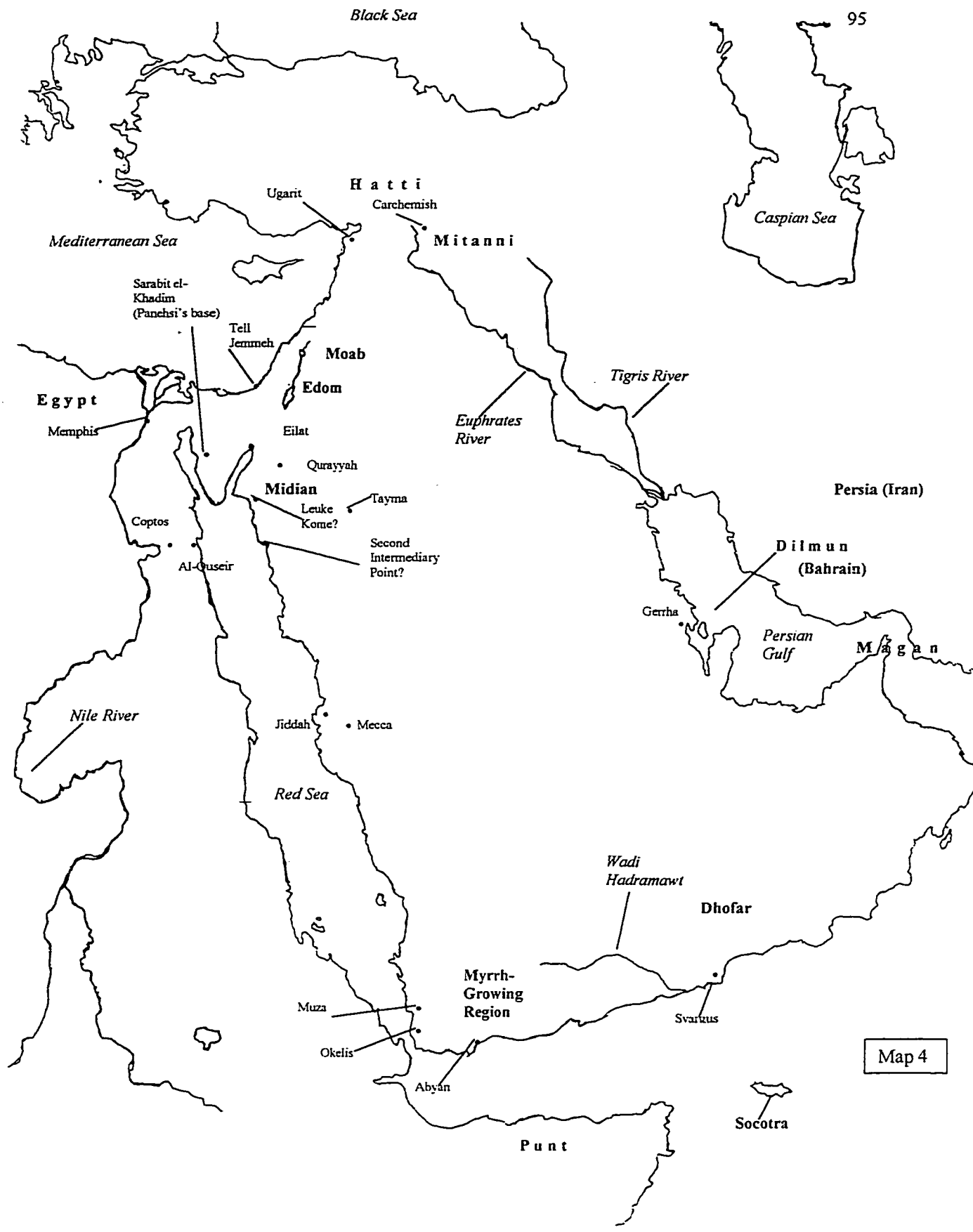
presence at Timna in the late fourteenth century BCE.³⁸⁵ The presence of Midianite pottery shards at Timna further strengthens this assumption, and Timna's position near the supposed terminus of the Incense Route in the northern Hejaz makes it an obvious extension of the earlier Red Sea crossing arrangement.³⁸⁶ The previous northern Hejaz-Gulf of Aqaba-eastern Sinai route was inconvenient for Egyptian and Arabians because it required the deliverer of incense to transship his goods from land to sea, while the receiver was forced to travel across or around the Sinai Peninsula to get them and then return via the same route. An overland route straight to Timna is not much longer than the previous trek, and it required neither the construction of watercraft nor a potentially dangerous and economically disastrous sea crossing. By the same token, Egypt no longer needed to dispatch special messengers or government officials to take receipt of the goods as they arrived. Rather, transportation could be arranged at the site to which the goods arrived. Since Timna was a copper mine, caravans travelling to Egypt were undoubtedly present and no extraordinary or special arrangements for their conveyance were likely required.

Although this point will be developed further below, it is unlikely that Egypt remained the sole consumer of South Arabian myrrh in the Near East by the late fourteenth century BCE. Unlike Timna, which disappeared with Egypt's withdrawal, and Tel Masos, which only developed as a result of it, the apparent stability of Tayma and Qurayyah in the period 1300-1100 BCE suggests that these oasis-states remained autonomous. Therefore, although they may have paid tribute to Egypt or granted it some concessions, there is no reason to suppose that these sites did not trade with the city-states

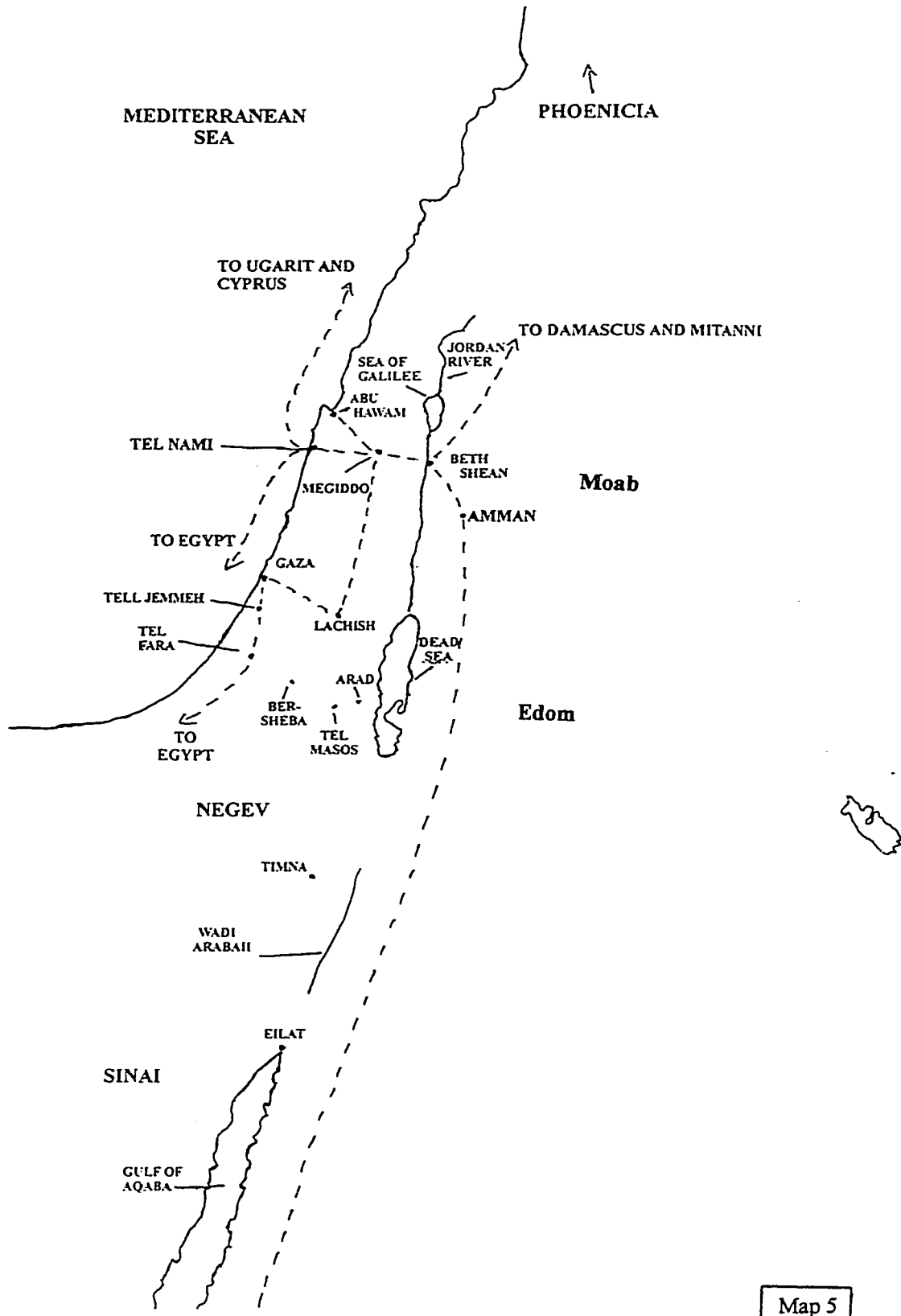
of Syria-Palestine or with Mitanni. Indeed, the use of Timna in the Incense Route after 1300 BCE probably had little to do with the inconveniences of transshipping myrrh to Egypt, although this was undoubtedly a concern for both parties. Rather, the establishment of Tayma and Qurayyah likely preceded the rise of Timna, and probably reflects an expansion of the Incense Route into Canaan and western Mesopotamia. At any rate, the rise of Tel Masos in the late twelfth century BCE, as Finkelstein explains, was likely due to its connection with the Incense Route.³⁸⁷ This is a reasonable assumption, since the site is located along an obvious route between Timna, southern Canaan, and Egypt. This hypothesis is strengthened by the presence of Midianite Ware shards at Timna, Tel Masos, Lachish, Jdur, and Tel Fara. The rise of Tel Masos at the end of the Egyptian period indicates that at least one portion of the Incense Route traversed the Negev region, and that it was securely under Egypt's control. After Egypt's hold on Sinai and Syria-Palestine was broken, local pastoralists assumed control of the Incense Route in this area. It is interesting that Timna was only occupied briefly after the Egyptian withdrawal, probably as a campsite by local pastoralists, which indicates that it was bypassed after the Egyptian period in favor of direct trade between northwestern Arabia and the northern Negev.

Since a small quantity of Midianite Ware shards has been recovered from Amman, it is not certain that all of the South Arabian incense was funneled into Canaan and Egypt from northwestern Arabia. It is possible that a smaller branch of the Incense Route traveled north along the overland route to Mitanni, since myrrh was certainly present in that state during King Tushratta's reign. The rapid development of the northern

Negev site of Tel Masos, however, as well as its near synchronous decline with the oasis settlements of North Arabia suggests that the bulk of these goods were carried northwest. It may be significant that, according to Wapnish's chronological table of dromedary remains at Tell Jemmeh, dromedary bones are absent during the years between 1200 and 1100 BCE.³⁸⁸ Although a detailed reconstruction of the city-to-city route followed by incense carriers is pure supposition, it is possible that Tel Masos absorbed, and redistributed on its own, the bulk of the South Arabian incense during its peak years between about 1150 and 1050 BCE. The absence of dromedary bones at Tell Jemmeh during this time frame may reflect the significance of Tel Masos, and its importance as the northern terminus of the Incense Route.



Map 4



CHAPTER SIX:
HISTORY AND ARCHAEOLOGY OF THE
SOUTH ARABIAN STATES, AND AN IDENTIFICATION OF THEIR
INCENSE-PRODUCING AREAS

While ample textual and archaeological evidence from northwestern Arabia, Egypt, and Syria-Palestine provides compelling evidence of the overland Incense Route's establishment by about 1300 BCE, little data is available for this period in South Arabia. Most troublesome is the absence of written records from South Arabia prior to the eighth century BCE, and the meager clues provided by South Arabian archaeology upon which any reconstruction of the southern portion of the Incense Routes relies.³⁸⁹ A further complication, as Jan Retso points out, is that while myrrh is present in the Levant from at least the Amarna period on, the Semitic word for frankincense, *lbn*, does not enter the historical record until the early first millennium BCE.³⁹⁰ Conversely, as W.F. Albright points out, frankincense appears as early as the fourteenth century BCE in Babylonia, and it may have been known to the area even earlier.³⁹¹ If it is accepted that Egypt, which was familiar with both frankincense and myrrh, was the primary recipient of these South Arabian resins, why did it only import myrrh? Similarly, while transporting myrrh overland was certainly expensive and logistically complex, no textual evidence of organized and wealthy states in South Arabia, such as the later kingdoms of Saba and

Qataban, exists anywhere in the Near East during the second millennium BCE. The presence of an overland caravan route through Arabia presupposes a minimal level of organization, and it must be assumed that the undoubtedly high cost of South Arabian aromatics would have been reflected in the source area of these commodities.

While nearly every discussion of the frankincense and myrrh-growing regions of South Arabia begins with the ancient sources, most of the available texts unfortunately come from classical writers without first-hand knowledge of the places they describe. Another complication stems from the changing political boundaries of the states discussed by the ancient sources (discussed below), so that a reference to “Saba” or “Qataban” denoted a different area in the fourth century BCE than it did in the first. Finally, the Greek and Roman writers frequently define myrrh and frankincense-growing regions in broad terms, like “Hadramawt,” that only identify large political units within which a particular variety of incense tree grows.³⁹² Therefore, a brief historical overview of the political situation, and geographical distribution of the various South Arabian kingdoms is helpful in understanding the areas referred to by the classical sources.

The earliest and most famous of the South Arabian states was Saba, which entered the historical record in the eighth century BCE, and at its height covered an area that corresponded roughly to modern northern Yemen (See map 6, page 112).³⁹³ Broadly speaking, Saba stretched from Nejran in the north to the Gulf of Aden in the south, and occupied the entire Red Sea coast of southwestern Arabia.³⁹⁴ Marib, the capital of Saba, was situated on the north bank of the Wadi Dhanah in northeastern Yemen.³⁹⁵ The kingdom of Maʿin, which developed to the north of Saba in the late fifth century BCE,

was centered on its capital of Qarnawu, and also controlled the former Sabaean territory of Najran.³⁹⁶ Little more is known of Maʿin except that it probably extended control over the central Arabian portions of the Incense Route at the height of its power during the third century BCE, when Minaean trading colonies were established as far north as Dedan.³⁹⁷ Another, though less understood, state on Saba's borders was the southern kingdom of Ausan, which controlled a coastal section of southwestern Arabia along the Gulf of Aden, as well as territories inland as far north as the wadis Baihan and Markha.³⁹⁸ It is unclear when Ausan developed into an independent power, but Saba conquered it in 410 BCE, seized its coastal territories for itself, and allowed the vassal-state of Qataban to assume control of Ausan's inland regions.³⁹⁹

The kingdom of Qataban, with its capital at Timna, developed as a client-state of Saba to the older state's northwest and west during the seventh or early sixth century BCE, but expanded significantly during the second century BCE when it conquered Maʿin.⁴⁰⁰ At its peak, Qataban controlled several important land and sea routes over which frankincense and myrrh traveled, and its territory included the Red Sea coast from the port of Okelis, to Abyan on the Gulf of Aden.⁴⁰¹ Qataban remained a dominant power until the rise of Himyar in the late second century BCE, and Qataban's final destruction by the eastern power of Hadramawt in the first century CE.⁴⁰² Himyar, which arose roughly in the same region held by the earlier state of Ausan, was the last indigenous state to develop in South Arabia, and it grew into a major power after 115 BCE.⁴⁰³ From its capital of Zafar, Himyar gradually expanded until it controlled all of southwestern Arabia, from Najran in the north to Hadramawt in the east.⁴⁰⁴ Though poorly

documented, this expansion seems to have taken place mainly during the beginning of the Common Era, when the other South Arabian states entered a period of decline.⁴⁰⁵ Though the kingdom of Hadramawt dates to the fifth century BCE, it is mentioned last because it was geographically removed from the other incense kingdoms, and it appears to have remained somewhat less integrated with them.⁴⁰⁶ The kingdom of Hadramawt developed along a wadi of the same name, and its boundaries extended roughly from its capital city of Shabwa in Yemen to the west, to modern Zufar (Dhofar) and Qamr Bay in Oman to the east.⁴⁰⁷ Included in this vast stretch of territory were the important cities of Qana, Moscha, and Syagrus, through which much incense traveled on its way to the Mediterranean.⁴⁰⁸ Little else is known of Hadramawt except that it occasionally came into conflict with the western states, probably conquered all or part of Qataban early in the first century CE, and was eventually subjugated by Himyar at the end of the third century CE.⁴⁰⁹

The ancient historians and geographers who mention the frankincense and myrrh producing regions of South Arabia occupy a period of about six hundred years, beginning in the time of Saba's hegemony, and ending with the expansion of Himyar. Herodotus (484-420 BCE), whose *Histories* provides the earliest mention of frankincense and myrrh growing regions, merely states that Arabia was the only place that produced these aromatics.⁴¹⁰ A more useful account of South Arabia is provided by Theophrastus' (372-287 BCE) *Enquiry into Plants*, who apparently derived much of his information from Greek sailors who had explored portions of the incense kingdoms in about 300 BCE.⁴¹¹ While Theophrastus is the first writer specifically to mention the states of Saba,

Hadramawt, Qataban, and Maʿin, he unfortunately fails to differentiate specifically between frankincense and myrrh growing districts, and simply lists these states together as places that produced incense.⁴¹² Nevertheless, Theophrastus notes that in the territory of the Sabaeans, frankincense and myrrh trees apparently grew wild in the mountains, while privately owned and cultivated plots were the norm at the base of the mountain.⁴¹³

Two sources of the third and second centuries BCE are Eratosthenes' *Geography*, and Agatharchides' five-volume *Concerning the Erythraean Sea*. Eratosthenes (276-196 BCE), portions of whose lost work are summarized in Strabo's (ca. 64 BCE-ca. 21 CE) *Geography*, relates the location and products of the various South Arabian kingdoms as they were understood by the Greek world between about 225-200 BCE.⁴¹⁴ Eratosthenes places Maʿin on or near the Red Sea coast, and locates Saba in a loosely defined region centered on the city of Marib, but unlike Theophrastus he says nothing of frankincense or myrrh growing areas in connection with these two states.⁴¹⁵ Eratosthenes identifies the kingdom of Qataban as the area stretching from southern Saba to the Gulf of Aden, and places its capital at Timna, and he identifies Hadramawt, with its capital at Shabwa, as the easternmost of the four South Arabian states.⁴¹⁶ According to Eratosthenes, Qataban controlled frankincense-producing territory, and Hadramawt contained lands that grew myrrh trees.⁴¹⁷ Although none of Agatharchides' (died ca. 132 BCE) writings are extant, portions of his work are quoted by Strabo as well as Photius (857-886 CE) and the author of the *Myriobiblion*.⁴¹⁸ Agatharchides identifies Saba as the main frankincense and myrrh-producing kingdom, and implies that both varieties of incense grew together in some vast, unspecified forest.⁴¹⁹

