Indo-Greek Trade in the Late Classical and Early Hellenistic Period

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Abstract

India was a land of mystery and wonders for the ancient Greeks, a distant land filled with marvellous beasts and exotic plants. This thesis investigates the commercial interaction between the Greek world and India during the fourth century BCE. It examines what potential products from India were making their way into the Greek world during this period, with an emphasis on the famed Indian spices, and their function in Greek society. The thesis then considers the means and routes by which these products were transported through an analysis of written, archaeological, and numismatic evidence. Finally, the impact (if any) of Alexander's campaign and the actions of the Diadochi on Indo-Greek trade is explored. Ultimately, this thesis concludes that the political and social upheaval of Alexander’s campaign did not have any significant direct impact on Indo-Greek trade.
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Abbreviations


**BDAG**  

**BNJ**  

**BNP**  

Diehl  

**FGrH**  
F. Jacoby (1923-). *Die Fragmente der griechischen Historiker*, Berlin; Leiden: Brill.

**IGCH**  

Lewis & Short  

**LSJ**  

Monier-Williams,  

**OGIS**  

**OLD**  

**P.Cair.Zen**  

**PGM**  

**PSI**  

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Introduction

The famous Greek polymath, Aristotle, depicts trade in an extremely negative light in his treatise, *Politics*. His objection towards this commercial exchange stems from the acquisition of wealth being the end product of the exchange, which he deems unnatural and having no limit.\(^1\) However, trade has held an important position in Greek societies for many centuries. Athens relied heavily upon grain imports from Egypt, the Black Sea region, and Syracuse. Trade provided the lifeblood for many economies throughout the Eastern Mediterranean and throughout the Indian Ocean, allowing for the exchange of goods and services to net an income for the ruling and the merchant class. Famously, the Silk Road connected the spices and luxurious goods of Southern Asia to Europe. The origins of the Silk Road are traditionally dated from the second century BCE. But what of the networks before that? Was it possible for the Greek world to be connected to India before this date? This thesis will examine whether there was commerce between the Greek and Indian markets, which products travelled along these routes, and how the political and social upheaval of the fourth century BCE impacted Indo-Greek trade.

Fourth century BCE Indo-Greek trade is an area of scholarship that lacks significant analysis. Peter van Alfen wrote his PhD dissertation on the commodities of Levantine-Aegean trade in the sixth to fourth century BCE, which inevitably covers Indian products. This dissertation is an impressive catalogue of the products present in Levantine-Aegean trade, but the limitations of the scope meant that some Indian products were only discussed briefly and

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\(^1\) Arist. *Pol.* 1256a-1257b; Meikle (1996), 139-40: Meikle notes the difference Aristotle makes between natural and unnatural trade. For natural trade, Aristotle notes that natural trade has an end, which Meikle demonstrates as C-M/M-C (C = commodity, M = money). For unnatural trade, wealth is the end product, which does not end, demonstrated by Meikle as M-C/C-M. Wealth is the ultimate goal and the acquisition of wealth never seems to have an end.
primarily considered their relevance to Levantine-Aegean trade. Jean-François Salles has written on Achaemenid and Hellenistic trade in the Indian Ocean and touches on the trends which demonstrate the trade but does not go into significant detail about this commercial interaction.\textsuperscript{2} Klaus Karttunen has written on India and the Hellenistic world covering Indo-Hellenic relations throughout the Hellenistic period as well as a book that outlines India in early Greek literature.\textsuperscript{3} Both of these books use an extensive array of Greek and Indian sources. Inevitably, trade is touched on, but not through the lens of the fourth century BCE. Many other authors who write on Indo-Mediterranean trade focus primarily on the trade in the Roman period.\textsuperscript{4} However, there is little scholarship that deals specifically with the fourth century BCE.

This examination of Indo-Greek trade investigates which Indian spices were coming to the Greek world in the fourth century BCE. While other Indian products have minimal presence in our sources, Indian spices are by far the most prominent Indian product recorded by them. Gold is frequently mentioned by many surviving sources as a product of India, but using it as the main focus of this investigation would come with some significant problems. Firstly, in order to have accurate information about Indian gold, we would need metrological analysis of gold artifacts, which there appears to be none. Secondly, the appearance of Indian gold does not necessitate trade. It is entirely possible that the gold could have entered the Greek world through Alexander’s plundering of the Achaemenid royal treasury. Thirdly, gold is not unique to India. There are many other gold deposits in the Near East that would be more accessible to the Greeks. Pearls are another possible commodity from India. However, the available body of evidence would be inadequate for this study. Katia Schörle points out that although there is

\textsuperscript{2} Salles (1996a).
\textsuperscript{3} For India and the Hellenistic period, see Karttunen (1997). For India in early Greek literature, see Karttunen (1989).
\textsuperscript{4} Miller (1969); Raschke (1973); Casson (1984); Crone (1987). Both Crone and Raschke wrote dissenting opinions regarding some of the products that were being exported from India. The most notable is cinnamon and cassia, which is the subject of Chapter 2.
some evidence of pearl oyster shells entering the Mediterranean before the Roman period, there is no evidence of pearls themselves before this period.\(^5\) Staple goods such as legumes and rice escape the notice of our sources, and this makes it difficult – if not impossible – to identify whether or not they were reaching the Greek world. Our sources were more interested in the exotic spices of India and were more inclined to discuss them. Furthermore, Jean-Francois Salles rightly points out that Indian spices were the main Indian export during the Classical and Hellenistic period. For the Greeks, the main evidence this thesis will examine is coinage, which is an excellent vehicle for investigating commercial activity. Coinage is both a medium of exchange and a commodity in its own right, making it a strong indicator of commercial interaction. The appearance of a coin on its own does not immediately suggest economic interaction, as there are a variety of reasons that a coin might appear somewhere.\(^6\) However, the sheer volume of coins that are found in all over the east implies that there were commercial interactions between the Greeks, or those who were in contact with the Greeks, and the region in which they are found.

The fourth century BCE provides an interesting period in which to investigate Indo-Greek trade. It is a time of great change throughout the Greek world and the East. From the Greek perspective, there is significant transformation and upheaval. The Athenian empire has been dissolved after its defeat at the hands of the Spartans in the Peloponnesian war. Then, in the later stages of the fourth century, the Greek world rapidly expands with Alexander III’s

\(^{5}\) Schörle (2015), 43-45: Pearls are noted to have come from the Indian sea and the coasts of Armenian, Persia, Susa, and Babylon by Chares of Mytilene (\textit{FGrH} 125 F3) and Theophrastus noted that they came from India and certain islands in the Red Sea (Theophr. \textit{Lap.} 36). While both of these authors write in the fourth and third century BCE, there is nothing else to suggest that the Greek world would have been getting pearls by the fourth century BCE.

\(^{6}\) van Alfen (2012), 12: van Alfen points out that other interstate mechanisms, such as tribute and warfare, cloud the use of coins as evidence for long distance trade. However, in our case, coins being found in the east are excellent evidence. The further east a coin travels, the likelihood of it reaching that destination through commercial activity increases. This is due to the minimal direct interaction the Greeks had with regions in Central Asia before Alexander’s campaign.
invasion of the Achaemenid empire and subsequent expedition to India. From the Indian perspective, at the end of the century, Chandragupta had established the Mauryan empire, which was the first of its kind in Indian history. By the end of the fourth century, the Indians and the Greeks have gone from distant peoples to neighbours in an extremely short period of time. This change in the geo-political sphere makes it possible to assess whether the great political upheaval of the period had any serious impact on the trade networks that connected the Greek world and India.

The evidence used for this investigation spans a wide variety of sources and disciplines. Ancient authors from the Archaic period of Greece up to the Roman Imperial period provide the foundation for examining Indo-Greek trade. Herodotus’ *Histories* provides us with some excellent preliminary information on the Greek perception of India before Alexander’s expedition. He also hints at some of the products that could have been coming from India, but our most important source is Theophrastus. Although he wrote his *History of Plants* in the third century BCE, much of his subject matter comes from the fourth century BCE. Furthermore, Theophrastus’ *On Odours* provides us with the most information regarding the primary use of Indian spices, which was as an aromatic. Given the period he wrote in and his emphasis on plants, he is a worthy source to consider. Pliny the Elder also provides us with an extensive corpus of information regarding various relevant topics in his *Natural Histories*. Even though he writes in the first century CE, the information that he has collected preserves information from the fourth century BCE. Another author that follows a similar vein to Pliny is Strabo. While Strabo’s *Geographika* differs significantly from *Natural Histories* in genre, it does preserve knowledge from the fourth century BCE and discusses the subject of India. The Hippocratic corpus is the oldest medical text that will be considered. With the earliest works being composed in the fifth and fourth century BCE, this corpus gives us the earliest look into
what possible medicinal uses these Indian spices had while giving us a good indicator of whether the Greeks were using the product. Dioscorides’ *De Materia Medica* provides us with valuable information regarding the location of plants. While he focuses primarily on the medicinal applications of plants, Dioscorides nonetheless offers important information regarding where plants were thought to have come from and how they were used in the ancient world. Although Galen was a prolific medical writer, his work will only be considered when relevant. This is due to him writing in the second century CE and medicinal qualities of Indian products is not the major focus of this thesis. These authors are by no means the only ancient authors that consider these subject matters. The Alexander historians, Arrian, Quintus Curtius Rufus, and Justin, discuss various aspects of Indo-Greek trade, and are among our major literary sources for Alexander’s campaigns. There are also scattered references by authors such as Sappho, Sophocles, Celsus, Apuleius, Philostratus, and Plutarch which are worth investigating, as these give us some small glimpses into how ancients interacted with Indian spices separated from the context of other author’s dedicated texts.

Papyri provide us with further literary evidence that is independent from traditional literary sources. The most important amongst these papyri is the *Periplus Maris Erythraei*. This document, written in the first century CE, provides us with a first-hand account of trade in the Indian Ocean. Although little is known about the author, it is believed that he was a merchant himself, or had mercantile ties, and was based in Egypt. Other papyri have references to India and Indian products, which provide us with primary evidence for Indian products

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7 We may also include Plutarch and Diodorus in the category of ‘Alexander historians’. But Alexander is not the primary subject of their works. Plutarch, while he has a dedicated section on Alexander, writes about many different subjects in his *Parallel Lives*. Diodorus’ *Bibliotheca* covers history from the beginning of history up to Diodorus’ own time.
8 Schoff (1912); Huntingford (1980); Casson (1991): These three authors provide translations of the *Periplus Maris Erythraei* with Casson providing the Greek. Only one manuscript survived in the *Codex Palatinus Graecus* 398, fols. 40v-50v. See Casson (1991) 5-10 for a discussion on the text and author.
reaching Egypt. Epigraphical evidence is scant for Indo-Greek trade, but there are a few indications from third century epigraphical sources that are worthy of investigation. A letter from Seleucus I Nicator to Miletus records that cinnamon, cassia, and costus were gifted to the temple at Didyma.\textsuperscript{10} All three of those products have an association with India. Given the organic nature of the products that are investigated, archaeological evidence is scarce. However, there are a few archaeological surveys which provide evidence worth considering.\textsuperscript{11} Numismatic evidence from the coin hoards demonstrate that the Greeks were active participants in the trade networks and that these networks stretched as far as India. An Athenian tetradrachm was found in Shaikhan Dehri,\textsuperscript{12} which was the farthest east a coin of this type has ever been found. From what has been seen of this hoard, the evidence does not suggest that this was a contamination.

Unfortunately, there is not a significant amount of material from India to investigate. Panini’s \textit{Ashtadhyayi} provides our earliest evidence for Indian awareness of the Greeks. The \textit{Major Rock Edicts} of Aśoka record some of the relations between the Hellenistic kings and the Mauryan empire. Aside from these, there is little more evidence. However, linguistic analysis demonstrates that many of the Greek words derive from the Indian word for the product. This linguistic evidence is crucial for determining whether or not a product came from India.

Trade also demonstrates how interconnected the ancient world was. Classical scholarship does have a tendency to fixate on specific cultures in isolation. While it does allow a focused examination of a culture, it is at the cost of viewing the wider geo-political context it existed in. Commercial activity provides us the opportunity to view the ancient world in a

\textsuperscript{10} \textit{OGIS} 214; Welles (1934), 34-5.
\textsuperscript{11} Namdar et al. (2013); Kuçan (1995).
\textsuperscript{12} Bopearachchi (2017).
While the Greeks themselves viewed India as the edge of the world, there was far more interaction between the Greek world and India. States and empires almost always engage in commercial exchange with foreign entities, whether it is to export their own natural wealth for profit or to import resources that they lack. By no means should we expect that there was a direct route between the Greek world and India. Rather, a series of interconnected trading networks could transport these Indian products to the Greek world. There is no evidence that suggests that there were traders going from India all the way to the Greek world or vice versa in the fourth century BCE. Resources that were traded were not always necessary goods; often the aristocratic class desired exotic luxury items. The ancient elites did tend to try and demonstrate their wealth and status through the use of expensive and hard-to-come-by goods. What could show this more than goods obtained from the perceived edge of the world?

This thesis will examine Indo-Greek trade in the fourth century BCE in three key areas. Firstly, it will determine which Indian products were making their way into the Greek world. Secondly, it will identify the trading networks were being used to transport these products and what was the nature of the relationship. Thirdly, it will examine the impact of Alexander’s campaigns and the actions of the Diadochi on this commercial relationship. Through this exploration, we can see that the Greek world was connected with India and that the edge of the world, for the Greeks at least, was not as far away as one might initially think. An examination of the Greek perception of India is necessary to have a better understanding of the spices in India and the nature of the trade. Cinnamon and cassia are two famous products from India, Ceylon, and Southeast Asia. Although both these spices make appearances in Greek literature, scholars disagree about whether or not ancient cinnamon and cassia can be identified as modern
cinnamon and cassia. Other Indian spices that are well attested in the Roman period need investigating to determine if they arrived in the Greek world in the fourth century BCE. There are three major trade routes along which these products could travel: overland through Central Asia, over sea to the Persian Gulf, and by circumnavigating the Arabian Peninsula and to the Red Sea. All over the east, Greek coins from the fourth century and earlier have been found in hoards. These hoards demonstrate that the Greeks were not passive agents within the trade network that connected their markets with India. All of these components for trade between the Greek world and India need to be considered in the context of the early Hellenistic milieu. More specifically, how this fundamental shift in the geo-political atmosphere of the east impacted these trade networks.

An economic perspective shines some interesting light on Alexander’s campaigns in the east. While many scholars tend to focus on his achievements, it is important to contextualize Alexander’s impact and understand what impact he had on commerce. In economic terms, R. D. Milns notes that Alexander had an impact on the grain prices during the 330s and 320s BCE. However, it is worth exploring whether or not Alexander’s campaigns had any tangible impact on Indo-Greek trade. His expedition to India is the first, and most obvious, place to consider. It was the first time a substantially large number of Greeks entered India and had some far-reaching consequences. Alexander’s coin reforms are another innovation that is worth investigating for its impact on Indo-Greek trade. Finally, the foundation of Alexandria, a city that became crucial for trade between India and Mediterranean in the subsequent centuries, must be examined to determine the extent Alexander contributed to its foundation and future.

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13 Schoff (1920): Raschke (1973); Crone (1987); Haw (2017): These scholars raise doubts as on the ability to identify ancient cinnamon and cassia with their modern counterparts. Miller (1969); Casson (1984); Amigues (1996); Salles (1996a); van Alfen (2002): These scholars maintain that ancient cinnamon and cassia was the same as modern cinnamon and cassia.
prosperity. The actions of the Diadochi are also worth investigating. These men were prolific in not only their political actions, but also their economic innovations and activities. Thus, it is worth exploring whether or not they had any serious impact on Indo-Greek trade.
Greek Perceptions of India

It would be prudent, before discussing the extent that the Greeks and Indians were commercially engaging with each other, to understand how the Greeks perceived India before Alexander the Great’s invasion. The analysis of Greek perception will focus on the four main Greek sources; Scylax of Caryanda, Hecataeus, Herodotus, and Ctesias, who were the main Greek authorities on India from which we may be able to construct how the Greeks perceived the subcontinent. These four authors are not the only possible sources that demonstrate the Greek perception. Indeed, the mythic tradition of Dionysus, the philosophical tradition of Democritus, and other non-historical/ethnographical sources may supplement the four key authors to help us in understanding how the Greeks viewed India. Evidence for what the Indians knew of the Greeks is scarce before Alexander’s invasion and wrought with chronological and geographical problems which makes it difficult to say anything with certainty. From this context, we will have a frame of reference when investigating the nature of the commercial relationship between the Greek world and India.

Before Alexander’s invasion, Scylax was the most well-known Greek to have visited India, having been commissioned to do a survey of the Indus River by Darius I of the Achaemenid Empire. Although Herodotus provides the fullest account of the voyage, it appears that Scylax’s journey was not well known by other Greek sources, since mentions of his journey scarce amongst fifth to fourth century BCE sources. Aristotle notes that Scylax’s comments on the political structure of India, suggesting that the kings in India are far superior to their subjects. Scylax’s writings do appear to be an important basis for some of Strabo’s

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15 Hdt. 4.44.1-3.
16 Arist. Pol. 1332b12.
work. By far the greatest abundance of references to Scylax’s work come from other later sources, and they suggest that there was a written work that authors could cite.\textsuperscript{17} But the work appears to have been rare and was not well-circulated.\textsuperscript{18} The general consensus amongst scholars pertaining to the route of Scylax’s voyage is that he sailed down the Indus River, but this view is not unanimously held. Some scholars propose that Scylax sailed down the Ganges instead.\textsuperscript{19} This argument centres around the description given by Herodotus, where Scylax; “… sailed down the river toward the east and the sunrise until they came to the sea…” \textsuperscript{20} Furthermore, proponents of this point of view argue that what is usually translated as the Indus should in fact be translated as an Indian river.\textsuperscript{21} The Greek reads Ἰνδὸν ποταμόν, which translates as the Indian river. This phrase has been associated with the Ganges by Arrian.\textsuperscript{22} Furthermore, the time given by Herodotus for finishing the voyage makes more sense if Scylax had set out from the Ganges.\textsuperscript{23} If this argument is accepted, then there are some serious implications for how far east was known to some of the Greeks. In saying that, this view has not been adopted by a majority of scholarship.

Objections to the Ganges theory of Scylax’s voyage stem from a variety of reasons. The direction can be explained by Scylax sailing from a tributary into the Indus. Kaspatyros in Gandhara has been identified as possibly being the city of Peshwar.\textsuperscript{24} Furthermore, the context of the passage would make it strange that Scylax would have sailed down the Ganges. Herodotus states that Darius subjugates the Indians after Scylax’s circumnavigation. If Scylax

\textsuperscript{17} Allain (1977), 61; \textit{FGRH} 709 F 7a = Phil. \textit{VA}. 3.47: Philostratus states outright that Scylax wrote about his voyage.
\textsuperscript{18} Karttunen (1997), 110.
\textsuperscript{20} Hdt. 4.44.
\textsuperscript{21} Panchenko (1998), 214-6; Hdt. 4.44.1.
\textsuperscript{22} Arr. \textit{Anab}. 5.4.1: “The river Indus is the greatest of all rivers in Asia and Europe except for the Ganges, also an Indian river.”
\textsuperscript{23} Hdt. 4.44.2.
\textsuperscript{24} Corcella (2007), 613.
did in fact sail down the Ganges, then it must be accepted that the Achaemenid Empire would have expanded to the Ganges. Herodotus clearly states that Darius subjugated the Indians and made use of this sea, stating; “After this circumnavigation, Darius subjugated the Indians and made use of the sea.” Of particular note is the “τῇ θαλάσσῃ ταύτῃ”, which is used after saying that Darius subjugated the Indians. Clearly, Herodotus was referring to the sea that was traversed and if Scylax had sailed down the Ganges, then it would seem that one would have to hold that the Achaemenids made use of the Bay of Bengal. But there is no significant evidence for Persian influence in that region. In addition to this, it appears Alexander did not consider it as part of the Achaemenid Empire. What was probably the case was that Herodotus simply got the direction of the river wrong. Dmitri Panchenko’s use of later sources to help prove his point is also questionable. Onesiocritus is often attacked for being a liar, notably claiming to be the commander of the fleet of Alexander when he is only the helmsman. Megasthenes ventured far enough in order to gather information regarding the Ganges, but his work does not survive to this day so it is difficult to assert anything concrete. Pliny’s and Aelian’s accounts of the river probably drew from more relevant knowledge from their period than from the Greek travellers from the sixth to fourth century BCE. All in all, it is more feasible that Herodotus was incorrect about the direction that Scylax travelled downriver, or that Scylax travelled down a tributary, than that Scylax sailed down the Ganges. It has been noted that he did not use Scylax’s work when writing his Histories, possibly misinterpreting the report that he was using. Ultimately this argument, while interesting, is unpersuasive and

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25 Hdt. 4.44.3: “Μετὰ δὲ τούτους περιπλώσαντας Ἰνδόως τε κακαπηρήσατο Δαρείος καὶ τῇ θαλάσσῃ ταύτῃ ἔρρητο.”
26 Magee et al. (2005), 724-5, 731-7.
27 Strabo 15.1.28 calls him the helmsmen of the incredible, suggesting that he was the worst of Alexander’s companions in lying.
28 Pliny does not cite Scylax at all during his discussion of the Indus and the Ganges, according to the authorities he cites for book 6.
29 Allain (1977), 61.
thus it must be concluded that the Greeks who were aware of Scylax’s journey only knew of India up to the extent of the Achaemenid Empire.

Furthermore, Alexander himself may well have only been aware of Scylax’s journey through an intermediary, since it is plausible that Macedonia did not have access to his work. Beliefs that were reportedly held by Alexander, in particular that the Indus River was the source for the Nile, suggest that he may not have been aware of the specifics of Scylax’s voyage. Alexander possibly would have been aware of Scylax’s journey through his education and continued communication with Aristotle, who was aware of Scylax’s account, as evident from his comment in Politics. So, Alexander may have been indirectly aware of Scylax’s journey, but to what extent is not clear and whether Aristotle had informed him of this or not. However, Aristotle does seem to have been a clear influence on Alexander’s preconceived notions regarding India. He led Alexander to believe that the edge of the world would be visible over the Hindu Kush. It may be reasonable to suspect that Alexander was somewhat aware, but only on the surface. The notion that the Indus was the source of the Nile persisted until Alexander and his companions proved otherwise. If Alexander was well aware of Scylax’s journey, then it may be reasonable to suspect that this myth could have been debunked. However, such a conclusion would be tenuous, since we are lacking in Scylax’s work and what fragments that do discuss his journey are scant. Thus, it might be expected that the majority of Greeks would have been unaware of the contents of Scylax’s journey in the fourth century BCE, aside from what is recorded within Herodotus. Possibly, only those who were learned might have been aware of Scylax’s journey or had access to learned tutors, such as Alexander.

31 Arist, Pol. 7.13.1-2, 1332b12.
33 Strabo 15.1.25; Stoneman (2019), 39.
Hecataeus was another Greek historian that dealt with India in his works. Modern estimates put his writings around 500 BCE, which is partly affirmed by Dionysus of Halicarnassus’ comment that he wrote earlier than the Peloponnesian war.\textsuperscript{34} According to Herodotus, he was a prominent member in the city of Miletus, having been mentioned twice in relation to conferences held by Aristagoras.\textsuperscript{35} His stated methods indicate that he was an educated man as his work sets out to try to rationalise the mythic tradition as it seems to him.\textsuperscript{36} Although speculation concerning the specific details that were held within his book would be a problematic endeavour, there is some suggestion amongst scholars that his work contained significant amounts of information regarding geography and ethnography.\textsuperscript{37} However, the historical context of his work is contested, as all the evidence outside of Herodotus’ fragments suggests that he was not writing a history.\textsuperscript{38}

Ancient authors seem to judge that Herodotus owes a significant debt to Hecataeus for his work. This is due to the similarities between Hecataeus and Herodotus, which early modern historians tried to explain those similarities were a result of forgery.\textsuperscript{39} He wrote two works in which fragments remain, that of the Periodos ges and Genealogies. The Periodos ges would be the most probable candidate for where Hecataeus’ comments on India lie since it contains a volume dedicated to Asia. According to Agathachides, Hecataeus and Basilis wrote fairly extensively on the east, presumably including India as Basilis was known to have written on India, but later than Hecataeus.\textsuperscript{40} Much of his comments on India situate around certain groups

\begin{footnotes}
\item[34]\textit{FGrH} 1 T 17a = Dionysus of Halicarnassus \textit{De Thucydide}, 5; Grant (1970), 18; Pearson (1939), 25.
\item[35]Hdt. 5.36, 5.124-6; Pearson (1939), 25-6.
\item[36]\textit{FGrH} 1 F 1a: \textquoteleft\textquoteleft Εκαταῖος Μιλήσιος ἑδὲ μυθεῖται· τάδε γράφω, ὡς μοι δοκεῖ ἀληθέα εἶναι· οἱ γὰρ Ἑλλήνων λόγοι πολλοὶ τα καὶ γελοῖοι, ὡς ἐμοὶ φαίνονται, εἰσίν\textquoteright\textquoteright
\item[37]Karttunen (1989), 70.
\item[38]\textit{Ibid.}
\item[39]Pearson (1939), 32-3; Grant (1970), 30, 38, 52: Grant points out aspects of Herodotus’ work that reflects Hecataeus.
\item[40]\textit{FGrH} 1 T 14.
\end{footnotes}
that live there, of which some are unattested in other sources, making it difficult to ascertain what he actually wrote.\textsuperscript{41} It is unclear as to how well known Hecataeus was amongst other contemporary Greeks, but it does seem that he could have been fairly well known. A charge laid by Porphyry indicates this by stating that Herodotus lifts word for word from Hecataeus regarding the phoenix bird, the hippopotamus, and the hunting of crocodiles.\textsuperscript{42} There is also a possibility that the map shown by Aristagoras to King Cleomenes of Sparta could have been influenced by Hecataeus.\textsuperscript{43} Hecataeus appears to have believed that Europe and Asia were of the same size.\textsuperscript{44} His work had a negative reception according to later writers. Strabo criticises him for retelling falsehoods, which is inevitable given the genre of Hecataeus’ writings.\textsuperscript{45} It may be impossible for modern scholars to judge Hecataeus’ work since it exists entirely in fragments, with a majority in an epitome of Stephanus of Byzantium.\textsuperscript{46}

Turning to Herodotus, he provides the earliest extant account of India from the Greek world. Writing in the fifth century BCE, his work provides some of the earliest perceptions of the subcontinent. Since the work survives in its entirety, there is a significantly larger amount of detail regarding India than what can be elicited from Scylax and Hecataeus. Most of his information was gathered through hearsay and reports, not from any actual travel to India on his part. In terms of the content of \textit{the Histories}, much of India is presented as a fantastical land filled with wondrous people, beasts, and plants. The most famous part of his account is his description of the ants (\textit{μύρμηκες}) that dig holes in the sand and bring out gold.\textsuperscript{47} While there is some suggestion amongst scholars of what this animal could be, it is more feasible that this

\begin{footnotes}
\item[41] FGrH 1 F 297, 299: Much of the specifics of his \textit{Periodos ges} is recorded by Stephanos, though many of them are just short sentences saying where Hecataeus placed them.
\item[42] FGrH 1 F 324a.
\item[43] Hdt. 5.49: Pearson (1939), 28: the \textit{πίναξ} was a map with the entire world engraved on it. The idea of it coming from Hecataeus is not mentioned in Herodotus but is a speculation by Pearson.
\item[44] Fowler (2006), 35.
\item[45] Strabo 8.3.9.
\item[47] Hdt. 3.102.2: \textit{η̃ δε̃ νάμμος ἡ ἀνωφερομένη ἐστὶ̃ χρυσίτης.}
\end{footnotes}
was a fabrication Herodotus made up or even heard from someone else. Other aspects that seem more fantastical in relation to India are the accusations of cannibalism, such as with the Padeai, who kill the sick to not spoil the meat and the Kallutai, who eat their parents.\textsuperscript{48} This motif is employed throughout Herodotus’ description of far and savage lands, ascribing cannibalism to the androgapagoi (a tribe in the Black sea), the Issedonens of the Southern Urals, and the Massagetae of Central Asia.\textsuperscript{49} While the truth of Herodotus’ assertions is unclear, it is more probable than not that it was a fictional account or a misunderstanding of foreign funerary practices.\textsuperscript{50} Although many of Herodotus’ descriptions are fantastical and fictional, it would be wrong to completely discount what has been written by him. Numerous passages provide accurate information. An interesting passage from Herodotus outlines the administration of the Achaemenid provinces and what they paid in tribute. India is mentioned as the largest province and pays 360 talents, the most according to Herodotus.\textsuperscript{51} This sort of information was probably obtained through communication with an Achaemenid official or record and not a dubious source.\textsuperscript{52} Herodotus also indicates that India is a land of immense wealth, particularly due to its abundance of gold. While he dedicates significant time to discussing the gold-digging ants and how gold was gathered by that method, he does say that it was also collected from rivers and was mined, which were significantly more common methods that the Greeks would be familiar with.\textsuperscript{53} Possibly, this is an explanation as to why he spent more time describing the fantastical ants versus the more mundane mining and river collection. To sum up Herodotus’ India, it is a place that is different from the Greek mainland, a place strange and weird to Greek sensibilities.

\textsuperscript{48} Hdt. 3.99 (Padeai) 3.38.4 (Kallutai).
\textsuperscript{49} Hdt. 4.106; 4.26; 1.216.
\textsuperscript{50} Murphy & Mallory (2000), 390-4.
\textsuperscript{51} Hdt. 3.94-5: while other provinces pay more in overall tribute such as the 17th province (The Paricanians and Asiatic Ethopians) which pays 400 talents, these are likely composite of other nations. This is under the reign of Darius I.
\textsuperscript{52} Marincola (2003), 649 note 31; Cook (1987), 81-2.
\textsuperscript{53} Hdt. 3.106.
Interestingly, there may have been some direct contact with Indians in the fifth century BCE, albeit in a military context. While most of what has been analysed so far has been indirect contact, Herodotus records that Indians were present in the army of Xerxes during his invasion of 480 BCE which strongly suggests there was some direct contact before Alexander. These Indians were outfitted with clothes of cotton, reed bows, and arrows tipped with iron. He also mentions that the Indians remained with Mardonius after Xerxes left, and suggests that they are skilled combatants. The presence of Indians in the Persian army at this time is supported by the presence of Indian figures on the Apadana staircase, as throne bearers on the Tripylon, the Hall of 100 columns, and the Achaemenid king’s tombs from Darius I to Artaxerxes III. This would not include India as a whole, rather it would probably include Gandhara, Thatagus, and/or Hindush. While there is archaeological evidence of Persian influence in the region found at Akra, it is unclear whether or not the Persians would have been able to exert enough influence over the region to levy troops to fight in Greece. It is possible then that they may have been able to raise Indian troops for his campaigns.

