Cover illustration: Codice Magliabechiano XIII 16, ff. 88v–89r, Biblioteca Nazionale Centrale di Firenze. On concession of the Ministry of Culture/Biblioteca Nazionale Centrale di Firenze.

Library of Congress Cataloging-in-Publication Data

Tale of Two Worlds: Comparative Perspectives on Indo-Mediterranean Commerce (I–XVII c.) (Conference) (Columbia University : 2011)

Across the ocean : nine essays on Indo-Mediterranean trade / edited by Federico De Romanis and Marco Maiuro.

pages cm. — (Columbia studies in the classical tradition, ISSN 0166-1302 ; volume 41)

"This volume is a collection of papers delivered at the conference "A Tale of Two Worlds: Comparative Perspectives on Indo-Mediterranean Commerce (I–XVII c.)," held at the Center for the Ancient Mediterranean, Columbia University, March 4th–5th, 2011"—Acknowledgment.

Includes bibliographical references and index.

ISBN 978-90-04-28919-2 (hardback : alk. paper) — ISBN 978-90-04-28953-6 (e-book) 1. Mediterranean Region—Commerce—History—Congresses. 2. Mediterranean Region—History—476–1517—Congresses. I. De Romanis, Federico. II. Maiuro, Marco. III. Title.

HF3750.7.T35 2011
382.0937'01824—dc23

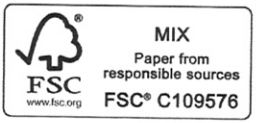
2014047444

This publication has been typeset in the multilingual "Brill" typeface. With over 5,100 characters covering Latin, IPA, Greek, and Cyrillic, this typeface is especially suitable for use in the humanities.
For more information, please see www.brill.com/brill-typeface.

ISSN 0166-1302
ISBN 978-90-04-28919-2 (hardback)
ISBN 978-90-04-28953-6 (e-book)

Copyright 2015 by The Trustees of Columbia University in the City of New York.
Koninklijke Brill NV incorporates the imprints Brill, Brill Hes & De Graaf, Brill Nijhoff, Brill Rodopi and Hotei Publishing.
All rights reserved. No part of this publication may be reproduced, translated, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission from the publisher.
Authorization to photocopy items for internal or personal use is granted by Koninklijke Brill NV provided that the appropriate fees are paid directly to The Copyright Clearance Center, 222 Rosewood Drive, Suite 910, Danvers, MA 01923, USA. Fees are subject to change.

This book is printed on acid-free paper.



Printed by Printforce, the Netherlands

Across the Ocean: Nine Essays on Indo-Mediterranean Trade

Edited by

Federico De Romanis and Marco Maiuro

BRILL

LEIDEN | BOSTON

© 2015 The Trustees of Columbia University in the City of New York

Contents

Acknowledgements VII
List of Table, Figures, and Maps VIII
Abbreviations IX

Introduction 1
Federico De Romanis and Marco Maiuro

PART 1
The Cradle of the Ancient India Trade: The Red Sea

1 **Red Sea Trade and the State** 13
Andrew Wilson

2 **Trajan's Canal: River Navigation from the Nile to the Red Sea?** 33
Jean-Jacques Aubert

3 **Pearls, Power, and Profit: Mercantile Networks and Economic Considerations of the Pearl Trade in the Roman Empire** 43
Katia Schörle

4 **Roman Policy on the Red Sea in the Second Century CE** 55
Dario Nappo

5 **Roman Trade with the Far East: Evidence for Nabataean Middlemen in Puteoli** 73
Taco Terpstra

PART 2
Comparative Perspectives on the India Trade

6 **Indian Gold Crossing the Indian Ocean Through the Millennia** 97
Harry Falk

© 2015 The Trustees of Columbia University in the City of New York

7 **'Regions that Look Seaward': Changing Fortunes, Submerged Histories, and the Slow Capitalism of the Sea** 114
Jairus Banaji

8 **Comparative Perspectives on the Pepper Trade** 127
Federico De Romanis

9 **Into the East: European Merchants in Asian Markets During the Early Modern Period** 151
Martha Howell

Afterword 165
Elio Lo Cascio

References 171
Index of Sources 195
General Index 202

© 2015 The Trustees of Columbia University in the City of New York

CHAPTER 4

Roman Policy on the Red Sea in the Second Century CE

Dario Nappo

Trajan in the East

In the summer of 116 CE, the emperor Trajan completed his Parthian campaign and reached Spasinou Charax on the shores of the Persian Gulf; when he arrived, he complained that he was not young enough to attempt the conquest of India, as Alexander the Great had done. At least, this is what Cassius Dio tells us in one of the books of his work, which survives only through the epitome of Xiphilinos:

> Κἀντεῦθεν ἐπ' αὐτὸν τὸν ὠκεανὸν ἐλθών, τήν τε φύσιν αὐτοῦ καταμαθὼν καὶ πλοῖόν τι ἐς Ἰνδίαν πλέον ἰδών, εἶπεν ὅτι 'πάντως ἂν καὶ ἐπὶ τοὺς Ἰνδούς, εἰ νέος ἔτι ἦν, ἐπεραιώθην.' Ἰνδούς τε γὰρ ἐνενόει, καὶ τὰ ἐκείνων πράγματα ἐπολυπραγμόνει, τόν τε Ἀλέξανδρον ἐμακάριζε.[1]
>
> Then he came to the ocean itself, and when he had learned its nature and had seen a ship sailing to India, he said: 'I should certainly have crossed over to the Indians, too, if I were still young.' For he began to think about the Indians and was curious about their affairs, and he counted Alexander a lucky man.

This anecdote can be viewed as nothing more than the usual rhetorical *topos* of Roman emperors wishing to emulate Alexander the Great; Trajan was by no means the first to be fascinated by the charismatic Macedonian king.[2]

On the other hand, an echo of Dio's text might be found in the much later reports of Eutropius, Festus, and Jordanes[3] (also in Hieronymus, though not addressed in this paper), who explicitly tell us of a fleet in the Red Sea established by the emperor (*in mari Rubro classem instituit*) in order to 'conquer'

1 Cass. Dio 68.29.1. Transl. by E. Cary LCL, 1925.

2 Parker 2008, 223–227.

3 A comparison recently made by Parker 2008, 222. See also Wilson's article in this volume.

© KONINKLIJKE BRILL NV, LEIDEN, 2015 | DOI 10.1163/9789004289536_006

© 2015 The Trustees of Columbia University in the City of New York

India. If we compare the three accounts it is easy to recognise their great similarity, since they use almost the same words to describe what happened and are likely taken from the same sources.

> [*Traianus*] *usque ad Indiae fines et mare Rubrum accessit atque ibi tres provincias fecit, Armeniam, Assyriam, Mesopotamiam, cum his gentibus, quae Madenam attingunt. Arabiam postea in provinciae formam redegit. In mari Rubro classem instituit, ut per eam Indiae fines vastaret.*[4]

> [Trajan] advanced as far as the boundaries of India, and the Red Sea, where he formed three provinces, Armenia, Assyria, and Mesopotamia, including the tribes which border on Madena. He afterwards, too, reduced Arabia into the form of a province. He also fitted out a fleet for the Red Sea, that he might use it to lay waste the coasts of India.[5]

> *Carduenos, Marcomedos obtinuit, Anthemusiam, optimam Persidis regionem, Seleuciam, Ctesiphontem, Babyloniam accepit ac tenuit, usque ad Indiae fines post Alexandrum accessit. In mare rubro classem instituit. Provincias fecit Armeniam, Mesopotamiam, Assyriam quae inter Tigridem atque Euphraten sita inriguis amnibus instar Aegypti fecundatur.*[6]

> [Trajan] obtained the Carduenians and Marcomedians; received and maintained Anthemusia, Persia's finest region; Seleucia; Ctesiphon; and Babylon; and, after Alexander, even reached the boundaries of India. He established a fleet in the Red Sea. He made Armenia, Assyria, and Mesopotamia into provinces, which, situated between the Tigris and Euphrates, is made equal to Egypt in fecundity by the flooding rivers.[7]

> *Traianus pene omnium imperatorum potior regnavit an. xviii m. vi. Hic enim de Dacis Scythisque triumphavit Hiberosque et Sauromatas, Osroenos, Arabas, Bosforanos, Colchos edomuit, postquam ad feritatem prorupissent. Seleuciam et Ctesifontem Babyloniamque pervasit et tenuit. Nec non et in mari rubro classem, unde Indiae fines vastaret, instituit ibique suam statuam dedicavit.*[8]

4 Eutr., *Breviarium* 8.3.

5 Trans. by J.S. Watson.

6 Festus, *Rerum gestarum populi romani* 20.

7 Trans. by Th.M. Banchich and J.A. Meka.

8 Jord., *Romana*, 267–268.

© 2015 The Trustees of Columbia University in the City of New York

> Trajan, more powerful than almost all emperors, reigned for 18 years and 6 months. For this man triumphed over the Dacians and Scythians and subdued the Iberians and Sauromat, the Osdroni, the Arabs, the Bosphorians, the Colchi after they had erupted into anarchy. He invaded and held Seleucia and Ctesiphon and Babylonia. He also established a fleet in the Red Sea whence he might lay waste to the borderlands of India, and consecrated his own statue there.[9]

These three accounts present what is likely merely imperial propaganda from the time of Trajan, as they try to link the eastern campaigns to the possibility of conquering India, though they *do* provide some concrete evidence for what actually occurred. It is perhaps worth pointing out that the texts from which the above quotes are drawn are all concise chronicles of history, and that the writers dedicate no more than a few lines to each emperor. For this reason, only the most important or characteristic facts are reported. In the case of Trajan, we have seen in the aforementioned texts that the authors chose to report his conquests in Dacia and in the East, and this part is straightforward. Together with this information, they all also state as fact the first-time creation of a fleet in the Red Sea,[10] somehow related to a project to reach the limits of India. This scenario is contradicted, however, by other strong evidence, which I am going to analyse.