Pliny (23-79 CE), in *Natural History*, lists numerous peoples in his discussion of Arabia, such as the Sabaei (Sabaeans), Minaei (Minaeans), Catapani (Qatabanians), and Chatramotitae (Hadramis).⁴²⁰ According to Pliny only Saba and the neighboring kingdom of Ma'in (the territory inhabited by Pliny's Minaei, hence forth referred to as Minaeans), actually controlled frankincense-producing territories.⁴²¹ Pliny places the frankincense-growing region in a vaguely defined area "eight days' journey from Sabota (Shabwa)," on a forested mountain near the coast.⁴²² Pliny also mentions several myrrh-growing regions, including Saba, Ausan, and Qataban, and he maintains that myrrh grew wild as well as on cultivated plots.⁴²³ Ptolemy (90-168 CE), in his *Geography*, mentions myrrh and frankincense-growing regions in South Arabia, but these are difficult to identify based strictly on his description.⁴²⁴ Aloys Sprenger, however, provides a reconstruction of Ptolemy's map and proposes two vaguely defined myrrh-producing areas in South Arabia: one north of the Wadi Jauf in the kingdom of Ma'in, and another in western Hadramawt to the south of Shabwa.⁴²⁵ The frankincense lands, on the other hand, are placed in the Dhofar region of Oman.⁴²⁶ A similar division of South Arabia into myrrh and frankincense areas is made by the anonymous author of the *Periplus of the Erythraean Sea*, which is dated roughly to between 60 and 200 CE.⁴²⁷ The *Periplus* associates the myrrh producing territories with the Sabaeans as well as with the state of Himyar.⁴²⁸ Frankincense is said to grow some distance to the east of the myrrh region, and according to the *Periplus* it was exported from the frankincense country through the port of Qana.⁴²⁹ The frankincense itself apparently grew in a mountainous region near

Qana and a bay called Sachalites that, according to Sprenger's reconstruction of Ptolemy's map, places these regions in ancient eastern Hadramawt.⁴³⁰

Site surveys over the past fifty years have been helpful in making more specific geographical identifications of the frankincense and myrrh-producing regions. For example, Richard LeBaron Bowen, who explored South Arabia as a member of the American Foundation of the Study for Man expeditions of 1951-52, notes that myrrh trees grow wild at an elevation of 600 to 1500 meters in the hills of South Arabia, while frankincense trees are typically found in the Dhofar region of modern Oman at an elevation of 600 to 750 meters.⁴³¹ Bowen suggests that myrrh trees may have been cultivated in the Wadi Beihan region of ancient Qataban, since several sites in that area contain clusters of evenly-spaced "discolored circles" on the soil.⁴³² These circles, according to Bowen, may represent "a concentration of insoluble resin from some sort of incense tree," since they are found in a known myrrh growing area, and are spaced too closely together to be from 'elb or palm trees. As Bowen states, this interpretation is in keeping with the location of "Minaean myrrh" given by Pliny, as well as with Strabo's approximation of Marib's distance of "two days' journey from the country that produced aromatics."⁴³³

Gus W. Van Beek maintains that the modern frankincense-growing regions of South Arabia are the same as those of ancient times, and identifies them by combining modern surveys of South Arabia with the accounts of classical geographers.⁴³⁴ Van Beek places the frankincense area in the immediate inland region surrounding Qamr Bay in modern Oman, in part because the *Periplus* mentions only the two nearby ports, Syagrus

and Moscha, as receiving this product directly from its source area in the mountains. While the city of Qana also served as a thoroughfare for frankincense, Van Beek stresses that, according to the *Periplus*, Qana received frankincense via a sea route, and therefore was not in immediate proximity to the source area. Based on Pliny's estimated distance of "eight days' journey" from Shabwa, as well as the site surveys conducted by H.J. Carter and Bertram Thomas, Van Beek identifies the frankincense region in the coastal mountain range of Dhofar at an elevation of 2000 to 2500 feet. While Van Beek notes Strabo's placement of frankincense in the west and myrrh to the east, he maintains that either Strabo or his source, Eratosthenes, is mistaken.⁴³⁵ Regarding the location of myrrh trees, Van Beek cites Pliny, who locates them in Ma'in, Hadramawt, Qataban, Ausan, and southern Tihama.⁴³⁶ In two maps, Van Beek identifies the myrrh area as the Red Sea coast in the west, to a point just north and east of Shabwa in the east. This area stretches inland to the north as far as ancient Marib, and covers much of southwestern Arabia's mountain range.⁴³⁷

F. Nigel Hepper, of the Royal Botanic Gardens, firmly places the location of Arabian frankincense trees in Dhofar and eastern Hadramawt in the Najd, "just north of the Qarra Mountains lying parallel to the coast."⁴³⁸ Hepper notes Theophrastus' mention of cultivated frankincense trees but, although he does not explicitly deny the feasibility of cultivation, Hepper notes that in modern times "only odd trees are known to have been grown and there is no evidence that they are planted in any quantity for exploitation."⁴³⁹ Regarding the trees brought back by Hatshepsut's Punt expedition, Hepper states that even if they grew successfully at Thebes, they may not have produced resin since

frankincense is a tropical tree that probably would not thrive at the higher latitude.⁴⁴⁰ Brian Doe only touches on the geographical position of frankincense and myrrh, and he generally follows the locations given in the Pliny and the *Periplus*.⁴⁴¹ According to Doe, frankincense grows “naturally in quantity only in the unique climatic conditions of the Dhufar region of South Arabia, on the coastal plain and slopes of the Qara range of mountains and prolifically at about 2000 feet above sea level.”⁴⁴² Doe identifies the myrrh regions with the mountains of southwestern Arabia, primarily inland of Muza and north of Aden and Abyan.⁴⁴³ Kjeld Nielsen, on the other hand, departs from the majority view among modern scholars to conclude that only wild frankincense and myrrh can be divided into separate geographical areas. Like Van Beek, Nielsen notes the apparent discrepancy in Strabo’s western frankincense and eastern myrrh-producing regions, but he does not reject it as an obvious mistake. Rather, Nielsen points to Theophrastus, who states that incense trees were cultivated on private farms, to argue that no clear division, or “natural barriers,” between frankincense and myrrh-growing areas can be made. Nevertheless, Nielsen agrees that frankincense trees are not generally found west of the Wadi Hadramawt, while myrrh trees “are found all over S[outh] A[rabia].”⁴⁴⁴

If it is assumed, as Van Beek maintains, that the frankincense and myrrh growing regions of South Arabia are essentially the same today as in ancient times, then the information gathered by modern surveys of these areas by Carter, Thomas, and Bowen establish two distinct incense-producing districts.⁴⁴⁵ Myrrh, which appears to grow more prolifically, is found in quantity throughout the mountains of southwestern Arabia at an elevation of 600-1500 meters, while frankincense is confined to the mountainous coast of

ancient Dhofar at an elevation of 600-750 meters (See map 7, page 113).⁴⁴⁶ Unfortunately, modern scholarship continues to be ill-informed regarding the history of South Arabia prior to the first millennium BCE. Nevertheless, a significant amount of archaeological work done in South Arabia during the 1980's has led to the identification of a Bronze Age for South Arabia beginning in the third quarter of the third millennium BCE.⁴⁴⁷ This Early Bronze Age culture probably developed out of the indigenous Neolithic traditions that began around 6000 BCE, and it featured "small settlements composed of multi-room compounds set around courtyards" that may represent community ritual centers or wealthy residencies. More than thirty Bronze Age sites were discovered along the wadis of the Yemeni highlands southeast of modern Sana'a, and their inhabitants appear to have focused mainly on agriculture and animal herding. But while changed settlement patterns and commercial ties to Mesopotamia and the Indus Valley distinguished the Arabian civilizations of Dilmun (modern Bahrain) and Magan (probably the Oman Peninsula and both sides of the Straits of Hormuz), the communities of southern Arabia remained largely unchanged until the end of South Arabia's Late Bronze Age (1800-1200 BCE).⁴⁴⁸

Little else is known of South Arabian civilization prior to the rise of the incense-kingdoms mentioned by the classical sources. In fact, few South Arabian sites have been excavated to date and, with the exception of Marib, Timna, and Shabwa, no other major sites have even been surveyed and recorded properly.⁴⁴⁹ Nevertheless, it is known that South Arabia experienced an increase in human population toward the end of the second millennium BCE that appears to be linked, in part, to the development of water-control

devices in the area.⁴⁵⁰ Several ancient sites in Saba were recently explored by the American Foundation for the Study of Man during its return to Yemen in 1983, and an uncalibrated radiocarbon date of 1330 +/- 110 BCE was identified from a wood sample taken at the site of Hajar at-Tamrah in the Wadi al-Jubah (See map 6, page 112).⁴⁵¹ Other contemporaneous nearby sites may include the large, ten-acre fortification of Hajar ar-Rayhani, an irrigation system, and several walled enclosures of one or two acres in size.⁴⁵² Throughout the Wadi al-Jubah area are also found numerous wells and structures that James Sauer and Jeffrey Blakely identify as the houses “of the farmers who ran the irrigation/farming systems.”⁴⁵³ Covering an area of over 57 acres, the city of Marib is the largest South Arabian site to be excavated, and it housed at least two temples, several smaller tombs, and a royal mausoleum. But while hundreds of inscriptions were found on the temples and royal mausoleum, the earliest date only to the eighth century BCE.⁴⁵⁴

Human settlement in the area that later became Qataban, centered on the city of Timna, probably began between the eleventh and tenth centuries BCE.⁴⁵⁵ Timna proper covered approximately 52 acres, and featured several large buildings, a temple, and a cemetery, although by 1991 almost nothing remained of the original structures at this site, since the local people removed much of the original masonry to construct homes.⁴⁵⁶ Modern scholarship provides little information about this region during the second millennium BCE, although the nearby site of Hajar Bin Humeid is also dated to the early eleventh century, and Van Beek maintains that it may have “served as a control point under the aegis of Timna.”⁴⁵⁷ It is interesting to note, however, that no evidence of fortifications or a destruction level associated with war at the site exists, although

contacts with Anatolia, Syria-Palestine, and Ethiopia are reflected in locally manufactured pottery and art.⁴⁵⁸ The pottery shards recovered from Hajar Bin Humeid, which date from about 1100 BCE to 200 CE, are particularly helpful in establishing a chronology for South Arabia because their stylistic development parallels various decorative motifs found throughout the Near East.⁴⁵⁹

Shabwa and Hureidha are located in the regions controlled by the frankincense kingdom of Hadramawt, but only Shabwa appears to have been founded prior to the first millennium BCE. Shabwa was South Arabia's third largest ancient capital but, although it covered only 37 acres, Shabwa was surrounded by defensive walls and maintained a fortress on the nearby hill of Hajr to its south. Shabwa was initially settled during the sixteenth century BCE, and the three major archaeological expeditions to this site since 1971 have uncovered about 110 structures, including a royal castle that was probably several stories in height.⁴⁶⁰ It appears that the site of Hureidha originally consisted of a temple built in the sixth century BCE, but by the second century BCE it developed into a substantial town of roughly 17 acres. It is likely that Hureidha was an agricultural center because a dam and extensive canals were discovered nearby, but little else is known about the site.⁴⁶¹

Though still little understood, the rapid development of urban society in South Arabia at the end of the second millennium BCE may have been connected to a southern migration of Semitic-speaking peoples from the Levant and western Mesopotamia between 1300-1200 BCE. Van Beek suggests that the already profitable trade in frankincense and myrrh drew these migrants to South Arabia. Van Beek further notes that

while consonants began to coalesce after the thirteenth century BCE in North Semitic languages, South Arabic maintained the original 29 consonants, which suggests that this linguistic change took place in the north after the spread of Semitic to the south.⁴⁶² While few South Arabian pottery remains have been recovered to date, the scant evidence from Hajar Bin Humeid suggests regular contact between South Arabia and the Levant after about 1100 BCE.⁴⁶³ According to Van Beek, the stylistic similarities between South Arabian and Syro-Palestinian/western Mesopotamian pottery are reflective of regular, direct contact between the two regions. Van Beek argues that these contacts, which he credits to the trade in incense, can be dated accurately on the basis of the northern pottery styles since a “time-lag” of only two months existed for the trip between Syria-Palestine and South Arabia.⁴⁶⁴

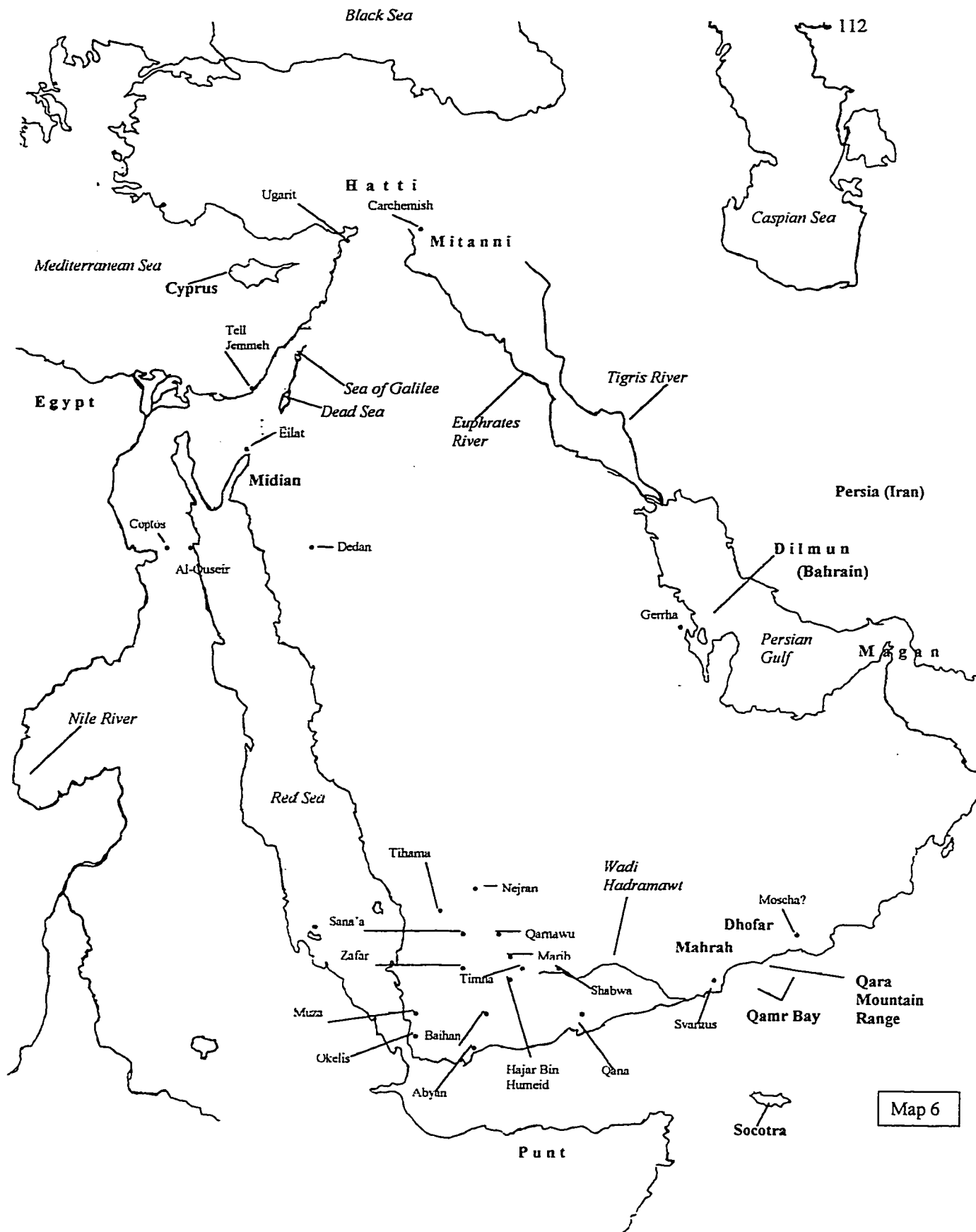
Clearly, the scant archaeological and linguistic evidence available from South Arabia to date allows little room for interpretation. Nevertheless, several factors suggest that the florescence of southwestern Arabian civilization at the end of the second millennium BCE was connected to the development of an international trade in incense. The development of urban culture in Yemen by the late fourteenth or early thirteenth century BCE roughly coincides with Van Beek’s suggested date for the southern migration of Semitic-speaking peoples from Mesopotamia or the Levant. Indeed, despite his dating of these migrations to the period 1500-1200 BCE, Richard Bulliet points out that involvement in the incense trade provides the most obvious incentive for such a move.⁴⁶⁵ Moreover, the development of complex irrigation works and other structures, such as the fortifications uncovered along the wadis of al-Jubah and Beihan, required a

substantial capital investment that, as Albright argues, “did not become available until the development of caravan trade.”⁴⁶⁶ That regular contact as early as 1100 BCE existed between southwestern Arabia and the north is supported by the pottery remains discovered at Hajar Bin Humeid, and future excavations in Yemen may push this date back even further.