There are some passing references in other Greek literature that refers to India. Xenophon also mentions India and the interaction with the Persians in his *Cyropaedia*. While it discusses the life of Cyrus (600-530 BCE) and is fictitious in some respects, it does give the impression that the audience for the text would have some assumed knowledge of India’s existence. There is a passing mention of India in Sophocles’ *Antigone*. Written around 441

54 Hdt. 7.65.
55 Hdt. 8.113; The Indians are selected after the Immortals and along with the Medes, Sacae, Bactrians as well as the best men from other nations. The implication here is that skilled warriors are left behind.
56 Magee et al. (2005), 713-4.
57 ibid., 724-5.
58 Xen. Cyr. 2.4.4-8, 1.1.3-4.
59 Miller (1914), vii-xiii.
BCE, this demonstrates that Athenians at this time had an understanding of India as a place.\textsuperscript{60} The context of the passage also indicates that there may have been some form of commercial activity and this was known to the Athenians.\textsuperscript{61} We can draw this conclusion from the reasonable assumption that a writer of tragedy would use information that their audience would be familiar with. It would seem odd to think that a tragedian would use an obscure reference for a competition. Furthermore, amongst the fragments of Sophocles, there are suggestions that there are lost works that mention India or things that pertain to India. There is a reference to India as the source of amber and another reference to the gold-digging ants, though they are placed in Ethiopia.\textsuperscript{62} Sophocles was roughly contemporaneous with Herodotus and probably would have had access to Herodotus’ work, based on comments made by Aristophanes in The Acharnians.\textsuperscript{63} The date of Sophocles’ lost tragedy, The Ethiopians, is unclear, so it could possibly be written before Herodotus, which suggests that it is preserving a tradition that puts gold-digging ants in Ethiopia, or it was written after Herodotus, suggesting that Sophocles is moving the position for some effect. Albeit this purpose is unclear due to the play being lost aside from a few fragments. Aristotle also makes multiple references to India throughout his works, particularly concerning the political system, the theory that India and the Pillars of Heracles are connected (which Aristotle dismisses), and that India is one of the edges of the world.\textsuperscript{64}

Ctesias, a Greek physician to Artaxerxes II in the fifth century BCE, wrote another work that describes India, called the Indica. Working in the Persian royal court, Ctesias would

\textsuperscript{60} Soph. Ant. 1037.
\textsuperscript{61} Soph. Ant. 1036-7: “Make profit, trade in Lydian electrum, pure gold of India; that’s your chief desire.”
\textsuperscript{62} For the amber, see Plin. NH. 37.40: hic [Sophocles] ultra Indiam fieri [electrum] dixit e lacrimis meleagridum avium Meleagrum deflentium. For the gold-digging ants see Radt (1914), 127. F29. Both Karttunen (1989), 87 and Lloyd-Jones suggest that this refers to the gold-digging ant in Hdt 3.102.2.
\textsuperscript{63} Ar. Ach. 524-8: This appears to parody the start of the Persian and Greek hostilities given in Hdt. 1.1-4.
\textsuperscript{64} Arist. Cael. 298a; Pol. 1332b.12; Mete. 362b.
have had access to the documents of the Achaemenid Empire as well as access to those that came to the Persian court. Access to royal documents is more prevalent in his other work, the Persica, than in the Indica, possibly indicating that his interactions with Indians at the Achaemenid court and those who had interacted with Indians were the major sources for the Indica.\(^{65}\) The extent to which this work would have circulated in the Greek world is uncertain, but by the Roman period, it appears that it was known by Roman historians to a degree. Perhaps it may be possible to assert that it was well known, given the quantity of the discussion of his work by other ancient authors.\(^{66}\) The Indica comes under significant scrutiny for being unreliable by later authors.\(^ {67}\) Aristotle attacks Ctesias for his description of elephants and the way they procreate.\(^ {68}\) It is unclear whether this criticism by Aristotle was from his personal experience examining elephants or it just seemed absurd to him.\(^ {69}\) Strabo dislikes the fictitious aspects of Ctesias’ accounts of India and Arrian wrote that no one found him reliable at all.\(^ {70}\) Later, Lucian also attacks him for lying.\(^ {71}\) While many ancient authors are critical of the accuracy of Ctesias’ work, the existence of the work indicates some of the Greek perceptions of India, either through the claims made by him or the subsequent criticisms of him. Ctesias’ Indica was possibly not completely fictitious in its account. The famous one-horned ass appears to be a description of the Indian rhinoceros, the Tibetan chiru, or the Tibetan kiang.\(^ {72}\) Thus, Ctesias should not be dismissed out of hand for being entirely fictitious, even though many things he does write about are quite sensational. Much of the critique of Ctesias stems from the

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\(^{65}\) Diod. 2.32.4.  
\(^{66}\) Bigwood (1989), 303.  
\(^{67}\) ibid., 302-3.  
\(^{68}\) Arist. HA 2.2 736a2, 3.22 523a26, 8.28 606a8.  
\(^{69}\) For a discussion on Aristotle’s elephants see Romm (1989), 566-75. Though Bigwood offers a different argument, suggesting that Aristotle is indebted to Ctesias for the description of the elephant. See Bigwood (1993) 537-555.  
\(^{70}\) Strabo 1.2.35; Arr. Anab. 5.4.2; Arr. Ind. 3.6.  
\(^{71}\) Luc. Ver. Hist. 1.3; Lucian is parodying literary liars in this work so the truth of what is said may not be accurate, it nonetheless demonstrates that Ctesias comes under criticism.  
\(^{72}\) Lavers (2001), 350: Lavers does seem to suggest that it is likely an ass-like animal that Ctesias refers to.
idea that he is writing history, which is measured in how true it is.\footnote{Meeus (2016), 173.} This characterisation does appear to be accurate as according to what fragments remain, Ctesias was applying some form of a historical theoretical framework.\footnote{Nichols (2011), 59, F45.51.} It is worth keeping in mind that this seems to be a pattern amongst ancient authors, that they would attack their predecessors for being untruthful. This has happened famously to Herodotus by many subsequent historians.\footnote{Meeus (2016), 181-5.} So, a blind acceptance of the criticisms against Ctesias as an accurate reflection of his work is problematic at best.

However, some of the more mundane and probably more accurate aspects of the 	extit{Indica} were ignored for the more fantastical aspects which caught the eye of other ancient authors. There is some suggestion that Ctesias’ work contained descriptions of traditions amongst Indians, which were in all probability obtained through communication with Indian travellers.\footnote{Nichols (2011), 19-20.} Though some scholars suggest that the inclusion of fantastical aspects demonstrate that Ctesias’ intended to entertain rather than to be factual.\footnote{Romm (1992), 86.} While possible, it seems rather difficult to ascertain intent through the fragments that remain. Thus, it seems that the knowledge of India from Ctesias does appear to be concerned with the fantastical, which is later disproved when there is more frequent and direct contact with India.

In the mind of the readers of Ctesias, India would have been a land of wonder and marvels. Such marvels included elephants, monkeys with four-cubit long tails, roosters of enormous size, a parrot (bittakos), and the martichora, an animal with the head of a human, the body of a lion, and the tail of the scorpion. There are also dog-headed humans, the Pygmies,
people that live up to 200 years old, and a one horned ass among other marvels. While a majority of these are fantastical, it indicates how the Greeks reading the work of Ctesias would have viewed his work. Much of this is taken from what Ctesias reportedly had written, thus there is a cloud of uncertainty that hangs over these fragments. Although J. Bigwood suggests that there is some accuracy in Photius’ summary of Ctesias’ work, it would only be a limited amount from the original work and much of the information could be lost and inaccurately transmitted in the epitome.

The mythical tradition of Dionysus and the philosophical tradition of Democritus need not detain us for long. For Dionysus, the attribution to India does appear later in the fourth century BCE. While there was a tradition of Dionysus coming from the east, it was not until Alexander’s campaign that we see Dionysus being associated with India. Arrian does recount that many contacts before his expedition hailed Alexander as the third son of Zeus to come to India, with Dionysus and Heracles as the other two. Moreover, Arrian records that Indians made use of this tradition in order to gain leniency with Alexander. Indeed, Alexander may have been more than ready to accept a tacit confirmation of his divinity. However, Brian Bosworth suggests that this was an embellishment from the vulgate sources. This does appear to be more Greek propaganda than a lasting tradition. Dionysus was never a god that was associated with the Agread house and appears to have been adopted later on. All of this

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79 Bigwood (1989), 308-316.
81 Curt 8.10.1; *Metz Epit.* 34 : Arrian notably is silent about this comment as he just notes that the meeting took place. See *Arr. Anab.* 4.22.6. Possibly Arrian is trying to distance Alexander from his supposed godhood. A notable example of this is in his recording of the events at Siwah.
82 *Arr. Anab.* 5.2.2: Alexander granted freedom to the people of Nysa after being convinced of their connection to Dionysus. See Bosworth (1996), 123.
83 Bosworth (1996b), 123 n. 115.
84 *ibid.*, 120; Stoneman (2019), 91: Megasthenes does suggest that Indian kingship was a gift from Dionysus, but this could be part of Megasthenes’ effort to emphasise the link between Dionysus, Heracles, and Alexander.
suggests that the attribution of Dionysus’ journey to India was a later addition, probably made during Alexander’s expedition to India, and then reinforced by later authors. The tradition of Heracles venturing to India was considered less trustworthy by the Greeks. His association with the East comes predominately from his freeing of Prometheus, who was chained to a rock in the Caucasus mountains. This would not have been extended to the Indian Caucasus mountains. The later associations of Dionysus and Heracles may have been an attempt to rationalise the new world that the Greeks found themselves in. For the tradition of Democritus, this does appear to be a later addition. All the authors that we have that comment on Democritus going to India come from the Roman period.\textsuperscript{85} While it is possible that they are using a pre-existing tradition, which could be the case if a fragment of Theophrastus is to be believed,\textsuperscript{86} the significant lack of basis in extant Greek literature raises some concerns. Since there is a trope within Greek ethnographic theory that the East is associated with philosophical knowledge, it may be that later sources included India in Democritus’ travels as their world became smaller.\textsuperscript{87} Even the similarities between Greek and Indian philosophical thought should not be considered as evidence for any interaction.\textsuperscript{88} The same objections to Democritus can be applied to Pythagoras’ supposed travel to India.\textsuperscript{89}

Ultimately, what the Greeks actually knew about India before Alexander was quite scarce and often filled with fantastical accounts that were not true in actuality. Primarily, the

\textsuperscript{85} See Karttunen (1997), 28-9. For more on Megathenes and Dionysus see Bosworth (1996), 125; \textit{FGrH} 715 F4, F12.

Democr. P16b = Diog Laert. 9.35-6; Democr. P17 = Suda Δ.447; Democr. P18 = Hippol. Ref. 1.13.1; Ael. \textit{VH}. 4.20; Str. 15.1.38.

\textsuperscript{86} See Ael. \textit{VH}. 4.20: “διὰ ταῦτα τοι καὶ Θεόφραστος αὐτὸν ἐπῄνει, ὅτι περιῄει κρείττονα ἀγερμόν ἀγείρων Μενελάου καὶ Ὀδυσσέως.” Importantly, this fragment only suggests that Democritus travelled far not that he went to India.

\textsuperscript{87} Karttunen (1989), 108-10; Arora (1982), 139.

\textsuperscript{88} Karttunen (1989), 108-119: Furthermore, Greek perceptions of barbarians may suggest that they were less inclined to adopt eastern philosophical ideas. Perhaps, they adopted them and rebranded them as original Greek ideas, but this would be extremely difficult to prove.

\textsuperscript{89} Philostr. \textit{VA}. 6.12.
Greeks held knowledge about the North-Western part of India and, until Megasthenes, they were not aware of the entire subcontinent. For the Greeks, anything further east was a barren, uninhabited wasteland. If Pliny’s account is accurate, then Taprobane may have been known to Scylax, but it is unlikely that most people in the Greek world would have known this since Scylax’s work was somewhat obscure.\(^90\) India, in the psyche of the Greeks, was a far eastern place that held many wonders and was completely different from the Greek world. This is also a trope within Greek literature. Any accurate information would have come either through the works of Scylax, conversations with travelling Indians, or the Achaemenid Empire’s records. This does change after Alexander’s expedition and the Greek world coming into more regular direct contact.

For the average Greek, they would have been unaware of the more learned texts. Probably, any knowledge that they may have had of India would have come through more cultural works, such as Sophocles’ *Antigone*. This strongly suggests the possibility that by the end of the fifth century BCE, Athenians were aware that there was commercial interaction with India. To what extent the lower echelons of Greek society had access to works other than those designed to entertain is unknown. Possibly, the image of India within the Greek psyche could have been influenced by rumours and hearsay, as well as interactions between other cultures. The most obvious contender for this were the Persians of the Achaemenid Empire, but also potentially the Egyptians and Phoenicians. Those who were educated or of the wealthy aristocratic class could have had access to more academic texts.

The Greek perception of India had striking similarities with Ethiopia and often had close association with that land. Aeschylus places the Eastern Ethiopians as neighbours of the

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\(^{90}\) Bosworth (1996b), 122-3.
Indians. Prometheus Bound strongly suggests that India is the neighbour of Eastern Ethiopia. These plays indicate that, in early fifth century BCE, there was an idea that India and Ethiopia were neighbours, specifically the Eastern Ethiopians and the Indians. Such a thought is not traceable back to the early writings of Homer and Hesiod on Ethiopians. Although Homer does mention that some Ethiopians live where the sun sets and the sun rises, a more probable explanation is that this refers to the idea that they reside at the edges of the world. This is also further supported by Mimnermus' elegy where the rising sun is put in Ethiopia as well as Herodotus saying that there are Ethiopians below Egypt and to the East. Many ancient authors seem to have thought that there was a land link between Ethiopia and India. Famously, Alexander believed that the Indus was the source of the Nile, possibly led to believe this by Aristotle, until he and his companions discovered otherwise. In addition to this, some of the more fantastical tribes are placed in India and Ethiopia by various authors. Notably the Sciapodes, Pygmies, Kynokephaloi, and the Troglodytes. Scylax and Ctesias place these groups in India while Hecataeus, Antiphon, Herodotus, and Strabo place these groups in Africa.

Various authors ascribe similar qualities to both Ethiopians and Indians. Both are said to be long-lived as well as very attractive people. Herodotus places Ethiopians not only south

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91 Aesch. Supp. 284-6: In noting this, there are some editions that do not include India in it, possibly owing to the nature of the manuscripts. Sommerstein (2008) includes Ἰνδάς at the beginning of line 284. Johanssen & Whittle (1980) also include Ἰνδάς. Mazon (1920) has Ἰνδοῦς. Smyth (1926) has τοῖσας instead of Ἰνδάς, which is also included in Tucker (1889), who suggests that it is from a notation of the original (ex adnotatione ad descripta ortum esse). P. 67. The idea presented does not appear to be unreasonable given how the Greeks perceived far off lands.
92 Aesch. Prom. 807-809.
94 Hom. Ody. 1.22-4; Arora (1982), 131.
95 Mimnermus fr. 10 (Diehl); Karttunen (1989), 136; Todd (1945), 50, n.8.
96 Arora (1982), 132; Tarn (1923), 402-3.
97 Arora (1982), 134 n. 23-4.
98 Scylax places the Sciapodes and the Troglodytes in India. Ctesias places all of them in India. Hecataeus places the Sciapodes and the Pygmies in Ethiopia and Southern Egypt respectively. Antiphon places the Sciapodes in Libya. Herodotus puts the Kynokephaloi in Africa. Strabo has the Troglodytes as an Ethiopian tribe.
of Egypt, but also in the East. From what we understand of Herodotus, he may be talking about the people of Gedrosia.\(^9\) The similarity in appearance may also have led to some confusion. The dark-skinned features are shared by both Ethiopians and Indians, possibly leading to the similarities between the two. This should be unsurprising if one takes the etymology of the Greek \(\text{Αἴθιοψ}\) as “burnt face”, which would be a clear reference to the dark skin of both the Ethiopians – which this word is derived from – and Indians.\(^{10}\) According to Herodotus, Indians and Ethiopians are similar in the manner in which they ejaculate semen.\(^{11}\) Herodotus’ view does not hold for very long as Aristotle criticises this later in the fourth century BCE.\(^{12}\) Interestingly, this refers specifically to Southern Indians who were never conquered by Darius. Ancient authors also indicate that both are comparable in the flora and fauna. Among the flora, some aromatics found in Arabia and Ethiopia are found in India as well.\(^{13}\) Most notably is cinnamon, which will be the subject of a subsequent chapter. Animals found in the rivers of Ethiopia and Egypt are also found within the rivers of India according to Aristobulus and Onesicritus.\(^{14}\) Herodotus places many of these humans and animals within Ethiopia, particularly the dog-headed human, the one-horned ass, and headless people, whereas Ctesias places all of these in India.\(^{15}\) Another specific instance is the aforementioned gold-digging ants, which are located by Herodotus in India but in Ethiopia by Sophocles. Such are the similarities that ancient authors often compare the two with each other, with India being viewed as superior.\(^{16}\) Perhaps this is due to the unfamiliarity with India, and the Greek tendency to

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\(^9\) This is not stated outright but rather a possible location based upon the location of the seventeenth province in Hdt. 3.94.

\(^{10}\) Romm (1992), 50: An opposing view is put forward by Beekes (1995) that suggests that this term is not derived from “Burnt Faces”.

\(^{11}\) Hdt. 3.101.2: Interestingly, Herodotus mentions the similarity in semen which suggests that this was a familiar idea to other Greeks.

\(^{12}\) Arist. \(\text{HA}\). 523a.

\(^{13}\) The most notable of this is cinnamon, which is the subject of a later chapter. Strabo 15.1.22 states that South India has similar aromatics to Ethiopia and Arabia.

\(^{14}\) Arora (1982), 136.

\(^{15}\) Hdt. 4.191; Karttunen (1989), 137 n.106.

\(^{16}\) Arora (1982), 136-7.
view far off places – particularly for far eastern regions – as more fabulous and fantastical than their own land.

Although the comparisons can be seen through the ancient authors, it would be incorrect to think that the Eastern Ethiopians were in India. Herodotus places the Asiatic Ethiopians with the Parikanians, indicating that they were probably a neighbour of India.\textsuperscript{107} The significance of this close relationship between Ethiopia and India is that it seems quite plausible that people could mix up the two. Disagreement in our sources does seem to demonstrate this and many of the conceptions remain in later writings, even with the expansion of knowledge during the Roman period. Both Virgil and Ovid use “\textit{Indi}” in some of their work to stand in for Ethiopia.\textsuperscript{108} Ultimately, the significance of this with regard to commercial interaction is that the Greeks were probably unaware or confused about where some exotic products came from, leading to confusion regarding the origins of foreign goods coming from the edges of their known world. A conclusion such as this will become important when considering the problems of the identification of Indian spices in subsequent chapters.

While it appears that there was some awareness of India from the Greeks, the Indians were aware of the Greeks. This is evident from the appearance of the word \textit{yavana}, which translates to either Greek or foreigner.\textsuperscript{109} This term seemingly comes from the Prakrit word \textit{yona}, which in turn derives from the old Persian \textit{yauna}, a term that applied to the Greeks of Ionia.\textsuperscript{110} Later, this term expanded to mean all the Greeks, then subsequently to any foreigner or barbarian.\textsuperscript{111} \textit{Yavana} has a strikingly similar function to how Arabic literature used \textit{al-franj}

\textsuperscript{107} Hdt. 3.94; The actual location of the Asiatic Ethiopians is not known, but the general distribution of the provinces in 3.89-94 and the peoples within indicates that this is the most probable location for them.
\textsuperscript{108} Verg. \textit{Georg.} 4.293; Ov. \textit{A. A.} 1.53.
\textsuperscript{109} Andrade (2017), 43.
\textsuperscript{110} Ray (1988), 312.
\textsuperscript{111} \textit{ibid.}, 313; Monier-Williams 1234.
(Franks) to refer to European Christians in the medieval period. So, the term *yavana* could easily have been adopted to mean the Greeks, and then foreigner. An early appearance of this term seems to come from Panini in *Ashtadhyayi*, which dates from the sixth century BCE to the middle of the fourth century BCE. This would make sense as Panini does appear to have been Gandharan and potentially a subject of the Achaemenid Empire. It also appears later on the edicts of Aśoka, referring directly to Greek Kings such as Antiochus II, Ptolemy II, Antigonus II, Magas of Cyrene, and Alexander of Epirus. Written in the mid third century BCE, these edicts do show that the word does hold association with the Greeks as suggested earlier. However, it is not overly clear as to whether or not this was well known amongst other Indians. Possibly, prior to Alexander’s expedition, the only Indians that were aware of the Greeks were those with regular contact with the Achaemenid Empire. Furthermore, they were potentially only aware of the Ionian Greeks and not the mainland Greeks. Chronological issues also provide another obstacle for other Indian texts that may provide information on Indian knowledge of the Greeks. Moreover, there are geographical considerations that can further complicate the issue. The Greek perception of India primarily pertains to the North-Western region, whereas other Indian literature is significantly more silent concerning that region. During the early stages of Buddhism, Gandhara was a region considered to be far off and distant. Thus, it is feasible that before the arrival of Alexander, Indians from further to the east and south were, in all likelihood, unaware of the Greeks.

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112 Hillenbrand (1999), 31; Tolan (2013), 13-6: *al-franj* was a term used by Arabic authors to describe the Europeans of western and central Europe indiscriminately. Possibly owing to the majority of French people they interacted with early on.
113 Lal (2004), 1115; Panini, *Ashtadhyayi*, 4.1.49: it is used in the context of handwriting. The dating is also contested amongst scholars. Karttunen (1989), 142 n.4 discusses the various scholars and their proposed dates.
114 Karttunen (1989), 142; Panini, *Ashtadhyayi*, 4.3.94.
115 Kosmin (2014), 57.
116 Karttunen (1989), 141-156.
117 ibid., 139.
118 Salomon (2018), 17.
Why then is it important to understand how the Greeks understood India? This
discussion ultimately provides important background context for commercial interactions
between the Greek world and India. As both were aware of the other’s existence, but any sort
of true understanding of each other is lost. This is evident from the description of the marvels
that the Greeks thought were present in India as well as the lack of mention in Indian sources
of the Greeks, except for the general term *yavana*. There was minimal direct interaction
between the Greeks and India until Alexander’s expedition. Thus, when considering the ancient
sources regarding the movement of products, any misunderstanding about where they came
from can be attributed to this lack of knowledge. Even as far as Roman sources go, there was
not a significant understanding of India and their goods. Greek knowledge of India is only
applicable to the North-Western part and the Indus Valley. All this suggests that fourth century
BCE trade would have been indirect and through intermediaries. It is entirely feasible that the
merchants transporting the goods would have been unaware of their final destination. This
context will become useful when understanding whether or not ancient products can be thought
of as coming from India.
Cinnamon and Cassia

Cinnamon and cassia are the first Indian products that are worth investigating. Modern cinnamon and cassia, from the plants *Cinnamomum verum* and *Cinnamomum cassia* respectively, are native to Southern India, Sri Lanka, and Southeast Asia. Cassia makes its first appearance in Greek literature between the seventh and sixth centuries BCE, these products have found use in the Greek world up to and exceeding the fourth century BCE, but there is some suggestion that it was used well before that in Egypt. Primarily, cinnamon and cassia were used as aromatics, but also found other uses in medicines and as offerings to the gods. There is a debate in scholarship whether it is possible to identify ancient cinnamon and cassia with their modern counterparts. Indeed, if that is possible, then cinnamon and cassia provide excellent evidence for trade between India and the Greek world. However, many scholars question whether it is possible to identify them as the same. These objections, while not overly fatal to the association, are worthy of consideration. Rather, an expansion of the definition of what cinnamon and cassia was may be the best solution to account for the variation in our sources. With this however, modern cinnamon and cassia should be considered part of the ancient definition. In doing so, cinnamon and cassia provide some evidence for commercial interaction between India and the Greek world, albeit not as strong as previously thought.

Cinnamon and cassia appear to have been used in the Eastern Mediterranean during the Early Iron Age. In an archaeological survey of twenty-seven small flasks found, ten were tested to contain cinnamaldehyde which is a chemical found in many plants but most concentrated in
plants belonging to the Cinnamomum group. While there is a possibility that cinnamaldehyde could have been a contamination, Dvory Namdar and others observed two flasks that were controlled to have no possible modern contamination, which led to the conclusion that the cinnamaldehyde found must have come from antiquity. This particular conclusion has taken some criticism recently as there are possible ways in which cinnamaldehyde could have reached the small flasks some other way, possibly through modern contamination. While we may want to be careful not to overstate the findings, the most probable way that the cinnamaldehyde got there was through cinnamon or cassia oil, which suggests a possible trade route between India and the Levant during the early Iron Age. This conclusion may be drawn considering the most probable source of cinnamon came from India.

However, Stephen Haw has suggested that there could have been modern contamination of the samples. While contamination is a distinct possibility, the two untouched flasks indicate that there was cinnamaldehyde present from three thousand years ago. Haw also cites microorganisms as a potential method for contamination as well as modern contamination, though no specifics are given. This objection is not substantiated with relevant evidence to warrant a deeper examination. Furthermore, Haw’s objection regarding the presence of Benzyl alcohol and identification of storax as the potential substance can also be explained quite simply. The flasks could have contained both at one point, and there could have been residue left over from their use. It seems unlikely that they would constantly remake small flasks for aromatic products. Namdar and others’ findings ultimately are a piece of evidence

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120 ibid., 13.
121 Dewick (2009), 148-58.
that supports a larger conclusion, but we should be careful not to overstate the implications, as Haw rightly says.\textsuperscript{123}

Haw uses an interesting example to cast doubts upon the findings of the archaeological report. He cites an incorrect assumption that there was a transatlantic trade network due to trace amounts of nicotine and cocaine found on an Egyptian mummy.\textsuperscript{124} The subsequent discussion uses this as an analogy as part of the way he discredits the archaeological report. This example is inadequately analogous when we consider the circumstances. Firstly, there is a lack of a significant body of evidence for a trans-Atlantic trade system unlike with Indo-Greek trade. Secondly, the amount of chemicals that were present in the mummy was trace. Thirdly, prior to the mummy being tested, it was in possession of the King of Bavaria,\textsuperscript{125} whereas some of the flasks were tested directly after being excavated. Comparing the finds of Namdar and others, we can see that there are significant differences. First of all, there is ample evidence to suggest a trading network where goods from India could end up in the Levant, Secondly, the cinnamaldehyde found in the small flasks was significant enough to warrant a report. Thirdly, the flasks had nowhere near the amount of time to be contaminated with outside, with some even being untouched from excavations.\textsuperscript{126}

Cassia also appears to have been used to embalm Egyptians, according to Herodotus. He notes that after the organs had been removed, the abdomen was filled with cassia along with pure ground myrrh and other fragrances, but not frankincense.\textsuperscript{127} This was the most expensive method of embalming, costing around an Attic talent, with the other methods being

\textsuperscript{123} Haw (2017), 7.
\textsuperscript{124} Counsell (2008), 212-4.
\textsuperscript{125} ibid., 215.
\textsuperscript{126} Namdar et al. (2013), 3-4: see table 1 for a run-down of the flasks and their preservation.
\textsuperscript{127} Hdt. 2.86.5; Tomorad (2009), 16.
much cheaper but without using cassia.\textsuperscript{128} Cassia’s presence primarily was in order to impart a pleasant smelling aroma to the body, which appears to be the primary use of cassia (and cinnamon) up to the fourth century BCE and beyond. Although Herodotus is writing in the mid fifth century BCE, these practices do seem to appear in place from at least the eleventh century BCE.\textsuperscript{129} This practice of using cinnamon in embalming is also attested to in Diodorus, where he records that cinnamon, along with cedar oil, myrrh, and other spices, were used to not only preserve but also give a fragrant odour.\textsuperscript{130} It is unclear what source Diodorus is using for this section or if this is his own addition, but it does seem to be part of a tradition that puts cinnamon and cassia as an ingredient for embalming.\textsuperscript{131} Furthermore, it is possible that Diodorus is using Herodotus as his source. The veracity of this is problematic as Diodorus and Herodotus appear to be the main sources for the tradition that cassia was used in the embalming process,\textsuperscript{132} but they are more credible than others as they both probably travelled to Egypt.\textsuperscript{133} In any case, it appears that the descriptions of embalming appear to be consistent with the embalming techniques of the Egyptians up to the New Kingdom.\textsuperscript{134}

The first written record we have of cinnamon and cassia in Greek literature comes from the \textit{Wedding of Hector and Andromache} by Sappho. The poem itself describes the wedding scene between Hector and Andromache, as the title would suggest. Written around the seventh to sixth century BCE, it mentions cassia (\textit{kacia}) along with myrrh (\textit{μύρρα}) and frankincense (\textit{λίβανος}) in the context of describing the atmosphere of the festivities.\textsuperscript{135}

\textsuperscript{128} Hdt. 2.87-8; Wheeler (1852), 66.
\textsuperscript{129} Leake (1952), 70; Campbell (2008), 228: The Hearst medical papyri dates to the second millennium BCE.
\textsuperscript{130} Diod. 1.91.6.
\textsuperscript{131} C. H. Oldfather says that Diodorus was in Egypt in 59 BCE, possibly giving him some insight into embalming methods. See Oldfather (1933), x.
\textsuperscript{132} Budge (1925), 203.
\textsuperscript{133} Hdt. 2.27: Herodotus claims to have visited Elephantine, although there is some debate as to whether he actually visited Egypt or not. Marincola (2003). xxxi: note that there is some doubt as to whether Herodotus actually travelled anywhere.
\textsuperscript{134} Counsell (2016), 255-61.
\textsuperscript{135} Sappho 44, 29-34: Greek and translation taken from Henry Spelman (2017).
κράτης φίαλαι τ’ ὀ[ . . ]με[. .] . . [κακίτες, φίαλαὶ τ’ ὀνειμείχυτο.
μύρρα καὶ κακία λίβανος τ’ ὀνειμείχυτο.
γόναις δ’ ἐλέῳσον δέχε ἀργενύτερα[1]
πάντες δ’ ἁνάρες ἐπήρατον ἱπτὸν ὑπῆθον
πάντων ἀνακλέοντες Ἐκάβολον εὐλόραν.
δύμην δ’ Ἐκτορα κ’ Ἀνδρόμαχαν θεοὶ>ἐυκέλο[1ε.

... kraters and cups...

myrrh and cassia and frankincense were mingled.
The elder women cried out joyfully,
and all the men let forth a lovely high pitched strain
calling on Paean, the Archer skilled in the lyre, they
sang praise of the god-like Hector and Andromache.

While this poem is unique amongst Sappho’s poems as it invokes the epic poetry, the style is not necessarily important for the present discussion. In the case of the cinnamon trade, this poem gives literary evidence that cassia was present in the Greek world as early as the seventh century BCE. What is important is the association of cassia, myrrh and frankincense. This would lead us to the conclusion that cassia, and by association cinnamon, was used for its aromatic qualities. Scholarship on this poem varies on how it relates to the Trojan War story. Lawrence Schrenk notes how certain aspects of the poem reflect the death of Hector in the Iliad. He points to aspects such as Andromache’s dowry and the treasures brought by Priam to regain Hector’s body, the foreshadowing of the purple robe and purple shroud and the parallels between Book 24 – where Hector’s body returns to the city – and the arrival of Andromache to the city.136 Henry Spelman offers another interpretation, one that suggests that the poem does not solely invoke The Iliad but the epic cycle as a whole.137 Furthermore, Spelman argues that the poem is more effectively read in the light of the Cypria and the wedding of Paris and Helen, citing parallels between the two as well as contemporary pottery to suggest that this was probably the context that it would have been read in.138 While it is not appropriate to comment to the strength of either argument, what these discussions do demonstrate is that cinnamon and

137 Spelman (2017), 744-5.
138 ibid., 747-752.
cassia were used as part of public celebrations just as we see with the Procession of Pompey II.

For the Greeks, the primary use for cinnamon and cassia is for aromatics. As noted earlier, Sappho mentions cassia with myrrh and frankincense, which were well known aromatics.\(^{139}\) Theophrastus further supports this in *Concerning Odours*. He notes several recipes for perfume that require cinnamon as a key component and uses cinnamon as an example of how perfume is made.\(^{140}\) A mild spice is added to oil in order to thicken it and then a more powerful spice is added in order to impart a particular scent. The most notable of these perfumes was *megaleion*, which requires the mixing of cinnamon, cassia and myrrh.\(^{141}\) These perfumes were primarily used on the body and often found favour for use with women. Perfumes used for men, at least according to Theophrastus, tended to be lighter and more subtle whereas women used much stronger scented perfume.\(^{142}\) It also found some use as a condiment, usually to enhance the smell of olive oil and wine.\(^{143}\) But it never seems to be used to enhance the flavour of food contrary to what we might expect.\(^{144}\) The aromatic qualities of cinnamon and cassia are shown more prominently in Roman sources,\(^{145}\) where there was significantly more trade than in the fourth century BCE. While there is significant scholarship on other aspects of cinnamon and cassia, it is important to remember that its function as an aromatic was its primary function. This is evident from the constant association with other known aromatics.

\(^{139}\) Sappho 44, 29-34.
\(^{140}\) Theophr. *Od*. 17-18, 29.
\(^{141}\) ibid., 30: ετι δ’ ἐκ πλεύσων τούτου τὸ μεγαλεῖον, καὶ γαρ κιναμωκου καὶ κασιας καὶ σμύρνης.
\(^{142}\) ibid., 42.
\(^{143}\) Casson (1984), 231; Plut. *Mor*. 990b; Ath. 5.198d.
\(^{144}\) Theophr. *Od*. 10; Casson, (1984), 231.
Cinnamon and cassia also appear to be used in a religious context. A letter from Seleucus I to the city of Miletus contains a list of large offerings to Apollo at the temple at Didyma. Included in this list of offerings are two minae of cinnamon and cassia.\textsuperscript{146} This seems to follow with what we understand about Greek religious practice, where incense is burned upon an altar during sacrifices.\textsuperscript{147} This act could be part of a ritual or even as a bloodless sacrifice. Typically, these bloodless sacrifices were done in a private home but not always.\textsuperscript{148} Cinnamon and cassia are not always mentioned specifically in texts that discuss religious practices, but rather it is inferred from that spices are used as incense. The difficulty in acquiring cinnamon and cassia and their great expense would have made them an adequate offering to the gods.\textsuperscript{149} Other ritualistic ceremonies, such as weddings and funerals, probably would have included incense. Wealthier citizens would be able to afford cinnamon and cassia for festivities. We may be able to draw inference from the Bible to reinforce cinnamon and cassia’s role in religious settings. In the book of \textit{Exodus}, cinnamon and cassia are mentioned as part of anointing oil, with two hundred and fifty shekels of cinnamon and five hundred shekels of cassia used in its creation.\textsuperscript{150}

Furthermore, cinnamon and cassia appear to have a role in Greek magic. Cinnamon and cassia find themselves on magical papyri as part of the spells and offerings to enact these

\textsuperscript{146} \textit{OGIS} 214; Welles (1934), 34-5.
\textsuperscript{147} Menander, \textit{Dyskolos}, 447-45; Paus. 5.15.10-2; Zaidman & Pantel, (1992), 37.
\textsuperscript{148} Zaidman & Pantel, (1992), 37.
\textsuperscript{149} Plin. \textit{NH}. 12.42.93: Pliny gives a price of 1000-1500 denarii per pound. This appears to be a ludicrous price. Possibly, Pliny gave this price in order to show how misguided the aristocratic class was for spending exorbitant prices. In a previous section (12.40), Pliny laments how much the upper classes were spending on eastern spices and women while only spending a fraction for the worship of the gods. According to him, China and the Arabian Peninsula takes 100 million sesterces from the empire every year. See Lao (2011), 45 for more on Pliny’s moral commentary on the trade with the East. Unfortunately, there are no sources that record the price of cinnamon or cassia from the fourth century BCE. Cassia has a much more reasonable price, with the lowest grade being sold at five denarri and the highest at fifty denarri per pound (Plin. \textit{NH}. 12.43.98).
\textsuperscript{150} Ex. 30:23-4.
spells. Though the papyri that the spells are recorded on come from first century BCE at the earliest, it appears that they have their origins in earlier Greek folklore. The gods are presented in a less aristocratic manner than their literary counterparts, but rather they are shown in a more dangerous form. From this suggestion it may be plausible that cinnamon and cassia did play a role in Greek magic, which should not be surprising given that frankincense and myrrh are ever present within these papyri.