Evidence for the Presence of a Fleet in the Red Sea

The presence of a military fleet in the Red Sea during Roman times has been discussed by a number of scholars, so far without much agreement.[11] In principle, it would seem reasonable to imagine that a regular fleet would be stationed in the Red Sea, in order to protect commerce. This seems even more obvious considering that evidence for such an institution already exists for the

9 Trans. by B.T. Regan.

10 The exact meaning of the sentence *Mare Rubrum* and its Greek equivalent in the ancient sources is not always clear. The phrase can refer to the present-day Red Sea, or the Persian Gulf, or even the Indian Ocean. The analysis of the evidence presented in this work would suggest that at least for the sources included here, the *Mare Rubrum* is the Red Sea.

11 The first to postulate the presence of the Roman fleet was Rostovzev 1931, 25, followed by Kortenbeutel 1931, 70–71. Opposing opinions were expressed by Kienast 1966, 84; Sidebotham 1986a, 67–71.

© 2015 The Trustees of Columbia University in the City of New York

Ptolemaic[12] and even for the Pharaonic period.[13] In fact, evidence for the presence of a military fleet in Roman times can be found as early as the Augustan period. Both the emperor himself and his contemporary Greek geographer Strabo tell us the story of a military expedition led by Aelius Gallus, aiming at the conquest of South Arabia. In 25 BCE Gallus set out from Cleopatris (near modern Suez) with an army of ten thousand men, comprising a *legio* plus Nabataean and Jewish *auxiliares*.[14] In his *Res Gestae*, Augustus describes the planning and achievements of the military expedition as follows:

> *Meo iussu et auspicio ducti sunt duo exercitus eodem fere tempore in Aethiopiam et in Arabiam, quae appellatur Eudaemon, maximaeque hostium gentis utriusque copiae caesae sunt in acie et complura oppida capta. In Aethiopiam usque ad oppidum Nabata perventum est, cui proxima est Meroe. In Arabiam usque in fines Sabaeorum processit exercitus ad oppidum Mariba.*[15]
>
> By my order and auspices two armies were led at about the same time into Ethiopia and into that part of Arabia which is called Felix, and the troops of each nation of enemies were slaughtered in battle and many towns captured. They penetrated into Ethiopia all the way to the town Nabata, which is near to Meroe; and into Arabia all the way to the border of the Sabaei, advancing to the town Mariba.

Despite Augustus' triumphalist words,[16] Strabo's account in fact presents the expedition as a failure.[17] He records how the expedition intended to loot Arabia's great treasures and conquer its territory. He then describes the preliminary arrangements for the expedition and explains that a fleet was set up to reach Arabia. It is this part of his account that is the most interesting for the purposes of our analysis:

> Ἐπὶ τούτοις μὲν οὖν ἔστειλε τὴν στρατείαν ὁ Γάλλος. ἐξηπάτησε δ' αὐτὸν ὁ τῶν Ναβαταίων ἐπίτροπος Συλλαῖος, ὑποσχόμενος μὲν ἡγήσεσθαι τὴν ὁδὸν καὶ

12 *OGI* 132 (dated to 130 BCE).

13 Bourdon 1925, 51.

14 Jameson 1968, 76–80.

15 Augustus, *Res Gestae* 26.

16 On the propagandistic relevance of the Arabian expedition, see Jameson 1968; von Wissmann 1976; Sidebotham 1986b; Buschmann 1991; Marek 1993; Potts 1994; Luther 1999.

17 Strabo 16.4.22–24.

© 2015 The Trustees of Columbia University in the City of New York

χορηγήσειν ἅπαντα καὶ συμπράξειν, ἅπαντα δ' ἐξ ἐπιβουλῆς πράξας, καὶ οὔτε παράπλουν ἀσφαλῆ μηνύων οὔθ' ὁδόν, ἀλλὰ ἀνοδίαις καὶ κυκλοπορίαις καὶ πάντων ἀπόροις χωρίοις ἢ ῥαχίαις ἀλιμένοις παραβάλλων ἢ χοιράδων ὑφάλων μεσταῖς ἢ τεναγώδεσι: πλεῖστον δὲ αἱ πλημμυρίδες ἐλύπουν ἐν τοιούτοις καὶ ταῦτα χωρίοις καὶ αἱ ἀμπώτεις. πρῶτον μὲν δὴ τοῦθ' ἁμάρτημα συνέβη τὸ μακρὰ κατασκευάσασθαι πλοῖα, μηδενὸς ὄντος μηδ' ἐσομένου κατὰ θάλατταν πολέμου. οὐδὲ γὰρ κατὰ γῆν σφόδρα πολεμισταί εἰσιν ἀλλὰ κάπηλοι μᾶλλον οἱ Ἄραβες καὶ ἐμπορικοί, μήτι γε κατὰ θάλατταν: ὁ δ' οὐκ ἔλαττον ὀγδοήκοντα ἐναυπηγήσατο δίκροτα καὶ τριήρεις καὶ φασήλους κατὰ Κλεοπατρίδα τὴν πρὸς τῇ παλαιᾷ διώρυγι τῇ ἀπὸ τοῦ Νείλου. γνοὺς δὲ διεψευσμένος ἐναυπηγήσατο σκευαγωγὰ ἑκατὸν καὶ τριάκοντα, οἷς ἔπλευσεν ἔχων περὶ μυρίους πεζοὺς τῶν ἐκ τῆς Αἰγύπτου Ῥωμαίων καὶ τῶν συμμάχων, ὧν ἦσαν Ἰουδαῖοι μὲν πεντακόσιοι Ναβαταῖοι δὲ χίλιοι μετὰ τοῦ Συλλαίου.[18]

Upon these considerations, therefore, Gallus set out on the expedition; but he was deceived by the Nabataean administrator, Syllaeus, who, although he had promised to be guide on the march and to supply all needs and to co-operate with him, acted treacherously in all things, and pointed out neither a safe voyage along the coast nor a safe journey by land, misguiding him through places that had no roads and by circuitous routes and through regions destitute of everything, or along rocky shores that had no harbours or through waters that were shallow or full of submarine rocks; and particularly in places of that kind the flood-tides, as also the ebb-tides, caused very great distress. Now this was the first mistake of Gallus, to build long boats, since there was no naval war at hand, or even to be expected; for the Arabians are not very good warriors even on land, rather being hucksters and merchants, to say nothing of fighting at sea. But Gallus built not less than eighty boats, biremes and triremes and light boats, at Cleopatris, which is near the old canal which extends from the Nile. But when he realised that he had been thoroughly deceived, he built one hundred and thirty vessels of burden, on which he set sail with about ten thousand infantry, consisting of Romans in Egypt, as also of Roman allies, among whom were five hundred Jews and one thousand Nabataeans under Syllaeus.[19]

18 Strabo 16.4.23.

19 Trans. by H.L. Jones LCL, 1930.

© 2015 The Trustees of Columbia University in the City of New York

Then Strabo continues with a description of how Gallus' troops were betrayed by Syllaeus, and the unsuccessful conclusion of the expedition.[20] Above any consideration of the success or failure of the military campaign,[21] what is more important here is the fact that Strabo's text is the first account of the presence of a Roman military fleet in the Red Sea, an account dating from only a few years after the formal annexation of Egypt to the Roman Empire.

We do not know whether this episode marked the beginning of the regular presence of a military fleet in the Red Sea, or if it was only linked to the military operations in South Arabia, although it has usually been assumed to be the latter. However, a new source of evidence offers proof of the presence of a fleet in the Red Sea soon after the beginning of the following century:[22] two ostraca from the archive of Nikanor report that two Roman fleet officers received provisions in ports on the Egyptian side of the Red Sea.[23]

The first one is the *O. Petr*. 296, dated to 6–50 CE, from either Myos Hormos or Berenice:[24]

> Λούκιος Κλώδιος
> τριηρ̣ά̣ρκως (*l.*τριήραρχος) Νικάνορι
> Πανής. Ἀπέχω τούς
> γόμου(ς)
> οὓς επι̣θ̣ωιμε (l. ἐπιθῶμεν) σοι
>
> Lucius Clodius / *trierarchos* to Nicanor, / son of Panes. I receive the loads / that we entrusted to you.

---

20 Other less-detailed accounts on Aelius Gallus' expedition are provided by Plin., *HN* 6. 160–162; Joseph, *AJ* 15. 317; Cass. Dio 53. 29. 3–8. For more on Syllaeus, see Terpstra, this volume.

21 See Sidebotham 1986a, 127–128 for an interesting alternative assessment of the outcome of the Arabian expedition.

22 This hypothesis was put forward for the first time many decades ago by Rostovtzev 1931, 25, on the basis of *O.Petr*. 279, which I am going to discuss below. See also Daris 1956, 244–6.

23 The so-called archive of Nikanor belongs to a firm of transporters active on the routes between Coptos on the Nile and the ports of the Red Sea, namely Myos Hormos and Berenice. This firm operated between 18 BCE and 69 CE at least. Nikanor ran the firm for most of the years it existed, and for this reason the archive is named after him. The documents are published in *O.Petr*. 220–304, *O.Bodl*. 1968–1971, and *O.Brux*. 7. See Rostovtzev 1931, 23–26; Fuks 1951, 207–216; Sidebotham 1986a, 83–92; Ruffing 1993, 1–26; Adams 2007, 221–6.

24 First edition in Tait 1930, 125, n. 296. The text was recently republished with substantial amendments by Messeri (2004–05, 69–73). It is to her edition that I refer in this work.

