

PERSIANS, PORTS, AND PEPPER

The Red Sea Trade in Late Antiquity

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**A thesis submitted to
the Faculty of Graduate and Postdoctoral Studies
in partial fulfillment of the requirements for the
MA degree in Classical Studies**

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Abstract

There has been an increased interest in Rome's connections with the Far East over the course of the last 20 years. This has resulted in the publication of many articles and monographs about the Roman involvement in the Red Sea which was the key maritime region linking the Far East with the West. This thesis synthesizes the recent scholarship on the Red Sea trade in Late Antiquity by merging all of the most up to date information into a concise narrative. In order to accomplish this, three major sources of information have been analyzed. Firstly, the historical time frame of all of the major regions of the Red Sea including Egypt, Aksum, and Himyar have been laid out in a straight forward narrative. This offers the most pertinent background information for the development of Red Sea trade. Secondly, the most up to date archaeological evidence has been incorporated into a description of the ancient maritime trade infrastructure of the Red Sea and Indian Ocean. The archaeological evidence broadens our knowledge of the roads through the Eastern Desert of Egypt, the ports of the Red Sea, and the development of the Indian subcontinent more generally. Thirdly, this thesis builds on all of the historical as well as archaeological data and attempts to quantify the impact of Red Sea trade on the Late Antique Roman Empire both economically and culturally. This synthesis helps to elucidate the growing conception among Late Antique scholars that the Roman Empire was far more interconnected with its eastern neighbours. This further nuances the role which outside forces had on the evolution of the Late Antique world.

Acknowledgments

I would like to especially thank my supervisor, Professor Jitse Dijkstra, for helping me chart a safe course through the treacherous waters of writing a Master's thesis. I would also like to thank my friends and family for keeping me afloat when the doldrums of the writing process set in.

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A Note on Abbreviations

Throughout this thesis, classical sources are abbreviated according to H.G. Liddell, R. Scott, and H.S. Jones, *A Greek-English Lexicon* (Oxford, 1996⁹ with rev. suppl.) and P.G.W. Glare (ed.), *The Oxford Latin Dictionary* (Oxford, 1968-1982). Patristic sources are abbreviated according to G.W.H. Lampe, *A Patristic Greek Lexicon* (Oxford, 1968). For papyrological references, see J.F. Oates et al. (eds.), *Checklist of Editions of Greek and Latin Papyri, Ostraca and Tablets* (Atlanta, 2001⁵), an updated version of which is available online at <http://library.duke.edu/rubenstein/scriptorium/papyrus/texts/clist.html>.

Abbreviations of scholarly journals are based on J. Marouzeau (ed.), *L'année philologique. Bibliographie critique et analytique de l'antiquité gréco-latine* (Paris, 1924-). Sources and journals which are not contained in these volumes have been left in full.

General Introduction

Prelude

As the study of Late Antiquity has blossomed over the course of the last generation, the transition from Antiquity to the Middle Ages has been reevaluated and rehabilitated. The cornerstone of Late Antique studies traditionally centred around *The Decline and Fall of the Roman Empire* written by Edward Gibbon in the late 18th century.¹ This massive work, as the title indicates, painted a picture of the degradation of the Roman Empire from its height under the Antonine dynasty in the 2nd century to its eventual destruction in the Middle Ages in 1453. The view that Late Antiquity was a period of decline was reversed in 1971 by the seminal work of Peter Brown entitled *The World of Late Antiquity*.² Since the publication of this work scholars have reexamined Late Antiquity as a period of continuation and transformation. This paradigm shift has reopened interest into Late Antique studies and prompted inspiring research into the often neglected period. Furthermore, over the last 40 years dozens of archaeological projects have been initiated with the express intent of examining Late Antique remains. Additionally, the rich textual tradition of the later Roman Empire has been reexamined and new texts have steadily been published and made available to scholars and the general public everywhere. The discoveries of the last several decades have reshaped the understanding of a wide range of Late Antique topics, and by extension have broadened comprehension of Antiquity and the Middle Ages.

The study of Rome's Eastern trade has likewise been significantly altered by new information about the Eastern Roman Empire in Late Antiquity. Traditionally, Rome's contacts with the Far East were believed to have disintegrated by the 4th century, with the Sassanids and the Aksumites dictating trade as Constantinople was beset by barbarians and Egypt was raided by nomads.³ Recent research has gone a long way in reversing this idea. Trade in Late Antiquity, especially in the Eastern Empire, continued through the collaboration between the Romans and their neighbours in the more globally diverse and efficient exchange networks of the Byzantine world. A major component of the commercial links with the East was the sea route through the Red Sea. Goods which did not come from the overland Silk Road, which passed through Persia and Palmyra, necessarily had to utilize the maritime route which connected India and Egypt by means of the Indian Ocean and Red Sea.

1 E. Gibbon, *The Decline and Fall of the Roman Empire* (London, 1776-1788).

2 P. Brown, *The World of Late Antiquity: A.D. 150-750* (New York, 1971).

3 See e.g. E.H. Warmington, *The Commerce between the Roman Empire and India* (London, 1974) 136-40.

Roman Red Sea trade is not a new topic and many articles and books have been written about Rome's connections with India.⁴ Unfortunately, there has not been an adequate synthesis of the development of Red Sea trade through Late Antiquity. The two recent works by R. McLaughlin written in 2010 and 2014 respectively are good accounts of recent information on Red Sea trade but they do not cover Late Antiquity.⁵ Conversely, T. Power's *The Red Sea from Byzantium to the Caliphate* offers a great deal of insightful material on the Red Sea in Late Antiquity but it does not describe the transitional period of the 3rd and 4th centuries when trade patterns were shifting.⁶ The developments of this era are central to our understanding of how Red Sea trade was reestablished after the economic turbulence of the 3rd century. Furthermore, Power's book focuses almost exclusively on the Red Sea region and the emergence of Islam and thus does not outline the impact of Red Sea trade on the wider Eurasian world.

In addition to these monographs, the understanding of the Red Sea in Late Antiquity has been significantly expanded by ongoing archaeological projects in the region. Most notable among these are the excavations at the ancient site of Berenike, which were conducted by S.E. Sidebotham and W.Z. Wendrich from 1995 to 2003. Their excavation reports, together with R.T.J. Cappers archaeobotanical research and Sidebotham's 2011 book on Berenike, have vastly improved our perception of this ancient Red Sea port as well as the vital spice trade which flowed through it into the Roman Empire.⁷ Furthermore, the archeological work undertaken by D. Peacock and L. Blue at the ancient sites of Myos Hormos and Adulis has proved instrumental in piecing together the movement of trade goods

4 E.g. J.I. Miller, *The Spice Trade of the Roman Empire. 29 BC to AD 641* (Oxford, 1969); L. Casson, *The Periplus Maris Erythraei: Text with Introduction, Translation and Commentary* (Princeton, 1989).

5 R. McLaughlin, *Rome and the Distant East* (New York, 2010); R. McLaughlin, *The Roman Empire and the Indian Ocean: The Ancient World Economy and the Kingdoms of Africa, Arabia, and India* (Yorkshire, 2014).

6 T. Power, *The Red Sea From Byzantium to the Caliphate: AD 500-1000* (New York, 2012).

7 S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1995: Preliminary Report of the 1995 Excavations at Berenike (Egyptian Red Sea Coast) and the Survey of the Eastern Desert* (Leiden, 1996); S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1996: Report of the 1996 Excavations at Berenike (Egyptian Red Sea Coast) and the Survey of the Eastern Desert* (Leiden, 1998); S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1997: Report of the 1997 Excavations at Berenike and the Survey of the Egyptian Eastern Desert including Excavations at Shenshef* (Leiden, 1999); S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1998: Report of the 1998 Excavations at Berenike and the Survey of the Egyptian Eastern Desert, including Excavations in Wadi Kalalat* (Leiden, 2000); S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1999/2000: Report on the Excavations at Berenike, Including Excavations in Wadi Kalalat and Siket, and the Survey of the Mons Smaragdus Region* (Los Angeles, 2007); R.T.J. Cappers, *Roman Foodprints at Berenike: Archaeobotanical Evidence of Subsistence and Trade in the Eastern Desert of Egypt* (Los Angeles, 2006); S.E. Sidebotham, *Berenike and the Ancient Maritime Spice Route* (Los Angeles, 2011).

throughout the Red Sea in Late Antiquity.⁸ Unfortunately, the excavations at Adulis were cut short as a result of modern political turmoil but the evidence which was uncovered has provided tantalizing glimpses into the role of the Aksumite Kingdom in the trade patterns of the Late Antique Red Sea. The work of S.T. Parker and the Roman Aqaba, Project which has been meticulously carried out since 1994 and is still in the final stages of publication, is a key source for the history of ancient Aila.⁹ It has also traced the trade routes of the ancient Jordan Valley through which the Red Sea products were transported once they had been offloaded into the Roman Empire.

In addition to these notable archaeological publications, the most recent French edition and translation of *The Martyrdom of Arethas* by J. Beaucamp and M. Detoraki in 2007 has created a precise timeline for the southern Red Sea region in the 6th century.¹⁰ This has greatly improved the narrative for the final ebb of international Red Sea trade just prior to the advent of Islam. Furthermore, the history of the Red Sea has been enhanced by the ceramic studies of R. Tomber, in particular her 2008 book *Indo-Roman Trade: From Pots to Pepper*.¹¹ Her research has managed to unite areas all along the Red Sea and Indian Ocean that were otherwise viewed as separate entities. She has been able to identify points of ceramic production and distribution throughout the region and has thereby provided a rough outline of the prevailing trade routes.

The recent proliferation of work on the *limes* of the Late Antique world, specifically on regions such as the Arabian Peninsula and Ethiopia, has expanded the geographical context of Red Sea trade. The new knowledge on these regions during this period has been spearheaded by C.J. Robin in his publications on both Arabia and Ethiopia.¹² Finally, this work also draws on a recent volume edited by J.H.F. Dijkstra and G. Fisher entitled *Inside and Out: Interactions between Rome and the Peoples of*

8 D. Peacock and L. Blue (eds.), *The Ancient Red Sea Port of Adulis* (Oxford, 2007); D. Peacock and L. Blue (eds.), *Myos Hormos-Quseir al-Qadim, Roman and Islamic Ports on the Red Sea. Volume 2: Finds from the Excavations 1999-2003* (Oxford, 2011).

9 S.T. Parker, 'The Roman Aqaba Project: the 1994 Campaign', *ADAJ* 40 (1996) 231-57; S.T. Parker, 'Preliminary Report on the 1994 Season of the Roman Aqaba Project', *BASOR* 305 (1997) 19-44; S.T. Parker, 'The Roman Aqaba Project: the 1996 Campaign', *ADAJ* 42 (1998) 375-94; S.T. Parker, 'The Roman Aqaba Project: the 1997 and 1998 Campaigns', *ADAJ* 44 (2000) 373-94; S.T. Parker, 'The Roman Aqaba Project: the 2000 Campaign', *ADAJ* 46 (2002) 409-28.

10 *Martyrdom of Arethas*, trans. J. Beaucamp, ed. M. Detoraki, *Le martyre de Saint Arethas et de ses compagnons* (Paris, 2007).

11 R. Tomber, 'Amphorae from the Red Sea and their Interpretation of Late Roman Trade beyond the Empire', in J. Eiring and J. Lund (eds.), *Transport Amphorae and Trade in the Eastern Mediterranean: Acts of the Danish Institute at Athens, September 26-29, 2002* (Athens, 2004) 393-402; R. Tomber, 'Rome and South Arabia: New Artefactual Evidence from the Red Sea', *Proceedings of the Seminar for Arabian Studies* 34 (2004) 351-60; R. Tomber, *Indo-Roman Trade: From Pots to Pepper* (London, 2008).

12 C.J. Robin, 'Nagran vers l'époque du massacre', in J. Beaucamp, F. Briquel-Chatonnet and C.J. Robin (eds.), *Juifs et chrétiens en Arabie aux V^e et VI^e siècles: regards croisés sur les sources* (Paris, 2010) 42-106; C.J. Robin, 'Arabia and Ethiopia', in S.F. Johnson (ed.), *The Oxford Handbook of Late Antiquity* (New York, 2012) 247-332.

the Arabia and Egyptian Frontiers in Late Antiquity.¹³ It brings together several specialists who study the interactions between the Arabian and Egyptian frontiers and Rome. The corpus of information on the Late Antique Red Sea has expanded exponentially over the last ten years, which has led to a fundamental reshaping of the history of Red Sea trade and its implications not only on the Roman Empire but on Arabia, Ethiopia, and India. Furthermore, several uniquely Indian sources which have traditionally not been included in the narrative on Red Sea trade have been drawn upon.¹⁴ Many of these sources have shed new light on the interdependence of the economies of the Mediterranean and the Indian Ocean.

Plan of the Thesis

This thesis aims to provide a narrative of the Red Sea trade from the late 2nd century until the mid-6th century by integrating the latest information on Indo-Roman commerce derived from recent archaeological work in the Red Sea region and beyond. It will examine how Red Sea trade coped with the adversity of the 3rd century crisis and how it evolved to survive the complexity of the emerging Late Antique world. Furthermore, it will outline how the revenue derived from Red Sea exchange affected the policies of the Roman government towards its neighbours and how the Red Sea corridor influenced the interplay between Constantinople and the Sassanid Empire. Finally, it will examine the wider impact of the Red Sea trade and demonstrate how the goods which passed through this narrow body of water influenced not only the adjacent Arabian Peninsula and eastern coast of Africa but also the Indian subcontinent and both the Eastern and Western Roman Empires.

The thesis is divided into three chapters which examine different aspects of the Red Sea region and together form a synthesis of Red Sea trade in Late Antiquity. Chapter 1 is focused on the foreign policies which the Romans formulated to ensure the continued supply of Red Sea goods. It also examines the internal infrastructure other than ports which was created in the Eastern Desert of Egypt and in the Sinai to accommodate the goods which passed into Roman territory. Moreover, the chapter offers a historical narrative of Red Sea trade and describes the main events which shaped the progress of Indo-Roman maritime commerce through the entirety of the trade's history from the 1st century BCE until the early 7th century CE. Finally, this chapter will place the Red Sea in the context of the

13 J.H.F. Dijkstra and G. Fisher (eds.), *Inside and Out: Interactions between Rome and the Peoples on the Arabian and Egyptian Frontiers in Late Antiquity* (Leuven, 2014).

14 E.g. O. Bopearachchi, 'Seafaring in the Indian Ocean: Archaeological Evidence from Sri Lanka', in H.P. Ray and J.-F. Salles (eds.), *Tradition and Archaeology: Early Maritime Contacts in the Indian Ocean* (New Delhi, 1998) 59-77.

historical and political developments of the empires which surrounded it. As such, this chapter describes how the 3rd century crisis affected the Red Sea, how Diocletian reestablished long distance trade, and how the emperors of the eastern half of the Roman Empire in Late Antiquity ensured the continuation of Indo-Roman trade through the Red Sea as its waters became host to the ever more complex political situation in which the kingdoms of Aksum and Himyar emerged.

Chapter 2 examines the key ports of the Red Sea in greater detail. Specifically, the chapter traces the growth and decline of the five most vital harbours, Myos Hormos, Berenike, Adulis, Clysma, and Aila, throughout the history of Indo-Roman trade. These ports are the most substantial aspects of the infrastructure involved in Red Sea trade and they therefore demonstrate the extent of Roman involvement in the region. The archeological work that has been done at all of these locations provides a considerable collection of information on not only the history of the ports but the development of Red Sea commerce more generally. Additionally, the various finds from these sites help to reveal the scope of Red Sea trade and to identify the extent and vast distances involved in the international exchange between Rome and the Far East. Supplementing the archaeological evidence, this chapter also makes use of surviving literary sources which expand our knowledge of the ports. The textual sources distinguish how specific goods moved throughout the Red Sea and beyond and thereby, in conjunction with the archaeology, identify the products involved in Indo-Roman trade.

Chapter 3 identifies the impact of Red Sea trade on all of the regions involved in this vast network of exchange. This chapter builds on the information in chapters 1 and 2 by strengthening the evidence for the continued vitality of the Red Sea area into Late Antiquity. It outlines how India and its products were viewed by the Romans and shows how this perception of India changed over time. The chapter also expounds upon the influence which wealth from Red Sea commerce had on the Aksumites in Ethiopia and the Himyarites of southern Arabia. Moreover, it explores how Roman demand for Indian spices in many ways dictated the development of the various regions of India and their environs. Chapter 3 ends with a brief case study into the Roman importation of pepper, which was a common occurrence from the time of Augustus through to the emergence of medieval Europe. This case study highlights the pervasiveness of Red Sea products throughout the Mediterranean and northern Europe even after the collapse of the Western Roman Empire in 476. The ability of Roman trade networks to transport pepper from its sole production centre in India to the far reaches of the Roman Empire offers proof of their efficiency well into Late Antiquity.

These three chapters taken in conjunction represent a compilation of the most pertinent

information about the Red Sea trade. While earlier and later periods of the Red Sea trade are touched upon, Late Antiquity is the main focus of this work. The amalgamation of all of the most recent archaeological and textual discoveries and scholarly advances has been collected within these chapters in order to offer an up-to-date understanding of how Red Sea commerce operated during the transitional period of Late Antiquity.

Chapter 1. Historical Background: Roman Involvement in the Red Sea from Augustus to Justinian

Introduction

Trade along the Red Sea corridor which connected Egypt with southern Arabia, the Horn of Africa and the Far East brought an enormous amount of wealth into the Roman Empire. This wealth bolstered the economy of the Eastern Mediterranean and put money directly into the imperial treasury. It is difficult to quantify the exact volume and therefore the impact of Red Sea trade on the Roman economy as a whole, but it was no doubt significant and crucial to the maintenance of imperial finance. How then did the imperial government in Constantinople go about ensuring the security and the continuation of Red Sea trade and what, if any, imperial policies were enacted which directly dictated Roman involvement in the Red Sea region and beyond? This chapter will be devoted to answering these fundamental questions. Furthermore, it will act as an introduction and chronological framework for the remaining chapters which will delve into specific aspects of Red Sea trade in Late Antiquity.

In order to appreciate Red Sea trade policies in Late Antiquity, it is first necessary to trace the development of Red Sea commerce in the Roman period until the economic collapse during the 3rd century. Red Sea trade was markedly different prior to the 3rd century crisis than it was in Late Antiquity. The general divestment of Roman policy in trade in the early Empire is an illuminating contrast with the Late Antique period. Additionally, the differences in trade patterns between the late 2nd and the early 4th centuries highlight how the Red Sea trade adapted in harsh times to become ever more vibrant in Late Antiquity. In section two of this chapter, we will trace the reassertion of Roman dominance in the Red Sea through the 4th century. The reorganization of the *limes* under Diocletian as well as the reorganization of the Roman monetary system under Constantine greatly affected and changed Red Sea trade. Their policies, while not directly focused on the Red Sea, restored order to the region and stabilized the Eastern economy, thereby allowing Red Sea trade to flourish throughout Late Antiquity.

Section three traces trade developments through to the end of the 5th century. This is a period of marked disparity to the reorganizations of Diocletian and Constantine. There is limited direct Roman involvement in the Red Sea region in this period and conflicts and tensions begin to arise in areas south of the Roman *limes* such as the Eastern Desert of Egypt, as well as in Aksum and Himyar. Lack of Roman interest in Red Sea trade led to the further encroachment of foreign traders which diversified

Red Sea trading in the 6th century. The last section of this chapter will focus on the specific reigns of Anastasius and Justinian. These two emperors were more prominently involved than any of their predecessors in Red Sea trade. As war with Persia became more entrenched, the Red Sea became the only viable route to the Far East. As a result, a trade war erupted between the two great powers which increased tensions in Arabia and led to confrontations motivated by power and politics. Although the 6th century was a period of increased Roman interest in the Red Sea, trade in the region did not prosper any more than when the Roman government pursued its typical laissez-faire policies.

Roman Policy in the Red Sea prior to the 3rd Century

The history of Red Sea commerce stretches back to a period far before the Romans came to Egypt: namely the pharaonic period. These early Egyptians were interested in the aromatics of southern Arabia and Somalia. By 3000 BCE, Arabian incense was important for Egyptian religious practices and the Egyptian priests began searching for incense further and further abroad. The demand to secure these desirable commodities led the pharaohs to invest in trade directly within the southern Red Sea as far as northern Somalia by 1500 BCE. The Egyptians built ports along the Red Sea coast and ruling families funded expeditions to far off lands.¹⁵ The Egyptians were incorporated into the Persian Empire in the 6th century and thus formed the western-most extremity of an Empire that stretched all the way to the Indus valley. King Darius, who ruled from 522 to 486, built the first iteration of the important canal which linked the Nile with the Red Sea at modern Suez. By means of this canal, Darius launched an expedition to circumnavigate Arabia and thereby link the two extremities of his Empire with a sea route. This mission was designed to open up trade between Egypt and India and it laid the groundwork for the later trade missions undertaken by the Romans. Despite these efforts, trade in the Red Sea remained mostly local at this time.¹⁶

When Alexander the Great reached India in 326 BCE after overthrowing the Persian Empire, he brought the subcontinent into the Western consciousness. Forever after generals and rulers strove to surpass Alexander, which in some cases meant going farther east than Alexander had done himself. Alexander also founded the most famous city bearing his name at the terminus of the Nile on the Mediterranean coast. Alexandria became the most important hub linking the East and the West throughout the entirety of Greek and then Roman rule in Egypt. Alexander's explosive conquest and

¹⁵ McLaughlin, *Rome and the Distant East*, 23.

¹⁶ Hdt. 4.44; on which see McLaughlin, *Rome and the Distant East*, 23.

brief rule of the vast Persian Empire brought Hellenic culture across the known world and provided a basis for trade contacts between succeeding empires. Alexander's possessions were divided up after his death and his leading generals became the rulers of fractions of Alexander's conquests. Ptolemy took Egypt and Seleucus central Persia and much of the Near East. The two dynasties became locked in a power struggle which lasted on and off until the arrival of the Romans.¹⁷

The Seleucids acquired Indian elephants from their neighbours in the Indus valley. These elephants were a terrifying force on the battlefield. The Ptolemies would not be outdone by their rivals and, in turn, began actively seeking a source of elephants of their own. They turned to the Red Sea and found African elephants in abundance to the south near modern day Ethiopia. The Ptolemies now had a vested interest in Red Sea trade and began constructing ports along the Red Sea coast which would allow for the transport of elephants from the south all the way to Alexandria.¹⁸ The elephants entered Egypt at the new port of Berenike and crossed the Eastern Desert all the way to the Nile. This port along with the road across the desert to the Nile valley would form the basis of the Red Sea trade during the first three centuries of Roman occupation in Egypt.¹⁹ Under the Ptolemies, Red Sea trade became less localized and Greek merchants took over the regular trade along the Red Sea coast with regions such as Ethiopia and south Arabia. Furthermore, there is evidence for the involvement of investors from places as far away as Veii in Italy and Marseilles in southern France.²⁰

While Red Sea trade was expanding, it was not the huge industry that it was to become under the Romans. The Ptolemies did not support a free trade market and the government took all Eastern luxuries as crown possessions as they entered Egypt. This in no way fostered trade and it deterred enterprising merchants from participating in the risky affair of Red Sea trade. As a result the Ptolemies rarely ventured much further than the Gulf of Aden. Indian goods reached Egypt only by means of Indian and Arabian merchants who brought Indian cargoes to Aden. The *Periplus Maris Erythraei* and Strabo mention the importance of Aden in Red Sea trade during the Ptolemaic period. The *Periplus* states that,

Eudaimôn Arabia, a full fledged city in earlier days, was called Eudaimôn [Prosperous] when, since vessels from India did not go on to Egypt and those from Egypt did not dare sail to places further on but came only this far, it used to receive the cargoes of both.²¹

17 E.g. G.M. Rogers, *Alexander: The Ambiguity of Greatness* (New York, 2004) 289-94.

18 Tomber, *Indo-Roman Trade*, 64; McLaughlin, *Rome and the Distant East*, 24.

19 Sidebotham and Wendrich, *Berenike 1999/2000*, 160-4.

20 McLaughlin, *Rome and the Distant East*, 24.

21 *Periplus.M.Rubr.* 26.

Nonetheless the occasional enterprising Ptolemaic vessel made it directly to India but this was definitely the exception to the rule. Moreover, there was never a large export of Indian goods to Egypt during the Ptolemaic period. Indian commodities came to Egypt rarely and were prohibitively expensive.²²

As the Ptolemaic dynasty came to a close in Egypt, Red Sea trade stagnated and much of its supporting infrastructure decayed. When the Romans began to dominate the Mediterranean the Egyptians increasingly looked west rather than east. The Romans gained formal control over Egypt in 30 BCE after the battle of Actium. With the Roman Republic gone, Augustus, as emperor, was free to reorganize the vastly wealthy province of Egypt.²³ The Romans reinvigorated the Egyptian economy by continuing to upkeep much of what the Ptolemies had built previously. The irrigation ditches were maintained to allow for the efficient grain production that was so central to Augustus' new regime. In addition, the Romans rapidly expanded the roads that led into the Eastern Desert, linking the valuable mines at Mons Porphyrites and Mons Claudianus to the Nile. These brought Rome, for the first time, in direct contact with the Red Sea and the corridor to the Far East.²⁴

Under Roman control, Egypt's Red Sea trade grew rapidly. Several factors contributed to this rapid increase in Red Sea commerce. Firstly, trade was not interrupted by regional conflicts as the end of the Roman civil wars marked the beginning of the *pax Romana*. Secondly, the Romans abolished the restricted trade policies which were present under the Ptolemies. Under the Romans there was no trade policy and therefore Eastern trade became an unrestricted market which greatly improved merchant interest in the Red Sea. Lastly, the revitalized economy and infrastructure in Egypt as well as the construction of large shipyards at Clysma in the Red Sea made trade in the region much more efficient and profitable. The expedition to Arabia led by Aelius Gallus in 26/5 BCE prompted the construction of these large shipyards, which were used to build merchant vessels once the construction of military vessels was no longer called for. As a result, Strabo mentions that by 26 BCE there were 120 merchant vessels sailing from Myos Hormos to India each year.²⁵ Within half a century of the Roman occupation of Egypt, Red Sea trade had established a significant link between the economies of the Mediterranean and the Indian Ocean. Great amounts of wealth were flowing into Egypt and the Roman Empire, and into the imperial treasury.²⁶

22 Strab. 17.1.13.

23 See A.M. Ward, F.M. Heicheim and C.A. Yeo (eds.), *A History of the Roman People* (New York, 2010⁵) 225-9, 248-61.

24 McLaughlin, *Rome and the Distant East*, 27.

25 Strab. 2.5.12.

26 McLaughlin, *Rome and the Distant East*, 28-9.

Trade in the Red Sea in the 1st century followed a set route which was closely monitored by the Roman administration. Goods from all over the Mediterranean, especially wine from Campania, *garum* from North Africa and coins and bullion from the mints, would be shipped to Alexandria. These goods would be placed on river barges and shipped 650 km south along the Nile to Coptos. From there the goods would be transferred to caravans and passed through the Eastern Desert to either Myos Hormos or Berenike. In order to cross the Eastern Desert along one of the protected roads, merchants had to pay a specific tariff. The Coptos Tariff varied depending on the user's profession. A receipt proving payment of the tariff was required for everyone wishing to enter Berenike or Myos Hormos. The 180 km road to Myos Hormos was shorter and took six days to complete.²⁷ The road to Berenike was 370 km and required a twelve day journey.²⁸ Once the goods reached one of the two ports they would be stored in warehouses or else directed immediately onto a ship to await favourable winds which would bring the vessel to India.²⁹

Roman ships left the northern Red Sea in July to take advantage of the prevailing winds from the north and sailed south to the Gulf of Aden. This was a journey of 1200 km and took 30 days. The ships would refit, if need be, in Arabia or Ethiopia.³⁰ Many ships also took on cargo in southern Arabia or Ethiopia or even northern Somalia while waiting for the monsoons in the Indian Ocean to begin. Originally, the Roman vessels followed the Arabian coast before crossing the Indian Ocean but by approximately 50 CE Roman vessels were sturdy enough to cross from the mouth of the Red Sea directly to India. Vessels heading to northern India would travel 1600 km in 40 days using the strong monsoon winds to push them quickly. Other ships went directly to the south of India to the Tamil lands which required a longer 2700 km journey.³¹ Southern India became the more visited destination as the trade in the Indian Ocean progressed. Apart from producing valuable commodities itself, it was more closely linked with Indonesia and South East Asia which offered rare and valuable goods to Roman traders.³²

The Roman vessels which came to southern India had travelled by this point roughly 5000 km in 70 days. Including the time spent trading in Arabia and Ethiopia, the voyage took three months and the ships would arrive in India in September. The large cargo ships would trade their Roman commodities for Indian goods at various ports up and down the west Indian coast. Most of the ships

27 Strab. 2.5.12.

28 Plin. *Nat.* 6.26.102; Sidebotham, *Berenike*, 127-8.

29 McLaughlin, *Rome and the Distant East*, 30.

30 Plin. *Nat.* 6.26.104.

31 *Peripl.M.Rubr.* 57.

32 McLaughlin, *Rome and the Distant East*, 40-2.

had a diversified cargo and, as the *Periplus* highlights, would know where to trade specific goods for the highest rate of return. The Roman ships had three to five months to offload their goods and take on new supplies before the winds were suitable for the return voyage to Egypt. As a result of the long time spent in India, several Indian ports, Muzuris being the most well known, developed Roman quarters where Roman merchants were stationed permanently to ease trade negotiations.³³ The vessels left India fully laden and travelled the 5000 km back to Egypt in two months and came to either Berenike or Myos Hormos between late January and April.³⁴

Upon returning to the borders of the Roman Empire, several taxes were collected. The Roman state had no involvement in trade along the Red Sea other than the Coptos Tariff up until this point, but as these foreign goods entered the Empire the government took its cut. The ports of Myos Hormos and Berenike were administered by the *praefectus montis Berenicidae* who inspected incoming goods by means of an agent called an *arabarch*.³⁵ The *arabarch* was also likely responsible for collecting the receipts from travellers coming down the Coptos road. Goods coming into port were taxed on a varied basis, with those with a higher weight-to-value ratio being taxed more heavily. The funds from this tax were used to maintain the instalments and garrisons along the roads through the Eastern Desert. All of the Eastern goods would be taken directly to Coptos on the Nile to await the next leg of the journey.³⁶

The goods which arrived at Coptos were impounded by government officials into special warehouses until such time as a tax was paid on them. There is no evidence for the percentage of the tax at Coptos but it was important enough to require that the goods be impounded. The tax may not have been too extreme and the reason for the impound was so that receipts could be made for all of the goods which would be travelling up the Nile to Alexandria. This receipt would ensure that no items were offloaded prior to Alexandria where the most significant *tetarte* tax was collected by the state. Once in Alexandria, the goods were again impounded until the 25% *tetarte* was paid. Once the tax was collected, the valuable cargoes were released to their owners and allowed to circulate freely within the Empire.³⁷ All of the various taxes and receipts on Eastern goods within Egypt were designed to control the movements of people and ensure that the local, provincial, and imperial governments all received a

33 G.K. Young, *Rome's Eastern Trade: International Commerce and Imperial Policy, 31 BC-AD 305* (New York, 2011) 30-1.

34 McLaughlin, *Rome and the Distant East*, 42.

35 H. Cuvigny, "Papyrological Evidence on 'Barbarians' in the Egyptian Eastern Desert", in Dijkstra and Fisher, *Inside and Out*, 165-98 at 167.

36 Young, *Rome's Eastern Trade*, 66-7.

37 Young, *Rome's Eastern Trade*, 47-54; E.H. Seland, 'The Persian Gulf or the Red Sea? Two Axes in Ancient Indian Ocean Trade, Where to Go and Why', *World Archaeology* 43 (2011) 398-409 at 402-4.

percentage of the valuable Red Sea trade.