Cinnamon and cassia were also used by the Greeks and Romans for medicinal purposes. Even earlier, the Ancient Egyptians used cinnamon and cassia in some of their remedies dating back to the second millennium BCE. A variety of authors have described uses for cinnamon and cassia throughout antiquity. Dioscorides noted that cinnamon was used as a diuretic and aided in digestion. He also wrote that it aided in menstrual flow and was an abortifacient. It found further uses as an antidote to poison as well as to treat coughs, sunburn and kidney disease. Later, Galen also writes of the antidote qualities of cinnamon as a key compound for theriaca and Celsus notes that Mithradates used an antidote that contained cinnamon. These writers, however, are writing in the first and second century CE, so these aspects may not apply to fourth century BCE use. In the Hippocratic corpus, we do see a variety of remedies that involve cinnamon and cassia. Some of these do appear to contradict what is accounted for by Dioscorides, in particular the abortifacient qualities which the Hippocratic corpus prescribes as a means to increase fertility. According to the corpus, a cure for “if a woman’s
uterus does not take up (sc. The male seed), but expels it due to lack of warmth...” then you must “Fumigate her below with cassia, cinnamon, and myrrh – an equal amount of each mixed into boiled-down new wine...”.

Furthermore, cinnamon and cassia are described in remedies for flux, as a pain medication for women with a hard uterus, and as a cleaning agent for the uterus. These are remedies that appear to be from Hippocrates’ original authorship, or a mid-fourth century BCE author. But a more concrete example comes from Theophrastus, where he notes that *megaleion* has anti-inflammatory properties. Many of these medicinal properties are not seen within the cinnamon and cassia plants that we are familiar with, which raises some questions regarding our ability to associate the ancient plant with the modern product.

Some Greek papyri from Egypt provides us with important information as to how cinnamon and cassia were stored. In the ancient source tradition, there appears to be a clear indication of how cinnamon and cassia would have come to the Greek world. In a papyrus scroll – dated around 261 BCE – *κασία* and *κινναμώμον* appear alongside *κοτύλαι*. While *κοτύλαι* can mean anything hollow, it is more commonly a unit of measurement. This unit of measurement can refer to both liquids and dry ingredients. It is reasonable to assume that

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158 Hippoc. Mul. 2, 72: “Εἰ δὲ οὐ δέχεται ἡ ὑστέρη, ἀλλὰ ἰψίη καὶ θερμῶν ἔχει ἐν ἕνῳ (…) ὑποθυμιᾶν δὲ κασίαν, κινναμώμον, σμύρναν, ἵσον ἑκάστου, ἐν ὀίνῳ...”

159 Hippoc. Mul. 2, 85, 97; Superf. 33: see further Nat. Mul. 34 (11,14), although this appears to be a treatise written much later than the other treatises.

160 Hanson (1991), 73, 75.

161 Theophr. Od. 32.

162 Haw (2017), 11.


164 This could be a reference to cinnamon quills which is common form that we see cinnamon in. However, descriptions of the products make this unlikely.

165 BDAG s.v κοτύλη: anything hollow is not mentioned in this dictionary but appears in *LSJ* 7th edition, probably providing a general understanding of the word given its later definitions, such as a cup, the socket of joints, and the hollow of the hand/foot.

166 It equates to 0.273L as an Attic measurement or 0.205L as a Ptolemaic measurement.
κοτύλαι refers to the unit of measurement rather than a description of the product. This word also appears in another papyrus from the Zenon archives, with κινναμώμον, indicating that cinnamon and cassia came to the Greek world in a dry form. Interestingly, the inclusion of cassia in a later fragment without the κοτύλαι measurement may suggest that there were different ways of storing cinnamon and cassia. This is also consistent with what is written in our other sources and another papyrus, again from the Zenon archive. What is of interest in this papyrus is that κινναμώμον appears with μύρον, which is cinnamon oil. This is consistent with what Theophrastus tells us about oil, as it is used to store things for a significant period of time as well as a vehicle for perfume. From these papyri, it appears that during the third century BCE cinnamon and cassia came to the Greek world in a dry form as well as in oil. There is no reason to suspect that this is a unique innovation of the third century BCE and Theophrastus’ comments make it reasonable to assume that this was a practice going on in the fourth century BCE.

Cinnamon and cassia provide an excellent case study for early Indo-Greek trade since Cinnamomum verum and Cinnamomum cassia can only grow in India and further East. Our ancient literary sources, however, record two other regions – Arabia and Ethiopia – as the location for cinnamon and cassia. So, now it is worth investigating where our sources say cinnamon and cassia come from.

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167 P.Cair.Zen.1 59009. 15 FrE: Fragment F mentions cassia without κοτύλαι.
168 P.Cair.Zen.1 59009. FrF. 18: Although it is possible that the κοτύλαι could have been lost, given the fragile nature of papyri.
169 Casson (1984), 232; Galen 14.66-7; PSI 6 628.
170 PSI 6 628: μύρου κινναμώμον ἀλάβαστρος = a box of cinnamon oil. Again, there is the appearance of κασίας without κοτύλαι, μύρον, or ἀλάβαστρος.
171 Theophr. Od. 14-16.
Herodotus wrote that cassia is gathered in Arabia by people covering themselves in head to toe in leather and going into a lake to collect it.\textsuperscript{172} In the case of cinnamon, people were required to gather it from the nests of birds who have brought it over from some unknown place. They achieved this by placing the limbs of cattle around the nests and the birds would then come down and collect the carcasses. The cinnamon branches would fall out onto the ground and then be collected.\textsuperscript{173} While a fantastical account, it demonstrates a key fact for Herodotus, the origins of cinnamon are partially unknown, with the only suggestion that it comes from where Dionysus was reared. Lionel Casson suggests that the stories which were recorded in Herodotus were told as a means to protect the sources by the locals from outsiders.\textsuperscript{174} This equation with Arabia is also shared by Theophrastus, Agatharchides, Diodorus, and Dioscorides.\textsuperscript{175} All of these men are writing at various points up to the second century CE, they all appear to agree on the location of cinnamon and cassia. Strabo also notes that Arabia is a source for cinnamon and cassia.\textsuperscript{176} Of interest is Arrian’s comment that cinnamon was exported from Maceta to Assyria and that cinnamon was part of the prosperity of Arabia.\textsuperscript{177} On the face of the literary sources, it could seem that the literature suggests that Arabia is the location of cinnamon and cassia for the classical world. Further, the book of Ezekiel also suggests that cassia is brought to Tyre by merchants from Uzal.\textsuperscript{178} However, Arabia is not the only place attested to in the sources.

Strabo records, in addition to Arabia, that the regions south of Egypt, today Ethiopia and Somalia, are another potential source for cinnamon and cassia. He recorded Aristobulus’
account of cinnamon and cassia, there in addition to him specifically referring to this region as ‘Cinnamon Country’, a clear indication that he believes that cinnamon and cassia also comes from this region. This is further supported by Pliny the Elder, who directly disagrees with the conclusion that there was cinnamon and cassia in Arabia. He states that Ethiopia and Somalia were the sources of cinnamon and cassia. Pliny himself was probably aware that neither cinnamon nor cassia were from Arabia. Furthermore, the *Periplus Maris Erythaei* states that cassia is a major export of Malao, Mundu and Mosyllon, all located on the coast of Somalia. The author also adds that cassia is grown in the Spice Port and Opone. Another indication as to the location of where cinnamon and cassia came from are the names given to different grades of the product. The best cinnamon, according to Dioscorides and Galen, is *Mosylon*, and there is a cheaper grade of cassia that is called *Mosylitic batos*, clearly named after the spice port Mosyllon. But there is one final candidate for the location of cinnamon and cassia in our ancient sources; that is India.

India is traditionally thought amongst classical scholars to be the place where cinnamon and cassia is from. India is mentioned once again by Strabo as a place where cinnamon and cassia grow, using Aristobulus as his source. He appears to be the earliest author that mentions this, with Apuleius and Philostratus recording this as well later. Strabo notes specifically that most cassia comes from India and that Southern India produces cinnamon. Philostratus gives

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179 Strabo 15.1.21, 16.4.19: Strabo uses the word κινναμομοφόρος, which translates to ‘Cinnamon-Bearer’. While the φόρος appears to come from the verb φέρω ‘to bring, carry or bear’, it could refer to a territory where cinnamon in carried through. However, it likely refers to the region producing cinnamon as it is almost always translated that way.
180 Plin. *NH*. 12.82, 12.86.
182 *PME*, 8-10.
184 Dioscorides 1.12.1, 1.13.1; Galen 14.257; Casson (1984), 288.
185 Tarn (1927), 196; Casson (1984), ; van Alfen (2002a), 47-60.
187 Strabo 16.4.25.
another geographical perspective to the location of cinnamon growth. He writes of cinnamon growing in the mountains north of the Ganges Plain. Theophrastus may also allude to cinnamon originating from India, although he does not state it outright. He says: “Among the plants that grow in Arabia, Syria, and India the aromatic plants are somewhat exceptional and distinct from plants of other lands; for instance, frankincense, myrrh, cassia, balsam of Mecca, cinnamon, and all other such plants.”

Suzanne Amigues argues that the association of cinnamon and cassia with India must be the case in this passage as frankincense and myrrh can be brought back to Arabia and balsam to Syria, therefore cinnamon and cassia should be associated with India. But, this does not appear to be definitive proof as the word ὀποβάλσαμον can be translated as the juice of the balsam-tree and as the balsam of Mecca, which indicates that it is from Arabia. However, the balsam mentioned by Theophrastus does come from Syria, as he mentions that it is found there and it appears that the plant was imported to that region through some other means. Furthermore, Theophrastus mentions that aromatics come from Arabia and India, which further adds to Suzanne Amigues’ point.

These are the three clear contenders as to where the ancients thought cinnamon and cassia could come from. While they seem to favour an Arabian or Ethiopian source for cinnamon and cassia, the climates of these regions would suggest otherwise. Cinnamon requires a warm and humid climate, which would exclude Arabia and Ethiopia as a source. A 1994 climate study on West Asia and North African monsoon domains suggests that although the early to mid-Holocene period was typically wetter than today, it was punctured with periods

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189 Amigues (1996), 662.
190 BDAG s.v. ὀποβάλσαμον: Here, Montanari excludes the balsam of Mecca, as does LSJ 7th edition. LSJ New edition however gives the balsam of Mecca as part of the definition, also citing the species it comes from (Balsamodendron Opobalsamum, better known as Commiphora gileadensis). The Sir Arthur Hort translation of Theophrastus translates ὀποβάλσαμον as balsam of Mecca.
191 Theophrastus, H.P, 9.6.1; van Alfen (2002a), 44.
of aridity. These dry periods typically followed moist periods. Of note for this discussion is a period between 4.5 kyr B.P to 2.5 kyr B.P, where there were low lake levels in Abhe and Abyata, both of which are situated in Ethiopia. Recent reclassifications of the Holocene period also indicate that there was a significant climate event 4.2 kyr B.P which lead to significant aridification in North Africa, the Middle East, and Asia. This event has been linked to the collapse of the Akkadian Empire, the fall of the Old Kingdom, and the shift from the Harappan urban civilisation to a more rural society. There also appears to have been a significant drought circa 1200 BCE, coinciding with the bronze age collapse. This dry period appears to culminate in 900 BCE, where coastal lowlands were transformed into a desert biome. While these climate events were before the literary texts that are available to us, it builds a case that the climate was drier than in the mid-Holocene period, and was similar to the climate we have today. What this shift in classification has done is emphasise that Ethiopia and Arabia would have been inadequate to support the growth of plants from the Laurel family, of which modern cinnamon and cassia are members.

The palaeoclimatological evidence clearly suggests that both Ethiopia and Arabia were hostile to the growth of plants from the Laurel family. This is further supported by scholars who note that there have been no recorded members of the Laurel family found in these regions. Daniel Potts also reaches a similar conclusion to Gasse and Van Campo about the climate with regards to the UAE through an archaeological study. He also notes that there was no cinnamon and cassia in the region. There is further evidence to support this conclusion from botanical

193 ibid., 445.
194 Walker et. al. (2012), 655.
195 ibid.; Weiss et. al. (1993); Stanley et. al. (2003); Staubwasser et. al. (2003).
196 Kaniewski et al. (2008), 13942.
197 ibid.,13945.
199 ibid.
studies. Carl Schumann, in his exhaustive 1883 study of Ethiopian flora, found no members of the *Laurel* family, let alone cinnamon or cassia.\(^{200}\) Furthermore, the requirements for cinnamon and cassia to grow could not be found in this region. This, coupled with more recent evidence, strongly suggests that modern cinnamon and cassia was not present in Arabia or Ethiopia. If someone was to hold the position that ancient cinnamon and cassia did not come from India, they either have to identify a member of the *Laurel* that grows in the hot and dusty climates of Ethiopia or Arabia, which is hostile to known species of the *Laurel* family, and explain a shift in meaning to Far Eastern spices or they have to identify a plant in Ethiopia or Arabia that could be what was ancient cinnamon and cassia.\(^{201}\) The latter still has the issue of describing how the words for cinnamon and cassia come to be in our modern language. As will be discussed later, recently Stephen Haw has attempted to do just this.

Given what the science suggests to us, how can we reconcile this with the sources? For the most part, a significant lack of information of the Greeks regarding India could explain the discrepancy in the location of cinnamon and cassia. It is unlikely that many of them went as far east as India or as far south as Ethiopia. For our later sources, they probably just repeated this information which conflated Ethiopia and India.\(^{202}\) However, this explanation is not satisfactory for the *Periplus*. It is a primary piece of evidence from the first century CE.\(^{203}\) While falling outside of the time period under scrutiny, it contains important information about the trade centres in the Indian Ocean. The contents of it seem to go against the conclusion reached in the prior paragraph, which requires some form of explanation for the information it contains. Most scholars do believe that the *Periplus* was probably written by a merchant

\(^{200}\) Schumann (1883), 28-38; Casson (1984), 235.
\(^{201}\) van Alfen (2002a), 50.
\(^{202}\) The conflation of Ethiopia and India has been investigated in Chapter 1.
\(^{203}\) The date of 60 CE is given by Schoff (1912), 15. Casson (1989), 7 gives a date range of 40-70 CE. According to Casson, there are some that believe that it was written c. third century CE, but appears to be largely dismissed as it fails to account for the reign of the Malichus of the Nabaetians.
travelling the routes himself or by someone with extensive mercantile ties.\textsuperscript{204} This lends credence to the information contained in it that cassia comes from the ports in Malao, Mundu, Mosyllon, Spice Port and Opone.\textsuperscript{205} If we are to posit that cinnamon and cassia comes from India, then we need to account for this important piece of evidence. Lionel Casson suggests that these ports were the place where cinnamon and cassia were exported to.\textsuperscript{206} This could reconcile the information from the \textit{Periplus} with our understanding of where modern cinnamon and cassia could be found. Ancient cinnamon and cassia could have been exported to Arabia, then onwards to the Mediterranean through camel caravans or up through Assyria.\textsuperscript{207} This could also reconcile the differences in all our sources concerning the location of cinnamon and cassia. The apparent lack of Greco-Roman understanding stems from the trade being dominated by Arabians and/or Indians.\textsuperscript{208}

There are some challenges to the identification of ancient cinnamon and cassia as the same as modern cinnamon and cassia. Wilfred Schoff raises some concerns about the specific identification of cinnamon and cassia, suggesting that the ancient Greeks and Romans did not have a specific definition of cinnamon and cassia.\textsuperscript{209} Other challenges have come from Patricia Crone, Federico De Romanis, and Manfred Raschke, who all suggest that there was limited Indian Ocean maritime activity, and that cinnamon and cassia could not have come from the Far East. Raschke argues that the association between modern cinnamon and cassia and ancient cinnamon and cassia is erroneous.\textsuperscript{210} Crone’s argument centres around the lack of regular trade routes being attested until the first century CE. According to Crone, the coastline was not a

\begin{footnotesize}
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\item \textsuperscript{204} Casson (1989), 8.
\item \textsuperscript{205} PME 8-13.
\item \textsuperscript{206} Casson (1989), 123.
\item \textsuperscript{207} Possible trade routes for Indian goods are discussed in greater detail in Chapter 4.
\item \textsuperscript{208} Casson (1989), 13-4.
\item \textsuperscript{209} Schoff (1920), 270.
\item \textsuperscript{210} Raschke (1978), 655.
\end{itemize}
\end{footnotesize}
suitable place for cabotage given the difficulties of the coast.\textsuperscript{211} However, the voyage from India to Arabia via cabotage seems to have been achieved by Scylax and Nearchus, who would have been unfamiliar with the coastlines. There is no particular reason why those who would be more familiar with the coast line would not be able to achieve the same voyage. It is plausible that a series of local trade networks could have provided the necessary network for goods, such as cinnamon and cassia, to come from India and to Arabia or Egypt.

More recently, Stephen Haw has challenged the current interpretation that modern and ancient cinnamon and cassia are the same. He provides a different assessment, arguing that \textit{Cassia abbreviata} is a more accurate identification of the ancient cinnamon and cassia. This argument rests on a few key points. Firstly, that it is extremely difficult to identify plants, even for experienced botanists. Especially given the size of different families of plants.\textsuperscript{212} Secondly, that modern cinnamon and cassia do not fit the ancient descriptions of cinnamon and cassia, with classicists being overly sceptical concerning the accuracy of the ancient sources.\textsuperscript{213} Finally, that \textit{Cassia abbreviata} fits the physical description, the description of the location, and the medicinal qualities described by ancient sources.\textsuperscript{214} The overall objection raised by Haw is a reasonable one that needs consideration, there are some aspects of his reasoning that are questionable which need to be pointed out.

The first aspect is his overall view on the ancient sources. While he criticises classicists for being dismissive of the veracity of the ancient sources, he seems to consider what is said by these sources as more or less correct. The only historiographical discussion of an ancient

\textsuperscript{211} Crone (1987), 30.
\textsuperscript{212} Haw (2017), 5.
\textsuperscript{213} \textit{ibid.}, 11-2.
\textsuperscript{214} Haw (2017), 11-4; Dioscorides 1.13; Galen, 14.64-65; Theophr. \textit{Od}. 32; On the medicinal uses of \textit{cassia abbreviata} see Mongalo & Mafoko (2013), 2901-6.
source comes with Pliny. He cites two examples of Pliny’s accuracy. He correctly identified that pistachios grew in Bactria and that pepper came from India. Pliny implies that this information is from the Macedonians and Alexander’s conquests and so we would expect that they Pliny could have received accurate information regarding this. In contrast, it is unclear from whom Pliny gets his information regarding cinnamon and cassia. This makes it difficult to assess the truth behind the statement, but it is reasonable to believe that it was drawn from a tradition that puts cinnamon and cassia there. It is possible that Pliny the Elder could have had a first-hand account of this information, since he was possibly stationed as a procurator in Africa and definitely had visited the province. This is fairly atypical of Pliny’s work, it is largely – though not wholly – a compilation of works that come before him with aspects of personal knowledge from his experiences added in. Approaching Pliny’s work sceptically is a necessary approach, given that it is a work that is riddled with errors. So, what is ultimately perplexing are the examples of Indian plants that are more or less correct. But Pliny’s work does not take into account Strabo’s acknowledgement that there was cinnamon in the southern lands of India, an account that appears to have been taken from Aristobulus as well as others whose names are unfortunately omitted. It seems odd that Pliny would leave out Strabo, given that Strabo is writing around 50 years earlier, or even that Pliny omits the information

215 Haw (2017), 12: note that I am using ancient sources to specifically refer to the ancient Greek and Roman sources, this thesis will not consider the veracity of ancient sources outside of this distinction.
217 Plin. NH. 12.12.25: Pliny directly references that Macedonians talk about pistachios and the previous discussion specifically references Alexander’s expeditions and his reaction to bananas (12.12.24). The passage at 12.12 .26-7 should be read with this context in mind.
218 Strabo, 15.1.22, 16.4.14, 19, 25; Dioscorides, 1.12, 13.
220 Murphy (2004), 7: Aspects such as Roman governance and some local region knowledge would have been from his career. See also Purcell (2012), 1162.
221 Purcell (2012), 1162: This should not take away from the value of the work, but some nuance is needed in order when considering the work, which is sorely lacking in Haw’s article.
222 Pepper tree: Plin. NH. 12.26; Indian fig tree: 12.22.
223 Strabo, 15.1.22: Previously mentioned authors in the two sections prior are Megasthenes, Eratosthenes, Nearchos, Onesicritus, and Anacharsis. Any grouping of them could be the “others” that Strabo mentions but it is hard to say. We may be able to rule out Nearchus and Onesicritus as Pliny the Elder mentions them as a source for book 12 of Natural Histories but does not include the same information.
contained by Strabo’s sources. Possibly, Pliny did not have access to his work or maybe it was an intentional omission, which would be peculiar given the vast number of authors that he uses and his mindset that no book was so bad that it could not be used.\footnote{For Book 12, Pliny names 57 authorities for that work, see Plin. \textit{NH}. 1.12: Murphy (2004), 3; Plin. \textit{Ep}. 3.5.} Thus, we might postulate that Pliny did not have access to Strabo.

An important aspect that is overlooked in Haw’s article is the primary use of ancient cinnamon and cassia, that of an aromatic. Much of Haw’s argument for the dismissal of identifying ancient cinnamon and cassia with the modern cinnamon and cassia rests on the medicinal benefits recorded in Theophrastus, Dioscorides, and Galen, as well as the physical descriptions given in Pliny and Theophrastus.\footnote{Haw (2017), 12.} However, he does not address the aromatic qualities of \textit{Cassia abbreviata} and only looks at two possible candidates for similar aromatics (\textit{Cinnamosma fragrans} Baill. and \textit{Waburgia ugandensis} – he quickly dismisses them as possibly being ancient cinnamon and cassia).\footnote{ibid., 11-12.} Any attempt to reidentify ancient cinnamon and cassia must have aromatic considerations as a primary focus. The overwhelming majority of references to cinnamon and cassia note its aromatic quality. Sappho mentioned this in her poem, Theophrastus noted this, and it is recorded by numerous authors for its aromatic qualities.\footnote{Sappho, 44; Theophr. \textit{HP}. 4.14; Diodorus, 3.46; Plut. \textit{Sulla}, 38; Ps. Verg. \textit{Elegiae in Maecnatem}, 134, Petron. \textit{Sat}. 30; Philo, \textit{Her}. 196: These all express explicitly that cinnamon and cassia were aromatic, this list is by no means exhaustive.} \textit{Cassia abbreviata}, however, does not have fragrance as a major attribute in its descriptions, rather its medicinal properties are its major attribute. This issue is further compounded by Theophrastus as he does not mention any aromatic plants in Africa, as has been noted by Suzanne Amigues, which is particularly strange given the nature of Theophrastus’ work.\footnote{Amigues (1996), 663, n.22; van Alfen (2002a), 51.} Furthermore, there is ample mention of cinnamon and cassia being
burned as an offering, which again plays into this aromatic aspect of cinnamon and cassia.\textsuperscript{229} Non-Greco-Roman sources also appear to indicate this. Within the Bible, cinnamon and cassia are mentioned almost entirely as an aromatic. Cassia in \textit{Psalm 45} is described, along with myrrh and aloes, as giving robes a fragrance. Cinnamon is described as perfuming a bed in \textit{Proverbs 7} and in \textit{Song of Solomon}, cinnamon is mentioned along with myrrh and aloes as a one of the chief spices.\textsuperscript{230}

The linguistic origins of \textit{κινναμώμον} and \textit{κασία} are unclear. Both appear to have been borrowed from Semitic languages, but the etymology of these words is obscure.\textsuperscript{231} Some scholars have suggested that \textit{kēsi’ah} could be a candidate for the Greek \textit{κασία}. From here, the etymology is clear. \textit{Kēsi’ah} appears to have been derived from the Egyptian \textit{šs3t}, which refers to some resinous spice from Africa, and the equation \textit{šs3t/hs3yt = kēsi’ah = κασία} is plausible.\textsuperscript{232} If we accept this, then cassia must have come from Africa.\textsuperscript{233} However, Jean-Claude Goyon points out that even if the etymology of the word is correct, the underlying botany could have changed.\textsuperscript{234} Thus, the acceptance of the equation does not necessitate that cassia must have come from Africa. The Hebrew could refer to cinnamon and cassia as we understand it while the Egyptian may refer to an entirely different product. Suzanne Amigues even suggests that the Chinese \textit{kei-schi} as the primogenitor of \textit{kēsi’ah}, a distinctly possible case.\textsuperscript{235} Ultimately, an investigation of the origins of \textit{κινναμώμον} and \textit{κασία} do not yield any strong evidence for those who wish to locate cinnamon and cassia in Arabia or Africa.

\textsuperscript{229} Phaedrus, \textit{Fables}, 4.14; Mart. 11.54.
\textsuperscript{230} \textit{Ps.} 45:8; \textit{Pr.} 7.17; \textit{SoS}. 4:14: Other spices mentioned include frankincense, nard, saffron, and calamus.
\textsuperscript{231} van Alfen (2002a), 48-9: Scholars have suggested that \textit{kinamon} and \textit{kiddah} are the Hebrew words that the Greeks borrowed.
\textsuperscript{232} van Alfen (2002a), 49.
\textsuperscript{233} Crone (1987), 257; van Alfen (2002a), 49.
\textsuperscript{234} Goyon (1996), 651-5.
\textsuperscript{235} Amigues (1996), 658-9.
How the Greeks classify their plants may also yield a solution to the issue of cinnamon-cassia identification. For this we must turn to Theophrastus. In *The History of Plants*, Theophrastus lays out the differences between plants. According to this summary, the general distinction comes in three parts. Firstly, whether the parts are the same. Secondly, whether they differ or are similar in appearance. Thirdly, whether they are differently arranged.\(^{236}\) When assessing this criterion, there are four main classes of plants; trees, shrubs, under-shrubs and herbs.\(^{237}\) These classes typically have a variety of a few main qualities; roots, stems, branches, twigs, leaves, flowers or fruit.\(^{238}\) What is of particular note is a phrase given earlier, where he says that plants are difficult to describe.\(^{239}\) This could possibly lead to some confusion and ambiguity in the description of the cinnamon and cassia shrub.

Furthermore, plants are also made of elementary elements such as sap, fibre, veins, and flesh.\(^{240}\) Cinnamon and cassia are described as shrubs, of similar size to the chaste tree. Interestingly, cinnamon and cassia are described as more of an under-shrub by others. This is “Περὶ δὲ κιναμώμου καὶ κασίας τάδε λέγουσι…” which translates to “concerning cinnamon and cassia they say these things…”\(^{241}\) suggesting that Theophrastus is not speaking from personal experience, rather an account given to him. At the end of 9.5.1, Theophrastus writes; “οἱ μὲν οὖστω λέγουσιν.” Again, this is suggesting that he is using an account from another. This is further supported in 9.5.2, which says Ἀλλοι δὲ θαμνόδες μὲν καὶ ἕτε μᾶλλον φρυγανόδες εἶναι φασὶ”, translating to “Others say that cinnamon is shrubby or rather like an under-shrub.” The final evidence for Theophrastus using an account comes at the end of cinnamon and cassia

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\(^{236}\) Theophr. *HP*. 1.1.6.  
\(^{237}\) *ibid.*, 1.3.1.  
\(^{238}\) *ibid.*, 1.1.11.  
\(^{239}\) *ibid.*, 1.1.10: ὅλως δὲ πολλοὶ τὸ φυτὸν καὶ ποικίλον καὶ χαλάζων εἶπειν καθόλου.  
\(^{240}\) *ibid.*, 1.2.1.  
\(^{241}\) Holt (1916) gives the translation “Of cinnamon and cassia the following account is given”.

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section, Theophrastus writes that what was said is all the information available concerning cinnamon and cassia.\textsuperscript{242} Thus, the descriptions given by Theophrastus should be taken with some scepticism, since it is a second-hand account.

We should be careful about assigning significant privilege to the descriptions of plants by our ancient sources who, in all likelihood, would have never seen the plant itself.\textsuperscript{243} Even if we do privilege their descriptions, there is no need to assume that the plants themselves would have been cultivated. It seems far more plausible, given that the trade was not as exploited when compared to the Roman era, that cinnamon and cassia could have been collected in the wild. Arguments that stem from the descriptions of the plants are flawed and there should be more emphasis given to the description of the product as it would be far more feasible that the authors would have seen the product than the plant. It is a serious leap to presume that those authors would have an exact knowledge of the plant that was not considered as part of their domain or was at the very fringe of the known world.

An expansion of how we understand cinnamon and cassia could cast doubt as to the veracity of fourth century BCE Indo-Greek trade, given that we cannot necessarily prove that the cinnamon and cassia mentioned within the sources is from India, there is sufficient evidence from our sources to tell us that there was commercial activity with India, and that we should conclude that there is trade in cinnamon and cassia with the Greek world. As mentioned earlier, Theophrastus records that aromatics came from India. Sophocles suggests that commercial activity with India is common place. Strabo, referencing Aristobulus and others, tells us this as well. Furthermore, it does explain the prevalence of ancient sources noting cinnamon and

\textsuperscript{242} Theophr. \textit{HP}. 9.5.3.

\textsuperscript{243} Crone (1987), 257-8; Haw (2017), 12: Both rely heavily on the descriptions given in the sources in order to cast doubt upon the identification of modern cinnamon and cassia.
cassia in Arabia. Even Herodotus’ account suggests that cinnamon was brought into Arabia, albeit there is ambiguity surrounding the original location. In Haw’s article, he feels it is necessary to identify an Indian equivalent of *Cassia abbreviata*. He suggests that *Cassia fistula* L. is the source of the cinnamon and cassia coming from India.\(^{244}\) If there was no compelling evidence from our ancient sources, then why would there be a need to identify an Indian equivalent?

This expansion of definition does allow us to reconcile the differences between the descriptions of cinnamon and cassia. Theophrastus describes the cinnamon shrub as similar in size to the chaste tree, but does not comment on the size of the cassia plant. Pliny the Elder describes the cinnamon shrub as being about three feet high and the cassia shrub as four and a half feet high.\(^{245}\) Furthermore, when describing the aroma of cinnamon and cassia, there are some differences in the descriptions. Theophrastus states that the aroma of cinnamon and cassia is pungent and contains heat with cassia exceeding in both.\(^{246}\) Pliny notes that cassia provides a pleasant smell and is hardly hot to the taste.\(^{247}\) An interesting passage in Pliny details Daphnis’ cassia, a pseudo-variant that is produced in the Rhine area, which appears to be distinct from the southern product but bears the name cassia with it.\(^{248}\) This suggests that the term cassia is not as specific as we might think. Nard also demonstrates this as there are numerous varieties, suggesting that nard does not necessarily refer to a specific plant or product. Pliny also has varieties of cinnamon, such as the Syrian cinnamon, again suggesting that the term cinnamon is not overly specific. It would be erroneous to suggest that ancient authors used terms to always specify one thing. With this in mind, we might wish to be careful

\(^{244}\) Haw (2017), 12.  
\(^{245}\) Plin. *NH*. 12.43.  
\(^{246}\) Theophr. *Od*. 32.  
\(^{247}\) Plin. *NH*. 12.53.  
\(^{248}\) *ibid.*: Pliny does note that this variant neither looks like cassia, nor has the scent of the cassia from the south.
in being too specific with the definitions of plants that are given. Wilfred Schoff also suggests this by citing an example from Pliny, where dragon’s blood was given to someone thinking it was a medicine, but rather they gave them Spanish ore. These examples from Pliny do demonstrate that it is possible that a term could have multiple meanings and one term could refer to a variety of objects.

It need not concern us whether or not the cinnamon and cassia in the ancient world was grown in India or grown further east, as posited by Lionel Casson. If it comes from further east, then it has to have come through India, as Rasheke rightly points out there is no known direct route that goes from South-East Asia to Ethiopia or Arabia. While state sponsored trade on the scale of the Roman period may not of existed in this period, independent agents and smaller communities should be focused as the impetus for trade. But it would be wrong to consider that the producer of the goods would have intended for his goods to reach such a distant land. Rather, it is far more plausible that the goods arrived through a series of interconnected systems. For the time period that we are concerned with, it is worth noting that under Darius I there was a dissolution of Indian control of maritime trade in and around Oman through his acquisition of Indian provinces. While possible that there could have been state sponsored commercial activity, since Seylax of Caryanda was part of a sponsored expedition down the Indus and along the coast back to the Persian Gulf. This, according to Herodotus, opened up the sea trade to his ships. These crafts would have probably been double-canoe'd ships, as described in the Periplus, since they appear to be the traditional vessel for the

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249 Schoff (1920), 270.
251 Raschke (1973), 653.
252 Hdt 4.44 indicates that the Achaemenids had some interest, but there are few references for state-based trade in this region.
253 Hdt. 4.44; Salles (1996a), 256.
254 Hdt. 4.44.
Probably, these boats could harness the monsoon winds which dictated travel.\textsuperscript{256} But, there is some evidence of Harappan presence in Oman, which suggests that there has been a significant amount of interaction between Northern India and the Arabian Peninsula prior to the fourth century.\textsuperscript{257} Although the interactions between Harappa and Oman appear to die off well before the Classical and Hellenistic age, it does suggest strongly that there could be interactions between the two civilisations located in India and Arabia. From there, goods could travel up into Assyria, as our sources mention.\textsuperscript{258} A full investigation of the Arabian – Indian route will be done in Chapter 4.