© 2015 The Trustees of Columbia University in the City of New York

The reason scholarly discussion has for so long neglected this document is that the word τριηραρκως was in fact fragmentary and has only recently been properly read by G. Messeri.[25] The *trierarchos* was the captain of a trireme, a warship used by the Roman army that was able to host a crew of two hundred.[26] His presence at either Myos Hormos or Berenice strengthens the hypothesis that in the first century CE a military fleet was located in the Red Sea, and that it was connected to international trade.[27]

A second document, from the same dossier as the previous one, adds to this reconstruction. It is *O. Petr*. 279, from Myos Hormos, safely dated to 52 CE. It reads as follows:[28]

> Σατορνῖλος τεσσαράριος λυβέρ-
> νου Ἐπωνύχῳ Ἀχιλλέως χαίρειν.
> ἀπέχω παρὰ σοῦ ἐπὶ Μυὸς Ὅρμου
> πυροῦ ἀρτάβας τρεῖς (γίνονται) γ. (ἔτους) ιγ Τιβερί-
> ου Κλαυδίου Καίσαρος Σεβαστοῦ Γερμα-
> νικοῦ Αὐτοκράτορος Θὼθ ιθ.
>
> Satornilos *tesserarius liburnae* / to Eponichos, son of Achilleus, greetings. / I receive from you here in Myos Hormos / three artabas of grain. Year 13 of the Caesar / Tiberius Claudius Augustus Germanicus / Imperator, Thoth 19.

Unlike the previous one, this ostracon has already been quoted as possible proof of the existence of a military fleet in the Red Sea, but again, an incorrect reading of the text has affected its interpretation. The original editor has, in fact, read the first line as Σατορνῖλος τεσσαράριος κυβέρνου, i.e., 'Satornilus, tesserarius of helmsman.' The title *tesserarius* can be used either in a military context or in a civilian one.[29] However, the correct restoration of the word λυβέρνου allows us to safely rule out the possibility that he is a civilian. The *liburna*

25 Messeri 2004–05, 69–71.

26 Kießling, *RE* VII A1, 116. *trierarchos*; Casson 1971, 141–147.

27 It is universally accepted by scholars that Myos Hormos and Berenice were, through all of the Roman imperial period, the two most important Roman harbours on the Red Sea, functioning as hubs for trade with India. On Myos Hormos, see Peacock 1993; Cuvigny 2003a; on Berenice, see Sidebotham and Wendrich 1995; Sidebotham and Wendrich 1996; Sidebotham and Wendrich 1998; Sidebotham and Wendrich 1999; Sidebotham and Wendrich 2000; Sidebotham and Wendrich 2007; Sidebotham 2002b.

28 Cf. Messeri 2004–05, 73.

29 See the discussion in Sidebotham 1986a, 69.

© 2015 The Trustees of Columbia University in the City of New York

was in fact a kind of warship originally used by pirates in the Adriatic Sea and later adopted by the Roman army. Its manoeuvrability, especially in shallow waters, would have made it suitable for operations in the Red Sea.[30] All of this enables us to affirm the *tesserarius* of *O. Petr*. 279 as an officer of the Roman army. He was a watch commander, who organised and held command over the nightly guard assigned to keep watch over the fort when in garrison or on campaign. On a normal day he could be found maintaining the duty and supervising work details or checking on the guard posts.[31]

Thus the two ostraca appear to prove the existence of an established military fleet in the Red Sea waters. It can be noted that, while Strabo points to Arsinoe/Clysma as the main hub for the fleet, the two ostraca from the archive of Nicanor suggest that the fleet was later moved to either Myos Hormos or Berenice (or possibly divided between the two ports), an arrangement that would allow it to patrol the trading area more efficiently.

From what we have seen so far it should be clear that these documents demonstrate that traces of a Roman fleet in the Red Sea can be found from the very beginnings of Roman rule in the area, and that the Roman interest in military control of this area significantly predates Trajan, actually coinciding, at the very least, with the economic boom created by Roman trade with the East under Augustus and Tiberius.[32]

The Role of Trajan in the Roman Red Sea

It should by now be clear that the interpretation of Trajan as the first ruler to set up a fleet in the Red Sea should not be accepted at face value. Therefore, there can be no doubt that the later Roman historians seem to grant Trajan special merit when defining Rome's military attitude toward the Red Sea area. Although they certainly exaggerate his role, this exaggeration must have been linked to the actual policy of the emperor, a policy that seems to have had such an impact that it was still remembered four centuries after Trajan's death, obliterating the memory of the policies of his predecessors. In fact, as I am going to discuss, there is enough evidence to argue that Trajan's campaigns marked the beginning of a new scenario in the Red Sea, and that the path opened by Trajan was most likely consistently pursued by his successors, at least up to Marcus Aurelius.

30 Casson 1971, 340; Höckmann 1985; Medas 2004, 129–138.

31 Von Domaszewski 1981; Speidel 2000, 65–96.

32 See Sidebotham 1986a; De Romanis 1996; Young 2001; Tomber 2008.

© 2015 The Trustees of Columbia University in the City of New York

In order to understand what happened in the Red Sea at the beginning of the second century CE, it is necessary to quickly examine all of Trajan's enterprises in the area. An obvious starting point is the Roman annexation of the client kingdom of Nabatea, as the *provincia Arabia*.[33] Scholars do not yet agree on what led Trajan to annex the kingdom, though many hypotheses have been put forward. Some scholars have suggested that 'the annexation of the Nabataean kingdom was of an administrative nature more than a military one.'[34] This hypothesis tends to identify the death of the last Nabataean king Rebbel II—and the extinction of his dynasty—as the reason for the annexation of the kingdom. Others have suggested that it stemmed from the need to reorganise the region[35] before the forthcoming war against the Parthians.[36] Lastly, some have preferred to focus on the economic factors that might have pushed Trajan to incorporate the Nabataean region.[37]

This is not the place to dissect the scholarship on the subject,[38] but it is worth pointing out the important role played by the small kingdom in the context of international trade with Arabia. It is safe to assert, I think, that the annexation made a favourable impact on the economy of the empire, fully integrating a key strategic area for long-distance trade. A new road was quickly

33 See Speidel 1977, 688–730; Fiema 1987, 25–35; Freeman 1996, 91–118. Bowersock (1983, 80–1) was the first to suggest that the annexation of Nabatea was achieved without a real military campaign, and that the term 'annexation' would describe what really happened much better than 'conquer'. The main point put forward by the scholar is that Trajan did not take for himself the epithet of *Arabicus Maximus*, as he did after conquering Dacia (when he actually took the epithet of *Dacicus Maximus*). Even more significantly, on the celebrative coins minted after the annexation of Nabatea the legend *Arabia aquisita* appears, instead of *Arabia capta*, which would be the obvious choice in the case of military conquest.

34 Quotation from Spijkerman 1978, 20, n. 54. Similar opinions were expressed by Raschke 1978, 647–648; Bowersock 1983, 82; Parker 1986, 123; Strobel 1988, 256; Isaac 1992, 119.

35 Starcky 1955a, 103; Graf 1978, 5–6; Parker 1986, 124.

36 Bowersock 1983, 84; Strobel 1988, 256.

37 Rey-Coquais 1978, 54; Parker 1986, 123; Eadie (1986), 243–5. Kirkbride (1990, 256) suggested that the real aim was to conquer the port of Aila, because of its importance in international trade. Such a hypothesis does not appear sound, though, when one considers that in this period Aila was not yet a very important port of trade. See Parker 2009, 79–84.

38 Very interesting on this topic is the opinion expressed, very matter-of-factly, by Strabo 6.4.2, that client kingdoms are *de facto* part of the empire and the emperor could decide to incorporate them at any time, using any official reason he wanted. See also Brunt 1978, 159–191.

© 2015 The Trustees of Columbia University in the City of New York

built connecting Bostra in the far north of the *provincia* with the Red Sea. The work most likely began in 106 CE, ending between 111 and 114.[39]

Trajan's activity in the area was not limited to Arabia; in Egypt, he restored what Romans called 'Trajan's Canal', between the Nile and the Red Sea, near Clysma (modern Suez).[40] The precise date of the inauguration of the canal is unknown, but an ostracon dated to 112 CE provides a *terminus ante quem*.[41] There is no agreement among scholars as to the reasons why Trajan built it, nor as to its utility. Some have postulated that the channel was to be used for the forthcoming war against the Parthians, while others suggest that it was meant to foster trade in the northern Red Sea area.[42] Equally unclear is whether or not the canal was actually navigable, or if it was only meant for irrigation in north-eastern Egypt.[43] Often quoted against such a reductive interpretation is a passage of Lucianus, who in one of his works tells the story of a young man who sailed from Alexandria to Clysma, and then on from there to India:[44]

> τοιοῦτον δέ τι ἐγεγένητο· ἀναπλεύσας ὁ νεανίσκος εἰς Αἴγυπτον ἄχρι τοῦ Κλύσματος, πλοίου ἀναγομένου ἐπείσθη καὶ αὐτὸς εἰς Ἰνδίαν πλεῦσαι.
>
> What had happened was this: The young man cruised up the Nile as far as Clysma, and as a vessel was just putting to sea, was induced to join others in a voyage to India.[45]

Such a text is not enough to prove that the channel was regularly used for trade, but what we can be sure of is that it was in use until the twelfth century,[46] and that it was regularly maintained to avoid its silting up. For this purpose, a λειτουργία was instituted, funded by ἐπιμεληταί. A number of papyri dated between the second and the sixth century CE attest the regular recruitment of

39 Pekáry 1968, 140–142; Isaac 1992, 120.

40 Ptol., *Geog*. 4.5. See Aubert's article in this volume for a complete overview of the history of the previous attempts by pharaohs and Hellenistic rulers to build a channel.

41 *SB* VI, 9545 (32).