Trade in the Red Sea began to change in the mid-2nd century and reforms which were adopted during the Antonine period in many ways foreshadowed the patterns for Red Sea trade in Late Antiquity. Archaeological evidence from Berenike and Myos Hormos as well as along the desert roads indicate a lessening in trade by 160 CE.³⁸ Trade was, nonetheless, still significant and the decline into the 3rd century was gradual during this period. There are multiple factors which contributed to the contraction of Eastern trade in the Red Sea, specifically the trade which passed through the south of Egypt. The first major change came during Trajan's rule when the emperor decided to dredge the canal linking the Nile to the Red Sea at Clysma. This canal was thereafter dubbed Trajan's canal. It is unclear what Trajan's motivations were in restoring this canal. It is unlikely that he envisioned the expansion of Red Sea trade. The canal may have been reopened as an act of euergetism or, like so many of Trajan's construction projects, repaired to facilitate some military end like an invasion of southern Arabia that never materialized.³⁹

The second major infrastructure development which affected Red Sea trade occurred during Hadrian's reign. Some time after the emperor's founding of Antinoopolis in 130, Hadrian ordered the construction of the *Via Hadriana*, which linked this city directly with the Red Sea far north of Myos Hormos. The road then followed the coast of the Red Sea south all the way to its terminus at Berenike. Again it is doubtful that the road was built to expand trade in the Red Sea. It is more likely that the *Via Hadriana* was built to siphon wealth from the Red Sea commerce into the newly founded city.⁴⁰ Both Hadrian's road and Trajan's canal diversified the trade network within Egypt which linked the Mediterranean to the Red Sea. Heavier goods typically began to come further north to the canal, where the expenses of overland travel could be avoided. The *Via Hadriana* took some traffic off the Coptos road but appears to have been redundant for international travel. In the 2nd century, the traditional routes from Myos Hormos and Berenike to Coptos were still the main arteries of trade despite the new routes available.⁴¹ Trajan's Canal and Clysma eventually supplanted Myos Hormos but not until well into the 4th century. In addition to the multitude of route options available in Egypt, Red Sea trade in general began dwindling in the mid-2nd century. The decrease in trade in Egypt could have been catalysed by the growing trade network in Palmyra in the 2nd century as the powerful markets there

38 J.H. Johnson, 'Inscriptional Material', in D.S. Whitcomb and J.H. Johnson (eds.) *Quesir al-Qadim, 1980 Preliminary Report* (Malibu, 1982) 263-6 at 265; Sidebotham and Wendrich, *Berenike* 1997, 454-6.

39 Young, *Rome's Eastern Trade*, 79-80.

40 Young, *Rome's Eastern Trade*, 79.

41 Sidebotham, *Berenike*, 125-36.

syphoned many of the Eastern goods which had formerly travelled into Roman territory via the Red Sea.⁴²

Other significant factors which contributed to the decline in trade in the mid-2nd century are also evidenced. In 165, a devastating plague struck not only the Roman Empire but also regions as far east as China. The plague originated in central Asia. It is even possible that this Antonine plague arrived into the Empire via the Red Sea. The virulence and success of this disease was exacerbated by the efficiency of the trade networks with the East which allowed it to spread rapidly across Eurasia. It is estimated that between 10 and 14 percent of the population of the Roman Empire was killed. Egypt was particularly hard hit because of its connections with the East and its involvement in international trade. This plague lasted from 165 to 180 and had a catastrophic effect on Red Sea trade as it devastated the populations of all the regions where trade was conducted. The plague disproportionately killed merchants who were in close contact with a multitude of people from diverse regions.⁴³

The Antonine Plague had further negative consequences for Red Sea trade even after it had finished ravishing the population. With areas of Egypt depopulated, the burdens of tax fell onto fewer people who were increasingly unable to produce the huge amount demanded.⁴⁴ Many Egyptian civilians, therefore, left their villages along the Nile and participated in banditry.⁴⁵ The valuable trade cargoes coming across the Red Sea were lucrative targets because of their high value per kilogram. This situation not only further disrupted the tax incomes from agrarian Egypt but also disrupted the valuable collection of the *tetarte* in Alexandria. To combat the growing problem, the roads in the Eastern Desert were better garrisoned and merchants began hiring a greater number of personal bodyguards to protect their caravans between the guard towers along the road. While these measures may have reduced the success rate of the bandits, it was not wholly successful as the greater overhead cost involved in Red Sea trade deterred more and more merchants from participating in the commerce.⁴⁶

When examining the Red Sea trade of the early Empire is it possible to speak of a Roman policy towards Red Sea trade? The short answer is no. The Romans of this period never had a

42 For a general overview on trade in Palmyra see M. Gawlikoski, 'Palmyra as a Trading Centre', *Iraq* 56 (1994) 27-33; Young, *Rome's Eastern Trade*, 136-86.

43 McLaughlin, *Rome and the Distant East*, 59-60.

44 C. Adams, 'Transition and Change in Diocletian's Egypt: Province and Empire in the Late Third Century', in S. Swain and M. Edwards (eds.), *Approaching Late Antiquity: The Transformation from Early to Late Empire* (New York, 2004) 82-108 at 101.

45 R. Duncan-Jones, 'The Impact of the Antonine Plague', *JRA* 9 (1996) 108-36 at 108-30; R. Alston, *Soldier and Society in Roman Egypt* (New York, 2002) 83.

46 Young, *Rome's Eastern Trade*, 72-3.

systematic economic policy nor did they actively try and expand Red Sea trade. The government was interested in ensuring the collection of taxes but it was left to the individual merchants to reap the risks and rewards of the long distance voyage to India and beyond. This did not necessarily hinder the development of Red Sea trade. The lack of the Roman state's involvement meant that the Red Sea was a place of free trade. Anyone was able to participate in the trade and no monopolies existed which restricted the flow of goods outside the Empire. Merchants from India, Arabia, and Africa were all able to trade at Roman ports and Romans were able to trade at all of the ports of the aforementioned regions. Additionally, Red Sea trade was not limited to the wealthy elite of Egypt and the Mediterranean. There is evidence that people from all economic standing except for the poor were able to invest in Red Sea trade. One papyrus shows that soldiers and relatively small Egyptian landowners were able to participate in financially backing a trade voyage to India.⁴⁷

Nonetheless, the Roman government was not indifferent to Red Sea trade. The Romans understood the value of the taxes on Eastern goods and were perpetually interested in securing a valuable cut of the profits. The state was not keen on policing and expending money on trade outside its borders but once within Egypt trade goods were monitored and protected closely. The best example of the state's association with Red Sea trade, apart from its elaborate collection of taxes, was in the maintenance of the roads which passed from Coptos across the Eastern Desert to Berenike and Myos Hormos. These roads were dotted periodically with *hydreumata*, small rectangular walled forts which housed a well and stables. They were manned by small contingents of Roman soldiers and offered water and security to passing caravans. These *hydreumata* were originally thought to have been constructed to curtail banditry but they were also used to monitor the passing traffic. By controlling all of the water along the road through the dry Eastern Desert the military ensured that all of the Eastern trade goods passed along the same road and thereby would not evade any taxes.⁴⁸

The road to and from Myos Hormos had the added security of watchtowers. The *hydreumata*, which protected the water, were necessarily built in the low points of the road and could therefore not be used for signalling or out looking. The towers were manned by four soldiers at any given time. Two soldiers worked while the other pair slept.⁴⁹ Despite the huge investment in manpower and resources, the *hydreumata* and watch towers were not sufficient to protect the caravans and personal guards were

47 Casson, *Periplus Maris Erythraei*, 34-5; Young, *Rome's Eastern Trade*, 54-5; the papyrus is *P.Vindob. G 40822*.

48 A. Bülow-Jacobsen, 'The Traffic on the Road and the Provisioning of the Stations', in H. Cuvigny (ed.), *La route de Myos Hormos: l'armée romaine dans le désert oriental d'Égypte* (Paris, 2006) 399-427.

49 R.E. Zitterkopf and S.E. Sidebotham, 'Stations and Towers on the Quseir-Nile Road', *JEA* 75 (1989) 155-89 at 166, 180-8.

hired by merchants to protect the goods between the secure way stations. Like all other Roman policies, the construction of these installations along the desert roads was reactive. The state was interested in protecting its tax revenue and by extension the caravans which used the roads. When tax collection was threatened, the Romans built the multipurpose defensive and regulatory fortifications along the road to ensure the goods made it safely to Coptos and Alexandria where regular tax could be extracted.⁵⁰

Another example of the Roman government's involvement in Red Sea trade is minor and obscure but revealing nonetheless. Prior to the coin reforms of the 290s, Egypt was a special economic unit which could only interact with the other provinces in tightly regulated ways. These strict arrangements stem back to Augustus' reign as the new emperor wished to ensure his control over Egypt because of its vital grain supply. Egypt, therefore, was not allowed to use the usual coins which were distributed in the rest of the Empire and had its own internal currency which was minted in Alexandria. Interestingly, the Roman coin hoards which have been found in India dated to this period are all of the normal Empire wide issue. The coins must have passed through Egypt in order to get to India but there is limited evidence for any of these coins in the archaeological record in Egypt. This means that these *denarii* and *aurei* were kept under lock and key for their entire journey by mandate of the Roman government so that they did not end up loose in Egypt. The lack of these coins in the archaeological record proves that this rule was followed stringently and was well enforced. The state clearly had a watchful eye on the goods which passed through Egypt both on the way out of the province and on the way back in.⁵¹

Red Sea trade from 1st to the 3rd centuries can be summed up in several broad strokes which offer an illuminating contrast to the trade patterns which developed after the reign of Diocletian through to Late Antiquity. During the Augustan period the trade evolved from Ptolemaic origins which centred in south of Egypt along the Red Sea. The Romans, through the establishment of the *pax Romana*, indirectly nurtured this international commerce into a thriving industry which supported the fortifications of the Eastern Desert and supplied wealth to the treasury. Hardships in the 2nd century took a toll on Red Sea trade and in many ways presaged the decline of the 3rd century and the revitalization of trade in the 4th. Throughout this period there was no imperial policy towards Red Sea trade as would arise in Late Antiquity. Instead the Romans demonstrated their interest in this Eastern commerce by acting in their typical reactive fashion. The Romans took over a trade network which

50 Young, *Rome's Eastern Trade*, 74.

51 R. Duncan-Jones, *Money and Government in the Roman Empire* (Cambridge, 1994) 91-2; Sidebotham, *Berenike*, 248.

already existed and they actively protected it as a result of their interest in the taxable funds which flowed directly into the Roman treasury.⁵²

The 3rd Century Crisis and the Revival in the Red Sea in the 4th Century (200-400)

Generally speaking, the 3rd century crisis was a turbulent time for the Roman Empire which put a great strain on all aspects of the centralized government. Every province except for the most insulated were negatively affected by the divisions among those vying for complete imperial authority. It is extraordinary that the Roman state came through this chaotic period relatively intact. There were some territorial losses and many of the policies of the early Principate ceased to be viable in the emerging Late Antique world. Indeed, the Empire did not become a stable cohesive unit again until the reign of Diocletian when the Principate evolved into the Dominate.⁵³ Nonetheless, it is a testament to the power and adaptability of the Roman Empire that we can still speak of a rejuvenated Roman state in the 4th century. While Rome was able to survive its external foes and the often more threatening internecine civil wars, the government was in a state of chaos. Tax collection was sporadic at best and the currency system had mostly collapsed as the silver coin was debased in an attempt to pay the troops.⁵⁴ Additionally, the Roman Empire had begun to fracture. The 3rd century crisis affected the entirety of the Empire but it affected each region differently. The frontier provinces grew ever more militaristic and became the focal point of the soldier emperors. By contrast the internal provinces were taxed heavily and were otherwise ignored and allowed to decay. Furthermore, as civil wars erupted, provinces were ruled by different emperors who enacted different legislation, further dividing the Empire.⁵⁵

The gradual demise of Red Sea trade towards the end of the 2nd century became a precipitous decline by the 3rd century. Evidence for this decline comes from both archaeological and literary sources. At Berenike and Myos Hormos there is almost a complete lack of goods which date to the 3rd century.⁵⁶ This finding, taken together with the fact that there is a lack of Roman goods and coins found

52 Young, *Rome's Eastern Trade*, 89.

53 O. Hekster, G. de Kleijn, and D. Slootjes, 'Introduction', in O. Hekster, G. de Kleijn, and D. Slootjes (eds.), *Crises and the Roman Empire: Proceedings of the Seventh Workshop of the International Network Impact of Empire* (Leiden, 2007) 3-10 at 3-5.

54 J.W. ERMATINGER, *The Economic Reforms of Diocletian* (Gutenberg, 1996) 35-9.

55 For a more in-depth account of the 3rd century see S. Corcoran, 'Before Constantine', in N. Lenski (ed.) *The Cambridge Companion to the Age of Constantine* (New York, 2006) 35-58 at 36-9; O. Hekster, *Rome and its Empire: AD 193-284* (Edinburgh, 2008).

56 Sidebotham, *Berenike*, 259-60; Power *Red Sea*, 52.

in India from the 3rd century, indicates that the trade network had diminished to become almost non-existent. This decline was caused by the civil unrest which erupted across the Roman Empire and disrupted all trade. Furthermore, the nomadic Blemmyes from the Eastern Desert south of Roman-held Egypt began raiding much of southern Egypt and thereby rendered the roads that linked the Red Sea to Coptos insecure. Between 268 and 270 general unrest in Coptos severed the commercial ties between the city and the north making the entire Red Sea trade infrastructure of southern Egypt inoperable.⁵⁷

Order was not restored to Egypt until the time of Diocletian and not without consequence. Diocletian completely destroyed Coptos and laid siege to Alexandria.⁵⁸ These were the two main trade centres of Red Sea commerce and their hardships adversely affected trade. Diocletian retracted the southern Egyptian frontier to Philae and the Roman road from Coptos to the Red Sea was never again fully under Roman control.⁵⁹ The destruction of Coptos provoked the reorganization of Red Sea trade infrastructure towards the north end of the Red Sea which was more securely under Roman dominion. With Coptos gone the trade patterns of Late Antiquity differed greatly from those of the early Empire. The events of the 3rd century marked a break in the history of Red Sea trade. The Red Sea commerce which arose in Late Antiquity, while reliant on the traditions of the first three centuries of the common era, developed into something new and separate.⁶⁰

The 3rd century crisis had a severe impact on trade in the Red Sea region. The economic hardships were direct but were caused by trends which were occurring outside of Egypt. Egypt itself was to some extent insulated from the more severe problems which unfolded along the Germanic frontier and in the Western Empire in general. The problems of the 3rd century came to Egypt not in the form of foreign invaders, although there were some raids in southern Egypt, but from internal strife within the province and general indifference on the part of the Illyrian soldier emperors.⁶¹ Trade was most severely altered by a lack of goods which could reach the Red Sea from the Mediterranean because of supply issues caused by war. Moreover, there was a limited demand for the luxury commodities of the southern Red Sea and the Indian Ocean as the Roman economy contracted.⁶² Another major deterrent to international trade was the debasement of Roman currency which was

57 Zos. I.71.1; *Hist. Aug.* Probus 17; see J.H.F. Dijkstra, “‘I, Silko Came to Talmis and Taphis’: Interactions Between the Peoples beyond the Egyptian Frontier with Rome in Late Antiquity”, in J.H.F. Dijkstra and G. Fisher, *Inside and Out*, 299-330 at 305-8.

58 Jer. *Chron.* 226; Eutr. 9.22-3; see S. Williams, *Diocletian and the Roman Recovery* (London, 1985) 78-88.

59 Procop. *Pers.* 1.19.30-5.

60 Young, *Rome's Eastern Trade*, 80-6.

61 R.S. Bagnall, *Egypt in Late Antiquity* (Princeton, 1993) 62-5.

62 D. Nappo, ‘The Impact of the Third Century Crisis on International Trade with the East’, in Hekster, de Kleijn, and Sliemers, *Crises and the Roman Empire*, 231-44 at 236-9; Sidebotham, *Berenike*, 259-60.

enacted deliberately by the Roman government.

One of the main commodities which was traded by the Romans in India for luxury goods were coins. These coins have been found in large quantities especially in the south of India. The stability as well as the high quality of Roman coins of the early Empire meant that they were trusted and coveted by foreign merchants. The *Periplus* mentions that it was even possible to exchange Roman currency with foreign Indian coins at a profit, such was the desire for Roman coins.⁶³ During the Antonine and Severan periods the silver coins were gradually replaced by the gold *aureus* in India. The coin record in India contains well over 6,000 of these Roman coins. There is a predominance of Julio-Claudian coins with a large number of Antonine to Severan issues. There are, however, no coins from the mid-to-late-3rd century. Taken on its own, this could simply be a discrepancy in the archaeological record but viewed in conjunction with the decline at Myos Hormos and Berenike and the debasement of Roman coins during this period it is clear that Roman coins were of limited use for international trade. Coins could well have continued to come to India in small quantities but their inferior quality probably meant that they were melted down rather than kept in circulation.⁶⁴

The inflation and the resulting debasement of Roman currency began as early as the reign of Marcus Aurelius. The decline in population caused by the Antonine plague coupled with the resulting increase in *agri deserti* led to an ever smaller tax base. This problem was exacerbated by the increasing need for expanding and maintaining the military, which was the state's largest expense, against the influx of barbarian migrations which encroached upon the Empire. There were several solutions to solving the problem of providing pay for the soldiers when there was not enough money in the treasury to afford to pay them. The most obvious solution would be to raise taxes. This was not an easy nor immediate solution. The population reacted negatively to tax increases even in times of prosperity. Furthermore, the wealthy aristocratic families, who were largely exempt from tax, would simply push the tax onto the already overburdened poor. Emperors could also legally and sometimes illegally take money from cities, sell imperial lands or else confiscate wealth from rich individuals by means of trumped up treason charges but these solutions had prompt negative side effects.⁶⁵

The more immediate and seemingly easier solution was to simply produce more money to pay the soldiers. In order to make up for the lack of silver necessary to make more coins, each coin would contain a lesser percentage of silver. The debasement of the silver *denarius* and later the silver

63 *Peripl.M.Rubr.* 49.

64 Casson, *Periplus Maris Erythraei*, 29-30; Young, *Rome's Eastern Trade*, 80-3.

65 Williams, *Diocletian*, 115-8.

antoninianus was an immediate success. At first the changes to the silver percentage and weight of the coin went unnoticed. In effect, the state was able to pay less for its military budget. This debasement if used on a short term basis was an effective tool in the ancient world to stave off budgetary shortfalls. Unfortunately for the Romans, the military pressures as well as internal strife within the Empire multiplied, requiring that the silver coins be further debased. Despite the rapid inflation and the lack of confidence in the currency, debasement continued to work throughout much of the 3rd century. It took time for new lesser value coins to work their way through the Empire meaning that inflation rose slightly slower than the state could debase the coins. This stop gap approach continued to work until the rule of Gallienus (260-8 CE).⁶⁶

By this time, the currency was so devalued that local mints which produced the usual bronze coins were forced to close as the cheap silver coins flooded the market. Moreover, the government was no longer accepting its own currency as a way to pay taxes. The soldiers as well as the state refused to use the useless currency. Taxes as well as soldier pay were now paid in kind. Aurelian was somewhat successful in restoring order. He reminted a huge number of coins. These new coins were either one of two consistent denominations but they were still only silver coated and thus had a negligible silver content. Aurelian bolstered this new currency by accepting it as tax thus backing the currency. This brought confidence back into the system. Aurelian set a price for each of the coins and then minted the money which was backed by the state. Diocletian learned much from Aurelian's reforms and he took the reform of the currency one step further during his reign.⁶⁷

Red Sea trade was further disrupted during the 3rd century by local problems which arose in conjunction with the wider crises in the Empire as a whole. Starting towards the end of the 2nd and becoming more pronounced in the 3rd century, nomads from the Eastern Desert began raiding into the Roman held Nile Valley. This included the vital Myos Hormos to Coptos and Berenike to Coptos roads as well as Coptos itself. These nomads are identified with the blanket term Blemmyes. These tribal groups which generally moved from the Eastern Desert into the Nile Valley were likely a series of distinct tribes which were treated as a single group by the outsider Romans. Unfortunately, the evidence for Blemmyan movement and potential settlement is scarce in the 3rd century and the sources which do remain come from the late 4th and 5th centuries. The picture becomes clearer by the 5th, but during the 3rd century there is no conclusive evidence for settlement in the Dodekaschoinos of

⁶⁶ Ermatinger, *Economic Reforms*, 35-6.

⁶⁷ For a more detailed account of monetary reforms in this period see Williams, *Diocletian*, 117-8; K. Verboven, 'Demise and Fall of the Augustan Monetary System', in Hekster, de Kleijn, and Slootjes, *Crises and the Roman Empire*, 245-260.

southern Egypt other than the one mention in Procopius which explains Diocletian's retraction of the frontier to Philae.⁶⁸ Rome's military presence in southern Egypt waned by the mid-3rd century and it is at this point when the scattered reports of Blemmyan raids begin to appear regularly. It is impossible to claim categorically that the raids were only carried out by the Blemmyes. These raids could have been orchestrated by the Meroites, Nubians, or another unknown distinctive population from the southern Nile Valley which lived between the Roman frontier and the Kingdom of Meroe. The increase in banditry in Egypt during this period could also account for many of these disturbances.⁶⁹

The Blemmyes became more of a threat to the security of Upper Egypt as the 3rd century progressed. By 280 CE, the *Historia Augusta* mentions that the Blemmyes had succeeded in taking the towns of Ptolemais and the key trade hub of Coptos.⁷⁰ The account of Zosimus provides a more detailed although not necessarily more accurate account of these conquests. He claims that the residents of Ptolemais rose up in revolt and together with the aid of the Blemmyes were able to capture Coptos.⁷¹ Zosimus' account is more alluring as it links the civil strife with Blemmyan raids as the two main contributors to instability in Upper Egypt at this time. Unfortunately, both the *Historia Augusta* and Zosimus are not reliable sources. The former is known to be fraught with inaccuracies and Zosimus was writing about these events many centuries after they had occurred. The Romans were able to reconquer both of these towns. The disruption of peace on the southern Egyptian frontier continued to 291 as there were more reports of fighting with the 'Ethiopians' at this time beyond the Roman frontier.⁷² The violence in Egypt continued to escalate through the 290s until civil unrest became so acute that the emperor himself was required to put down a major revolt.⁷³

By the late 3rd century Egypt was only tentatively held by the Romans. After the successful invasion of Egypt by the Palmyrians led by Queen Zenobia in 269 and the subsequent revolt of Firmus the Egyptians had been severed from the central administration for a significant period of time. The crushing taxes imposed on the villages and the lack of interest on the part of the Roman state led to a

68 Procop. *Pers.* 1.19.30-5; J.H.F. Dijkstra, 'Blemmyes, Noubades and the Eastern Desert in Late Antiquity: Reassessing the Written Sources' in H. Barnard and K. Duistermaat (eds), *History of the Peoples of the Eastern Desert* (Los Angeles, 2012) 239-247 at 247.

69 G. Lassanyi, 'On the Archaeology of the Native Population of the Eastern Desert in the First-Seventh Centuries CE', in Barnard and Duistermaat, *History of the Peoples of the Eastern Desert*, 249-69 at 251.

70 *Hist. Aug.* Probus 17.

71 Zos. 1.17.1.

72 *Paneg.* 11.171.4; T. Eide, T. Hägg, R.H. Pierce, and L. Török (eds.), *Fontes Historiae Nubiorum: Textual Sources for the History of the Middle Nile Region between the Eighth Century BC and the Sixth Century AD: Volume 3: From the First to the Sixth Century AD* (Bergen, 1998) 1055-7.

73 See J.H.F. Dijkstra, *Philae and the End of Ancient Egyptian Religion: A Regional Study of Religious Transformation (298-642 CE)* (Leuven, 2008) 135-46; Dijkstra, 'Blemmyes', 241.

new rebellion in Egypt. In 297, Lucius Domitius Domitianus declared himself emperor and assumed control of Egypt. The revolt began in various cities and towns, including the trading hubs of Ptolemais and Coptos which less than 20 years previously had to be reincorporated into the Roman Empire. From there, the revolt spread to the vital city of Alexandria. Diocletian was forced to come directly to Egypt from Syria with a large force. He besieged Alexandria and partially destroyed Coptos and Ptolemais. Alexandria was captured after an eight month siege and was shown little leniency by Diocletian who feared future revolts.⁷⁴ This rebellion had a serious impact on what remained of Red Sea trade in the 3rd century. The destruction of Coptos and parts of Alexandria eradicated what was left of the old connection between the Red Sea and the Nile valley. These connections would be reestablished over time but at the end of the 3rd century there was likely limited direct trade between Rome and the Far East.⁷⁵

Despite the extreme hardships in the Roman Empire in the 3rd century which adversely affected the Red Sea trade, there is still some evidence which points to a continuation of trade up until 297/8. Towards the end of the 2nd and the beginning of the 3rd century, specifically in the reign of Caracalla, there is evidence for troop movement from Palmyra to Berenike and the Coptos roads. The *Ala Heraclina*, a detachment of Palmyrene archers, was moved to the southern border of the Empire in Egypt in 185 under Commodus. Caracalla increased the military presence at Coptos and along the roads to the Red Sea. A *numerus* of 500 cavalrymen was stationed at Coptos to protect trade. There is also mention in a fragmentary inscription of a *chiliarch*, a commander of a thousand men, who could have been present at Berenike.⁷⁶ Another indication of ongoing Red Sea trade in the 3rd century comes from the *Historia Augusta*, which mentions that the rebel Firmus acquired his wealth from trade with India. As said, however, this source is questionable and little weight can be placed on the accuracy of such a statement.⁷⁷

The diminution of Red Sea trade in the 3rd was reversed at the outset of the 4th century. This was largely precipitated by the military successes as well as the economic reforms instituted by Diocletian as he created the Tetrarchy. Diocletian reorganized and stabilized the whole Empire, stimulating an uptake of trade throughout the Mediterranean.⁷⁸ He also significantly reorganized Egypt and the Sinai region, resulting in a positive impact on Red Sea trade.⁷⁹ The reforms made to the

⁷⁴ Williams, *Diocletian*, 81-8.

⁷⁵ Young, *Rome's Eastern Trade*, 85-6. Sidebotham, *Berenike*, 260.

⁷⁶ Sidebotham, *Berenike*, 259-60.

⁷⁷ *Hist. Aug.* Firmus 3.3-6.

⁷⁸ Nappo, 'Impact of the Third Century Crisis', 237-8; Young, *Rome's Eastern Trade*, 86.

⁷⁹ Williams, *Diocletian*, 82.

currency system under Diocletian, which emulated those of Aurelian, were the most important Empire-wide reforms which affected the Red Sea trade. Diocletian simplified Roman currency and brought further confidence back into the system. His first course of action in 286 was to strike a normalized gold *aureus* at 60 to a pound. Then in 292 he moved to the more ambitious goal of reissuing a silver standard currency. This new coin was called the *argenteus* and bridged the gap between the everyday bronze and the rarer gold coins. The new silver and gold coins returned the Empire to the two standard currency system of the 2nd century. Finally, in 301 a new bronze coin called the *nummus* was struck which brought standardized currency back to all classes. These coins were distributed widely and coins from all the mints can be found across the Empire, indicating that trade and communication had been restored within the Mediterranean. This meant that goods from all over the Empire could flow to Alexandria and then to the Red Sea ports again.⁸⁰

On a local level, Diocletian did much to reform the province of Egypt which had seen much instability during the second half of the 3rd century. These reforms shifted the trade routes to the Red Sea and delineated Diocletian's policy towards the future of Red Sea trade. Diocletian's reforms were focused mainly on increasing the agricultural yields and streamlining the taxation of the rich province of Egypt. As he did in the rest of his Empire, Diocletian divided Egypt. He started with a division into two and later three provinces. This division continued in various forms throughout the 4th century.⁸¹ This would have made it more complex bureaucratically to bring Eastern goods from the south all the way to Alexandria in the north. Diocletian solved this problem by refocusing the terminus of Red Sea trade further north at the newly thriving ports of Aila and Clysma on either side of the Sinai at the two northern extremities of the Red Sea. In 298, Diocletian retracted the southern border of Egypt to Philae, leaving most of the road from Coptos to Berenike out of direct Roman control.⁸² As a result, the Red Sea trade which continued at Berenike into the 5th century was largely conducted by the peoples of the Eastern Desert and the southern Nile Valley and not the Romans.⁸³ The northern ports of Aila and Clysma were nestled more closely under the control of Roman Empire and were not as exposed to foreign threats. To ensure the security of these ports, Diocletian moved the *legio X Fretensis* to Aila as part of his reorganization of the *limes*.⁸⁴ The movement of a legion to Aila indicates that Diocletian was

80 Ermatinger, *Economic Reforms*, 35-9.

81 Bagnall, *Egypt in Late Antiquity*, 57-63; B. Palme, 'Imperial Presence: Government and Army', in R.S. Bagnall (ed.), *Egypt in the Byzantine World, 300-700* (Cambridge, 2007) 245-70 at 245-9.

82 Procop. *Pers.* 1.19.27-37.

83 Sidebotham, *Berenike*, 267.

84 Eus. *Onomast.* 6.17-21; S.T. Parker, *Romans and Saracens: A History of the Roman Frontier* (Washington, 1986) 135-43.

aware and made an informed decision about Red Sea trade and that, like the rest of his reforms, he wanted to restore the trade to its early-2nd century levels but in a way which made sense in the new world of the Tetrarchy. The main motivation for the movement of the legion was not to reinvigorate trade but was to establish the new *limes*. The security of the receiving end of trade network was an added benefit to the placement of a significant garrison at Aila.⁸⁵

The reforms of Diocletian were mostly upheld by Constantine who made some alterations to what Diocletian had created but kept most reforms intact.⁸⁶ Constantine came to power in 306 but his major reforms did not take effect until after the defeat of Licinius in 324, when he became the sole ruler of the Roman Empire. Both Diocletian and Constantine, like all Roman emperors, reacted to the problems which were set before them. Therefore changes to what had been established in the Tetrarchy only occurred when problems arose. For this reason Constantine did little in the way of altering Red Sea trade during his reign. He continued to promote the use of the northern ports but there is no evidence for his direct influence in the trade. Nonetheless, the continued expansion of trade during his reign was most likely noticed and therefore not tampered with. Only two of his Empire-wide reforms had any serious impact on Red Sea trade. These were the reforms to the coinage, particularly the gold standard, and the acceptance of Christianity whose impact on the Red Sea area will be discussed later.⁸⁷

In 309, Constantine introduced the new gold *solidus*. This was the most influential economic reform of the entire 4th century. The coin remained stable and unchanged no matter what crises beset the Late Antique and medieval world until the 10th century. In itself, the new coin was not a drastic change. It was simply a reduction in the weight of Diocletian's *aureus* from 6 to 4.5 grams. This new coin succeeded because it was always held to a high purity standard and it was simple to produce. Furthermore, Constantine was able to distribute the coins on a wide scale. He melted down much of the gold found in the largely abandoned temples of the Eastern Empire as Eusebius claims.⁸⁸ It is more likely that the gold came from new mines, especially after the defeat of Licinius in 324 when Constantine gained access to the rich mines of the central Empire. Whatever the actual source of the gold, Constantine was able to procure a significant amount which allowed him to rapidly institute his new coins on a wide scale. The success of the *solidus* soon phased out silver coinage leaving only the small bronze coins. The stability of the gold currency allowed the bronze coins to fluctuate in size and

85 See generally, Adams, 'Transition and Change', 99-107.

86 Corcoran, 'Before Constantine', 40-2.

87 S. Mitchell, *A History of the Later Roman Empire: AD 284-641* (Cambridge, MA, 2011) 62-70.

88 Eus. *v.C.* 3.54.1-8.

value to deal with current issues without throwing the whole economy back into chaos.⁸⁹ Apart from stabilizing the internal Roman economy, the *solidus* was an important tool for the reinvigoration of Rome's Eastern trade. The stable currency brought confidence in Roman currency back to trade destinations like Aksum and India. There was a demand in the East for Roman gold coins which allowed traders to have a greater purchasing power outside of the Empire than within, thereby stimulating profits and making trade more attractive for merchants again.⁹⁰

The second major reform which prompted growth in Red Sea trade was caused not by economic change but derived from new diplomatic contacts based on religion. Constantine's increasing toleration of Christianity within the Empire, characterized by the famous Edict of Milan of 313, brought Christianity to the forefront of Roman politics for the first time. At around the same time Christianity was coming to the southern Red Sea within the Kingdom of Aksum.⁹¹ The conversion of Aksum began when a missionary called Frumentius from Alexandria came to the region. Frumentius later returned to Aksum as a bishop after having been ordained by Athanasius and set up a Christian see at Aksum.⁹² The long reigning king Ezana probably converted around 340.⁹³ The missionary work in Aksum was likely supported by Constantine as a means to garner new allies and was definitely encouraged by his successor Constantius II. The conversion of Ezana to Christianity was politically expedient for his kingdom. The closer ties with Rome gave the Aksumites a greater interest in providing Eastern goods to the northern ports of the Red Sea. The political benefits of Christianity would have greatly encouraged conversion even as early as the end of Constantine's reign. The growing friendship between Aksum and Constantinople can be seen in Aksum's adoption of a gold *solidus* of exactly the same weight as the coins issued by Constantine.⁹⁴

The economy during Constantine and his immediate successors' reigns continued to evolve slowly over the course of the 4th century.⁹⁵ Apart from the introduction of the *solidus* there were no new reforms which affected the Red Sea trade directly. The remainder of the 4th century can be

89 S.D. Nicklas, *A General Survey of Coinage in the Roman Empire A.D. 294-408 and Its Relationship to the Roman Military Development* (New York, 1995) 119-32.