Cinnamon and cassia provide an interesting case study to examine the indirect trade between India and the Greek world. For the ancient Greeks, the origin is somewhat contested amongst our sources, with Arabia, Ethiopia/Somaliland and India listed as potential candidates. If ancient cinnamon and cassia were the same as the modern product, then India would be the only candidate that could produce the product since the Laurel family of trees are unable to survive the climate of Arabia and Ethiopia. Furthermore, if China was the place of origin for cinnamon and cassia as suggested by Lionel Casson, then it would have to come through India at some point. Thus, cinnamon and cassia provide evidence for trade between the Greek world and India. However, this is not guaranteed and there have been challenges to identifying ancient cinnamon and cassia with the modern product. While these challenges are not fatal to the prevailing standpoint of scholarship that the ancient and modern product are the same, they do require scholars to reassess this assumption. It may be the case that scholars are thinking too narrowly in their definitions of cinnamon and cassia and that an expansion of what cinnamon

\footnotesize\textsuperscript{255} Mahdi (2016), 38–40; \textit{PME}, 60. \\
\footnotesize\textsuperscript{256} Casson (1989), 289-90. \\
\footnotesize\textsuperscript{257} Vogt (1996), 126; Chakravarti (2012), 56 \\
\footnotesize\textsuperscript{258} Arr. \textit{Ind.} 32.7-8; Arr. \textit{Anab.} 7.20.2.
and cassia is may be necessary. Possibly, it is referring to plants that produce a bark that has a sweet and hot smell. Even if this is done, there is sufficient evidence to suggest that modern cinnamon and cassia should be included in a new definition and there is sufficient textual evidence for aromatic trade from India. However, it is not as compelling evidence for Indo-Greek trade in the fourth century BCE as previously thought.
Other Indian Spices

Cinnamon and cassia are not the only Indian product that could have made its way into the Greek market in the fourth century BCE. Pepper, spikenard, and cotton all have strong evidence for reaching Greek markets in the fourth century BCE. Other Indian goods, such as *cardamomum, amomum*, malabathrum, and ginger, are more contentious as to whether they were arriving in to the Greek market. Ultimately, this chapter will investigate many Indian goods and determine whether or not these were part of any fourth century Indo-Greek trade.

Pepper is a spice that has a long history of association with India. Its first appearance in Greek literature comes within the Hippocratic corpus as part of a remedy for tetanus, sanguineous pleurisy, pneumonia (part of a lozenge), tooth aches, drawing bloody fluids in women, wandering womb, an emollient for the uterus, cleaning the uterus, edemas of the uterus, and as a suppository for the uterus.\(^{259}\) Later, in the fourth century BCE, Theophrastus gives the first physical description of pepper, describing two different kinds; one that was reddish and round, the other was long and black.\(^{260}\) It is unclear if the pepper described by Theophrastus was the same as the pepper from the Hippocratic corpus.\(^{261}\) Some of the medicinal properties that Dioscorides records are similar to those in Hippocratic corpus.\(^{262}\) This indicates that the pepper discussed by Dioscorides and Hippocrates were the same. In any case, the appearance of pepper in the Hippocratic corpus strongly suggests that pepper was reaching

\(^{259}\) Hippoc. *Morb. III*, 132.12, 150; *Acut. (Sp.),* 466.34; *Epid. 5*, 244.67; *Epid 6.6*, 328.13; *Epid. 7*, 428.64; *Mul. 2*, 396.2, 386, 394.96; *Mul. 1*, 202.81, 82.34, 90 (cleaning the uterus after childbirth); *Nat. Mul.* 364.92


\(^{261}\) Both Theophrastus and the Hippocratic corpus use πέπερι as pepper. There is no other meaning that is known to us for this word so it is reasonable to suspect that they are talking about the product. See *BDAG* s.v. πέπερι.

\(^{262}\) Dioscorides 2.189: Dioscorides notes that it has qualities that help with suffering in the chest and for coughs, which would be similar for treating pneumonia. It’s abortifacient and contraceptive qualities may also be similar to the aspects described in Hippocrates. Other uses, such as for treatment of animal bites, are not described anywhere in Hippocrates.
Greek markets in the fifth century BCE. Pepper also makes an appearance in Aristotle’s *Problemata*, which notes that pepper was a diuretic.\(^{263}\) Pliny’s account of the product is also strikingly similar to Theophrastus’ account in that he mentions both types were found within Theophrastus’ work.\(^{264}\) However, Pliny does record a third type of pepper, the white pepper, which he erroneously states came from the pods of long pepper that were left to open gradually. The qualities of pepper that Pliny recorded were very similar to those recorded by Theophrastus, recording that pepper was very pungent. Perhaps, this indicates that they were discussing the same – or similar – product.

Our sources for the location of pepper are consistent in where they say pepper was from. Hippocrates notes that pepper was an Indian product that the Persians called pepper.\(^{265}\) Theophrastus does not make any comment concerning its original location, with his discussion on pepper coming at the end of the *Enquiry into Plants* in a section that deals with miscellaneous plants which do not fit in to any other category.\(^{266}\) Diodorus gives us the first definitive location of pepper in ancient literature, stating that pepper came from Arabia. Pliny disagrees with Diodorus, stating that pepper actually came from India.\(^{267}\) Apuleius corroborates with Pliny’s account, stating that pepper came from India along with ivory and cinnamon.\(^{268}\) Philostratus of Athens also agrees with Pliny and Apuleius.\(^{269}\) The *Periplus* also provides us with more evidence that the pepper of the ancient world did originated from India. The author of the *Periplus* lists pepper as an export of Ozênê and Bakrê/Nelkynda, all located in India.\(^{270}\) We can conclude that the Romans of the Early Imperial period were aware that pepper came


\(^{265}\) Hippoc. *Mul*. 2, 394.96: There does appear to be a Median eye medication that was called pepper in the Hippocratic corpus (*Mul*. 1, 202.86).

\(^{266}\) Theophr. *HP*. 9.20.1.


\(^{269}\) Philostr. *Ap*. 3.4.2.

\(^{270}\) *PME* 49, 56.
from India based on the evidence that remains. The similarities between Theophrastus’ remarks about pepper and Pliny, as well as their similarity with the modern product, suggest very strongly that they were discussing the same product. Thus, it is reasonable to conclude that pepper would have been a product that reached Greek markets during the fourth century BCE. There is another kind of pepper that is mentioned by other sources called Libyan Pepper, but this kind of pepper does not appear as prevalently in our sources as πέπερι. This suggests that there was not just one source of pepper for the ancient world. However, it has been suggested that the word for pepper, πέπερι, has been derived from the Sanskrit pippali, which again indicates that the pepper predominately discussed by the ancient sources was coming from India.

Ultimately, pepper was a product that was coming into the Greek markets as early as the fifth century BCE and there is no reason to suspect that this trade was disrupted in any meaningful way in the fourth century BCE. Pepper has also been found in the nostrils of Ramses II in 1224 BCE. The appearance of peppercorns in the thirteenth century BCE suggests that pepper was reaching Egypt significantly earlier than the Greeks and therefore, the Greeks may have had access to pepper before the fifth century BCE. But there is no way to know for certain. All that can be concluded with any certainty is that pepper was arriving in the Greek markets during the fifth century BCE.

Amomum is the next spice that it is worth investigating. While it was a highly valued spice in the Roman period, our earliest mention of amomum comes from Theophrastus, who

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271 Ath. 2.66d; Miller (1969), 22: Miller suggests that this Libyan pepper was actually Amomum Melegueta (sometimes as Aframomum Melegueta).
272 Karttunen (1997), 149; see also n.162 for an explanation of the Sanskrit origins of the name. See also BDAG s.v. πέπερι.
wrote that it was found in Media and India, along with *cardamomum* and spikenard.\textsuperscript{274} Pliny provides us with a description of the product, saying that it is from an Indian wild vine or a shrub, and it is plucked and pressed together in to bundles.\textsuperscript{275} Dioscorides notes that there are three kinds of *amomum*: one that is a pale red colour, one that was green and full of veins, and one that is pale red.\textsuperscript{276} Its aromatic qualities are well documented, with ‘biting’ being the most prevalent description of its aroma.\textsuperscript{277} Pliny also writes that *amomum* was an important ingredient of the royal Parthian perfume, along with many extravagant spices such as *comacum*, cassia, *cardamomum*, and spikenard amongst others.\textsuperscript{278} But this is just one example, as Pliny does offer some other recipes that contain *amomum* which are also expensive.\textsuperscript{279} Medicinally, it functioned as a treatment for headaches, inflammation, scorpion stings, gout, and haemorrhoids in the bowels. It also helped female problems and damage.\textsuperscript{280} Aristotle notes that *amomum* was used in Rhodian cups as a means to stave off rapid intoxication as well as a hangover preventative.\textsuperscript{281} Columella also notes that it helps with the preservation and flavouring of wine.\textsuperscript{282}

The location of *amomum* is fairly consistent amongst our sources. Theophrastus placed it in Media and India.\textsuperscript{283} Pliny states that it was found in Otene, Media, and Pontus.\textsuperscript{284} Dioscorides places the three different kinds in Armenia, Media, and Pontus respectively.\textsuperscript{285} Strabo says that *amomum* can be found in abundance in the country of the Gordyeans, near

\textsuperscript{274} Theophr. *HP*. 9.7.2.  
\textsuperscript{275} Plin. *NH*. 12.28.  
\textsuperscript{276} Dioscorides 1.14.  
\textsuperscript{277} *ibid*.; Plin. *NH*. 13.2.18, 16.59: Pliny does not use the term biting but indicates its value as an aromatic spice.  
\textsuperscript{278} Plin. *NH*. 13.2.18.  
\textsuperscript{279} *ibid*., 13.2.14-7.  
\textsuperscript{280} Dioscorides 1.14: Dioscorides does not note what those “female problems” were. Possibly, he means that it could be used in some treatments for a variety of gynaecological problems.  
\textsuperscript{281} Arist. *On Drunkenness* fr. 672 apud. Ath. 11.464c-d.  
\textsuperscript{282} Columella, *Rust*. 12.20.6.  
\textsuperscript{283} Theophr. *HP*. 9.7.3.  
\textsuperscript{284} Plin. *NH*. 12.28.  
\textsuperscript{285} Dioscorides 1.14.
Armenia. Here, it appears the majority of our sources placed *amomum* in Armenia and Media, with Theophrastus being the main outlier by suggesting India. However, a later passage by Pliny suggests that maybe *amomum* could be found in India. During the reign of Seleucus I Nicator, there was an effort to try and grow *amomum* in Arabia as the delicate perfumes of *amomum* could not endure the voyage from India. Ultimately, this project failed as the weather was too inhospitable for the plant to survive. Thus, there may be some understanding that *amomum* – or an *amomum* like product – came from India. Before reviewing whether or not the traditional modern identification of *amomum* is accurate, it is worth investigating *cardamomum*, since they are often discussed together and had a close affinity according to our sources.

*Cardamomum* was another Indian product that is worth considering whether it was part of any fourth century BCE Indo-Greek trade. Traditionally, *καρδάμωμον* (*cardamomum* in Latin) has been identified as the modern cardamom, a spice that originates in India. Theophrastus describes the function of *cardamomum* as an important aromatic in perfumes and a key ingredient in the production of the perfume *kypros*. His description of the qualities of the plant state that it had a biting and hot quality. Pliny agrees with this description to an extent, with *cardamomum* having a similar aromatic profile to costus. Manetho provides similar evidence for *cardamomum*’s aromatic use by listing it as an ingredient in one of the recipes for *kyphi*. *Cardamomum* was also used for medicinal purposes., with our earliest accounts come from the Hippocratic corpus, who records *cardamomum* as part of a cure for

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286 Strabo, 16.1.24.
289 Theophr. *HP*. 9.7.3; *Od*. 25.
292 FGrH 609 F 16C.
the uterus, a cure for asthma in women, and as a suppository for the uterus.\textsuperscript{293} Dioscorides records the medicinal uses for \textit{cardamomum} included treatments for \textit{comitrales}, coughs, sciatica, paralysis, hernias, convulsions, and expulsion of rectal worms amongst others.\textsuperscript{294} Just as with other aromatics, we would expect that \textit{cardamomum} would play some role in religious ceremonies. As to when it was arrived into Greek markets, all we can say with any certainty is that it arrived in the late fourth century BCE since it made an appearance in Theophrastus. However, if these texts of the Hippocratic corpus are not late additions, then we may be able to further push this back to the fifth to early fourth century BCE. Peter van Alfen notes that \textit{kardamoymon} was not a Semitic word, suggesting that when it came to the Greeks, it was not known by Semitic cultures.\textsuperscript{295} Thus, it is safe to say that \textit{cardamomum} did reach Greek markets within the fourth century BCE and possibly earlier.

Descriptions of \textit{cardamomum} come predominately from Pliny and Dioscorides. Pliny describes \textit{cardamomum} as similar to \textit{amomum}, resembling the product in both name and the shrub from whence they came.\textsuperscript{296} It came in four varieties: one that was green and oily with sharp corners and awkward to crumble, one that was whitish-red, one shorter and black, and one that was mottled and easily friable.\textsuperscript{297} Dioscorides’ description does differ from Pliny’s. He describes the preferred \textit{cardamomum} as one which is difficult to break, full, tightly shut, and which has an offensive smell, and is sharp to the taste.\textsuperscript{298} Theophrastus is completely silent on the description of \textit{cardamomum}.

\textsuperscript{293} Hippoc. \textit{Nat. Mul.} 358, 402; \textit{Mul. 1}, 80; \textit{Mul. 2}, 294.
\textsuperscript{294} Dioscorides 1.5.
\textsuperscript{295} van Alfen (2002a), 67.
\textsuperscript{296} Plin. \textit{NH.} 12.29.
\textsuperscript{297} \textit{Ibid.}
\textsuperscript{298} Dioscorides 1.5.
According to Theophrastus, there are two possible locations for the *cardamomum* that reached Greek markets; Media and India. However, Theophrastus does not make a comment on which was the more plausible location. A passage earlier in his text may reveal where Theophrastus believed was the more probable location for *cardamomum*. In this passage, Theophrastus writes that most aromatic plants come from either India and Arabia, citing *comacum*, cinnamon, and cassia as examples.\(^{299}\) This passage indicates that India, in Theophrastus’ eyes, was more feasible as the location of *cardamomum*. Other authors also provide an indication of the location of *cardamomum*. Dioscorides suggests that Arabia and India were the locations for *cardamomum*, as well as Comagene, Armenia, and the Bosporus.\(^{300}\) However, Pliny does not entirely agree with Theophrastus and Dioscorides. He places *cardamomum* in Arabia and Media.\(^{301}\) The absence of the mention of *cardamomum* from the *Periplus* might suggest that Arabia and India were not the location of *cardamomum*. However, the *Periplus* is a complicated document from which we have little information regarding the author and any omission may be due to a multitude of reasons. There could be a variety of explanations as to why there is a such a diverse range of areas where it was said to be grown. H. Rackham has suggested that these reflect the trade route in which *cardamomum* came to the Mediterranean.\(^{302}\) Another possibility is that these reports demonstrate local substitutes for the *cardamomum* that came from far away.\(^{303}\) *Cardamomum’s* affinity with *cinnamomum* does hint at its far eastern origins. Pliny notes that *cardamomum* and *cinnamomum* have some affinity, saying that *cinnamomum* would have been the next tree to talk about were it not more prudent to discuss the riches of Arabia.\(^{304}\) If we are to accept Lionel Casson’s argument that ancient

\(^{299}\) Theophr. *HP*. 9.7.2.

\(^{300}\) Dioscorides 1.5.

\(^{301}\) Plin. *NH*. 12.29.

\(^{302}\) Rackham (1945), 37 n. a: It should be noted that this likely refers to the Northern trade route that by-passes the Parthian Empire. In the fourth century BCE, it would have been likely that this route was not used.

\(^{303}\) Karttunen (1997), 153.

cinnamon and cassia are the same as modern cinnamon and cassia, then it would be reasonable to place cardamomum as a product that comes from India.

In order to understand if these were products from India that reached Greek markets, it would be prudent to investigate whether or not we can consider amomum and cardamomum the same as the modern cardamom. The identification of amomum with a modern product is troublesome. Many scholars suggest that amomum could be Amomum aromaticum [A. sublatum], which yield what is called ‘Nepal cardamom’. Patricia Crone does not accept this, instead accepting Pliny’s and Dioscorides’ assessment that they grew in Armenia and Media. The description that is provided by Pliny and Dioscorides would definitely rule out the modern identification of Amomum aromaticum. With the absence of strong evidence for this identification, it is difficult to arrive at any conclusion that ancient amomum can be identified as the modern Amomum aromaticum. However, this does not exclude it from being a product that comes from India into the Greek market. Theophrastus’ account, combined with Pliny’s comment about amomum perfume from India, does provide us with some evidence for amomum being a product from India. The diversity of places given for the location of amomum could come down to local variants of the product, or it reflects the trade route on which it travelled. But, to make a definitive statement that the amomum that came to Greek markets in the fourth century BCE was from India would be subject to these uncertainties surrounding amomum.

This conclusion is not necessarily applicable to cardamomum. Some scholars have also suggested that the ancient cardamomum was the same as modern cardamom, Eletteria

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305 Karttunen (1997), 153; Hort (1916), 440.
306 Crone (1987), 70-1.
Cardamomum. However, this view is not universal. Peter van Alfen does disagree with this, suggesting that there is ample reason to neglect this discussion. Patricia Crone also disagrees with this association, citing that the descriptions from Pliny differ greatly from that of modern cardamom. The association with amomum also makes it significantly troublesome to identify cardamomum with the modern cardamom. Pliny clearly states that amomum was collected in bunches and pressed together. This suggests that, as many scholars have taken it to be, amomum was made from the leaves of the shrub. Presumably, Pliny also means that cardamomum is also similar, specifically writing that: “It is gathered in Arabia, in the same manner as amomum.” However, it is not as obvious as one might suspect. The description of the green cardamomum indicates that it may be referring to the seed, since preceding this Pliny explicitly states that the seed of cardamomum was long. Pliny describes this kind of cardamomum “with sharp corners and awkward to crumble” which is more in line with modern cardamom than with a leafy variant. Furthermore this is corroborated by Dioscorides’ description as well. The description given by Pliny and Dioscorides does appear to show some support for the identification of cardamomum with the modern cardamom. The follow section from Pliny also lends some support to this identification, as he writes that; “Next in affinity to cardamomum would have come cinnamonum…” Even today, there is a notable similarity between cinnamon and cardamom, often with one being a substitute for another in recipes. The colour descriptions given by Pliny are also not entirely far-fetched from the modern types of cardamom. Obviously, the green variant is similar to common cardamom

307 Rackham (1945), 34-5 n.b; Hort (1916), 440; Parker (2008), 152.
308 Watt s. v. *Elettaria* Cardamomum; Ridley (1912), 326-7.
310 Crone (1987), 70-1; Haw (2017), 12 n. 108: Haw shares the sentiment that Pliny’s description is far too different from the modern product. However, neither Crone nor Haw consult Dioscorides’ description.
311 Plin. *NH*. 12.27.
312 Crone (1987), 70-1.
found today. The whitish-red and the black variant could have modern identification. The pods inside cardamom are black, so this is what Pliny could be referring to for his black cardamomum. For the whitish-red variant, this may be a reference to white cardamom. Miller’s identification of pepper-pods in Theophrastus and Pliny as cardamom is generally thought of as incorrect. Instead, these are probably siliquastrum or piperitis. Ultimately, all we can say with any sort of certainty is that ancient authors believed that some cardamomum came from India, whatever it actually was.

Spikenard was another aromatic that was exported from India to Greek markets and was the essential oil from the Nardostachys jatamansi. While there were many variations of nard, such as Celtic nard and Syrian nard, Theophrastus tells us that spikenard was from India. One of the earliest references that we have to comes from the Song of Songs, which suggests that spikenard was reaching the ancient Near East in the fifth century BCE. Pliny provides a list of nards that is found within the Roman world, including the Syrian, the Gallic, and the Cretan. He does indicate that there is one found in India which differs to the other variants in that it was a root rather than an herb. Strabo states that nard was a product of India, Arabia, and Ethiopia, just as cinnamon and other aromatics, as well as Gedrosia. The Periplus corroborates with Theophrastus and the general consensus that spikenard was from India. The author notes that nard is imported from Barbarikon and Baryagaza. There is also a Gangetic nard that comes from the Ganges region that is attested in Pliny. Nard that is mentioned in the Periplus can be identified as spikenard, as νάρδος, without any other adjective.

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317 Dalby (2000), 86.
318 Theophr. HP. 9.7.2.
319 SofS. 1.12, 4.13.
321 Strabo, 15.1.3, 22.
322 PME 39, 48.
323 PME 56, 63; Plin. NH. 12.26; Dalby (2000), 86.
with it, typically refers to spikenard.\textsuperscript{324} The allocation of Gedrosia and Arabia as a source of spikenard probably comes from those who accompanied Alexander on his campaigns. Not only does Strabo cite Aristobulus as his authority in one section, there is also similar information from Arrian’s \textit{Anabasis}, which records that nard was found in the marshes of Arabia.\textsuperscript{325} This indicates that Strabo and Arrian are using a similar source: Aristobulus. Spikenard was predominately used as an aromatic, but also had many other medicinal benefits. It found use as a uretic, to help with nausea and stomach \textit{rosiones}, sickness of the liver or head, and painful kidneys.\textsuperscript{326} Unlike cinnamon, cassia, pepper, and cardamom, there is little instances of spikenard in medical texts that date to the fourth century BCE or earlier. The only reference that we have of spikenard’s medicinal impact is from the Hippocratic corpus, in two of his gynaecological texts.\textsuperscript{327} However, the chronological issues surrounding the Hippocratic corpus suggest that the \textit{Nature of Women} may have been a text compiled much later.\textsuperscript{328} Furthermore, Theophrastus does suggest that this spikenard can cause a headache.\textsuperscript{329} Comparatively, spikenard was used less for medicinal purposes than cinnamon, cassia, pepper, and \textit{cardamomum} early on. Our surviving sources are primarily in agreement that spikenard did come from India and it is possible to date its use in the Greek world between the fifth and fourth BCE.

Costus was another Indian product that did make its way into Greek markets during the fourth century BCE. Theophrastus was the first source to mention the product in his general list of plants that were used for perfumes.\textsuperscript{330} He often cites costus’ affinity to cassia in its
qualities and its similarity to cassia, cinnamon, and myrrh in how long it could be kept.\textsuperscript{331} Pliny reinforces costus’ aromatic qualities, writing that it was held in the highest regard along with the nard leaf.\textsuperscript{332} The location of costus was not a matter of contention amongst our sources, as Dioscorides, Pliny, and the \textit{Periplus} all place costus in India.\textsuperscript{333} Pliny says that it comes from the mouth of the river Indus, which is where the Romans probably came into contact with it. The \textit{Periplus} states that costus was an export out of Barbarikon and Barygaza. Dioscorides states the costus was from India, but there were also variants that grew in Arabia and Syria. It is entirely possible that the Syrian and Arabian variant just indicated that costus travelled through these regions to get to the Roman Empire.\textsuperscript{334} However, Diodorus proposed a different location for costus. He suggests that costus grew in Arabia and was enjoyed extensively amongst the Arabians with costus appearing on incense bowl inscriptions. This attribution was probably a mistake by Diodorus, he may have assumed that it came from Arabia due to the perception that it was a land of spices and that it was known that the Arabians enjoyed costus.\textsuperscript{335} Horace does make a suggestion that costus could have come from Persia, but it is more feasible that this was a reference to the trade route on which costus came through or that it is a product manufactured in Persia that primarily used costus in it.\textsuperscript{336} The Arabian and Persian locations can also be explained by these places providing a market for costus or a substitute.\textsuperscript{337} Since the main authorities on plant locations are in agreement for the native location of costus, it is reasonable to conclude that costus was from India. Modern scholars are also in agreement that ancient costus was the aromatic root of \textit{Saussura costus}, which grew in the northern regions of India.\textsuperscript{338}

\textsuperscript{331} Theophr. \textit{Od.} 28, 32, 34; Ath. 15.689d-e: Athenaeus is directly citing Theophrastus for this information.
\textsuperscript{332} Plin. \textit{NH.} 12.25.
\textsuperscript{333} Plin. \textit{NH.} 12.25; \textit{PME} 39; Dioscorides 1.15.
\textsuperscript{334} Crone (1987), 74.
\textsuperscript{335} \textit{ibid.}; Diod. 2.49.3
\textsuperscript{336} Hor. \textit{Cam.} 3.1; Karttunen (1997), 155: Horace describes it as \textit{Achaemenium costum}.
\textsuperscript{337} Karttunen (1997), 155.
Costus was not just an aromatic, it also held medicinal properties. Dioscorides noted that it functioned as a diuretic, cleaning the uterus, to cure viper bites amongst other medicinal uses.\textsuperscript{339} Presumably, Celsus also affirms some of these medicinal properties when listing \textit{costum} in his remedies.\textsuperscript{340} He lists \textit{costum} in certain antidotes, as a diuretic, disease in the gut, bad menstrual discharge, kidney stones, and ulcers.\textsuperscript{341} Costus may also have served a religious function, since it was used as incense. It also appears in some Greek magical papyri.\textsuperscript{342} Although these papyri date to a significantly later period, the gods that appear on these papyri take the form more akin to their cult, myth, and folk counterparts rather than their Hellenised and aristocratic form.\textsuperscript{343} This ultimately indicates that the spells date well before they were written down, which might suggest the earlier use of costus in a magical and religious setting.

Whether or not costus was reaching Greek markets in the fourth century BCE is a complicated question. Theophrastus is the earliest mention that we have of costus, but his discussion is very brief. He is definitely writing after Alexander’s campaign and most scholars seem to believe that he is writing in the early third century BCE. A significant portion of the information that Theophrastus used for his writings on plants can be considered as coming from the fourth century BCE or earlier. However, there is little written about costus which might hint at it being relatively new to the Greek markets. This might suggest that costus only

\textsuperscript{339} Dioscorides 1.15: other such uses include chest conditions, convulsions, gassy stomach, to draw out worms, help with chills from a fever.

\textsuperscript{340} W. G. Spencer translates \textit{costum} as costmary, an entirely different plant. It comes up 11 times throughout the \textit{De Medicina}. This has to be an error in translation. \textit{Costum} is almost exclusively translated as costus in other Latin works. Furthermore, the Greek word for costus is extremely similar to the Latin (\kostos vs costum) which makes Spencer’s translation odd. A 1756 translation by James Grieve has \textit{costum} as costus (Grieve, 1756, 265). The similarities between some of the medicinal uses with Dioscorides strongly suggests that Spencer has mistranslated this. See also Lewis & Short s.v \textit{costum} and \textit{OLD} s.v. \textit{costus} where costmary is not given as a possible meaning for \textit{costum}

\textsuperscript{341} Celsus, 3.21.7-8, 4.22, 27, 5.3-5, 18.3, 20.6 23-4, 27.7, 6.5.24.

\textsuperscript{342} PGM IV 2622-2707; PGM XIII 1-343; PGM XIII 343-646.

\textsuperscript{343} Betz (1986), xlv.
became widely known to the Greeks after Alexander’s campaigns and therefore, makes it unclear whether it was imported into Greek markets in the fourth century BCE. The inscription at Didyma in the third century BCE mentions costus as part of the gifts to the citizens of Miletus, which tells us that during the third century, it was coming into the area around the Aegean Sea. Ultimately, it is impossible to know whether or not costus was coming into Greek markets any time before then, so we cannot definitively say that costus was part of fourth century BCE Indo-Greek trade, but it would not be surprising if it was given that there are other spices from a similar region that were arriving in this period.

Ginger is another potential product that could have come from India. The earliest mention that we have comes from the first century CE, where Celsus noted that it was used in the antidote taken by Mithradates VI, known as the *Mithradaticum*. This cure can be traced to the first century BCE, supposedly prepared by Crateuas. Pliny also mentions that ginger was previously thought of as the root of the pepper tree, but it was actually from an entirely different plant. He places ginger in Arabia, saying that it is grown and cultivated there. That was not the case. Although it was possible that ginger could have been cultivated in Arabia, by the second century CE, it was well known that ginger was a product of India and Sri Lanka. However, there is no evidence that suggests that ginger made its way to Greece in the fourth century BCE. Theophrastus makes no mention of it, neither is it found in Herodotus’ work. The Greek word *ζίγγνιβερις* is supposed to have been derived from the middle Indian word from the product, possibly it was a transliteration of the Prakrit *singavera* and the Pali

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344 *OGIS* 214; Welles (1934), 34-5.
346 Celsus, 5.23.
347 Miller (1969), 5; Crone (1987), 76-7; Pickersgill (2005), 164.
349 Crone (1987), 76.
Klaus Kartunnen suggests that ginger was arriving into the Hellenistic world in the fourth and third century BCE, but there does not appear to be any direct evidence of this. Thus, we can confidently say that ginger was not a product that was reaching the Greek market in the fourth century BCE based on the surviving evidence we have.

Malabathrum is a product that comes up in association with India. Typically, it is described as a dried leaf that has been ascribed various places of origin. Many scholars have attempted to identify what malabathrum was. The traditional identification is that it was the leaf from some cinnamon plants. But there is some debate amongst other scholars about this identification which leads to the conclusion that we are unsure as to what plant(s) the product came from. Pliny places it in Syria, Egypt, and India, with the latter being valued the highest amongst Romans. Dioscorides places the plant in India but erroneously says that it is the leaf of spikenard. Malabathrum also appears in the *Periplus*, which the author says it is exported from Barygaza and from the Ganges. The author also mentions that three kinds of malabathrum came from a group of people called the Sêsatai, who exported it into India. The etymology of malabathrum may also leave some clues as to its origins, with many scholars suggesting that it is a Hellenization of the Sanskrit word *tamālapattram*, with the *ta* being mistaken for the definite article. The earliest mention that we have of malabathrum comes from Celsus, who includes it in two remedies, one for a general antidote and the other in the *Mithradaticum*.

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350 Crone (1987), 76; Miller (1969), 56: Crone in note 149 says that Miller’s etymologies can be discarded.  
351 Casson (1989), 241: *Cinnamomum tamala* and *Cinnamomum obtusifolium* are the two provided by Lionel Casson.  
352 Laufer (1918), 38: This identification of malabathrum as patchouli is dismissed by Casson (1984), 246-6, n.57; Karttunen (1997), 157-60.  
354 Dioscorides 1.11.  
355 *PME* 56, 63.  
356 *PME* 64.  
358 Celsus, 5.23.1, 3.
Greek mainland in the fourth century BCE. The earliest that we have is from the time of Augustus and it does not appear on Greek papyri until the second century CE.\textsuperscript{359} If the identification of malabathrum as a cinnamon leaf is accurate, then it may be possible to speculate that the cinnamon flower found in Samos could suggest that malabathrum is making its way to Greek markets.\textsuperscript{360} But this is highly speculative and, without any other evidence, it would be going too far to say that it did reach the Greek market. Thus, malabathrum was probably not a product coming from India to Greek markets in the fourth century BCE.

We may want to add aloe-wood and bdellium to the list of Indian products that did not arrive in the fourth century BCE. Although aloe-wood may have been mentioned first in the Old Testament under the name ʾaḥālīm/ ʾaḥālōt, this identification is uncertain, which means our first appearance of aloe-wood comes from Dioscorides under the name agalokhon.\textsuperscript{361} Dioscorides does place aloe-wood as a product of Arabia and India. Aloe-wood was also discussed by Pliny, but all he records about it is that it is imported from the borders of cinnamon and cassia district.\textsuperscript{362} Since there is a lack of any evidence that this product was reaching Greek markets in the fourth century BCE, aside from a dubious identification in the Old Testament, we must conclude that aloe-wood was reaching the Mediterranean world in the first century CE. The same conclusion can be reached for bdellium. All direct references from our classical sources come from the first century BCE or later. However, there has been some suggestion the Gedrosian myrrh may have been \textit{Commiphora mukul}, the plant that produces bdellium.\textsuperscript{363} The \textit{Periplus} does support this by noting that bdellium was a product of Gedrosia, Barbaricum,

\textsuperscript{360} Kuçan (1995), 53: For some comments regarding the dubious nature of this claim, see Haw (2017), 8 n.46.
\textsuperscript{361} Crone (1987), 74-5; Dioscorides 1.21; van Alfen (2002a), 56-7 especially n.110: Sometimes \textit{agalokhon} was written as \textit{agallochon}.
\textsuperscript{362} Plin. \textit{NH}. 12.44.
\textsuperscript{363} FGrH 139 F49a; Karttunen (1997), 153: Patricia Crone argues that this identification cannot be correct as the smell given off by the resin of \textit{Commiphora mukul} does not match the description given by Pliny and Dioscorides. See Crone (1987), 67-8.
There are two references in the Bible which suggest that bdellium was reaching the Levant prior to the fourth century BCE. In saying that, there is not enough evidence to state with any confidence that bdellium was reaching the Greek world in the fourth century BCE. Even if it was, we would not know whether it refers to the Indian product or the Gedrosian product.