42 The scholarship on Trajan's canal is now vast. See Faville 1902–1903, 66–75; Calderini 1920, 43–44; Bourdon 1925; Posener 1938, 25–26; Sijpesteijn 1963, 70–83; Oertel 1964, 18–52; De Romanis 1996, 71–95; Aubert 2004, 219–252; Cooper 2009, 195–209.

43 Hypothesis put forward by Mayerson 1996, 119–126. Similarly also Aubert 2004a, 219–252; Cooper 2009, 195–209.

44 Lucian, *Alex* 44, 16–18; also addressed by Aubert in this volume, p. 37.

45 Trans. by A.M. Harmon, LCL, 1921.

46 Cooper 2009, 198.

© 2015 The Trustees of Columbia University in the City of New York

seasonal workers to clean the canal.[47] In none of these texts, however, is there any clear reference either to its use for trading purposes, or to a commercial fleet at Clysma ready to set sail to India.

Nevertheless, even if we accept the minimalistic view of a channel open only a few months of the year, and mainly to provide irrigation, we cannot fail to recognise the evident increase in activity at Clysma after the second century.[48] It is safe to assume that the canal played a role in economic development, at least through the provision of drinkable water to an otherwise poorly supplied region, as well as the opening of a channel of communication between the port and the hinterland.[49]

From all we have discussed so far in this section, it should be obvious that Trajan planned to better integrate the Red Sea region into the economic system of the Roman Empire by annexing a key area for trade (Nabatea), later providing it with roads to improve its communication system, and constructing a canal in Egypt that ended the isolation of the port of Clysma. These enterprises, along with the Parthian wars, should be enough to explain why the Spanish emperor Trajan was associated with a plan to conquer India. Festus, Eutropius, and Jordanes, however, do not talk only of a vague plan to conquer India—instead, they all precisely point to the establishment of a fleet in the Red Sea, connected to some plan to 'lay waste the coasts of India', though none of them has provided enough detail for us to understand the circumstances involved.

Two recently discovered inscriptions might shed some light on this issue. Beginning in 2003, a team of archaeologists working in the archipelago of Farasan (Saudi Arabia) made two extremely interesting discoveries. The archipelago, which is located close to the southern end of the Red Sea on the Saudi Arabian side, just 500 km north of the Strait of Bâb el-Mandeb, consists of some 200 islands, of which two stand out for their size. The closest part of the Roman Empire to the archipelago was the southern border of the province of Egypt, some 1,000 km distant,[50] which explains why the recent Farasan finds

47 *SB* VI 9545 (32): 112 CE; *P.Oxy.* LX 4070: *c.*208 CE; *P.Bub.* 4.69: 221 CE; *SB* V 7676 (= *P.Cair. Isidor.* 81): 297 CE; *P.Oxy.* LV 3814: end of third/beginning of fourth century CE; *P.Oxy.* XII 1426: 332 CE; *SB* V 7756 (= *P.Lond.* inv. 2574): 358/9 CE; *PSI* 689: 420/21 CE; *PSI* 87: 423 CE; *P.Wash.* 7: fifth or sixth century CE.

48 The first information on Clysma was available through the reports published by Bruyère 1966, although the quality of the archaeological investigation was very poor. A good analysis of the role of Clysma after the second century CE can be found in Ward 2007, 161–171.

49 Cooper 2009, 197.

50 For a complete discussion of the geographical context of the Farasan archipelago, see Villeneuve et al. 2004b, 143–149.

© 2015 The Trustees of Columbia University in the City of New York

are so astonishing; these two inscriptions, both in Latin, attest for the first time the regular presence of the Roman army in the islands.

The first inscription to be discovered reads as follows:[51]

Imp(*eratori*) *Caes*(*ari*) *Tito Ael*(*io*) *Hadr*(*iano*)
Antonino Aug(*usto*) *Pio Pont*(*ifici*)
Maxim(*o*) *trib*(*unicia*) *pot*(*estate*) VII *co*(*n*)*s*(*uli*) III,
P(*atri*) *P*(*atriae*), *vexill*(*atio*) *Leg*(*ionis*) II *Tr*(*aianae*) *Fortis*
et auxil(*ia*) *eius cạstrẹnṣẹṣ-*
q(*ue*) *ṣụḅ praef*(*ecto*) *Ferresani pọṛṭụṣ*
et Pont(*i* ?) *Hercul*(*is*) *fec*(*erunt*) *ẹṭ ḍ*[*ed*(*icaverunt*)]

The first four lines of the inscription are a dedication to the emperor Antoninus Pius, whose titles allow us to safely date the inscription between 10 December 143 and 9 December 144 CE.[52] The following lines of the inscription list the people engaged in building the statue to which the inscription was linked: a *vexillatio* of the *legio II Traiana Fortis*, its *auxilia*, and finally some other people possibly defined as *castrenses* (the text is not clear at this point). In its final lines, the inscription seems to attest for the first time the existence of an officer named *praefectus Ferresani portus* (?), whose name is not reported. This anonymous officer is *praefectus* of a district called *Ferresani portus*, though it is worth pointing out that only the toponym can safely be read, since only the *p* of the word *portus* is clearly readable. The word *Ferresani* makes it obvious that the stone was carved locally, and therefore the inscription has been found *in loco*. Finally, the toponym *Pontus Herculis* is, once again, a *hapax*—a previously unknown geographical location, whose interpretation is unclear.[53]

For the purposes of our analysis, the most important information provided by the inscription is the dating to 143–144 CE, under the reign of Antoninus Pius, and the mention of the presence of a *vexillatio* of the *Legio II Traiana Fortis* on the island. This legion was created by Trajan around 100 CE, and was eventually located in Egypt no later than 128 CE. From the reign of Antoninus Pius, it was the only legion located in this province.[54] This implies that the soldiers stationed at the Farasan Islands would necessarily have come from Egypt,

51 AE 2005, 1638; 1639 = 2010, 1761. The text was first edited in Villeneuve et al. 2004b, 143–190 and 2004b, 239–250. Later on, the editor suggested some corrections in Villeneuve 2004a, 419–429, and it is to this edition that I refer in this work.

52 Villeneuve 2004a, 422.

53 See the possible interpretations provided by Villeneuve 2004a, 426–428.

54 Devijver 1974, 452–492; Daris 2000, 359–363.

© 2015 The Trustees of Columbia University in the City of New York

and realistically they would have been in touch with the province through Berenice, the Roman Empire's southernmost Egyptian Red Sea port.[55] Despite the fact that the inscription refers only to a *vexillatio* and not to a fleet, it seems plausible that a fleet would have been present in the Red Sea to provide a stable connection between the *vexillatio* and the empire.

A few years after the discovery of this first inscription, another one was found on the same island. Unfortunately this second inscription is very fragmentary, and it is possible to read only a few letters on its surface, from the lower right corner of the original block. It reads as follows:[56]

. . .] VIFERR
. . .] PRPR

Meagre as it is, this second inscription does not offer much for interpretation, nevertheless, the editor has tried. He started from the second fragmentary line of the document, (the abbreviation PR PR), which he interpreted as *pr*(*o*) *pr*(*aetore*). This interpretation is sound, and it implies that a *legatus Augusti pro praetore* was mentioned in the inscription. Given that the closest provinces to the Farasan archipelago are Arabia and Egypt, this *legatus* who was in some way in charge of the islands should have come from one of them. But in Egypt the officer in charge of the province was a *praefectus*, not a *legatus*, therefore the possibility of connecting this inscription to Egypt is ruled out. The only logical location would then be Arabia, which in fact was administered by a *legatus Augusti pro praetore*. This interpretation led the editor to interpret the abbreviation of the previous line as [. . . *legio*] *VI Ferr*(*ata*). The history of this legion is rather difficult to trace; it was originally located in Syria, then it took part in Trajan's eastern campaigns, it moved subsequently to Arabia for a short period, and from there it finally moved to Judea.[57] All these movements took place during an undefined time between the reigns of Trajan and Hadrian. Nevertheless, we do have two key dates: the *terminus ante quem* for the movement from Syria to Arabia is 119 CE,[58] while the final move into Judea took

55 On Berenice and its location, see Sidebotham and Wendrich 1995; Sidebotham and Wendrich 1996; Sidebotham and Wendrich 1998; Sidebotham and Wendrich 1999; Sidebotham and Wendrich 2000; Sidebotham and Wendrich 2007; Sidebotham 2002b.

56 Villeneuve 2007, 13–27.

57 On the *legio VI Ferrata*, see Kennedy 1980, 283–309; Isaac 1992, 349–352; Keppie 1986; Cotton 2000, 351–357.

58 Cotton 2000, 354–356.

© 2015 The Trustees of Columbia University in the City of New York

place before 139 CE. The final reconstruction suggested by Villeneuve would therefore be:

[. . . . . vexill(atio) leg(ionis)] VI Ferr(atae)
[sub . . . . . leg(ato) Aug(usti)] pr(o) pr(aetore)

Given the very fragmentary status of the inscription, we must remember that other reconstructions are possible, though the one suggested by Villeneuve seems reasonable.[59]

We can safely assume that a *vexillatio* of the *legio II Traiana Fortis* was operating on the islands in 143–144 CE as a detachment of the main legion, which was based in Egypt. Much less certain is the information we can infer from the second inscription, since it requires corroboration from some more solid evidence. According to Villeneuve's hypothesis (which has necessarily to be taken as a working hypothesis), the second inscription might perhaps attest the presence of a detachment of the *legio VI Ferrata* in the archipelago in a year at some point before 139 CE. The presence of this legion in Arabia is attested with certainty in 119 CE, but it might well have been there earlier, perhaps having been moved by Trajan to defend the recently created province, or by Hadrian when he was reorganizing the whole region. If indeed the second inscription referred to the *legio VI Ferrata*, it would make sense to postulate that the legion in charge of the newly created province was also sent to occupy the far archipelago in the aftermath of Trajan's campaigns, and subsequently a further reorganization of the area made it more convenient to have a *vexillatio* from Egypt rather than from Arabia (since the latter was farther from the Farasan Islands). This would mean that the presence of a Roman military detachment on the Farasan archipelago might stretch from the last years of Trajan (or the first of Hadrian) at least to the reign of Antoninus Pius.