90 G. Depeyrot, 'Economy and Society' in Lenski, *Age of Constantine*, 226-52 at 237-40.

91 G.W. Bowersock, *Empires in Collision in Late Antiquity* (Cambridge, MA, 2012) 8-11; P. Piovaneli, 'Reconstructing the Social and Cultural History of the Aksumite Kingdom: Some Methodological Reflections' in Dijkstra and Fisher, *Inside and Out*, 331-54 at 335-8.

92 Rufin. *Hist.* 10.9-10; on which see J.H.F. Dijkstra, *Philae and the End*, 256-8.

93 G.W. Bowersock, *The Throne of Adulis: Red Sea Wars on the Eve of Islam* (New York, 2013) 66-7; see Piovaneli, 'Reconstructing', 335-6.

94 G. Hatke, *Aksum and Nubia: Warfare, Commerce, and Political Friction in Ancient Northeast Africa* (New York, 2013) 70-1.

95 Depeyrot, 'Economy and Society', 226-7.

summarized by the continued growth of both Aila and Clysma and the continuation of trade to the now no longer Roman controlled Berenike. Roman vessels still made the journey to India, especially Sri Lanka. Increasingly Aksum, Rome's new economic and religious ally, acted as middleman between the Romans and Indians. As a result Aksum grew rich off the profits of a newly revitalized Roman economy and its general hunger for exotic Eastern goods. While there is little in the way of direct Roman policy concerning the Red Sea in the 4th century, there are two sources which shed some light on the role of the Roman government in maintaining the trade.⁹⁶

The first indication of a change in Roman policy to the Red Sea trade is a reduction of the tax on Eastern imports. The last attestation of the *tetarte* is from a Palmyrene inscription dated to 174.⁹⁷ The tax likely continued sporadically through the 3rd century depending on who was in control of Egypt and the Eastern Empire. Sometime prior to the mid-4th century, the tax, traditionally set at 25 percent, was halved to 12.5 percent. The new tax was called the *octava* and is first attested in the *Codex Theodosianus* in 366. While there is no conclusive indication, the tax was likely changed shortly after 297 and before the end of Diocletian's reign in 305. In any case the tax was an established law by 366. The *octava* is mentioned in two laws in the *Codex Theodosianus*. They state,

In the name of no person whatsoever shall any reduction whatsoever be made in the payment of imposts, but all classes of men who wish to engage in commerce shall pay the customary eighth [*octava*] and no exception shall be made in this matter for military persons.⁹⁸

The impost tax collectors of the eighth [*octava*] shall receive the tax from the delegates of loyal foreign peoples only on those products which such peoples export here from the regions whence they come. But if from Roman soil they should export to their own regions any products, and only those, of course, which the law allows, they shall have those goods duty free and exempt from the payment of the tax.⁹⁹

The first law dates to 366 whereas the second law was issued in 381. These laws reveal an interesting state of affairs in regards to Eastern trade. The first law highlights that all persons involved in trade had to pay the tax. This indicates that trade ventures in the Red Sea were carried out by people from all economic backgrounds and not just the elite. This is reminiscent of how the trade worked in the early Empire. The specific mention of military members participating in international trade is perhaps symptomatic of the *legio X Fretensis* being located at the important Red Sea port of Aila. The

96 Power, *Red Sea*, 46-9.

97 D. Nappo 'Roman Policy in the Red Sea between Anastasius and Justinian', in L.K. Blue, J. Cooper, R.I. Thomas, and R.J. Whitewright (eds.), *Connected Hinterlands: Proceedings of the Fourth International Conference on the Peoples of the Red Sea Region* (Oxford, 2009) 71-7 at 73.

98 *Cod. Theod.* 4.13.6.

99 *Cod. Theod.* 4.13.8.

proximity of the soldiers to a central hub of Eastern trade gave them easy access to maritime investment opportunities. The second law proves that the Roman government was intent on fostering trade with foreign nations. In accordance with the first law all persons had to pay the *octava* but Roman goods could be traded freely. This policy promotes the presence and thus the demand for Roman goods in external states. Foreign merchants, therefore, could make an easier profit on Roman goods which would encourage them to bring Eastern goods to Roman ports in exchange for the relatively cheap Roman products.¹⁰⁰

The second source which demonstrates the involvement of the Roman government in the Red Sea trade is a 12th-century description of Clysma by Peter the Deacon which draws on the 4th century account of Egeria. The temporal removal of the author from the event about which he is writing must be taken into consideration when evaluating its validity.¹⁰¹ Nonetheless, the description seems authentic and expands on the information present in the two laws from the *Codex Theodosianus*. The passage states that ‘the official known as the *logothete* has his residence there, the one who goes on embassy each year to India by order of the Roman emperor’.¹⁰² The rest of the description is quoted in its entirety in the next chapter. This strengthens the argument that there was a direct Roman interest in the Red Sea trade and that the Roman emperor himself saw the trade as noteworthy enough to issue a direct order to maintain trade contacts with the Far East. It is likely that there was a similar official located at Aila and on the island of Iotabe which was closely linked with tax collection.¹⁰³

The late 3rd and early 4th century was a period of great change for the entirety of the Roman world and likewise the Red Sea region. The emperors of the 4th century reformed and reacted to the multitude of problems facing the fragile Roman state which emerged from the 3rd century crisis. Nevertheless, their reforms were always grounded and inspired by measures which had worked previously. In Egypt, the Diocletianic period can, in many ways, be compared to the Augustan one three centuries previously. After a period of war and chaos, infrastructure was restored and productivity brought back to the region. Changes to Red Sea trade followed a similar pattern. The uptake of trade in the northern ports followed trends which had begun in the 2nd but were interrupted by the chaos of the 3rd century. The Roman policy in the 4th century, which made amendments to Red Sea trade, was interested in resuming the status quo of the early 2nd century but had to manage the political situation of this new era. As a result, the Roman government decreased taxes on Eastern goods and became

100 Nappo, ‘Roman Policy’, 73.

101 P. Mayerson, ‘Egeria and Peter the Deacon on the Site of Clysma (Suez)’, *JARCE* 33 (1996) 61-64 at 61.

102 Peter the Deacon, *Itinerarium*, pp. 206.

103 Nappo, ‘Roman Policy’, 72-3.

more vigilant towards the preservation of Red Sea commerce in order to maintain the free market of the first three centuries of the common era into the new world of Late Antiquity.¹⁰⁴

The Red Sea Trade in a Peaceful World (400-491)

The 5th century is rather unremarkable in terms of Red Sea trade. There are a limited number of literary sources which provide details about its developments. Furthermore, the archaeological evidence for the period mainly collected from the Red Sea ports is unsurprising. Finds at all of the active ports indicate that Red Sea trade was fully reinvigorated in the early to mid-4th and continued to grow and thrive throughout the 5th century. Additionally, there is no indication that any of the 5th-century emperors had a vested interest in Red Sea trade and therefore no new imperial policies were enacted with regards to the region. However, at the same time this complete lack of new information is illuminating as it indicates that the policies of the 4th century were functional and thus did not incur any reaction from the Roman government. Conversely, Red Sea trade during this period did undergo several changes in regions outside of the Empire, especially in southern Arabia and Aksum where political and religious changes were causing increased tensions in the region.¹⁰⁵

In order to understand the apparent Roman apathy towards the Red Sea, one must look at what was happening elsewhere in the Empire during the 5th century. A cursory analysis of the 5th-century Eastern Roman Empire will shed light on the marginalization of Red Sea trade. Beginning in the late 2nd century and continuing at different levels of intensity, the Roman Empire was increasingly beset by a greater number of migratory barbarian groups. The Goths, who made up large portions of the Roman army, became increasingly hostile towards the end of the 4th century.¹⁰⁶ This threat was replaced by the Ostrogoths and Visigoths who themselves were overshadowed by the growing power of the Huns. The Eastern Empire fared better than its western counterpart and was able to deal with most of these barbarians with land settlements or cash payments. Rarely was it required for an actual Roman army to face a barbarian group in the field. The Western Empire fared far worse and could not afford to pay off all of the nomadic peoples fleeing into its lands. As a result of these developments, connections between the Western half of the Empire and the Far East began to fade significantly in the

104 Depuyrot, 'Economy and Society', 226-7; Power, *Red Sea*, 51-3.

105 G. Fisher, *Between Empires: Arabs, Romans, and the Sassanians in Late Antiquity* (Oxford, 2011) 84-91; C.J. Robin, 'The Peoples Beyond the Arabian Frontier in Late Antiquity: Recent Epigraphic Discoveries and Latest Advances', in Dijkstra and Fisher, *Inside and Out*, 33-79 at 48-55.

106 Mitchell, *Later Roman Empire*, 95-6.

5th century. Another trend of the 5th century was the static nature of the Roman court. Emperors no longer campaigned themselves or visited the provinces. In the East, the Emperor was kept safely behind the walls of Constantinople for most of his reign.¹⁰⁷ No emperor in the 5th century ever visited Egypt and was therefore not personally inspired to reform the region. As long as tax revenue continued to flow efficiently, the provinces were left alone.¹⁰⁸

Another factor of the 5th century which promoted the torpor towards the Red Sea was the political situation with regards to the Sassanids. Throughout the 4th century the long reign of Shapur II was characterized by aggression towards the Romans, which resulted in several armed conflicts. Consequently, the overland trade route, famously known as the Silk Road, was barred from Roman access. This route brought silk as well as other Eastern commodities over the huge expanse between the Mediterranean and China. Additionally, the Sassanids were in control of the Persian Gulf, allowing them access to the Indian Ocean and all of the goods which the Romans coveted there. The Sassanid Empire located east of the Roman Empire was naturally in a better position to acquire Eastern merchandise. The trade route along the Red Sea corridor linking Alexandria with the Far East was a viable alternative to the largely Sassanid-held Silk Road. During Shapur II's reign, the profits which the Sassanids gained from being the middlemen to Eastern trade went directly into funding their war against Rome. Subsequently, the promotion of Red Sea trade in the 4th century became a sound economic as well as military policy for the Roman government.¹⁰⁹

The tensions between the Romans and Sassanids eased in the 5th century as Shapur II was replaced by his younger heirs. In 408/409, as peace ended the long conflict, the two empires signed a treaty which regulated trade and proved profitable for both sides.¹¹⁰ The treaty allowed goods from the Roman Empire to be traded in Persia and likewise Eastern goods to be traded in Roman territory. There were limits to this treaty, however, as trading was limited to Callinicum, Nisibis, and Artaxata expressly to limit the probability of spying.¹¹¹ As a result Eastern goods could now flow through the Sassanid Empire or come through the Red Sea. Red Sea trade continued to be an advantageous avenue of trade for the Romans. It also linked Rome with the newly established kingdoms of Himyar and Aksum beyond its frontiers. Nonetheless, there was little imperial interest in the Red Sea as it was far removed from Constantinople and the growing barbarian threats of the north. The supply of valuable

107 See P.J. Heather, *The Fall of the Roman Empire: A New History* (London 2005) 145-90.

108 Mitchell, *Later Roman Empire*, 102-3.

109 R.C. Blockley, *East Roman Foreign Policy: Formation and Conduct from Diocletian to Anastasius* (Leeds, 1992) 52-9.

110 G. Greatrex, *Rome and Persia at War, 502-532* (Cambridge, 1998) 10-8.

111 Blockley, *East Roman Foreign Policy*, 54.

Eastern commodities was also secure on two fronts and did not require state attention.¹¹²

The 5th century was not completely without incident on the eastern and southern fronts. There were periodic flare ups in tensions between the Romans and the Sassanids, such as when the new king Bahram V declared war on Rome in 421. These conflicts, however, were short lived and mostly inconsequential.¹¹³ The Romans also had some limited conflicts with various Arab tribes on the borders of Roman Arabia as well as an increase in raids coming from the southern Nile Valley south of Philae. Nonetheless, it must be noted that the tribes which had occupied the southern frontier were more often engaged in religious and economic interactions with the Romans than in military confrontations.¹¹⁴ The Romans divided Egypt into two provinces again in order to increase the effectiveness of military protection. For the most part, the Roman forces were divided between defending the Balkans from the Huns and being sent on expeditions to aid the failing Western Roman Empire. The capture of most of northern Africa, especially the major port of Carthage, in 439 by the Vandals provoked the Eastern Romans into action, as it threatened the maritime dominance of the Mediterranean which the Romans had enjoyed for centuries.¹¹⁵

Meanwhile, far south of the Roman frontiers, in the emerging kingdoms of Aksum and Himyar religious change marked the growing political tensions in the southern Red Sea. By the 5th century Aksum had become fully Christianized. Up until the council of Chalcedon in 451, Aksum was closely linked to the Eastern Roman Empire by means of an interconnected religious community centred around the see at Aksum which was initiated by Frumentius. This changed after 451 when the Aksumites remained in the miaphysite camp and were therefore religiously distanced from Constantinople. The choice of miaphysite Christianity associated Aksum with the eastern provinces of Syria and Palestine which were more linguistically and culturally similar to Aksum.¹¹⁶

Despite the religious discrepancy between Constantinople and Aksum, the two powers were still close allies and were willing to come together against common threats such as the Himyarites and, to a lesser extent, the Sassanids. Aksum's geographical distance from the borders of the Empire meant that it was free to follow its anti-Chalcedonian form of Christianity. Moreover, the different forms of Christianity did not propagate conflicts between Rome and Aksum because Aksum was never part of

112 Blockley, *East Roman Foreign Policy*, 87-9.

113 A.D. Lee, *Information and Frontiers: Roman Foreign Relations in Late Antiquity* (Cambridge, 1993) 143-4; B. Dignas and E. Winter, *Rome and Persia in Late Antiquity: Neighbors and Rivals* (New York, 2007) 34-7.

114 Dijkstra, "I, Silko Came to Talmis and Taphis", 309-12.

115 Blockley, *East Roman Foreign Policy*, 61-3.

116 Bowersock, *Throne of Adulis*, 75-7, 82-3.

the Empire (which strove for one unifying Christian religion.)¹¹⁷ The religious unity between Aksum and Palestine was perhaps symptomatic of the close commercial contact between the two regions because of the presence of Aila within the province of Palestine. Nevertheless, religion did not dictate the trade patterns in the Red Sea. Instead, the trade networks helped spread the religion and the culture of the Roman East to distant regions such as Aksum. At the same time as this religious continuation occurred in Aksum, the kingdom itself expanded by controlling much of Ethiopia, as well as the region of Meroe in the southern Nile valley, and began to make inroads into Himyar as well.¹¹⁸

As the situation was changing in Aksum, Himyar on the other side of the Red Sea in southern Arabia was also transforming. Beginning around 380, the Himyarites adopted a form of monotheism based on Judaism to replace the waning influence of their traditional religion.¹¹⁹ This choice of religion echoes the political separation which the Himyarites wished to employ towards the Aksumites and, by extension, the Romans and the Sassanids. With the solidarity of this new religion the Himyarite Kingdom expanded rapidly and by the mid-5th century controlled much of modern-day Saudi Arabia and Yemen through a system of direct ownership, client states, and alliances.¹²⁰ After 468, Himyar became more overtly Jewish and adversarial to its Christian neighbours and subjects. By the 5th century, considerable miaphysite Christian communities were developing in southern Arabia most notably at the oasis of Najran. This understandably led to internal tensions within Himyar which were reciprocated between Aksum and Himyar as a result of the common Christianity of the Aksumites and the Himyarite minority. While tensions remained high, conflict was postponed until the 6th century when the political make up of Arabia and the southern Red Sea changed drastically.¹²¹

The most salient event of the 5th century which had a direct impact on Red Sea trade was the capture of Iotabe by the Arabs. In 473, a renegade Arab chieftain, Amorcesus, took the valuable island from the Romans. Iotabe was mainly involved in the collection of taxes on goods coming from the southern Red Sea and beyond. As such it housed a small population of merchants and Roman officials. The inhabitants of Iotabe were mainly Jewish although there is also evidence for a small Christian

117 G. Beevan, 'Ethiopian Apocalyptic and the End of Roman Rule: The Reception of Chalcedon in Aksum and the Kebra Nagast', in Dijkstra and Fisher, *Inside and Out*, 371-90 at 386-8.

118 Hatke, *Aksum and Nubia*, 143-7.

119 Robin, 'Arabian Frontier', 48-55.

120 I. Gajda, *Le royaume de Himyar à l'époque monothéiste: l'histoire de l'Arabie du Sud ancienne de la fin du IV^e siècle de l'ère chrétienne jusqu'à l'avènement de l'Islam* (Paris, 2009) 43-71; C.J. Robin, 'Arabia and Ethiopia', in S.F. Johnson (ed.), *The Oxford Handbook of Late Antiquity* (New York, 2012) 247-332 at 265-72.

121 C.J. Robin, 'Nagran vers l'époque du massacre', in J. Beaucamp, F. Briquel-Chatonnet and C.J. Robin (eds.), *Juifs et chrétiens en Arabie aux V^e et VI^e siècles: regards croisés sur les sources* (Paris, 2010) 42-106 at 64-8.

community there.¹²² The island, which has not been conclusively identified today, was not part of *Palestina Tertia* and was an autonomous entity which paid the taxes it collected directly to the state. When Amorcesus took Iotabe the taxes which were collected were instead directed into his own coffers, thereby depriving the Romans of significant revenue. The autonomous nature of the island resulted in its vulnerability to foreign threats, as there was no military detachment protecting it nor was there a military official on the mainland specifically authorized to protect Iotabe.¹²³

Iotabe was not brought back under Roman control until 25 years later when Anastasius was emperor. As a result of the autonomous nature of the community, a military operation to retake the island could not have gone ahead without the support of a high official such as a governor or even the emperor himself. No action was taken against Amorcesus' brazen conquest for a quarter of a century because of the lack of interest in the Red Sea which the Romans had during this period. The relations with the Sassanids were good and military attention was needed elsewhere in the Empire.¹²⁴ Additionally, the *legio X Fretensis* which had been stationed at Aila by Diocletian was slowly being replaced with Arab *foederati* which were typically only defensive units. Therefore, direct military action would have to wait until a proper Roman force was brought to the region. Iotabe was retaken in 498 because the political relationship between Constantinople and the Red Sea had changed. The island was retaken by the *dux* of Palestine Romanus while he was conducting a counterattack against Saracen raids on Anastasius' orders.¹²⁵

Towards the end of the 5th century war with the Sassanids again loomed and the Romans needed to shore up their defences as well as their allies. Iotabe had to be retaken to ensure that Eastern goods could flow freely into the Empire once the overland routes became limited. Furthermore, contact with the southern Red Sea, specifically Rome's ally Aksum, needed to remain open in order to prevent Sassanid machinations in the region.¹²⁶ War did eventually break out between the Sassanids and the Romans in 502 and the conflict lasted off and on for the remainder of the 6th century.¹²⁷ During this time, it appears that Iotabe was attacked and conquered again by an unspecified people. It is likely that they were Saracens again who were acting on behalf of the Sassanids. In any case, Justinian had to

122 P. Mayerson, 'The Island of Iotabe in the Byzantine Sources: A Reprise', *BASOR* 287 (1992) 1-4 at 1-3.

123 P. Mayerson, 'A Note on Iotabe and Several Other Islands in the Red Sea', *BASOR* 298 (1995) 33-5 at 33-5.

124 Blockley, *East Roman Foreign Policy*, 77-9, 88.

125 Mayerson, 'The Island of Iotabe', 1.

126 Blockley, *East Roman Foreign Policy*, 87-8.

127 Greatrex, *Rome and Persia*, 1-4; G. Greatrex, 'Byzantium and the East in the Sixth Century', in M. Maas (ed.), *The Cambridge Companion to the Age of Justinian* (New York, 2005) 477-509 at 486-90

retake the island again in 534 after the war with the Sassanids was put on hold.¹²⁸ The reconquest of Iotabe by both Anastasius and Justinian is indicative of the importance of the island for Red Sea trade, especially when the overland route to the East was threatened. The revenues from the tax collectors were significant enough to warrant a costly invasion of the island and the attention of both the *dux* of Palestine and the emperor.¹²⁹

The Red Sea from Anastasius to Justinian (491-565)

The Emperor Anastasius came to the Eastern Roman throne in 491 and his reign was marked by sound economic and foreign policy. Upon his death in 518 the Eastern Roman Empire was stronger militarily and economically than it had been since the beginning of the reign of Theodosius II in the 420s. The strengthening of the Roman economy was stimulated during Anastasius' reign by the construction of beneficial infrastructure projects, better tax regulation, and a general lessening of the burden of tax on the middle and lower classes.¹³⁰ Additionally, Anastasius yet again implemented a coin reform. In order to protect the stability of the *solidus* he introduced a standardized form of the bronze *nummi* which had become of extremely poor quality, were infrequently minted, and were essentially useless. This reform aided everyday transactions and helped to convert the Roman government back to the gold-based tax collection system known as the *adaeratio*, which replaced the *annona* or collection in-kind system used under Diocletian.¹³¹ Anastasius was an emperor who in many ways promoted the low classes and lifted many of the heavy financial burdens which had been placed on them since the 3rd century. By diverting the Empire's revenue stream to sectors which could handle moderate tax pressure he promoted growth throughout the Empire.¹³²

Anastasius instituted many tax reforms during his reign which were beneficial to the efficiency of tax collection and the overall stability of Roman finance. He created the office of *vindicex* which monitored tax collection and protected the lower classes from vindictive tax collectors. He also reduced taxes in areas affected by natural disasters or else devastated by the war with Persia. While these tax reforms characterize Anastasius' reign, they had little effect on Red Sea trade other than enriching the people of the Empire.¹³³ There was one change to the tax system which facilitated Red

128 Mayerson, 'Note on Iotabe', 33-5.

129 Nappo, 'Roman Policy' 73-4.

130 Blockley, *East Roman Foreign Policy*, 94-5.

131 A.D. Lee, *From Rome to Byzantium AD 363 to 565: The Transformation of Ancient Rome* (Edinburgh, 2013) 166-7.

132 Lee, *Rome to Byzantium*, 163-4.

133 F.K. Haarer, *Anastasius I: Politics and Empire in the Late Roman World* (Cambridge, 2006) 207-10.

Sea trade. The *chrysargyron* otherwise known as the *auri lustralis collatio* was a tax which was most likely instituted under Constantine and appears in the *Codex Theodosianus*.¹³⁴ The tax was directed at those who did not earn a living from farming but instead worked in the cities and survived by buying, selling, or charging fees in their businesses. The tax seems fair as farmers were under an enormous strain especially because of the heavy demands of the *annona* but it was a huge burden on the urban poor. The cancellation of the tax was met with great praise from those in the cities as well as the Church. As a result Anastasius' popularity rose exponentially after 498.¹³⁵

The tax also cut into the revenue of those involved in Red Sea trade as it was collected every four years in addition to the *octava*. The tax had to be paid in gold or silver, and the large lump sum collected every four years bankrupted some and required the rest to retain much of their capital without investing in risky overseas ventures. Anastasius abolished the tax and indirectly promoted Red Sea trade. The *chrysargyron* affected those involved in Eastern trade harshly. Other than government officials, the tax applied to those involved in the importation of foreign goods directly, to those who acted as middlemen transporting goods throughout the Mediterranean, or to the tradesmen who turned the raw Eastern commodities into finished products. As a result, it greatly increased the cost of Red Sea items. Furthermore, the burden of tax was placed on those who lived in the cities, where most of the goods from the Red Sea and beyond were sold, and thereby lessened the surplus income available to be spent on these luxury items. This lucrative tax system which restrained growth in the cities was replaced fiscally by Anastasius through the collection of tax from the *res privata* and the greater wealth garnered from the introduction of the *adaeratio*.¹³⁶

Anastasius was no less successful in terms of foreign policy. His treatment of the Persians, Arabs, Aksumites, and Himyarites ensured that Red Sea trade continued to thrive. Leading up to the war with Persia, which began in 502, the emperor took measures to protect the vital Red Sea trade which would be the Romans' only source of Eastern goods once the war started. Throughout the 5th century the Arabian frontier was guarded less and less by legionary detachments. Instead it was manned mainly by Arab *foederati* and *limitanei*.¹³⁷ *Palestina Tertia* and the northern Red Sea ports were protected until 502 by a treaty with the Arab tribe of the Salihids. When this treaty expired, Anastasius needed to find alternative support from new Arab tribes which would protect the *limes* from encroachment by the Arab tribes allied with Persia. He turned to the Kindites and the Jafnids which

134 *Cod. Theod.* 13.1.1-2.

135 Joshua Stylites, *Chronicle*, pp. 30-1.

136 Haarer, *Anastasius I*, 196-8.

137 Parker, *Romans and Saracens*, 143-7.

were both powerful entities in central Arabia. Anastasius was able to cement his alliances to these two loose collections of tribes through the political tool of Christianity. Both tribes adopted Christianity with the acceptance of the alliance and, through intensive missionary work and church construction, rapidly became fervent adherents to the faith.¹³⁸ These new alliances protected the northern terminus of Red Sea trade effectively through to the reign of Justinian.¹³⁹

With *Palestina Tertia* secured, Anastasius focused on garnering friendly relations with the Aksumites and Himyarites. The Aksumites were already closely linked with the Romans and were content with the profits of the Red Sea trade which passed through their main port of Adulis. Himyar on the other hand was a more problematic case. The Jewish nature of the kingdom allied it more closely with Sassanid interests than with those of the Romans. Without Himyarite support, or at least neutrality, Red Sea trade would be severely jeopardized as the strait of Bab-el-Mandeb could be easily closed to Roman shipping.¹⁴⁰ Luckily for Anastasius, the ruling Jewish family was supplanted by Christian royalty with Aksumite support. As a result, communities such as Najran continued to grow. During Anastasius' reign, the Bishop Silvanus was sent to Himyar and the region was incorporated into the ecclesiastical hierarchy. Missionary work further converted segments of the population to a miaphysite Christianity which linked them to Roman religious interests, at least during Anastasius' reign. Historically, whenever Himyar was ruled by a Christian it remained on good terms with the Romans. Conversely, at times when the kingdom became more overtly Jewish, as would occur in the 520s, relations with the Romans and therefore the Aksumites deteriorated.¹⁴¹

A prime example of this is the reign of the Himyarite king Dhu Nuwas. His kingship was a backlash to both the Aksumite and the Christian dominance of southern Arabia since the beginning of the 6th century. Dhu Nuwas, who came to power in 522, evicted all of the Aksumite garrisons from the kingdom. He also confiscated all of the merchandise from the Roman traders and barred them from the country. Then he focused his attention on the local Christians who were still loyal to Aksum and Rome. He destroyed many of the churches or else converted them into synagogues. He also persecuted much of the Christian population. This religious violence culminated in the massacre at Najran in 523 which finally provoked a military response from the Aksumites and Romans. Additionally, Dhu Nuwas made overtures to the Sassanids for aid against the Aksumites and Romans. Sassanid control of Himyar could have ended the profitability of Red Sea trade. The Sassanids, however, were invested militarily

138 Fisher, *Between Empires*, 86-8.

139 Haarer, *Anastasius I*, 33-40.

140 Haarer, *Anastasius I*, 40-1.

141 Fisher, *Between Empires*, 41; Haarer, *Anastasius I*, 41-2; Robin, 'Arabia and Ethiopia', 282.

on the northern borders of their Empire.¹⁴² This unrest in the southern Red Sea greatly disrupted the trade which passed through this region and limited Roman access to Eastern goods. When the Aksumites sent their invasion force to Himyar it was supported by Roman merchant vessels from all of the various ports. The vessels were commissioned by the Emperor Justin I to aid in the invasion but it is likely that the owners of the vessels were keen to see Dhu Nuwas' downfall so that peaceful trade in the Red Sea could be reinitiated.¹⁴³

The reign of Anastasius is marked by a change in the way in which the Romans dealt with foreign policy. The Roman government was still a reactive body which rarely took initiative but instead fixed problems as they arose. Anastasius mostly followed this pattern but he began to anticipate problems which would arise and built safeguards to defend against them. This is illustrated especially by his promotion of Red Sea trade which preempted the hostilities with Persia. The capture of Iotabe as well as the procurement of new Arab allies protected the Roman interest in the Red Sea on the eve of Kavahd's invasion of Mesopotamia. Furthermore, the religious support of Christianity in southern Arabia went a step further and ensured the security of Red Sea trade in the early 6th century when it would become most vital. Rome had no direct influence on Himyar and the kingdom was far south of its borders but through the political tool of religion, Anastasius attempted to secure support for Roman commercial interests in the southern Red Sea. This was successful during Anastasius' reign and laid much of the groundwork for relations in the region under Justinian. It was the foresight of Anastasius' regime which promoted Red Sea trade when the overland route through Persia was still open so that when conflicts with the Sassanids did arise, the Roman Empire would not find itself without the wealth and valuable commodities of the Far East.¹⁴⁴

Anastasius was succeeded by Justin I who remained emperor until 527. Other than the invasion of southern Arabia of 525, which was actually initiated under Anastasius, there are no noteworthy events in regards to the Red Sea during his reign. Justin continued all of the same economic as well as tax policies of his predecessor. Moreover, the relations with the Persians remained hostile, if not always completely belligerent, and therefore there was no need to reduce the importance of Red Sea trade. Affairs in the Red Sea began to shift once Justinian was elevated to the purple. The new emperor, more than any of his predecessors, became closely involved with Red Sea trade and its role in

142 *Martyrdom of Arethas*, 29; Z. Rubin, 'Byzantium and Southern Arabia – The Policy of Anastasius', in D.H. French and C.S. Lightfoot (eds.), *The Eastern Frontier of the Roman Empire: Proceedings of a Colloquium Held at Ankara in September 1988* (Oxford, 1989) 383-420 at 401.

143 *Martyrdom of Arethas*, 29; Haarer, *Anastasius I*, 41-2; Robin, 'Arabia and Ethiopia', 283-5.