Cotton, more specifically tree cotton, is a product that is often associated with India and its marvels. While it is not a spice, its significant association with India means that it warrants some investigation. The first appearance of cotton comes in Herodotus’ Histories, where he describes a breastplate, given as a gift by Amasis to the Spartans, as having “εἰρίτοις ἀπὸ χιόλου” or wool from a tree. This phrase was also used by Theophrastus later to describe the tree from India that produced wool. Cotton garments appear to be a defining feature of Indians in the Greek psyche. Herodotus wrote that the Indians who fought in Xerxes’ army had cotton garbs. Strabo, recording what Onesicritus had written, also states cotton being in India and that it was used by the Indians. The wool-bearing tree description of cotton is also recorded by Arrian in his Indica. These references give a clear indication that the Greeks were aware of cotton from the fifth century BCE onwards. The Greeks appeared to have believed that the cotton from India was finer than wool. Clearly, the Greeks were not only aware of the plant but also aware of how the Indians used the product.

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364 PME 37, 39, 49.
365 Gen, 2:12; Num. 11:7: Cruden’s concordance notes that the Num. 11:7 refers to bdellium even though some translations give gum resin as the translation.
366 Hdt. 3.47.2. 106.3.
367 Theophr. HP. 4.4.8, 7.7.
368 Hdt. 7.65.
369 Strabo, 15.1.21, 72: This is also recorded Marcus Servius Honoratus (FGrH 134 F23).
370 Arr. Ind. 16.
It is surprising that since there was an awareness early on for the Greeks that there is no clear word that refers to cotton. While εἰρίον ἀπὸ ξύλου was used early on, it was quite a literal definition. Scholars have later suggested that σινδόν, from the Babylonian sindhu may be the Greek word that refers to tree cotton.\(^{371}\) Κάρπασος is another word that has been suggested since it has a close similarity to the Sanskrit word karpása. Its similarity to the Old Testament karpas may also provide some evidence for κάρπασος meaning cotton.\(^{372}\) But, it is unlikely that this is a specific mention of cotton. A more feasible explanation is that this passage refers to cloth in general. These words, while they have been translated to mean cotton specifically, also have more general meanings. Often these terms can refer to linen or cloth of some sort, not specifically cotton.\(^{373}\) Klaus Karttunen does hold that κάρπασος specifically means cotton in three places.\(^{374}\) Thus, contextually these words can refer to cotton, but are not necessarily the direct word for it. Furthermore, κάρπασος does not appear in earlier Greek texts which indicates that it entered the Greek lexicon much later. Σινδόν appears to have been around much earlier, but not as a direct reference to cotton from India. Based on this, the only direct reference to Indian cotton is the wool-bearing trees as described by Herodotus and Theophrastus. Quite possibly, some of these words could refer to other local variants of cotton which were prevalent in North Africa and the Levant.\(^{375}\) However, there is no indication that Gossypium herbaceum was cultivated in this period, which indicates that the cotton that came to the Greek world was Gossypium arboretum.\(^{376}\)

\(^{371}\) Karttunen (1997), 134; Parpola (1975), 15.

\(^{372}\) Esther 1:5-6.

\(^{373}\) LSJ s. v. σινδόν has it meaning “fine cloth, usually linen”; LSJ s. v. Κάρπασος has it meaning “flax” but does point to a specific instance where it is cotton (PME 41). For Κάρπασος, see Watt (1907), 10; Johnson & Decker (1980), 260: They suggest that the association with linen suggest that word is borrowed.

\(^{374}\) Karttunen (1997), 134: the three instances are Str. 15.1.72; PME 41; Curt. 8.9.21.

\(^{375}\) Watt s.v. Gossypium herbaceum.

\(^{376}\) Watt (1907), 157-61.
Gosypium arboreum, the tree cotton mentioned by Herodotus and Theophrastus, is well known to be a native of India.\textsuperscript{377} Evidence of cotton weaving can be traced back to the Harappan civilisation, where there is clear evidence for a cotton weaving and spinning industry.\textsuperscript{378} For the Greeks, they thought that cotton also came from Tylos, with multiple authors designating Tylos as a location for cotton.\textsuperscript{379} Theophrastus does maintain that cotton was found in India as well. What this could indicate is that cotton came through Tylos, or that it was transplanted there and cotton became an export of the island.\textsuperscript{380} Theophrastus does appear to be recording what Androstenes wrote about Tylos when he visited the island.\textsuperscript{381} Pliny also records that Tylos produced cotton, citing Juba as his source for this information.\textsuperscript{382} This suggests that Tylos was a source of cotton up in to the first century CE. However, Pliny does note that there was cotton in India, which is something that Theophrastus, Herodotus, and Strabo all do. The similarities between Theophrastus’ account and Pliny’s account should not be surprising, since Pliny was almost certainly using Theophrastus to describe the island of Tylos with additions from Aristobulus or Onesicritus.\textsuperscript{383} However, George Watt suggests that the description given by Theophrastus for the cotton of Tylos is more in line with Gosypium herbaceum than Gosypium arboreum.\textsuperscript{384} Perhaps, this may be the cotton that Tylos produced.

Although the Greeks were aware of tree cotton as early as the fifth century BCE, whether or not it was part of any fourth century BCE commerce is an entirely different question. We know that by the first century CE, cotton was being traded in the Indian Ocean.\textsuperscript{385} The Harappan sites also do not make it clear whether or not there was movement of these products

\textsuperscript{377} Watt s. v. Gosypium arboreum.
\textsuperscript{378} Karttunen (1997), 133; Ratnagar (1981), 79.
\textsuperscript{379} Theophr. HP, 4.7.7.
\textsuperscript{380} Potts (1990b), 134.
\textsuperscript{381} Theophr. Caus. pl. 2.5.5 Arr, Anab. 7.20.7.
\textsuperscript{382} Plin. NH, 12.22.
\textsuperscript{383} Potts (1990b), 142-3; Bretzl (1903), 90, 3-4
\textsuperscript{384} Watt (1907), 11.
\textsuperscript{385} PME 41.
into Mesopotamia.\textsuperscript{386} But, unlike with many other natural products, there is some archaeological evidence for cotton from the \textit{Gosypium} genus that was found at a site in Athens which dates back to the sixth century BCE.\textsuperscript{387} What is significant about this is that analysis of this cloth indicated that it had to be of the \textit{Gosypium} genus and not a local variant.\textsuperscript{388} This is the clearest evidence we have that indicates that cotton from India was arriving in the Greek world. An Old Testament description of a Persian palace may suggest that the Persians were using cotton early on, thus making it easier to conceptualise cotton making its way to the Aegean.\textsuperscript{389} The limited reference to cotton may also suggest that it came to the Greek world from India on a more northerly route, possibly through Media then to the Levant.\textsuperscript{390} Furthermore, Assyria may have had access to cotton from trees as early as the seventh century BCE, with the cylinder of Sennacherib mentioning trees that bore wool.\textsuperscript{391}

There is evidence to suggest that cotton was exported to the Greek world from India in the fourth century BCE. The abundance of early references to it in early Greek works, coupled with some archaeological evidence, does strongly suggest that the Greeks were receiving the product as early as the fifth century BCE. It is difficult to tell whether or not the cotton that did reach Athens was \textit{Gosypium arboretum} or a variant from North Africa. While Herodotus and Theophrastus do specifically mention it is wool from a tree, which would suggest that it was tree cotton from India, it is difficult to say whether or not cotton was part of any commercial interaction. This is in part due to Herodotus’ story about Amasis giving a breastplate embroidered with cotton to the Spartans.\textsuperscript{392} Since this is the only recorded evidence of cotton

\textsuperscript{386} Ratnagar (1981), 79.
\textsuperscript{387} Barber (1991), 33; van Alfen (2002a), 231.
\textsuperscript{388} Zisis (1954), 587-93.
\textsuperscript{389} van Alfen (2002a), 232.
\textsuperscript{390} \textit{ibid}.
\textsuperscript{391} King (1909), 339-342.
\textsuperscript{392} Hdt. 3.47.
being given to the Greeks, it may be the case that the Greeks only received cotton in the form of a gift. This may explain why the Greeks did not have a specific word for cotton. However, it would not be surprising if cotton was a product that was part of Indo-Greek trade.

There has been some interesting scholarship that suggests cloves may have reached Greek markets. At an archaeological site in Terqa, cloves had reportedly been found that dated to around 1721 BCE. This was truly an extraordinary find and suggests that the trade routes that these spices could have travelled on go back to the eighteenth-century BCE. This find should be taken with some caution, there is little evidence from our sources that indicate that cloves were known prior to the first century CE. Furthermore, the location of Terqa along a major trade route suggests that cloves could have extended further into the Eastern Mediterranean world, but we can only speculate as to whether or not they could have made their way into Greek markets. The earliest reference that we have in classical literature to cloves comes from Pliny. He describes a plant, called *caryophyllon*, which has been identified by many scholars as the modern clove. *Caryophyllon*, curiously enough, appears to be derived from a Greek word but is not found in any extant Greek literature until the sixth century CE. J. Miller suggests that maybe Serapion of Alexandria (200 – 150 BCE) discussed the clove but this is only speculation. Nevertheless, if the cloves found at Terqa are not cloves themselves, then there is no evidence to suggest that cloves would have been made their way to Greece prior to the fourth century BCE. If the product was making its way into Greek markets, it would be peculiar that it is not recorded by Theophrastus. Its absence from the *Periplus* may stem from a lack of understanding where the spice came from or that the author

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393 Buccellati & Buccellati (1983), 54; Turner (2004), xv.
394 Trade routes will be dealt with fully in another chapter, but Arr. *Anab.* 7.20.2; *Ind.* 32.7-8 records a tradition from Aristobulus and Nearchus that goods would come up from Carmania along the Euphrates river to Syria. 395 Plin. *NH.* 12.15; Miller (1969), 50; Dalby (2000), 50-1. 396 Miller (1969), 50. 397 *ibid.*
was not aware of this product. However, unlike with cinnamon and cassia, there is not enough evidence to speculate any fourth century BCE clove trade. Therefore, it is difficult to state outright that cloves were reaching Greek markets in the fourth century BCE.

Comacum is an interesting product that may have made its way into Greek markets in the fourth century BCE. Its first appearance is in Theophrastus, where he wrote that there was a fruit called komakon and a perfume with the same name. Theophrastus indicates that komakon comes from Arabia, based on its association with cinnamon and cassia, and Theophrastus’ belief that cinnamon and cassia came from Arabia. Pliny also discussed comacum, which he says as coming from Syria and was a kind of cinnamon. None of our ancient sources identify comacum as coming from India. However, there is some scholarship that suggests that comacum is the same as modern nutmeg. But this is a contentious issue. J. Miller supports the hypothesis that comacum is modern nutmeg, which would put its location in the Malay Archipelago. Patricia Crone disputes this, saying that the descriptions given by the ancient sources make it impossible to identify. This is reasonable; Theophrastus’ account does not provide any useful information to make an identification. Thus, Pliny’s account is the only one we can use and it is extremely vague. Comacum was the juice squeezed from a nut and is quite similar to cinnamon. It is hard to make any identification with just that description. Whether or not Pliny is saying that the nut comes from Syria or that the juice is extracted in Syria and the nut comes from elsewhere is not clear. Peter van Alfen does not agree with Crone’s assessment and suggests that the comment that it is reminiscent of

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398 Theophr. HP. 9.7.2.
399 ibid.: it is unclear whether Theophrastus is talking about the plant or the perfume.
400 Plin. NH. 12.63.
403 Plin. NH. 12.63.
404 “In Syria gignitur et cinnamum quod comacum appellant; hit est sucus nuci expressus multum a suco illo veri cinnami differens vicina tamen gratia.” The verb gignitur is slightly ambigious as to its meaning. It is often translated as produces, which could mean that Syria is the place of production or that the nut comes from there.
cinnamon aids in its attribution.\textsuperscript{405} Klaus Karttunen makes no comment on the accuracy of this identification.\textsuperscript{406} While the brevity of the writing on comacum does not rule out the possibility that it could have been nutmeg, there is nothing that suggests that this identification should be accepted. Whatever comacum actually is, Theophrastus’ comments do suggest that it was coming into Greek markets during the fourth century BCE. But since identification is an issue, we cannot be sure if this was a product that came from, or passed through India.

In close association with comacum is macir, which has often been thought of as mace. Dioscorides is the first to record the presence of macir, but writes very little about it. The only comments he makes is that it came from Barbary and that it was a cure for dysentery.\textsuperscript{407} Pliny’s comments agree that it was used in a cure for dysentery but more importantly, Pliny states that macir came from India.\textsuperscript{408} There are some that identify macir as mace, owing its name to Maceta from where it was imported from.\textsuperscript{409} However, there is not enough discussion in our sources to reasonably make an identification and macir is now thought of as an unknown product that comes from India.\textsuperscript{410} Although macir comes from India, there is little evidence to suggest that it was reaching Greek markets before the Early Imperial period. The only possible evidence that remains is a comment from Nearchus recorded by Arrian which states that cinnamon and other spices came out of Maceta. Perhaps mace could be included in those ‘other spices’, but there is no compelling reason to accept that mace was coming along this trade route, let alone into Geek markets, in the fourth century BCE.\textsuperscript{411}

\textsuperscript{405} van Alfen (2002a), 59-60: nutmeg does have a close association with cinnamon in modern cooking.
\textsuperscript{406} Karttunen (1997), 157.
\textsuperscript{407} Dioscorides 1.110.
\textsuperscript{408} Plin. \textit{NH}. 12.16.
\textsuperscript{409} van Alfen (2002a), 59; Potts (1990b), 301 n.120: The German word for mace, ‘Muskantnessel’, alludes to this.
\textsuperscript{410} Karttunen (1997), 157; van Alfen (2002a), 59.
\textsuperscript{411} Potts (1990b), 301.
Indo-Greek Trade Routes

To begin examining the trade routes in which Indian products could have made their way into Greek markets, it would be worth examining the road system of the Achaemenid Empire. This road system was a key facilitator for trade from India and Greece, particularly during the overland portions of the routes. While the ‘Royal Road’ was a term used by Herodotus to describe the highway from Sardis to Susa, the road system of the Achaemenids actually spread throughout the whole empire.\(^{412}\) Persian administrative records lay out a system of roads that spread from Bactria, Egypt, and India to Susa.\(^{413}\) Although the major roads within this system were primarily used for government officials, satraps, and military personal,\(^{414}\) the heavy investment from the Achaemenid government suggests strongly that not only was the road system of great importance, but that it was also extremely safe to travel. Official positions that emphasise this included: the barrishdama (elite guards), the karabattish (agents in advance), the shaulu (travel assistants), the dattimara (road counters), and the shirak (spear-bearers). The role of the shirak is not so clear, either they were surveyors or part of a surveillance team.\(^{415}\) Our ancient sources also attest to the surveillance on the road systems of the Achaemenid Empire.\(^{416}\) But we must be careful not to view this system as completely paved. Rather, it was more a series of dirt tracks and often pre-existing trails that made up much of the road system.\(^{417}\) While most of the Achaemenid administrative documents deal with the major roads in this system, they also suggest that the lesser routes that traders used would have been significantly safer than the roads outside of the empire. Therefore, it is entirely

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\(^{412}\) Hdt. 5.52-4; Young, (1963), 349; Graf, (1999), 171-4; Calder (1925), 8.
\(^{413}\) Khurt (2007), 733-4; PF 1318.II/-23; PF 1351.V/-28; PF 1550.II/-22; PF 1361.XII/-22; PF 1501.IX/-2; PF 1544.IX/-23; PF 1555.II/-22.
\(^{414}\) Graf, (1999), 171-4; Calder (1925), 8.
\(^{416}\) Hdt. 5.35, 8.239; Diod. 11.56.6; Plut. Them. 26.
\(^{417}\) Graf (1994), 172-3; Arr. Anab. 3.18.1.
possible that products from India could travel along these road systems that stretch from Gandhara to the other corners of the Achaemenid Empire. However, this was not the most effective way to transport goods, as overland trade was more susceptible to bandits and highwaymen as well as the cost of transporting goods in caravans and the arduous nature of journeying long distances overland. A far more feasible function of the Achaemenid system would be to transport goods between local markets. For a more efficient method, we need to look at maritime trade.

Maritime trade was a significant part of the commercial routes that connected India with the Greek world and provided a more efficient means of transporting large amount of goods. Historically, the trade route between the Indus Valley and the Persian Gulf was quite ancient, with this route being used in Summerian, Neo-Babylonian, and Achaemenid periods.\(^{418}\) In the early centuries of second millennium BCE, the Dilmun route was extremely active, with Bahrain and Faikala acting as key middlemen for the Ur-Indus Valley trade route.\(^{419}\) According to Herodotus, the maritime trade in the Indian Ocean was dominated by the Indians until Darius I subjugated the Indians.\(^{420}\) This ultimately broke up the implied Indian monopoly and opened up the Indian Ocean to Achaemenid merchants. The mercantile connection between the Persian Gulf and India appears to have been in use prior to the Achaemenid period as evident from the Harappan presence in Oman.\(^{421}\) Although there was a significant decrease in the interactions between North-West India and Oman prior to the fourth century BCE, the presence does suggest that it was possible for sustained contact between two regions across the sea.\(^{422}\) It also makes more sense that the goods would come over the sea

\(^{418}\) Karttunen (1997), 328.
\(^{419}\) Collon (1996), 222.
\(^{420}\) Hdt. 4.44.
\(^{421}\) Vogt (1996), 126; Chakravarti (2012), 56.
\(^{422}\) Potts (1990a), 260: Daniel Potts notes that there was a drop off in Harrapan contact in the second millennium. BCE compared to the third millennium BCE.
rather than land, since trade via ship was faster and safer than trade overland while being more effective to transport larger amount of goods.\footnote{Migeotte (2009), 120; Casson (1974), 66-7; Ratnager (1981), 158.} This is not to say that there was no overland trade, but in all likelihood, the sea would have been used where possible. The Arabians were active players in the Indian Ocean, especially in the case of the Mineans and the Sabaeans, functioning as key middlemen in this route.\footnote{Hourani (1963), 6-11.} The presence of Indian chanks found in Ur, Kish, and Lagash also suggest that there was significant naval activity between India and Arabia.\footnote{Hornell (1941), 239.} These shell artifacts are native to the coastline of India and Sri Lanka and finding them in the Persian Gulf provides us with substantial evidence that there was commercial maritime trade between these two regions. However, it is impossible to tell how consistent these contacts were. But they do provide us with a historical background for some degree of commercial relationship.

Arabian merchants would also have been operating within the Indian Ocean as is implied in Herodotus’ passage regarding the subjugation of the Indians under Darius I. However, Manfred Raschke argues that the Arabian ships would not have been able to handle the monsoon winds and that Mediterranean ships were better suited for the journey.\footnote{Raschke (1978), 663.} This is patently false. The \textit{Periplus} describes the traditional double-canoeed boat that travelled in the Indian Ocean during the first century CE.\footnote{\textit{PME} 60.} Waruno Mahdi disagrees with Raschke, arguing that the traditional boats could handle the monsoon winds.\footnote{Mahdi (2016), 38–40; See also van Alfen (2002a), 52 n.90 for a direct commentary on Raschke’s argument.} Furthermore, it has been shown that the traditional reed boats can handle the difficulties of long journeys in the Persian Gulf.\footnote{Ratnager (1981), 159.} These reed boats were not, however, the main vessel for transport over long distances. Sailing
boats were more suitable for longer voyages across the Indian Ocean than the reed boats.\textsuperscript{430} These would have been far more suitable for the transport of goods than boats with oars.\textsuperscript{431} The graffiti at Mohenjo-daro, clay models at Lothal, and models found at Eridu in Mesopotamia suggest strongly that these were the primary vessels for long distance trade.\textsuperscript{432} It is probable that it was Indian merchants that were operating these boats, since there was a shortage of wood in the Persian Gulf area. The implication of an Indian monopoly in Herodotus 4.44 further supports this due to the ‘sea’ being open to the Achaemenids after the subjugation.\textsuperscript{433} Coasting was the preferred method for sailors to navigate the Indian Ocean as noted by the author of the \textit{Periplus\textsuperscript{434}}; who indicates that sailors making the India run would hug the coastline until Hippalus discovered a direct route across the ocean in the second century BCE. In addition to this, most of the images of sailing boats found in Mohenjo-daro, Lothal, and Eridu had shallow bottoms, often being flat. These boats would have been suitable for coasting in shallows where the risk of hitting rocks or running aground could be avoided.\textsuperscript{435} However, it is unclear as to how long ago this coastal method was used; but the evidence of cross-cultural contacts suggest that it could have been used as far back as the third millennium BCE. With this, we have clear evidence that there were adequate vessels operating in the Persian Gulf that could transport products from India to the Persian Gulf and vice versa.

While there has been some significant archaeological evidence found during the twentieth century CE, there does appear to be a gap from the first millennium BCE to the first

\textsuperscript{430} Ratnager (1981), 163.
\textsuperscript{431} ibid., 160: Ratnager points out that oared ships had less space for cargo, since they required extra space for rowers and provisions for the rowers. These boats were more suited for river travel, fishing and diving trips, and short travel.
\textsuperscript{432} ibid., 161.
\textsuperscript{433} Hdt. 4.44: The implication here is that the Indians held a monopoly of the sea before Darius made use of the sea after subjugating the Indians.
\textsuperscript{434} \textit{PME} 58; Casson (1989), 184 : Strabo disagrees with the \textit{Periplus\textsuperscript{435}} and suggests the monsoon winds were discovered for the Greeks by Eudoxus of Cyzicus (Strabo 2.3.4).
\textsuperscript{435} Ratnager (1981), 161.
century CE. This could prove troublesome for evidence of trade in this region during the fourth century BCE. However, as Jean-François Salles indicates, this was due to a shift in the goods that were being traded. Items that were more perishable than pottery were the main focus of the trade. Spices, textiles, and slaves were among those that were prominently traded. These goods would leave little impression in the archaeological record but are attested in the literature. This is reflected in our sources, where perishable goods appear more frequently than other products. Spices and other organic products appear the most whenever India is considered when compared to other, less perishable, products.

From the Persian Gulf, goods could travel up the Euphrates into Assyria. This is attested by Arrian writing that from Maceta, cinnamon would travel up the Euphrates and on to Syria. Arrian cites Nearchus and Aristobulus for this information, which places it towards the end of the fourth century BCE. Other sources indicated that goods could come through into the Levant and then onto the Mediterranean world. There was an important overland trade route centred around North Arabia and Syria. The trade route that ran up the Euphrates appears to have been an important and lucrative one. We may be able to infer this from a passage in *Revelations*. Although *Revelations* does not discuss any literal trade route, the parallel between the whore’s name of Babylon and the merchant’s lamentation that their goods would no longer be purchased is interesting. What is significant here is that the city of Babylon was located on the Euphrates and as recorded by Arrian, we know that there was a trade route that ran up the Euphrates. However, *Revelations* 17 and 18 are both difficult to interpret, but nevertheless

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436 Salles (1996b), 297.
437 See Chapter 1 and 2. Of all the products discussed, there is minimal surviving archaeological evidence. Even then, there is no consensus amongst scholars on whether or not the evidence can be identified.
438 Arr. *Ind.* 32.7-8; Arr. *Anab.* 7.20.2.
439 *Ezek.* 27.19.
440 Retso (2003), 122-3.
441 Rev. 18.9-15.
it is an interesting observation. Dilmun was an important trading centre during the third and second millennium BCE. Based on surviving evidence, Dilmun was important for the transporting of timber from a far-off land, presumably from India and East Africa. Dilmunites appear to have taken over the trade from the Harappans around 2000 BCE and although there is evidence to suggest that trade had ceased around this time, the attested imports from Dilmun suggest that trade was still taking place. Many of the imports from Dilmun could not have been procured locally and must have come from overseas. Shereen Ratnager suggests that the apparent diminishment in trade can be explained by the Dilmunites taking over as the main trading group in the region. By the fifth century BCE, it appears that Achaemenids and Arabians were dominating the Persian Gulf trade.

Evidence for direct trade with India and the Red Sea begins around 950 BCE, when Solomon enlisted Phoenician help to build his ships. These ships could carry sailors all the way to Ophir, which is often theorised to be in India. There appears to be more evidence of sustained contact between India and Egypt in the mid-Ptolemaic period. Although the Red Sea provided relatively easy travel for those travelling out into the Indian Ocean, those who wanted to travel back in and up the Red Sea would encounter tough travel conditions.

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442 Flemming (2020), 114-5: Flemming here identifies Babylon with Rome. But Arrian’s comment about cinnamon and other spices coming from Maceta might suggest that this was a known trade route during the first/second century CE.
443 Crawford (1997), 701, 7; Potts (1990a), 88.
444 Potts (1990a), 88.
446 *ibid.*: The goods mentioned by Ratnager that must have been Harappan exports were lapis lazuli, carnelian, ivory, and gold.
447 *ibid.*
448 1 Kings 9:26; Hornell (1941), 244.
449 Hornell (1941), 244; 1 Kings 10:22: The identification of India as the location of Ophir stems from peacocks being reported to be there. Josephus also preserves a tradition where Ophir was associated with India. See Joseph. *AJ*. 8.6.4.
450 Potts (2019), 21.
451 Boivin et al. (2010), 254.
So, there was a historical precedent for trade to come through the Persian Gulf and up the Euphrates in order to reach the Mediterranean. The ships that were in use in the Indian Ocean were able to harness the monsoon winds and traverse the sea. The aforementioned passage from Herodotus affirms this. Arrian, citing Nearchus, indicates that this trade route was still in use in the fourth century BCE and the voyage of Nearchus during Alexander’s return from India indicates that it was possible for those unfamiliar with the area to navigate the sea.\footnote{Arr. Anab. 6.2.3; Ind. 18-42; Indica 18-42 provides a summary of the voyage from the Hyphasis to the Euphrates using Nearchus’ account predominately.} It would be reasonable to assume Nearchus had some local assistance in the navigation with Arrian stating explicitly that he was joined by a Gedrosian pilot at Mosarna.\footnote{Arr. Ind. 27.} While it is only one explicit local aiding in the voyage, it is plausible that there were locals that knew of the route or some parts of it.\footnote{Arr. Ind. 18: Arrian does mention that Egyptians, Cypriots, and Phoenicians were part of the fleet when they set out on the voyage. While the Phoenicians may have had some knowledge of the route through their interactions with Solomon, there is no clear evidence to suggest this. Furthermore, the Phoenicians accompanying Nearchus were probably mercenaries hired while Alexander was further west. See J. Atkinson’s note on 18.1 in M. Hammond translation (2013).} Such a voyage was not without its hardships as Arrian lays out in the \textit{Indica}. However, perhaps these hardships are born out of the inexperience with the coastline and the inadequate nature of the vessel for operating along those coastlines.\footnote{Arr. Ind. 22.4: It is made clear here that many of Nearchus’ ships were oar powered rather than the sailing boats that were historically used by the locals.} The \textit{Periplus} also indicate that this route was still in use, noting that there was legally limited trade from the port of Apologos, near Charax Spasinu and the Euphrates river.\footnote{PME 35.} In the subsequent section, the author mentions that Barygaza traded with both Apologos and Oman.\footnote{PME 36.} From here, the products could travel up the Euphrates and go on to Thapsacus, which was an important crossing point on the Euphrates.\footnote{The earliest mention comes in Xen. \textit{Anab}. 1.4.11, 17 where Cyrus the Younger crosses at Thapsacus to march on Babylon. Diodorus mentions that Conon constructed a fleet there as well for the Great King (Diod. 14.21.5, 14.81.4). Thapsacus is mentioned multiple times during Alexander’s campaigns as the place where Darius III crossed the Euphrates after the Battle of Issus (Arr. \textit{Anab}. 2.13.1). Alexander also followed him across the river on pontoon bridges (Arr. \textit{Anab}. 3.6.4) and, before his death, Alexander began construction of a fleet there (Arr. \textit{Anab}. 7.19.3; Plut. \textit{Alex}. 68; Curt. 10.1.19). See BNP s.v. \textit{Thapsacus}.} While the actual location of
Thapsacus is unknown to modern scholars, it was nonetheless an extremely important crossing for trade.\textsuperscript{459} However, this would probably not be the only method goods could go from the Persian Gulf to the Mediterranean.

On the Persian Gulf trade route, there was a need to transport goods overland in order to reach the Mediterranean. In \textit{Ezekiel}, it is noted that the merchants of Uzal (probably located in Southern Arabia) brought cassia to Tyre, where it could be shipped out into the Mediterranean.\textsuperscript{460} From the beginning of the first millennium BCE, Tyre, Sidon, Byblos, Arwad, and Arados were important ports of the Phoenicians.\textsuperscript{461} Many of the products that travelled into the Persian Gulf ended up passing through the port of Tyre, or another Phoenician port, and into the Mediterranean. Products could even have passed through the Red Sea and onto Egypt. From there, these products could have travelled up to the Phoenician ports on the Eastern Mediterranean coast.\textsuperscript{462} The established maritime prowess of these cities would make a prime location for goods to be exported into the Mediterranean Sea. Phoenician trade routes extended all over the Mediterranean, famously establishing the city of Carthage.