Defining the Roman Policy in the Red Sea in the Second Century CE

The evidence discussed in the previous section grants us a new perspective from which to reconsider the passages in Eutropius, Festus, and Jordanes that mention Trajan's new fleet in the Red Sea. As mentioned before, their manner misleads the reader into assuming that Trajan was the first ruler to station a regular fleet in the Red Sea, but this is definitely not true, as seen above.

59 AE 2005, 1640. Other possible reconstructions are also listed by Villeneuve 2007, 24–27, although the one discussed above seems the most convincing.

© 2015 The Trustees of Columbia University in the City of New York

Nevertheless, there is in their reports an echo of something that actually happened at the beginning of the second century CE.

In order to draw appropriate conclusions, it is necessary to examine all of Trajan's activities in order to provide a context. The annexation of the Nabataean Kingdom and its subsequent connection to the Roman road system, the restoration of the canal on the Nile, and the occupation of the Farasan Islands are not separate actions, but rather distinct components of a larger master plan. All aspects of Trajan's policy in the East make much more sense when considered from this perspective: tighter control of the two ends of the Red Sea was the best way to secure control of the whole region.

If there was a master plan to control the Red Sea, what led Trajan to adopt such a plan? Along with military and administrative considerations, clearly his decision was motivated by the potential for economic gain. The Red Sea was a key area in the international trade route between the Roman Empire and the Far East (generally referred to by the Romans as 'India').[60] The importance of the contribution of eastern trade to the economy of the empire could hardly be overestimated;[61] this would be reason enough for the imperial interest in encouraging it.[62] Control of the Red Sea provided the best possible environment for trade.

This policy was first pursued by Trajan and then carried on by his successors, as demonstrated by some of the evidence presented in this work—most importantly, the permanence of the Roman army on the Farasan Islands at least until 144 CE, and possibly even longer. Other hints that commerce with India escalated from the reign of Trajan onwards are provided through a variety of different sources of evidence. Literary sources from the second century

60 See Mayerson 1993, 169–174; Schneider 2004.

61 Although the importance has been played down by some recent works such as Young 2001, most scholars agree. See, for instance, Sidebotham 1986a; De Romanis 1998; Tomber 2008.

62 On this subject, the most important evidence is still the 'Muziris papyrus', a twofold document containing two incomplete texts, one on its *recto* and the other on its *verso*, written in separate hands, both dateable to the mid second century CE. On the *recto* is one column, missing its left edge, with the end of a contract relating to a maritime loan for a trading voyage from Alexandria to Muziris. On the *verso* are the end of a line and the last column of an account of the value of a shipload of goods imported from India. It was first edited by Harrauer and Sijpesteijn 1985, 124–155. See also Thür 1987; 1988; Casson 1986; 1990; Foraboschi and Gara 1989, 280–2; Purpura 1996, 368–75; De Romanis 1996, 183–96; Id. 1998; Rathbone, 2000; Id. 2002, 179–98; Morelli 2011; De Romanis (2010/1) [2012]. Other aspects of the papyrus are referred to in the chapters of Wilson, Schörle, Aubert, and De Romanis.

© 2015 The Trustees of Columbia University in the City of New York

CE reveal a very specific interest in the people living beyond the limits of the empire, especially on its eastern side. Works such as Arrian's *Indica, Parthica*, and the *Anabasis Alexandri* testify to the interest of Romans in the East. Authors such as Juvenal and Lucian exhibit considerable knowledge of India, including its products, culture, and religion.

The author who provides the best proof of an increased link between the Mediterranean World and India is Claudius Ptolemy (*fl.* 139–61 CE). In his *Geography*, he exhibits knowledge of the Far East well beyond that of earlier periods. He is not just more precise than his predecessors (Strabo, Pliny, and even sometimes the *Periplus Maris Erythraei*), he also describes regions which these earlier authors never mentioned in their works (e.g., East Asia). Ptolemy clearly obtained part of his information from travellers or merchants with an interest in the East, providing more proof of a strengthening of commercial relations between the Roman Empire and India during this period.[63]

It is within the context of this expansion into the East that we find the first evidence for direct Roman contact with China; in 166 CE a Roman 'embassy' reached China, hoping to open a direct commercial link between the two empires. This is recorded in the *Hou-han-shu*, the *Chronicles of the Han Dynasty*, ch. 88:

> They [i.e., the Romans] traffic by sea with An-hsi [= Parthia] and T'ien-chu [=India], the profit of which trade is ten-fold. They are honest in their transactions, and there are no double prices. Cereals are always cheap. The budget is based on a well-filled treasury. When the embassies of neighbouring countries come to their frontier, they are driven by post to the capital, and, on arrival, are presented with golden money. Their kings always desired to send embassies to China, but the An-hsi [= Parthians] wished to carry on trade with them in Chinese silks, and it is for this reason that they were cut off from communication. This lasted till the ninth year of the Yen-hsi period during the emperor Huan-ti's reign [= A.D. 166] when the king of Ta-ts'in [= 'Big China', i.e., the Roman Empire], An-tun [= Marcus Aurelius Antoninus], sent an embassy who, from the frontier of Jih-nan [= Annam] offered ivory, rhinoceros horns, and tortoise shell. From that time dates the [direct] intercourse with this country.[64]

For the purposes of this work it does not make any difference whether this expedition was an official embassy sent by the emperor Marcus Aurelius

63 Sidebotham 1986a, 142–3; Sidebotham 2011, 14–16.

64 Translation by Hirth 1975, 41; See also Hill 2009.

© 2015 The Trustees of Columbia University in the City of New York

himself, or a group of private traders operating on their own. Two important points emerge from this story: first, whether official or private, the embassy certainly benefited from the favourable conditions for eastern trade created by Trajan's policy; second, the Chinese writer's assertion that the Roman traders wanted to establish a direct commercial connection with China but had always been blocked by the Parthians is significant. It makes perfect sense that the Roman traders would want to establish a direct commercial connection with China in order to increase their profits.

An attempt to cut the Parthians out of the trade would undoubtedly have been noticed by the Parthian rulers. It is perhaps not a mere coincidence that in the troubled-for-centuries relationship between Parthians and Romans the Arsacids attacked the Romans first only once—in 161 CE—[65] in a period when the Roman presence in the Red Sea and the Indian Ocean had reached its peak and trade with India was flourishing again.[66] I am not here suggesting that the main reason for this war was commercial (it is well known that the *casus belli* was the situation in Armenia),[67] but I do believe that the trade situation made the Arsacids more aggressive toward the Romans than they had ever been.

Conclusions

In conclusion, all the evidence collected here should prove that Trajan initiated a period of Roman expansion in the Red Sea that had important commercial consequences. This policy was also consistently pursued by his successors, probably reaching its peak under Marcus Aurelius; it provided the right context for Roman commercial expansion in the East, which culminated with the Roman embassy to China.

If what is proposed in this paper is sound, I believe that it is safe to affirm that the policy inaugurated by Trajan was designed to make the Red Sea a *mare internum* in some way—a sea completely controlled (though not completely ruled) by the Romans. I am aware that the possibility of government interference in the eastern trade, or of commercial considerations determining Roman policy in the east, has been ruled out by several scholars.[68] Still, other scholars have already opened to this possibility,[69] and I believe that the amount of

65 SHA *Marc.* 8.6; Birley 2000, 121; for the date, Flinterman 1997, 281.

66 Nappo, forthcoming.

67 Sicker 2000, 169.

68 See Isaac 1992, 101–218; Young 2001, 216–217.

69 Most notably Sidebotham 1986a, 48–77.

© 2015 The Trustees of Columbia University in the City of New York

evidence made available by archaeology over the last few years should lead to a reconsideration of the matter.

I also believe that the 'military-economic' approach identified in this paper during the time of Trajan and his successors was far from being a *unicum* in the history of the empire, since parallels in other periods can be found (for example between the reigns of Anastasius and Justinian in the sixth century CE, when the empire again tried to control all of the Red Sea region).[70] I hope that these considerations will encourage a general rethinking of the imperial policy in this region and in particular concerning trade with the East, since they better reveal the real role of the emperor in such matters, and help us to more accurately assess the importance, in terms of international policy, held by this region.[71]

70 Nappo 2009.

71 The first example of such an approach can be found in Sidebotham 1986a, 48–77.

© 2015 The Trustees of Columbia University in the City of New York

References

Archival Sources

Arquivo Nacional da Torre do Tombo,
Cartas dos Vice-Reys da Índia 16
Cartas Missivas III 377 & 367 (= Bouchon 1976)
Colecção de São Lourenço II ff. 339–340 v (= DUP VII 289–291)
Colecção São Lourenço III f. 412 (= Cartas de Rui Gonçalves de Caminha)
Colecção São Lourenço IV ff. 329–330
Corpo Cronólogico, P. I., M. 10, D. 53
P. I., M. 12, D. 13 (= CA I 83–84)
P. I., M. 13, D. 108 (= CA I 118–121)
P. I., M. 13, D. 113 (= CA III 380–406)
P. I., M. 86, D. 94
P. I., M. 103, D. 31
P. II., M. 79, D. 59 (= CA VII 172–186)
Gaveta 15, M. 2, D. 36 (= CA III 256–267)
Núcleo Antigo 705 (= Bouchon 1977)
Biblioteca da Ajuda
Livro das mercês que fez o Senhor
D. João de Castro, ff. 59–64v
Fürstlich und Gräflich Fuggersches Familien- und Stiftungsarchiv
MSS Codex no. 46.1. ff. 33–38 (= Mathew 1997, 256–269)
MSS Codex no. 46.1. ff. 50–51

Greek and Latin authors, as well as inscriptions, papyri, ostraca, and encyclopaedias of classical scholarship, are cited, when possible, in abbreviated forms according to the conventions established by the *Oxford Classical Dictionary* (4th edition). European, Arabic, Persian, and Chinese sources are quoted with the simple name of the author or the title of the work, followed by the page in the editions or translations quoted below.