144 Haarer, *Anastasius I*, 39-45.

maintaining a diplomatic stalemate against the Sassanids.¹⁴⁵ Furthermore, Justinian ensured the continued support of the Jafnids in the protection of Roman Arabia and *Palestina Tertia*. The Roman troops in the region were diverted elsewhere and many of the forts fell into disrepair during this period. Consequently, this highlights Justinian's growing reliance on Arabian allies to protect the Red Sea. The policy, while not as effective as the Diocletianic *limes* system of the 4th century, was much more cost effective and conducive to the atmosphere of the 6th century.¹⁴⁶

The age of Justinian saw a significant increase in both the popularity and importance of silk within the Roman Empire. This luxury fabric was the best overt display of wealth and power and was thus coveted by the elite in Constantinople. Unfortunately, the trade in silk, which at the beginning of Justinian's reign was exclusively produced in China, was controlled entirely by the Sassanids. The trade in silk was a huge source of income for the Sassanids and was not advantageous for the Romans in their war against their eastern neighbours. Justinian, understanding the difficulties in limiting the addiction to silk of the upper classes, proposed acquiring the silk via the Red Sea by means of the Aksumites and thereby break the Sassanid monopoly on the commodity. Procopius relates that Justinian,

purposed that the Ethiopians [Aksumites], by purchasing silk from India and selling it among the Romans, might themselves gain much money, while causing the Romans to profit in only one way, namely, that they no longer be compelled to pay over their money to their enemy.¹⁴⁷

Justinian's assessment of the situation was sound but there were several factors which prevented the Sassanid monopoly from being broken.¹⁴⁸

The emperor greatly underestimated the control which the Persians had over the Indian Ocean as well as the overland routes to China. As Procopius goes on to elaborate, the Sassanids were able to buy up all of the available silk in the Indian Ocean which prevented the Aksumites from trading directly with the exporters.¹⁴⁹ The Aksumites could still acquire silk but it always came through a Sassanid intermediary, which defeated the purpose of Justinian's original plan. Additionally, the Aksumites were at a geographical disadvantage to the Sassanids. Sassanid vessels could reach India long before vessels coming from the Red Sea simply because the Persian Gulf is much closer. Furthermore, the limiting wind patterns of both the Red Sea and the Indian Ocean meant that Aksumite

145 Greatrex, 'Byzantium and the East', 501-3.

146 Parker, *Romans and Saracens*, 151-2.

147 Procop. *Pers.* 1.20.9.

148 Greatrex, 'Byzantium and the East', 502.

149 Procop. *Pers.* 1.20.12.

vessels could only reach India at very specific times of the year as noted above. Perhaps, had Justinian pursued this policy for longer, the Sassanid monopoly could have been affected but political change in southern Arabia precipitated an end to Rome's strong influence over the southern Red Sea. By 532, Aksum's and therefore Rome's hold over Himyar evaporated. The Christian usurper Abraha took control of Himyar and made the kingdom independent by distancing himself from the alliances with the Aksumites and Romans.¹⁵⁰

Abraha, an Aksumite, was a military commander who took control of the garrison forces left in Himyar and used them to found his own regime in Himyar. By all accounts Abraha was a talented tactician and ruled Himyar from roughly 535 until 565.¹⁵¹ During this time he was able to repel further attempts at invasion from Aksum as well as push the boundaries of the Himyarite Kingdom farther than they had ever been previously. At the height of Himyarite power in the 550s, the kingdom controlled much of the Arabian Peninsula and was only thwarted by the town of Yathrib (Mecca) which would be central to the emergence of Islam in the coming decades. The rise of Abraha prevented the Romans from claiming influence over southern Arabia. Abraha conducted and presented himself as the Jewish Himyarite kings of the 5th century had done. Instead of Judaism, however, Abraha adopted the anti-Chalcedonian Julianist form of Christianity. This was a schism which originated in Syria but which was closely associated with Najran. Most Himyarite Christians were likely Julianist which prompted Abraha's adoption of this particular strand of Christianity different from the form which was practised by the majority of native Aksumites.¹⁵²

Julianism was an expedient choice for Abraha as it reflected the new king's attitude towards foreign policy. Julianism was not recognized by any of the great powers and was therefore not beholden to any of them. Julianism acted, as Judaism had in the 5th century, as a political tool which distanced Himyar from its neighbours and advocated for independence without provoking direct hostility. The adoption of Julianism worked to Abraha's benefit and his kingdom was left free to expand without external hindrance. In 547 the Himyarites were present at a diplomatic meeting held at Ma'rib between the Romans, Sassanids, and Aksumites among others. The results of this meeting are unknown but based on the events of the succeeding years some agreements can be assumed.¹⁵³

In the year following the meeting Abraha launched a series of campaigns into northern Arabia indicating that Himyar was given control over this region. There was no retaliation against Himyar for

150 Robin, 'Arabia and Ethiopia', 284-5; Robin, 'Arabian Frontier', 65-8.

151 Gajda, *Le royaume de Himyar*, 117-8; Robin, 'Arabia and Ethiopia', 287.

152 Robin, 'Arabian Frontier', 73-5.

153 Fisher, *Between Empires*, 118; Robin, 'Arabia and Ethiopia', 285.

the rest of Abraha's reign and it is probable that some form of non-aggression pact was signed between the Himyarites and their neighbours.¹⁵⁴ This would have been important, especially for the Romans, as the neutrality of Himyar meant that goods from India and Aksum could continue to flow into the Empire unhindered. The account of Cosmas Indicopleustes, which elaborates on the status of Red Sea trade in the 6th century and was written during the reign of Justinian, makes no mention of hostilities with the Himyarites. Indeed, Himyar is often mentioned because of its particular commodities and the presence of its traders throughout the Indian Ocean.¹⁵⁵

The Christian Topography of Cosmas, who was an Egyptian monk, is a rare window into the knowledge which the Romans had about the East in the 6th century. It also acts as a revealing comparison to the 2nd-century *Periplus Maris Erythraei*. The work is full of theology and religious quotations and it attempts to use Scripture to explain the people of the Indian Ocean. Despite some inaccuracies, Cosmas provides sound information about the events of his time. The most informative passage comes from book 11 of his work and details the power of Roman currency. Cosmas relates a story about a Roman merchant called Sopatros who trades in modern day Sri Lanka. He says that,

Un jour qu'un des marchands d'ici du nom de Sopatros – mort, comme je le sais, il y a trente-cinq ans – vint pour ses affaires dans l'île de Taprobane, il arriva qu'un bateau perse y avait aussi jeté l'ancre. Les gens d'Adoulis, avec lesquels était Sopatros, descendirent donc à terre; descendirent aussi les Persans avec lesquels était venu un ambassadeur des Perses. Alors, suivant l'usage, les chefs du pays et les douaniers les accueillirent et les conduisirent devant le roi. Le roi leur accorda audience et, après avoir été salué par des prosternations, leur ordonna de s'asseoir; alors il leur posa la question: Comment sont vos pays et comment vont leurs affaires? Ils répondirent: Bien. Puis, entre autres, le roi demanda: Lequel de vos rois est plus grand et plus puissant? Le Perse s'étant emparé de la parole s'écria: Le nôtre est plus puissant, plus grand, plus riche et le roi des rois; s'il veut quelque chose, il le peut. Sopatros gardait le silence. Alors, le roi s'adressa à lui: Et toi, Romain, n'as-tu rien à dire? Sopatros de répondre: Qu'ai-je à dire, celui-ci ayant dit de telles choses? Si tu tiens à apprendre la vérité, tu as ici même les deux rois; examine chacun d'eux et tu verras lequel est plus magnifique et plus puissant. A ces mots, le roi étonné répliqua: Comment ai je ici les deux rois? Sopatros répondit: Tu as les monnaies des deux, de l'un le nomisma, de l'autre la drachme, c'est-à-dire le miliarision; regarde l'image de chacun et tu verras la vérité. Le roi loua (la suggestion), et donnant son approbation fit produire les deux monnaies. Le nomisma était d'or pur, brillant et de belle venue; en effet, les pièces qui parviennent là-bas sont de premier choix; le miliarision, par contre, était, pour tout dire, une pièce en argent et cela suffit pour qu'un ne la compare pas avec la pièce d'or. Le roi tourna et retourna les deux monnaies, les examina et louant beaucoup le nomisma dit: En vérité, les Romains sont magnifiques, puissant et sages.¹⁵⁶

154 Gajda, *Royaume de Himyar*, 135-7.

155 Cosm. Ind. 4. 267, 2. 132.

156 Cosm. Ind. 11. 17-9.

This lengthy passage reveals much about the nature of Red Sea trade in Late Antiquity. It also demonstrates the importance of the currency reforms of Constantine to the *solidus* and how they aided international trade. It is clear from Cosmas' work that Romans rarely visited the Indian subcontinent. It does not reveal whether Cosmas himself went as far as India. His work is full of detail about India but it could be a collection of accounts of people from Aksum and Himyar who travelled to India regularly. Furthermore, it must be remembered that for Roman writers of the Late Antique period the designation India was most often used to describe modern day Ethiopia.¹⁵⁷ According to Cosmas, the trade ships which left Berenike and Myos Hormos in the 2nd century no longer did so in Late Antiquity. The long distance voyages which are outlined in the *Periplus* were divided up into several smaller voyages undertaken by different ships at each successive stage. Therefore, Roman ships would only trade with merchants in Adulis. The Aksumites as well as Indian and Sassanid ships were the only ones which crossed the Indian Ocean to reach India directly.

The *Christian Topography*, as opposed to what is revealed in the *Periplus*, indicates that the majority of trade with India was conducted in the south, most especially with Sri Lanka. Indeed, Sri Lanka is almost always the exclusive destination of trading vessels. The ancient people of Sri Lanka acquired goods from the Indian mainland as well as Indonesia and China and acted as middlemen for the Far Eastern kingdoms. These statements made by Cosmas are supported by archeological evidence which through the identification of glass beads and coins demonstrates the close connection between Ethiopia, Egypt, and Sri Lanka in Late Antiquity. One element of Rome's trade with India which did not change in Late Antiquity was the use on the part of Roman traders of Roman currency to buy Eastern goods.¹⁵⁸ The *Periplus* advises merchants to bring a large sum of money to India especially at Barygaza and Barbarikon.¹⁵⁹ The same sort of arrangement continues into Late Antiquity, when the *solidus* is a particularly desirable commodity in itself which could fetch prices higher than its face value outside the Roman Empire.¹⁶⁰

The 6th century was a period in which Red Sea trade struggled to endure despite greater imperial interest. The particular political climate of the era put a greater emphasis on the importance of the goods which flowed into the Eastern Roman Empire through mainly Aila and Clysma. The war with

157 P. Mayerson, 'A Confusion of Indias: Asian India and African India in Byzantine Sources', *JAOS* 113 (1993) 169-74 at 169-74.

158 Sidebotham and Wendrich, *Berenike 1999/2000*, 254-5; L. Dussubieux, C.M. Kusimba, V. Gogte, S.B. Kusimba, B. Gratuze and R. Oka, 'The Trading of Ancient Glass Beads: New Analytical Data from South Asia and East African Soda-Alumina Glass Beads', *Archaeometry* 50 (2008) 797-821 at 816-8.

159 *Periplus M. Rubr.* 49, 39.

160 Cosm. Ind. 11.18-9.

the Sassanids which had been on hiatus for much of the 5th century was reinitiated with much vigour at the turn of the century.¹⁶¹ As a result, the dependance which the Romans had on Eastern goods had to be supported by a single trade route which passed through the Red Sea. This forced the Roman emperors to become more actively involved in Red Sea trade than they had ever been before and Anastasius, Justin I, and Justinian all helped to dictate policy along the Red Sea corridor. Apart from the war with the Sassanids, the 6th century was also marked by religious violence, especially in the south Arabian Kingdom of Himyar. The rapid modulation between Christianity, Judaism, and eventually Islam increased tensions throughout the Red Sea which, coupled with the war with Persia, forced the Romans to become entangled in the region. Roman involvement culminated in the Aksumite invasion of Himyar in 525 which was supported by Roman merchant ships. While this invasion did not ultimately lead to greater Roman control in the Arabian Peninsula, it did provide the conditions necessary for the neutrality of Himyar under Abraha which was so essential to Roman shipping.¹⁶²

Conclusion

Towards the end of Justinian's reign, Red Sea trade was already beginning to collapse. The decline in the trade with India had a significant negative impact on all of the states involved. In a situation similar to the late 2nd-century population decline, the Roman Empire and its neighbours in the south and east were struck by a deadly plague which wiped out upwards of 30 percent of the population. The plague originated somewhere along the Red Sea and struck Aksum and Himyar as well as Egypt and *Palestina Tertia* particularly hard.¹⁶³ This epidemic understandably disrupted trade along the Red Sea as the population was reduced and impoverished. Red Sea trade, however, was also undergoing further hardships which made this decline terminal. In India, the Gupta-Vakata Empire and the Tamilakam states were collapsing as Hunnic groups from the north put an unsustainable amount of stress on these sedentary states. As the Hephthalites, as they are known, gained control of a greater proportion of India the networks of production and supply which brought Indian goods to the ocean ports disintegrated. Furthermore, the Buddhist temples, which acted as banks, were raided and could no longer provide loans to empires or to wealthy merchants engaged in the trade with Aksum and Rome.¹⁶⁴

As India came on hard times in the early 6th century, a domino effect stretched across the Indian

161 Greatrex, *Rome and Persia*, 79-83.

162 Robin, 'Arabia and Ethiopia', 283-6.

163 P. Horden, 'The Mediterranean Plague in the Age of Justinian', in *Age of Justinian*, 134-60 at 134-9.

164 Power, *Red Sea*, 198-202.

Ocean and put a strain on the Aksumites. The decline of Aksum was exacerbated towards the end of Justinian's reign and the entire kingdom quickly fractured and was absorbed by its neighbours. With the Aksumite middlemen marginalized, the volume of trade coming into the Sinai ports of Aila and Clysma dwindled. Roman interest in the region declined and more and more troops were removed from the frontier to deal with other impending issues until the Sassanids and later the Arabs took control of Egypt and much of the south east of the Empire. The decline in Red Sea trade in the 6th century was not caused by Sassanid conquest or the rise of Islam, however both of these events provide a good terminus point for the discussion on Roman Red Sea trade but they should not be confused with the actual cause of the end of Roman involvement in the Red Sea. There were many factors which collided during the 6th century and rapidly eroded the economic viability of a direct connection between the Indian Ocean and the Mediterranean.¹⁶⁵

Red Sea trade which connected the Indian subcontinent to the Mediterranean world was developed by the Romans as the Republic was transformed into an Empire. The proliferation of Eastern goods and wealth which these goods brought to the Roman state helped bolster the Roman economy from the time of Augustus until the death of Marcus Aurelius. During this early period, Roman vessels plied the waters all the way from the southern ports of Egypt to the far tip of India. This trade existed in a free market which was unhindered by the Roman government, as it was only interested in collecting taxes from the lucrative luxury goods but was otherwise content to adopt a *laissez-faire* approach towards Eastern trade. As internal and external forces rocked the Roman Empire in the 3rd century, Red Sea trade dwindled to near non-existence and like the Roman Empire could well have vanished entirely. Fortunately, the Empire and therefore Red Sea commerce was reignited by the stability created by the successful reigns of Diocletian and Constantine. Over the course of the late 3rd and early 4th centuries their respective reforms to the *limes*, the eastern provinces, and the currency system righted the Roman economy and made the Empire a desirable trading partner again.

The 4th century was marked by a series of reforms and laws which, while intended to reshape the internal structure of the Empire, went a long way towards reestablishing Red Sea trade in a way which was unique to Late Antiquity. The long direct voyages to India became less and less common as the trade along the Indian Ocean was conducted by Aksumites, Arabs, Indians, and Persians. While Roman traders did not reach as far, their trade was no less profitable thanks in part to the reduction in the import tax. The 5th century was a period of continuity in regards to the Red Sea. The wars in the

¹⁶⁵ Power, *Red Sea*, 190-8.

Balkans coupled with the relatively peaceful foreign policy with the Sassanids resulted in the slow growth of Red Sea trade with little involvement on the part of the Roman government. The bias in shipping destinations continued to shift further north to the new ports of Aila and Clysma as Berenike increasingly fell out of use. While there was little change within the Roman Empire during the 5th century, further south in the kingdoms of Aksum and Himyar religious change was increasing tensions on either side of the straits of Bab-el-Mandeb and setting the stage for the dynamic changes of the 6th century.

The 6th century, most notably during the reign of Anastasius and Justinian, was yet again different from the preceding century. The war with the Sassanids required that the Romans refocus on securing Red Sea trade against hostile encroachment. As a result, the emperor became more involved in not only Red Sea trade but also the politics of southern Arabia. The Romans never committed themselves south of the *limes* directly but they ensured that their interests were secure by means of their allies in the region, the Aksumites. Through the use of diplomats and missionaries, the Romans were able to hold the Red Sea open to commerce for the first half of the 6th century until the trade began to flounder in all the regions from India to Egypt and external pressures, especially from the Sassanids and later from the Arabs, forced a Roman retreat from the Red Sea region altogether.

Throughout the almost 600 years that the Romans were involved in the Red Sea, trade remained a lucrative enterprise which was able to change and adapt to suit the evolving political climate of the era. The Romans, in characteristic fashion, retained control of the Red Sea trade networks not through extensive policy making, policing, and monopolization but through a hands-off approach which revolved around taxation in an otherwise open trade system. It is therefore difficult to identify any such thing as Roman policy towards the Red Sea. Other than flurries of imperial legislation and incidental measures during the dynamic but turbulent reigns of Augustus, Diocletian, Constantine, Anastasius, and Justinian, there is little evidence for any systematic state involvement, although there was definitely an interest in Red Sea exchange. Trade continued to thrive because there was a demand for luxury goods which arose from the social and economic climate created by the stability of the Roman state. When stability faltered, as it did in the 3rd century, Red Sea trade contracted as a result. The Romans were wise enough to harness the revenue from lucrative trade and to foster growth where possible to ensure increased revenues.

Chapter 2. Late Antique Ports of the Red Sea: History, Archaeology, and Economics of Trade Infrastructure

Introduction

Researching the trade policies and patterns of any people or nation, whether modern or ancient, can become a dizzying experience. One gets lost in all of the numbers, facts, and figures and forgets that trade is a human phenomenon which involves the marvel of real people interacting with other, real people from opposite sides of the planet. Luckily, the occasional monotony of studying trade figures can be broken up by placing a closer focus on the ports where the theoretical policies and patterns of trade are processed in the physical world. These ports are run by living, breathing people who grow up, work and die in port cities and thereby leave a stunning archaeological record which preserves forever how trade influenced and hopefully bettered the people of the past. For this reason, it is crucial that an examination of the ports of the Late Antique Red Sea now be undertaken. Having completed an outline of the main political motivations which forced the Romans into taking a direct interest in the Red Sea area and its trade routes, a closer look at Red Sea ports is in order. By posing a simple question and then answering that question it will be possible to bring some life back to the merchants, sailors, tax collectors, emperors, and slaves who powered the Red Sea commerce in Late Antiquity.

In which ways can an understanding of the various Red Sea ports of Late Antiquity provide insight into the shifting trade patterns which evolved from the late 3rd until the early 7th centuries? These shifting trade patterns can be seen in many ways in each of the major ports along the vast Red Sea coast. The Romans pursued many initiatives in the area to maintain their superiority but the most lasting of these can be seen in the ports which they adopted, developed, or traded with throughout the Red Sea region. By examining each of the ports, both independently and in relation to their neighbouring ports, it is possible to trace the Roman influence in the area and, most importantly, outline how the trade networks evolved which, in turn, shaped the Red Sea as a whole in Late Antiquity. Furthermore, an analysis of each of these key ports creates a general picture of the social and economic facets of the region during Late Antiquity, thereby setting a detailed backdrop for a better understanding of the political shifts between the empires vested in Red Sea trade.

An examination of the peculiarities of ocean-bound transportation as well as an understanding of Late Antique shipping technology will provide a basis for the analysis of the Red Sea as a viable conduit for trade. Much of this evidence comes from the earlier port of Myos Hormos which offers

contrast between early Roman and Late Antique trade methods and patterns in the Red Sea. Berenike, which was the longest lasting international Red Sea port, highlights how port communities grew and evolved in Late Antiquity to harbour both a greater volume and a greater diversity of trade. The southern Aksumite port of Adulis offers insight into the strengthening of the Roman Empire's links with both Aksum and southern Arabia and the consequences this would have. The northern Red Sea ports of Aila, Clysma, and Iotabe are perhaps the most crucial examples of how Red Sea trade changed after the 3rd century crisis. Together, Aila and Clysma demonstrate both the volume of trade coming into the Roman Empire as well as the lengths to which the Romans were willing to go to ensure the safety of these ports. In contrast, Iotabe is less well known yet it outlines the Roman import tax system and hints at the massive income which could be garnered from Red Sea trade (for a map with the location of the ports discussed in this chapter, see Fig. 1).

An understanding of the history of all of these ports is required to create a detailed picture of the socioeconomic landscape of the Red Sea. These ports are the most significant and largest ports of the Red Sea and thus have had the most extensive treatment both by contemporary ancient authors and by modern archaeologists. For this reason, of the dozens of ports which were involved in Red Sea trade in Late Antiquity these six ports are the most illuminating and speak volumes on Red Sea trade as a whole. When all of these ports are viewed in conjunction, a greater and more complete image of the Red Sea in Late Antiquity develops, allowing for a more in-depth understanding of the close ties between all of the regions along the Red Sea as well as an appreciation of how the trade influenced all of their economies, politics, and cultures.

Red Sea Shipping and the Transition from Myos Hormos to Berenike

The first and most evident shift in trade patterns can be seen as early as the 3rd century as a result of the economic crisis which affected the Roman Empire. Before the 3rd century, Myos Hormos and Berenike played the most influential role in trade with India. These two ports received goods from all across the Indian Ocean which were then transported via the desert trade routes to the Nile at Coptos. From Coptos, they would be shipped down the Nile to Alexandria and then from Alexandria the goods were distributed throughout the Roman Empire by use of the Roman *mare internum*, the Mediterranean Sea. Goods leaving the Roman Empire would chart the same course but in reverse.¹⁶⁶ It

¹⁶⁶ Casson, *Periplus Maris Erythraei*, 13.

is interesting that the Romans made use of two distinct ports for both the importation and exportation of goods. This is a unique phenomenon in the entire Red Sea area. Most of the major empires with influence in the Red Sea were centred around fertile agricultural centres and were connected via one major port to this Eastern trade. This holds true both along the Red Sea and the Indian Ocean.¹⁶⁷

There are several reasons for this multiple port system. The most common explanation has to do with the peculiar wind pattern in the Red Sea which can make sailing more time consuming during certain periods of the year. The Romans discovered the monsoon wind patterns of the Red Sea during the 1st century CE around the time of writing of the *Periplus Maris Erythraei*. This discovery helped to facilitate trade in the region permitting more goods to flow into and out of the Empire. The winds in the Red Sea typically blow from the north, especially from June to September when the wind comes from the north 75 to 94 percent of the time depending on the location within the narrow Red Sea.¹⁶⁸ From October until March, the winds blow from the south up to 40 percent of the time in the northern Red Sea and up to 70 percent of the time in the southern Red Sea. Therefore, a vessel sailing from Adulis in the south to Myos Hormos further north is most likely going to run into winds from the north at some point during the journey. Furthermore, the frequency of the northern winds increases as a vessel moves further northwards. Once this wind regime was understood by the Romans, they knew to leave Egypt in the summer in order to make use of the northern winds and could therefore travel as far as India with reasonably good winds. They would leave India no later than January to make use of the rarer southern winds on the journey back to Egypt.¹⁶⁹

Based on this particular wind regime of the Red Sea, it was clear that it was faster and easier to go south than it was to go north along the Red Sea. This gives Berenike the distinct advantage of being the easier port to sail to as compared to Myos Hormos which is approximately 350 kilometres further north. But why then was there a need for the second port at Myos Hormos? Just looking at the wind patterns is not enough to explain the reasons for the location of a second port. It is true that sailing against the wind in a sailing vessel is a tedious process but it is one which the Romans were accustomed to as the Mediterranean does not always have favourable winds. Roman transport ships were designed to sail against the winds and evidence from Berenike among other places indicates that Roman-style shipping vessels were used in the Red Sea as well.¹⁷⁰ Such a vessel could average a speed

167 E.A. Seland, 'Red Sea and Indian Ocean: Ports and their Hinterland', in J. Starkey, P. Starkey and T. Wilkinson (eds.), *Natural Resources and Cultural Connections of the Red Sea* (Oxford, 2007) 211-8 at 212.

168 J. Whitewright, 'How Fast is Fast? Technology, Trade and Speed under Sail in the Roman Red Sea', in Starkey, Starkey and Wilkinson, *Natural Resources*, 77-87 at 78.

169 Whitewright, 'How Fast is Fast?', 78.

170 Sidebotham and Wendrich, *Berenike 1995*, 315-7.

of around 45 nautical miles in a 24 hour period while sailing against the wind.¹⁷¹ Therefore such a vessel would need an additional 4.5 days to sail past Berenike to Myos Hormos even in opposing winds. A vessel which had favourable winds from the south, on the other hand, could make the journey in just over 32 hours.¹⁷²

Myos Hormos had the distinct advantage of being closer to the Nile as it required an overland journey to get across the desert that was three quarters the length of the one required from Berenike. It is almost always cheaper to transport goods on water regardless of the fluctuations in the price of land transportation in the Roman period. It was definitely more expensive to send the goods overland from Berenike than it was to send them from Myos Hormos. As such, Myos Hormos looks to be the most viable port in terms of economics, despite its more northerly location. Berenike, however, had its advantages as well. The port's southern location would allow for the goods to be offloaded sooner resulting in a faster turn around time for merchants. The overland transport might be more costly but it could have been undertaken by a middleman. Additionally, Berenike could have had several social and political incentives which made it a more suitable port at which to dock although there is limited evidence supporting this theory.

The multiple port system which the Romans employed gave them a distinct advantage over other empires invested in Red Sea trade. The two ports allowed traders to determine which port was more efficient depending on each individual situation. During particularly strong northerly winds Berenike might have been preferred, whereas when the winds came up from the south it was Myos Hormos that was preferred. The two ports permitted Red Sea trade to continue throughout the year regardless of the wind patterns. Furthermore, it was beneficial for trade coming from areas all along the Red Sea which could sail at anytime during the year unlike the trade from India which was regulated by the monsoon season in the Indian Ocean. The two port system also increased the volume of goods which could be received from India indicating that there was enough trade to necessitate the use of two large international ports. While Myos Hormos and Berenike were largely in use during the Roman period and fell out of use in Late Antiquity, the wind and trade patterns which dictated their locations were still factors when the newer ports of Aila, Clysma and Iotobe, located much further north, took on the greater levels of international trade.¹⁷³

Myos Hormos was likely the most vibrant port of the Roman period up until the 3rd century. Its

171 L. Casson, *Ships and Seamanship in the Ancient World* (London, 1995) 284.

172 Whitewright, 'How Fast is Fast?', 85.

173 W.D. Ward, 'Aila and Clysma: The Rise of Northern Ports in the Red Sea in Late Antiquity', in Starkey, Starkey and Wilkinson, *Natural Resources*, 161-71 at 167.

population was totally invested either directly in international shipping or else in a support role which facilitated this shipping industry. The population of the port was ethnically mixed and it seems probable that inhabitants came from Aksum, south Arabia, India and Egypt, among other places. It is also clear from the excavations at the site that during the Roman period all types of goods from a multiplicity of regions moved through the port. There is evidence for wine from Campania, teak and ivory from Africa, and pepper and textiles from India.¹⁷⁴ The 3rd century economic crisis within the Roman Empire was particularly hard on Myos Hormos and by the 4th century the great port had been completely abandoned.¹⁷⁵ In fact, it was not properly relocated and conclusively identified until 2003 after five campaign seasons undertaken by David Peacock and Lucy Blue of the University of Southampton.¹⁷⁶ This shows what a significant impact the economic problems of the 3rd century had on the trade with India and the fragility of both the ports and the trade network as a whole. The fragility stemmed from the direct Roman contact with India which led to a lack of trade diversification. Additionally direct contact, while conventionally cheaper, lacked middlemen who could act as buffers during times of economic hardships.

Berenike, the other major port in the Red Sea during the Roman period, had similar problems during the 3rd century crisis. However, whereas Myos Hormos was abandoned, Berenike was able to remain operational, although at a limited capacity. Berenike arose during the 3rd century BCE at the time of Ptolemaic rule in Egypt. It was founded as a port city and therefore always had contact with regions further to the south. Berenike reached its peak during the mid-1st century CE, around the time when the wind regime in the Red Sea was discovered. The port during the early Roman period maintained contacts with India and the southern Red Sea as well as the western Mediterranean. The port continued to thrive until the early 3rd century when archaeological evidence points to an abandonment of a greater part of the site. A thin layer of windblown sand between the 2nd and 4th-century layers indicates that the Berenike port fell out of use during the 3rd century.¹⁷⁷

Reasons for Berenike's precipitous decline in the 3rd century are varied. The 3rd century crisis within the Roman Empire lessened the demand for Indian luxury goods making the large international port of Berenike superfluous. Additionally, the plague which struck the eastern portion of the Roman Empire, particularly Egypt, in 165 CE must have reduced the populations of Berenike and its main trading partners, thereby further destabilizing Berenike's already fragile economy. Lastly, Berenike's

¹⁷⁴ Peacock and Blue, *Myos Hormos*, 246-51.

¹⁷⁵ Power, *Red Sea*, 52.

¹⁷⁶ Peacock and Blue, *Myos Hormos*, 1.

¹⁷⁷ Sidebotham and Wendrich, *Berenike 1997*, 447.

harbour is prone to silting and without a significant population and lucrative trade the desire to pay for the expensive dredging to keep the port open to ocean-going vessels would be mitigated. It appears, however, that the harbour never completely silted up and the port was able to accommodate large vessels well into the 6th century.¹⁷⁸ Unlike Myos Hormos, Berenike was able to maintain just enough of a population to survive for a little over a century until international trade along the Red Sea picked up again.¹⁷⁹ Much of the trade which went through Berenike in the 4th century was the same as it had been in the 1st century but the scope of Berenike's contacts across Eurasia and Africa seem to have both shifted and increased.