The route from North-West India to the Persian Gulf was not the only route that commercial products could travel along to reach the Mediterranean. The Red Sea is the subject of a significant amount of scholarship and its economic importance to the Romans can hardly be exaggerated.\textsuperscript{463} However, this does not mean that this route was used as frequently as it was in the Roman period. Notably, the unforgiving nature of the shore in the Red Sea coupled with

\textsuperscript{459} Kennedy (2015), 290-6.
\textsuperscript{460} \textit{Ezek}. 27:19.
\textsuperscript{461} Casson (1991), 62: Notably, Solomon turned to Phoenicians in order to obtain wood for his temple.
\textsuperscript{462} ibid., 64.
\textsuperscript{463} Schoff (1912); Huntingford (1980); Casson (1989): All three scholars provide translations and discussions on the \textit{Periplus} and trade issues surrounding it. Casson (1984); Potts (2018); Cobb (2018); De Romanis (2020): These scholars discuss various different aspects of trade, particularly in the Ptolemaic and Roman periods.
the northly wind made it difficult to sail back up the Red Sea to the Gulf of Suez from the Indian Ocean.\textsuperscript{464} The difficulty of travelling up the Red Sea is demonstrated by the rise of Berenike and Myos Hormos during the Ptolemaic and Roman periods. It was easier for ships to offload their cargo at Berenike and Myos Hormos and then transfer the cargo up to Coptos than sail to the northern part of the Red Sea and use the Canal of Pharaohs.\textsuperscript{465} Both of these ports allowed for more regular traffic along the Red Sea trade routes.\textsuperscript{466}

The Red Sea was still an important commercial area for the Indian Ocean sphere. This importance can be seen by the attempt to build a canal that connected the Nile Delta and the Gulf of Suez. According to our sources, the construction of the canal was initiated by Necho II.\textsuperscript{467} However, Aristotle, Pliny, and Strabo disagreed and stated that the canal was started by Sesostris.\textsuperscript{468} All the sources do agree that Darius I continued the project during his reign, with Strabo stating that Necho continued with the project in his reign after Sesostris.\textsuperscript{469} Within our sources there is some disagreement on whether the canal was finished by Darius. Four stelae attributed to Darius I reign indicate that he did complete the canal and Herodotus does say that the canal was finished.\textsuperscript{470} Diodorus and Strabo state that the canal was abandoned by Darius after it was revealed to him that the Red Sea was at a higher level than the Nile and that completing it would cause the land to be flooded.\textsuperscript{471} There was also a stela that commemorates

\begin{itemize}
\item \textsuperscript{464} de Romanis (2020), 32-4: See fig.1.1 and 1.2 in De Romanis (2020), 33-4 for a visual image of the Red Sea winds in July and January.
\item \textsuperscript{465} \textit{ibid.}, 33: Both Berenike’s and Myos Hormos’ popularity is a general statement and relates to the length of time these routes were viable. De Romanis does state that Trajan’s Canal was in use during the Roman period but it could only be used during a certain time of year. See De Romanis (2020), 36-7.
\item \textsuperscript{466} \textit{ibid.}, 58: The popularity of both Myos Hormos and Berenike are attested to in Roman sources. Strabo only indicates that Myos Hormos was popular for Indian ships (Str. 17.1.45). However, Pliny states that Berenike was the popular port for departing to South India (Plin. NH. 6.103-4). The \textit{Periplus} does record both as popular trading ports (\textit{PME} 1).
\item \textsuperscript{467} Hdt. 2.158; Diod. 1.33.5-9.
\item \textsuperscript{468} Arist. \textit{Mete.} 1.15; Plin. NH. 6.33; Strabo 17.25.
\item \textsuperscript{469} Schörner (2000), 28.
\item \textsuperscript{470} Redmount (1995), 127-8.
\item \textsuperscript{471} Strabo 17.25; Diod. 1.33.5-9.
\end{itemize}
Ptolemy II cutting a canal through the Wadi Tumalit amongst other achievements.\footnote{Redmount (1995), 127.} Aristotle only records that Darius abandoned the project for the same aforementioned reason.\footnote{Arist. Mete. 1.15.} While Pliny the Elder records that Ptolemy II continued the projects, he did record that Ptolemy also abandoned the project due to the difference in water levels. He feared that it would flood the lands and ruin the water quality of the Nile.\footnote{Plin. NH. 6.33.} Our ancient sources appear contradictory but archaeological evidence does suggest that there were two canals that ran through Wadi Tumilat. Carol Redmount suggests that the record of Darius and Ptolemy taking up the project were probably just cleaning out the silt in the channels rather than digging out a new canal.\footnote{Redmount (1995), 135.}

Although it is not entirely clear from the evidence if the canal reached the Red Sea or not, nevertheless a canal that cut down on the overland travel would be more profitable and would facilitate the movement of products.\footnote{Briant (2002), 384.} However, this is by no means the only reason why a canal built from the Gulf of Suez to the Nile would have been built nor is it necessarily indicative of trade with India.\footnote{Tuplin (1991), 264-281: Tuplin suggests that the construction of the canal was primarily for communication and symbolic purposes.} Adding to this uncertainty is the general apathy amongst Greek sources when regarding trade and the failure to maintain it by the Egyptians after 404 BCE suggests that the benefits may not have been worth it to keep the canal functional.\footnote{ibid., 280-1.}

The Persian Gulf route was probably the main trade route from India. While the Egyptians did have early contacts with the Mediterranean powers, they were not as prolific traders as the Phoenicians. This is clearest in the establishment of a Greek mercantile city Naukratis, where the Greeks conducted the majority of their trade with Egypt.\footnote{Hdt 2.178, 9.} Prior to the foundation of Alexandria, goods that came to Egypt would have probably headed up to
Phoenicia to be exported along their trade routes. The prowess of Phoenician sailing expertise coupled with a long tradition of sailing makes it an ideal place for products to be exported and imported. Phoenician maritime and commercial dominance of the Eastern Mediterranean began at the end of the second millennium BCE and continued down into the fourth century BCE, enduring multiple regime changes.\footnote{Elayi (2018), 95, 100.} This dominance was amplified by the take-over of the Mycenaean naval supremacy after their collapse in the Late Bronze Age.\footnote{Ibid.} Of the major Phoenician cities, Sidon and Tyre were the major cities in the fourth century BCE.\footnote{Grainger (1991), 11.} Sidon held some importance as a city for the Greeks prior to the fourth century, as evident in Homer’s \textit{Iliad} and \textit{Odyssey}, where ‘Sidonians’ or ‘Phoenician’ was used to describe the people that came from Phoenicia and Tyre, and the Tyrians as a people are never mentioned specifically.\footnote{Hom. \textit{Ody.} 4.84, 4.617-8, 15.117-8; \textit{Il.} 23.743-4: Scott (1919), 525-6 suggests that this is an indication that Sidon was the prominent city trading with the Greeks. However, the Bible uses ‘Sidonians’ for Phoenicians which probably indicates that Sidon was the most prominent city when these texts were compiled. The most notable comes in 1 Kings 5.6, where the servants of Hiram, King of Tyre, were called Sidonians.} This is not to say that other cities, such as Arados and Byblos, were not important.\footnote{Grainger (1991), 5-6.} Herodotus also attests to the superiority of Phoenician sailing when he recounts Necho II’s employment of Phoenician sailors to circumnavigate Africa.\footnote{Hdt. 4.42; Manning (2018), 47: Whether or not that voyage actually occurred is not as important as the reputation that Phoenicians were skilled sailors.} The Phoenician reputation as traders was not only held by the Greeks. Even the Canaanites saw the Phoenicians as excellent traders but chastised them for it, often referring to their commercial activities as a form of prostitution and prophesied their destruction.\footnote{Isaiah, 23; Ezekiel 26-8.} Turning to the fourth century BCE, the Phoenicians still held this reputation as skilled traders. This is evident from Kritoboulos’ awe at how well a small merchant ship was organised.\footnote{Xen. \textit{Oec.} 8.11-19.} The trade routes of the Phoenicians extended from the eastern coast of the Mediterranean right out to Iberia and even further afield according to some
The Phoenicians were also the prime candidate to facilitate trade in the Mediterranean, not only for their trade routes, but for the goods that they could export. Famously, the Phoenicians produced a purple dye that was coveted by many nations and the cedar wood that grew on the coasts of Lebanon was also highly sought after due to its fragrance and structural integrity. The superiority of the harbours of the Phoenician cities also contributed to this naval supremacy with safe and favourable harbours facilitating maritime traffic. Since the Phoenician coast was the obvious destination for products along the Persian Gulf route, the Phoenician maritime prowess makes this route appealing for traders in the fourth century BCE.

This is not to say that there was no traffic coming from Egypt. Particularly after Alexander’s campaigns and the actions of the Diadochi, Egypt became a more prominent trading force within the Mediterranean. While the policies of the Ptolemies aided in the expansion of commercial power, part of the shift to the Red Sea route probably stems from the consistent change of regime of the Phoenician settlements. The cities had been controlled by the Achaemenids, Alexander, the Antigonids, the Ptolemies, and the Seleucids all throughout the latter decades of the fourth century BCE. While Ptolemy I did control Coelê-Syria from 320-315-311 BCE, there was a concerted effort to expand Egyptian maritime ports. Even with the establishment of Naucratis as the point of trade with the Greek world, prior to the Ptolemies, there was a hostile relationship between the Egyptian Pharaohs and Greek traders. According to Herodotus, traders that came to Egypt used to have to swear an oath they came

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488 Gottesman (2005), 736-7: Other places include the British Isles and even the New World.
489 Meiggs (1982), 56.
there by accident and then go to Naucratis, hardly a pro-trade policy. However, it appears that by the time the Achaemenids came to control Egypt, Greek merchants were allowed to trade without restriction in Egypt. Even with the establishment of the trading centre, the Egyptians were not as active in Mediterranean trade as the Phoenicians. The clearest evidence of this comes from a customs register found in Elephantine dating to 473 to 402 BCE. Here, it was recorded that forty-two Greek and Phoenician ships were arriving and departing the region, bringing in oil, wine, and other various goods while departing with natron. However, there is an indication that there was some relationship with the cities of Rhodes prior to the fourth century BCE, but the evidence for this relationship does not indicate that Egypt was a strong active player. Although there was a shift of focus towards Egypt by the Greeks for their grain towards the later stages of the fourth century BCE, Egypt does not become a significant active player until the establishment and flourishing of Alexandria under the Ptolemies. The importance of Alexandria (and Pelusium) is shown slightly after the fourth century BCE, where the taxes for imports from the Greek world were the highest of anywhere. Even with these high taxes, the route from Rhodes to Alexandria was still extremely lucrative. With the limited evidence that remains before Alexander’s conquest, it may be concluded that there was limited active participation by Egyptians. This is not to say that Egypt was not important, nor that Indian goods did not come through the region, but at the

492 Hdt 2.179: Earlier, Herodotus records that Amasis gave the Greeks Naucratis in part due to his fondness of them (2.178). Although this is the tradition recorded in Herodotus, archaeological evidence suggest that it was founded by a variety of Greek cities. See Chapter 5.
493 Pleiifer (2010), 18: the pluperfect ἐτερίμητο in Hdt. 2.179 clearly indicates that by the time of Herodotus’ writings, Naucratis’ position as the sole Greek emporion in Egypt had been revoked.
495 Gabrielsen (2013), 66.
496 This is not to say that Egypt was never a major exporter of grain. Casson (1954) lists it as one of the major exporters of grain. However, Egypt’s power as a grain exporter increased after Alexander’s conquest of Egypt. This is shown most clearly by Cleomenes’ ability to extort a ludicrous price for grain in 330 BCE.
497 Gabrielsen (2013), 72; Préaux (1939), 375.
498 Gabrielsen (2013), 73-81: There are two major reasons for this profitability. The first, the Rhodian navy ran protection against pirates along this route. Second, the route could be done in three and a half days while being open all year round.
time of the fourth century BCE the Phoenician cities were the more probable location as the catalyst for the movement of goods from India to the Greek world. It is entirely possible that products from India could have come into Egypt and then be transported up into the Phoenician cities. During the Late Bronze Age, Egypt had two trade routes that led up to the Phoenician cities. Thus, we may be able to suggest that some of the products could have been sent up into Phoenicia and not exported out of Egypt. Such a suggestion is supported by the scant evidence for a prevalent sea-faring culture in Egypt. Even in the latter part of the fourth century BCE, Egyptian commercial activity was driven by other agents. The most notable being the Rhodians. All of this suggests that the cities of Phoenicia were probably the main facilitators in the transport of products from east to west for most of the fourth century BCE.

With that being said, Egypt could have received traders from foreign nations that may have purchased the goods from the Egyptian markets and then transported them to a different market. This could be the case after the fall of Sidon in 677 BCE. Sidon and Euboea held a significant commercial relationship which facilitated the transport in goods during the Early Iron Age. Many eastern exotica can be attributed to this co-operative relationship. However, after the seventh century BCE, the dominance of Sidon was eclipsed by Tyre. From here, the two major Phoenician cities were engaged in a zero-sum struggle for primacy. But, contrary to the previous Sidonian-Euboean monopoly, it appears that there was more competition from other parties than an assumption of the same relationship. Tyre and her colonies were in competition with many Greek city-states, who had become more active in the Eastern Mediterranean commercial sphere. Athens emerged in the fifth century BCE as a major naval

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499 Singer (2017), 166.
500 Casson (1995), 20-22: There are two definitive instances of Egyptian seafaring. There is a solid relief of a returning military expedition dated to around 2450 BCE and a relief depicting Queen Hatshepsut’s fleet sailing down the Red Sea to Punt. See Casson (1995), fig. 17 & 18.
501 Fletcher (2004), 64.
502 ibid., 66.
power with the establishment of the Delian League. Even after its decline in the fourth century, there is significant evidence of continuing commercial interaction with major markets. In several speeches by Demosthenes, he references the commercial involvement of Athens in trade. In the most relevant speech, *Against Dionysodorus*, he specifically deals with the grain trade that comes out of Egypt. He mentions how Cleomenes – the then financial manager of Egypt – could manipulate the price of grain. Two other speeches made by Demosthenes also indicate that Athens held significant trading relationships with Syracuse and the Bosporus. Thus, it is entirely possible – if not probable – that Athenian merchants were engaging with Egypt. This activity was amplified towards the latter stages of the fourth century BCE when Rhodes rose to prominence as a major naval power and a major port of call for traders in the Eastern Mediterranean.

The evidence in support of the trade route coming through the Red Sea can be seen in the Egyptian influence in Archaic Greek art. While there are numerous instances of Egyptian influence and products coming into Greece, it is unclear whether this indicates that Egyptian merchants were travelling to Greece. Rather, as has been mentioned, it was the Greeks coming to Egypt. Commercial interaction was not the only interaction the Greeks had with Egypt. Greek mercenaries were the elite mercenary force up until the Hellenistic Age. These mercenaries found themselves in the employ of Egyptian Pharaohs and Achaemenid kings. From here, it is possible that the Egyptian influences within Archaic Greek art came through this interaction.

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503 Dem. 56.
504 *ibid.*, 56.7-11: See also Arist. *Oec.* 1352b for the price fixing practices of Cleomenes.
505 *ibid.*, 32, 34.
506 Boardman (1982), 447.
507 Trundle (2004), 4-5.
How do the Arabians feature in the trade routes from India to the Greek world? Quite simply, they were the dominant middle men in the transport of goods from India to the Eastern Mediterranean coast. As has been previously mentioned, they were the major group that was active along the maritime section of the Persian Gulf route.\footnote{Salles (1996a), 256; Hdt. 4.44.} The peoples of Southern Arabia were also important players within the Red Sea route. Pliny records a story in which the King of the Gebbanitae held the sole right for the sale of cinnamon.\footnote{Plin. *NH*. 12.42: Beston (2005a) provides an excellent discussion about who these people were as Pliny is the only ancient author to describe them.} Prior to this comment, it appears that many Arabian groups were active participants in the aromatic trade. The Minaeans were the dominant force in this trade during the period of the fourth to second centuries BCE.\footnote{Beeston (2005b), 53.} Prior to the fourth century BCE, the Sabaeans were an important group for ships sailing from Egypt, out of the Red Sea, and onto Persia. It was recorded on the Tell el-Maskhuta stela that a ship sailed from the Red Sea to Persia with the help of the Sabaeans.\footnote{Klotz (2015), 275-5.} Although there has been some disagreement amongst scholars regarding the Red Sea route in the fifth century BCE, the stone exports to Susa and Persepolis definitely suggest that a sea route was used.\footnote{Salles (1992), 84-5; Tuplin (1991), 277-8: Both Salles and Tuplin argue that it was an absurd detour to go around Arabia to get to Mesopotamia when there were already established land trade routes. However, this only appears to be true when considering the tribute mentioned by Herodotus 3.91, for other larger goods, Klotz (2015), 255-6 notes that it would be extremely difficult to haul the amount of stone required for constructions in Susa and Persepolis as well as the required Egyptian workers to complete the works. Furthermore, Salles and Tuplin’s objections are not fatal to the notion of goods heading from India to the Greek world as the sea voyage would take significantly less time.} The Sabaeans would have been invaluable in this, given that they had extensive knowledge of the Arabian coastline, particularly the portion on the Red Sea. These groups of people would have been prominent in the overland trade. Strabo provides an account of an old trade route through Arabia. Goods would travel up the Red Sea up to White Village, then onto Petra, then onto Rhinokoloura.\footnote{Strabo 16.4.24.} From there, the goods would go off elsewhere, while Strabo does say that this was an old route, it is not clear as to whether this route would have been used in the
fourth century BCE. The Periplus and Pliny give some trade routes for the region as well, but it seems they are more applicable to their respective time periods rather than indicative of an earlier trade route. However, the presence of these routes suggest that the Arabians were involved in the overland transport of goods. According to the evidence that we have, Arabian groups started transporting incense between the start of the first millennium BCE and the seventh century BCE. An interesting study in 2007 has shown that there were significant overland trade routes running through Arabia, which would have facilitated the transmission of goods across the desert. Notably, the identification of Ash Shisr as an important emporium in the Empty Quarter of Arabia. However, it is unclear whether or not these particular routes would have been applicable to goods coming from India since they were predominately used for the transport of frankincense and myrrh. This is seen most clearly in the Yemen-Gaza route, which was transporting frankincense to Syria as early as the seventh century BCE. Thus, it is entirely possible that goods coming from India could have come into Arabia and then travelled along these caravan routes to their destination. But a problem does arise. There is no surviving evidence that suggests that Indian goods travelled along these routes. Furthermore, Jan Restö’s conclusion that the trade route developed north to south rather than south to north might indicate that this particular route through Arabia was not a major facilitator of Indian trade. However, part of the reasoning for the establishment of this route would be to have better access to the Indian goods coming by sea. We also cannot ignore the attribution of Arabia

514 Strabo 16.4.24.
515 PME 19; Plin. NH. 6.104: Both Berenike and Myos Hormonos were towns that really rose to prominence after the fourth century BCE.
516 Fedele (2014), 179; Crone (1987), 14-17: Crone argues that the earliest evidence from the Bible places the beginning of the incense trade in the seventh century BCE. However, Restö (1991) suggests that there is ample evidence to consider a much earlier date. In particular, this conclusion is reached through the analysis of the domestication of the camel, an important beast of burden for travelling across the desert. The earliest literary accounts we have come from Jeremiah 6.20 and 41.5, which can be confidently dated to the end of the seventh century BCE.
517 Blom et al. (2007).
518 ibid., 72-3.
519 ibid., 190-8.
520 ibid., 208.
as the source of many Indian products which may indicate that goods were coming through Arabia. Our sources from the fourth century BCE are ambiguous on whether Indian goods travelled up from Southern Arabia to the Mediterranean coast and it is difficult to tell if this route was in use.

We may be able to infer some dynamic changes between the two routes from the wars of the Diadochi. An excellent instance is Antigonus’ expedition into Arabia in 311-310 BCE. At the end of the third war of the Diadochi, Antigonus ordered two expeditions to the Nabataeans, one led by Athenaeus and the other led by Demetrius. The reasoning behind this is unclear, whether for strategic purposes or economic gains. The Nabataeans were an incredibly wealthy nation in the latter stages of the fourth century BCE, with their geographical position making them an important player in the incense trade. According to Pat Wheatley and Charlotte Dunn, Antigonus could have desired to redirect commercial traffic to the Phoenician ports that he controlled from Ptolemaic Alexandria. The indication here is that there was a shift in the flow of the goods from going through Alexandria back into his territory in order for economic gain. Diodorus makes it clear and obvious that the Nabataeans were skilled in the transport of myrrh, frankincense, and other spices from Arabia Felix. Although the Nabataeans first appear in the written historical record quite late in the fourth century BCE, we can infer that they were present in the region sometime before then due to their literacy and

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521 Cinnamon and cassia were placed in Arabia by Herodotus (3.110), Theophrastus (HP. 9.4.2), Agatharchides (fr. 97, 101), Diodorus (2.49.1-5, 3.46.1-4), Dioscorides (1.13.1), and Strabo (16.778, 782-3). Arrian noted that cinnamon comes through Arabia (specifically Maceta).
523 Wheatley & Dunn (2020), 78-9; Diod. 19.94.1: Antigonus’ later actions of ordering Hieyronomus of Cardia to take over asphalt production in the Dead Sea suggest that there may have been a strong economic element. See Diod. 19.100.1-2 and Billows (1997), 131. Waterfield (2011), 123 suggests that the possibility of enriching himself and cutting off some of Ptolemy’s financial strength was a major factor in the decision.
526 Diod. 19.94.5; Bowersock (1983), 15.
ability to communicate with Antigonus.\footnote{Diod. 19.96.1; Bowersock (1982), 14; Billows (1997), 130-1.} If we suppose that Strabo’s old trade route is applicable to the latter stages of the fourth century BCE, then the Nabataeans would have been an important group that transmitted goods overland to the Eastern Mediterranean.

Ultimately, we can reach no definitive conclusion about what specific trade route that was used to facilitate the movement of Indian goods into the Greek world and vice versa. However, it is possible to make some observations about what were the most probable routes these goods would have travelled along. We can probably rule out with some certainty that the Indian spices discussed in Chapter 3 would not have been transported entirely overland along the road system of the Achaemenids, nor is there sufficient evidence to suggest the trade route running from Southern Arabia to the Mediterranean transferred Indian products at this time. This would leave the major routes that travelled through the Persian Gulf and the Red Sea. Although it makes sense that the Persian Gulf route would have been the most commonly used route, the route that run through the Red Sea and up to Egypt cannot be ruled out. Phoenician trade dominance is a significant factor for suggesting that the Persian Gulf route was a far more attractive route. However, while the Egyptians did not have any significant history in seafaring, the Greeks were engaging in significant trade with Egypt by the fourth century BCE. The Red Sea route also seems like a feasible option when considering the attested origins of Indian products are often ascribed to Egypt, or to its south. If we accept the reasoning that the confusion of source with the transhipment point, then the Red Sea route becomes significantly more appealing as a major route.\footnote{van Alfen (2002a), 52.} With that said, it is difficult to assess if this is the case. Perhaps, even the goods could come through Egypt but then be transported up into Phoenicia and then onto the Greek world. However, Antigonus’ actions during the third war of the
Diadochi suggests that Egypt was increasingly becoming a more prominent centre of commercial interaction. Feasibly, the actions of the Diadochi may have facilitated a shift in the dominance of Phoenician ports to Alexandria and Egypt. This, along with the economic reforms under later Ptolemaic rulers, may help explain the popularity of the Red Sea route in the Roman Early Imperial period.⁵²⁹ While there is a lot of speculation surrounding the Red Sea trade route, all we can say with any certainty is that both the Persian Gulf route and the Red Sea route were probably in use during the fourth century BCE with varying degrees of use.

⁵²⁹ Casson (1989), 12.
Numismatic Evidence for Greek Participation in Trade

Now that we have investigated which Indian products were making their way to the Greek world and what possible routes they may have travelled along, it is worth examining Greek participation in the trade networks that linked them with India. To do this, we will examine numismatic evidence in coin hoards. Coins provide us with plentiful and durable evidence for trade between India and Greece than the Indian spices that appear in ancient literature. The geographical range and the frequency of coins that appear across the ancient world grants us with excellent primary evidence Greek participation in and the extent the commercial interaction between India and Greece. An examination of the hoards across the Achaemenid Empire clearly demonstrates that there was significant commercial interaction between the Greek city-states and the east. This commercial interaction appears to extend into ancient India with the discovery of a new hoard in 2007. Within this hoard found in Pushkalavati, there is an Athenian owl tetradrachm minted between the end of the sixth century and the start of the fifth century BCE. Although coins can be disseminated throughout many regions for a variety of reasons, the most probable and elegant explanation for the appearance of these coins and the abundance that they are found in is that they arrived through commercial interactions. Alexander’s campaigns, though an obvious candidate for how this particular Athenian tetradrachm reached Gandhara and for the distribution of coins throughout the Achaemenid Empire, is not a satisfactory explanation given the appearance of Greek coins in hoards closed before his campaigns.

An interesting coin hoard was found in the ancient city of Pushkalavati (Peucelaotis for the Greeks) the capital of Gandhara, which contains an Athenian owl tetradrachm minted around 520 BCE. This hoard, the Shaikhan Dehr hoard, was discovered in 2007 and bears
some resemblance to the Kabul hoard discovered in 1933. Unfortunately, the Shaikhan Dehri hoard is incomplete, rendering it difficult to date the burial of the hoard, but it is not unreasonable to suggest that its burial could predate the Kabul hoard, which was buried around 380 BCE. Other important finds from this hoard include four ingots weighing 400 grams and stamped for authenticity, as well as local coins, and blank flans. The ingots are of interest as they are the oldest ingots found in India. Metrological analysis of coins in this hoard show that they differ significantly in purity from Achaemenid coins, which suggests that Indians in Gandhara were striking their own coins.

The significance of the find is that it demonstrates that material wealth from Athens could reach India. Probably, the ability for this coin to travel to India was facilitated by the Achaemenid Empire. Part of the Achaemenid Empire’s claim to fame was its roads, especially the Royal Road on which the court of the king travelled which made travel around the empire significantly easier. The royal highway was able to connect the capitals of the 23 satrapies of the Achaemenid Empire with each other. Through this extensive network of roads and trails, the Achaemenid government could exert some political control over all of their territories. The ability for the Achaemenid court to move throughout their empire allowed for them to exert more effective political control, as well as lead armies, fulfil diplomatic missions, and fulfil religious or cultural obligations. This could explain how an Athenian tetradrachm ended up in an Indian hoard. It is unclear what purpose this coin could have served. Given its date, it is possible that it could have been plundered during the Persian invasions of 490-480 BCE. But it is also plausible that it could have come through a series of indirect trade routes.

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530 Bopearachchi (2009), 39-50; Bopearachchi (2017), 17.
532 *ibid.*, 19-20; Persian coins typically have a 97-8% purity while the coins found here have a 90-2% purity.
533 Briant (2012), 189.
given that the Athenian owl was a widely accepted form of international currency until the Heracles-type coins of Alexander become more prominent. To further support this commercial idea for the origin of the coin, we can turn to a passage from Theophrastus which states outright that there was aromatic trade with India. It is also unreasonable to dismiss this claim in Theophrastus outright, as he clearly provides a significant amount of accurate information concerning plants in ancient times and it is possible to trace the notion of commercial activity to Sophocles. Particularly, that any trade from India – especially aromatics – would have predominately come by sea. Furthermore, there were upwards of 200 items that could have possibly been traded through the Achaemenid Empire to the Aegean from the sixth to the fourth century BCE. Thus, trade is a distinct possibility to explain how the coin reached Gandhara.

Before investigating whether the coin found at Pushkalavati was an outlier or part of a trend, it is worth seeing whether or not it is possible for the coin to travel this far. In the Kabul hoard, there were several coins found from various Greek cities as well as thirty-four Athenian owl coins with one imitation, which suggests that it was plausible that Greek coins could reach the region of Kabul prior to 380 BCE. The significant presence of Greek coins east of the Tigris in hoards also suggests that there may have been considerable circulation of Greek coins in the East, especially when compared with sigloi. It is important we must be careful not to jump to a conclusion as the collectors of hoards typically held coins that were unique and not always useful in day to day transactions. However, this is not always the case as some hoards

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536 Bresson (2005), 46.
537 Theophr. HP. 9.7.2; Amigues (1996), 662-3.
538 Soph. Ant. 1037.
540 van Alfen (2002a), 270: Peter van Alfen deals with the different commodities that were produced or went through the Achaemenid empire.
541 Bopearachchi (2000), 301, 309: The consensus does seem to be that this hoard was buried in 380 BCE due to the Iranian imitation. See Schlumberger (1953), 31-40.
particularly mercantile hoards – would have a variety of coins due to the nature of their trade. It is possible that this coin, and the other coins found at Kabul, arrived through commercial interaction. For the Greeks, coins start appearing and rising to prominence from the seventh century BCE to the sixth.\textsuperscript{543} The Attic weighted coinage, commonly referred to as the Athenian owl, became the dominant coin throughout the Mediterranean fifth century BCE and, as Colin Kraay puts it; “... owls seem to have become the coins most commonly employed for storing surplus wealth in the Mediterranean.”\textsuperscript{544} This trade hypothesis is further supported by Gandhara’s rise to prominence as a trading centre after it was acquired by the Achaemenid Empire.\textsuperscript{545} It is plausible that this coin could have arrived in Gandhara through commercial interactions.

Another possibility with this particular coin is that it could have been taken as part of loot during the Persian Wars. The dating of the striking of the coin could plausibly place it in Attica at the time of the Sack of Athens in 480 BCE.\textsuperscript{546} According to the dating, this places it at the latest date for striking. Thus, the coin could have ended up in Gandhara through the movements of the royal court or their economic activities. It is difficult to say definitively for either case, while the wear and tear of the coin could be from the damage as a result of the Sack of Athens, it is also feasible that the damage sustained to the coin is from its use in commerce and constant hand to hand transaction. Furthermore, as will be explored later, the coin taken as part of plunder to function as bullion puts it in line with how we might expect bullion to be collected in a martial context. Even if it is unclear how the coin ended up in the Achaemenid possession, the ability for it to end up in Gandhara does suggest that the Achaemenid Empire could transport goods from the Mediterranean to the sub-continent.

\textsuperscript{543} Schaps (2004), 94-6.
\textsuperscript{545} Hoover & Bopearachchi (2013), 270-1.
\textsuperscript{546} Hdt. 8.52-4.
There is a third possibility as to how the coin could have arrived in an Indian hoard. Since the dating of the hoard is uncertain, there is some possibility that the coin could have reached there through the campaigns of Alexander the Great. Pushkalavati was taken by Alexander in 327/6 BCE. Quite possibly, a soldier of Alexander’s army could have brought this coin from Europe to the east, but this is unlikely. We can reject this possibility on two grounds. First, the dating of the coin makes it extremely unlikely that a soldier on the Macedonian payroll would have in his possession a coin minted just under 200 years ago. The second, and more convincing objection, the dominant coin that would have been in use by the time Alexander would have arrived would have been the Heracles-type coins, with the head of Heracles on the obverse and seated Zeus on the reverse. Scholarship surrounding the first minting of Alexander’s coins propose two different chronologies for when this occurred, either that these types of coins were minted on accession to the throne in 336 BCE or 333 BCE. It is extremely unlikely that such a coin would be in the possession of a soldier, since Alexander had a policy for using his personal coinage to pay soldiers and the significant time gap between the implementation of the Heracles-type and his campaign into Gandhara. What is more feasible is that if such a coin was found, it would probably have been melted down and re-struck as a Heracles-type coin.

The appearance of an Athenian owl in India provides us with significant concrete proof that it was possible for goods to reach from the Aegean world and India and vice versa. While

547 Arr. Anab. 4.28.6; Karttunen (1997), 50.
550 Alexander began his invasion of Gandhara in 327 BCE, a full six years after the latest date for striking his Heracles-type coins.
the Indian spice trade can prove that there was commerce flowing from India to Greece, it largely depends on what has been recorded by our ancient sources, which comes with significant issues around identification. This Athenian owl, since it is primary evidence, is not subject to the issues surrounding the majority of the literary evidence for the Indian spice trade.

Another hoard, found near Balkh, also demonstrates the movement of Greek coins to the east. Some of the coins present are dated to the sixth century BCE, coming from Macedon and Thracian-Macedonian tribes.\(^{551}\) There are also Athenian coins that date from the fifth century BCE.\(^{552}\) The coins mentioned in Troxell and Spleneger’s article all vary in minting date, with the oldest being dated shortly after 480 BCE, and the others dated around 440 BCE. However, this hoard contains up to 150 Athenian coins, with a closing date around 380 BCE.\(^{553}\) A closing date of 380 BCE would align it with the Kabul hoard and possibly with the Shaikhan Dehri hoard.

The appearance of such coins begs the question as to what they were used for. It seems unlikely that the Athenian owls and other Greek coins were used as a medium of exchange in Central Asia and India. Rather, they seem to be used primarily as bullion, of which the Athenian owl was the most common.\(^{554}\) This makes sense in the context of the Achaemenid Empire, as it seems that the Achaemenids only struck coins as needed to cover costs.\(^{555}\) These costs could include military, public buildings, and food amongst others.\(^{556}\) The bullion would be stored and only struck to meet these requirements. Such bullion could be attained in a variety of ways;

\(^{552}\) ibid., 3-4.
\(^{553}\) *IGCH* 1820; Troxell & Splenger (1969), 17.
\(^{554}\) Cribb (2007), 335-6.
\(^{555}\) Strabo 15.3.21.
\(^{556}\) Howgego (1990), 8-1.1.
mines, plunder, booty, and gifts etc. are all viable sources for bullion.\textsuperscript{557} Furthermore, the eastern part of the Achaemenid Empire did not mint coins as a regular means of their commerce.\textsuperscript{558} This is evident from the lack of mention of Achaemenid coins in Persian administrative records from places outside of Anatolia.\textsuperscript{559} Often, precious metals are recorded as tribute in terms that refer to the weight rather than a type of coin. For instance, the shekel can be a type of coin, which renders in the Greek as a \textit{siglos}, or it can be a weight measurement. An account of silver taxes from Fars indicates this, with different varieties of silver being measured in \textit{minae} and \textit{shekels}.\textsuperscript{560} Furthermore, an Aramaic papyrus from Elephantine also indicates that duties were paid in measurements such as \textit{karsh, shekels, hallurs,} and \textit{quarters}.\textsuperscript{561} Herodotus’ account of the Achaemenid satraps and their tribute payments also suggests that this was common practice. With this in mind, the Achaemenid Empire could strike coins for their expenses or they could use the weight in order to pay for them.

Within the Achaemenid Empire and other eastern regions, there does seem to be an effort to make imitations of Athenian owls, which is particularly noticeable within the contents of the Kabul hoard. It is difficult to ascertain why they might be issuing their own imitation coins. Peter van Alfen notes that the traditional reasoning for the presence of the imitations is generally due to keeping up supply with the diminishing availability of owls from Athens and to pay mercenaries.\textsuperscript{562} However, the nature of imitative coins suggest that this is not the case as many of the coins vary greatly in the weight standards and quality of design, which would have been unlikely to have been accepted.\textsuperscript{563} These explanations are insufficient to explain why

\textsuperscript{557} Howgego (1990), 5.
\textsuperscript{558} Meadows (2005), 186-7.
\textsuperscript{559} \textit{Ibid}.
\textsuperscript{560} PF 85.IX/25/20 = Kuhrt (2007), 717-8.
\textsuperscript{561} Kuhrt (2007), 681-697; Yardeni (1994), 70, 73-78.
\textsuperscript{562} van Alfen (2011), 56-7: van Alfen argues that these are insufficient to explain this phenomenon.
\textsuperscript{563} Schlumberger (1953), 20: Although, this might be contested through an examination of Ptolemy I’s weight reductions and his payment of mercenaries. However, Ptolemy institutes a variety of economic changes that creates a zone of economic exclusion where his coins were the only coins in use. Therefore, mercenaries that
imitations were struck and there were more varied and complex reasonings behind this practice. These reasons could include civic, martial, private, or satrapal expenses, and it appears that the imitations could circulate as far as Kabul, or even the coins that they were imitating could reach that far. Daniel Schlumberger also suggests that the Achaemenid empire could have used *sigloi* as another way to pay Greek mercenaries.\textsuperscript{564} Again, van Alfen lays out a survey of imitation coins which demonstrates that they were circulating throughout the Middle east and were at a variety of weights.\textsuperscript{565} Imitations appear as evidence for the circulation of Athenian currency, as one would expect that in order to make an imitation, there would need to be a physical copy of what is to be imitated.

Another possible reason for the use of imitation coins could be to instil confidence in the monetary system. Imitative Athenian owls were minted in order to maintain the confidence in the monetary system by the general public.\textsuperscript{566} Due to the long use of the same design, the image would suggest that this monetary system was stable and trustworthy.\textsuperscript{567} Athens had used the owl design for tetradrachms for over two centuries, which conveyed a sense of permanence to the consumer.\textsuperscript{568} While we see imitative coins being minted in regions such as Egypt, it is unclear whether or not regions in Central Asia would have minted these coins prior to the fourth century BCE. It is more feasible that the imitations would have come from areas with more regular contact with Athens and then made their way over east through various interactions.