Medieval and Early Modern Literary Sources

Al-Idrīsī (1836–40; repr. 1975), Nuzhat al-mushtāq fī ikhtirāq al-āfāq. *La géographie d'Édrisi. Tr. de l'arabe en français d'après deux manuscrits de la Bibliothèque du roi et accompagnée de notes, par P. Amédée Jaubert*, trans P.-A. Jaubert, 2 vols (Paris, repr. Amsterdam).

© 2015 The Trustees of Columbia University in the City of New York

Al-Maqrizi, Ahmad Ibn Ali (1895), Mawāʿiz wa-al-iʿtibār fī dhikr al khiṭaṭ wa-al-āthār. *Description topographique et historique de l'Égypte I* trans. U Bouriant (Paris).

Al-Muqaddasī, Muḥammad b. Aḥmad (2001), *The Best Divisions for Knowledge of the Regions: A Translation of Aḥsan al-Taqāsīm fi Maʿrifat al-Aqālīm*, trans. B.A. Collins (Reading, UK).

Ananias of Širak (1992), *The Geography of Ananias of Širak (Ašxarhacʿoycʿ): The Long and the Short Recensions. Introduction, Translation, and Commentary by R.H. Hewsen* (Wiesbaden).

Barbosa, Duarte (1946), *Livro em que dá relação do que viu e ouviu no Oriente. Introdução e notas de A.R. Machado* (Lisboa).

Bocarro, António (1992), *O livro das plantas de todas as fortalezas, cidades e povoações do Estado da Índia Oriental* (*ed. I. Cid*), *I–III* (Lisboa).

Buchanan, Francis (1807), *Journey from Madras through the Countries of Mysore, Canara, and Malabar, vol. I–II* (London).

Ca' Masser, Leonardo da (1845), 'Relazione di Leonardo da Ca' Masser alla Serenissima Repubblica di Venezia sopra il commercio dei Portoghesi nell' India dopo la scoperta del capo di buona speranza (1497–1506)', *Archivio Storico Italiano. Appendice. Tomo II*. (Firenze), 13–51.

Caminha, Rui Gonçalves de (1989), *Cartas de Rui Gonçalves de Caminha;* [*comentário, Luís de Albuquerque*] (Lisboa).

Cantillon, Richard (1755), *Essai sur la nature du commerce en général* (London).

Correia, Gaspar (1858–1863), *Lendas da Índia* 3 t. 6 v. (Lisboa).

Corsali, Andrea (1563), 'Allo Illustrissimo Principe & Signor il Signor Duca Lorenzo de Medici, Della nauigatione del mar Rosso & sino persico sino a Cochin città nella India, scritta alli XVIII di Settembre MDXVII', in G.B. Ramusio (ed.), *Delle navigationi et viaggi, I* (Venezia), 181–89.

Costa, Francisco da (1963), 'Relatório sobre o trato da pimenta', *DUP III* (Lisboa), 293–379.

Dīnawarī (1888), 'Akhbār al-ṭiwāl', in V. Guirgass (ed.), (Leiden).

Gomes de Brito, Bernardo (1735–1736), *Historia tragico-maritima*, 2 vols. (Lisboa).

Hauqal, Ibn (1938–1939), *Kitāb Ṣurat al-ʿarḍ = Liber imaginis terrae* (ed. J.H. Kramers) (2nd edn. 1967; Leiden).

Huan, Ma (1955), *Yingya shenglan jiaozhu*, in Feng Chen jun (ed.), (Beijing).

———, (1970), *Ying-yai sheng-lan: 'The Overall Survey of the Ocean's Shores'* [*1433*], trans. J.V.G. Mills (ed.), (Cambridge).

Ibn al-Balki (1912), *Description of the Province of Fars in Persia at the Beginning of the Fourteenth Century A.D. from the MS. of Ibn al-Balkhi in the British Museum*, trans G. Le Strange (London).

Ibn Baṭṭūṭa, Muḥammad ibn ʿAbdallāh (1958–2000), *The Travels of Ibn Baṭṭūṭa A.D. 1325–1354*, trans. H.A.R. Gibb (London).

© 2015 The Trustees of Columbia University in the City of New York

——— (1960), *Riḥlat Ibn Baṭṭūṭa* (Beirut).

Ibn Khurradādhbih, 'Ubayd Allāh ibn 'Abdallāh (1889), Kitāb al-Masālik wa l-Mamālik', in M.J. de Goeje (ed.) *Liber viarum et regnorum* (Leiden).

Ibn Mājid (1971), *Arab Navigation in the Indian Ocean Before the Coming of the Portuguese, Being a Translation of Kitāb al-Fawā'id fī uṣūl al-baḥr wa'l-qawā'id of Aḥmad b. Mājid al-Najdī*, trans G.R. Tibbets (London).

'Livro que trata das cousas da Índia e do Japão', (1960) *Boletim da Biblioteca da Universidade de Coimbra* 24, 1–138, in A. de Almeida Calado (ed.) (Coimbra).

Marignolli, Giovanni de' (1882), 'Chronicon', in J. Emler (ed.), *Fontes rerum Bohemicarum, III* (Praze), 492–604.

Mas'ūdī (1861–1877), *Les prairies d'or, Texte et Traduction par C. Barbier de Meynard et Pavet de Courteille*, 9 vols. (Paris).

Mustawfi, Hamd-Allah (1919), *The Geographical Part of the Nuzhat al-Qulūb composed by Hamd-Allah Mustawfi of Qazwin in 740 (1340)*, trans. G. Le Strange (London).

Odorico da Pordenone (1929), 'Relatio', in A. van den Wyngaert (ed.) Sinica Franciscana: Itinera et relationes Fratrum Minorum saeculi XIII et XIV, *Vol. I* (Firenze), 413–495.

Pacheco Pereira, Duarte (1892), *Esmeraldo de situ orbis* (Lisboa).

Pires, Tomé (1944), *The Suma Oriental of Tomé Pires: An Account of the East, from the Red Sea to Japan, Written in Malacca and India in 1512–1515*, trans. A. Cortesão, 2 vols. (London).

Polo, Marco (1982), *Milione: Divisament dou Monde* (a cura di G. Ronchi) (Milano).

Quirini, Vincenzo (1863), 'Relazione', *Relazioni degli ambasciatori veneti al Senato; raccolte, annotate ed edite da E. Albèri* (XV; Firenze), 5–19.

S. Bartolomeo, fra Paolino da (1796), *Viaggio alle Indie Orientali* (Roma).

Santa Cruz, Alvaro de Baçan (1959), 'Parecer al Rey Don Felipe segundo sobre la navegacion de la India de Portugal', in J. Gentil da Silva (ed.), *Alguns elementos para a história do comércio da Índia de Portugal existentes na Biblioteca Nacional de Madrid, Anais. Estudos de História e Geografia da Expansão Portuguesa* (5; Lisbon), 53–59.

Sanuto, Marino (1879–1903), *I diarii di Marino Sanuto* (*MCCCCXCVI–MDXXXIII*) *dall'autografo Marciano ital. cl. VII codd. CDXIX–CDLXXVII* (Venezia).

Sassetti, Filippo (1995), *Lettere dall'India, 1583–1588* (a cura di A. Dei) (Roma).

Sebastião, King of Portugal (1816), *Leis, e Provisões, que El Rei Dom Sebastião nosso senhor fez depois que começou a governar* (2nd edn.; Coimbra).

Seure, Chevalier de (1895), 'Lettre au Roy (30/1/1559)', in E. Falgairolle (ed.), *Le chevalier de Seur ambassadeur de France en Portugal au XVI^e siècle* (18), 49–85.

Varthema, Ludovico de (1991), *Itinerario dallo Egypto alla India* (a cura di E. Musacchio) (Bologna).

Xuanzang (1884), *Si-Yu-Ki. Buddhist Records of the Western world. Translated from the Chinese of Hiuen Tsiang (A.D. 629) by S. Beal* (London).

© 2015 The Trustees of Columbia University in the City of New York

Bibliography

Abraham, M. (1988), *Two Medieval Merchant Guilds of South India* (New Delhi).

Abram, D. (1999), *South India, the Rough Guide* (London).

Adams, C.E.P. (2007), *Land Transport in Roman Egypt: A Study of Economics and Administration in a Roman Province* (Oxford and New York).

Adams, L.A. (1989), 'The Indian Imitations of Roman *Aurei*', *Journal of the Society for Ancient Numismatics*, 17 (4), 68–76.

Amadasi Guzzo, M.G. (1988), 'Iscrizione dedicatoria Nabatea', *Archeologia Laziale*, 9, 67–68.

Anonymous (1884) *Gazetteer of the Hoshiarpur District, 1883–1884*.

Arnade, P.J. (2008), *Beggars, Iconoclasts, and Civic Patriots: The Political Culture of the Dutch Revolt* (Ithaca).

Asthana, S. (1984), 'Harappan Trade in Metals and Minerals: A Regional Approach', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization; Sir Mortimer Wheeler Commemoration Volume* (New Delhi).