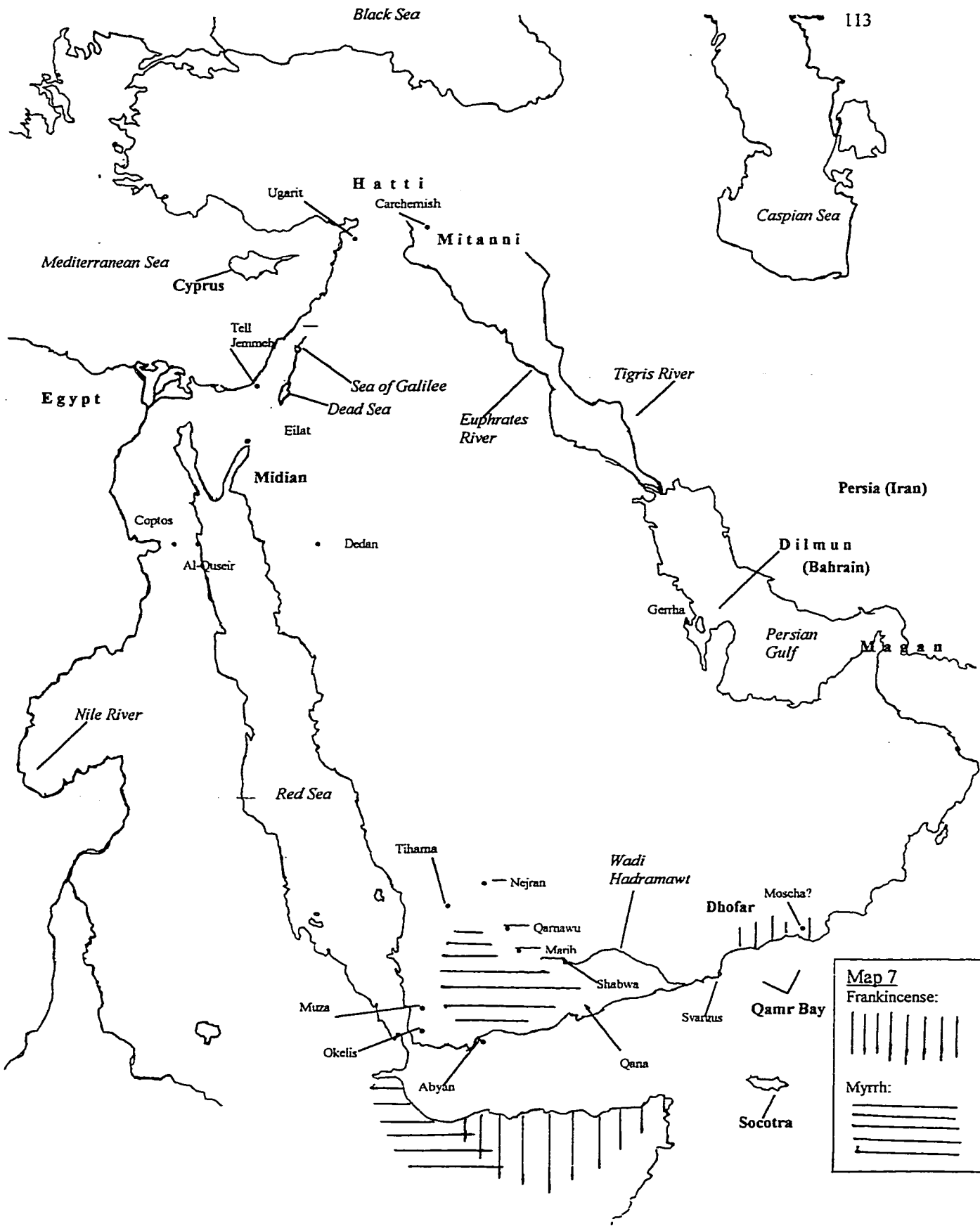
Modern scholarship confirms the presence of two distinct incense-producing regions in South Arabia: the highlands and plains of modern Yemen for myrrh, and the coastal mountains of modern Dhofar province in Oman for frankincense. Since no reference to frankincense has yet been found in the Syro-Palestinian historical record from this period, it must be assumed that only southwestern Arabia was initially involved in the incense trade with the north. It is interesting to note, however, that unlike the late second-early first millennium BCE western sites of Hajar at-Tamrah, Marib, and Hajar ar-Rayhani, the initial settlement of Shabwa took place in the sixteenth century BCE. But since the founding of Shabwa predates even the first appearance of frankincense in Babylonia by roughly 200 years, it is likely that the city’s settlement had nothing to do with the incense trade.⁴⁶⁷ In fact, Shabwa is situated over 300 miles west of the frankincense-growing region of Dhofar and, as Leila Badre points out, the important nearby salt mines were probably influential in its settler’s choice of location.⁴⁶⁸

Therefore, it is reasonable to assume that only southwestern Arabia engaged in and benefited from the incense trade during the first several centuries following the establishment of direct contact with the Hatshepsut expedition in about 1480 BCE. Although South Arabian incense was traded at the African marketing centers prior to this

time, little wealth was apparently gained from such exchange. During the late fourteenth or early thirteenth centuries, however, the development of “oasis urbanism” at Tayma and Qurayyah in northwestern Arabia suggests that direct overland connections were established, and the synchronous rise of urban societies in South Arabia parallels the northern situation.⁴⁶⁹ Finally, although the Semitic migrations took place only in the thirteenth or twelfth centuries BCE, this event may be reflective of the overland route’s firm establishment, steady use, and the growing importance of the incense trade.



Map 6



CHAPTER SEVEN:
RECONSTRUCTION OF THE
INCENSE ROUTE'S ESTABLISHMENT ACROSS CENTRAL ARABIA

The Der el-Bahri inscriptions suggest that Egypt first made direct contact with the myrrh-growing regions of South Arabia in the early fifteenth century BCE, although South Arabian aromatics were known prior to this time through intermediaries to the African incense markets.⁴⁷⁰ Half a century later, beginning in the time of Amenhotep II's reign (ca. 1438-1412 BCE), tomb reliefs at Thebes indicate that South Arabian merchants were already delivering myrrh to Egypt by boat.⁴⁷¹ Because of the difficulty of sailing north on the Red Sea, particularly above the twentieth latitude, the small South Arabian boats must have traveled to Egypt from sites across the Red Sea, rather than all the way up the coast from the myrrh-producing regions.⁴⁷² These sites, dubbed "second intermediary" points by Abdel-Aziz Saleh, were transshipment centers that received incense from caravans and transferred it to the small Arabian sea-craft depicted on Egyptian reliefs.⁴⁷³ The rise of urbanism at Qurayyah and Tayma in the late fourteenth century BCE likely marks the start of high-volume trade along the Incense Route.⁴⁷⁴ However, a direct overland connection to Syria-Palestine probably existed by the time of the Sarabit el-Khadim inscriptions (ca. 1350 BCE), although the volume of trade was undoubtedly much smaller.⁴⁷⁵

While the synchronous rise of urban society in northwestern and southern Arabia suggests that a regular overland Incense Route was established by 1300 BCE, an almost complete lack of evidence from the central peninsula makes any reconstruction of its development difficult. In fact, with the exception of Mecca, no second millennium BCE urban sites in central Arabia have been uncovered and, as will be discussed below, several modern scholars question even Mecca's importance to the Incense Route. Similarly, although several factors instrumental to the Incense Route's development have already been identified and discussed, they have thus far only been used to establish a chronology of events. This chronology, however, left several perplexing questions unanswered. For example, since Egypt was already making regular voyages to Punt when it established direct contact with South Arabia, why did South Arabia reverse this simple arrangement by assuming the burden of incense deliveries to Egypt?⁴⁷⁶ In like fashion, while the presence of transshipment centers for incense along the Arabian coast was established on the basis of the Egyptian tomb reliefs and the Sarabit el-Khadim inscriptions, how were these centers established and maintained?⁴⁷⁷ Finally, did South Arabians control the entire overland route, and what role, if any, did central Arabia's indigenous peoples play in the development of the Incense Route? A more critical analysis of the evidence already presented will clarify these issues and, despite the lack of archaeological evidence, help establish conditions in central Arabia during the Incense Route's early years.

The only known urban site dating to the early to mid-second millennium BCE in central Arabia is Mecca, which was probably first settled in the nineteenth century

BCE.⁴⁷⁸ Despite Mecca's seemingly advantageous position halfway between South Arabia and Syria, however, several scholars question the city's involvement in the Incense Route even in classical times. Patricia Crone points out that the incense caravans made at least sixty-five stops on the way to Alexandria, so "they were under no constraint to stop at Mecca merely because it happened to be located roughly midway."⁴⁷⁹ Similarly, Crone notes the relative barrenness of Mecca's environment in comparison to the nearby site of Ta'if, which was more accessible and offered a wider range of services than Mecca.⁴⁸⁰ Richard Bulliet, who assigns no particular significance to Mecca as a trade center prior to the fifth century CE, agrees with Crone that the city offered nothing extraordinary to attract passing caravans, and that in fact it was located somewhat out of the way.⁴⁸¹ Nigel Groom's reconstruction of the Incense Route, which is largely based on "the dictates of topography," bypasses Mecca altogether because the city was located on the western side of the mountain range that stretches along the Red Sea coast from South Arabia.⁴⁸² Although some incense undoubtedly filtered into Mecca, Groom argues that South Arabian caravans missed the city by about one hundred miles as they traveled north.⁴⁸³ At any rate, little else is known of central Arabia prior to classical times except that pastoralism appears to have spread throughout the peninsula by 2400 BCE.⁴⁸⁴ That dromedary herding, which requires a high degree of mobility and is not compatible with urban or agricultural areas, was widespread throughout South Arabia by 2000 BCE has been demonstrated in Chapter Four.⁴⁸⁵ Further, since the dromedary, as a potential food animal that survived on dry desert shrubs, was ideally suited to the needs of people inhabiting resource poor environments, it is most likely that the nomads and semi-

nomads of central Arabia had already adopted the animal by 1500 BCE.⁴⁸⁶ Although Richard Bulliet's assertion that "life in the deep desert . . . is impossible without the domestic camel" is questionable, the domesticated dromedary's benefit as a means of transportation alone certainly made it desirable to mobile desert dwellers.⁴⁸⁷

Although much has been written in recent years about the development of ancient trade routes, local and regional economies, and state formation, many of these works deal with particular regions in specific time periods that, unfortunately, are not easily applied to the case of the Incense Route. As Colin Renfrew points out, the hypothetical analysis of a given problem is only useful if it allows one "to seek and find (or disconfirm) patterns among the real data."⁴⁸⁸ Since "real data," in terms of archaeological and textual evidence related to the early Incense Route, is frustratingly rare, any economic model used to explain its development needs to be simple and relatively broad. Although his thesis deals with the evolution of long distance trade routes in late prehistoric Iran, Thomas W. Beale's model uses a simple theoretical framework that is applicable to the Arabian Peninsula in the late second millennium BCE.⁴⁸⁹ Rather than focusing on the "almost endless variety of social contexts within which trade or exchange can and does take place," Beale isolates a series of four changing "trade mechanisms" to explain the intensification of trade between source and consumer areas.⁴⁹⁰ In combination with relevant portions of other economic theories, Beale's model can therefore be used as a foundation to identify internal mechanisms instrumental in the development of the Incense Route.

Trickle Trade, which is a form of exchange in which a particular commodity filters out of its source area in no particular direction, is the simplest type of trade mechanism discussed by Beale. Unlike more complicated forms of exchange, Trickle Trade is unscheduled, tends to drop off exponentially with distance from the source area, and is based on “balanced reciprocity.” Casual village-to-village or nomad-to-village trade is a feature of this exchange mechanism, and it does not require an organized state structure for it to function.⁴⁹¹ However, although a particular commodity can travel across many borders in this fashion, as in Renfrew’s Down-The-Line Trade, no consumer of goods acquired through Trickle Trade has any control over the acquisition of these products (See figure 1, page 128).⁴⁹² Egypt was probably first introduced to South Arabian myrrh through a Trickle or Down-The-Line Trade as it filtered into the incense marts of eastern Africa, and this may have encouraged Egypt to secure it in greater quantity.

The second stage of Beale’s economic model is called Local Redistributive Trade. In this stage a particular site begins to function as a magnet, or local redistributive center, for goods previously acquired only through the random process of Trickle Trade.⁴⁹³ Factors instrumental in the development of this process include the growth of an administrative complex within a particular society, evolution of a hierarchical social structure, or increased demand for a certain product.⁴⁹⁴ In any case, the most important difference between Trickle and Local Redistributive Trade is the ability of a people to acquire and redistribute specific goods.

According to the Der el-Bahri inscriptions, Egypt acquired South Arabian myrrh through intermediaries, although it is not known who these intermediaries were, when this type of trade began, or how it functioned.⁴⁹⁵ If Egypt's initial contact with South Arabian myrrh was a result of Trickle Trade across the Red Sea and Gulf of Aden, it is unlikely that Egyptians came into actual contact with South Arabians. Rather, East Africans probably were either commissioned to retrieve the incense, or imported it on their own once they realized its value to the Egyptians. Norman Yoffee maintains that while organized trade contributed to the development of hierarchical and centralized political structures, it also relied on them for its continuance.⁴⁹⁶ The larger South Arabian residencies, dated to the late third and early second millennium BCE, indicate that socially stratified societies already existed in that period.⁴⁹⁷ Therefore, the organizational ability needed to funnel locally produced incense and other goods to a particular site probably existed in South Arabia early on and, indeed, was likely the most important factor in collecting and supplying myrrh for the African intermediaries.

Beale's third economic level, Regional Organized Trade, refers to the establishment of "direct trade over distances of 150 km. or more," and involved a more complex process of exchange between several redistributive centers at the same time. The most significant aspect of this stage is the development of long-distance trade that bypassed smaller centers, such as villages, and allowed for regular contact with other large, but more distant consumer and/or source areas.⁴⁹⁸ Regarding the incense trade, the African incense markets are representative of the smaller sites bypassed at this level which, as the Egyptian tomb reliefs show, were replaced by direct trade with Egypt in the

late fifteenth century BCE.⁴⁹⁹ While direct trade with Egypt undoubtedly increased profits for South Arabia, however, it is unclear why the initiative in the incense trade shifted to the South Arabians. The most likely reason seems to be that, from South Arabia's point of view, little changed immediately after Egyptians replaced the (African?) intermediaries as collectors of myrrh on the Arabian Peninsula. In both cases, South Arabia functioned as a "passive" participant in the incense trade.⁵⁰⁰ Though he does not discuss any region or trade route in particular, the "active" participant, in Polanyi's terms, is one who "carries the goods and bears the brunt of the risk and initiative; the other merely responds to the occasion."⁵⁰¹

Polanyi points out that the decision to engage in active trade frequently rests on the "urgency of the need" for a particular commodity controlled by a distant source, and that a successful trading venture can only be accomplished by those possessing the means to organize and carry it out.⁵⁰² Moreover, Renfrew stresses that an important feature of exchange is the flow of information, particularly in terms of its impact on the formation of civilizations.⁵⁰³ According to Polanyi, the definition of "need" can also include luxuries, which he points out are merely the "necessities of the rich and powerful."⁵⁰⁴ Thus, although Egyptian tomb reliefs depict South Arabians engaged in active trade about a century before urbanism developed in ancient Yemen, it is likely that a primitive nobility had already been established there.⁵⁰⁵

It is, therefore, possible that contact with Egyptians, who during the early fifteenth century BCE were approaching the peak of their power and involvement in international affairs, brought a greater understanding of the outside world to South

Arabia. Perhaps in keeping with their policy toward Canaan, Egypt “invited” the sons of prominent South Arabian chieftains to reside in Memphis where, like other princes, they were educated and probably learned much about the rest of the known world.⁵⁰⁶ It is possible that some Arabian envoy or guest discovered the potential value of South Arabian myrrh while in Egypt. Perhaps this knowledge initiated an attempt to reach new markets, such as Canaan and western Mesopotamia, in order to secure direct access to the luxury items to which these new elites had recently been introduced. The Egyptian tomb reliefs (ca. 1432-1408 BCE) may represent one of the earliest of these Arabian incense deliveries to Egypt, and thus mark the approximate starting date of South Arabia’s transition from passive to active participation in the incense trade.⁵⁰⁷

While their precise location will probably never be known, the transshipment center, or centers, used to deliver myrrh to al-Quseir were probably located somewhere in the Hejaz area, since the fragile Arabian sea-craft could not have sailed north on the Red Sea.⁵⁰⁸ Therefore, Mecca’s participation in the Incense Route during this early period is doubtful because of its location almost four hundred miles south of the Egyptian site.⁵⁰⁹ In fact, it is most likely that any such transshipment points established on the Arabian side of the Red Sea were located near the classical port of Leuke Kome, and that the Incense Route’s clear inland alignment in classical times probably mirrored its original configuration.⁵¹⁰ Since it appears that no market for incense existed in central Arabia, and sailing north to Egypt on the Red Sea was impeded by southerly winds, a gradual extension of coastal sites south of the twenty-sixth latitude (across from al-Quseir) served no purpose.⁵¹¹ That the establishment of transshipment centers in the Hejaz reflects a

calculated decision carried out over a relatively short period of time can therefore be deduced.

Based on the Egyptian tomb reliefs, which provide the only available evidence for this stage of the Incense Route's development, the establishment of Arabian transshipment centers occurred no later than 1412 BCE, which is the latest date for the earlier of these reliefs.⁵¹² The Incense Route probably reached the Arabian side of the Gulf of Aqaba by no later than 1364 BCE, as the Sarabit el-Khadim inscriptions imply, and this development marks the overland Incense Route's final establishment.⁵¹³ Nevertheless, incense destined for Egypt was likely still transported for a short distance by sea, although this was probably only across the narrow Gulf of Aqaba. Indeed, it is doubtful that South Arabians limited themselves to trading only with Egypt when in such close proximity to Syria-Palestine, particularly if the establishment of the overland route has been initiated by a search for larger markets.

The fourth and final step in Beale's economic theory is called Long-Distance Organized Trade (See figure 3, page 129).⁵¹⁴ Distinguishing features of this stage include the expansion of a particular site's political control over trade routes and other source areas, as well as a "by-pass phenomenon" which occurs when the number of intermediaries or "links" in the trade chain is reduced in order to decrease transportation costs.⁵¹⁵ It is possible that in the initial stages of the Incense Route's development, South Arabians employed nomadic tribes to carry their product in stages to the transshipment centers. These nomads undoubtedly knew the location of wells or natural watering holes, had an understanding of the terrain, and could have offered protection or shelter to

merchants. But each group required payment, and the total cost of transporting goods over hundreds of miles of desert must have been high. Perhaps once the route was firmly established, South Arabians seized vital sections along the Incense Route, such as wells and convenient resting places, and thereby lowered costs while retaining control of their product as it traveled north. Bulliet argues that the Arabian pastoralists who bred dromedaries and supplied them to incense caravaneers did not control the Incense Route until the sixth century BCE at the earliest.⁵¹⁶ The development of the North Arabian saddle, which provided a stable platform from which a mounted warrior could fight, and the acquisition of metal weapons, which replaced the simple bows and arrows used prior to this time, allowed the desert dwellers to face caravaneers and their escorts on more equitable terms.⁵¹⁷ In either case, the most important factor at this stage in the development of the Incense Route was the domesticated dromedary itself. Because of its ability to survive long periods of time without water, using dromedaries as pack animals allowed South Arabians to maintain fewer wells along the Incense Route.⁵¹⁸ Similarly, since the dromedary can maintain a speed of ten miles per hour for as long as eighteen hours per day, travel time (and therefore cost) was certainly much lower than it would have been if donkeys had been used.⁵¹⁹

The most apparent manifestations of the transition from Regional Organized Trade to Long Distance Organized Trade along the Incense Route are the rise of Tayma and Qurayyah, the apparent disappearance of coastal transshipment centers, and the growth of urbanism in South Arabia in the late fourteenth century BCE. Clearly, with the establishment of a direct overland route to Syria-Palestine, the launching points for

Arabian incense boats were no longer needed, and they were probably abandoned at this time. However, the development of urban sites in northwestern Arabia poses several difficult questions regarding the extent of South Arabian control over the Incense Route. For example, if the oasis dwellers of Tayma and Qurayyah were local peoples, then South Arabians did not eliminate all of the intermediary points between themselves and the markets of Syria-Palestine. In fact, although they may have controlled the Incense Route up to northwestern Arabia, by not controlling Tayma and Qurayyah South Arabians merely exchanged their Egyptian trading partners for North Arabian ones. On the other hand, if South Arabians established these oasis-stops, or at least maintained a presence in them, then some economic benefit was certainly gained.

The development of urbanism in South Arabia during the late fourteenth century BCE suggests the latter scenario, since it is clear that the influx of wealth reflected in the monumental architecture of South Arabia at this time is best explained by larger or more profitable markets.⁵²⁰ Nevertheless, it is not suggested that the entire population of these oases was of South Arabian origin. Rather, the situation at Tayma and Qurayyah in the fourteenth to twelfth centuries BCE may have been similar to that of Dedan in the third, when Dedan was politically independent but Minaean trading colonies were established there.⁵²¹ This situation is also similar, and perhaps resembles more closely, Renfrew's Colonial Enclave stage of trade development in which a particular power establishes a colony in the vicinity of the source or consumer areas it wants to barter with (See figure 2, page 128).⁵²² Even if Renfrew's model is accepted, the South Arabian colonists at Tayma and Qurayyah probably only formed the nucleus of the settled population of these

oases, while the majority of their population was of North Arabian or Syro-Palestinian origin. But since so little is known about Tayma and Qurayyah, speculation on this point is dangerous and should therefore be deferred until more information becomes available.