Berenike continued to enjoy a major role in Rome's trade with the Far East well into Late Antiquity. The port reached its second peak in the 4th century immediately after Rome's recovery from the 3rd century crisis. The port held an almost complete monopoly on Eastern trade until the northern Roman ports of Aila and Clysma were developed enough to take on a greater bulk of the trade.¹⁸⁰ These new ports would eventually almost entirely envelop the trade process and the Romans gradually withdrew from direct control of the port and the surrounding region. Berenike began to fade as a major trading centre by the late 5th to early 6th century.¹⁸¹ Its last historical mention comes from the *Martyrdom of Arethas*, which in part chronicles Aksum's king Kaleb and his invasion of Himyar in 525.¹⁸²

During the port's dominance in the 4th century, the archaeological record reveals that Berenike had contact with a wide variety of geographical locations. Berenike's arid climate meant that little agriculture could be carried out locally so most of the inhabitants ate food which was imported from the various areas to which Berenike was commercially linked including Egypt and India. The archaeobotanical remains from the site reveal that Berenike received its food from all over the ancient world. In the 4th-century layers, a great variety of different foods is present. Most notable among them is a cereal from Egypt and peppercorns, coconuts, Job's Tears, and rice from India. Indeed the largest deposit of ancient peppercorns in Egypt has been discovered at Berenike.¹⁸³ Other biological remains include teak which was used in buildings at Berenike. The exotic wood was likely procured from the recycling of Indian ships. Strong links with Sri Lanka appear to have developed in the 4th century based on a large assortment of Indo-Pacific glass beads found on the site. Most of the beads were found

178 Sidebotham and Wendrich, *Berenike 1997*, 455-6.

179 Sidebotham, *Berenike*, 260.

180 Sidebotham, *Berenike*, 280.

181 Nappo, 'Roman Policy', 71; Sidebotham, *Berenike*, 279-82.

182 Ward, 'Aila and Clysma', 162.

183 Cappers, *Roman Foodprints*, 152-7.

in a 4th century layer and are yellowish-green. Their colour indicates that they were most likely produced at Mantai and there is strong evidence both archaeologically and textually for a growing trade connection between Berenike and Sri Lanka by the 4th century.¹⁸⁴ Cosmas Indicopleustes mentions links with Sri Lanka and notes that the Sri Lankans had a preponderance to do business with Byzantine associated merchants because their gold *nomisma* was preferable to the silver Persian drachma or *miliarison*.¹⁸⁵

Berenike, although heavily dependent on trade with Sri Lanka, also had contact with other areas of India. It received most of its textile imports, especially cotton, from western India. A few coins dating from the late 3rd and early 4th century from western India have been found in 4th-century layers at Berenike. Furthermore, the cotton bales found at Berenike are believed to have been produced along the Indus valley. As such, it is likely that the cotton came to Berenike via the great Indian port of Barbarikon, known today as Karachi in modern day Pakistan, which was known to have been a large textile exchange centre. Berenike also had some limited contact with areas in the northern Indian Ocean including the Persian Gulf. Archaeological finds including a Zoroastrian ruby cameo and six pearls indicate that there may have been some limited connection but no wide scale trade between Berenike and modern day Iran which was controlled by the Sassanids.¹⁸⁶ Apart from these foreign contacts, a single bead was found in the 1999 season which was produced in east Java and is the only surviving piece of evidence for Far Eastern trade. It is likely that this bead came to Berenike via Sri Lanka.¹⁸⁷

Berenike also conducted extensive trade with other major ports along the Red Sea in the 4th century. There is extensive evidence for links between Berenike and Aksum and the northern Roman port of Aila. This evidence all stems from the later layers of occupation in Berenike starting in the late 4th century. Several coins, and a *dipinto* found on a pot sherd, contain Old Ethiopic script. One of the coins is dated to the reign of Aphilas (270-90) of Aksum but was found in a 5th-century layer. Most of the finds from Aksum are in the form of pottery and can be identified by their style. The Aksumites had two distinct styles of pottery: one which was produced near the capital of Aksum and the other closer to the main port of Adulis. Both of these styles are attested at Berenike. By far the most significant type of pottery identified at Berenike is the so called Aila-type amphora. The remnants of these amphorae represent the largest percentage of all Red Sea imports to Berenike. These amphorae are known to have been produced around Aila and are a clear indication of the strong links between Berenike and Aila

184 Power, *Red Sea*, 38.

185 Cosm. Ind. 11.17-9.

186 Power, *Red Sea*, 39.

187 Sidebotham and Wendrich, *Berenike 1999/2000*, 254-5.

from the 4th century onwards.¹⁸⁸

Thanks to the extensive excavations which have been conducted at Berenike over the last two decades much can be ascertained about the physical make up of the port in the 4th century. Most of the excavations have dealt with Late Antique layers and future excavations should deal with the early Roman occupation of the site as the Late Antique layers are systematically excavated and examined. It appears that the Berenike of the 1st century was different from the one which developed after the 3rd century crisis. The Late Antique inhabitants refurbished the old port settlement and set about making it more of a permanent home than just a travel layover destination. Early Berenike was focused on the Nile and it appears that most of the inhabitants of the town only resided there for a limited period of time. This changed in the 4th century when it is evident that Berenike's inhabitants treated the town more as a home.¹⁸⁹

Large residential areas were constructed along with the refurbishment of the port warehouses. In addition, many temples and churches were constructed in this period. Traditional Graeco-Roman religious altars and practices seem to have persisted well into the 5th century at Berenike and it is likely that the peripheral location of the city meant that it was slower to adopt Christianity as it was further away from major Christian centres. Nonetheless, Christianity did also flourish in Berenike. The largest building in the town was a church and it seems probable that the clergy of this church were invested in long distance trade. The church was the provenience for both an Aksumite and an Indian coin. Indeed the sheer size of the church indicates that its construction must have been funded in part by the long distance Red Sea trade which travelled through Berenike. The various religions present at Berenike seem to have coexisted quite harmoniously and there is no evidence whatsoever for any religiously motivated violence.¹⁹⁰

The Late Antique period also saw the development of cemeteries in the countryside surrounding Berenike. A significant portion of the population appears to have been quite wealthy as several bodies were found to have been buried in wooden coffins which were an expensive luxury in the arid Eastern Desert. Moreover, a necropolis from the same period contains many cist graves perhaps indicating a population of a lower class or of a completely different ethnic origin. The fact that no early Roman cemeteries have been found is indicative of the fact that Berenike was never a home to most of its inhabitants and that bodies would be returned to their Nile-centered hometowns for burial. The

188 Power, *Red Sea*, 40-1.

189 Sidebotham, *Berenike*, 259-62.

190 Sidebotham, *Berenike*, 263-9.

cemeteries also indicate a shift in the ethnic makeup of Berenike's population. The town shifted away from the culture and society typical of the Roman Nile valley and was made up of a larger percentage of local desert-dwelling peoples. It seems that the Roman presence slowly faded in Berenike and that Roman merchants were simply replaced by merchants from the local population. Furthermore, the reduction in foreign archaeobotanical material from the later periods of Berenike's history is evidence for the more subsistence based diet of Berenike's later inhabitants. The new desert dwelling population was more comfortable with the arid desert climate and produced more of their own food. They ate local fish, cultivated their own cereals in backyard plots and ate local sheep and goats. All this evidence points to Berenike's gradual shift from the Nile and the Mediterranean towards the Red Sea in the Late Antique period.¹⁹¹

There is evidence for the continuation of merchandise travelling through Berenike after the Roman withdrawal from the area during the 5th century. The semi-nomadic Blemmyes tribesmen who moved into the Nubian Nile Valley from the Eastern Desert around this time also maintained connections with the Eastern Desert. They appear to have made up a significant part of the population at Berenike and kept the port functional well into the Arab period to facilitate the exportation of emeralds from within their own territory at Mons Smaragdus. There is further evidence that the Blemmyes were involved in the exchange of purple dye and pepper.¹⁹² The Blemmyes also maintained contacts with the eastern Mediterranean and the large number of Aila-type amphorae found in 5th-century strata is a prime example of the continued links between Berenike and the Roman world. Indeed, Roman merchants must have continued to operate at Berenike indicative of the mixed population of the 5th-century settlement. Romans were still the main purchasers of pepper which came to the Mediterranean mainly through Berenike. The fact that two ships from Berenike aided in the Aksumite invasion of Himyar of 525 indicates that the Romans still had some influence over the port as late as the 6th century.¹⁹³ The Blemmyes are referred to abundantly in Late Antiquity and the citizens of Egypt were most concerned over raids conducted by tribesmen coming from the Eastern Desert. While these raids are predominant in the written record, they do not portray the whole picture of the relation between the Blemmyes and the Egyptians. There appears to have been a good economic rapport between the Blemmyes and the people of southern Egypt.¹⁹⁴

While Berenike did not fade into complete obscurity as was the case with Myos Hormos, it

191 Sidebotham, *Berenike*, 262-75.

192 For a discussion on the sources see, Dijkstra, *Philae*, 155-6, 167.

193 Cosm. Ind. 2.49.

194 E.g. Dijkstra, 'Blemmyes', 244.

nonetheless never again reclaimed the predominance that Aila and Clysma had taken from it and, as a result, was not as involved in large scale international trade as it had been during its second prime in the mid to late 4th century. Berenike remained an important local centre of trade and the goods which continued to travel through its port undoubtedly made an impact on the southern Egyptian economy as evidenced by the growing involvement of the local Blemmyes in trade. Due to these developments, Berenike ceased to have a significant place within the trade network of the Roman Empire but was still important within the internal trade network of the Red Sea.¹⁹⁵ The decline of Berenike, similar to the abandonment of Myos Hormos, was caused by the adoption of a new port further to the south, this time in Aksumite territory at Adulis, and the growing preference for the new northern ports of Aila and Clysma.¹⁹⁶

The Aksumite Emporium of Adulis

The Kingdom of Aksum grew rapidly in Late Antiquity as a result of the renewed vitality of Indo-Roman trade which passed through its main port of Adulis. Aksum harbored a multicultural population and maintained contacts with the entirety of the known world from its Ethiopian base. Aksumite traders were great ambassadors of their own and Greek culture. Their influence stretched from the northern Red Sea all the way to Sri Lanka and beyond. The extensive trade network which Aksum fostered and controlled moved a wide variety of goods. The Aksumites ensured that ivory from the African interior, wine from the Middle East and textiles from the Far East passed to and from the major empires of Late Antiquity. Aksum was the middleman of the Roman, Indian, Chinese and Sassanid empires and thereby grew into an influential independent kingdom itself. Despite its extensive involvement in maritime trade, it was largely a terrestrial and agricultural society. Aksum, the capital of the empire, was roughly 300 kilometres from the Red Sea. The city therefore owed its rapid growth to the main port city of Adulis. The harbour was the conduit by which the massive wealth from trade flowed into the Ethiopian interior.¹⁹⁷

The importance of Adulis cannot be overemphasized. Without Adulis, there would have been no Aksumite Kingdom. As a result of Adulis' significance both to Aksum and the international trade routes of the Red Sea and beyond, the port offers significant insight into how Red Sea politics and trade

195 Sidebotham and Wendrich, *Berenike 1999/2000*, 374.

196 Tomber, *Indo-Roman Trade*, 69.

197 Peacock and Blue, *Port of Adulis*, 1-5.

developed during Late Antiquity. The early origins of the port city of Adulis provide enlightening insight into how it was able to grow and accommodate a vast majority of Red Sea trade by the 4th century. The limited but useful archaeological as well as textual information on Adulis traces in detail how the harbour grew and thrived and then later collapsed. Finally, an examination of Adulis' demise proves how the port and by extension Aksum were dependent on the lucrative East-West trade which passed through the Red Sea.

While Adulis' role in the Late Antique trade network of the Red Sea was significant, little is actually known about the origins of the site. It seems likely that the port would have been involved in the early ivory trade, perhaps dating as far back as the 3rd century BCE. As was discussed in chapter 1, the Ptolemies in Egypt were consistently interested in acquiring elephants which were used as tools of war on various campaigns. Adulis was geographically close to the elephant populations which were hunted in the Ethiopian highlands. Many of the live elephants as well as ivory went through Adulis to reach Ptolemaic Egypt.¹⁹⁸ The Ptolemaic era association between Adulis and Egypt is evidenced mainly by an inscription which Cosmas Indicopleustes copied down for the 6th-century Aksumite King Kaleb. Cosmas' copy is the only complete evidence remaining of the original inscription. The inscription was written on a *stela* close to a throne monument at Adulis and is the only remaining evidence for Ptolemy Euergetes and other members of his dynasty's excursions into Ethiopia for the purpose of hunting elephants. The inscription itself is mainly concerned with the elephants and the area surrounding Adulis and is only mentioned in conjunction with the elephant trade.

Adulis is not explicitly mentioned in the inscription but the monument was erected at the port indicating that there must have been some link with Egypt in the late 3rd century BCE.¹⁹⁹ It is peculiar that a royal inscription should exist this far to the south. It may have been erected at Adulis as a pronouncement of Ptolemy Euergetes' grandeur and power. He could, as Bowersock suggests, have used the monument to lay claim to the area against other foreign powers, although Ptolemaic Egypt never had any real political influence or control in an area as far south as Aksum.²⁰⁰ The inscription could also have been brought from Egypt, or else a known Ptolemaic Red Sea port such as Ptolemais Theron, at a later date and placed at Adulis once the connection between Aksum and Egypt became stronger. Whatever the provenience of the inscription, it is a key piece of evidence into the little understood early origins of Adulis. The port began as a trading centre which profited from the

198 Bowersock, *Throne of Adulis*, 39.

199 Cosm. Ind. 2.54.

200 Bowersock, *Throne of Adulis*, 38.

symbiotic relationship with another empire by providing luxury goods. In this way, Adulis was no different from the time of its origins until its demise. The only parameter which ever varied was the scale of trade which passed through this port city.

Adulis' first mention is in Pliny's *Natural History*. Pliny's account was written in 70 CE and identifies Adulis as a trading post for the Troglodytes. Pliny notes that goods such as ivory, rhinoceros horn and tortoise shell were prevalent on the site. He also mentions that Adulis was a source of slaves although it is unclear whether these slaves ever made it into the Roman Empire or whether they were traded more locally.²⁰¹ The next and much more significant text about Adulis comes from the *Periplus Maris Erythraei*. This account was written by a merchant who had first hand knowledge of the port. The author's observations of other Red Sea ports have thus far proved to be extremely consistent with the archaeological record. There is no reason, therefore, to be overly critical of his description of Adulis which, unfortunately, has not had the luxury of being fully excavated yet. The *Periplus* says of Adulis that,

About 3000 stades beyond Ptolemais Theron is a legally limited [ἐμπόριον νόμιμον] port of trade, Adulis. It is on a deep bay extending due south, in front of which lies an island called Orienê that is situated about 200 stades from the innermost part of the bay towards the open sea and, on both sides, lies parallel to the coast; here at the present time arriving vessels moor because of raids from the mainland. Formerly they used to moor at the very outermost part of the bay at an island called Diodoros Island, right by this part of the coast; there is a ford crossing to it by which the Barbaroi dwelling roundabout used to overrun the island. On this part of the coast, opposite Orienê, 20 stades in from the sea is Adulis, a fair sized village. From Adulis it is a journey of three days to Koloê, an inland city that is the first trading post for ivory, and from there another five days to the metropolis itself, which is called Axômitês; into it is brought all the ivory from beyond the Nile through what is called Kyêneion, and from there down to Adulis... The ruler of these regions from the Moschophagoi to the rest of Barbaria, is Zôskalês, a stickler about his professions and always holding out for getting more, but in other respects a fine person and well versed in reading and writing Greek.²⁰²

The anonymous author of the *Periplus* provides many valuable details both about trade and the political system at Adulis in the 1st century. From this passage, it is clear that Adulis was not really a port at all but was in fact a village which was supported by two distinct harbours located nearby. This is not an unusual situation and Orienê and Diodoros Island could be compared to Ostia at Rome or Piraeus at Athens, which were separate entities to the major population centre.²⁰³ This actually further

201 Plin. *Nat.* 6.34.13-5.

202 *Peripl.M.Rubr.* 4-5.

203 Peacock and Blue, *Port of Adulis*, 126.

supports the idea of Adulis' being a thriving trade centre for several reasons. The fact that Adulis had two harbours further demonstrates the vitality of trade in the region as it is indicative of the volume of trade which could be processed at Adulis at its peak capacity. Nevertheless, it is unlikely that these harbours were being extensively used in the 1st century judging by the lack of archaeological evidence from the period. In addition, the fact that there was a population at Adulis, removed from the coastal harbours, means that the profits from trade at Adulis were significant enough to support both the local harbour population and the population of a village.

Another interesting piece of information brought to light by the *Periplus* is the fact that all of the goods which were exported from Adulis were natural products. It appears that in the 1st century, Adulis traded raw materials for manufactured goods such as pottery, worked metals and stones, as well as olive oil and wine. It is highly improbable that the Aksumite interior could have purchased all of these luxury items simply by exchanging natural animal products with Egypt and the wider Roman Empire. There is, however, some limited evidence for gold production in the Eritrean hinterland which could explain this trade deficit.²⁰⁴

The *Periplus* also provides some clues as to the political make up of Adulis in the 1st century. It is clear that Adulis had some sort of connection with Aksum, although it is difficult to say just how politically united Aksum and Adulis really were. Munro-Hay believes that the Aksumite King Zôskalês was in fact king of Adulis as well.²⁰⁵ While there is little proof of this, it is an intriguing theory. Whatever the case, it is clear that the two cities were cooperative and interested in controlling trade. Aksum could not have risen to prominence or influenced the southern Red Sea without Adulis. As Aksum became more powerful, it is logical that it became more closely associated with and therefore more controlling of Adulis. Adulis most likely maintained a fair amount of autonomy even into the Late Antique period simply as a result of its geographic removal from the Aksumite centre of power at Aksum.²⁰⁶

The *Periplus*' mention of security threats coming from the mainland indicates that Aksum's power was certainly not cemented by the 1st century. While they had economic and perhaps close political relations with Adulis, Aksum lacked direct control in the region. Aksum was not yet powerful enough to exert itself along the coast let alone over the larger southern Red Sea in general. This level of influence and power would have to wait until at least the 4th century when Adulis became ever more

204 Peacock and Blue, *Port of Adulis*, 8.

205 S. Munro-Hay, 'The British Museum Excavations at Adulis, 1868', *AntJ* 69 (1989) 43-52 at 43.

206 Peacock and Blue, *Port of Adulis*, 8.

linked to Aksum and thereby acted as a stepping stone for the Aksumite push into southern Arabia.

The *Periplus* designates the port of Adulis as a ‘legally limited’ port according to Casson’s translation. This is a crucial aspect of the port as it is the first aspect that the merchant author writes about Adulis. Furthermore of the 37 ports which are mentioned in the *Periplus*, only three ports including Adulis are described as legally limited. The other two ports are Muza, the equivalent of modern day Mocha in Yemen, and Apologos which is at the northern end of the Persian Gulf. Scholars have speculated about what ἐμπόριον νόμιμον actually means.²⁰⁷ The most cautious among them determined that it simply referred to a port set up by a law, whereas others have argued that it referred to a port where the Roman government had set up some sort of concession for Roman merchants to trade in the port.²⁰⁸ The last theory does not hold up well under close scrutiny. While it is possible that Rome had some sort of trading arrangement with Adulis and even Muza, it does not seem plausible that the same sort of arrangement could be set up in the northern Persian Gulf at Apologos. There is no strong evidence for Roman trade in this area and there is no reason for trade routes linked directly to Rome to go through the Persian Gulf while the Red Sea was a viable conduit.

J. Palmer further weakens this hypothesis by pointing out that if only three ports were technically legal then the other 34 must be in some way illegal or else irregular. Unfortunately, the hypothesis which he himself puts forward is no better. Palmer argues that νόμιμος means ‘law abiding’ and therefore that the merchants who traded at one of these three ports could expect to be protected by law, perhaps Roman, and know that the law would be enforced diligently. These three ports are located in some hazardous and far-removed country and therefore the proper enforcement of law so far from Rome would be appealing.²⁰⁹ This theory, however, falls into the same trap as the previous one. If only three of the 37 ports were protected by law what happened in all of the other ports? Merchants would not have traded at ports where they were at the mercy of the whims of the local population. The trade along the Red Sea would have been virtually lawless and dangerous for any enterprising merchant. Additionally, merchants who travelled to India typically had to stay up to six months before departing again as a result of the monsoon season along the Indian Ocean. It is unlikely that they would have lived lawlessly for six months of the year.

Casson’s hypothesis on these three ports is the most probable and fitting. He argues that the term means that these three ports were ‘legally limited’ meaning that there was no free bazaar and all of

207 Casson, *Periplus Maris Erythraei*, 276.

208 Cf. G. Hourani, *Arab Seafaring* (Princeton, 1951) 32.

209 J. Palmer, ‘*Periplus Maris Erythraei*: ἐμπόριον νόμιμον and Other Expressions’, *CQ* 45 (1951) 156-8 at 156-8.

the goods had to pass through some form of customs office where taxes would be collected. The sparsity of legally limited ports is a result of their particular geography. Apologos is the sole port at the end of the Persian Gulf meaning that trade had to pass through the port. Muza is much the same as it controlled the Bab-al-Mandeb straits. Adulis was the sole port along a great stretch of the African coast. It was also the only entrance into the Kingdom of Aksum.²¹⁰ The geography of these three ports gave them a monopoly on the trade which passed through a specific region and allowed for the sustainability of collecting customs levies. The fact that Adulis was a legally limited port is indicative of the port's central role in the trade routes of Aksum. Additionally, it proves that Adulis was located in a geographically advantageous position which gave the port a monopoly on goods going to Aksum as well as being a major transition point for goods travelling further north up the Red Sea.

Overall, the origins of Adulis are difficult to trace both archaeologically and textually. The port potentially has a Ptolemaic beginning but other than the inscription copied by Cosmas there is no evidence of this. The site could well trace its history back to the 3rd century BCE but there is no archaeological record which supports this date. It is most likely that Adulis existed at this early date but that it was a small and insignificant port and thus it has not been attested archaeologically. Further evidence arises roughly 300 years later in the 1st century CE. Adulis is expressly mentioned by the *Periplus* and Pliny. Furthermore, it is from this period that the archaeological record of the port begins to appear. 1st-century Roman pottery found at the site is the first proof of long distance trade reaching Adulis.²¹¹ It is no coincidence that the texts and the archaeology become more explicit in the 1st century as this is a conclusive indication of Adulis' growing importance and thereby the growing importance of Aksum itself within the wider Red Sea region.

After the 1st-century textual evidence for Adulis, there is no mention of the site again until Late Antiquity. This does not mean that the site fell out of use or was abandoned in any way. Instead, Adulis continued trading just as it had in the mid-1st century. The site is again attested in Late Antiquity as trade at Adulis transitioned from its origins in the Roman period. In the early 1st century, Diodoros Island was the favoured island harbour of Adulis. The security threats mentioned in the *Periplus* caused the other island of Orienê to gain prominence after 50 CE. This follows the trends observed in the archaeological record. Furthermore, Orienê was joined by another island port located on Dese according to archaeological surveys on the two islands. It is unclear how long these islands acted as

210 Casson, *Periplus Maris Erythraei*, 274-6.

211 Peacock and Blue, *Port of Adulis*, 133.

anchorage for the mainland but after the 3rd century there is little evidence for their continued use.²¹² It appears that in Late Antiquity ships could moor directly on the mainland at Gabaza and perhaps some form of jetty or mooring platform was constructed to accommodate the ocean-sized ships.

It is likely that Adulis experienced some form of economic hardship in the 3rd century in conjunction with the Roman economic problems of that period. There is no sign of this in the archaeological record, but further excavations could conceivably come to this conclusion. If Adulis' main trading ally were to undergo significant economic woes, it is doubtful whether it would escape unscathed. Adulis would have been able to continue trade with southern Arabia and India but this would in no way make up for the loss of Roman trade which was Adulis' main occupation. Further proof of a 3rd century crisis in Adulis can be seen in the types of goods which were imported before and after the 3rd century. The archaeological records of Adulis and Bieta Giyorgis, a suburb of the capital of Aksum, indicate that the types of Mediterranean pottery were quite different in the two periods. Prior to the 3rd century, most of the Roman amphorae are of the smooth western Mediterranean type, whereas from the 4th century onwards amphorae are almost exclusively of the ripped Aila-type.²¹³ This indicates that the western Mediterranean had a direct influence in the Red Sea which faded in the late 2nd century and was replaced in the 4th century by a growing involvement of the then richer eastern provinces which took over the majority of trade along the Red Sea.

The 4th to early 6th centuries were the peak of Adulis and therefore Aksum's economic and political power in the Red Sea. As the 3rd century crisis in the Mediterranean ended and the Roman Empire became economically stable, trade in the Red Sea corridor resumed once more. Initially trade continued to flow mainly to the old Roman port of Berenike where goods were transported across the desert and then up the Nile to the rest of the Mediterranean and vice versa. This trade pattern diminished as the 4th century progressed and was replaced by a new trade system which utilized new ports. As the Diocletianic *limes* became solidified, the Romans moved the receiving end of Red Sea trade to the new northern ports of Aila and Clysma. Furthermore, they retreated from direct contact with the southern Red Sea and beyond and allowed the Aksumites to aid in the procurement of foreign goods. As a result, goods travelled from western Africa and India to Adulis where the Aksumites benefited from taxes collected from those goods. At this point, Aksumite goods such as ivory would join the mix of tradeable material. From there, the goods would leave Adulis either on Aksumite or

212 Peacock and Blue, *Port of Adulis*, 127-8.

213 A. Manzo, 'Aksumite Trade and the Red Sea Exchange Network: A View from Bieta Giyorgis (Aksum)', in J.C.M. Starkey (ed.), *People of the Red Sea: Proceedings of the Red Sea Project II. Held in the British Museum, October 2004* (London, 2005) 51-66 at 64; Peacock and Blue, *Port of Adulis*, 130.

Roman trading vessels and make their way to one of the fingers of the Red Sea on either side of the Sinai. The northern Red Sea was firmly under Roman control and the Romans would levy their own taxes as these foreign goods came into the Empire.

Multiple commodities travelled along the Red Sea. Cosmas indicates that a multiplicity of goods could be found at Adulis. He states that,

Ce pays de l'encens est situé aux extrémités de l'Éthiopie; il s'étend vers l'intérieur des terres, mais plus loin il est bordé par l'Océan; aussi les habitants de la Barbarie, comme ils en sont proches, remontent-ils dans les terres intérieures, y trafiquent et en ramènent la plupart des aromates; encens, casse, canne douce et beaucoup d'autre; ils les exportant ensuite par voie de mer à Adoulis, au pays des Himyarites, dans l'Inde intérieure et en Perse.²¹⁴

These goods came from the Ethiopian interior as well as Somalia. They would not have been consumed exclusively by the Aksumites but instead would have been sent on from Adulis either further east or else north to the Roman world. The fact that Adulis was a staging post for larger trade is again highlighted by Cosmas who further states that, “a Adoulis – c'est ainsi qu'on nomme la ville des Éthiopiens distantes des côtes de deux miles environs et qui sert de port au peuple des Axoumites, là où nous faisons commerce, nous autres, marchands d'Alexandrie et d'Éla”.²¹⁵ These two passages outline Adulis' role in Red Sea trade. Almost all of the goods traveling along the Red Sea would come to Adulis where they would be sorted and stockpiled and then sent on to their final locations whether that be Aksum itself, the Roman Empire, or the Indian Ocean. Adulis is a perfect location to uncover what commodities travelled on the Red Sea because it is the central port linking the Roman world with the East and therefore has examples of Indian and Aksumite products as well as Roman merchandise. Of the goods which are mentioned by Cosmas and the *Periplus*, several provide great insight into the Red Sea trade network in Late Antiquity.

The trade in natural goods was of most importance for the Red Sea as a whole. Manufactured goods were transported but not on the same scale as raw materials. Spices as well as aromatics such as frankincense made up a large and expensive portion of the goods coming into the Roman Empire via Adulis. These goods found a wide range of uses including food preparation, medicinal purposes and were used in the Church liturgy. Thus spices and aromatics had a near constant demand as they were used by a significant part of the population for a multitude of purposes. Natural goods from the Roman Empire came to Adulis as well. These are harder to identify specifically but the large percentage of

214 Cosm. Ind. 2.49.

215 Cosm. Ind. 2.54.

Aila-type amphorae allude to the exchange. These amphorae could have been used to move natural products such as wine, garum, and olive oil as well as other goods.²¹⁶

Manufactured goods which travelled through Adulis are attested as well. Apart from the Aila-type amphorae which were fired near modern day Aqaba, Adulis received luxury goods such as glass and worked metal and precious stones from the Roman Empire.²¹⁷ From the Far East and India came textiles, both in the form of silk and cotton. These are not attested archaeologically but the demand for Eastern textiles via the Red Sea meant that Adulis must have participated in their trade. All of these goods were present at Adulis from the 1st century onwards. The *Periplus* provides an extensive list of goods which travelled to and from Adulis in the 1st century when the port was still a 'moderate sized village'. It therefore stands to reason that trade in all of these goods continued and expanded after the 4th century as Adulis grew from a village into a true metropolitan centre. Without extensive trade, Adulis could not have supported its large population which occupied 200 hectares of land at the city's peak.²¹⁸ The size of the city is indicative of the growth of Red Sea trade centred around Adulis in Late Antiquity. This expansion emphasizes the importance of Adulis as well as Aksum in the southern Red Sea which was significant by the 5th century.

The question of the political relationship between Adulis and Aksum must be discussed in the context of the Late Antique world. While the 1st-century relationship between the two cities was important, it nonetheless seems that at this early date Adulis was still a separate entity from Aksum which worked closely with the inland city so that both cities could mutually benefit. The situation in Late Antiquity is also not entirely clear but there are several clues which indicate a growing closeness between Aksum and Adulis. Archaeology reveals that the Aila-type pottery which is so common at Adulis is also present in large quantities at Aksum.²¹⁹ This, if nothing else, means that the two cities at least had a close trading relationship. Additionally, archaeological work at Adulis has not been able to locate any form of defensive wall whatsoever.²²⁰ This indicates that the city experienced political stability and was not threatened by its neighbours. If Adulis had been at odds with Aksum, a wall would have been necessary. Aksum was the preeminent power in the southern Red Sea and was known for its aggressive expansion. The only way Adulis could have remained without a wall is if it were somehow joined to Aksum not just economically but politically.

216 Peacock and Blue, *Port of Adulis*, 129-30.

217 *Peripl. M. Rubr.* 4.

218 R. Paribeni, 'Ricerche nel luogo dell'antica Adulis (Colonia Eritria)', *Monumenti Antichi* 18 (1907) 437-572 at 440.

219 Manzo, 'Aksumite Trade', 59.

220 Paribeni, 'Ricerche', 444; Peacock and Blue, *Port of Adulis*, 131-2.

In conjunction with the archaeology, the textual sources support a close relationship between Aksum and Adulis. Cosmas notes in his passages on Adulis that it was the port of Aksum and he does not mention any king at Adulis. Instead, he says that Adulis is run by a governor meaning that the port had been fully integrated into Aksum by the 5th century. Additionally, he copies the *Monumentum Adulitanum II* for King Kaleb of Aksum who was preparing to launch an invasion of Himyar and could make use of the inscription for propaganda purposes.²²¹ Further details on this invasion are provided by the *Martyrdom of Arethas* which states that,

Il se trouva que, peu auparavant, le serviteur du Christ, Élesbaas, avait réuni de tout son royaume et des autres nations une multitude de cent vingt mille hommes. Selon l'économie de notre Sauveur Jésus-Christ, arrivèrent des navires de marchands romains, perse, indiens ou pouvenant des îles de Pharsan, au nombre de soixante; soit quinze navires venant de la ville d'Aeila, vingt de Clysmā, sept de Iôtabè, deux de Béronikè, sept de Pharsan et neuf d'Inde. Il les fit rassembler dans un mouillage appelé Gabaza, qui dépendait du territoire d'Adoulis, la ville côtière, et tirer à terre. Pendant l'hiver de cette troisième indiction, il fit fabriquer, lui aussi, des navires indiens, au nombre de dix et armer les soixante-dix.²²²

It is clear from this passage that Kaleb was comfortable using Adulis as the launching point of a significant campaign. It also does not appear that he needed any sort of permission to move such a large military force into Adulis. The list of the home ports of the ships is illuminating. It is clear that Aksum had a powerful influence over the other Red Sea ports and was able to commandeer a significant merchant fleet to use for its own purposes. This level of commitment from the other ports indicates that these northern ports needed Aksum's cooperation to keep trade feasible and efficient in the Red Sea. It also appears that Adulis did not have a significant fleet of its own as ten ships had to be constructed to add to the armada. This indicates that Adulis was accustomed to receive goods directly at the port which were then transported by Roman vessels to the northern Red Sea. This passage makes it appear that the Aksumites did not deliver Indian goods but instead the Romans actually had to pick them up for themselves at Adulis.

By the 6th century, the evidence suggests that Adulis was just another district or province of the Aksumite Kingdom. Cosmas' mention that Adulis had a governor is the strongest support for this. Peacock and Blue have an alternative theory. They argue that Adulis was a client state of Aksum which in the 1st century was largely independent but which over the centuries became more and more appropriated by the Aksumite Kingdom. The main proof for this theory are the mausolea located at

221 Cosm. Ind. 2.56; Hatke, *Aksum and Nubia*, 39-41.

222 *Martyrdom of Arethas*, 29.

Samidi, seven kilometres from Adulis. These royal tombs indicate that there was some local ruling faction at Adulis which could afford such lavish burials. Furthermore, the political structure of the Aksumite Kingdom supports this theory. The Aksumite king was a King of Kings (*negusa negast*) who ruled over other lesser kings who in turn ruled over smaller regional areas directly.²²³ As for Cosmas' insistence that Adulis had a governor, he could simply have been using Roman governmental nomenclature to explain Aksum's bureaucratic organization. To him, a client king or tribal chief of Adulis would appear much the same as the governor of Egypt.

Several concrete conclusions can be drawn about Adulis during its peak from the 4th to the 6th centuries. Adulis was the most important port of the entire Red Sea and was the main port of entry and exit for all of the Red Sea trade routes. Adulis thrived as a port-based city because of the diversity of trade which it accommodated. It harboured an abundance of goods from all over Africa, India, Europe and the Middle East. Links with all of these regions provided Adulis with great profits and economic insulation from moderate problems in any one continental theatre ensuring Adulis' continued survival. Adulis was also guaranteed survival because of its close association with Aksum which strengthened over time as both Aksum and Adulis grew more influential as a result of their alliance. Moreover, Adulis' volume of trade as well as its symbiotic link with Aksum allowed the port to grow from a village to the foremost metropolitan port in the Red Sea. At its peak, Adulis was a formidable power which wielded direct influence over all of the Red Sea. Adulis' demise was directly linked to the decline in international trade in the Red Sea which was its lifeblood.