Aubert, J.-J. (2004a), 'Aux origines du canal de Suez? Le canal du Nil à Mer Rouge revisité', in M. Clavel-Lévèque and E. Hermon (eds.), *Espaces intégrés et ressources naturelles dans l'Empire Romain: actes du colloque de l'Université de Laval-Québec, 5–8 mars 2003* (Paris), 219–52.

——— (2004b) [2005], 'Utopie ou mégalomanie? Le canal antique du Nil à la Mer Rouge/Canal de Trajan ou l'histoire d'une gageure', *Au Fil de l'eau, Bulletin de la Société Neuchâteloise de Géographie*, 48 (2004), 93–107.

——— (2013), 'Trajan's Canal', in R.S. Bagnall (ed.), *The Encyclopedia of Ancient History* (12; Leiden), 6815–16.

Aubin, J. (1953), 'Les princes d'Ormuz du XIII^e^ au XV^e^ siècle', *Journal Asiatique*, 241, 77–138.

——— (1973), 'Francisco de Albuquerque, un juif castillan au service de l'Inde Portugaise (1510–15)', *Arquivos do Centro Cultural Português*, 7, 175–88.

——— (1987), 'L'apprentissage de l'Inde: Cochin, 1503–1504', *Moyen Orient et Océan Indien*, 4, 1–96.

Bagnall, R.S., A. Bülow-Jacobsen, and H. Cuvigny (2001), 'Security and Water on the Eastern Desert Roads: The Prefect Iulius Ursus and the Construction of Praesidia Under Vespasian', *Journal of Roman Archaeology*, 14 (1), 325–33.

Bagnall, R.S., et al. (1996), 'A Ptolemaic Inscription from Bir 'Iayyan', *Chronique d'Égypte* 71 (142), 317–30.

Ball, J., and G.W. Murray (1942), *Egypt in the Classical Geographers* (Cairo).

Bandyopadhyay, S. (2007–08), 'Epigraphic Evidence for the Commoners' Use of Gold Coins', *Journal of Ancient Indian History*, 24, 70–72.

© 2015 The Trustees of Columbia University in the City of New York

Bang, P.F. (2008), *The Roman Bazaar: A Comparative Study of Trade and Markets in a Tributary Empire* (Cambridge, UK).

Bauzou, T. (2000), 'La Gaza romaine (69 avant J.-C.–403 après J.C.)', in J.B. Humbert (ed.), *Gaza méditerranéenne: Histoire et archéologie en Palestine* (Paris), 47–69.

Begley, V. (1996), *The Ancient Port of Arikamedu: New Excavations and Researches 1989–1992*, 2 vols. (Pondicherry).

Berghaus, P. (1998), 'Republican and Early Roman Imperial *Denarii* from India', in A. Kumar Jha and S. Garg (eds.), Ex Moneta*: Essays on Numismatics, History and Archaeology in Honour of Dr. David W. MacDowall* (1; New Delhi), 119–27.

——— (2006), 'Strange Mould Links out of the Tirukkoilur Hoard', in R. Nagaswamy (ed.), *Sangam: Numismatic and Cultural History—Essays in Honour of Dr. R. Krishnamurthy* (Chennai), 11–20.

Bietak, M. (1975), *Tell el-Dab'a II* (Wien).

Biffi, N. (2002), *Il Medio Oriente di Strabone: Libro XVI della Geografia* (Bari).

Birley, A.R. (2000), *Marcus Aurelius, A Biography* (London).

Blet-Lemarquand, M. (2006), 'Analysis of Kushana Gold Coins: Debasement and Provenance Study', in F. De Romanis and S. Sorda (eds.), *Dal denarius al dinar—L'oriente e la moneta Romana* (*Atti dell'incontro di studio, Roma 16–18 settembre 2004*) (Roma), 155–71.

Bopearachchi, O. (2006), 'Chronologie et généalogie des premiers rois kushans: nouvelles données', *CRAI*, 1433–47.

——— (2008), 'Les premiers souverains kouchans: chronologie et iconographie monétaire', *Journal des Savants*, 3–56.

Bouchon, G. (1976), 'L'inventaire de la cargaison rapportée de l'Inde en 1505', *Mare Luso-indicum*, 3, 101–36.

——— (1977), *Navires et cargaison: Retour de l'Inde en 1518 = Cadérno dos ofiçiaes da India da carreguaçam das naos que vieram o anno bcxviij* (Paris).

——— (1988), 'Un microcosme: Calicut au 16e siècle', in D. Lombard and J. Aubin (eds.), *Marchands et hommes d'affaires asiatiques dans l'Océan Indien et la Mer de Chine 13e–20e siècles* (Paris), 53–56.

Bourdon, C. (1925), *Anciens canaux, anciens sites et ports de Suez* (Cairo).

Bowersock, G.W. (1983), *Roman Arabia* (Cambridge, MA).

Bowman, A.K. (2010), 'Trade and the Flag: Alexandria, Egypt and the Imperial House', in D. Robinson and A. Wilson (eds.), *Alexandria and the North-Western Delta* (Oxford).

Braudel, F. (1972), *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2 vols. (London).

Broekaert, W. (2012), 'Vertical Integration in the Roman Economy', *Ancient Society*, 42, 109–25.

© 2015 The Trustees of Columbia University in the City of New York

Brown, P. (1971), *The World of Late Antiquity: From Marcus Aurelius to Muhammad* (London).

Brun, J.P. (2003), 'Chronologie de l'équipement de la route à l'époque gréco-romaine', in H. Cuvigny (ed.), *La route de Myos Hormos: L'armée romaine dans le désert oriental d'Égypte, I* (Cairo), 187–234.

Bruneau, P. (1970), *Recherches sur les cultes de Délos a l'époque hellénistique et a l'époque impériale* (Paris).

Brunt, P.A. (1978), 'Laus Imperii', in P.D.A. Garnsey and C.R. Whittaker (eds.), *Imperialism in the Ancient World* (London), 159–91.

Bruyère, B. (1966), *Fouilles de Clysma-Qolzoum* (*Suez*)*, 1930–1932* (Cairo).

Buschmann, K. (1991), 'Motiv und Ziel des Aelius-Gallus-Zuges nach Südarabien', *Die Welt des Orients*, 22, 85–93.

Butler, H.E. (1909), *The Apologia and Florida of Apuleius of Madaura* (Oxford).

Butzer K. (1975), 'Delta', *LÄ* 1043–52.

Calderini, A. (1920), 'Ricerche sul regime delle acque nell'Egitto greco–romano', *Aegyptus* 1, 37–62.

——— (1940), 'I precedenti del Canale di Suez nell'antichità', *Aegyptus*, 20, 214–31.

Caley, E.R. (1926), 'The Stockholm Papyrus: An English Translation with Brief Notes', *Journal of Chemical Education*, 4 (8), 979–1002.

Camodeca, G. (1977), 'L'ordinamento in regiones e i vici di Puteoli', *Puteoli, studi di storia antica*, 1, 62–98.

——— (1979), 'La gens Annia puteolana in età giulio-claudia: potere politico e interessi commerciali', *Puteoli, studi di storia antica*, 3, 17–34.

——— et al. (2001), 'Ricerche sul vicus Lartidianus di Puteoli', in P.A. Gianfrotta and F. Maniscalco (eds.), *Forma Maris: Forum internazionale di archeologia subacquea* (Napoli).

Carswell, J. (1985), 'Sri Lanka and China', in A.R.B. Amerasinghe and S.J. Sumanasekera Banda (eds.), Festschrift 1985: James Thevathasan Rutnam, (Sri Lanka).

Carter, R. (2005), 'The History and Prehistory of Pearling in the Persian Gulf', *Journal of the Economic and Social History of the Orient*, 48 (2), 139–209.

Casale, G. (2010), *The Ottoman Age of Exploration* (Oxford and New York).

Casson, L. (1971), *Ships and Seamanship in the Ancient World* (Princeton, NJ).

——— (1980), 'Rome's Trade with the East: The Sea Voyage to Africa and India', *Transactions of the American Philological Association* 110, 21–36.

——— (1986), '*P. Vindob.* G. 40.822 and the Shipping of the Goods from India', *BASP*, 23, 73–9.

——— (1989), *The Periplus Maris Erythraei: Text with Introduction, Translation, and Commentary* (Princeton, NJ).

——— (1990), 'New Light on Maritime Loans: *P. Vindob. G* 40822', *ZPE*, 84, 195–206.

© 2015 The Trustees of Columbia University in the City of New York

Cereti, C.G. (2003), 'Le croci di San Tommaso e la letteratura cristiana in lingue medio-iraniche', in M.V. Fontana and B. Genito (eds.), *Studi in Onore di Umberto Scerrato* (2; Napoli).

Chakravarti, R. (1998), 'Coastal Trade and Voyages in Konkan: The Early Medieval Scenario', *The Indian Economic and Social History Review*, 35 (2), 97–123.

Champakalakshmi, R. (1996), *Trade, Ideology, and Urbanization: South India 300 BC to AD 1300* (Delhi and New York).

Charpentier, V., C.S. Phillips, and S. Méry (2012), 'Pearl Fishing in the Ancient World: 7500 BP', *Arabian Archaeology and Epigraphy* 23, 1–6.

Chatterjee, B. (1997), 'Provenance of Kushan gold in Ethiopia: An Explanation', *Journal of the Numismatic Society of India*, 59, 62–65.

Chaudhuri, K.N. and I.J. Israel (1991), 'The English and Dutch East India Companies and the Glorious Revolution of 1688', in J.I. Jonathan (ed.), *The Anglo-Dutch Moment: Essays on the Glorious Revolution and its World Impact* (Cambridge), 407–38.

Chaudhury, S. and M. Morineau (1999), *Merchants, Companies, and Trade: Europe and Asia in the Early Modern Era* (London and New York).