To summarize, South Arabians initiated the overland Incense Route after the establishment of direct trade in the early fifteenth century BCE by the Hatshepsut expedition. The two Egyptian tomb reliefs depicting Arabian incense deliveries to al-Quseir are from the period 1432-1408 BCE and, as suggested above, probably mark the establishment of the overland route.⁵²³ Although the intermediate steps between South Arabia's transition from passive to active trade with Egypt can only be surmised, it was argued above that South Arabian merchants initially utilized local dromedary pastoralists to convey their incense to the transshipment centers.⁵²⁴ As in classical times, numerous stops must have been made for rest and water, and these sites became permanently established as the volume of trade increased. While Bulliet's assertion that nomads merely supplied the incense merchants with dromedaries and profited little is reasonable, how the South Arabians maintained a string of remote supply points, wells, and transshipment centers remains open to speculation. At any rate, since this trade was specifically directed at Egypt and Syria-Palestine, and since no market for incense likely existed on the central Arabian Peninsula (except, perhaps, at Mecca), the development of the overland route was probably not gradual. The possibility that every aspect of this initial stage of the Incense Route's development, from securing pack animals and guides to the establishment of the coastal transshipment centers, was arranged by a single South Arabian expedition, seems a reasonable hypothesis.

Without knowing the amount of incense shipped, or the various expenses involved in conveying it across the Arabian Peninsula, it is not possible to estimate how much the cost of South Arabian myrrh increased as a result of the shift from maritime to overland transportation. Although it was always less expensive to transport goods by water than by land, two factors, however, may have influenced the decision to initiate an overland route.⁵²⁵ First, in the transition from passive to active trade, South Arabians were forced to bypass the Egyptians who (presumably) already controlled the maritime routes. Although Egypt was also dominant on land as far east as Sinai and Syria-Palestine, the central Arabian Peninsula itself was free of Egypt's control, and therefore provided the most obvious route. In this context it is significant that Tayma and Qurayyah were located over two hundred miles southeast of Timna, and that no evidence exists to suggest that Egypt ever extended even indirect control over these sites. Another factor was probably the difficulty of sailing north on the Red Sea using the fragile Arabian sailing rafts. While the building of large ships with sails and oars, like those used in the Punt trade by Egypt, provided an obvious answer to this problem, Egyptian depictions of Arabian sailing rafts of the late fifteenth century BCE indicate that the South Arabians did not attempt such a solution. Perhaps the technological development of such sea craft was too difficult or time consuming an undertaking for people with no practical knowledge of large shipbuilding or seamanship. Indeed, it is not unreasonable to assume that South Arabia's incense exporters were unfamiliar with the sea, since the earliest urban sites discovered thus far (Hajar at-Tamrah and Hajar ar-Rayhani) were located on the inland side of the South Arabian mountains.⁵²⁶ In any case, the use of

dromedaries provided an immediate means of transportation north, and the availability of domesticated dromedaries in South Arabia, as well as their use as burden animals by Arabian nomads, must have made these animals an obvious choice.

The Sarabit el-Khadim inscriptions, describing the Egyptian official Panehsi's dealings with Arabian incense merchants, indicate that the terminus of the Incense Route had shifted further north by 1367 BCE. The presence of myrrh in texts relating to Syria-Palestine as early as the Amarna period indicates that these resins were already entering the Levant via an overland route. Possibly South Arabians had already established colonies at Tayma and Qurayyah by the Amarna period, and one branch of the Incense Route traveled west from them to the coastal launching points, while a smaller one continued north into southern Canaan. By 1300 BCE, however, these oases certainly were present, and they probably functioned either as inland "launching" points similar to the coastal transshipment centers used in the Egyptian trade, or as redistribution sites to which consumers came, like the markets of eastern Africa.

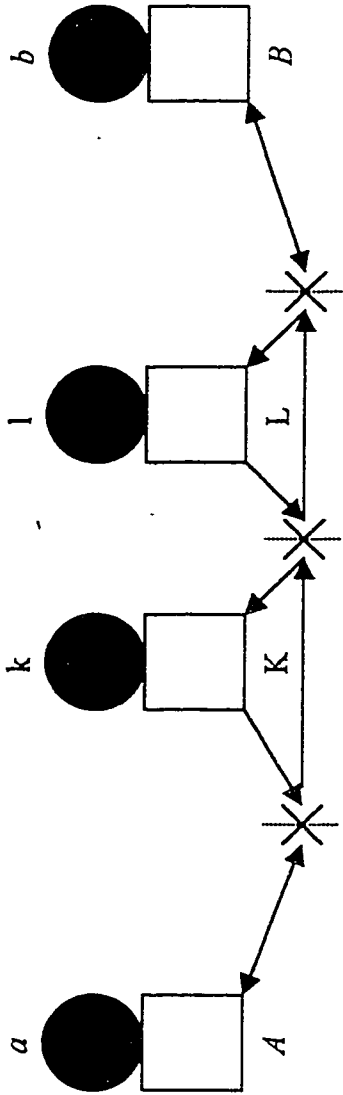


Figure 1. Down-The-Line Trade

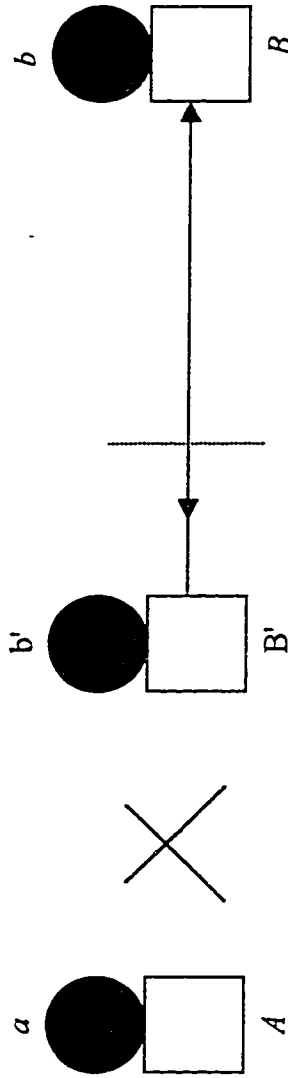


Figure 2. Colonial Enclave Trade

Circles *a* and *b* indicate, respectively, a commodity's point of origin and place of receipt. Squares *A* and *B* denote the person at the source (*A*), and the final recipient (*B*). Crosses indicate exchange transactions, and broken lines indicate territorial boundaries.

Fig. 1. Circles *k* and *l* represent successive territories through which a commodity travels, while squares *K* and *L* represent intermediaries between *A* and *B*, or "middle-men," through which the commodity is exchanged.

Fig. 2. Square *B* sends an emissary (*B'*) to establish colonial enclave *b'* within proximity of site *a* in order to trade with *A*.

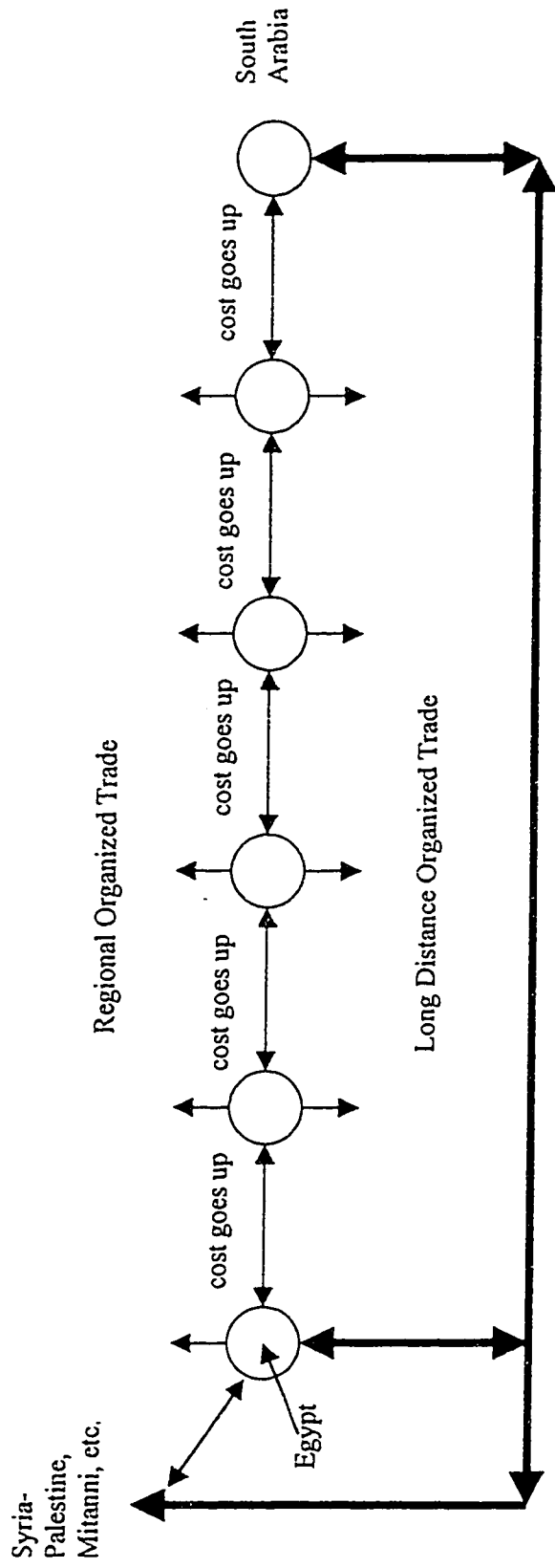


Figure 3. Transition from Regional Organized Trade to Long Distance Organized Trade.

CHAPTER EIGHT:
REVIEW OF THE MAJOR ARGUMENTS AND
CONCLUDING REMARKS

Despite the work of numerous scholars of the ancient Near East, the historical community remains divided on the question of the development of the Incense Route. While individual scholars occasionally agree on a particular issue, such as the starting date of the overland incense trade, in nearly every case they differ on the circumstances that led them to a like conclusion. For example, Richard Bulliet, Kjeld Nielsen, Nigel Groom, and Jan Retso constitute the “early school” on the question of dromedary domestication. However, these scholars generally disagree on how and where dromedary domestication first took place, as well as on its impact on the starting date of the Incense Route.⁵²⁷ Yet, despite such disagreements, the various theories espoused bring to light, in varying degrees, four fundamental issues critical to an understanding of the development of the Incense Route: 1) where and when the dromedary was domesticated; 2) conditions at the northern terminus of the Incense Route, and important factors in its development; 3) the development of South Arabian civilization, and the location of the frankincense and myrrh-growing regions; and 4) the underlying mechanics at work during the Incense Route’s actual establishment across the Arabian Peninsula.

Of the four geographical areas considered as possible centers of dromedary domestication, the evidence for southern Arabia is most convincing. Although Egypt contains numerous dromedary related artifacts dated to the third, and even the fourth millennium BCE, none of this evidence is suggestive of dromedary domestication. The camel-hair rope (ca. 2500 BCE) found in the Fayum, like the ointment receptacle from Abusir-el-Melek (ca. First Dynasty), and the two figurine camel heads from Abydos (ca. 3100 BCE), may be imports or, at most, indicate the presence of wild dromedaries in Egypt. The total absence of dromedaries from Egyptian reliefs, texts, and religious cults, which commonly venerated animals, argues against the dromedary's presence in Egypt, particularly as a domesticated animal. Indeed, the earliest clear depiction of a domesticated camel in Egypt is the water jug laden dromedary from Abydos, which dates to the eleventh century BCE.⁵²⁸

Syria-Palestine and Mesopotamia also contain numerous dromedary remains and camel-related artifacts. Interestingly, the most compelling evidence for the presence of domesticated dromedaries in Syria-Palestine comes from a fourteenth century Egyptian text titled *The Travels of an Egyptian*, written by an Egyptian visitor to the Levant, which refers to the dromedary as "an animal of Syria and Palestine."⁵²⁹ Paula Wapnish's interpretation of dromedary remains at Tell Jemmeh further suggests that domesticated dromedaries were utilized in the area by 1300 BCE at the latest. Therefore, a conservative date of between 1400 and 1300 BCE can be safely accepted for the introduction of domesticated dromedaries into Syria-Palestine.⁵³⁰ The presence of domesticated dromedaries in Mesopotamia, on the other hand, can be dated to as early as the nineteenth

century BCE, if one accepts the high date suggested for the Minoan seal associated with a Mesopotamian art style. While information regarding dromedaries is uncommon in Mesopotamia for several centuries after this time, they are mentioned with increasing frequency in Assyrian inscriptions from the twelfth century BCE. Despite the relatively early appearance of dromedaries in Mesopotamia, however, it is significant that they are always depicted being ridden or led by foreigners, and even the Akkadian words for “dromedary” were probably borrowed from Arabic.⁵³¹

Although it is largely circumstantial, the most convincing evidence of dromedary domestication comes from southern Arabia. As D.T. Potts makes clear, evidence of young, and possibly newborn camels on Umm an-Nar is a strong indicator of dromedary domestication, since they could not have migrated to the island on their own.⁵³² Furthermore, Richard Bulliet convincingly establishes the introduction of dromedaries to Somalia and the island of Socotra in the period 2500 to 1500 BCE, which similarly implies their domestication.⁵³³ Since the evidence from Umm an-Nar predates the Minoan seal (ca. 1800 BCE) by roughly a millennium, and all Akkadian words for “dromedary” are loanwords from Arabic, it is safe to infer that dromedary domestication first took place in southeastern Arabia. Because the dromedary is a range animal that is difficult to pen, particularly with other animals, it was most likely first domesticated by pastoralists. Indeed, Bulliet argues convincingly that pastoralists were probably the first to utilize the dromedary as a beast of burden for moving supplies between camps, and the animal’s ability to subsist for long periods on little water and thorny shrubs undoubtedly made it a valuable herd animal in the resource-scarce Arabian desert.⁵³⁴

Any reconstruction of the northern section of the Incense Route must begin during the Late Bronze Age (ca. 1550-1200 BCE), when myrrh first appears in the historical record of Syria-Palestine. The dominant power in the Levant and along the Red Sea at this time was Egypt, and this is significant for several reasons. As demonstrated by Abdel-Aziz Saleh, the Der al-Bahri inscriptions suggest that Hatshepsut's fifteenth century expedition to Punt was the first to make direct contact with South Arabia, although South Arabian aromatics were already known to Egyptians prior to this time. Moreover, the two tomb reliefs (dating to ca. 1438-1408 BCE) depicting Arabian merchants delivering incense to al-Quseir by boat suggest that at least a semi-regular trade between South Arabia and Egypt was in place by the middle of the fifteenth century BCE.⁵³⁵ Significantly, as Bulliet points out, sailing north on the Red Sea is difficult because of the strong southerly winds, and this strengthens Saleh's assertion that the fragile Arabian sailing rafts shown on the reliefs did not sail the entire length of the Red Sea between al-Quseir and South Arabia.⁵³⁶ Rather, as Saleh argues, the Arabian incense merchants probably launched the boats from a "second intermediary point" on the Arabian Peninsula, and merely crossed the narrow Red Sea to Egypt.⁵³⁷ The importance of this point is that the South Arabians likely carried their goods overland to the launching points for the incense boats, and thus established the foundation of the overland Incense Route itself.⁵³⁸

The Sarabit el-Khadim inscriptions (ca. 1403-1364 BCE), which describe the Egyptian official Panehsi's receipt of *'ntyw* from Arabian merchants somewhere near the Sinai Peninsula, clearly establish the presence of South Arabian aromatics within

proximity of Syria-Palestine. Despite Saleh's argument to the contrary, the meeting between Panehsi and the Arabian merchants probably took place on the eastern side of the Sinai Peninsula.⁵³⁹ This scenario appears particularly likely, since the Arabians delivered their goods by boat, and the textual evidence implies that Panehsi himself did not travel by sea from his base at Sarabit el-Khadim. More importantly, as recorded in the Amarna letters, this timeframe roughly corresponds to the first documented presence of myrrh in areas other than Egypt. This is significant for three reasons. First, since Mitanni sent a gift of myrrh to the Egyptian king, it is unlikely that Mitanni initially imported this same product from Egypt, and therefore it probably came from some other source. Second, Mitanni had no direct access to the Red Sea, and it may therefore be assumed that any South Arabian incense in Mitanni came by land, and this implies the existence of an overland route. Finally, the presence of myrrh in texts from Syria-Palestine and Mesopotamia implies a market for South Arabian aromatics outside of Egypt proper, and indicates that Egypt, its dominance of the region notwithstanding, held no monopoly over the Incense Route.⁵⁴⁰

Archaeological evidence from the Levant and northwestern Arabia in the period 1400-1300 BCE further supports the establishment of an overland trade route between South Arabia and the Levant in the fourteenth century BCE. Particularly valuable is Paula Wapnish's study of the dromedary remains found at Tell Jemmeh in a 1400-1200 BCE context, which she maintains match the age profile of burden-dromedaries used for caravan work.⁵⁴¹ More convincing, however, is the late fourteenth century rise of urbanism at the oases of Tayma and Qurayyah, which Peter Parr reasonably associates

with North Arabia's participation in the incense trade. The nearly synchronous Egyptian occupation of Timna, located near the Wadi Arabah, strengthens Parr's argument, since the presence of Midianite Ware pottery shards indicates interaction between Timna and the North Arabian sites. Finally, the dispersal of Midianite Ware pottery out of Tayma and Qurayyah, where it was manufactured, into cities throughout Canaan and southern Jordan is probably reflective of the route taken by the incense caravans themselves.⁵⁴²

That the oasis sites of northwestern Arabia remained autonomous cannot be confirmed, but there is no evidence to suggest that Egyptian control ever extended to them. Indeed, after the New Kingdom's withdrawal from Syria-Palestine at the end of the Late Bronze Age, and Timna's subsequent replacement by Tel Masos in the northern Negev, both Tayma and Qurayyah maintained their importance as caravan stops along the Incense Route. Thus, the Incense Route's northern section, though initiated by trade with Egypt, probably developed into an artery for South Arabian myrrh to Mesopotamia and Syria-Palestine by the middle of the fourteenth century BCE. Despite Egypt's political and economic domination of the Levant, it appears that the Incense Route was accessible to Mitanni and the city-states of Syria-Palestine and, by the time of Tel Masos' rise in the twelfth century BCE, was an important trade route in southern Canaan.⁵⁴³

The ancient accounts clearly established that South Arabia contained two distinct incense-growing regions. Myrrh, according to these sources, grows prolifically in the west, and is generally associated with the mountainous regions of the five classical kingdoms of Saba, Ma'in, Himyar, Ausan, and Qataban. Frankincense, on the other hand, is placed east of the other South Arabian states in territories controlled by the kingdom of

Hadramawt, where it is also said to grow in the mountains.⁵⁴⁴ While it is unlikely that any of the ancient writers, with the possible exception of the anonymous author of the *Periplus of the Erythraean Sea*, actually visited the incense regions of South Arabia, modern scholarship generally confirms their work.⁵⁴⁵ According to Richard LeBaron Bowen, who conducted a physical survey of the myrrh and frankincense-producing regions, myrrh trees grow at an elevation of 600-1500 meters in the hills of modern Yemen, while frankincense trees thrive at between 600-750 meters in the coastal Omani highlands.⁵⁴⁶ Similarly, Gus Van Beek stresses that modern frankincense and myrrh-growing areas are probably unchanged from ancient times. Van Beek supports this assertion by pointing out that in classical times frankincense was only exported from its source area in the mountains through the ports of Syagrus and Moscha.⁵⁴⁷