Adulis' destruction, much like its origin, is shrouded in mystery. It is unclear what the exact causes were for the port city's collapse. Whatever forces destroyed Adulis, they did a thorough job. There are no standing structures left at Adulis, just mounds of rubble where buildings used to be. There is some evidence that a handful of structures were still standing in the 19th century but they are completely non-existent today.²²⁴ The hypotheses for this complete destruction which occurred some time after the 7th century are varied. An earthquake has been suggested but the collapse of all of the buildings is too complete and there are no reports of any seismic activity in this region at that time. An early investigator of the site, H. Salt, reports that according to legend Adulis was destroyed by a flood, a *wadi* flush which ran into the Red Sea. It is an interesting theory and legends sometimes refer back to a core of truth but in this case there is no evidence for flooding at Adulis.²²⁵

223 Peacock and Blue, *Port of Adulis*, 132.

224 Peacock and Blue, *Port of Adulis*, 13.

225 C.f. H. Salt, *A Voyage to Abyssinia and Travels into the Interior of that Country* (London, 1814) 452.

Adulis was not destroyed by any natural phenomenon so it therefore must have been torn down by human hands. Archeological evidence from the site consistently reveals burning. This layer of burning is widespread across the site but it is unclear whether it was from one great fire or a series of smaller blazes over a longer time scale.²²⁶ It is possible that the fires were caused accidentally and that this is not evidence for violence, but the political turmoil of 6th and 7th centuries supports deliberate human destruction as the cause of the fires. Some scholars have attributed this destruction to the Arab naval expedition of 640 led by Umar ibn al-Kahattab who is known to have attacked areas around Adulis.²²⁷ Unfortunately, two pieces of evidence discredit this theory. Firstly, the Caliph himself said that the entire naval expedition was unsuccessful. If a major port and city such as Adulis had been so thoroughly destroyed then the expedition could only have been seen as an unmitigated success. Secondly, there is evidence for continued use of the site after this expedition of 640. A coin found by Munro-Hay provides evidence for occupation and trade until at least 700.²²⁸ Therefore Adulis was destroyed some time after 700 by means of fire as a result of deliberate human actions.

The decline of Adulis was exacerbated by several political shifts, both internal and external, which affected the wider Red Sea as a whole. The Kingdom of Aksum experienced several setbacks in the 6th and 7th centuries which must also have affected Adulis, its main port. After Kaleb's successful invasion of Himyar in 525, Aksum controlled both sides of the opening of the Red Sea and benefited from a complete monopoly on Red Sea trade. Himyar quickly broke away from Aksum and was led by the rebel Abraha. Nonetheless, Abraha agreed to pay a tribute to Aksum which at least ensured that the invasion of 525 was not a complete loss. This tribute stopped around 50 years later when Abraha's dynasty was ousted from Himyar and the Sassanids took political control of the region. The Aksumites, therefore, not only lost the tribute which came from Arabia but they also lost complete control of the region. Indeed the Sassanids were actively aggressive against Aksum, and the shipping channels which for a long time had been friendly waters were suddenly full of hostile Sassanid ships. This did not bode well for Adulis and it marked the first sign of Aksum's loosening grip on the southern Red Sea.²²⁹

The Sassanids further disrupted Aksum's trade route through their attack on its main trading partner, the Roman Empire. The Sassanid conquest of Egypt from 619-29, while short lived, was enough to destabilize the entire Red Sea trade network. Without Roman control of Egypt, the

226 Paribeni, 'Ricerche', 536; Peacock and Blue, *Port of Adulis*, 11.

227 C.f. E.A.W. Budge, *History of Ethiopia, Nubia and Abyssinia Volume 1* (London, 1928) 274; Hourani, *Arab Seafaring*, 54.

228 S. Munro-Hay, 'The Foreign Trade of the Aksumite Port of Adulis', *Azania* 17 (1982) 107-25 at 117.

229 S. Munro-Hay, 'Aksumite Overseas Interests', in J. Reade (ed.), *The Indian Ocean in Antiquity* (London, 1996) 403-16 at 413.

Aksumites had no place to ship their 'Indian' goods. In conjunction with the hardships of the Roman Empire, the Indian mainland was also experiencing difficulties in the form of nomadic invasion from the north. Adulis could not operate as an economically viable port for Aksum and became a burden on the main city of the interior. The Romans were eventually able to retake Egypt from the Sassanids but trade never resumed the vigour which it had had prior to the 6th century in part because of hardships affecting India at this time. Adulis and the Aksumites suffered as a result of external affairs which were beyond their control. The Sassanid aggression against Aksum was fuelled by the latter's close association with Rome rather than by any direct political aversion. Indeed, it appears that prior to the Roman control of the eastern Mediterranean the Aksumites had a good trade relationship with the Parthian Empire, the predecessor of the Sassanid Empire.²³⁰ The Sassanid incursion into Aksumite affairs was just the beginning of Adulis' problems. A more unified Eastern power soon eclipsed Aksum as the dominant regional superpower.

Islam, which arose shortly after Abraha's dynasty was removed from power in Arabia, initially shared good relations with Aksum despite the fact that it was a Christian nation during this period.²³¹ The Islamic Empire was not directly opposed to Aksum, but the rapid growth of that Empire completely changed the political landscape of Arabia and the eastern Mediterranean. Furthermore, the rapid expansion of the Islamic Empire did not give Aksum or Adulis enough time to adapt to the changes and thereby tailor their trade patterns to the new political hierarchy. The expansion of the Islamic world mostly bypassed the Aksumite Kingdom entirely. Goods from the Indian Ocean would be shipped directly to the Persian Gulf into the centre of Islamic power. There was no longer any need for international goods to travel up the Red Sea to make it directly to the Mediterranean.²³² Adulis was still involved in local trade with areas of the Ethiopian interior and the Red Sea coast but this was not enough to support the large metropolitan population at Adulis which was sustained by international exchange. The attrition which the Islamic Empire forced upon Adulis slowly diminished Aksumite power so that by the early 8th century Aksum retreated from the Red Sea. In 702, the Arab 'Abd al-Malik occupied the Dhalak Islands to counter the threat of piracy and thereby negated any influence which Adulis still had in the Red Sea.²³³

These internal hardships were mirrored by internal unrest throughout the entirety of the Aksumite Kingdom. It appears that revolts began at Aksum itself and that the economic hardships

230 Munro-Hay, 'Aksumite Overseas Interests', 413; Peacock and Blue, *Port of Adulis*, 12.

231 Peacock and Blue, *Port of Adulis*, 12.

232 Peacock and Blue, *Port of Adulis*, 133-4.

233 Munro-Hay, 'Foreign Trade', 121.

provoked political turmoil at the capital. Additionally, from the 7th century onwards the city of Aksum fell into steep decline just like Adulis. Eventually Aksum was abandoned as a capital and a new capital was adopted as the Aksumite Kingdom contracted.²³⁴ Aksum pulled away from the Red Sea and focused more on the Ethiopian interior where it could support itself more on agriculture than trade. Aksum's refocus on the interior and on agriculture kept the kingdom alive in a limited way and Aksum lived on for many centuries into the medieval period.²³⁵ The same cannot be said for Adulis which was unable to support itself solely on agriculture and needed trade to stay relevant. Furthermore without direct contact with Aksum, Adulis lost its last trading partner and no longer had anything of significance to trade either from or else to Aksum. Adulis succumbed to riots and raiding and over the course of the 7th and early 8th centuries was burned to the ground at an unspecified date.

Adulis' long and varied history highlights the impact of Red Sea trade on the immediate territories which straddle the narrow body of water. The town grew and declined with the rise and fall of the Red Sea as an international shipping conduit. As a result of its supreme importance to the economy of Aksum and the Red Sea it was a marker for the vitality of Red Sea trade as a whole. Its early origins up until the 3rd century showcase the early development of international links between the West and the East of which Aksum and Adulis were vital components. The precipitous decline in trade caused by the 3rd century crisis was a foreshadowing of Adulis' eventual destruction and demonstrated that the port was supported by fragile economic systems.

The peak of Adulis' power from the 4th to the 6th centuries illustrates the wealth and influence which trade was able to generate. Adulis grew from a village to a metropolis and hosted merchants and dignitaries from Africa, Europe, the Middle East and Asia. At its peak, Adulis' ships controlled the Red Sea and were able to launch significant military expeditions. Unfortunately, the port's primacy in the Red Sea was supported by rather unstable pillars. Adulis relied on many inputs, outside of its control, to remain influential. It needed full Aksumite support to remain relevant in the Red Sea. Furthermore, it relied on trade which was only possible when all of the players in the Red Sea remained friendly. With the removal of Rome from Egypt and the growing importance of first the Sassanids and then the Muslims, Adulis lost the main markets for its tradeable goods. Without trade, the *raison d'être* of Adulis was disrupted and it was only a matter of time until the city was weakened by powerful external forces and torn apart by internal dissension.

234 Peacock and Blue, *Port of Adulis*, 133-4.

235 K.W. Butzer, 'Rise and Fall of Axum, Ethiopia: A Geo-Archaeological Interpretation', *AmA* 40 (1981) 471-95 at 471.

Aila and Clysma became the two most important centres for Indo-Roman trade in Late Antiquity and their development after the 4th century demonstrates the continued Roman interest in the Eastern trade. Clysma was founded in the Ptolemaic period but was called by the common name Arsinoë at that time.²³⁶ Early on in the history of Clysma, a canal was constructed which connected the northern tip of the Red Sea with the Nile near Alexandria so that Clysma was always linked to Alexandria by water. This monumental undertaking was a foreshadowing of the Suez Canal, which continues to link the East and the West today and provides great wealth to Egypt. The canal is attributed to Trajan but was originally constructed long before the 2nd century. Trajan was responsible for dredging a preexisting canal which had silted up.²³⁷

This canal was of great importance because it meant that goods coming through Clysma never had to touch land and could continue on into the Nile and the Mediterranean far more easily. The idea of a canal linking the Red Sea and the Nile is not a new one. There is, in fact, evidence of canals being constructed during the Pharaonic period as early as the 6th century BCE, with further construction projects undertaken by the Ptolemies. Although the purpose of these canals is unclear, it could be that they were used more as irrigation ditches than as a means of international transportation. Then again they could have been used as a form of transportation but they were nowhere near the width of the canal which Trajan's reopened. Whatever the case, the idea of digging trenches was not new in northern Egypt and it would have been logical to envision a larger canal which could facilitate transportation and trade.

Despite these earlier canals, Trajan's canal was the only one which was operational during the Late Antique period and which was extensively involved in Indo-Roman trade. The canal was only used in trade in Late Antiquity as it had to be regularly dredged, an expensive task which was only undertaken when the scope of trade could fund the work. Prior to the late 4th century, Clysma was a port of no major significance. In fact, it appears that the port was abandoned between the 2nd and 4th centuries.²³⁸ Clysma continued to expand throughout Late Antiquity and remained a viable commercial port throughout the Islamic period.²³⁹ By this time, the port was involved in more localized Red Sea trade and had diminished contacts with India. Unfortunately, few archaeological remains of the ancient

236 Ward, 'Aila and Clysma', 162.

237 Tomber, *Indo-Roman Trade*, 66.

238 Power, *Red Sea*, 32.

239 Ward, 'Aila and Clysma', 162.

port of Clysma have been preserved as modern Suez sits on top of the ancient site. Additionally, the Suez Canal traverses right across where the harbour used to be.²⁴⁰ Nonetheless several finds offer a glimpse into its vitality after the 4th century. Tomber has noted that, of the thousands of coins which have been found on the site, the vast majority are late 4th to 5th century in date.²⁴¹ Furthermore, an account in the *Martyrdom of Arethas* mentions that of the 70 ships in total which assisted in the Aksumite invasion of Himyar in 525, 20 were from Clysma. This is more ships than any of the other ports provided, indicating the significant influence that Clysma had in the Red Sea as late as the 6th century.²⁴²

Clysma is mentioned at several other instances in the ancient sources. Egeria, a nun who travelled the Holy Land on a pilgrimage, recorded all of her travels. Her account of Clysma offers some insight into the ancient harbour. She travelled through the Sinai in 383 and mentions Clysma in a more military than an economic context. She refers to it as a fort and Clysma must have been a key staging post supporting the Diocletianic *limes*. She is escorted across the Sinai by a group of soldiers. It seems that the region was not entirely secure by this period and Saracen raids must have been fairly commonplace. Peter the Deacon also provides an account of Late Antique Clysma which he attributes to Egeria in his collection on ancient travellers. He notes that,

Clysma itself is on the shore, right by the sea. It has an enclosed harbour which makes the sea come right inside the fort, and it is the port for India, which is to say that it receives ships from India, for ships from India can come to no other port but this in the Roman territory. And ships there are numerous and great, since it is a port renowned for the Indian merchants who come to it. Also the official known as the *logothete* has his residence there, the one who goes on embassy each year to India by order of the Roman emperor, and his ships lie there... the fort was built later on, to be a defense and deterrent against Saracen raids.²⁴³

There is much useful information which this passage provides. It should first be noted that Peter the Deacon compiled his Late Antique pilgrimage accounts in 1138 and is therefore significantly removed in time from 4th-and 5th-century Clysma. It should also be noted that the ‘Indians’ referred to here who frequented Clysma were most likely Aksumites.²⁴⁴ This is not to say that goods from the Indian subcontinent did not arrive at Clysma, only that it would be a rarity for a ship to travel directly from an Indian port such as Barygaza, for example, all the way to Clysma.

240 Power, *Red Sea*, 31.

241 Tomber, *Indo-Roman Trade*, 66.

242 *Martyrdom of Arethas* 29.

243 Peter the Deacon, *Itinerarium*, pp. 206.

244 Mayerson, ‘Confusion of Indias’, 170-4.

The passage does point out the significance of Clysma in Indo-Roman trade in Late Antiquity. While it is not correct that Clysma was the only port involved in trade with Aksum, it nevertheless highlights the importance which Clysma had as compared to the other Red Sea ports. Furthermore, the mention of the Byzantine official or *logothetes* indicates that the tax revenues generated from trade passing through Clysma were significant in Late Antiquity. The final notable element from this passage is the mention of the heavy security needed to deal with Saracen raids. Clysma is quite far away from the *limes* of the Empire and is a good distance away from Arabia proper. The frequency of these raids is an indication of the porous nature of the Arabian *limes*. The frontiers of the Roman Empire, especially the Arabian frontier, were not clear cut lines that separated the settled agriculturalists from the migratory nomads of northern Arabia. People passed freely from one region to the other and often practised a semi-nomadic lifestyle.²⁴⁵ These raids were contained as long as there was enough imperial support for the Red Sea trade to provide a sufficient number of troops to guard both the frontier and monitor internal banditry threats. When imperial support waned, however, Red Sea trade would suffer as goods intended for the Mediterranean would be plundered en route.²⁴⁶

Trajan's Canal made Clysma a far more viable port than Berenike simply because it removed the twelve-day caravan journey, which would have been costly as the valuable goods would have had to be guarded.²⁴⁷ Raids had always been a risk of the overland trade route ever since the adoption of the port under the Ptolemies. The improved security of the newer ports of Aila and Clysma, which came as a result of their more northern location within the Roman Empire, caused Berenike to cease to be as desirable an option for Roman traders. Berenike continued to operate and it is clear that pepper and other Indian commodities continued to be imported there but it was not under direct Roman control. There were no Roman officials who oversaw Berenike and its surrounding hinterland. Roman merchants continued to use the port and cooperated with the indigenous tribes of the Eastern Desert who managed Berenike. It was fiscally cheaper for the Romans to protect Aila and Clysma as they were closer to the centre of the Empire and they were close to each other geographically allowing for a fewer number of troops to protect a greater percentage of trade.²⁴⁸

In contrast to Aila, Clysma received all the goods that were destined for Alexandria and were likely to go to the more western areas of the Empire. The port would also receive all the exports that came from the West via Alexandria. Aila, on the other hand, was split from Clysma by the Sinai and

245 J.H.F. Dijkstra and G. Fisher, 'General Introduction', in Dijkstra and Fisher, *Inside and Out*, 1-32 at 5-7.

246 Ward, 'Aila and Clysma', 167.

247 Casson, *Periplus Maris Erythraei*, 14.

248 Sidebotham, *Berenike*, 264-5, 275-9.

dealt with the goods which travelled to and from the eastern provinces of the Empire via Palestine. Goods travelling through Aila did make it to the West as they would go overland through Gaza to the Mediterranean, but Clysma was much more advantageous for this direction of travel. Aila became an important centre for Eastern trade and, as with Clysma, continued to develop even after the Arab conquest of the region. Aila was not a significant population centre or even a port prior to the 4th century. It did, however, participate in the overland trade network linking the Red Sea port of Leuke Kome to the wider Mediterranean region.²⁴⁹ Aila was originally founded by the Nabataeans and came under direct Roman control with the annexation of *Arabia Petraea* which became a frontier province incorporating the Sinai and areas of the Transjordan northwards to Syria in 106. The town was linked to the *Via Nova Traiana* by 114 which resulted in a slow but steady population increase during the 2nd century.²⁵⁰

Aila became an important regional capital as a result of the Diocletianic reorganization of the *limes*. In the late 3rd century, the *legio X Fretensis* was moved from Jerusalem to Aila to bolster the Arabian borders.²⁵¹ The legion contained roughly 2000 men and brought with it the administrative power to develop Aila into a major defensive hub and port. Additionally, the legion not only significantly increased the population of the town but the security it provided encouraged people to migrate to the region. Around the time of the arrival of the legion, a wall was built around the site which, in conjunction with the arrival of the legion, indicates two developments at Aila: firstly that the continuing Saracen security threat remained severe throughout Late Antiquity and secondly that the Roman government had a vested interest in protecting the trade links with the southern Red Sea. Tax revenue from trade at Aila must have been significant enough to warrant the posting of an entire legion in the area.

By the early 4th century, Aila is first referred to as a port. The archaeology shows that Aila rapidly developed into a significant trading centre. The site is littered with datable pottery imports. These sherds indicate a ten-fold increase in imports during the Late Antique period over the previous Roman period. Moreover, the percentage of amphorae found versus all types of pottery excavated shows a nine-fold increase during the Late Antique period over the previous occupation levels.²⁵² It is clear from this evidence that Aila became a major centre for receiving trade after the 3rd century crisis.

249 Ward, 'Aila and Clysma', 163.

250 See A.S. Lewin, 'Rome's Relations with the Arab/Indigenous People in the First-Third Centuries', in Dijkstra and Fisher, *Inside and Out*, 113-44 at 132-9 with references.

251 Ward, 'Aila and Clysma', 165; Power, *Red Sea*, 28.

252 Parker, '2002 Campaign', 321-33; Ward, 'Aila and Clysma', 163.

Furthermore, Aila was a major export and production center. Excavations have revealed that there was a booming metallurgical industry. Slag heaps in the hinterland are the largest in the eastern Mediterranean. Copper was the main metal being processed as the *Wadi Faynan* copper mine was nearby. This large-scale metallurgical industry continued well into the Late Antique period and perhaps after.²⁵³ Additionally, the city produced its own type of amphorae which has been identified at all of the major ports in the Red Sea including Berenike, Adulis as well as Aksum itself, and the Yemeni port of Qani.²⁵⁴ It is unclear exactly what these amphorae contained. They were a sort of milk crate of antiquity and were able to transport a variety of natural products on an industrial scale. Goods arriving from a variety of locations could well have been repackaged at Aila using this specific Aila-type amphora which was amenable to long distance maritime transport.

Aila had a strong association with two key regions in the Red Sea. The first is the Aksumite port of Adulis and the wider Aksumite Kingdom. Aila contributed 15 ships to the Aksumite invasion of Himyar in 525, second only to Clyisma. Moreover, two Aksumite gold coins have been found at Aila as well as several Aksumite pottery sherds.²⁵⁵ Cosmas also notes that merchants from Aila could regularly be found at Adulis engaged in trade.²⁵⁶ Furthermore, Antoninus of Piacenza noted that ‘shipping from India comes into port at Aila, bringing a variety of spices’.²⁵⁷ There was an ongoing trade network which linked Aila and Adulis. Merchants from Aila went to Adulis and vice versa indicating that both ports were internationally important in regards to Red Sea trade.

The second region with which Aila had a particularly intense connection was at the Hadramawt port of Qani in southern Yemen. The excavations at Qani reveal that 80 percent of all the identifiable amphorae come from Aila. Additionally, a whole Ailan kitchen set has been found at the port. In Aila several steatite bowls have been unearthed which are believed to have a Yemeni provenience. The finds at Aila and Qani come from 4th-to 7th-century layers indicating that the trade links were most vigorous during this period. Aila’s links with Yemen as with its links with Adulis appear to have been strong and bilateral. South Arabian merchants were present at Aila just as Ailan merchants were present at Qani.²⁵⁸ Despite Aila’s extensive trading links as well as its great size and importance, it was not directly connected to its trading partners but was accessed through an intermediary island port, Iotabe.

253 Parker, ‘1996 Campaign’, 375-94.

254 Tomber, ‘Amphorae from the Red Sea’, 393-402; Ward, ‘Aila and Clyisma’, 163; Power, *Red Sea*, 30

255 Power, *Red Sea*, 30.

256 Cosm. Ind. 2.54.

257 Anton, *Itin.*, pp. 88.

258 A.V. Sedov, ‘Qani’, port antique du Hadramout’, *DdA* 263 (2001) 32-5; Tomber, ‘Rome and South Arabia’, 351-60; Power, *Red Sea*, 30.

Iotabe is the last major Roman port in the Red Sea. Iotabe cannot be viewed independently but must be evaluated in conjunction with Aila as the two are so intimately associated. Of all of the Red Sea ports, this is the one about which the least is known. It has not even been located by modern archaeologists although several locations have been proposed. Therefore Iotabe is only known through the ancient sources. Procopius says of both Aila and Iotabe that,

The boundaries of Palestine extend toward the east to the sea which is called the Red Sea. Now this sea, beginning at India, comes to an end at this point in the Roman domain where there is a city called Aelas [Aila] on its shore, where the sea comes to an end, as I have said, and becomes a very narrow gulf. And as one sails into the sea from there...the land on both sides is visible as one sails in as far as the island called Iotabe, not less than 1000 *stades* [183 km] distant from the city of Aelas.²⁵⁹

The port and island as a whole were likely used as a staging post before the last stretch of the journey to Aila. There were tax collectors who oversaw the collection of import duties on goods coming into the Empire. Iotabe was an active trade centre from at least 451 until 536. A bishop from the island is attested at the Council of Chalcedon in 451.²⁶⁰ It was seized from Roman control in 473 by a Saracen leader called Amorcesus who immediately ousted the Roman tax collectors and thereby diverted significant income from the treasury in Constantinople as we have seen in the first chapter.²⁶¹

The island was not retaken until 25 years later in 498 and it had to be resubmitted under Roman authority again by Justinian in 534.²⁶² The express motivation for all three invasions, both by Arab and Roman forces, was to control the significant tax revenue which the island garnered. Furthermore, there is evidence that the island had extensive contacts in the southern Red Sea. It contributed seven ships to the Aksumite invasion of Himyar, a significant number considering the island and its population would most likely have been quite small compared to the other major Red Sea ports.²⁶³ Unfortunately, little else is known about Iotabe and more information will have to wait until it is positively located. The port played an influential role in the administrative aspect of Red Sea trade especially in regards to Aila. The proper identification of the site will hopefully provide some insight into the logistics of tax collection along the Red Sea as well as concrete numbers on the scale of tax collection.

259 Procop. *Pers.* 1.19.4.

260 Ward, 'Aila and Clysmā', 164; Power, *Red Sea*, 31.

261 Greatrex, 'Procopius', 253.

262 Ward, 'Aila and Clysmā', 164.

263 Power, *Red Sea*, 31.

Conclusion

To conclude this chapter we will retrace the varied histories of all of the ports in a brief fashion so that the most pertinent information can be absorbed accurately. After examining all of the ports it can be concluded that Myos Hormos was the largest port prior to the 3rd century and its development and demise from the 1st to 3rd centuries acts as a contrast to the ports which continued to operate or were built anew in Late Antiquity. Berenike was also active during the Roman period but it continued to operate into Late Antiquity, when it was a place of commerce and cooperation between Roman merchants and the indigenous people of the Eastern Desert. The port itself was beyond direct Roman governmental control but continued to be influenced by the Roman world which imported many Eastern commodities, especially pepper, through this harbour. Adulis was the most important port of the Red Sea in Late Antiquity and was dominated by the Aksumite Kingdom. It controlled the vast majority of all goods travelling in the southern Red Sea and was therefore the way station for commodities passing between Rome and India. Clysma was the largest trading port controlled by the Romans and together with Trajan's canal was the most efficient way for goods to travel between the Mediterranean and the Red Sea. Aila and its island counterpart Iotabe were the other major players in the northern Red Sea. Aila was involved in extensive manufacturing and provides evidence for the industrial scale of Red Sea trade.

From this brief summary a general picture of the shifting Red Sea trade patterns can be developed. Prior to the 3rd century goods flowed from the Indian Ocean into the Roman Empire mainly through either Myos Hormos or Berenike. These goods came to the Roman world in a fairly direct fashion. Merchants only stopped briefly along the Arabian and Ethiopian coasts to pick up unique commodities there. The 3rd century economic crisis which afflicted the Roman Empire ground Red Sea trade to a halt and when trade again began to pick up in the 4th century it did so in a different way. The economic difficulties of the 3rd century prompted significant changes to how Red Sea commerce was practised in Late Antiquity. Goods from India now frequented the port of Adulis. This was a major stop for most ships and the goods would be relayed from Adulis to the northern Red Sea at Aila or Clysma. Berenike continued to receive Indian imports but they usually came via Adulis rather than directly. Berenike faded from international importance and became a port of local importance only in the 6th century after its main trading partner, Aksum, became unstable. All of this international trade ceased as Roman influence receded from Egypt and the connections with India became tenuous as internal strife

arose in India and the Eastern Roman Empire.

The change in trade tendencies raises several questions for which there are no easy answers but which will hopefully be addressed in future research. Firstly, why was it necessary for ships after the 3rd century crisis to make the additional stop at Adulis before coming to a Roman port? Does it have something to do with a change in shipping technology? Were Late Antique ships more diversified with ocean sized vessels required for the Indian Ocean and ships with a smaller draft preferred for use in the shallower Red Sea? There is no evidence for a shift in ship-building techniques in Late Antiquity but this hypothesis should not be ruled out. Furthermore, the addition of Adulis to the trade network is a result of the growing political importance of Aksum in the southern Red Sea. Adulis and by extension Aksum had a symbiotic relationship with Red Sea commerce in Late Antiquity. The kingdom thrived as demand for Eastern goods grew. Unfortunately, Aksum's fortunes were closely tied to the vitality of the Red Sea and it therefore could not survive the changes in the 6th century which prevented an efficient link between Rome and India. It is not exactly clear how Aksum was able to grow when Red Sea trade functioned efficiently prior to the Aksumite monopoly in Late Antiquity. What precipitated the need for Aksumite merchants when the Romans had previously ventured directly to India?

Another related question which is raised and still not answered is: if Clysma and Aila were such advantageous ports to ship to then why were they only developed in Late Antiquity? The case for Aila can be explained by the late date of the Roman annexation of *Arabia Petraea* but Clysma was well under Roman control by the early 1st century. Other than the predominant northern winds, why would the Romans choose to ship to a port such as Myos Hormos which required the goods to use caravans to travel to the Nile rather than a port further north? The construction of the desert installations along the Coptos road in the 1st and 2nd centuries demonstrates that the Romans were invested in the protection of the Red Sea goods. Perhaps the maintenance of these facilities became too costly and were in an advanced state of disrepair when Red Sea trade was revitalized in the 4th century. This does not, however, sufficiently explain the advantages which Myos Hormos had over ports located on the either side of the Sinai where Aila and Clysma were constructed in Late Antiquity. Why were these ports not used earlier? Hopefully, as more archaeological projects are undertaken at key sites such as Aila, Berenike and Adulis, definitive answers to these questions will be put forward which will help complete the picture of Red Sea trade in Late Antiquity.

The ports of the Red Sea changed greatly throughout the Late Antique period with the major centres of trade shifting over the centuries to accommodate new naval technologies, new trading

partners and allies, and to cope with ever-changing security threats. While some ports did decline and vanish such as Myos Hormos, or in the case of Berenike ceased to be feasible outposts of truly Roman trade, this is not an indication that Indo-Roman trade via the Red Sea ever declined. The excavations at Adulis show that the Romans were well-connected to their Aksumite neighbors and that they had a vested interest in maintaining links with Aksum and southern Arabia to ensure that Red Sea trade never faltered. Furthermore, the examination of Clysma has shown that trade to and from Egypt remained viable and profitable. The adoption of Clysma as well as the continued use of Trajan's canal prove that the Romans were consistently interested in Indian goods and ensured that they could be imported as efficiently as possible. Aila viewed with Iotabe provides insight into the on-going security threats which the Romans were willing to face in order to ensure that foreign goods flowed into the Empire which, in turn, ensured that trade tariffs filled the Empire's treasuries. The archaeology and written record have shown that ports along the Red Sea were of vital importance to the Roman Empire as a whole in Late Antiquity. The evidence from these ports highlights the dynamic nature of Roman Red Sea trade in Late Antiquity, which was constantly striving to import and export goods to and from the Roman Empire in the most secure and efficient way possible.

Chapter 3. The Impact of the Red Sea Trade: The Influence of Indo-Roman Commerce on the Roman and Indian Worlds

Introduction

The previous two chapters have focused almost exclusively on the Red Sea region with occasional forays into Persia, India, and the Eastern Roman Empire. Based on the information and conclusions which have been presented thus far it is clear that the Red Sea trade existed throughout Late Antiquity. This chapter will place the region in a wider context and highlight important ways in which Indo-Roman trade affected the Late Antique world. What impact did Red Sea trade have on areas of the Indian Ocean and the Mediterranean world and what importance can be placed on Red Sea exchange as an economic phenomenon in Late Antiquity? The preceding chapters have outlined how Red Sea trade functioned and how it was maintained throughout Antiquity. They also traced the routes of exchange and catalogued in a geographical sense where the main hubs of trade were and how they evolved over time. This chapter will extend the geographical range and map the universality of Red Sea products in the ancient international marketplace both physically and mentally.

In order to delve into these two questions this chapter will first examine the importance of Red Sea trade in the Roman world in order that some sense of the volume of the trade can be gained. Furthermore, this section will identify Roman attitudes towards the Far East and how India and its products were perceived by the Romans. The second section will unveil how the Mediterranean demand for Indian goods shaped not only India but also South East Asia as well as east Africa and Arabia. The Western demand for Eastern goods gave these regions immense wealth and allowed them to develop networks of exchange which stretched halfway around the globe. The final section of this chapter will be slightly different and will analyze the important pepper trade which passed exclusively through the Red Sea. This section will present evidence for the trade in this single commodity in the form of a case study. For this reason the third part of the chapter is significantly longer as it presents the history of pepper in the Roman Empire from the 1st to 6th centuries. While this may at first sight seem a trivial topic, an investigation into the ancient pepper trade provides a clear representation of the vitality of Red Sea trade through the ages. By implication, it also delineates how all of the goods involved in Red Sea trade moved throughout the Roman Empire.

It is an arduous task to gauge the overall significance of the Red Sea trade in the Roman world as a whole. There are no concrete facts or figures which remain from the Roman period. It is not even possible to accurately estimate the volume of trade which flowed into the Mediterranean from the Red Sea at any time during the Roman control of Egypt. As has been noted in chapter 1, the Roman government rarely took any direct interest in Eastern trade, making it difficult to trace what impact Eastern goods had on the state as well as on the even less well documented Roman populace. Further compounding the issue is the fact that most Roman writers were members of the Roman elite and looked down upon trade as a means of acquiring wealth. As a result, their accounts of trade are extremely prejudiced or else are non-existent altogether. Luckily, important works such as the *Periplus Maris Erythraei* and Cosmas' *Christian Topography*, which offer more reliable and detailed information, have survived. Moreover, archaeology has identified physical evidence of Red Sea trade within the Roman world. While the evidence is limited, it nonetheless expands the understanding which the literary works provide. The archaeology of Red Sea trade within the Roman Empire will be discussed in section three of this chapter in conjunction with the trade in black pepper. Roman literature is the other informative tool which can be used to identify the importance of Red Sea trade within the Empire. Roman authors, although biased, provide insight into how people in the Roman world viewed the Far East. As these views changed over time the pervasiveness of Red Sea goods in the Roman Empire can be surmised.²⁶⁴

The only author who offers any semblance of the volume of Eastern trade comes from Pliny. In the 1st century, Pliny claims that the Romans expended 100 million *sestertii* on Eastern goods per year.²⁶⁵ Of this 100 million *sestertii* it is likely that a significant portion of Eastern trade passed through the Red Sea. Unfortunately, little accuracy can be placed on this number. Pliny may well have been wrong in his estimation and it is likely that he exaggerated the figure in order to underline his anti-Eastern agenda. Pliny viewed the East and its products as morally damaging to the Roman people. Furthermore, this figure derives from the 1st century and is therefore of little help in establishing the volume of trade in Late Antiquity. Nonetheless, since this is the only number which pertains to the volume of Eastern trade some attempt at rationalization should be endeavoured. If Pliny's number is at all accurate, the Roman state in the Flavian period was collecting roughly 25 million *sestertii* from the

²⁶⁴ Young, *Rome's Eastern Trade*, 214-5.