\textsuperscript{564} Schlumberger (1953), 16.
\textsuperscript{565} van Alfen (2005), 328.
\textsuperscript{566} Schlumberger (1953), 22.
\textsuperscript{567} van Alfen (2005), 328.
Other coin hoards closed at a similar time also suggest that there is a transmission of coinage to the east. Coin hoards from Al-Mina, Beithur and Tell el Maskhouta (Heroonpolis) help demonstrate the spread of Athenian coins throughout the Eastern Mediterranean. Al-Mina contained eighteen Athenian silver tetradrachms and imitations in a pot hoard as well as twenty-six Athenian silver tetradrachms and imitations from excavations. Beithur had two silver tetradrachms. Tell el Maskhouta had a tetradrachm, a decadrachm, and an imitation drachma. Heading further east, there are two hoards which contained Athenian coins, as well as some other interesting coins. In a hoard found in Mesopotamia or Babylon, there were six Athenian tetradrachms as well as a fragment of a silver stater from Aegina. In the hoard from Malayer, there were 163 Athenian tetradrachms, one decadrachm, one didrachm, and two drachmaces. Also within this hoard was three Macedonian octodrachms, issued under Alexander I, and forty-five Aeginian silver staters. Together with the three other hoards discussed prior, this shows that Athenian, and some other Greek coins, could make their way through the Achaemenid empire and onto India. The variety of minting dates for the coins possibly suggests that these economic transactions were continuing to happen over an extended period of time. The octodrachms of Alexander I were probably minted between 479-451 BCE, after the Persian withdrawal from Greece, coinciding with the temporary control of the Dysoron mountains. Octodrachms found within the Asyut hoard may suggest that they were minted before 475 BCE. Such variance in the dating of the coins is explained best by the commercial activity, rather than other activities such as plundering. Al Mina also served as an

569 IGCH 1487, 1488 (Al-Mina); IGCH 1489 (Beithur); IGCH 1648 (Naucratis); IGCH 1649 (Tell el Maskhouta).
570 IGCH 1747 (Mesopotamia or Babylon).
571 IGCH 1790.
573 IGCH 1644.
important trading post for the Greek, thus we would expect Greek coins to flow through this region.574

Hoard from Naukratis that were closed earlier than the hoards previously mentioned also provide us with evidence of the movement of Greek coins. Two hoards closed in the fifth century BCE contained Athenian silver tetradrachms, with one that contained fifteen and the other contained sixty-seven.575 This is expected in the hoard of Naukratis, since it was a major trading centre for both Egypt and the Greeks.576 It initially functioned largely as an area of commercial interaction by a variety of Greek cities rather than being established as a traditional Greek polis and before the Achaemenid conquest, it was meant to be the only point of contact for trade.577 With Athenian silver tetradrachms continually showing up in hoards and in areas that experienced significant commercial activity, it seems that the majority of Greek coins that came in to the East were arriving for commercial reasons. While there is a tendency to think of coins solely as a medium of exchange, their function as bullion in the East also suggests to us that they were valued as a product as well as a medium of exchange. The evidence from some hoards in Egypt suggest that there was a continued exportation of Athenian tetradrachms in the mid fourth century BCE. A hoard in Memphis contains thirty-four of its thirty-nine Athenian tetradrachms minted from the mid-fourth century BCE.578 Another hoard from Egypt has twenty-five mid-fourth century BCE Athenian tetradrachms as well as a hoard from Naukratis which has twelve mid-fourth century BCE Athenian tetradrachms.579 The appearance of these coins should not be surprising as there was an uptake in the production of Athenian

574 Lehmann (2005), 61-2.
575 IGCH 1647, 1648.
576 Hdt. 2.178-9; Bresson (2000), 61-3.
577 Hdt. 2.178-8; Austin (1970), 22-7; Austin provides a rundown of the different Greek traders and the archaeological evidence found there.
578 IGCH 1660.
579 IGCH 1659, 1661.
tetradrachms in the mid fourth century after the reduction that was a consequence of the capture of the city in 404 BCE.\textsuperscript{580} However, there is a noticeable decline in Athenian tetradrachms in other Eastern Mediterranean hoards. This is seemingly due to the increased activity of local mints and the expansion of operations that resulted in local issues being minted rather than a decline in commercial activity.\textsuperscript{581} Mints in Phoenicia and Cilicia are notable examples of this. The coins that are found in Egyptian hoards should not be surprising. Egypt, for the majority of the fourth century, did not mint its own coins except for two instances, under Tachos and under Artaxerxes III.\textsuperscript{582} These coins were not minted for local commerce, but rather they were largely minted in order to pay for Greek mercenaries.\textsuperscript{583} It is probable that the other mints were importing Athenian tetradrachms as bullion, melting them down, and then striking their own issues.\textsuperscript{584} This is shown in Xenophon’s \textit{De Vectigalibus}, where he writes that merchants coming into Athens could return with silver rather than a cargo of goods.\textsuperscript{585} Plutarch also appears to share this sentiment, writing in the \textit{Life of Solon} that merchants do not like to trade with ports that do not produce something that they can load up on.\textsuperscript{586} Xenophon also points out how silver is unique to other goods as it is not subject to certain principles of supply and demand as other goods are. When there is an abundance of silver, then there is not such a reduction in value according to Xenophon.\textsuperscript{587} While there may be some modern objections to this, it does demonstrate that silver was viewed as a guaranteed revenue stream and constantly held its value. Ultimately trade in metals was an extremely profitable venture for city-states, which helped the spread of metals from the Greek world to the east. Since Athens had an abundance of silver, it would make sense that they would want to exploit its indigenous

\textsuperscript{580} Kraay (1976), 74-5.
\textsuperscript{581} Kraay (1976), 75.
\textsuperscript{582} van Alfen (2002b), 23-7, 37-46; van Alfen (2004), 16; Kraay (1976), 76, 295.
\textsuperscript{583} Bresson (2005), 56.
\textsuperscript{584} Kraay (1976), 75-6.
\textsuperscript{585} Xen. \textit{Vect.} 3.2.
\textsuperscript{586} Plut. \textit{Solon} 22.1.
\textsuperscript{587} Xen. \textit{Vect.} 4.6.
These silver exports could take two main forms, as Athenian owls or as uncoined ingots. Xenophon’s use of ἀργύριον instead of νόμισμα could support the notion that Athens exported uncoined silver as a commodity. However, the further east a coin travels, the difference between its function as a medium of exchange and bullion becomes less obvious. With that said, the status of the Athenian owl as the standard of international currency, along with its multiple functions, demonstrate Athenian interaction in the commercial network of the Eastern Mediterranean.

By examining the presence of Athenian tetradrachms in other hoards we are provided with an excellent context for the coin found in the Shaikhan Dehri hoard. These coins typically appear where there is well established commerce between Athens and other foreign lands. It is a plausible scenario that these coins were transmitted through commercial networks rather than any other method and thus, worthy of investigating in order to gain a more complete picture of Greek participation in trade.

Athenian tetradrachms are not the only indication of commercial activity. Other Greek city-states have coins that appear throughout the Achaemenid Empire. At Naucratis, there were silver tetradrachms from Acanthus and a silver stater from Aegina. At Balkh, there were silver staters from Lete, Aegina, and an uncertain Thraco-Macedonian tribe, as well as a silver tetradrachm from Acanthus. The hoard at Kabul shows more clearly the wide variety of coins that originate from the Greek world. There were tetradrachms found from Acanthus and Samos,

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589 van Alfen (2012), 21.
590 Xen. Vect. 3.2; van Alfen (2012), 21.
591 von Reden (2010), 3-4: These are the key functions of money (not only coinage). It is not unreasonable to apply these functions to bullion. Often, in hoards, we find that these coins were cut up and presumably then used in commercial interactions.
592 IGCH 1652.
593 IGCH 1820.
staters from Thasos, Corecyra, Aegina and Melos, and didrachms from Lampsacus, Erythrae, Chios and Samos. Such a variety in the coins being found in these hoards suggests that the Achaemenid Empire was engaged in commerce all around the Greek world and that these coins could end up at the far reaches of the empire. The regions from which these coins predominately come are regions that actively traded with others. Aegina was a prominent trading community throughout the sixth and fifth centuries BCE. Coins produced from Aegina are recognisable, with a turtle or tortoise on the obverse and some kind of pattern on the reverse. These coins had a far reach, ending up as far as Kabul but are also present at Balkh and Malayer. This suggests that their coins had significant international value and it is evident from the competition between Athens and Aegina. Aegina’s maritime commercial activities can be seen with its presence in Naucratis and its reliance upon imports of corn to feed the island. The importation of corn could have been part of the catalyst for competition with Athens, which also had a dependency on corn imports. However, there is a significant difference in the years they are found, which could suggest that these coins were in use up to the time they were buried, or they were stored as bullion beforehand. The types of Aegina staters change very little over time with the sea-turtle on the obverse used up until the middle of the fifth century BCE, and the land-tortoise used after this, associated with the restoration of the Aeginetians after the Peloponnesian war. Although there are Aeginetian staters minted well into the fourth century BCE, they occupy a niche during the decline of the Athenian owl before the implementation of the Heracles-type coins under Alexander. It appears that they never became as widespread in volume as the Athenian owls during this period, probably due

594 IGCH 1830.
595 Kraay (1976), 41-2.
596 ibid., 43.
597 Hdt. 5.83-7, 6.49-50, 6.87-92; Thuc. 1.14, 1.41, 1.105.
599 Amit (1965), 61.
600 Kraay (1976), 43; Robinson (1950), 44.
to the preference of the Attic weight standard and the rise in local coin types with this weight standard. This would explain as to why there are fewer of coins that had been struck in the fourth century BCE within hoards compared to those earlier struck series.601

Acanthus was another trading centre with access to large quantities of silver that struck coins found within eastern hoards. Originally established as a colony of Andros to exploit the silver of the region, it became a significant city on the peninsula of Chalcidice and continued to mint coins into the later part of the fourth century BCE.602 Acanthus appears to have been active in trade, with a major export being wine. This is evident from a passage from Thucydidides where Brasidas threatens the destruction of the Acanthian’s fruit.603 Perhaps, this refers predominately to their grapes and therefore to their wine, which the region was known for. Thus, Acanthus revolts against Athens, which some scholars suggest is indicated in the change of the weight standard from Attic to the Phoenician standard, but this was not necessarily the case.604 Ultimately, what this demonstrates is that Acanthus entered the trade network through its exportation of wine and silver, but neither of these products were unique to Acanthus.

The coins from the Thraco-Macedonian tribes are also of interest. While Thrace is not typically thought of as a major economic centre, coins from this region found their way into the hoards of Balkh, Malayer, and Kabul as well as in Egyptian hoards such as Fayum, Asyut, and Zagazig.605 It is plausible that these coins were minted as a result of the Achaemenid invasion of the sixth century BCE.606 Although after the Persian wars, only coins from the Derrones, Edones/Getas, Bisaltae/Mosses, and Orreskloi survived and by the mid-fifth century,

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601 Robinson (1950), 44: the Aegina stater from the Malayer hoard is dated to around 400 BCE.
602 Kraay (1976), 133-4; Thuc. 4.84.
603 Thuc. 4.85-8.
604 Kraay (1976), 136.
605 IGCH 1635 (Fayum), 1644 (Asyut), 1645 (Zagazig); Tzamalis (2013), 216.
these coins were eventually replaced by the coins of Alexander I of Macedon.\textsuperscript{607} From this, it suggests that there could have been a commercial relationship with the Achaemenid Empire during the late sixth and early fifth centuries, perhaps stemming from its occupation during the Persian wars. The earliest hoards where Thraco-Macedonian coins can be found is in Egypt from the end of the sixth century BCE, which demonstrates that there was significant commercial interaction between the Greek world and Egypt.\textsuperscript{608}

The frequency of the appearance of other Greek coins in hoards far to the east does provide evidence that the Athenian tetradrachm found in the Shaikhan Dehri hoard arrived there via commercial networks. While individual coins may have arrived so far east through other means, to explain the sheer volume of coins appearing in far eastern hoards prior to Alexander, commercial interaction is the best and most elegant explanation for this. The possibility of a coin being a later contamination is still apparent, especially since the hoard is incomplete. But this is unlikely since the sheer volume of Greek coins found as far as Kabul and the administration of the Achaemenid Empire makes it probable that the coin was not a later contamination. Thus, given the current state of the evidence, it would be reasonable to conclude that the coin probably arrived through commercial interactions.

The hiring and activity of mercenaries may provide us with another possible explanation for how the coins could have gotten to the hoards in Central Asia. However, the hiring of mercenaries should be considered as part of commercial interaction and not separate from such interactions. Commercial interactions are not just the exchange of goods, but also

\textsuperscript{607} Paunov (2015), 268.
\textsuperscript{608} IGCH 1632, 1635.
the payment for services rendered. Mercenaries were used extensively throughout the fifth and fourth centuries BCE. Greek mercenaries were highly sought after by foreign dominions as well as Greek city-states. The Achaemenid Empire made significant use of Greek mercenaries to aid in their battles right up until their collapse.\textsuperscript{609} For hoards closed prior to Alexander’s conquest, it would help account for the appearance of Greek coins in the east along with traditional exchanges of goods. But mercenaries alone cannot explain as to why some coins reach so far east as it is unlikely that the Achaemenids would be employing Greeks so far east. There is no evidence to suggest that Greek mercenaries were employed to campaign so far east in the Achaemenid Empire, but there is little remaining evidence prior to Alexander’s conquests.\textsuperscript{610} A more feasible scenario would be that the coins entered into the empire through the hiring of mercenaries, then disseminated further throughout the empire through the internal commercial networks. Mercenaries, while being a service that could be purchased, were also economic agents in the regions where they were deployed as they would have spent their pay on goods and services such as food, wine, prostitutes, new gear, and equipment repair. The evidence that we have does suggest that there was significant use of mercenaries in the latter stages of the fifth century BCE, it is possible that there was use for them in the Achaemenid service prior to this, despite our scant evidence.\textsuperscript{611} The significance of this is that it was possible for coins entering from the west to reach the edge of the empire and into the north western part of ancient India.

Mercenaries were not just employed by the Achaemenids, they were extensively used by the Greek city-states. This raises the possibility that they could have been paid by a Greek

\textsuperscript{609} Trundle (2004), 81; Hdt. 3.89-117; Xen. Cyr. 7.5.69
\textsuperscript{610} Trundle (2004), 6.
\textsuperscript{611} ibid.; Xen. Anab.: Xenophon’s Anabasis demonstrates that mercenaries were employed by the Achaemenid Empire. The work itself details the journey of Greek mercenaries on their way back from fighting in an Achaemenid civil war.
city-state, then gone on to be employed by the Achaemenid Empire and brought Greek coins with them. However, this does not defeat the overall assessment that commercial interaction was the catalyst for the distribution of the coins. As stated earlier, the hiring of mercenaries was an act of commercial interaction. In addition to this, Greek mercenaries would have acted as economic agents, providing additional commerce to local communities. Thus, the use of Greek mercenaries affirms that the coins found in the hoards out east arrive there via commercial interaction. Even then, how mercenaries are paid suggest that this is not as common as might be expected. There is evidence to suggest that mercenaries could have been paid through the spoils of war.\footnote{612} This lends more support to the notion that these coins primarily ended up in the east through traditional commercial interactions.

Gifts to temples may also be another reason why we find an abundance of Greek coins in hoards. This is apparent within some of the hoards throughout the Mediterranean world and in some of the inventories of temples.\footnote{613} Coins can be used as votive offerings for the temples and there is a significant amount of evidence that this was common. The treasure from the Oxus is suggested to have been as part of temple offerings.\footnote{614} This is not entirely uncommon as coins could function as a gift and thus, would be treated as any other offering.\footnote{615} But, finding coins within a temple context does not necessarily mean that they are offerings. Rather, the coins that are found there could be the means in which to pay for the upkeep of the temple and other associated costs. If this is the case, it only accounts for the last part of the coin’s journey. Again, economic interactions provide the best explanation for how the coins could get so far from its place of origins. For temples further to the east, it might be expected that coins could still be used in this way, but for their weight rather than as a coin itself. This is particularly evident in

\footnote{612}{Dem. 4.27-9.}
\footnote{613}{Panagopoulou (2007), 317.}
\footnote{614}{Curtis (2004), 331-2.}
\footnote{615}{Houghtalin (2015), 103.}
the temples of Egypt. By the time of the arrival of Alexander and Ptolemy I, the temples of Egypt contained significant amounts of gold and silver, befitting their role in the local economy.\textsuperscript{616} Cleomenes’ time as the governor of Egypt demonstrates this, as he targets the priest class and temples in order to expand his revenue.\textsuperscript{617}

For the religion of the Achaemenids, it is unlikely that they would use coins as an offering if Herodotus is to be believed.\textsuperscript{618} Herodotus describes that Persian religious customs vary greatly from that of the Greeks and that they do not set up temples, statues, or altars.\textsuperscript{619} This is simply untrue, at least by the time of Darius I.\textsuperscript{620} Sacrifices to Ahuramazdā are shown in inscriptions as a means to keep the cosmic order.\textsuperscript{621} It is difficult to assess how or why there is this error in Herodotus, possibly an intentional choice to emphasise difference between the Greeks and the Persians, or an error in attribution. The Achaemenid’s famed religious tolerance however, would allow for such offerings to be made, but this was not always applicable, with Darius I and Xerxes proscribing some foreign religions.\textsuperscript{622} Tolerance was therefore a general policy that had exceptions when it suited Achaemenid rulers.\textsuperscript{623} Since local peoples were able to continue practising their own religion, there might be an expectation that they continued their own traditions for offerings. Perhaps this was more applicable to the temples at the frontiers of the empire than those in the heartland. While in Mesopotamia the temple did hold some economic function before the Achaemenids, ultimately this function was subsumed by

\textsuperscript{616} Rostovtzeff (1941), 263; Klemm (2013), 21-2; Fried (2004), 54-5.
\textsuperscript{617} Le Rider (2007), 184; Ps. Arist. Oec. 1352.
\textsuperscript{618} There is some debate amongst scholarship as to whether the Achaemenids were Zoroastrian or not. The prevailing view is that they were some form of Zoroastrian. Skjærvø (2014) 181-2 provides a short run down of some of the viewpoints regarding this issue. Ultimately Skjærvø arrives at the conclusion that the Achaemenid rulers were Zoroastrian.
\textsuperscript{619} Hdt. 1.131.
\textsuperscript{620} Skjærvø (2014), 178-80: It is clear that there were temples and some form of an altar for sacrifice during Darius I and Xerxes’ reign. Though statues might be a more accurate assessment.
\textsuperscript{621} Skjærvø (2013), 554.
\textsuperscript{622} Skjærvø (2014), 180-1.
\textsuperscript{623} Dhalla (1938), 131.
the Achaemenid administration. The leasing of the land done by the Achaemenid administration was more feasibly to have been paid in goods, such as livestock. What is notable is that coins were often absent from the payment for the land. It is unlikely that coins would have often been used extensively in religious offerings. The east lacked a culture of coins as a medium of exchange and those who would have been active in trade would have used coins in their exchanges or repurposed them to make a profit. Coins as an offering appears to be more of a Greek tradition than that of the Eastern peoples of the Achaemenid Empire. Even if some of the coins found in the east were religious offerings, it is more plausible that they entered the Achaemenid empire through commercial interaction rather than being imported as a religious offering, which in itself would be a commercial interaction.

With that said, the significant hoards found out east share more characteristics with a mercantile hoard. A mercantile hoard would typically consist of a variety of coins that could be used in transactions. This assumption is not totally unreasonable as many markets attract different merchants who might use their own currency. Thus, in places that are a point of convergence for commerce, it should be expected that a variety of coins would be found. A hoard from Naucratis demonstrates this with a variety of coins found in a region that is closely associated with trade. However, this assumption is made in connection with Greek coin hoards rather than that of the east. But the principles should remain the same. Areas where there is significant commercial interaction would have a diverse range of coins, even if the coins are primarily functioning as bullion. This provides us with further evidence for economic transactions that could reach as far as North-Western India.

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625 ibid., 40.
626 Houghtalin (2015), 103.
627 IGCH 1652.
628 Robinson (1950), 50-51.
Greek coins are not the only indicator of commerce. Achaemenid coins can be found in some hoards in the Eastern Mediterranean, though they are scarce. A hoard at Etreia demonstrates this interaction. Thirty-six Achaemenid gold darics are found alongside staters of Philip II. The Shaikhan Dehri hoard also has some Achaemenid sigloi alongside an Athenian tetradrachm. The appearance of these coins alongside each other does strongly suggest a shared commercial connection. This notion is further strengthened by the presence of the ingots, punch marked to guarantee their purity. It is unclear whether they were destined for India or a mint further west, the presence of other Indian bent bar coins as well as the drop in purity suggests that the silver ingots originated in India. Quite possibly, these silver ingots were intended for some mint further to the west. The Shaikhan Dehri hoard appears to be a melting pot with Indian, Achaemenid, and Greek coins being found in one spot. Such a find suggests that there is a link from India that stretches to the Greek world through the Achaemenid Empire. The Kabul hoard shows this link with eight Achaemenid sigloi found with several Greek coins, including Athenian tetradrachms, as well as native bars and coins from Afghanistan and India. What this demonstrates is that goods from the Greek world can reach the farthest extent of the Achaemenid Empire. Furthermore, the Achaemenid coinage from the Kabul hoard appears to have been minted in Sardis, further indicating that goods from the Aegean Sea could reach so far east. The scarcity of these kinds of coins amongst Greek coin hoards is telling for the function of Greek coins in the Achaemenid Empire.

There is an interesting hoard found near the river Oxus that contains a large variety of coins spanning over a few centuries. Although it is thought that the hoard closed around 170

629 Robinson (1950), 51.
631 ibid., 21-22.
632 Robinson (1950), 51; Raven (1968), 55.
BCE, it contains coins from the end of the sixth century BCE. The coins that are of particular interest here are the ones from the Greek city-states before Alexander. Present in this hoard were three tetradrachms from Acanthus minted at the end of the fifth century BCE, three archaic Athenian tetradrachms minted before 406 BCE, two coins from Byzantium minted between 416 and 357 BCE, one silver stater from Celenderis minted at the end of the fifth century or the fourth century BCE, and six or more silver staters from Aspendus minted between 400-300 BCE. This assortment of coins raises the question of how did they get there and why were they buried so long after minting? The most probable explanation is that they arrived in the Achaemenid Empire sometime before Alexander started minting his own coinage, and then moved around as bullion until it was included in the hoard. Although it is difficult to know exactly how and why these coins ended up at the Oxus, such a conclusion can be reached for a variety of reasons. Firstly, that once Alexander starts minting his own coins, there is a significant drop off in the use of other Greek coins. Secondly, the coins of the Greek city-states in the east primarily function as a means of bullion up until Alexander’s conquests. If they had remained within the Greek city-states or on the coast of the Eastern Mediterranean, it would be strange that these coins would not have been melted down to produce other coins in the time between minting and when they were buried. The scarcity of such Greek coins being found in other hoards around the closing date of the Oxus also suggests that these coins probably came to the region and were stored earlier. The absence from other hoards possibly comes down to the nature of the treasure from the Oxus as well as that the coins would have been melted down or cut to pieces. There is great difficulty to prove anything with certainty, since there are a variety of possibilities for how these coins could have got there. There is no need to come to a definitive answer for how the coins themselves ended up on the Oxus, as

Bellinger (1962), 52-3.
there is little agreement in scholarship for how they arrived there, and the nature of the treasure is troublesome. This uncertainty does not facilitate such predictions.\textsuperscript{634}

The presence of Achaemenid coins in this hoard can also provide some context in which we can exam these Greek coins. In the hoard there are various amounts of Achaemenid royal coins, both \textit{darics} and \textit{sigloi}, minted during the fifth and fourth century BCE.\textsuperscript{635} The similarities in the minting dates between the Achaemenid and Greek coins does suggest that they could have been in circulation together at a similar time. \textit{Sigloi} typically only circulated as coins in Asia Minor and held a similar function as bullion as they travelled further east.\textsuperscript{636} \textit{Darics} appear to be introduced after the foundations of the Persepolis throne room were laid.\textsuperscript{637} These \textit{darics} became the unique coins of the empire, spreading more widely than the \textit{sigloi}, which were used predominately in local regions.\textsuperscript{638} The fact that coins functioned as bullion is most evident in Alexander’s seizing of the royal treasuries, where he found vast qualities of precious metals in the form of minted coins.\textsuperscript{639} Alongside these Achaemenid coins there are seven imitation Athenian owls, five being tetradrachms along with one didrachm and one drachm, all minted in the fourth century BCE.\textsuperscript{640} This further cements the notion that these coins were functioning as bullion, since imitation coins did appear to serve that purpose.

The ultimate significance of these coins and their find locations is that we can trace commercial interactions from the Greek mainland through the Achaemenid Empire, to the

\textsuperscript{634} Curtis (2004), 293-338: Curtis summarizes the various scholars thoughts on the treasure.
\textsuperscript{635} Bellinger (1962), 53-4; Schlumberger (1953), 15.
\textsuperscript{636} Kraay (1976), 33.
\textsuperscript{637} Robinson (1958), 190.
\textsuperscript{638} Schlumberger (1953), 15: This is further supported by the lack of an appearance of a \textit{sigloi} in any coin hoards in Greece, though it is plausible that the \textit{sigloi} could have been melted down and restruck as a Greek coin. On the other hand, \textit{darics} have been found in hoards on the Greek mainland. But this is more due to gold coins not being as frequently used by the Greeks.
\textsuperscript{639} Plut. \textit{Alex.} 36.1-2: 40,000 talents worth of minted coins (approximately 1,200,000kg according to Kuhrt (2007), 679 n4.
\textsuperscript{640} Bellinger (1962), 54.
border of ancient India. It provides us with primary evidence that demonstrates that it was possible for goods to reach ancient India from the Greek world through the Achaemenid Empire and eventually the Kingdoms of the Diadochi. Although most of the hoards are located further west than India, they provide overwhelming evidence that goods could move through to ancient India. The frequency and quantity of coins that are found throughout these hoards cannot be explained only by the movement of armies and the employment of mercenaries. There was an underlying commercial network that facilitated the movements of coins and goods as well. However, the inability to find these coins within India itself is a problem. But if we consider that the Indians are minting their own coins in the fourth century, as evident from the Shaikhan Dehri hoard, and that Greek coins largely function as bullion as they travel east, we might expect coins reaching that far would have been melted down and struck as new local coins, just as what occurred in the mints in Phoenicia and Cilicia. Silver ingots that are found within the Shaikhan Dehri hoard do seem to suggest that India did possess the ability to smelt silver.\footnote{Bopearachchi (2017), 20.} Furthermore, the coins could also have been cut up and used in transactions in this way. This is evident from the pieces of coins that are found within hoards. Therefore, it is not as troubling that we do not find such coins until the period of the Diadochi and the Romans, since trade had expanded significantly by then compared to the trade during the fifth and early fourth century BCE.

Through this examination of the distribution of Greek coins through to Ancient India, there is overwhelming evidence to suggest that the trade routes outlined in the previous chapter could link the Greek world to Ancient India through the Achaemenid Empire. While the presence of Indian spices in ancient literature may suggest that there was trade stemming from India, the appearance of coins provides primary evidence that goods could be transferred over
such a distance. Coins had a greater chance at surviving up till the modern era than organic materials and so they provide an excellent medium to investigate trade routes. The appearance of coins from other Greek city-states also suggest that this was not unique to Athens but rather it was other Greek city-states that were part of this trade network. Different city-states engaged in this trade network on a variety of levels, with Athens and Aegina appearing to engage on a trans-Mediterranean level and the Thraco-Macedonian tribes as well as Acanthus operating primarily within the context of Greece. Nonetheless, it does demonstrate that Greece and India were connected through a variety of interwoven trade systems. Previously, the most solid evidence that had been found for a diffusion of coins to the east was from the Kabul hoard. Thus with the appearance of this Athenian tetradrachm, there is now evidence to expand how far it was possible for Greek coins to travel. However, though it is possible for coins to reach their destination through other means, economic interaction is the best and most elegant explanation for the volume that ends up in the East. Other possible methods, such as the hiring of mercenaries and the use of coins as temple offerings, may account for the presence of these coins, they do not account for the sheer volume and should be considered as part of commercial interaction. Furthermore, the evidence that comes down to us is only a fraction of the coins that do actually survive, and it is not unreasonable to expect that the distribution of coins and the volume back in the fifth and fourth centuries would be significantly larger than what survives. Thus, the evidence from the hoards across Greece and the Achaemenid Empire strongly indicates that there were active trade routes that run through Greece and the Achaemenid Empire to India.

642 Schlumberger (1953), 18.
The Impact of Alexander and the Diadochi

It is difficult to discuss anything in the fourth century BCE without taking an in-depth look at Alexander the Great and the Diadochi. This begs the question, to what extent did Alexander’s conquest change the trade system? Jean-François Salles has written in regard to this that: “In contrast to what could have been expected, the conquest of Asia by Alexander the Great did not mark a revolution in the existing system and did not bring much change.”644 An interesting point, since many ancient authors and scholars like to emphasise the revolutionary nature of Alexander’s conquest, but this does not necessarily translate into a revolution on an economic level.645 However, the actions initiated by Alexander’s invasion fundamentally shifted the dynamic of the relationship. Alexander the Great’s expedition, and the subsequent struggle of the Diadochi, began to fundamentally change the commercial relationship between India and the Greek world at the latter stages of the fourth century BCE. No longer were these two cultures interacting with each other through intermediaries such as the Achaemenids, the Phoenicians, and other Near Eastern cultures. Rather, the Greek world now expanded into India and they had become, in a sense, neighbours. The relative socio-political stability of the early fourth century BCE made way for the upheaval of Alexander and the turmoil of the wars of the Diadochi. New kings rose to rule over ethnically diverse regions and implemented what would have been radical economic policies to the local populations. However, it is worth investigating to what extent and how impactful this new world order was.

Alexander the Great’s impact upon Indo-Greek trade need to detain us for too long. The most obvious place to look at is his expedition to India. During this expedition, there was no

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644 Salles (1996a), 257.
revolutionary system that was established. Rather, Alexander was focused on conquest instead of revolutionising the economic systems already present. What was more probable is that Alexander would have hindered the economic systems through the destruction he wrought on the local populace. 646 However, it is difficult to quantify this impact based on our surviving evidence. To say that Alexander had no impact on local economies would be erroneous, but many of his changes were superficial. The most notable of these changes was the introduction of the Heracles-type tetradrachm. These Heracles-type coins supplanted the Athenian owl as the dominant coin in the Eastern Mediterranean. In 333 BCE, Alexander introduced this coin at the Attic weight and a standardised ration between gold and silver coins. 647 Coin hoards in the east provide us with the clearest evidence for the effectiveness of this change. Almost all of the hoards from the Levant with burial dates between circa 330 and 300 BCE, aside from a hoard at Saida, contain Alexander III tetradrachms. 648 In Egypt we see something similar with a high number of hoards containing Alexander coins. 649 Even with Ptolemy I’s coin reforms, the appearance of the Heracles-type coins alongside Ptolemy’s new coins suggest that the coin was still extremely popular outside of Egypt. 650 Perhaps if we only saw a small sample of Alexander’s coins in hoards, we may not be able to infer the prominence of Alexander’s coins. But the sheer number of the coins found in these hoards clearly demonstrate their popularity and prominence. However, this was a superficial change. The new royal coinage largely took the place of local coins that had been circulating in the fourth century BCE. Furthermore, Alexander minted these coins primarily for military expenditure rather than for general economic use.

646 Arr. Anab. 4.24.2, 5.24.7, 6.6.6-7.2, 8.3, 8; Bosworth (1996a), 28-9, 140-1.
647 Bellinger (1963), 30-1: It is important to note that the standardized ratio of 10:1 was subject to fluctuations.
648 IGCH 1507-1520 contain Alexander lifetime or posthumous coins. IGCH 1521 is the hoard that lacks any Alexander coins.
649 IGCH 1663-1670, 1672-1674.
650 Catharine Lorber sets out six reforms implemented by Ptolemy in his thirty-year reign. see Lorber (2018) 60-87.
The destruction Alexander wrought in the East would have severely depleted the local manpower and disrupted trade routes, as wars tend to do. A clear example of this destruction can be seen in Alexander’s siege of Tyre. While most of the Phoenician cities readily accepted Alexander into their cities after Issus in 332/1 BCE, Tyre did not. A siege lasting seven months and the inevitable sack of the city would have diminished Tyre’s ability to facilitate trade. However, since the other Phoenician cities were left unharmed, there was still multiple ways for goods to come through Phoenicia. His assumption of control over Egypt was relatively peaceful and without incident which again suggests that he would not have disrupted trade significantly in that region. Thus, we might expect that the overall negative impact Alexander had upon trade in the Near East would have been minimal.