While South Arabia's pre-classical history is still largely unknown, more than thirty South Arabian Bronze Age (ca. 2250-1200 BCE) sites were discovered in the myrrh-growing area of the Yemeni highlands. These early sites, which featured small courtyards surrounded by multi-room compounds, may represent community ritual centers or wealthy residencies. These thinly dispersed settlements were replaced toward the end of the second millennium BCE during a rapid transition to urbanism throughout the region.⁵⁴⁸ The economic base necessary for urbanism to take place, as William Albright maintains, probably resulted from an influx of income made available by the establishment of the lucrative Incense Route.⁵⁴⁹ At any rate, radiocarbon testing of a wood sample at the site of Hajar at-Tamrah indicates a date of 1330 +/- 110 BCE. Other contemporaneous sites include the fortifications at Hajar ar-Rayhani, a nearby irrigation

system, and several small enclosures. While the development of urbanism at Shabwa, the capital city of Hadramawt, dates to the sixteenth century BCE, its establishment was connected to the lucrative salt mines there. It is also significant, with regard to the non-presence of frankincense in Mitanni and Syria-Palestine, that Shabwa is located about 300 miles west of the frankincense region of Dhofar.⁵⁵⁰

The migration of Semitic speaking peoples to South Arabia between 1300-1200 BCE is another important event in the Incense Route's development. Gus Van Beek identifies this period as the most likely for the migrations based on linguistic differences between Syria-Palestine/western Mesopotamia and South Arabia. Specifically, Van Beek notes that consonants in North Semitic languages began to coalesce after the thirteenth century BCE, while South Arabic maintained the original 29 consonantal vocabulary.⁵⁵¹ Clearly, while this suggests that the linguistic changes took place in the north after the spread of Semitic to the south, it is also significant because the Semitic migrations roughly correspond to the development of urban society in South Arabia. As Bulliet points out, the most logical reason for northern Semites to migrate several hundred miles to South Arabia was involvement in the lucrative incense trade.⁵⁵² Relatedly, although it only dates to the early eleventh century BCE, the site of Hajar Bin Humeid contained locally manufactured art and pottery exhibiting stylistic influences from Anatolia, Syria-Palestine, and Ethiopia. Van Beek stresses that a "lag-time" of only two months existed for the trip between Syria-Palestine and South Arabia, and therefore these pottery remains are probably reflective of regular, direct contact between Hajar Bin Humeid and these northern regions from 1100 BCE on.⁵⁵³

Political, social, and economic conditions in central Arabia are the most difficult to reconstruct, since scholars have no relevant archaeological or textual evidence from this region. The only known late second millennium BCE site in central Arabia was Mecca, but its location on the western side of Arabia's coastal mountain range left it removed from the Incense Route by about one hundred miles.⁵⁵⁴ However, based on evidence of the dromedary's probable third millennium BCE domestication in southeastern Arabia, it is safe to assume that domestication had spread throughout central Arabia by about 1500 BCE. Indeed, the dromedary's ability to thrive in arid, agriculturally deficient regions, as well as its advantages as a burden animal, probably made it desirable to the mobile desert dwellers. Furthermore, although the evidence from Canaan, Sinai, northwestern Arabia, and South Arabia presented thus far is not plentiful, it nevertheless highlights important stages in the Incense Route's development. Thomas W. Beale's study of the development of long distance overland trade, though set in prehistoric highland Iran, provides a useful tool for interpreting this evidence.

Beale identifies four stages in the development of long distance trade: Trickle Trade, Local Redistributive Trade, Regional Organized Trade, and Long-Distance Organized Trade. Trickle Trade is a trade mechanism by which a given product filters out of its source area in no particular direction, and which a consumer, though he or she may desire the product, can only acquire by chance. It can be hypothesized that Egypt was introduced to South Arabian myrrh as it "trickled" into the incense marts of eastern Africa, since only the Gulf of Aden separates the incense growing areas of Arabia and Africa. At any rate, as a large consumer of incense, Egypt undoubtedly represented a

ready market for Arabian myrrh, which surpasses the African variety in quality. Egypt's desire to secure the better Arabian myrrh was probably the catalyst that initiated Local Redistributive Trade, the second of Beale's four trade mechanisms.⁵⁵⁵

Local Redistributive Trade is a stage in which a site begins purposefully to attract and redistribute goods previously acquired only through the casual process of Trickle Trade. Prerequisites for this stage include at least a basic administrative complex or hierarchy within a given site that is capable of directing the resources of that site toward the acquisition of the desired goods. It is clear from the Der el-Bahri inscriptions that Egypt procured South Arabian incense through intermediaries, and this presupposes the existence of some reliable, organized, and presumably regular process for the collection and redistribution of these aromatics. While no evidence of large incense markets like the ones used in classical times in South Arabia exists, the larger pre-urban residencies discovered in the Yemeni highlands may be representative of a developing administrative complex or political structure there. It is possible that these residencies directed the collection of myrrh in South Arabia and turned it over to the intermediaries, who then delivered it to the Egyptians.⁵⁵⁶

The two Egyptian tomb reliefs (ca. 1438-1408 BCE) depicting Arabians delivering myrrh by boat to al-Quseir represent a significant change in the Incense Route's development, and the establishment of Regional Organized Trade. Regional Organized Trade is achieved with the establishment of direct trade between distant consumer and/or source areas that bypasses smaller, intermediate sites. The importance of the Egyptian reliefs is twofold. First, it is clear that the incense markets of eastern

Africa had been bypassed by this time, and that direct contact between South Arabia and Egypt existed by the mid-fifteenth century BCE. Since, as argued above, the small boats depicted on the reliefs were probably launched from an Arabian site across the Red Sea, an overland trek from South Arabia to the maritime launching points can be assumed. Second, and more importantly, is that they indicate South Arabia's shift from passive to active trade. As Karl Polanyi makes clear, a particular group's decision to engage in active trade usually results from a desire by that group for some commodity controlled by a distant source.⁵⁵⁷ It is reasonable to assume that Egypt introduced South Arabians to various new luxury items in the course of their trade and, while such a reconstruction is purely speculative, it is possible that many of these goods were of non-Egyptian origin. Thus, in the same fashion that Egypt desired direct access to South Arabian myrrh, South Arabians may have attempted to establish contact with other source areas. Indeed, the Sarabit el-Khadim inscriptions (ca. 1403-1364 BCE) strongly suggest the presence of South Arabian transshipment centers near the Sinai Peninsula by no later than the middle of the fourteenth century BCE. The most logical reason for this steady movement north, since trade with Egypt was already established, would be a desire to reach new markets in Syria-Palestine. Indeed, the roughly synchronous appearance of myrrh in Mitanni and Syria-Palestine with the events described on the Sarabit el-Khadim inscriptions strongly supports such a conclusion.⁵⁵⁸

The final step in Beale's economic model, Long Distance Organized Trade, occurs when a particular site engaged in active trade increases its control over a trade route, and decreases the number of intermediaries or "links" in the trade chain. It is

reasonable to assume that South Arabian incense merchants utilized local nomads to guide them across the central peninsula during the formative stages of the Incense Route's development. However, it must have been expensive to hire these nomadic guides every time a caravan was sent north, so it is possible that South Arabians eventually seized control of the vital wells and resting places once the route was firmly established. While this point is difficult to prove, Bulliet argues convincingly that Arabian nomads merely bred and supplied dromedaries to the incense merchants, but exerted no control over any part of the Incense Route until about the sixth century BCE. Bulliet further argues that these dromedary herders remained little more than "despised desert tribesmen" until the invention of the North Arabian saddle and the acquisition of metal weapons. The North Arabian saddle provided a secure seat from which a mounted warrior could fight, and the metal weapons replaced less effective bows and arrows. In either case, the important point is that by seizing the Incense Route, South Arabians maintained direct control over their goods as they traveled north, while at the same time reducing shipping costs.⁵⁵⁹

The shift from Regional Organized Trade to Long Distance Organized Trade is more apparent in the synchronous rise of Tayma and Qurayyah and the development of urbanism in South Arabia. The seeming replacement of coastal transshipment centers by Tayma and Qurayyah in the late fourteenth century BCE is probably reflective of the final establishment of the overland Incense Route. However, these oasis sites present an intriguing problem regarding the extent of South Arabia's dominance of the overland route in northwestern Arabia. In short, while South Arabia may have controlled the route

up to northwestern Arabia, little would be gained economically if Tayma and Qurayyah functioned as independent states. Since these sites were established at about the time of South Arabia's own urban florescence, it is possible that the South Arabians founded these two settlements, or were at least influential residents there. An appropriate comparison can be made to Renfrew's Colonial Enclave model of trade development, in which a state establishes colonies in or near the area with which it wants to engage in trade.⁵⁶⁰ As a reasonable hypothesis, it can be assumed that only the initial settlers, and probably the most influential ones, were of South Arabian origin, while the majority of the inhabitants of Tayma and Qurayyah were Syro-Palestinians or northern Arabians.⁵⁶¹

It is clear from the brief review above that the Incense Route was established relatively quickly, and that its development was shaped by political, social, and even environmental factors. While it is unknown how long Egypt received South Arabian myrrh through the intermediaries referred to by the Der al-Bahri inscriptions, their presence nevertheless implies that an administrative system capable of directing the collection of goods already existed in South Arabia by the mid-second millennium BCE. At any rate, direct contact with South Arabia was finally established by Egypt in the early fifteenth century BCE, as evidenced by the Hatshepsut reliefs. Perhaps the most significant result of this contact between Egypt and South Arabia was the introduction of new luxury goods to South Arabia, and this was probably the catalyst for South Arabia's transition from passive to active trade. Since the South Arabian residencies, which presumably housed the administrative complex mentioned above, were located in the highlands of modern Yemen, it is not surprising that the South Arabians chose an

overland, rather than a maritime route to the north. The difficulty of sailing north on the Red Sea, particularly above the twentieth latitude, was undoubtedly a factor in this decision, especially since it can be assumed that these mountain dwellers had little or no maritime experience. A more important factor, however, was the availability of the domesticated dromedary, which was probably widespread on the peninsula by no later than 1500 BCE, and was likely familiar to the South Arabians. Even so, the South Arabians were probably unfamiliar with the central Arabian Peninsula, and for this reason must have hired local nomads to guide them north.

The Egyptian tomb reliefs of the period 1438-1408 BCE represent a transitional stage between the establishment of direct contact by Egypt as described by the Der al-Bahri reliefs, and the completion of an overland route. As implied by the Sarabit el-Khadim inscriptions of 1403-1364 BCE, South Arabia's movement northward was probably directed at reaching additional markets in Syria-Palestine and western Mesopotamia. While the nascent aromatics trade was most likely only with Egypt in the late fifteenth century BCE, it is clear from myrrh's presence in the city-states of Syria-Palestine and Mitanni that this was no longer the case by the Amarna period. The development of urbanism in South Arabia and Tayma and Qurayyah at about 1300 BCE, as well as the Semitic migrations of 1300-1200 BCE, are further proof of the Incense Route's firm establishment and lucrative profits.

Based on conditions along the Incense Route in the better understood classical period, it can be assumed that South Arabians extended control over nearly the entire Incense Route. South Arabians probably relied on the nomads of central Arabia to guide

their caravans north, and to provide them with water, shelter, and, perhaps, even dromedaries as the Incense Route developed. However, it is plausible that, once a regular route developed, the South Arabians seized vital sections of the caravan route, such as wells, and reduced the nomads to mere suppliers of dromedaries. Similarly, the settlements of Tayma and Qurayyah were probably established by South Arabians as launching points on the way to Syria-Palestine and Mesopotamia, in the same way that the coastal transshipment centers functioned in the earlier trade with Egypt.

While the development of the Incense Route took only about one hundred years, from Queen Hatshepsut's reign to the Amarna period, it had a much more long-lasting impact. Even after Egypt's withdrawal from Canaan at the end of the Late Bronze Age, and the upheavals brought on by the Sea Peoples in the twelfth century BCE, the Incense Route remained an important economic feature of the ancient Near East. The rise of Tel Masos in the Negev Desert brought wealth to the inhabitants of southern Canaan and northern Sinai, and probably encouraged Israel's King Saul to expand his borders to the Red Sea. More significant, however, was South Arabia's exposure to the more advanced peoples of the Near East. Not only did this influence South Arabia culturally, as the pottery shards from Hajar Bin Humeid and the Semitic migrations clearly demonstrate, but it also brought the Arabian Peninsula into the "known world." As the desire for myrrh, and later frankincense, took hold in the Near East and Europe, control of the Incense Route became a common, but never realized goal among the ancient world's most powerful empires. Indeed, perhaps the most important consequence of the Incense Route's development was not its mere economic significance, but rather that its starting

date in the early fourteenth century BCE marks Arabia's entrance onto the world stage, and the inception of this regions global importance to this day.

Notes to Chapter One

- ¹ Nigel Groom, *Frankincense and Myrrh: A Study of the Arabian Incense Trade* (New York: Longman Group Limited, 1981), 1, 8; Kjeld Nielsen, *Incense in Ancient Israel*, Supplements to *Vetus Testamentum*, eds. J.A. Emerton and others (Leiden: E.J. Brill, 1986), 1.
- ² Groom, *Frankincense and Myrrh*, 1, 3.
- ³ Nielsen, *Incense in Ancient Israel*, 13; Egyptian dates follow the Conventional Chronology.
- ⁴ *Ibid.*, 3, 5, 11, 14.
- ⁵ *Ibid.*, 12.
- ⁶ Gus W. Van Beek, "Frankincense and Myrrh," *The Biblical Archaeologist* 23 (1960): 83.
- ⁷ Groom, *Frankincense and Myrrh*, 8.
- ⁸ Van Beek, "Frankincense and Myrrh," 83.
- ⁹ Curtius, *History of Alexander*, 5:1:14-21.
- ¹⁰ Van Beek, "Frankincense and Myrrh," 82-83; Nielsen, *Incense in Ancient Israel*, 12-13; Jan Retso, "The Domestication of the Camel and the Establishment of the Frankincense Road from South Arabia," *Orientalia Suecana* 40 (1991): 191; William Foxwell Albright, "Midianite Donkey Caravans," in *Translating and Understanding the Old Testament*, eds. Harry Thomas Frank and William L. Reed (Nashville: Abingdon Press, 1970), 203.
- ¹¹ Groom, *Frankincense and Myrrh*, 8; Van Beek, "Frankincense and Myrrh," 86-87.
- ¹² Nielsen, *Incense in Ancient Israel*, 19; Van Beek, "Frankincense and Myrrh," 71-72; M.C.A. Macdonald, "North Arabia in the First Millennium BCE," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 1357.
- ¹³ Van Beek, "Frankincense and Myrrh," 71; Daniel Thomas Potts, "Myrrh," in *The Oxford Classical Dictionary*, 3rd ed., edited by Simon Hornblower and Antony Spawforth (New York: Oxford University Press, 1996), 1017.
- ¹⁴ Van Beek, "Frankincense and Myrrh," 72.
- ¹⁵ Groom, *Frankincense and Myrrh*, 9.
- ¹⁶ *Ibid.*, 8.
- ¹⁷ Van Beek, "Frankincense and Myrrh," 82-83.
- ¹⁸ Edgar Lobel and Denys Page, eds., *Poetarum Lesbiorum Fragmenta*, (Oxford: Clarendon Press, 1968), 36: untitled fragment of a poem by Sappho referenced as L-P 44; Curtius, *History of Alexander*, 5:1:20-21.
- ¹⁹ Van Beek, "Frankincense and Myrrh," 83-85.
- ²⁰ James Henry Breasted, ed., *Ancient Records of Egypt*, Vol. 2, *The Eighteenth Dynasty* (New York: Russell & Russell, Inc., 1962), 121.
- ²¹ Van Beek, "Frankincense and Myrrh," 83-85.
- ²² Albright, "Midianite Donkey Caravans," 203.
- ²³ Van Beek, "Frankincense and Myrrh," 83-85.
- ²⁴ M.C.A. Macdonald, "North Arabia in the First Millennium BCE," 1357.
- ²⁵ Groom, *Frankincense and Myrrh*, 205.
- ²⁶ *Ibid.*, 198.
- ²⁷ I. Ephal, "Syria-Palestine under Achaemenid Rule," in *The Cambridge Ancient History*, 2nd ed., Vol. 4, *Persia, Greece and the Western Mediterranean c. 525-479 B.C.*, ed., John Boardman and others (Cambridge: Cambridge University Press, 1988), 162.
- ²⁸ Groom, *Frankincense and Myrrh*, 199-202.
- ²⁹ I. Ephal, "Syria-Palestine under Achaemenid rule," 163.
- ³⁰ Herodotus, *Histories*, 3:108.
- ³¹ Plutarch, *Lives*, 25; Pliny, *Natural History*, 12:32; Groom, *Frankincense and Myrrh*, 204-205.
- ³² Arrian, *Campaigns of Alexander*, 7:20.

- ³³ Strabo, *Geography*, 16:4:19.
- ³⁴ *Ibid.*, 16:4:24.
- ³⁵ Groom, *Frankincense and Myrrh*, 74-75.
- ³⁶ *Ibid.*, 77.
- ³⁷ Pliny, *Natural History*, 12:41:83-84, 6:26:101.
- ³⁸ *Ibid.*, 12:32:62-65; Groom, *Frankincense and Myrrh*, 154-155.
- ³⁹ Pliny, *Natural History*, 12:83; Van Beek, "Frankincense and Myrrh," 83.
- ⁴⁰ Groom, *Frankincense and Myrrh*, 156-157; Pliny, *Natural History*, 12:41:84, 6:26:101.
- ⁴¹ A. Bernard Knapp, *The History and Culture of Ancient Western Asia and Egypt* (Belmont, CA: Wadsworth Publishing Company, 1988), 233.
- ⁴² William E. Dunstan, *The Ancient Near East* (Fort Worth: Harcourt Brace College Publishers, 1998), 258, 282; William Hallo and William Simpson, *The Ancient Near East: A History*, 2nd ed., (Fort Worth: Harcourt Brace College Publishers, 1998).
- ⁴³ Amelie Kuhrt, *The Ancient Near East c. 3000-330 BC*, 2 vol's., Routledge History of the Ancient World, ed. Fergus Millar (New York: Routledge, 1995), 332, 488, 497, 575, 690.
- ⁴⁴ O. Eissfeldt, "The Hebrew Kingdom," in *The Cambridge Ancient History*, 3rd ed., Vol. 2, *History of the Middle East and the Aegean Region c. 1380-1000 B.C.*, ed., I.E.S. Edwards and others (Cambridge: Cambridge University Press, 1975), 582-583; J.A. Brinkman, "Babylonia in the Shadow of Assyria," in *The Cambridge Ancient History*, 2nd ed., Vol. 3, *The Assyrian and Babylonian Empires and other States of the Near East, from the Eighth to the Sixth Centuries B.C.*, ed., John Boardman and others (Cambridge: Cambridge University Press, 1991), 17; A.K. Grayson, "Assyria: Tiglath-pileser III to Sargon II (744-705 B.C.)," in *The Cambridge Ancient History*, 2nd ed., Vol. 3, *The Assyrian and Babylonian Empires and other States of the Near East, from the Eighth to the Sixth Centuries B.C.*, ed., John Boardman and others (Cambridge: Cambridge University Press, 1991), 77-79; W. Culican, "Phonicia and Phonician Colonization," in *The Cambridge Ancient History*, 2nd ed., Vol. 3, *The Assyrian and Babylonian Empires and other States of the Near East, from the Eighth to the Sixth Centuries B.C.*, ed. John Boardman and others (Cambridge: Cambridge University Press, 1991), 467; I. Ephal, "Syria-Palestine under Achaemenid Rule," 161-164.
- ⁴⁵ T.C. Mitchell, "Israel and Judah from Jehu until the Period of Assyrian Domination (841-c. 750 B.C.)" in *The Cambridge Ancient History*, 2nd ed., Vol. 3, *The Prehistory of the Balkans; the Middle East and the Aegean World, Tenth to Eighth Centuries B.C.*, ed. John Boardman and others (Cambridge: Cambridge University Press, 1982), 494-495.