²⁶⁵ Plin. *Nat.* 12.41.

tetarte. This is a considerable sum of money which rivals what a moderately wealthy province could bring in taxes per year. The large value of the Red Sea trade is supported archaeologically by the roads and installations which were constructed in the Eastern Desert around this time.²⁶⁶

While Pliny's figure may not be accurate, which is likely the case because of the roundness of his number, it is still a revealing piece of information. Pliny's complaints about the cost of Eastern trade on the Roman economy indicates that there was a significant volume of goods which were coming into Rome from the East. The upper echelons of Roman society were aware of the coinage drain which was caused by their desire for Eastern goods. This idea of a coinage drain is somewhat supported by the *Periplus* which mentions that Roman coins were a valuable trading commodity in India. Nevertheless, according to the *Periplus*, it was more common for goods to be exchanged in barter.²⁶⁷ If coinage drain was a real concern for the Roman economy, the volume of Eastern trade must have been immense as the *Periplus*' mention of the dominance of the barter system indicates that coins were used for specific and limited transactions abroad. Only a minority of Eastern products were actually bought by the Romans with coins or bullion, contrary to what Pliny and other authors claim. Unfortunately, it is more difficult to extend Pliny's figure into Late Antiquity. Other than knowing that Red Sea commerce continued into Late Antiquity, there is no way to determine the exact volume of Eastern trade during this period.²⁶⁸

Despite not knowing the volume of Red Sea commerce, its impact on the Roman world can still be conjectured. By looking at how Roman authors viewed the East, an idea of the interconnectedness of Europe and the Indian subcontinent can be gained. Prior to the 3rd century, the Romans had a fairly accurate understanding of India. This theory is supported by the works of Strabo and Pliny and, especially, the *Periplus Maris Erythraei*. These works describe the geography, zoology, and botany of India with surprising detail. The idea which comes across in pre-3rd century texts is that India poses a serious threat to the Roman economy because of the significant coinage drain or that the rich lands are ripe for conquest. The idea that the luxuries of India are too costly is championed mainly by Pliny, although it is unclear whether this export of precious metal was truly a problem.²⁶⁹ The notion that India should be conquered arises during Augustus' reign and is reignited during Trajan's rule when the Roman Empire was undergoing a rapid geographic expansion. The annexation of India would have been logistically near impossible but Dio Cassius notes that Trajan wished to surpass Alexander and

266 Young, *Rome's Eastern Trade*, 208-9.

267 E.g. *Peripl.M.Rubr.* 6, 8; Casson, *Periplus Maris Erythraei*, 29-31.

268 Young, *Rome's Eastern Trade*, 202-5.

269 Plin. *Nat.* 9.117.

conquer India. Whether there was any real desire to conquer India is questionable and these verses were most likely designed as flattering but they do highlight an increasing interest in the Far East. India was accurately described and understood by the literate classes of the Roman world prior to the 3rd century.²⁷⁰

The texts which describe India during the 3rd to 6th centuries portray an ever more fanciful land which is further removed from reality. This lack of understanding about India does not indicate that Red Sea trade diminished in Late Antiquity. As has been demonstrated, the archaeology as well as the laws and taxes from the period clearly show the continuation of international exchange. What it does reveal is that Romans were no longer in direct contact with the Far East. Luxury goods were now travelling farther than ideas about them on the trade routes between India and the Mediterranean. This distortion of ideas is supported by the theory postulated by Chase-Dunn and Hall and applied to this period by Pollard that ideas experience a fall-off effect as they travel.²⁷¹ Therefore Eastern goods were able to travel farther than the indigenous ideas about them. During the Principate this effect was mitigated by the fact that Roman merchants travelled directly to India resulting in a truer picture of the subcontinent. In Late Antiquity, this is no longer the case as more middlemen were incorporated into the exchange of Eastern goods. Indian commodities were involved in more transactions and thus the ideas about them became more garbled, an effect that can be compared to the children's game of 'telephone'.²⁷²

The warped version of India in Late Antiquity began to be formulated in the 3rd century precisely when trade connections with the Far East were dwindling. Other than the *Christian Topography* of Cosmas which itself has several inaccuracies, the authors of Late Antiquity turn India into a fantastic and magical land based on the prevailing concept of India growing in the minds of the Roman people.²⁷³ These ideas of a magical India can be seen in the 3rd-century *Life of Apollonius of Tyana* by Philostratus where the protagonist travels to Ethiopia and India to discover knowledge about these distant trade partners. In this work, the fanciful nature of India which is full of magical creatures as well as magic practitioners is created.²⁷⁴ The association between India and magic continued to develop throughout Antiquity. Several magical spells and amulets require an extensive list of Eastern

270 Dio Cass. 68.28.1; for Augustus see Hor. *Carm.* 1.12.54-65, 1.29, 1.25.40.

271 C. Chase-Dunn and T.D. Hall, *Rise and Demise: Comparing World Systems* (Colorado, 1997) 52-5.

272 E.A. Pollard, 'Indian Spices and Roman "Magic" in Imperial and Late Antique Indomediterranea', *JWH* 24 (2013) 1-4 at 3.

273 For an example of Cosmas' inaccuracies, see e.g. Cosm. Ind. 11.335.

274 Philostr. *VA.* 6.12.2.

spices which came from India and beyond.²⁷⁵ For instance, *PGM* 4.1275-1322 describes a charm which protects against everything and employs the use of frankincense, myrrh, cassia leaf, white pepper, bedellion, asphoedel seed, amomon, saffron, and terebinth storax. Most of these spices came to the Roman world from India via the Red Sea. Their use in a magical amulet is significant as it indicates that all of these products were present in the Roman world and that they were financially attainable. Most of these ingredients also had uses beyond their inclusion into this magical spell.

The Late Antique literary tradition, which portrays India in a highly inaccurate and romanticized way, is central to the understanding of how Romans viewed their commerce with the Far East. Prior to the 3rd century, India was viewed as a tangible element of the world which provided valuable luxury goods to the Roman upper class. The route to India was mapped and understood. In Late Antiquity, India takes on a sense of being the ‘Other’. It becomes a liminal place which borders on reality. As a result it is enveloped in the mysticism of the time, and Indian goods strengthened and developed the Roman ideas of magic which were flourishing in the eastern Mediterranean in the 4th century. The extensive use of commodities from the Red Sea corridor which were used in magic spells is indicative of the wider accessibility of these products in Late Antiquity. On the other hand, their use in mysticism over their more common medicinal or culinary applications demonstrates the dwindling direct connection between Rome and India. Indian products continued to flow into the Empire, particularly in the richer eastern Mediterranean, despite the fall-off of information caused by the growing complexity of the global trade system.²⁷⁶

The Mediterranean Influence on the Indian Ocean

The evidence outside of the Roman Empire is mainly archaeological as there are hardly any literary texts from this region which describe Indo-Roman exchange. Therefore, the viewpoints of people on the outside of Rome looking in have not been extensively preserved other than in a few Indian poems. Nevertheless, the implications of long distance trade on these regions can be gauged by the geographic diversity and the aggregate of all of the relevant archaeological finds. Furthermore, the comprehensive infrastructure which was built to facilitate trade in these regions including ports and roads highlights the wealth and power garnered from trade with the Roman world. The regions beyond

275 J.-Cl. Goyon, ‘Remarks on De Romanis’ Book: The Egyptologist’s Point of View’, in M.F. Boussac and J.F. Salles (eds.), *A Gateway from the Eastern Mediterranean to India: The Red Sea in Antiquity* (New Dehli, 2005) 7-11 at 8-11.

276 G. Parker, ‘Ex Oriente Luxuria: Indian Commodities and Roman Experience’, *JESHO* 45 (2002) 40-95 at 80-8; Pollard, ‘Indian Spices’, 20-3.

direct Roman influence but still part of the then known world are especially important because they became heavily involved and dependent on Red Sea commerce in the Late Antique period.²⁷⁷

Aksum was Rome's closest trading partner both geographically and politically. While the *Periplus* does mention Aksum and its main port of Adulis it is not until after the 3rd century that Adulis and by extension Aksum became a truly central location in international Red Sea exchange.²⁷⁸ The account of Cosmas demonstrates that anyone travelling to India usually had to stop at Adulis in order to find a ship which was plying the waters of the India Ocean.²⁷⁹ Additionally, the archaeology from the port of Adulis indicates extensive contact with both Aila and India. The Aila-type amphorae, which was discussed more thoroughly in chapter 2, has been found repeatedly in Late Antique contexts at Adulis and Bieta Giyorgis. Indo Pacific beads found on the same sites link Aksum with India. Interestingly, limited botanical evidence has been found at Aksumite sites which is sharply contrasted with the finds from Berenike.²⁸⁰ This discrepancy could be due to the limited modern archaeological work which has been undertaken at Adulis. The fate of the Aksumite Kingdom was largely dependent on Red Sea trade. Adulis became a major port in the 4th century when Roman demand for Eastern goods was revitalized. From this time until the mid-6th century wealth flowed into Adulis and Aksum prospered but as the trade networks faltered Aksum's power waned as it was closely tied to the prosperity of both Rome and India.²⁸¹

Across the Red Sea from Aksum, the rival Kingdom of Himyar's fortunes were also closely linked with the wealth of the Red Sea trade. Traditionally, southern Arabia was linked to the eastern Mediterranean by caravan routes which stretched north to important emporiums such as the Nabataean city of Petra. The caravan monopoly on south Arabian goods was broken in the 1st century as an ever increasing number of Roman merchant ships began trading directly with the south Arabian ports. In the 4th century maritime trade continued to be dominant but as tensions rose in the 5th and escalated into the 6th century there was a revival in the caravan trade which linked Himyar with the Sassanid-held Euphrates valley.²⁸² This returned wealth to central Arabia which influenced the events that unintentionally led to the rise of Islam in the 7th century. Red Sea trade was detrimental to much of central and northern Arabia but was beneficial to the south which became directly connected with the

277 Tomber, *Indo-Roman Trade*, 88-92.

278 *Peripl. M. Rubr.* 4.

279 Cosm. Ind. 2.54

280 Tomber, *Indo-Roman Trade*, 92-3.

281 Peacock and Blue, *Port of Adulis*, 2-3.

282 R.G. Hoyland, *Arabia and the Arabs: From the Bronze Age to the Coming of Islam* (London, 2001) 42-5; Tomber, *Indo-Roman Trade*, 100; Robin, 'Arabia and Ethiopia', 259-6.

major consumers of its products.

In order to trace the impact of Red Sea trade on Himyar an examination of the key southern Arabian port of Qani is necessary. Qani was an important port in the incense trade and was involved in both the overland and the maritime trade routes. Its origins stretch back to roughly the early 1st century. It reached its peak between the 2nd and 5th centuries and this era has been dubbed the 'Middle Period' by excavators. During this period, Qani became the main port of the Hadramawt and the entire Himyarite Kingdom more generally. Roman ceramics, mainly amphorae are present in stratigraphy dated prior to the 2nd century in layers associated with the 'Lower Period'. These vessels are largely of western Mediterranean origin and come from places such as Spain, Campania, and North Africa. This indicates a strong connection between the Roman ports and southern Arabia at this time. It is worth remembering that during this early period Himyar had not yet become the dominant force in southern Arabia.²⁸³

During the 'Middle Period', the presence of Roman goods falls off and ceramics from Mesopotamia and India predominate. This ties in well with the uptake of trade which the archaeology attests to at Adulis. It appears that Roman merchants began trading more and more with the Aksumites than with the people of southern Arabia in Late Antiquity. Furthermore, Sedov argues that the 'Lower Period' saw a significant percentage of Roman ceramics because Qani was linked directly to the Egyptian ports but was not yet a truly international port, meaning that its only significant trading partners at this time were the Romans. The growth of the port in the 'Middle Period' viewed in conjunction with the diverse pottery finds points to Qani becoming an intercontinental and independent port after the 3rd century.²⁸⁴

The incense reached Roman markets by the 4th century via the Aksumites who traded more extensively with their Himyarite counterparts.²⁸⁵ Indeed towards the end of the 'Middle Period', Aksumite ceramics begin to appear in the archaeological record. Roman merchants did not cease trade with Qani altogether as there was the continued presence of the Aila-type amphorae at the port. Additionally, there are Roman amphorae from further abroad but it is worth noting that they exclusively came from the eastern Mediterranean as the western half of the Empire ceased to be directly involved in Indo-Roman trade. The 'Upper Period' at Qani, which encompasses the 6th

283 P. Ballet, 'De la Méditerranée à l'océan Indien. L'Égypte et le commerce de longue distance à l'époque romaine: les données céramiques', *Topoi* 6 (1996) 809-40 at 823-8; A.V. Sedov, 'The Port of Qana' and the Incense Trade', in D. Peacock and D.F. Williams (eds.), *Food for the Gods: New Light on the Ancient Incense Trade* (Oxford, 2007) 71-111 at 76-90; Tomber, *Indo-Roman Trade*, 104.

284 Sedov, 'Port of Qana', 104-5.

285 Rubin, 'Byzantium and Southern Arabia', 400-2; *Martyrdom of Arethas* 29.

century, marks a drastic decline for the port. New buildings are scarce and the pottery assemblages indicate that connections with India became tenuous. This decline on the basis of the archaeological remains ties in nicely with the historical narrative of the region. The history of Qani as told by the archaeology indicates that southern Arabia in conjunction with Aksum prospered on the vitality of Red Sea commerce. Furthermore, the sharp decline in the archeological affluence of both Aksum and Himyar in the mid-6th century demonstrates their reliance on the commercial link between India and the Mediterranean to support their respective societies.²⁸⁶

The effect that the Red Sea trade had on India is a sizable subject. India is a large, diverse and thus complex region which was necessarily linked to the Mediterranean world to different degrees depending on the given location. Therefore, any conclusion about India as a whole is a generalization. Nevertheless the two factors which united India during the Roman period were the influential Buddhist religion and the ancient trade networks which connected all of the subcontinent's regions. Northern India was most closely associated with Greek culture as well as with the neighbouring Sassanid Empire. Many of the goods which passed through this area did so by means of overland routes. Its location made it a central hub in the silk road between China and the Mediterranean. It also had maritime connections mainly at the ports of Barygaza and Barbarikon which are both mentioned by the *Periplus*.²⁸⁷ Both of these ports feature heavily in Indo-Roman trade especially prior to the 3rd century.²⁸⁸ Central India is characterized by the Deccan plateau which was a highly developed area in terms of trade infrastructure. There were several ports as well as an extensive road system linking northern and southern India. This was also the area where most of the Indian spices, especially black pepper, were produced. Both central and northern India gradually lost direct contact with the West as Late Antiquity progressed.²⁸⁹

Southern India, especially Sri Lanka, was the most important destination for Western merchants in Late Antiquity (for the location of Sri Lanka and other key sites in India discussed in what follows, see Fig. 2). This is supported by the archaeology of the island as well as Cosmas' account which places emphasis on Sri Lanka alone. Sri Lanka, or Taprobane, as it was known to the Greeks and Romans, is advantageously located in the transitional area between the Indian Ocean and the Bay of Bengal. It was also closely associated with the South China Sea and the spice islands of Indonesia. Furthermore, by the 4th century Taprobane had extensive links with the rest of the Indian mainland so that goods from

286 Tomber, *Indo-Roman Trade*, 105; Sedov, 'Port of Qana', 105.

287 For Barygaza see *Peripl.M.Rubr.* 43-6; for Barbarikon *Peripl.M.Rubr.* 39.

288 Tomber, *Indo-Roman Trade*, 124-8.

289 Tomber, *Indo-Roman Trade*, 130-44.

the continent made their way to the island.²⁹⁰ This allowed Taprobane the ability to provide all of the goods which the Westerners required at a single location. Sri Lanka's importance in the Indo-Roman trade of Late Antiquity is highlighted by the over 200,000 Late Antique or imitation Roman bronze coins which have so far been discovered.²⁹¹ Additionally, the main ports of ancient Taprobane, which have been excavated to varying degrees, have revealed ceramics and coins from all of the major ports to the west. These finds include Aksumite coins, Sassanid 'torpedo' amphorae, so named for their distinctive shape, and Aila-type amphorae. These finds indicate that while mainland India may have experienced hardships in the 4th and 5th centuries Red Sea trade was kept alive by the wide availability of goods on the island of Sri Lanka.²⁹²

In analyzing the impact that the Roman world had on India it must be noted that the Romans and their desire for exotic merchandise never created any new trade routes in India. By the time that the Roman Empire was regularly receiving goods from the Far East in the early 1st century the trade routes within India were already well established. Roman trade simply utilized the pre-existing routes. Nevertheless, the great demand for Indian goods must have stimulated these indigenous trade routes and brought wealth to India. It is unclear what effect this had on the overall urbanization of India and there is no direct correlation between the increase in Western trade and the development of Indian cities.²⁹³ According to the Indian poetic tradition it is clear that commerce in India was undertaken in a similar way to the conventions of the Roman world. The Indian merchants acted privately and reaped the losses or the rewards of risky maritime trading ventures. The state only intervened, to a differing degree depending on the specific region, by collecting taxes. Governments promoted production and participated in price setting.²⁹⁴ Other than this, as in the Roman world, trade was left to the discretion of the merchant.²⁹⁵

Perhaps the most significant pieces of evidence which demonstrate the influence of Rome on India are the Roman-inspired artifacts from across the subcontinent. In fact, the Roman ceramics and coins which have been found in India pale in comparison to the great number of artifacts which were clearly inspired by Roman craftsmanship. This phenomenon holds true across India except in Sri Lanka where foreign goods are most significant. These reproductions include Roman-inspired terracotta

290 Cosm. Ind. 11.13-6.

291 Bopearachchi, 'Seafaring in the Indian Ocean', 70.

292 Tomber, *Indo-Roman Trade*, 144-7.

293 Sidebotham and Wendrich, *Berenike 1999/2000*, 293-4.

294 S.H. Jahan, 'The Role of the State in Maritime Trade of Early Historic Bengal', *Man and Environment* 30 (2005) 74-82 at 81.

295 Tomber, *Indo-Roman Trade*, 147-8.

figurines found in northern India, intaglios in Arikamedu, and various finds in the Deccan Plateau.²⁹⁶ This Roman influence on India may stem from the presence of foreign Roman merchants in India, who brought their customs and preferences to India. In places such as Muziris and Arikamedu, where they made up a significant portion of the population, they were numerous enough to spread their culture to the local indigenous population. The Indians definitely developed a taste for Mediterranean wine which was likely precipitated by the demand for wine of the Romans living abroad. Indeed, by the 7th century vineyards are attested in the Kashmir region. There is also evidence for an Indian desire for garum, which is not unlike the fish sauce used in many Asian countries today, and for olive oil.²⁹⁷ It is clear that the culinary products of both Rome and India were exchanged freely and that both cultures developed a taste for the other's cuisine.²⁹⁸

Pepper: A Case Study

Black pepper, which is the most widely used and traded spice in the world today, was also the most common spice in the Roman world. Pepper is a fruit produced by the *piper nigrum* plant which is native to the west coast of India. The fruit is usually dried and sometimes skinned before transportation. In the ancient world, pepper was used for its medicinal properties or, like today, the kernels were ground down into a powder and used to season food. The plant was initially found in the tropical evergreen forests of the western Ghat mountain range which runs parallel to the western Malabar coast of India. Pepper is still cultivated in this region today although it has been surpassed in volume of production by countries such as Thailand, Vietnam, Indonesia and even Brazil. As a result of the proximity of the western Ghat mountains to the the coast of India, pepper was easily traded with regions throughout the Indian subcontinent and the Indian Ocean. The trade in pepper, therefore, developed early on in Antiquity; pepper corns are attested in Greece as early as the 6th century BCE and the two main types of pepper, long pepper and black pepper, are described in Theophrastus' book on botany entitled *Historia plantarum* written in the 4th century BCE.²⁹⁹

Pepper was a luxury commodity which was only used by the elite and the wealthy because of its prohibitive cost. The price of pepper, however, declined drastically as the Romans took control of

296 Tomber, *Indo-Roman Trade*, 128-33.

297 I. Curtis, *Ancient Food Technology* (Leiden, 2001) 409.

298 For the role of commerce in India during this period see J. Auboyer, *Daily Life in Ancient India: From 200 BC to 700 AD* (London, 2002) 69-98; Tomber, *Indo-Roman Trade*, 148-51.

299 Theophr. *HP* 9.20.1-3; see P.N. Ravindran, *Black Pepper: Piper Nigrum* (Amsterdam, 2005) 1-2.

Egypt and the Red Sea under Augustus. The decline in the price of pepper in the 1st century CE was caused by a greater supply of pepper which reached the Mediterranean as a result of the rapid growth of Red Sea trade. For the rest of the Roman occupation of Egypt, the price of pepper remained low compared with the price of other spices. Pepper quickly became a staple seasoning of Roman food on par with *garum*. As the Roman Empire spread its influence over an ever larger area, pepper was quick to follow as Roman soldiers desired typical Roman dishes and locals were keen to adapt to the dominant ways of the Empire. The Western world's hunger for pepper began as the Roman Republic became an Empire and continued through to today spurring many great missions of exploration and trade in medieval and renaissance Europe along the way.³⁰⁰

Pepper continued to be an important and widely available commodity in Late Antiquity. This prevalence of pepper throughout the Late Antique world makes it possible to trace how goods from the Red Sea continued to flow into the Mediterranean in this period. The presence of pepper throughout the Empire and beyond demonstrates the vitality of the Red Sea trade as well as the efficiency of Roman trade networks within the Mediterranean. It is difficult to follow all of the luxury goods as they entered the Roman world, making it challenging to determine how these commodities were used and by whom. Furthermore, many commodities have several sources of provenience. For example, the ivory which was used by the Romans came mainly from African elephants. The examples of Indian ivory are less common and it is nearly impossible to establish the dispersion of Indian ivory in the Roman world because of the prevalence of its African counterpart. Pepper, on the other hand, only came from a single location in India and therefore all examples of pepper in the Roman Empire were acquired from India via the Red Sea. The attainable cost of pepper argues against the trade of pepper along the Persian silk road which would have been too costly. Wherever pepper can be found within the Roman Empire, that region necessarily must have been connected to India via the Red Sea and was thus also able to acquire the less common luxury goods from the Indian Ocean which are harder to trace. This case study will outline the evidence for pepper in Late Antiquity and will highlight the impact of Red Sea trade on the Romans through the confirmed existence of pepper.³⁰¹

In order to identify the presence of pepper in Late Antiquity, it will be necessary to examine several types of evidence. Firstly, an outline of how pepper was produced and transported within India will shed light on how pepper shaped the Indian world and not just the Roman Empire. Secondly, by investigating the archaeobotanical research which has been done at both Berenike and Myos Hormos

300 Warmington, *Commerce*, 181-4; Casson, *Periplus Maris Erythraei*, 220.

301 Warmington, *Commerce*, 182-3.

the types of pepper being imported can be revealed and some idea as to the volume of pepper coming into the Empire can be deduced. Thirdly, a cursory survey of pepper in Late Antiquity will analyze the surviving archaeological evidence and will highlight the geographic dispersion of pepper in this period. Lastly, a brief examination of the ancient literary sources with a particular focus on Late Antiquity will offer insight into how the Romans viewed pepper consumption and will provide further proof for the extensive use of pepper. After considering all of the aforementioned evidence a clearer picture of how Red Sea trade affected the Roman world will emerge based on how pepper flowed through the Empire's trade routes.

Peppercorns have been found in great quantities at the archaeological site of Myos Hormos. The excavations focused on the early Roman origins of the site as a major trading destination and on the later refurbishment of the port in the medieval period under Islamic rule. In both time periods, pepper has been found *en masse*. During the Roman occupation of Myos Hormos from the 1st to the 3rd centuries archaeobotanical survey has revealed 71 peppercorns, which is by far the most prolific organic spice find on the entire site. There are no peppercorns from the Late Antique period, a finding which is consistent with the history of the demise of Myos Hormos during the 3rd century as detailed in the previous chapter.³⁰² Of the nine trenches which were examined for their archaeobotanical remains five contained pepper.

The wide distribution of peppercorns at the site indicates that the spice was both imported into the early Roman Empire at Myos Hormos and that it was consumed locally by the population. This is further proven by a letter on an *ostrakon* which appears to indicate that the pepper which was consumed at Myos Hormos had to be imported from the Nile. While logistically nonsensical, it makes sense from a governmental perspective as the goods had to be taxed before they could be sold. The letter states,

Maximus to his brother X, greetings. Having recognized that ... carrying a token from Sabinus ... of wine, cabbage three and a measure of peas and a measure of beans and I mentioned x about the vinegar and if you need it. Farewell.
About the small amount of pepper, do not forget it.³⁰³

The letter appears to be a shopping list but it places an emphasis on pepper. The *ostrakon* was found at Myos Hormos and is dated to the late 1st or early 2nd century. The Romans were also aware of a

302 M. van der Veen, A. Cox, and J. Morales, 'Spices – Culinary and Medicinal Commodities', in M. van der Veen (ed.), *Consumption, Trade, and Innovation: Exploring Botanical Remains from the Roman and Islamic Ports at Quseir al-Qadim, Egypt* (Frankfurt, 2011) 39-73 at 40-6, 62.

303 R.S. Bagnall, 'Papyri and Ostraka from Quseir al-Qadim', *BASP* 23 (1986) 1-60 at 29.

different form of pepper called long pepper which derives from the *piper longum* plant native to northern India. There is no evidence for this spice at Myos Hormos or any other port in the Red Sea but it was likely traded to a lesser degree via the Red Sea in conjunction with the more common black pepper.³⁰⁴

If the peppercorn finds at Myos Hormos are intriguing they are minimal compared to what has been found at Berenike. Over the course of seven seasons of excavations at Berenike, 3617 peppercorns have been unearthed. These peppercorns were identified over 180 soil samples. To put the amount of pepper at Berenike into context, more than twice as many peppercorns were identified as lentils, which was a staple food at Berenike. Furthermore, only a small fraction of the site was sampled and by extrapolating the 180 samples over the rest of the ancient town there are likely to be tens of thousands of peppercorns on the site. In addition to the individual peppercorns, a *dolium* was found at Berenike which was a little less than half full and contained 7.5 kilograms of pepper. The vessel dates to the early 1st century and such a volume of pepper was worth an equivalent of one person's two-year supply of wheat. This *dolium*, according to Tomber, was produced in India and is the original transport vessel of this large quantity of pepper.³⁰⁵

Almost all of the pepper at Berenike was found in a context closely associated with either a trade structure such as a warehouse or else in relation to a religious building. The *dolium* was found in the courtyard of a temple of Serapis and was probably left as an offering which prohibited its use in conventional culinary or medical applications. There is extensive charring of many of the peppercorns found at Berenike, especially those recorded close to religious shrines. The shrines of the imperial cult and the Palmyrene god Yarhibol as well as the temple of Serapis are closely associated with burnt pepper. Pepper appears to have been burnt as a religious offering in a tradition which was unique to Berenike, as there is no evidence that pepper was used in religious practices in India or elsewhere within the Roman Empire. The extensive use of pepper in a religious context at Berenike further supports the theory that a large supply of pepper passed through the port regularly. The peppercorn finds have a wide range of dates stretching from the early 1st century until the mid to late 5th century with a lacuna in the 3rd century. Moreover, many of the charred peppercorns, although associated with traditional religion, continued to be offered well into Late Antiquity. This matches up well with the known history of Berenike during Roman occupation and the pepper finds at Berenike form an accurate

304 Cappers, *Roman Foodprints*, 116-7.

305 Cappers, *Roman Foodprints*, 114-5.

reflection of the relative health of the Roman Empire through the centuries.³⁰⁶

Unfortunately, no archaeobotanical work has been undertaken at Aila or Clysma which makes it impossible to determine whether these northern ports played a greater role in the spice trade as they developed in Late Antiquity. Based on the information from Berenike and Myos Hormos, it appears that Berenike was always the major destination for pepper coming from India. Pepper did go to Myos Hormos but on nowhere near the same scale as at Berenike. Perhaps all pepper was imported to Berenike and was then transported to the Nile. This would explain the *ostrakon* which indicates that pepper came to Myos Hormos from the Nile. In addition, the high concentration of pepper found at Berenike, especially in later contexts, provides proof for the continuation and intensification of Red Sea trade after the 3rd century when Myos Hormos fell out of use. The discovery of these large deposits of pepper at Berenike provide the archaeological validation for the literary sources which extol the huge volume of pepper which flowed into the Roman Empire and pinpoints the specific route which pepper took on its way into the Roman world.³⁰⁷

Apart from the peppercorns which have been found at Myos Hormos and Berenike, which represent by far the majority of the ancient pepper finds, pepper has been found at two other locations in Egypt. Two peppercorns have been found at Mons Claudianus, the important quarry in the Eastern Desert located 100 km north of Myos Hormos. As such the quarry does not lie in between Berenike and the Nile valley and pepper must have been brought here directly from the Nile if all pepper travelled through Berenike. The other site is Qasr Ibrim which yielded one peppercorn. This seems insignificant but taken in conjunction with a Coptic letter, dated to the second half of the 5th century, it is clear that pepper traveled to the site. The letter reads,

I inform you, my brother-lord, that (as for) the pepper which you sent to us to Philae and [the] other things which you sent through Apa Hapi to Asyut, my brother Papnute took them.³⁰⁸

Judging from this passage it is a bit odd that the pepper is coming from Nubia to Philae as pepper is expected to come from Berenike via Coptos to Philae. Perhaps pepper from Berenike went directly to the region south of Philae by means of a desert road which has not yet been discovered. Whatever the case it is clear that there was a trade connection between Philae and the peoples of the Nubian Nile Valley.³⁰⁹ Nevertheless, it is hard to determine exactly how pepper came to Qasr Ibrim from this single

306 Cappers, *Roman Foodprints*, 114.

307 Cappers, *Roman Foodprints*, 114-7.

308 *SB Kopt.* IV 1774

309 Dijkstra, “I, Silko Came to Talmis and Taphis”, 323-4.

letter.³¹⁰

Outside of Egypt there is limited archaeobotanical evidence for peppercorns. Additionally, there have been no peppercorn finds from this period in India where the crop was produced. This is unsurprising as the humid climate limits the preservation of organic materials and there have been few excavations which have closely examined the archaeobotanical evidence. The arid conditions of Egypt's Eastern Desert are perfect for the preservation of ancient organic material. Likewise, the rest of the peppercorn finds in the Roman Empire were preserved in waterlogged conditions such as bogs and ditches. The earliest evidence for pepper outside of Egypt comes from a military camp in Oberaden, Germany. Eight kernels were found in cesspits. The camp only existed from 11-8/7 BCE which could mark an early connection between the Red Sea and northern Europe if indeed these specimens came to Germany via Berenike. If this is the case then Roman Red Sea trade was established quickly after the annexation of Egypt in 30 BCE.³¹¹

The most significant collection of peppercorns in Germany comes from Straubing which includes 52 specimens recovered from the ancient harbour.³¹² Hanau represents the last instance of ancient pepper in Germany with 12 examples found.³¹³ All of the peppercorns in Germany were found in a roughly 1st-century context and are located on the traditional *limes* of the Roman Empire. The appearance of pepper in these frontier towns is tied to the presence of the Roman legions which garrisoned the area. It is surprising that no peppercorns were retrieved from the excavations at Neuss or Xanten where organic evidence was carefully examined. There is one specimen of a peppercorn from France and it was found in an identical setting to the ones in Germany.³¹⁴ Similarly, there was one peppercorn found in Britain at the Roman settlement of Bath. This peppercorn was found in association with the headquarters of a high Roman military official and is dated to the early 2nd century. These few examples do little in the way of expanding the understanding of pepper distribution in the Empire. It is also troubling that no Late Antique peppercorns have been discovered. This discrepancy can partially

310 Cappers, *Roman Foodprints*, 117-8.

311 D. Kučan, 'Der erste römische Pfefferfund – nachgewiesen im Legionslager Oberaden', *Ausgrabungen und Funde in Westfalen-Lippe* 2 (Berkamen, 1984) 51-56 at 52-5; Cappers, *Roman Foodprints*, 119.