Alexander’s campaigns may have provided some safety for traders who used the road system of the Achaemenid Empire. According to Nearchus, Alexander pacified the people of the Zagros mountains, who were described by our sources as brigands. The people of the Zagros mountains, especially the Uxians, would extract a toll from those who would travel these regions. Unlike Alexander, the Achaemenids would pay them off in order to avoid their harassment. Thus, according to our sources, Alexander subdued these people and made the road that travelled through their region safer. The effectiveness of Alexander’s efforts is questionable, as Antigonus had to deal with the Cosseans during his pursuit of Eumenes in 319 BCE. It is quite possible that Alexander’s efforts were only temporary, and the people of the Zagros mountains returned to their brigand ways after Alexander had left the region. It is not

651 Diod. 17.40.2-4; Arr. Anab. 2.15.6-7; Plut. Alex. 24: See Milns (1968), 88-94; Bosworth (1988), 66-7 for a more general overview of the Siege of Tyre.
652 Bosworth (1988), 70.
653 Arr. Anab. 3.17.1-6, 7.15.1-3; Strabo 15.3.5; Curt. 5.6.15-8; Balatti (2017), 209-25.
654 Strabo 15.3.4; Arr. Ind. 40.1; Arr. Anab. 3.17.1.
655 Diod. 19.19.3-8; Balatti (2017), 229-30.
until the reign of Antiochus III that we see the people of the Zagros mountains incorporated within a Hellenistic political system, and even then, there remains the possibility that they still acting as brigands.656

The establishment of Alexandria near Egypt would end up having a drastic impact on the economic balance of power in the Mediterranean world after the fourth century BCE.657 Founded in 331 BCE, Alexandria would become a commercial powerhouse by the end of the century. Whether or not this can be attributed to a rise in Indo-Greek trade coming through Alexandria cannot be determined, even with the noticeable rise in Indian products mentioned in our sources. A further issue surrounding Alexandria is whether or not its rise in economic prominence could, or should, be attributed to Alexander. Stefan Pfeiffer sums up Alexander and Alexandria perfectly. He wrote regarding Alexander’s acquisition of Egypt: “The most decisive economic policy, the effect of which Alexander probably could not have foreseen, was the founding of Alexandria in the western Nile Delta.”658 While some credit should be given to Alexander for founding the city, this action alone was not the sole reason for its rise in prominence. Rather, the actions of Cleomenes of Naukratis and the Ptolemies would have contributed more to its prosperity. However, it is worth noting most of our sources that recount the founding of Alexandria provide an account of some divine sign that the city would be prosperous and be a commercial centre.659 Furthermore, Alexander’s impact on the development of Alexandria could have been minimal. The Pseudo-Aristotelian text, Oeconomica, states that Cleomenes was given command to establish a town on the island of Pharos. Justin and Pseudo-Callisthenes appear to corroborate this notion, writing that he was

656 Balatti (2017), 231-7; Polyb. 5.44.1-11.
657 Often Alexandria has been referred to as not in Egypt, but near it. Getzel Cohen in his authoritative work has a section dedicated to Alexandria titled ‘Alexandria Near Egypt’. See Cohen (2006), 353-82.
658 Pfeiffer (2010), 20.
659 Arr. Anab. 3.2.1-2; Plut. Alex. 26 : In contrast to Arrian and Plutarch, Curtius Rufus and Diodorus completely omit the divine aspect of the founding. See Curt. 4.8.2 and Diod. 17.52.
the one who built Alexandria. Although there are some significant historiographical problems, these comments are reasonable when considering Cleomenes’ economic activities; a topic that will be discussed later. Furthermore, Alexander’s involvement with the founding of the city may have been embellished by Ptolemy in order to raise the prestige of the city and elevate his own reputation. Tacitus, writing many centuries later, recorded that it was Ptolemy who added walls, temples, and religious rites to the city. While Alexander picked the location of the city, and possibly had some vision of it growing to an economic powerhouse, it was Cleomenes and Ptolemy I that built Alexandria to the city that it was. Even with this, it is difficult to determine what immediate impact the foundation and development of Alexandria had on trade coming from India. It is only with the benefit of hindsight that we can see its importance and perhaps the economic importance of Alexandria for Indian trade was not on the minds of those who founded it.

Seleucus I Nicator was the other immediate successor that followed in Alexander’s footsteps and went to India. However, our sources are scarce as to the details of this expedition. Appian wrote that Seleucus went as far as the Indus and waged war against Chandragupta, the King of the Indians. Justin writes that Seleucus went to India and reached an accord with Chandragupta. These are the only two extant references to Seleucus’ expedition, with both

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660 Just. 13.4; Ps.-Call. 1.30; Polanyi (1977), 244.
661 There are some issues surrounding the authorship of the Oeconomica, hence why it is considered to be written by Pseudo-Aristotle. Justin wrote an epitome of Pompeius Trogus, which comes with its own problems. The Alexander Romance tradition has been viewed quite negatively by scholars. For discussions on the Alexander Romance, see Heckel (1988), 1-4; Fraser (1972), 1-5.
662 Howe (2014), 76-8: This may explain why Plutarch and Arrian retain the mythological aspects of the founding of the city. Arrian was well known to use Ptolemy’s history as a major basis for his Anabasis (see Arr. Anab. preface) and Plutarch has his own motives surrounding his work. It is telling that Justin, Diodorus, and Curtius Rufus omit this mythological tradition.
663 Tac. Hist. 4.83.1; Cohen (2006), 355.
665 Appian, Syr. 55.
666 Just. 15.4.12-21.
containing scant details on the expedition itself. Perhaps the agreement these two kings came to could have resulted in a flourishing commercial relationship. But there is no possible way to know with any degree of certainty. The more feasible outcome is that nothing really changed. All that can be said about both Alexander and Seleucus’ expedition is that the Greeks had more opportunities to learn about India, particularly with Megasthenes being present in India sometime after the treaty between Seleucus and Chandragupta. This treaty possibly resulted in the exchange of the easternmost satrapies of the Seleucid Empire for 500 elephants. A marriage may have also sealed this agreement with Chandragupta marrying a female relative of Seleucus, but there is little evidence to suggest that this was part of a marriage alliance. Perhaps this agreement provided a peaceful atmosphere in which trade could prosper. There is some evidence for this. Phylarchus makes note of aphrodisiacs sent by Chandragupta to Seleucus, and Hegesander states that Bindusara (Chandragupta’s son) requested figs, wine, and a sophist from Antiochus I. Furthermore, Megasthenes’ role as an envoy to India does suggest that there was a relationship between Seleucus and Chandragupta outside of their agreement. Although the dating of Megasthenes’ visit to India is contested, the fact he spent time in India demonstrates that there was no serious animosity. It need not concern us which date Megasthenes actually went to India, as if we accept Brian Bosworth’s reassessment, it demonstrates that there were pre-existing relations for Seleucus to use. However, if we uphold the traditional dating, then it just demonstrates that this relationship survived the hostility of Seleucus’

668 Stoneman (2019), 130-131; Stoneman suggests that Megasthenes wrote his book around 300 BCE. The best evidence we have for when Megasthenes was in India comes from Strabo who notes that Megasthenes was at the court of Chandragupta (Strabo 2.1.9).
669 Strabo, 15.2.9; Kosmin (2014), 33; Davis & Kraay (1973), 186; Wheatley (2014), 506.
672 Bosworth (1996b), 113-127; Bosworth argues that traditional scholarly view that Megasthenes went to India in 304/3 BCE is too late for Megasthenes’ visit. He argues that his meeting should be dated more than a decade before in 320/18 BCE. However, Paul Kosmin has reasserted the traditional dating of 304/3 BCE. See Kosmin (2014), 32-7.
expedition. Recently, Richard Stoneman and Thomas Trautmann have reasserted the traditional dating of Megasthenes’ venture to India.\textsuperscript{673} In any case, it is clear that there were amicable relations between the eastern satrapies and India and that Seleucus’ expedition did not irreversibly ruin the relationship. This is shown by the actions of Seleucus’ successor, Antiochus I Soter, who had sent Daimachus to meet with Bindusara.\textsuperscript{674} It appears that this relationship continued in to the reign of Antiochus II, as Aśoka names him three times in his Major Rock Edicts and even hints at a relationship where he helps Antiochus II grow and cultivate herbs.\textsuperscript{675} Although there is some suggestion of a continued friendship, it is difficult, if not impossible, to ascertain what kind of impact this amicable relationship had upon trade. All that we can be entirely certain of is that it did not negatively impact the trade in the region.

To see what impact the Diadochi had upon the commercial relationship between India and the Greek world, it is worth investigating the specific fiscal policies they enacted. It appears that many of the actions undertaken by the Diadochi were to consolidate their financial position. Antigonus desired for his realm to be self-sufficient and not rely on his rivals for certain resources.\textsuperscript{676} Ptolemy initiated many policies to generate as much revenue out of the fertile lands of Egypt as he could. Seleucus had designs on rapidly monetising an area that had a limited tradition of operating in a coin-based economy. The first, and most obvious successor to look at is Ptolemy I Soter. Ptolemy was by far the most active in spearheading fiscal reform. The reformation of his coins is well attested by scholars with Ptolemy dropping the weights of his tetradrachms from 17.2g to around 14.2g at the start of the third century BCE.\textsuperscript{677} Ultimately, the overall consequence of these reformations was to monetise Egypt on a greater scale. The

\textsuperscript{673} Stoneman (2019), 132-4; Trautmann (2021), 357-8.
\textsuperscript{674} Strabo 2.1.9: Antiochus I appears to be the king that is mentioned on the Aśoka edicts.
\textsuperscript{675} Major Rock Edict, 2, 13 = Thapar (1961), 251, 255-257.
\textsuperscript{676} Billows (1990), 287-9.
\textsuperscript{677} Lorber (2018), 60-87.
closed monetary zone that Ptolemy initiated further increased Egypt’s economic standing. While one would intuitively think that only allowing a debased currency in one’s kingdom would have not led to economic prosperity, Egypt was considered one of the richest kingdoms of the Diadochi. Perhaps this was, in part, owing to the unique commercial relationship between Egypt and Rhodes. To what extent did this impact trade with the Greek world? Our best evidence to suggest that these policies had an impact comes from the reign of Ptolemy II. The Grand Procession of Ptolemy II, as narrated by Athenaeus citing Callixeinus, had clear Indian presence within the proceedings. Within this procession, there was a section dedicated to India, with a wagon depicting Dionysus’ return from India followed by some tents containing Indian women. Amongst the aromatics were cinnamon and cassia, two products with connections to India. However, we cannot be certain whether or not this applies to the reign of Ptolemy I or not. Ptolemy II had some interaction with the Mauryan King Aśoka. Pliny the Elder records that Ptolemy II sent an envoy named Dionysus to the court of Aśoka and Ptolemy II was mentioned in the Edicts of Aśoka as one of the Greek kings. Having said that, if we accept Victoria Foertmeyer’s argument that the Grand Procession of Ptolemy II should be dated to 275/4 BCE, then Ptolemy II’s interactions with Aśoka would have happened after the Grand Procession. Ultimately, if Athenaeus’ account is faithful to Callixeinus’ account, then it would appear that there was some commercial relationship with India during the reigns of Ptolemy I and Ptolemy II. Possibly, this was an indication that there was a shift in usage of the two main Indian Ocean trade routes. Indeed, it may have been the case that the economic reforms of the early Ptolemies coupled with the turmoil in the Levant could have resulted in a shift towards using the Red Sea route rather than the Persian Gulf route. But the

678 Lianou (2014), 399-404.
679 Rostovtzeff (1941), 407-8.
680 FGrH 627 F2; Rostovtzeff (1941), 409: See Chapter 2 for the discussion on cinnamon and cassia.
682 Foertmeyer (1988), 90-104.
Ptolemies were not the only ones that had access to Indian products. As we have already seen, the letter from Seleucus to Miletus lays out a gift of cinnamon, cassia, and costus, which indicates that the direct route from India to the Persian Gulf route was still active.\textsuperscript{683}

The Egyptian-Rhodian relationship was unique for the fourth century BCE. Our clearest evidence for this comes from an examination of the duties that were required to be paid by ships along this route. These duties and taxes were the highest in the Greek world.\textsuperscript{684} Even with such exorbitant costs, this trade route was still extremely profitable. Vincent Gabrielsen identifies two key reasons for this. First, that the Rhodian navy ran a protection service along this route, which became of increasing importance after Ptolemy lost his fleet at the battle of Salamis. Second, the route was available all year round which allowed for multiple voyages a year.\textsuperscript{685} We can infer how important Rhodes was for Ptolemy by the aid that he sent to Rhodes during the Antigonid siege of the city in 305/4 BCE. In the course of the siege, Ptolemy sent around 600,000 measures of grain and 1500 soldiers, as well as the promise of more soldiers and supplies.\textsuperscript{686} The sheer volume of the supplies sent by Ptolemy dwarfed the amount sent by Lysimachus and Cassander.\textsuperscript{687} Diodorus also alludes to some form of relationship between Egypt and Rhodes, noting that the Rhodians wished for Antigonus not to make them act against their treaties.\textsuperscript{688}

\textsuperscript{683} \textit{RC} no.4.
\textsuperscript{684} Gabrielsen (2013), 72; Préaux (1939), 375.
\textsuperscript{685} \textit{ibid.}, 73-81.
\textsuperscript{686} Diod. 20.96.2, 98.1.
\textsuperscript{687} \textit{ibid.}: Cassander sent 10,000 measures of barley Lysimachus sent 40,000 measures of barley.
\textsuperscript{688} Diod. 20.82.2: It is not abundantly clear as to which treaty this passage refers to. While it makes since that it refers to the agreement between the Antigonids and Rhodes as we have evidence for a formal agreement between them, it is also plausible that this could refer to some formal relationship between Ptolemy and Rhodes. Even if we take the first (and most plausible) reading, it is interesting that in a treaty with the Antigonids, Rhodes clearly made a clause regarding Ptolemaic Egypt a priority.
The stability that the Ptolemaic dynasty brought to Egypt may have made the Red Sea route more attractive. Aside from the short-lived invasions of Perdiccas and Antigonus, Egypt was a secure and stable bastion for the Ptolemies. Perdiccas’ invasion had not penetrated deep into Egypt before he was assassinated and the invasion ended.\(^{689}\) Antigonus’ invasion, though it reached the Nile, ultimately failed and required a withdrawal without any serious gain of important Ptolemaic holdings.\(^{690}\) Aside from the disruption of trade through the naval actions of the Antigonid navy, Egypt was relatively secure to continue engaging in commercial activities undisturbed. It is worth contrasting this with the Egypt during the earlier stages of the fourth century BCE. From the end of the fifth century BCE to the invasion of Alexander, there were four dynastic changes in Egypt.\(^{691}\) All of these dynastic changes came through an overthrow of the previous dynasty. The reign of Ptolemy I provided significant political stability for forty years, which was a better environment to facilitate trade. We may also be able to add Alexander’s reign in to this period based on the lack of resistance Egypt offered when Alexander ventured there. If we again contrast that with Syria and the Levant, we can see that these territories were consistently a battleground for the Diadochi. The cities in the region were occupied by the Achaemenids, Alexander, the Antigonids, the Ptolemies, and the Seleucids during the last half of the fourth century BCE and the early stages of the third century BCE. One could reasonably expect that traders would have been hesitant to venture into a warzone. Even so, when Ptolemy was in control of Coelê-Syria,\(^{692}\) there was a more concerted effort to develop Egyptian ports. Perhaps, Ptolemy knew that the ports in Egypt were more defensible and unlikely to fall in to his enemies’ hands.

\(^{689}\) \textit{FGrH} 239 F B11; Paus. 1.6.3; Nep. \textit{Eum.} 5; Just. 13.8.10; Arr. \textit{Succ.} F9.28 = \textit{FGrH} 156 F9.28; Diod. 18.29-36.

\(^{690}\) Diod. 20.76.3-7; Champion (2014), 126-7; Wheatley & Dunn (2020), 172-3.

\(^{691}\) Grimal (1992), 367-82: See also 389-95 for the chronology of the dynasties.

\(^{692}\) Wheatley (1995), 433-40: Ptolemy held Coelê-Syria from 320-315 BCE and again in 311 BCE.
It is worth considering Cleomenes of Naucratis and his actions during his short time in Egypt. While he was not considered one of the Diadochi, his actions clearly had a significant impact on the commercial sphere of the Eastern Mediterranean. Initially, he was in charge of governing the Arabian land around Heroonpolis.\textsuperscript{693} Evidence from the reign of Ptolemy II suggests that this land was a lucrative source of income for the state through the taxation of trade coming through the region. While, according to the Pithom stela, Ptolemy II gave the revenues of this region to the temple of Atum, the implication here is that the revenue from Heroonpolis was state controlled by the time Cleomenes was placed in charge.\textsuperscript{694} What is of more interest for the present discussion is Cleomenes’ time as the \textit{de facto} satrap of Egypt and his subsequent demotion under Ptolemy I.\textsuperscript{695} In particular, his manipulation and monopolisation of the grain trade helped push Egypt to being the major commercial centre of the Eastern Mediterranean. Pseudo-Aristotle commented on his actions, noting that he forced grain merchants to sell their grain to him at market price and then fixed the price well above market value for export into the Mediterranean world.\textsuperscript{696} This, in essence, created a monopoly of Egyptian grain for export, where Cleomenes was the sole person that could determine the price of Egyptian grain. This was especially telling since he did this at a time of scarcity in the Greek world.\textsuperscript{697} All of Cleomenes’ reforms created a world market for grain, with some of his agents operating out of Rhodes in order to ascertain the best price.\textsuperscript{698} Thus, he was able to assume significant control over the grain trade for Egypt, raising its standing in the world market.

\begin{footnotes}
\item[693] Arr. \textit{Anab.} 3.5.2-7; Collins (2012), 237: It is important to note that this was not the Arabian Peninsula. Rather, as Andrew Collins notes, it was a region that was east of the Nile Delta before Sinai which was considered part of Arabia in Antiquity.
\item[694] Collins (2012), 241.
\item[695] Whether or not Cleomenes held the official title of satrap is a matter of scholarly debate. However, Georges Le Rider’s opinion that Cleomenes was the ‘strongman’ of Egypt sums up his position before Ptolemy’s arrival effectively. See Le Rider (2007), 180-181.
\item[696] Arist. \textit{Oec.} 1352b.
\item[697] Le Rider (2007), 185-7.
\item[698] Polanyi (1977), 248-9.
\end{footnotes}
However, with all the political savvy of the Ptolemies, there is not enough evidence to come to a definitive conclusion that they changed the nature or flow of trade with India in the fourth century BCE. What has been discussed are possible actions that could have impacted trade with India, but, without any corresponding evidence. It all remains speculation. Even so, this is important context for the later Ptolemaic actions which did have a tangible and recognisable impact upon Indo-Greek trade. But those actions are beyond the scope of the fourth century BCE.

Antigonus’ external economic policies might have had an impact on the trade relationship between India and the Greek world. The most important macro policy was an emphasis on self-sufficiency and prioritisation exports over imports.\textsuperscript{699} Several times during Antigonus’ reign he attempted to cut off his dependence on imports from rivals. In 314/3 BCE, Antigonus learned that there was a source for papyrus around a lake in Syria.\textsuperscript{700} His interest in the frankincense trade and attempt to cultivate his own also demonstrates this along with his seizing of the bitumen fields on the Dead Sea.\textsuperscript{701} While the papyrus and the bitumen could be interpretated as an attempt to improve on his military, as both of these could be used for the construction of warships,\textsuperscript{702} there is an inscription from Teos that clearly shows Antigonus’ commitment to expanding his exports. In this inscription, Antigonus sets down the rules for exporting foodstuff in the proposed syncoeism. A provision was laid out where farmers could declare to the \textit{agoranomos} the amount they were exporting and pay the duty for that rather than taking the export to a market and then paying the duty.\textsuperscript{703} This would undoubtably help

\textsuperscript{699} Billows (1990), 287-8.
\textsuperscript{700} Theophr. \textit{HP}. 4.8.4; Plin. \textit{NH}. 13.73.
\textsuperscript{701} Theophr. \textit{HP}. 9.4.8; Plin. \textit{NH}. 12.56; Diod. 20.94.1-98.1.
\textsuperscript{702} Billows (1990), 288: Billows states that papyrus could be used for cables on ships and bitumen could be used to waterproof the ship.
\textsuperscript{703} \textit{RC}, no. 3; Billows (1990), 288.
facilitate future exports from this region.\textsuperscript{704} Antigonus’ fixation with trade may have helped lead him into conflict with Rhodes, who were partners with his rival Ptolemy in the grain trade. Cutting off his rival’s main trade route to the Mediterranean world while capitalising on Rhodes’ position as the major trade centre in the Eastern Mediterranean would have almost certainly been part of the reason the Antigonids besieged Rhodes.\textsuperscript{705} But how would Antigonus’ economic activities impact the commercial interaction between India and the Greek world? It is impossible to know for certain. Antigonus lost Babylon and the eastern part of Alexander’s Empire to Seleucus in 312 BCE, and this would have cut off his direct access to the Persian Gulf trade route. Antigonus’ policy of emphasising exports rather than imports might suggest that he did not want to import from an enemy. Furthermore, since the majority of exports from India were luxury goods rather than staple goods, there may have been less interest in these exotic products during a time of war. Perhaps the independent agents within his kingdom may have imported exotic Indian goods, but this is something we cannot know.

Unfortunately, we have little evidence for Seleucus’ economic policies and how he may have influenced the commercial relationship between India and the Greek world. His ceding of his easternmost territories to Chandragupta may have changed the trade routes around that region, but the regions that he did cede were territories that he could not have held anyway. In a sense, Seleucus took what little value he could out of these regions by exchanging them with Chandragupta for a friendship and 500 elephants. Those elephants would play a central role for Seleucus at the battle of Ipsos in 301 BCE.\textsuperscript{706} Seleucus’ ability to give cinnamon, cassia, and costus as a gift to Miletus does suggest that his portion of Alexander’s Empire was able to import these goods from India. M. Rostovtzeff has stated that Seleucus’ kingdom was rather

\textsuperscript{704} Welles (1934), 30.
\textsuperscript{705} Billows (1990), 289; Rostovtzeff (1941), 1354 n.42: The importance of Rhodes is demonstrated by Antigonus sending a fleet to disrupt trade with Egypt when he decided to invade Egypt again (Diod. 20.82.1-2).
\textsuperscript{706} Bevan (1902), 59-60; Wheatley & Dunn (2020), 246-9; Plut. Dem. 29; Plut. Pyrr. 4.
similar to the Achaemenid Empire in that it consisted of various different regions that could not be wielded together as one economic unit. \(^{707}\) Thus, we might expect that the satrapies under his dominion operated as independent economic units. His alliance with Ptolemy I throughout the fourth century BCE may have facilitated some commercial relationship, until they became enemies again in the third century BCE. Ptolemy had sent Seleucus to Babylon with a thousand men as part of a preconceived plan to weaken the Antigonids. \(^{708}\) Maybe this amicable relationship could have resulted in increased economic activity during the fourth century BCE, but probably was more of a strategic partnership rather than an economic one. It is important to keep in mind that the Indian interest for the Diadochi largely stemmed from the desire to acquire elephants, fearsome beasts that could shift the tide of any battle. \(^{709}\) In a period of almost constant war, martial success was almost certainly a higher priority than the importing of luxury goods. In addition to this, our lack of strong evidence for Seleucid control of the Persian Gulf might indicate that there was less of a desire for controlling the spice trade. \(^{710}\)

We may be able to infer some shifts in dynamics in the Near Eastern section of Indo-Greek trade routes through the actions of the Diadochi. The Antigonid expeditions against the Nabataeans not only demonstrates that they were involved in local trade, but the Antigonid motive might indicate a shift in the dynamics of trade in the region. According to Pat Wheatley and Charlotte Dunn, Antigonus could have desired to redirect commercial traffic to the Phoenician ports from Ptolemaic Alexandria. \(^{711}\) Thus, the implication here is that there was a shift towards Alexandria as the key commercial centre in the Eastern Mediterranean, a position

\(^{707}\) Rostovtzeff (1941), 429-30.
\(^{708}\) Grainger (2014), 26-7.
\(^{709}\) Seleucus used his 500 elephants to great effect at the Battle of Ipsus. See Wheatley & Dunn (2020), 246-51. However, Alexander and Ptolemy found success against elephants. See Troncoso (2013), 257-8 for Ptolemy’s success against elephants and his use of this for propaganda.
\(^{710}\) Salles (1987), 75-6.
\(^{711}\) Wheatley & Dunn (2020), 77-8.
that it would hold for centuries after. Indeed, this is a departure from the Phoenician dominated trade of the previous centuries. The Nabataean dominance in the frankincense and myrrh trade is probably the commercial products that they were trafficking. An odd comment by Diodorus may indicate at some other products. He notes that the Nabataeans brought down to the sea frankincense, myrrh, and the most expensive aromatics.\textsuperscript{712} Quite possibly, this could refer to Indian spices that were being imported via the Red Sea route. It is unclear when this shift happened, since we are lacking in sources from this period regarding the Nabataeans.

The final aspect of the Diadochi that is worth considering are the cities that were founded across Alexander’s empire. Alexander and his Successors’ policy for settlement foundation has typically been viewed as an attempt for the foreign minority to exert control over the local majority population.\textsuperscript{713} Many of the settlements had been founded in locations that were not significantly urbanised, as well as at key strategic points in the region.\textsuperscript{714} This was particularly noticeable for Seleucus and the Seleucid Empire. For Alexander, these cities would serve the vital function of securing recently conquered regions and his communication lines.\textsuperscript{715} From these bases, the Diadochi could exert more effective control over larger territories than if they were to solely operate in pre-existing cities. However, G. G. Aperghis has noted that many of the city foundings of the Seleucids were in places where they could exploit the agricultural land, control vital trade networks, and accelerate the adoption of a coin-based economy.\textsuperscript{716} For the purposes of this thesis, Seleucia-Tigris and Seleucus on the Euphrates/Zeugma were the cities that were the most important in terms of long-distance trade.\textsuperscript{717} Seleucia-Tigris became the focal point of the overland routes coming from India.

\textsuperscript{712} Diod. 19.94.5: τὰ πολυτέλεστα τῶν ἀρωμάτων.
\textsuperscript{713} Grainger (1990), 67.
\textsuperscript{714} ibid., 67-8.
\textsuperscript{715} Fraser (1996), 172-5.
\textsuperscript{716} Aperghis (2005), 27-43.
\textsuperscript{717} Aperghis (2004), 76; Le Rider (1965), 306; Cohen (2013), 20.
the end of the fourth century BCE. Zeugma connected both the east and west banks of the Euphrates River, creating a fortified crossing point for travellers, traders, and armies.\textsuperscript{718} By the end of the fourth century BCE, it had supplanted Thapsacus as the major crossing point of the Euphrates and therefore, was an extremely important city for trade in the region.\textsuperscript{719} The economic motivation was not unique to Seleucus. Ptolemy II founded Berenike Trogodytika and Myos Hormos, which were important ports in the Red Sea trade network.\textsuperscript{720} However, these fall outside the scope of the fourth century BCE. While the Seleucid policy may have had a significant impact on the trade routes that came through their empire, channelling pre-existing commercial traffic into areas that could be taxed more effectively, we are unfortunately unable to make any tangible conclusions on whether or not this amplified the amount of products coming from India.

Ultimately, this analysis of certain economic policies of Alexander and the Diadochi reveals nothing that would definitively prove that Alexander’s conquests was a beginning of any sort of revolution for Indo-Greek trade. Jean-François Salles’ statement holds true, based on what little evidence that we have. However, some of the initial policies enacted by the Diadochi could have, quite plausibly, laid the foundation for the expansion of Indian Ocean trade in the subsequent centuries. At some point there must have been a shift towards the Red Sea route from the Persian Gulf route. Perhaps, the reforms under Ptolemy I may have contributed to this, coupled with the stability of Egypt and the later expansions into the Red Sea by the subsequent Ptolemies. The Seleucid relationship with the Maurya Empire may well have contributed to the explosion in trade seen in the later Hellenistic period and the Roman period. Hellenistic cities that were founded within Alexander’s empire provide the most

\textsuperscript{718} Kennedy (2015), 295-8.
\textsuperscript{719} Cohen (2013), 16-7.
\textsuperscript{720} Cohen (2006), 320-5, 332-4: Getzel Cohen does note that we have no evidence for a definitive founding by Ptolemy II. However, scholars are almost in total agreement that it was founded by him.
compelling evidence for a significant change in Indo-Greek trade. But that amounted to redirecting commercial traffic or assuming control over pre-existing routes. Perhaps, we may be able to infer that these actions laid the groundwork for the explosion in trade over this region. However, we guard against ascribing too much credit to those who – in all probability – had not envisioned such an explosion.
Conclusion

In summary, the Greeks were certainly engaged in commerce with India during the fourth century BCE. Indian spices were coming into the Greek world through a series of interconnected trade networks. Although the trade was not as prolific as in the late Hellenistic and Roman periods, there was still significant commerce between the Greek world and India. However, the evidence that remains for us to establish this trade does not allow us to assess the quantity and the frequency of the trade. All we can say is that there was commerce, and that it was less prolific than the later Indo-Mediterranean trade.

The products that we can say with any certainty came in to the Greek world were pepper, cardamomum, amomum, costus, spikenard, and comacum. However, there are difficulties identifying some of these products with any modern counterparts. While goods such as ginger, bdellium, aloe-wood, and malabathrum are well attested in our Roman sources, there is no compelling evidence to suggest that they were coming into the Greek world during this period. It is possible that these products escaped the notice of our sources, but based on what evidence we have, there is no reason to make such a claim. Scholarship surrounding cinnamon and cassia is split on whether it is possible to identify ancient cinnamon and cassia as the same as the modern product. Many of the objections stem from the ancient authors often assigning Arabia and Ethiopia as the place of origin for cinnamon and cassia. They also point to the ancient medicinal uses of these products not aligning with the modern understanding of these plants. The place of origin objection can be explained through a nuanced assessment of the sources and there is enough evidence from some authors that suggest that ancient cinnamon and cassia could have come from India. In terms of the objection based on medicinal properties, since we lack efficacy rates and how prevalent these treatments were, it is difficult to use this
as an objection to identification. Rather, the aromatic properties of these spices should be the focus of identification since it was coveted for these aromatic qualities. The ancient authors are consistent in how they describe the aromatic qualities of cinnamon and cassia which do align with the modern product. Thus, it is more probable than not that a portion of ancient cinnamon and cassia was coming from India.

For other organic products that do not fall into the category of Indian spices, some interesting speculation may be made. Cotton, arguably one of the most famous Indian products, has been found in Athens in the sixth century BCE. However, our literary evidence does not indicate if it was coming to the Greek world through trade. Herodotus notes that the cotton given to the Spartans was in the form of a breastplate. In addition to this, the Greeks lacked a specific word for cotton, typically referring to it as from a ‘wool-bearing tree’. This makes it difficult to assess whether or not it should be considered as part of fourth century Indo-Greek trade. A clove that has been reportedly found at Terqa has some interesting implications. They are native to Indonesia and this specific clove has been dated to 1721 BCE. Even though they are not native to India, if they were being traded, they would have to come through India at some point. While it is difficult to make the call that they were part of any Indian Ocean trade, it is nonetheless fascinating that the trade routes could have stretched as far as Indonesia.

These products could travel overland through Gandhara and the Eastern Satrapies, and through to Asia Minor or the Levant following the roads and trails that made up the Achaemenid Royal Road. A more frequently used route was the Persian Gulf route, which went by sea from the mouth of the Indus, to the Persian Gulf, then up the Euphrates and on to the Levantine coast. Finally, there was the Red Sea route, which left from the mouth of the Indus, circumnavigated the southern Arabian Peninsula, and then up into the Red Sea to Egypt, from
where it could be transported onwards to the Greek world. However, our evidence indicates that this route was not as active as the Persian Gulf route in the fourth century BCE. From the Levantine coast and India, goods that travelled either route could be exported to the Greek world by ship. The Arabians were extremely important for the Persian Gulf and Red Sea routes, as they acted as intermediaries who transported the goods over sea by ship, or they transported them overland by their caravans. They may also have facilitated trade through minor routes that stemmed off the major routes.

Indo-Greek trade was not revolutionised by Alexander the Great as a result of his campaigns against the Achaemenid Empire during the later decades of the fourth century BCE. While he had some impact on certain aspects of the economy, his changes were largely superficial and the Diadochi had a significantly more tangible impact. Alexander’s famous expedition did not yield any increased economic activity between India and the Greek world. It was the Diadochi and their successors that had sustained relations with India which could have impacted Indo-Greek trade. Alexander’s coins were used primarily for military expenditure during his lifetime whereas the Diadochi were far more prolific in monetising regions that did not use a coin-based economy. Alexander’s city foundations did not necessarily have economic considerations in mind. Rather, they had political and military motivations. The most famous of these cities, Alexandria, began its rise to prominence due to the actions of Cleomenes, Ptolemy I, and his successors. Seleucus’ city foundation policies fundamentally changed the economies of the Eastern satrapies. These foundations facilitated the shift to a coin-based economy through founding cities with high agriculture yields, and making the new cities a local point of exchange. Ptolemy enacted several economic policies that changed Egypt’s standing in the Mediterranean Sea. It would be Ptolemy I’s successor, Ptolemy II, who would found cities along the coast of the Red Sea that helped unlock the potential of the Red
Sea route. This would have consequences that reached far in to the Roman period. While it may be concluded that Alexander was responsible for the Diadochi being in the position to impact Indo-Greek trade, it was their actions which had any tangible impact on Indo-Greek trade. However, these actions would not bear fruits until the third and second centuries BCE.
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