Notes to Chapter Two

- ⁴⁶ Herodotus, *Histories*, 3:97; Groom, *Frankincense and Myrrh*, 60.
- ⁴⁷ Theophrastus, *Enquiry into Plants*, 9:4:2, 5.
- ⁴⁸ Strabo, *Geography*, 16:4:2-4.
- ⁴⁹ Groom, *Frankincense and Myrrh*, 65-66.
- ⁵⁰ Strabo, *Geography*, 16:4:19; Groom, *Frankincense and Myrrh*, 64-68.
- ⁵¹ Groom, *Frankincense and Myrrh*, 77.
- ⁵² Pliny, *Natural History*, 12:51-52, 58-60.
- ⁵³ *Ibid.*, 12:59-65.
- ⁵⁴ Arnold Hermann Heeren, *Historical Researches into the Politics, Intercourse, and Trade of the Principal Nations of Antiquity*, 2nd ed., Vol. 1, *Asiatic Nations* (Delhi: Daya Publishing House, 1985), 346-351, 359.
- ⁵⁵ Heeren, *Historical Researches*, 352-55.
- ⁵⁶ Nielsen, *Incense in Ancient Israel*, 23.
- ⁵⁷ *Ibid.*, 23.
- ⁵⁸ William Foxwell Albright, *Archaeology, Historical Analogy, and Early Biblical Tradition* (Baton Rouge: Louisiana State University Press, 1966), 36; Albright, *Archaeology of Palestine* (Baltimore: Penguin Books Inc., 1963), 206-08; Jan Retso, "The Domestication of the Camel and the Establishment of the Frankincense Road from South Arabia," *Orientalia Suecana* 40 (1991): 187.

- ⁵⁹ Albright, "Midianite Donkey Caravans," 201-02.
⁶⁰ Ibid., 201.
⁶¹ Ibid., 200-201.
⁶² Ibid., 201-04.
⁶³ Ibid., 203-205.
⁶⁴ Brian Doe, *Southern Arabia*, New Aspects of Antiquity Series, ed. Mortimer Wheeler (New York: McGraw-Hill Book Company, 1971), 50, 53-54.
⁶⁵ Ibid.
⁶⁶ Ibid., 50-51.
⁶⁷ Ibid., 13, 49-50.
⁶⁸ Ibid., 50-51.
⁶⁹ Abdel-Aziz Saleh, "An Open Question on Intermediaries in the Incense Trade during Pharaonic Times," *Orientalia* 42 (1973): 375-382.
⁷⁰ Ibid., 375-376.
⁷¹ Ibid., 375, 377.
⁷² Ibid., 379-380.
⁷³ Ibid., 379-381.
⁷⁴ Ibid., 381-382.
⁷⁵ Ibid., 380-382.
⁷⁶ Richard W. Bulliet, *The Camel and the Wheel* (Cambridge: Harvard University Press, 1975), 66-67.
⁷⁷ Ibid., 66-68, 76-77.
⁷⁸ Ibid., 66-68, 76.
⁷⁹ Ibid., 66-76, 78-86.
⁸⁰ Ibid., 76.
⁸¹ Ibid., 71.
⁸² Ibid., 66.
⁸³ Ibid., 67, 76-77.
⁸⁴ Ibid., 76-77.
⁸⁵ Ibid., 86, 90-94.
⁸⁶ Groom, *Frankincense and Myrrh*, 23-57.
⁸⁷ Ibid., 36-37, 40, 53-54.
⁸⁸ Ibid., 33.
⁸⁹ Ibid., 36-37.
⁹⁰ Ibid., 28-29.
⁹¹ Ibid., 24-29.
⁹² Ibid., 23, 28.
⁹³ Ibid., 29-33.
⁹⁴ Ibid., 40, 61.
⁹⁵ Ibid., 40-47, 52-54, 57.
⁹⁶ Ibid., 42, 45, 53.
⁹⁷ Ibid., 42-43.
⁹⁸ Ezekiel 27:22; *ibid.*, 53-54.
⁹⁹ Nielsen, *Incense in Ancient Israel*, 5-7, 14-15, 19, 22-23, 96.
¹⁰⁰ Ibid., 23.
¹⁰¹ Ibid., 23, 96.
¹⁰² Ibid., 23.
¹⁰³ Ibid., 7, 22.
¹⁰⁴ Ibid., 7, 14-15.
¹⁰⁵ Ibid., 19, 22-23.
¹⁰⁶ Ibid., 5-6, 22-23.
¹⁰⁷ Patricia Crone, *Meccan Trade and the Rise of Islam* (Princeton: Princeton University Press, 1987), 13-26.

- ¹⁰⁸ Crone, *Meccan Trade*, 13-14.
- ¹⁰⁹ *Ibid.*, 14; See this chapter, pp. 22-24.
- ¹¹⁰ Israel Finkelstein, "Arabian Trade and Socio-Political Conditions in the Negev in the Twelfth-Eleventh Centuries B.C.E.," *Journal of Near Eastern Studies* 47 (1988): 246-47.
- ¹¹¹ *Ibid.*, 247-48, 251-52.
- ¹¹² *Ibid.*, 247-51.
- ¹¹³ *Ibid.*, 249-50.
- ¹¹⁴ *Ibid.*, 247-48.
- ¹¹⁵ *Ibid.*, 249-52.
- ¹¹⁶ I Samuel 15:5, 8, 21, 34; II Samuel 8:14; *ibid.*, 250-52.
- ¹¹⁷ H. Keith Beebe, "The Dromedary Revolution," in *Occasional Papers of the Institute for Antiquity and Christianity*, No. 18, ed. Jonathan L. Reed and others (Claremont: Institute for Antiquity and Christianity, 1990), 1-44.
- ¹¹⁸ *Ibid.*, 2, 7-8, 26, 32.
- ¹¹⁹ *Ibid.*, 26-29.
- ¹²⁰ *Ibid.*, 26-27, 29.
- ¹²¹ *Ibid.*, 16, 18, 25-26, 29.
- ¹²² *Ibid.*, 25-26.
- ¹²³ *Ibid.*, 24-26, 29.
- ¹²⁴ *Ibid.*, 18, 25.
- ¹²⁵ *Ibid.*, 11.
- ¹²⁶ *Ibid.*, 20-21.
- ¹²⁷ *Ibid.*, 32.
- ¹²⁸ Retso, "The Domestication of the Camel," 187-219.
- ¹²⁹ *Ibid.*, 205.
- ¹³⁰ *Ibid.*, 190-205.
- ¹³¹ *Ibid.*, 208-09.
- ¹³² *Ibid.*, 191.
- ¹³³ *Ibid.*, 190-191.
- ¹³⁴ *Ibid.*, 194-95, 198.
- ¹³⁵ *Ibid.*, 198.
- ¹³⁶ *Ibid.*, 192-93, 197-98.
- ¹³⁷ *Ibid.*, 198-99, 212, note 97.
- ¹³⁸ *Ibid.*, 199-201.
- ¹³⁹ *Ibid.*, 201-03.
- ¹⁴⁰ Judges 7:12-13; *ibid.*, 204-05.
- ¹⁴¹ Retso, "The Domestication of the Camel," 203-205.
- ¹⁴² *Ibid.*, 206-208.
- ¹⁴³ *Ibid.*, 199, 208-09.
- ¹⁴⁴ Michal Artzy, "Incense, Camels and Collared Rim Jars: Desert Trade Routes and Maritime Outlets in the Second Millennium," *Oxford Journal of Archaeology* 13 (July 1994): 121-147.
- ¹⁴⁵ *Ibid.*, 121-23.
- ¹⁴⁶ *Ibid.*, 123, 137-40.
- ¹⁴⁷ *Ibid.*, 130-31.
- ¹⁴⁸ *Ibid.*, 122, 135.
- ¹⁴⁹ *Ibid.*, 137-39.
- ¹⁵⁰ *Ibid.*, 135, 137.
- ¹⁵¹ *Ibid.*, 133.
- ¹⁵² *Ibid.*, 133-134.
- ¹⁵³ *Ibid.*, 133-34, 138, 139-40.

- ¹⁵⁴ Albright, "Midianite Donkey Caravans," 201; Nielsen, *Incense in Ancient Israel*, 22-23; Doe, *Southern Arabia*, 50.
- ¹⁵⁵ Bulliet, *The Camel and the Wheel*, 45, 56.
- ¹⁵⁶ *Ibid.*, 49-86.
- ¹⁵⁷ Nielsen, *Incense in Ancient Israel*, 23; Groom, *Frankincense and Myrrh*, 34, 36-37; Retso, "The Domestication of the Camel," 207.
- ¹⁵⁸ Nielsen, *Incense in Ancient Israel*, 23.
- ¹⁵⁹ Groom, *Frankincense and Myrrh*, 34-36.
- ¹⁶⁰ *Ibid.*, 36-37.
- ¹⁶¹ Retso, "The Domestication of the Camel," 207.
- ¹⁶² *Ibid.*, 206-208.
- ¹⁶³ Albright "Midianite Donkey Caravans," 201-02, 205; Albright, *The Archaeology of Palestine*, 206-08; Retso, "The Domestication of the Camel," 187.
- ¹⁶⁴ Doe, *Southern Arabia*, 50.
- ¹⁶⁵ *Ibid.*
- ¹⁶⁶ Saleh, "An Open Question on Intermediaries," 375.
- ¹⁶⁷ Beebe, "The Dromedary Revolution," 26-27, 29.
- ¹⁶⁸ *Ibid.*, 2, 5, 16, 18, 21-22, 25.
- ¹⁶⁹ Finkelstein, "Arabian Trade," 246-47.
- ¹⁷⁰ Artzy, "Incense, Camels and Collared Rim Jars," 135.
- ¹⁷¹ *Ibid.*, 133-35.
- ¹⁷² Albright, "Midianite Donkey Caravans," 204-05; Nielsen, *Incense in Ancient Israel*, 23; Groom, *Frankincense and Myrrh*, 36.
- ¹⁷³ Groom, *Frankincense and Myrrh*, 35; Beebe, "The Dromedary Revolution," 15; Karl W. Butzer, "Environmental Change in the Near East and Human Impact on the Land," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 123-129, 134, 147. Establishing a reconstruction of environmental conditions in Arabia during the second millennium BCE, as Karl Butzer points out, is still hampered by modern political difficulties in the region that impede the gathering of evidence. It appears, however, that the arid, desert conditions of the Arabian Peninsula in modern times were already prevalent by 1500 BCE, with the only forested area being the highlands of modern Yemen. The rest of the peninsula was covered by desert, which stretched from southeastern Arabia to southern Syria-Palestine, interspersed with areas of parkland, steppe, grassland, and shrub. See map 3, page 56.
- ¹⁷⁴ Strabo, *Geography*, 16:4:19; Groom, *Frankincense and Myrrh*, 66. Although Agatharchides' works are no longer extant, Strabo had access to them and gave Agatharchides credit when citing from them.
- ¹⁷⁵ Pliny, *Natural History*, 12:63-65.
- ¹⁷⁶ Nielsen, *Incense in Ancient Israel*, 23, Albright, "Midianite Donkey Caravans," 204-205.
- ¹⁷⁷ Albright, "Midianite Donkey Caravans," 204-205.
- ¹⁷⁸ *Ibid.*, 204-05.
- ¹⁷⁹ Doe, *Southern Arabia*, 50-51.
- ¹⁸⁰ *Ibid.*, 13-14, 51.
- ¹⁸¹ Saleh, "An Open Question on Intermediaries," 375-377.
- ¹⁸² *Ibid.*, 379-382.
- ¹⁸³ *Ibid.*, 375.
- ¹⁸⁴ Artzy, "Incense, Camels and Collared Rim Jars," 121-23, 134.
- ¹⁸⁵ *Ibid.*, 133-134.
- ¹⁸⁶ See Chapter 2, pp. 20-24, 26-33. Bulliet dates the beginning of the Incense Route to about 2000 BCE, Beebe and Finkelstein to roughly 1200 BCE, Retso favors the seventh century BCE, and Groom argues for the sixth.
- ¹⁸⁷ Bulliet, *The Camel and the Wheel*, 66-68.
- ¹⁸⁸ Beebe, "The Dromedary Revolution," 25.

- ¹⁸⁹ Retso, "The Domestication of the Camel," 205.
- ¹⁹⁰ Groom, *Frankincense and Myrrh*, 29, 36-37.
- ¹⁹¹ Finkelstein, "Arabian Trade," 247-251.
- ¹⁹² *Ibid.*, 246-252; Artzy, "Incense, Camels and Collared Rim Jars," 131-135, 139-140; Beebe, "The Dromedary Revolution," 2, 5-7, 20-21, 26, 32.
- ¹⁹³ Retso, "The Domestication of the Camel," 208.
- ¹⁹⁴ Bulliet, *The Camel and the Wheel*, 66-67; Nielsen, *Incense in Ancient Israel*, 22-23; Heeren, *Historical Researches*, 346-51, 359; Albright, "Midianite Donkey Caravans," 202-203; Doe, *Southern Arabia*, 50; Beebe, "The Dromedary Revolution," 11; Finkelstein, "Arabian Trade," 247-249; Artzy, "Incense, Camels and Collared Rim Jars," 139; Groom, *Frankincense and Myrrh*, 36-37, 40, 53-54; Retso, "The Domestication of the Camel," 205, 207.
- ¹⁹⁵ Nielsen, *Incense in Ancient Israel*, 22-23.
- ¹⁹⁶ *Ibid.*, 22.
- ¹⁹⁷ Bulliet, *The Camel and the Wheel*, 66-67.
- ¹⁹⁸ Heeren, *Historical Researches*, 346-351, 359.
- ¹⁹⁹ Albright, "Midianite Donkey Caravans," 202-205.
- ²⁰⁰ Doe, *Southern Arabia*, 50.
- ²⁰¹ Saleh, "An Open Question," 376.
- ²⁰² *Ibid.*, 371-372, 376-377.
- ²⁰³ Beebe, "The Dromedary Revolution," 5.
- ²⁰⁴ *Ibid.*, 5.
- ²⁰⁵ *Ibid.*, 1-2, 5, 7.
- ²⁰⁶ *Ibid.*, 20-21.
- ²⁰⁷ Finkelstein, "Arabian Trade," 247-252.
- ²⁰⁸ *Ibid.*, 247-248.
- ²⁰⁹ *Ibid.*, 248.
- ²¹⁰ *Ibid.*, 248-249.
- ²¹¹ Artzy, "Incense, Camels and Collared Rim Jars," 130-131; 139.
- ²¹² *Ibid.*, 121-123, 131, 133.
- ²¹³ *Ibid.*, 123, 137-40.
- ²¹⁴ *Ibid.*, 133-34, 138-40.
- ²¹⁵ Groom, *Frankincense and Myrrh*, 60-61.
- ²¹⁶ Retso, "The Domestication of the Camel," 205-207.
- ²¹⁷ *Ibid.*, 190-199.
- ²¹⁸ *Ibid.*, 206-208.
- ²¹⁹ Abdul Rahman Al-Ansary, "The Arabian Peninsula," in *History of Humanity: Scientific and Cultural Development Vol. 2, From the Third Millennium to the Seventh Century BC*, eds. A.H. Dani and V.M. Masson (New York: Routledge, 1966), 239-244.
- ²²⁰ Albright, "Midianite Donkey Caravans," 202-203.
- ²²¹ *Ibid.*, 203-04.
- ²²² *Ibid.*, 204-205.
- ²²³ *Ibid.*, 202-205.
- ²²⁴ Doe, *Southern Arabia*, 50.
- ²²⁵ *Ibid.*, 13-14, 50.
- ²²⁶ *Ibid.*, 32, 50-51.
- ²²⁷ Bulliet, *The Camel and the Wheel*, 76.
- ²²⁸ *Ibid.*, 67-68, 76-77.
- ²²⁹ Retso, "The Domestication of the Camel," 208-209.
- ²³⁰ *Ibid.*, 208-209.