312 H. Küster, *Postglaziale Vegetationsgeschichte Südbayerns: Geobotanische Studien zur Prähistorischen Landschaftskunde* (Berlin, 1995) 137.

313 A. Kreuz, 'Landwirtschaft und ihre ökologischen Grundlagen in den Jahrhunderten um Christi Geburt: zum Stand der naturwissenschaftlichen Untersuchungen in Hessen', *Berichte der Kommission für Archäologische Landesforschung in Hessen* 3 (Schade-Lindig, 1995) 59-91 at 70.

314 S. Jacomet and J. Schibler, 'Les contributions de l'archéobotanique et de l'archéozoologie à la connaissance de l'agriculture et de l'alimentation du site romain de Biesheim-Kunheim' in S. Plouin, M. Reddé and C. Boutantin (eds.), *La frontière romaine sur le Rhin supérieur. À propos des fouilles récentes de Biesheim-Kunheim* (Biesheim, 2001) 60-8 at 65-6; Cappers, *Roman Foodprints*, 119.

be accounted for by the poor preservation conditions of most of Europe and the limited number of archaeobotanical studies published so far. Furthermore, if pepper was transported to northern Europe in powder form it would be impossible to trace. Luckily, there is other archaeological as well as literary evidence which can be used to supplement the knowledge gap.³¹⁵

A specific warehouse in Rome designated for the storage of pepper and other Eastern spices was constructed during the reign of Vespasian and completed under Domitian in 92. The warehouse was aptly named the *horrea piperataria* and was located on the Sacred Way. At peak capacity the warehouse could hold 9000 tons of spice. The building was immense but was severely damaged in a fire in 192 and was later converted into the Basilica Nova of the Emperor Maxentius which was completed by Constantine. Of the huge volume of spice in the warehouse, pepper was by far the most common in the late 1st century which is indicative of the massive increase in the connectivity of the Mediterranean and the Indian Ocean via the Red Sea. Rome became the central hub of all of these Eastern goods on their eventual journey further north and west.³¹⁶

While this huge warehouse was not in use in Late Antiquity there is evidence that indicates that a substantial amount of pepper continued to flow into Rome into the 5th century. Zosimus reports that when the Vandals under Alaric besieged Rome in 408 they were only paid off by the Romans with 5000 pounds of gold, 30 000 pounds of silver, 4000 silk garments, 3000 scarlet dyed skins and 3000 pounds of pepper. These numbers are likely exaggerated but nonetheless the fact that both pepper and silk are mentioned in the ransom reveals that Eastern goods were still flowing into the western half of the Roman Empire at a ferocious pace. The quantities listed by Zosimus, if at least somewhat accurate, suggest that there was enough pepper stockpiled in Rome to supply the entire upper class of the Western Empire.³¹⁷

The remaining archaeological evidence for the wide distribution of pepper within the Roman Empire comes from silver hoards which contained pepper pots or *piperatoria*. There are only a handful of surviving examples of *piperatoria* but their wide geographical and chronological distribution argues for a widespread use among the upper classes. The first example of a pepper shaker comes from Pompeii, but the odd shape of the container does not seem practical for pepper sprinkling and makes this specimen circumspect. In excavations at Place Camille-Jouffray at Vienne, France, two containers similar to *piperatoria* were identified, although their forms are slightly peculiar. The containers are

315 N. Durrani 'Luxury Bath', *Current Archaeology* 195 (2004) 105.

316 Dio Cass. 72.24.1; McLaughlin, *Roman Empire*, 193-4.

317 Zos. 5.41.4.

made of silver and date to the late 3rd century.³¹⁸ The first pepper pot of clear distinction was discovered with the Chaourse Gaulish hoard found in Nicolaevo, Bulgaria. It also dates to the 3rd century and is made of silver. Similar to this pepper pot is one of uncertain provenience from Sidon. It was made in a similar style to the one from Bulgaria and likely dates to a similar period and may come from the same workshop.³¹⁹

The most remarkable collection of *piperatoria* comes from the extraordinary Hoxne hoard which was found in Suffolk, England. The hoard itself is considered the most valuable collection of ancient luxury items ever found in England. The hoard contains four remarkable pepper pots all made of silver which are all well preserved. The exact date of the *piperatoria* is unclear but they were buried around the time that Alaric was surrounding Rome in the early 5th century. The pepper pots are all highly decorative and similar in their function. The vessels were crafted out of one solid piece of gilded silver. The bottom of the vessels was left open. Into this opening, a flat piece of silver was inserted. This flat piece contained two holes which could either be completely blocked, partially blocked, or fully opened depending upon how a small rotating disc was oriented. Pepper was put into the vessel through this opening and was also sprinkled onto food through the same opening. None of the *piperatoria* are pepper mills and there was no grinding apparatus within the shakers. Pepper was ground in a mortar and pestle and then placed into the pepper pots.³²⁰

Two of the *piperatoria* are of zoomorphic design and based on their iconographic style they are from a set which would have originally contained four pepper pots. These vessels are small, short, and squat. They would have been placed along the dining table at various intervals so that guests could season their food to their own tastes without having to reach too far for pepper. The third *piperatoria* is a solid statue representing Hercules and Antaeus on a hollow pedestal. The pedestal contained the pepper and the statue is decorative. The statue itself could have been a stand-alone piece which was later added to a pedestal in order to create a pepper pot. This vessel was not in use when it was buried and this fact paired with the iconography argues for a production date in the mid-4th century rather than closer to the end of the century. The fourth and final *piperatoria* is the most impressive. It has been dubbed the empress pepper pot and it represents the bust of an upper class lady. The pepper pot is well crafted and the lady clearly displays a quintessential late Roman hairstyle and dress. This vessel is

318 F.A. Baratte, A. Le Bot-Helly, B. Helly, M.C. Depassiot, and V. Langlet, *Le trésor de la place Camille-Jouffray à Vienne* (Paris, 1990) 69-73.

319 A. Oliver, *Silver for the Gods: 800 Years of Greek and Roman Silver* (Toledo, 1977) 155; Baratte et al. *Trésor de la place*, 69-73; C. Johns, *The Hoxne Late Roman Treasure: Gold Jewellery and Silver Plate* (London, 2010) 77.

320 Johns, *Hoxne Late Roman Treasure*, 76, 91-2.

significantly larger than its counterparts and would have made an elaborate centre piece for a dining table. Alternatively, this *piperatoria* could have been carried around the table by a waiter who sprinkled pepper onto the guests' meal according to their preference. This is comparable to pepper use today at a fine dining restaurant where pepper is available on the table and is also sprinkled from a fresh mill by a server as per the diner's instructions.³²¹

The collective results of all of the *piperatoria* found in the Roman Empire indicates that they were a pervasive phenomenon in Late Antiquity (for a map of the distribution of both peppercorns and *piperatoria* in the Roman Empire, see Fig. 3). Most of the few examples which remain are from the 3rd century onwards. While there are only a handful of examples of *piperatoria*, their widespread geographical distribution provides evidence for pepper throughout the Empire in Late Antiquity. These silver pepper pots were only used by the upper class and there were likely few examples of pepper pots in Antiquity. Most of the population which used pepper in moderation could have added pepper to their food either in the kitchen or else by means of small bowls which were placed on the table. There is no way to distinguish these common bowls as specifically used for pepper and therefore they cannot be represented archaeologically. The large quantity of pepper which is attested at Berenike and Rome offers evidence that pepper was used by a large segment of the population and therefore argues for a vessel which was used to sprinkle pepper other than the *piperatoria* which cannot be conclusively identified today.³²²

The final pieces of evidence which shed light on pepper distribution in the Roman Empire come from the literary tradition. Pliny provides the first description of pepper in his *Natural History* when the spice started to become widely available in the Mediterranean. He describes with relative accuracy the pepper plant and its provenience, although he also makes several mistakes about some elements of the exact botany of pepper. Additionally, Pliny identifies the three major types of pepper in the Roman world: black, white and long pepper. He erroneously claims that they all come from the same plant when this is only true of white and black pepper. Most interestingly, Pliny mentions that black pepper costs four *denarii* a pound, which while no doubt expensive was by far the cheapest spice available in the Roman world. Pliny also says that the huge demand for it caused a significant drain on Rome's economy. Such a moralizing concern is not uncharacteristic for Pliny, especially since pepper was an Eastern luxury item. Nonetheless, judging from Pliny's account, the importation of pepper was

321 Johns, *Hoxne Late Roman Treasure*, 78-92.

322 Johns, *Hoxne Late Roman Treasure*, 91-2.

widespread by his time.³²³

In conjunction with the archeological finds of peppercorns along the northern *limes* of the Empire there are two fragmentary inscriptions which provide proof for the quantity of pepper in Roman military settlements. A Vindolanda tablet which documents military life along Hadrian's wall in the early 2nd century mentions that pepper was consumed by the soldiers regularly and that pepper reached this northern location with all of the other supplies. Pepper for one century of soldiers cost two *denarii* and would last for an unspecified period of time. This equates to roughly half a pound of pepper, if Pliny's prices are accurate, which was a significant amount for 80 men. This does not seem overly expensive compared with the price of other items included on tablet 184.³²⁴ Additionally, this indicates that pepper was being consumed by the soldiers and that it was not considered a luxury item for the elite alone.³²⁵ The other inscription comes from Germany at the modern day city of Trier. The inscription is on a piece of lead which was used to label a pepper transportation amphora. The text indicates that the amphora contained eight pounds (2620 grams) of *novellum piper* or fresh pepper. To put this in context that is roughly a third of all of the pepper found at Berenike to date. This amount of pepper was likely wholesale and would have been distributed throughout Germany. These two inscriptions demonstrate that pepper was fairly cheap and was widely available at the extremities of the Empire.³²⁶

Pepper in the Roman Empire was an everyday commodity for all of its citizens. It is described by trade manuals and treatises such as the *Periplus Maris Erythraei*, and the so called *Alexandrian Tariff* as an essential commodity.³²⁷ As such it is mentioned in the works of Martial and Petronius. The *Satyricon* mentions pepper often and it features widely in the seasoning of various dishes at Trimalchio's dinner party.³²⁸ The culinary importance of pepper is evidenced by the cookbook of Apicius. It should be mentioned that this collection of recipes was compiled over several centuries and therefore cannot have been written by one person. The earliest recipes date to the 1st century but the book did not attain its final iteration until Late Antiquity perhaps as late as the early 5th century. Despite the long time span to which the book belongs almost every recipe calls for the use of pepper in seasoning of dishes. It is used in sauces, on meat, and it is not limited to savoury dishes as it appears many times in sweet dessert-like meals. The ubiquitous use of pepper in Apicius' cookbook indicates

323 Plin. *Nat.* 12.14.26-8, 12.41.84.

324 *T.Vindol.* 184.

325 Van der Veen, et al., 'Spices', 44.

326 Cappers, *Roman Foodprints*, 114.

327 Miller, *Spice Trade*, 279.

328 Petr. 23, 31, 32, 36.

that it would be impossible to cook Roman food without pepper which in the Roman and Late Antique periods was a staple of the Roman diet.³²⁹

Much of the evidence for the use of pepper in the Roman Empire which has been presented thus far has focused on consumption by the upper classes. Other than the pepper finds in legionary camps, the spice seems to have been out of reach for most Romans. In fact, however, most citizens, especially those living in urban areas, would have consumed pepper frequently. The silver *piperatoria* were certainly not used by everyone and they represent the finest elements of what upper class dining entailed. Furthermore, it is often believed that the recipes found in Apicius were created for the enjoyment of the few Romans who could afford full time slaves who worked as cooks. This is not necessarily the case and while the earlier recipes which occasionally contain ingredients such as whole animals and expensive spices are only for the rich, most of the recipes were attainable. Well over half of the recipes, most of which do contain pepper, could be used by the ordinary Roman citizen with a stable income. Additionally, Romans could access these recipes by means of their local *taberna* which could easily have served many of the dishes from Apicius. The poorest of the poor would not have been able to follow the cookbook but those of the middle classes definitely could. The middle class, a term which always carries such burdensome connotations when speaking of the ancient world, in this case describes teachers, traders, importers, builders, and artists who made up the core of an urban population and who could afford the ingredients for the dishes in *Apicius*.³³⁰

In sum pepper was an ever-present spice in the Roman Empire. It was easily attainable in every corner of the Roman world and beyond. It was by far the cheapest and thus the most popular spice. The great volume as well as efficiency of Red Sea trade allowed the Romans to regularly consume a product which was cultivated half a world away. This same efficiency allowed other luxury items to traverse the Indian Ocean and Red Sea on a scale never before seen nor repeated until the modern era. The wide availability of pepper, which out of necessity had to come from India via the Red Sea, demonstrates that Indian goods routinely flowed into the Empire and were distributed freely throughout the Mediterranean world. While pepper was the predominant item of importation, the wide dispersion of pepper indicates that Eastern luxury items could travel to wherever there was a suitable market within the Roman sphere of influence. The connection between India and Rome was economically vital and as the evidence for pepper shows, remained strong well into Late Antiquity.

329 C. Grocock and S. Grainger, *Apicius: A Critical Edition with an Introduction and an English Translation of the Latin Recipe Text Apicius* (Devon, 2006) 13-22; Johns, *Hoxne Late Roman Treasure*, 76; Van der Veen et al., 'Spices', 45.

330 Grocock and Grainger, *Apicius*, 23-5; on the term 'middle class', see E. Mayer, *The Ancient Middle Classes: Urban Life and Aesthetics in the Roman Empire, 100 BCE-250 CE* (Cambridge, MA, 2012).

Conclusion

Gauging the impact of Red Sea trade during Late Antiquity will always prove to be difficult. There are many factors constantly in operation and only in rare cases can trade be proven to have directly caused any change to governmental, social, or cultural institutions. Nonetheless, the information which this chapter has outlined proves that, while any exact figure for trade volumes in the Red Sea is unattainable, the amount and diversity of goods involved in Indo-Roman trade was significant. Within the Roman Empire, India entered into the consciousness of the Roman people by means of Roman literature and Roman dinner tables. As the factual narratives of the early Empire gave way to the more fantastical texts of Late Antiquity, India took on a different meaning in the Roman world. India was now a place of the bizarre and fantastic as its products became ingrained into Roman culture, especially in the Eastern Empire.

The trade networks which straddled the Red Sea had a more quantifiable effect on regions outside of Roman control. In Ethiopia the wealth of long distance trade promoted the cosmopolitan nature of Aksum and its main port at Adulis. The Aksumites' fortunes were closely tied with that of the Romans. Across the Red Sea in southern Arabia, the Kingdom of Himyar had a more complex relationship with the Romans and their Indo-Roman trade. Himyar grew wealthy from its valuable aromatics as a result of Roman maritime commerce. The shift from caravan to ship transportation favoured the south of the peninsula at the expense of centre. This must have been a contributory factor in the dominance of Himyar over southern Arabia through much of Late Antiquity. Despite Himyar's reliance on the wealth which international trade brought as evidenced by the extensively varied pottery assemblages found at the key port of Qani, it was rarely politically close to the Romans.

The impact of the Romans and their desire for Eastern goods on India is the easiest to evaluate and loosely quantify. The demand for Indian spices, especially black pepper, stimulated Indian centres of production and the trade infrastructure which brought the products to the coast. Additionally, Roman products which reached India were widely coveted and inspired reproduction. Roman wine was particularly valuable and was consumed not only by Roman expatriates but by the local population as well. Roman finished products such as decorated ceramics and art in general inspired Indian craftsmen to emulate the original Roman products to such accuracy that they were initially believed to have been true Roman products upon their rediscovery in the 20th century.³³¹ Roman demand for Eastern products

331 E.g. P.C. Das Gupta, 'Graeco-Roman Finds from Bengal', *Indo-Asian Culture* 8 (1960) 386-92 at 386-92.

also prompted greater contact with China and Indonesia as the commodities from these lands allowed the Indians to take one of the lucrative middleman positions between the Far East and the Mediterranean. The vitality which the Romans brought to the trade networks within India, the Bay of Bengal, and the Indian Ocean is best represented by Sri Lanka. In Late Antiquity, the island funnelled all of the precious commodities of the East into one location prompting a maritime monopoly on trade with the West.

Finally, the trade and consumption of pepper in the ancient world provides the best illustration of the pervasiveness of Red Sea trade in both the Roman Empire, India, and all the regions in between. The fact that pepper was exclusively produced in India and brought to the West via the Red Sea in Antiquity allows for an accurate reconstruction of the extent and time frame of Red Sea exchange. The volume of trade, by means of the presence of pepper in the archaeological record and the written sources, can be hinted at. The huge amount of pepper found particularly at Berenike in conjunction with the textual evidence for the widespread use of the spice in the Roman world for culinary, medicinal, and magical purposes proves that the Red Sea was a viable, efficient, and profitable conduit of trade well into the Late Antique period. By looking beyond the limited number of direct influences which Red Sea trade had on any particular region, it is possible to glimpse the ability which goods travelling along the Red Sea had on shaping the lives of people living as far apart as Britain and Sri Lanka. The Red Sea in Antiquity linked the West with India in a way which would not be surpassed until the emergence of the respective trading empires of Portugal, the Netherlands, and Britain during the 15th and 16th centuries.

General Conclusion

The information which has been collected in this study offers an up-to-date synthesis of Red Sea trade from the 3rd to 6th centuries. It has incorporated recent archaeological findings, used the latest insights into the interpretation of the texts, and has drawn upon the current flourish of scholarly literature on the subject. The combination of the information provided by the sources has resulted in a detailed picture of the Red Sea trade in Late Antiquity and helped to broaden the scope of the impact of Indo-Roman commerce on the Roman world, the Indian Ocean, and the adjoining areas. The advancement of the ongoing research in the Red Sea region over the last quarter century has greatly increased our knowledge on Rome's connections with the Far East. Unfortunately much of this new information is scattered throughout multiple publications. Furthermore, previous attempts at synthesis did not represent the whole picture of Red Sea trade either temporally or geographically. The present study has thus attempted to remedy this situation by providing a summary of the crucial elements of the development of the Red Sea in Late Antiquity.

Chapter 1 introduced the Red Sea region and its history from the time of the pharaohs until the advent of Islam. It focused on the the Roman Empire and its relationships with neighbouring states and regions, especially the Sassanids, Himyarites, and Aksumites. These connections acted as the political backdrop to the development of Indo-Roman commerce in Late Antiquity. As the centuries passed, Red Sea exchange, which was under the indirect control of the Romans and their intermediaries, began to transform in order to remain relevant in the newly emerging Late Antique world. This chapter attempted to explain these changes in the context of the history of the eastern Mediterranean more generally. Furthermore, it differentiated between the transformations which happened at the local or even individual level and those which were instigated by imperial policies. The survey demonstrated that the Roman government was not uninterested in Red Sea commerce but that it only occasionally took any direct actions to promote the trade network specifically. The lack of policy making did not hamper commercial development in the Red Sea but rather allowed for the whole system to be more dynamic and more resilient to adverse conditions which periodically plagued various regions connected to the Red Sea trade network.

Chapter 2 brought together the archaeological findings from the major ports involved in Red Sea trade from the 1st to 6th centuries. The evidence from the ancient ports evinced the long continuation and periodic alterations which occurred in the ports and their surrounding hinterlands

perpetuating the viability of Indo-Roman commerce throughout the Roman dominance of the region. The shift from the southern Red Sea and the major port of Berenike to the more secure Sinai ports of Aila and Clysma is an indication that Eastern commodities were ever more lucrative and in demand in Late Antiquity. Moreover, the fact that multiple ports were in use in Late Antiquity demonstrates the greater ease of access which peoples under Roman influence had to products produced half a world away.

Chapter 3 in many ways built upon the evidence which was presented in the preceding two chapters. It also stretched the geographical parameters of this study and analyzed how Red Sea trade influenced areas outside of direct Roman control. The wealth which contact with the Roman world generated had a profound effect on Aksum, Himyar, and certain regions of India. Additionally, Eastern commodities in turn impacted the Roman world through the great proliferation of Eastern goods which were used in Roman households for everything from cooking to prayer. The brief study of the history of pepper in the Western world wrapped up the information presented in all three chapters with one concrete example. This single commodity was the backbone of Indo-Roman exchange and is thus representative of the entire Red Sea trade as a whole. The wide dispersion, frequent consumption, and simple availability of pepper is indicative of the success of the Red Sea in Late Antiquity as a conduit of trade.

Based on the most current information, the transitional period in the Red Sea region during the 3rd century when the Roman economy was severely weakened has thus been greatly nuanced. It is clear that the changes which were implemented in the 4th were already beginning in the 2nd century. While the volatility of the 3rd century was a vital stage in the development of Red Sea commerce the trade patterns of the region were already evolving into their Late Antique forms. These shifts did not occur as a result of governmental policies implemented by the Romans but were instead the result of the adaptability of the ports, ships, and merchants who participated in this international exchange. This versatility allowed the region to remain an integral network of exchange for over 600 years until the dynamism of the late 6th and early 7th centuries outpaced the adaptability of those involved in Red Sea trade.

This study has also attempted to portray the interconnectedness of the international markets of Late Antiquity. Traditionally, the Mediterranean economy has been viewed separately from that of the Red Sea, the Indian Ocean, and even the Bay of Bengal. Based on archeological finds in the Red Sea and the evidence for pepper in much of Europe it is clear that none of these economies can be viewed

independently and that they were intrinsically dependent on one another. It is no coincidence that troubles experienced by the Roman Empire in the 3rd century are mirrored in the history of the Indian subcontinent where an economic downturn was also present. This unity of the Mediterranean Sea and the Indian Ocean is again evidenced in the 6th century when the disintegration of Red Sea trade was precipitated by the instability in the Indian Gupta-Vakata Empire which arose simultaneously to other more localized negative factors. This in turn led to the decline of Himyar and Aksum and the diminishing of the overall wealth of the eastern Mediterranean. In many ways the international exchange which passed through the Red Sea foreshadows the fragility of the mutually dependent economies of the modern world. While the Late Antique market place was nowhere near as united as the modern economy, the impact of disintegrating empires should not be underestimated in the explanation of the collapse of international Red Sea exchange.

All in all several broad conclusions can be made about Red Sea trade in Late Antiquity which sum up the the current state of research on the the subject. Firstly, Red Sea trade was carried out by individuals. The state rarely became involved in the commercial links with its distant neighbours. This is as true in the Roman Empire as it is in India. This individuality made the trade networks of the Red Sea extremely complex but also extremely resilient to minor supply and demand fluctuations. Secondly, trade infrastructure centred on the ports which therefore acted as the focal point of discovery for most of the archaeological materials related to Red Sea exchange. The ports are the real physical proof that Red Sea trade existed and that it continued to flourish in the politically complex world of Late Antiquity. Lastly, Indo-Roman commerce was not just indispensable for the local Red Sea region but was also an essential component of the Mediterranean and Indian Ocean's respective but interrelated economies. It shaped the mindset of the Roman people towards the Far East, contributed to the development of Indian culture and society, especially in the south, and linked regions as far apart as Britain and Sri Lanka with an efficient and mutually sustainable trade network.

While the many studies of the last 25 years have brought a more nuanced understanding to the complexities of the Red Sea region, there is still much work to be done. There are several gaps in the archaeological and textual record which will be remedied in the future. Hopefully work on key archaeological sites will advance and the discovery of ancient ports of the Red Sea will continue. Specifically further research at Adulis which has thus far only been briefly surveyed will reveal how the port city developed, operated, and eventually collapsed. It would also be beneficial to discover how the Aksumites became integrated into the economy of Adulis and how they became involved in Red

Sea trade more generally. Further archaeological work at Aila will conceivably divulge crucial information on the shifting trade patterns of Late Antiquity whereby goods formerly brought to Berenike began to arrive at the Sinai ports instead. Unfortunately, Aila lies under the modern Jordanian city of Aqaba and the Israeli city of Elat which makes further archaeological work difficult. Nevertheless, it is hoped that subsequent archaeobotanical research in the hinterland of Aila will reveal the presence of pepper and help to conclusively prove that as Late Antiquity progressed the lucrative spice trade began shipping directly to the province of *Palestina*. Finally, an irrefutable identification of the ancient island of Iotabe will highlight the tax system of the Late Antique Red Sea and will hopefully lead to the rediscovery of other Red Sea ports.

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Figures



Fig. 1
Ports of the Late Antique Red Sea
(after http://commons.wikimedia.org/wiki/File:BlankMap-Middle_East.svg)

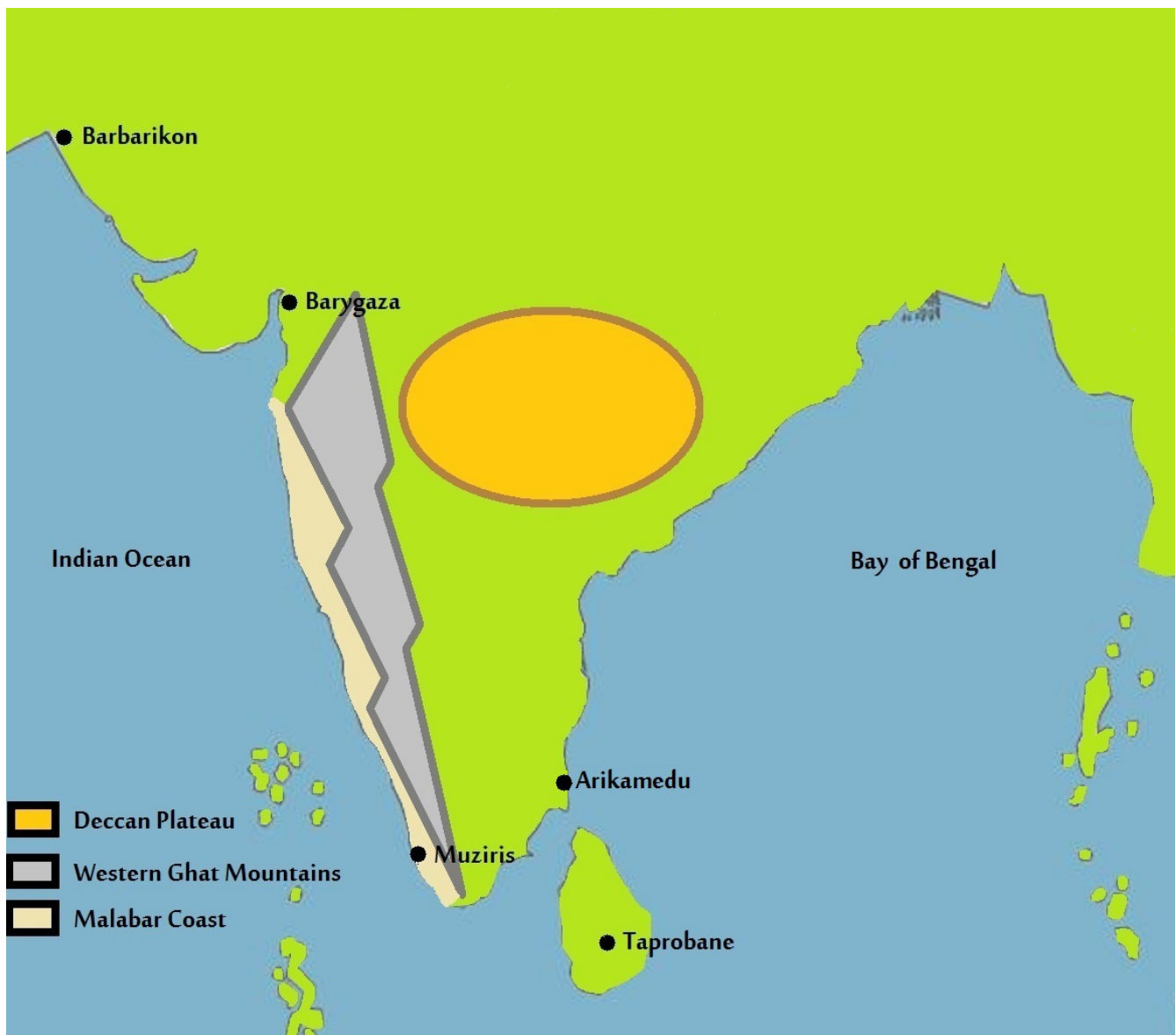


Fig 2:
Map of India which highlights the major regions of the subcontinent as well as identifies the most important ports involved in Indo-Roman trade.
(after <http://en.wikipedia.org/wiki/File:India-locator-map-blank.svg>)

Archaeological Evidence for the Presence of Pepper in the Roman Empire

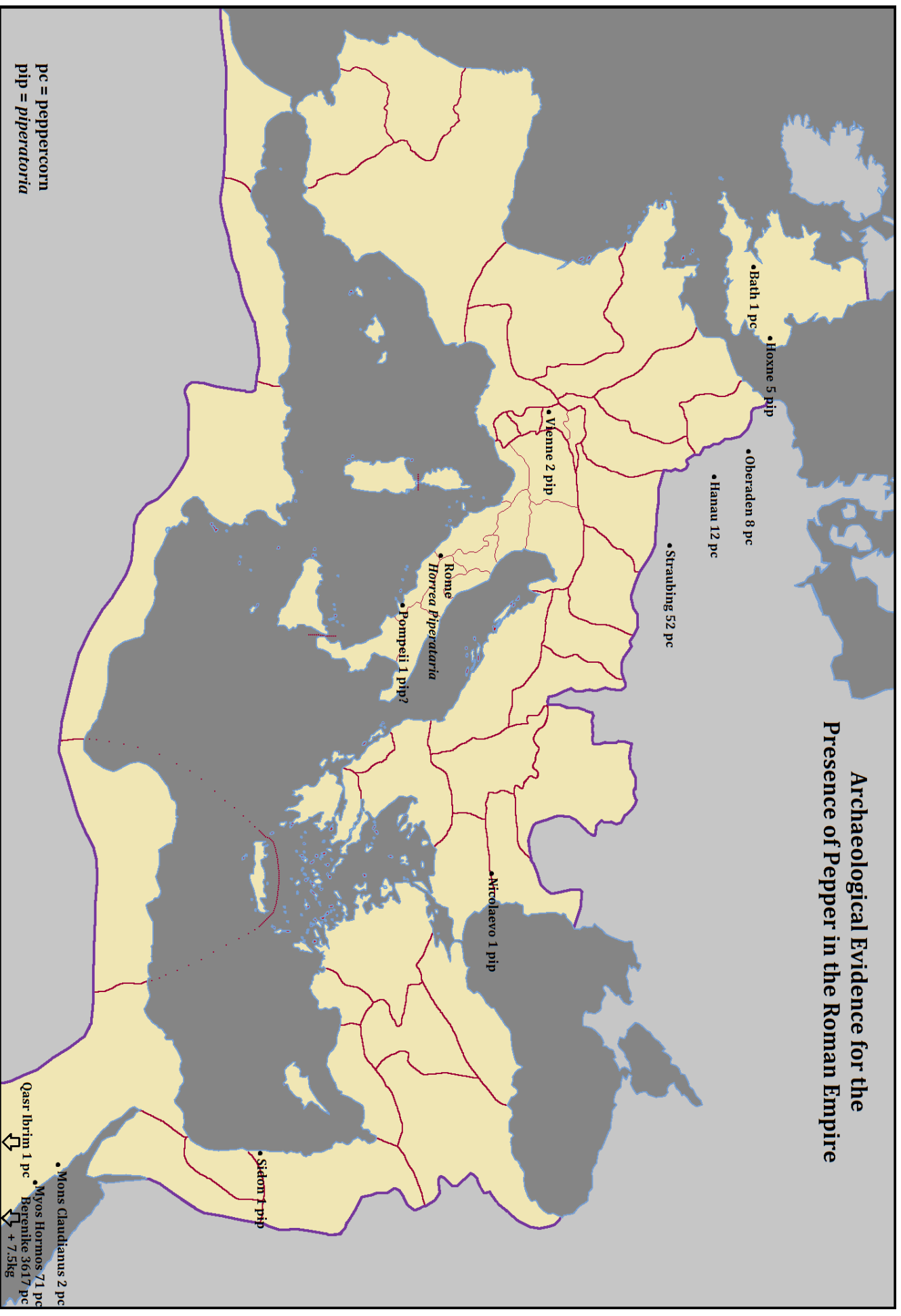


Fig 3:

Geographic distribution of the archaeological evidence for the presence of pepper in the Roman Empire
 (after <https://commons.wikimedia.org/wiki/File:Amphi-Rome.PNG>)