- ²³¹ Bulliet, *The Camel and the Wheel*, 34.
- ²³² *Ibid.*, 34-35. Caravaneers did not utilize the Bactrian camel as a beast of burden on the Incense Route, since it is a cold-weather, mountain-dwelling animal. References to the Bactrian will therefore only appear occasionally throughout this chapter, when appropriate to the specific context of the discussion.
- ²³³ Sheila Hamilton-Dyer "Camel, Domestication of the," in *The Oxford Companion to Archaeology*, ed. Brian M. Fagan and others (New York: Oxford University press, 1996), 114-115.
- ²³⁴ Bulliet, *The Camel and the Wheel*, 46, 58; Ilse Kohler-Rollefson, "Camels and Camel Pastoralism in Arabia," *Biblical Archaeologist* 56 (1993): 182.
- ²³⁵ Frederick E. Zeuner, *A History of Domesticated Animals* (New York: Harper & Row, 1963), 364-65; Marvin W. Mikesell, "Notes on the Dispersal of the Dromedary," *Southwest Journal of Anthropology* 11 (1955): 242-43; Bulliet, *The Camel and the Wheel*, 49.
- ²³⁶ Bulliet, *The Camel and the Wheel*, 34-35; Bruno Comptoni and Maurizio Tosi, "The Camel: Its Distribution and State of Domestication in the Middle East during the Third Millennium B.C. in light of finds from Shar-I Sokhta," in *Approaches to Faunal Analysis in the Middle East*, eds. Richard H. Meadows and Melinda A. Zeder (Cambridge: Harvard University Press, 1978), 99.
- ²³⁷ Bulliet, *The Camel and the Wheel*, 29, 35.
- ²³⁸ Zeuner, *A History of Domesticated Animals*, 363-64.
- ²³⁹ Michael Ripinsky, "The Camel in Ancient Arabia," *Antiquity* 49 (1975): 295.
- ²⁴⁰ Hilde Gauthier-Pilters and Anne Innis Dagg, *The Camel: Its Evolution, Ecology, Behavior, and Relationship to Man* (Chicago: University of Chicago Press, 1981), 115; Ripinsky, "The Camel in Ancient Arabia," 296; D.T. Potts, *The Arabian Gulf in Antiquity: From Prehistory to the Fall of the Achaemenid Empire*, vol. 1 (Oxford: Clarendon Press, 1990), 81-82.
- ²⁴¹ Potts, *The Arabian Gulf in Antiquity*, 1, 81-82.
- ²⁴² *Ibid.*, 129.
- ²⁴³ Ripinsky, "The Camel in Ancient Arabia," 296.
- ²⁴⁴ Bulliet, *The Camel and the Wheel*, 40-41, 45, 55-56.
- ²⁴⁵ Ripinsky, "The Camel in Ancient Arabia," 297.
- ²⁴⁶ Bulliet, *The Camel and the Wheel*, 60-61; Mikesell, "Notes on the Dispersal of the Dromedary," 236.
- ²⁴⁷ Paula Wapnish, "The Dromedary and Bactrian in Levantine Historical Settings: The Evidence from Tell Jemmeh," in *Animals and Archaeology*, Volume 3, *Early Herders and their Flocks*, eds. Juliet Clutton-Brock and Caroline Grigson. BAR International Series 202, eds. A.R. Hands and D.R. Walker (Oxford: British Archaeological Reports, 1984), 172-173, 175. The four dromedary herd management groups are 1) Camel herders; 2) Large urban camel meat market; 3) Low intensity sale of camels to urban markets; 4) Long distance merchant caravans.
- ²⁴⁸ Wapnish, "The Dromedary and Bactrian," 178.
- ²⁴⁹ Zeuner, *A History of Domesticated Animals*, 352; Beebe, "The Dromedary Revolution," 14.
- ²⁵⁰ Zeuner, *A History of Domesticated Animals*, 352.
- ²⁵¹ Susan Niditch, *Ancient Israelite Religion* (New York: Oxford University Press, 1997), 28.
- ²⁵² *Ibid.*, 28-29.
- ²⁵³ Bulliet, *The Camel and the Wheel*, 77; Joseph P. Free, "Abraham's Camels," *Journal of Near Eastern Studies* 3 (1944): 188.
- ²⁵⁴ Bulliet, *The Camel and the Wheel*, 80.
- ²⁵⁵ *Ibid.*, 46.
- ²⁵⁶ Mikesell, "Notes on the Dispersal of the Dromedary," 241; Zeuner, *A History of Domesticated Animals*, 345; Knapp, *The History and Culture of Ancient Western Asia and Egypt*, 84-85.
- ²⁵⁷ Bulliet, *The Camel and the Wheel*, 62, 69-71.
- ²⁵⁸ Kuhrt, *The Ancient Near East*, Vol. 2, 488; Glenn M. Schwartz, "Pastoral Nomadism in Ancient Western Asia," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 256.
- ²⁵⁹ Bulliet, *The Camel and the Wheel*, 78; Ripinsky, "The Camel in Ancient Arabia," 296.
- ²⁶⁰ Ripinsky, "The Camel in Ancient Arabia," 296.
- ²⁶¹ Bulliet, *The Camel and the Wheel*, 78.

- ²⁶² Ripinsky, "The Camel in Ancient Arabia," 296; Bulliet, *The Camel and the Wheel*, 78, 154, 156; Mikesell, "Notes on the Dispersal of the Dromedary," 241. It is significant that the word "camel" in Assyrian inscriptions is written in both the Sumerian cuneiform sign meaning "beast of the sea[land]," as well as the Akkadian word *udru*, which first comes into use during the reign of the Assyrian king Assurbelkala (r. 1074-1057 BCE) in reference to Bactrians purchased somewhere east of Assyria. While the word *udru* begins to be used for Bactrian camels in Assyrian inscriptions at the start of the eleventh century BCE, later sources specifically mention dromedaries, which occur with increasing frequency after this time and, as Bulliet states, all Akkadian names for dromedaries are loanwords from Arabic.
- ²⁶³ Zeuner, *A History of Domesticated Animals*, 350.
- ²⁶⁴ Mikesell, "Notes on the Dispersal of the Dromedary," 236.
- ²⁶⁵ Bulliet, *The Camel and the Wheel*, 60.
- ²⁶⁶ Mikesell, "Notes on the Dispersal of the Dromedary," 236; Zeuner, *A History of Domesticated Animals*, 351-52.
- ²⁶⁷ Michael Ripinsky, "Camel Ancestry and Domestication in Egypt and the Sahara," *Archaeology* 36 (1983): 27.
- ²⁶⁸ Bulliet, *The Camel and the Wheel*, 62.
- ²⁶⁹ Mikesell, "Notes on the Dispersal of the Dromedary," 236.
- ²⁷⁰ Ripinsky, "Camel Ancestry," 27.
- ²⁷¹ Nielsen, *Incense in Ancient Israel*, 4-7.
- ²⁷² Mikesell, "Notes on the Dispersal of the Dromedary," 241.
- ²⁷³ Albright, *The Archaeology of Palestine*, 206.
- ²⁷⁴ Kuhrt, *The Ancient Near East*, 92-94.
- ²⁷⁵ Albright, *The Archaeology of Palestine*, 206.
- ²⁷⁶ Free, "Abraham's Camels," 192-93.
- ²⁷⁷ Mikesell, "Notes on the Dispersal of the Dromedary," 237-38; Ripinsky, "Camel Ancestry," 25.
- ²⁷⁸ Albright, *The Archaeology of Palestine*, 207-09.
- ²⁷⁹ H. Epstein, *The Origin of the Domestic Animals of Africa*, Vol. 2 (New York: Africana Publishing Corporation, 1971), 568.
- ²⁸⁰ Bulliet, *The Camel and the Wheel*, 62, 149-155; Wapnish, "The Dromedary and Bactrian," 180; Mikesell, "Notes on the Dispersal of the Dromedary," 241; Sheila Hamilton-Dyer, "Camel, Domestication of the," 114-115. Archaeological and linguistic evidence suggests that the Bactrian was domesticated in Iran during the early third millennium BCE, and that it spread to Mesopotamia by about 1800 BCE. No evidence from Syria-Palestine or Arabia exists to indicate the Bactrian's presence in these areas during any period, although Paula Wapnish draws a questionable connection between Bactrians and Egypt based on an inscription found on the Black Obelisk of Shalmaneser III (r. 860-825 BCE). The inscription in question lists a Bactrian among the tribute received from Musri, a name which Wapnish argues referred to Egypt at this time. B. Midant-Reynes and F. Braunstein-Silvestre disagree, however, and they point out that an Indian elephant is depicted on the obelisk as well, and assert that the artist simply confused Egypt with an area in Iran bearing a similar name.
- ²⁸¹ Bulliet, *The Camel and the Wheel*, 35.
- ²⁸² *Ibid.*, 49-50.
- ²⁸³ Gauthier-Pilters and Dagg, *The Camel*, 33, 36, 59.
- ²⁸⁴ Zeuner, *A History of Domesticated Animals*, 339-340, 363.
- ²⁸⁵ *Ibid.*, 363-364.
- ²⁸⁶ Kohler-Rollefson, "Camels and Camel Pastoralism," 185.
- ²⁸⁷ *Ibid.*, 184-186; Andrew Sherratt, "Pastoralism," in *The Oxford Companion to Archaeology*, ed. Brian M. Fagan and others (New York: Oxford University Press, 1996), 558-559.
- ²⁸⁸ Bulliet, *The Camel and the Wheel*, 49.

Notes to Chapter Five

- ²⁸⁹ Retso, "The Domestication of the Camel," 205; Beebe, "The Dromedary Revolution," 29.

- ²⁹⁰ Doe, *Southern Arabia*, 50; Albright, "Midianite Donkey Caravans," 204.
- ²⁹¹ Albright, "Midianite Donkey Caravans," 203-204.
- ²⁹² Rivka Gonen, "The Late Bronze Age," in *The Archaeology of Ancient Israel*, ed. Amnon Ben-Tor, 211-257. Translated by R. Greenberg (New Haven: Yale University Press, 1992), 211.
- ²⁹³ Knapp, *The History and Culture of Ancient Western Asia and Egypt*, 160.
- ²⁹⁴ Kuhrt, *The Ancient Near East*, 320.
- ²⁹⁵ *Ibid.*, 320; James M. Weinstein, "The Egyptian Empire in Palestine: A Reassessment," *Bulletin of the American Schools of Oriental Research* 241 (1981): 8
- ²⁹⁶ Gösta W. Ahlström, *The History of Ancient Palestine* (Minneapolis: Fortress Press, 1993), 225.
- ²⁹⁷ Kuhrt, *The Ancient Near East*, 320-324.
- ²⁹⁸ Ahlström, *The History of Ancient Palestine*, 226.
- ²⁹⁹ Kuhrt, *The Ancient Near East*, 322.
- ³⁰⁰ *Ibid.*, 320.
- ³⁰¹ *Ibid.*, 325.
- ³⁰² *Ibid.*, 326-327.
- ³⁰³ Ahlström, *The History of Ancient Palestine*, 242, 247.
- ³⁰⁴ Kuhrt, *The Ancient Near East*, 320.
- ³⁰⁵ *Ibid.*, 328.
- ³⁰⁶ Nadav Na'aman, "Economic Aspects of the Egyptian Occupation of Canaan," *Israel Exploration Journal* 21 (1981): 181, 185; Weinstein, "The Egyptian Empire in Palestine," 17-18.
- ³⁰⁷ Weinstein, "The Egyptian Empire in Palestine," 22-23.
- ³⁰⁸ Shemuel Ahituv, "Economic Factors in the Egyptian Conquest of Canaan," *Israel Exploration Journal* 28 (1978): 105.
- ³⁰⁹ David C. Hopkins, "Pastoralists in Late Bronze Age Palestine: Which Way Did They Go?," *Biblical Archaeologist* 56 (1993): 202.
- ³¹⁰ Gonen, "The Late Bronze Age," 216-217.
- ³¹¹ *Ibid.*, 217.
- ³¹² Hopkins, "Pastoralists in Late Bronze Age Palestine," 202; Gonen, "The Late Bronze Age," 217.
- ³¹³ Ahituv, "Economic Factors in the Egyptian Conquest," 104-105; Na'aman, "Economic Factors in the Egyptian Occupation," 182-185.
- ³¹⁴ Ahituv, "Economic Factors in the Egyptian Conquest," 97.
- ³¹⁵ Na'aman, "Economic Factors in the Egyptian Occupation," 174-176.
- ³¹⁶ *Ibid.*, 180-181; Kuhrt, *The Ancient Near East*, 329.
- ³¹⁷ Na'aman, "Economic Factors in the Egyptian Occupation," 180-181.
- ³¹⁸ *Ibid.*, 177-178; Ahituv, "Economic Factors in the Egyptian Conquest," 94-96.
- ³¹⁹ Ahituv, "Economic Factors in the Egyptian Conquest," 94.
- ³²⁰ Breasted, *Ancient Records*, Vol. 2, 206; Nielsen, *Incense in Ancient Israel*, 7; Artzy, "Incense, Camels and Collared Rim Jars," 133-135.
- ³²¹ Groom, *Frankincense and Myrrh*, 29.
- ³²² Albright, "Midianite Donkey Caravans," 203-204.
- ³²³ *Ibid.*, 203.
- ³²⁴ *Ibid.*, 203-204.
- ³²⁵ Retso, "The Domestication of the Camel," 189.
- ³²⁶ Albright, "Midianite Donkey Caravans," 203-204.
- ³²⁷ *Ibid.*, 203.
- ³²⁸ Gonen, "The Late Bronze Age," 214; Kuhrt, *The Ancient Near East*, 326-327.
- ³²⁹ Saleh, "An Open Question," 375-377.
- ³³⁰ *Ibid.*, 375-377, 382.
- ³³¹ *Ibid.*, 370-372.
- ³³² *Ibid.*, 371, 375; B.J. Kemp, "Imperialism and Empire in New Kingdom Egypt," in *Imperialism in the Ancient World*, The Cambridge University Research Seminar in Ancient History, eds., P.D.A. Garnsey and C.R. Whittaker (Cambridge: Cambridge University Press, 1978), 13; Nielsen, *Incense in Ancient Israel*, 5.

- ³³³ Saleh, "An Open Question," 379-380.
- ³³⁴ Ibid., 379; D.M. Dixon, "The Transplantation of Punt Incense Trees in Egypt," *The Journal of Egyptian Archaeology* 55 (1969): 58-59.
- ³³⁵ Saleh, "An Open Question," 379.
- ³³⁶ Ibid., 379-380.
- ³³⁷ Ibid., 380-381.
- ³³⁸ Ibid., 381-382.
- ³³⁹ Ibid., 379-382.
- ³⁴⁰ Bulliet, *The Camel and the Wheel*, 65-66.
- ³⁴¹ Ibid., 66.
- ³⁴² Saleh, "An Open Question," 379-380.
- ³⁴³ Bulliet, *The Camel and the Wheel*, 65-66.
- ³⁴⁴ Saleh, "An Open Question," 379; George F. Bass, "Sea and River Craft in the Ancient Near East," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 1426.
- ³⁴⁵ M.C.A. MacDonald, "North Arabia in the First Millennium BCE," 1357; Dixon, "The Transplantation of Punt Incense Trees," 56.
- ³⁴⁶ Saleh, "An Open Question," 379-380.
- ³⁴⁷ Artzy, "Incense, Camels and Collared Rim Jars," 133-134.
- ³⁴⁸ Ibid., 121, 127-130, 132, 139-140.
- ³⁴⁹ Ibid., 132.
- ³⁵⁰ M.C.A. MacDonald, "North Arabia in the First Millennium BCE," 1362; Peter Parr, "Edom and the Hejaz," in *Early Edom and Moab: The Beginning of the Iron Age in Southern Jordan*. Sheffield Archaeological Monographs 7, ed. Piotr Bienkowski (Sheffield: J.R. Collins Publications, 1992), 42-43; William G. Dever, "Timna," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 217-218.
- ³⁵¹ Artzy, "Incense, Camels and Collared Rim Jars," 139; Gonen, "The Late Bronze Age," 216-217.
- ³⁵² Hopkins, "Pastoralists in Late Bronze Age Palestine," 204-210.
- ³⁵³ Ibid., 210.
- ³⁵⁴ Ibid., 200.
- ³⁵⁵ Artzy, "Incense, Camels and Collared Rim Jars," 133; Peter Parr, "Contacts between North West Arabia and Jordan in the Late Bronze and Iron Age," in *Studies in the History and Archaeology of Jordan I*, ed., Adnan Hadidi (Amman: Department of Antiquities, 1982), 127-133; Parr, "Edom and the Hejaz," 41-46.
- ³⁵⁶ Parr, "Contacts between North West Arabia and Jordan," 131-132.
- ³⁵⁷ Ibid., 129-130.
- ³⁵⁸ Ibid., "Edom and the Hejaz," 41-42, 44-45.
- ³⁵⁹ Ibid., 42-43.
- ³⁶⁰ Ibid., 43; Finkelstein, "Arabian Trade," 242.
- ³⁶¹ Finkelstein, "Arabian Trade," 248-249, 251-252.
- ³⁶² Ibid., 248-249.
- ³⁶³ Ibid., 250-251.
- ³⁶⁴ Parr, "Edom and the Hejaz," 43.
- ³⁶⁵ Saleh, "An Open Question," 372.
- ³⁶⁶ George F. Bass, "Sea and River Craft in the Ancient Near East," 1425.
- ³⁶⁷ Ibid.
- ³⁶⁸ D.T. Potts, "Distant Shores: Ancient Near Eastern Trade with South Asia and Northeast Africa," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 1460. Bulliet, *The Camel and the Wheel*, 50-51, 55-56.
- ³⁶⁹ Bulliet, *The Camel and the Wheel*, 50, 56.
- ³⁷⁰ Nielsen, *Incense in Ancient Israel*, 6.
- ³⁷¹ Saleh, "An Open Question," 379-380.
- ³⁷² Dixon, "The Transplantation of Punt Incense Trees," 56.

- ³⁷³ Dixon, "The Transplantation of Punt Incense Trees," 64.
³⁷⁴ Saleh, "An Open Question," 381.
³⁷⁵ Ibid.
³⁷⁶ Ibid.; George F. Bass, "Sea and River Craft in the Ancient Near East," 1425-1426.
³⁷⁷ Saleh, "An Open Question," 381-382.
³⁷⁸ Bulliet, *The Camel and the Wheel*, 65-66.
³⁷⁹ Saleh, "An Open Question," 382.
³⁸⁰ Ibid., 380-381.
³⁸¹ Dever, "Timna," 217.
³⁸² Saleh, "An Open Question," 380-381.
³⁸³ Breasted, *Ancient Records*, Vol. 2, 108; Saleh, "An Open Question," 370-374.
³⁸⁴ Wapnish, "The Dromadery and Bactrian," 172-173, 175, 178.
³⁸⁵ Dever, "Timna," 217.
³⁸⁶ Parr, *Edom and the Hejaz*, 42.
³⁸⁷ Finkelstein, "Arabian Trade," 247-252.
³⁸⁸ Wapnish, "The Dromadery and Bactrian," 172-173.

Notes to Chapter Six

- ³⁸⁹ Al-Ansary, "The Arabian Peninsula," 243.
³⁹⁰ Retso, "The Domestication of the Camel," 189, 191.
³⁹¹ Albright, "Midianite Donkey Caravans," 203.
³⁹² Van Beek, "Ancient Frankincense-Producing Areas," in *Archaeological Discoveries in South Arabia*, eds. Richard LeBaron Bowen and Frank P. Albright. American Foundation for the Study of Man, Vol. 2 (Baltimore: The Johns Hopkins Press, 1958), 140.
³⁹³ Gus W. Van Beek, "Sheba," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 18; Doe, *Southern Arabia*, 75.
³⁹⁴ Van Beek, "Sheba," 18.
³⁹⁵ Ibid., Gus W. Van Beek, "Marib," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 417.
³⁹⁶ Al-Ansary, "The Arabian Peninsula," 244.
³⁹⁷ Doe, *Southern Arabia*, 69.
³⁹⁸ Ibid., 73.
³⁹⁹ Ibid., 73-74.
⁴⁰⁰ Gus Van Beek, "Qataban," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 383-384.
⁴⁰¹ Doe, *Southern Arabia*, 70-72; Al-Ansary, "The Arabian Peninsula," 243.
⁴⁰² Van Beek, "Qataban," 383-384; Doe, *Southern Arabia*, 71-72.
⁴⁰³ Al-Ansary, "The Arabian Peninsula," 244; Raymond D. Tindel, "Himyar," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 27; Doe, *Southern Arabia*, 51.
⁴⁰⁴ Tindel, "Himyar," 27; Raymond D. Tindel, "Zafar," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 386.
⁴⁰⁵ Tindel, "Himyar," 27.
⁴⁰⁶ Gus Van Beek, "Hadramaut," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 452; Richard LeBaron Bowen, "Ancient Trade Routes in South Arabia," in *Archaeological Discoveries in South Arabia*, eds. Richard LeBaron Bowen and Frank P. Albright. American Foundation for the Study of Man, Vol. 2 (Baltimore: The Johns Hopkins Press, 1958), 42.
⁴⁰⁷ Van Beek, "Hadramaut," 452; Doe, *Southern Arabia*, 97.
⁴⁰⁸ Van Beek, "Ancient Frankincense-Producing Areas," 141.

- ⁴⁰⁹ Doe, *Southern Arabia*, 99-100; Leila Badre, "Shabwa," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 13; Bowen, "Ancient Trade Routes in South Arabia," 42.
- ⁴¹⁰ Herodotus, *Histories*, 3:107.
- ⁴¹¹ Theophrastus, *Enquiry into Plants*, 9:4:4-6; Groom, *Frankincense and Myrrh*, 62.
- ⁴¹² Theophrastus, *Enquiry into Plants*, 9:4:2.
- ⁴¹³ Ibid.
- ⁴¹⁴ Groom, *Frankincense and Myrrh*, 64; Strabo, *Geography*, 16:4:2-4.
- ⁴¹⁵ Strabo, *Geography*, 16:4:2-4.
- ⁴¹⁶ Ibid.
- ⁴¹⁷ Ibid.
- ⁴¹⁸ Groom, *Frankincense and Myrrh*, 66-68.
- ⁴¹⁹ Ibid., 70-71; Strabo, *Geography*, 16:4:19.
- ⁴²⁰ Pliny, *Natural History*, 12:51-71.
- ⁴²¹ Ibid., 12:51-54.
- ⁴²² Ibid.
- ⁴²³ Pliny, *Natural History*, 12:66-70.
- ⁴²⁴ Ptolemy, *Geography*, 6:7.
- ⁴²⁵ Groom, *Frankincense and Myrrh*, 88; Nielsen, *Incense in Ancient Israel*, 19; Aloys Sprenger, *Die Alte Geographie Arabiens Als Grundlage Der Entwicklungsgeschichte Des Semitismus* (Bern: Publisher unknown, 1875; reprint, Amsterdam: Meridian Publishing Co., 1966), map facing back cover.
- ⁴²⁶ Groom, *Frankincense and Myrrh*, 88; Sprenger, *Die Alte Geographie Arabiens*, map facing back cover.
- ⁴²⁷ Groom, *Frankincense and Myrrh*, 89, 94-95.
- ⁴²⁸ G.W.B. Huntingford, ed., *The Periplus of the Erythraean Sea* (London: The Hakluyt Society, 1980), 23-24.
- ⁴²⁹ Huntingford, *Periplus*, 27.
- ⁴³⁰ Ibid., 29-36; Sprenger, *Die Alte Geographie Arabiens*, map facing back cover.
- ⁴³¹ Bowen, "Ancient Trade Routes in South Arabia," 41.
- ⁴³² Ibid.; Bowen, "Irrigation in Ancient Qataban (Beihan)," 60-61.
- ⁴³³ Bowen, "Irrigation in Ancient Qataban (Beihan)," 60-62.
- ⁴³⁴ Van Beek, "Ancient Frankincense-Producing Areas," 139, 140-141.
- ⁴³⁵ Ibid., 140-141.
- ⁴³⁶ Van Beek, "Frankincense and Myrrh," *The Biblical Archaeologist* 23 (1960): 75.
- ⁴³⁷ Van Beek, "The Rise and Fall of Arabia Felix," *Scientific American* 221 (Dec. 1969): 40-41; "Frankincense and Myrrh," 90.
- ⁴³⁸ F. Nigel Hepper, "Arabian and African Frankincense Trees," *The Journal of Egyptian Archaeology* 55 (1969): 66-67.
- ⁴³⁹ Ibid., 71.
- ⁴⁴⁰ Ibid.
- ⁴⁴¹ Doe, *Southern Arabia*, 32, 49.
- ⁴⁴² Ibid.
- ⁴⁴³ Ibid., 49.
- ⁴⁴⁴ Nielsen, *Incense in Ancient Israel*, 21-22.
- ⁴⁴⁵ Van Beek, "Ancient Frankincense-Producing Areas," 139.
- ⁴⁴⁶ Bowen, "Ancient Trade Routes in South Arabia," 41.
- ⁴⁴⁷ Al-Ansary, "The Arabian Peninsula," 240; Gus Van Beek, "Hajar Bin Humeid," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 457.
- ⁴⁴⁸ Al-Ansary, "The Arabian Peninsula," 239-242.
- ⁴⁴⁹ Peter Parr, "The Arabian Peninsula before the Time of Islam," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 162.

- ⁴⁵⁰ Al-Ansary, "The Arabian Peninsula," 242; James A. Sauer and Jeffrey A. Blakely, "Archaeology along the Spice Route of Yemen," in *Araby the Blest: Studies in Arabian Archaeology*. The Carsten Niehbur Institute of Ancient Near Eastern Studies Publications 7, ed. D.T. Potts (Copenhagen: Museum Tusulanum, 1988), 100.
- ⁴⁵¹ Sauer and Blakely, "Archaeology along the Spice Route," 91, 100.
- ⁴⁵² *Ibid.*, 102-103, 105-106.
- ⁴⁵³ *Ibid.*, 102.
- ⁴⁵⁴ Van Beek, "Marib," 417-418.
- ⁴⁵⁵ Van Beek, "Qataban," 384.
- ⁴⁵⁶ Van Beek, "Timna'," 215-216.
- ⁴⁵⁷ Van Beek, "Qataban," 384; "Hajar Bin Humeid," 457-478.
- ⁴⁵⁸ Van Beek, "Hajar Bin Humeid," 457-458.
- ⁴⁵⁹ *Ibid.*, 458; Gus Van Beek, ed., *Hajar Bin Humeid: Investigations at a Pre-Islamic Site in South Arabia*, American Foundation for the Study of Man, Vol. 3 (Baltimore: The Johns Hopkins Press, 1969), 356-359.
- ⁴⁶⁰ Badre, "Shabwa," 13-14.
- ⁴⁶¹ Van Beek, "Hureidha," 124-125.
- ⁴⁶² Van Beek, "The Rise and Fall of Arabia Felix," 39-40.
- ⁴⁶³ Van Beek, "Hajar Bin Humeid," 458; Van Beek, *Hajar Bin Humeid: Investigations at a Pre-Islamic Site*, 356-360.
- ⁴⁶⁴ Van Beek, *Hajar Bin Humeid: Investigations at a Pre-Islamic Site*, 359.
- ⁴⁶⁵ Bulliet, *The Camel and the Wheel*, 66.
- ⁴⁶⁶ Albright, "Midianite Donkey Caravans," 202-203.
- ⁴⁶⁷ *Ibid.*, 203.
- ⁴⁶⁸ Badre, "Shabwa," 13.
- ⁴⁶⁹ Parr, "Edom and the Hejaz," 42.

Notes to Chapter Seven

- ⁴⁷⁰ Saleh, "An Open Question," 370-372, 375; See Chapter 5, pp. 81-82.
- ⁴⁷¹ Saleh, "An Open Question," 379-380; See Chapter 5, pp. 81-82.
- ⁴⁷² Bulliet, *The Camel and the Wheel*, 65-66; Saleh, "An Open Question," 379-380.
- ⁴⁷³ Saleh, "An Open Question," 379-380.
- ⁴⁷⁴ Parr, "Edom and the Hejaz," 42.
- ⁴⁷⁵ Saleh, "An Open Question," 380; See Chapter 5, pp. 82-84, 91-93.
- ⁴⁷⁶ Nielsen, *Incense in Ancient Israel*, 5; Saleh, "An Open Question," 379-380.
- ⁴⁷⁷ Saleh, "An Open Question," 379-382.
- ⁴⁷⁸ Sa'ad Abdul Aziz Al-Rashid, "Mecca," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 445.
- ⁴⁷⁹ Crone, *Meccan Trade*, 6.
- ⁴⁸⁰ *Ibid.*, 6-7.
- ⁴⁸¹ Bulliet, *The Camel and the Wheel*, 105, and endnote 40.
- ⁴⁸² Groom, *Frankincense and Myrrh*, 192-193.
- ⁴⁸³ *Ibid.*, 193.
- ⁴⁸⁴ Al-Ansary, "The Arabian Peninsula," 241.
- ⁴⁸⁵ Gauthier-Pilters and Dagg, *The Camel*, 33, 36, 59; Zeuner, *The History of Domesticated Animals*, 364; Bulliet, *The Camel and the Wheel*, 49-50, 56; See Chapter 4, pp. 70-73.
- ⁴⁸⁶ Kohler-Rollefson, "Camels and Camel Pastoralism," 184-186.
- ⁴⁸⁷ Bulliet, *The Camel and the Wheel*, 47.
- ⁴⁸⁸ Colin Renfrew, "Trade as Action at a Distance: Questions of Integration and Communication," in *Ancient Civilizations and Trade*, ed. Jeremy A. Sabloff and C.C. Lamberg-Karlovski. School of American Research Advanced Seminar Series (Albuquerque: University of New Mexico Press, 1975), 38.

- ⁴⁸⁹ Thomas W. Beale, "Early Trade in Highland Iran: A View from a Source Area," *World Archaeology* 5 (Oct. 1973): 141-145.
- ⁴⁹⁰ *Ibid.*, 141.
- ⁴⁹¹ *Ibid.*, 141-143.
- ⁴⁹² Renfrew, "Trade as Action at a Distance," 41-44; Beale, "Early Trade in Highland Iran," 143.
- ⁴⁹³ Beale, "Early Trade in Highland Iran," 141-142.
- ⁴⁹⁴ *Ibid.*, 143.
- ⁴⁹⁵ Saleh, "An Open Question," 370-372.
- ⁴⁹⁶ Norman Yoffee, "The Economy of Ancient Western Asia," *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 1387-88, 1390; Beale, "Early Trade in Highland Iran," 143.
- ⁴⁹⁷ Al-Ansary, "The Arabian Peninsula," 240.
- ⁴⁹⁸ Beale, "Early Trade in Highland Iran," 142.
- ⁴⁹⁹ Saleh, "An Open Question," 379-380.
- ⁵⁰⁰ Karl Polanyi, "Traders and Trade," in *Ancient Civilizations and Trade*, ed. Jeremy A. Sabloff and C.C. Lamberg-Karlovski. School of American Research Advanced Seminar Series (Albuquerque: University of New Mexico Press, 1975), 134.
- ⁵⁰¹ *Ibid.*, 134.
- ⁵⁰² *Ibid.*, 144.
- ⁵⁰³ Renfrew, "Trade as Action at a Distance," 53-54.
- ⁵⁰⁴ Polanyi, "Traders and Trade," 135.
- ⁵⁰⁵ Saleh, "An Open Question," 379-380; Al-Ansary, "The Arabian Peninsula," 240.
- ⁵⁰⁶ Knapp, *The History and Culture of Ancient Western Asia and Egypt*, 172.
- ⁵⁰⁷ Saleh, "An Open Question," 379-380; See Chapter 5, pp. 88-89.
- ⁵⁰⁸ Bulliet, *The Camel and the Wheel*, 65-66; Saleh, "An Open Question," 379-380.
- ⁵⁰⁹ Meyers, ed., *The Oxford Encyclopedia*, maps on pp. 427, 428.
- ⁵¹⁰ Groom, *Frankincense and Myrrh*, map on page 192.
- ⁵¹¹ See Chapter 5, pp. 80-82.
- ⁵¹² Saleh, "An Open Question," 379-380.
- ⁵¹³ *Ibid.*, 380.
- ⁵¹⁴ Beale, "Early Trade in Highland Iran," 142-143.
- ⁵¹⁵ *Ibid.*, 142-145.
- ⁵¹⁶ Bulliet, *The Camel and the Wheel*, 86-87.
- ⁵¹⁷ *Ibid.*, 86-87, 90-96.
- ⁵¹⁸ Yagil, *The Desert Camel*, 20-21, 23.
- ⁵¹⁹ *Ibid.*, 7.
- ⁵²⁰ Albright, "Midianite Donkey Caravans," 202-203.
- ⁵²¹ Doe, *Southern Arabia*, 69; Peter Parr, "Dedan," in *The Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (New York: Oxford University Press, 1997), 133.
- ⁵²² Renfrew, "Trade as Action at a Distance," 42-43, 44.
- ⁵²³ Saleh, "An Open Question," 379-380.
- ⁵²⁴ See this chapter, pp. 122-123.
- ⁵²⁵ Michael C. Astour, "Overland Trade Routes in Ancient Western Asia," in *Civilizations of the Ancient Near East*, ed. Jack M. Sasson and others (New York: Charles Scribner's Sons, 1995), 1403.
- ⁵²⁶ Sauer and Blakely, "Archaeology along the Spice Route," 91, 100, 102-103, 105-106.

Notes to Chapter Eight

- ⁵²⁷ See Chapter 3, pp. 36-38.
- ⁵²⁸ See Chapter 4, pp. 64-65, 67-68.
- ⁵²⁹ Zeuner, *A History of Domesticated Animals*, 35; See Chapter 4, pp. 61-64.
- ⁵³⁰ Wapnish, "The Dromedary and Bactrian," 175-178; See Chapter 4, pp. 66-67.

- ⁵³¹ Mikesell, "Notes on the Dispersal of the Dromedary," 241; Bulliet, *The Camel and the Wheel*, 78, 156; See Chapter 4, pp. 65-66.
- ⁵³² Potts, *The Arabian Gulf in Antiquity*, 129.
- ⁵³³ Bulliet, *The Camel and the Wheel*, 40-41, 45, 55-56.
- ⁵³⁴ *Ibid.*, 49-50; See Chapter 4, pp. 68-71.
- ⁵³⁵ Saleh, "An Open Question," 370-372, 375, 379-380; See Chapter 5, pp. 76-78, 78-80, 88-89.
- ⁵³⁶ Bulliet, *The Camel and the Wheel*, 65-66; Saleh, "An Open Question," 379; See Chapter 5, pp. 80-82.
- ⁵³⁷ Saleh, "An Open Question," 379-380.
- ⁵³⁸ See Chapter 5, pp. 80-82, 88-89.
- ⁵³⁹ Saleh, "An Open Question," 380-382.
- ⁵⁴⁰ See Chapter 5, pp. 77-80, 92-94.
- ⁵⁴¹ Wapnish, "The Dromedary and Bactrian," 178.
- ⁵⁴² Parr, "Edom and the Hejaz," 41-42, 44-45; "Contacts between North West Arabia and Jordan," 129-132; See Chapter 5, pp. 94-96.
- ⁵⁴³ See Chapter 5, pp. 92-94.
- ⁵⁴⁴ See Chapter 6, pp. 100-103.
- ⁵⁴⁵ Groom, *Frankincense and Myrrh*, 89, 94-95; See Chapter 6, pp. 103-106.
- ⁵⁴⁶ Bowen, "Ancient Trade Routes in South Arabia," 41.
- ⁵⁴⁷ Van Beek, "Ancient Frankincense-Producing Areas," 139, 140-141.
- ⁵⁴⁸ See Chapter 6, pp. 106-107.
- ⁵⁴⁹ Albright, "Midianite Donkey Caravans," 202-203.
- ⁵⁵⁰ See Chapter 6, pp. 106-108, 110.
- ⁵⁵¹ Van Beek, "The Rise and Fall of Arabia Felix," 39-40.
- ⁵⁵² Bulliet, *The Camel and the Wheel*, 66.
- ⁵⁵³ Van Beek, *Hajar Bin Humeid: Investigations at a Pre-Islamic Site in South Arabia*, 359.
- ⁵⁵⁴ See Chapter 7, pp. 115-117.
- ⁵⁵⁵ Beale, "Early Trade in Highland Iran," 141-143; See Chapter 7, pp. 118.
- ⁵⁵⁶ Beale, "Early Trade in Highland Iran," 141-143; See Chapter 7, pp. 118-119.
- ⁵⁵⁷ Beale, "Early Trade in Highland Iran," 142; Polanyi, "Traders and Trade," 144.
- ⁵⁵⁸ Beale, "Early Trade in Highland Iran," 142; See Chapter 7, pp. 119-122.
- ⁵⁵⁹ Beale, "Early Trade in Highland Iran," 142-143; Bulliet, *The Camel and the Wheel*, 86-87, 90-96; See Chapter 7, pp. 122-123.
- ⁵⁶⁰ Renfrew, "Trade as Action at a Distance," 42-43, 44.
- ⁵⁶¹ See Chapter 7, pp. 123-125.

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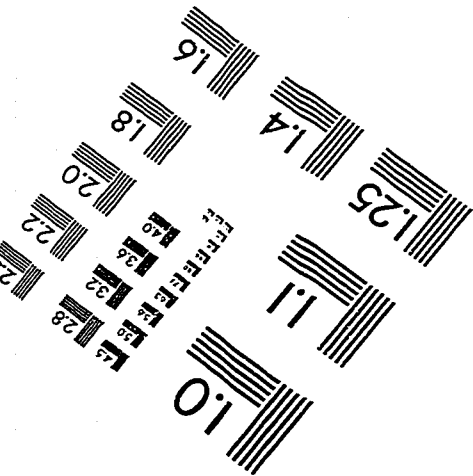
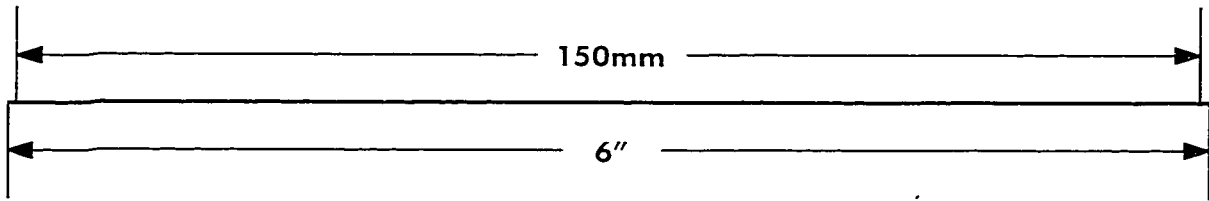
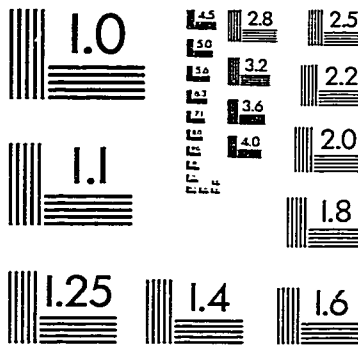
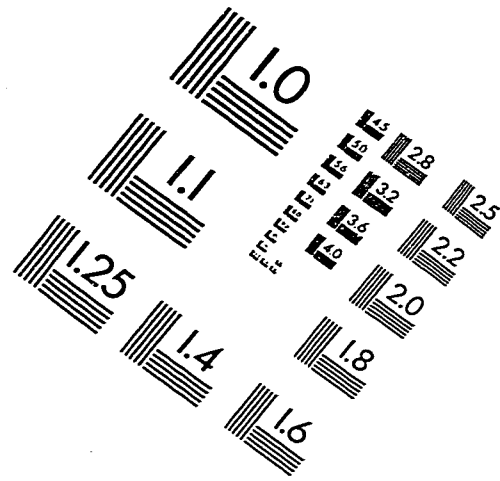
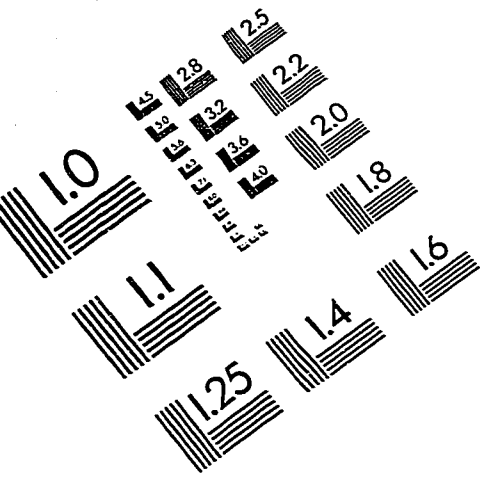
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