Chaussende, D. (2011), 'Compte rendu', *Etudes Chinoises* 28, 267–75.

Chehade, J. (1987), 'Zur Schmuckdarstellungen auf Palmyrenischen Grabreliefs', in E.M. Ruprechtsberger (ed.), *Palmyra: Geschichte, Kunst und Kultur der Syrischen Oasenstadt* (Linz), 193–99.

Cherpion, N., J.P. Corteggiani, and J.F. Gout (2007), *Le tombeau de Pétosiris à Touna el-Gebel: Relevé photographique* (Cairo).

Clédat, M.J. (1912), 'Fouilles à Qasr-Gheit (mai 1911)', *Annales du Service des Antiquités de l'Égypte* 12, 145–68.

Clermont-Ganneau, C.S. (1906), 'Un épitrope nabatéen à Milet', *Recueil d'Archéologie Orientale*, 7, 305–29.

——— (1924), 'Les Nabatéens en Égypte', *Recueil d'Archéologie Orientale*, 8, 229–57.

Cohen, G.M. (2006), *The Hellenistic Settlements in Syria, the Red Sea Basin, and North Africa* (Berkeley).

Cohen, R. (1982), 'New Light on the Date of the Petra–Gaza Road', *The Biblical Archaeologist* 45 (4), 240–47.

Cooper, J.P. (2009), 'Egypt's Nile–Red Sea Canals: Chronology, Location, Seasonality and Function', in L. Blue, et al. (eds.), *Connected Hinterlands: Proceedings of Red Sea Project IV* (*Bar International Series: Society for Arabian Studies Monographs 8*) (Oxford), 195–209.

——— (2011), 'No Easy Option: Nile Versus Red Sea in Ancient and Mediaeval North–South Navigation', in W.V. Harris and K. Iara (eds.), *Maritime Technology in the Ancient Economy: Ship-Design and Navigation* (Portsmouth, RI), 189–210.

Costa, L.F. (1997), *Naus e Galeões na Ribeira de Lisboa: A construção naval no século XVI para a Rota do Cabo* (Cascais).

© 2015 The Trustees of Columbia University in the City of New York

Cotton, H.M. (2000), '*The legio VI Ferrata*', in Y. le Bohec and C. Wolff (eds.), *Les Legions de Rome sous le Haut-Empire: Actes du Congrès de Lyon (17–19 septembre 1998)* (Lyon), 351–357.

Cracco, G. (1967), *Società e Stato nel Medioevo veneziano: (secoli XII–XIV)* (Florence).

Cuvigny, H. (2003a), *La Route de Myos Hormos: L'Armée Romaine dans le Désert Oriental d'Égypte*, 2 vols., Cairo.

——— (2003b), 'La société civile des praesidia', in H. Cuvigny (ed.), *La Route de Myos Hormos: L'Armée Romaine dans le Désert Oriental d'Égypte* (2; Cairo), 361–97.

——— (2003c), 'Le fonctionnement du réseau', in H. Cuvigny (ed.), *La Route de Myos Hormos: L'Armée Romaine dans le Désert Oriental d'Égypte* (2; Cairo), 295–353.

——— (2010), 'Femmes tournantes: remarques sur la prostitution dans les garnisons romaines du désert de Bérénice', *ZPE*, 172, 159–66.

D'Arms, J.H. (1974), 'Puteoli in the Second Century of the Roman Empire: A Social and Economic Study', *JRS*, 64, 104–24.

Dames, M.L. (1989), *The Book of Duarte Barbosa: An Account of the Countries Bordering on the Indian Ocean and Their Inhabitants*, 2 vols. (New Delhi).

Daris, S. (1956), 'Note per la storia dell'esercito romano in Egitto. I. I reparti', *Aegyptus*, 36, 235–46.

——— (2000), 'Legio II Traiana Fortis', in Y. Le Bohec and C. Wolff (eds.), *Les Légions de Rome sous le Haut-Empire* (Lyon), 359–63.

De Romanis, F. (1993), 'Puteoli e l'Oriente', in F. Zevi (ed.), *Puteoli* (Naples), 61–72.

——— (1996), *Cassia, cinnamomo, ossidiana: uomini e merci tra Oceano indiano e Mediterraneo* (Roma).

——— (1998), 'Commercio, metrologia, fiscalità. Su *P. Vindob. G.* 40.822 verso', *Mélanges de l'École Française de Rome, Antiquité* 110 (1), 11–60.

——— (2000), 'Esportazioni di corallo mediterraneo in India nell'età ellenistico-romana', in C. Rondi-Costanzo, J.P. Morel, and D. Ugolini (eds.), *Corallo di ieri, corallo di oggi: Atti del convegno, Ravello, Villa Rufolo, 13–15 dicembre 1996* (Bari), 211–16.

——— (2001), 'Lysas e il tempo: ulteriori considerazioni su AEp, 1954, 121a', *Epigraphica*, 63, 9–36.

——— (2002), 'Τραιανὸς ποταμός. Mediterraneo e Mar Rosso da Traiano a Maometto', in R. Villari (ed.), *Controllo degli stretti e insediamenti militari nel Mediterraneo* (Roma e Bari), 21–70.

——— (2006), '*Aurei* after the Trade: Western Taxes and Eastern Gifts', in F. De Romanis and S. Sorda (eds.), *Dal denarius al dinar. L'Oriente e la moneta romana. Atti dell'Incontro di studio, Roma, 16–18 settembre 2004* (Roma), 54–82.

——— (2010/2011) [2012], 'Playing Sudoku on the Verso of the "Muziris Papyrus": Pepper, Malabathron and Tortoise Shell in the Cargo of the Hermapollon', *Journal of Ancient Indian History*, 27, 75–101.

© 2015 The Trustees of Columbia University in the City of New York

——— (2012), 'On Dachinabades and Limyrike in the *Periplus Maris Erythraei*', in J.-Fr. Salles, J.-B. Yon, and M.-Fr. Boussac (eds.), *Autour du Périple de la mer Érythrée* (*Topoi. Supplément*) 11, 329–40.

De Vries, J. and A. Van Der Woude (1997), *The First Modern Economy: Success, Failure, and Perseverance of the Dutch Economy, 1500–1815* (Cambridge).

Desanges, J. (1984), 'Rome et les riverains de la mer Rouge au III^e^ siècle de notre ère', *Ktema*, 9, 249–60.

Devijiver, H. (1974), 'The Roman Army in Egypt with Special Reference to the Militiae Equestres', in H. Temporini and W. Haase (eds.), *Aufstieg und Niedergang der römischen Welt* (2.1; Berlin), 452–92.

Di Meglio, R.R. (1970), 'Arab Trade with Indonesia and the Malay Peninsula from the 8th to the 16th Century', in D.S. Richards (ed.), *Islam and the Trade of Asia: A Colloquium* (Oxford), 105–36.

Domaszewski, A. von (1981), *Die Rangordnung des römischen Heeres*, 3rd edn. (Bonn).

Donkin, R.A. (1998), *Beyond Price: Pearls and Pearl-Fishing: Origins to the Age of Discoveries* (Philadelphia).

Dubois, C. (1907), *Pouzzoles antique* (*histoire et topographie*) (Paris).

Duncan-Jones, R.P. (1994), *Money and Government in the Roman Empire* (Cambridge, UK).

——— (2006), 'Roman Customs Dues: a Comparative View', *Latomus. Revue d'études latines*, 65 (1), 3–16.

Eadie, J.W. (1985), 'Artifacts of Annexation: Trajan's Grand Strategy and Arabia', in J.W. Eadie, C.G. Starr, and J. Ober (eds.), *The Craft of the Ancient Historian: Essays in Honor of Chester G. Starr* (Lanham, MD), 407–23.

——— (1986), 'The Evolution of the Roman Frontier in Arabia', in P. Freedman and D. Kennedy (eds.), *The Defence of the Roman and Byzantine East* (Oxford), 243–52.

——— (1989), 'Strategies of Economic Development in the Roman East: The Red Sea Trade Revisited', in D.H. French and C.S. Lightfoot (eds.), *The Eastern Frontier of the Roman Empire, Part I* (Oxford), 113–20.

Elliot, H.M. and J. Dowson (1867–1877), *The History of India, as Told by its Own Historians: The Muhammadan Period*, 8 vols. (London).

Erickson-Gini, T. (2006), 'Down to the Sea: Nabataean Colonisation in the Negev Highlands', in P. Bienkowski and K. Galor (eds.), *Crossing the Rift: Routes, Resources, Settlement Patterns and Interaction in the Wadi Arabah* (Oxford), 157–66.

Errington, E. (1998), 'Gandharan Stupa Deposits', *Arts of Asia*, 28 (2), 80–87.

Evans, K.G. (1995), 'Alexander the Alabarch: Roman and Jew', in E.H.J. Lovering (ed.), *Society of Biblical Literature: 1995 Seminar Papers* (Atlanta), 576.

Falk, H. (1997), 'Refining Gold in Ancient India: ad JUB 3.17,3', *Acta Orientalia*, 58, 47–51.

© 2015 The Trustees of Columbia University in the City of New York

——— (2000), 'Measuring Time in Mesopotamia and Ancient India', *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 150, 107–32.

——— (2003), 'A Copper Plate Donation Record and Some Seals from Kashmir Smast', *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 23, 1–19.

——— (2014), 'The First Century Copper-Plates of Helagupta from Gandhāra Hailing Maitreya', *Annual Report of the International Research Institute for Advanced Buddhology* 17.

Faville, E. (1902–03), 'La stèle de Pithom', *Zeitschrift für ägyptische Sprache und Altertumskunde*, 40, 66–75.

Fiema, Z.T. (1987), 'The Roman Annexation of Arabia: A General Perspective', *Ancient World*, 15, 25–35.

Flinterman, J.-J. (1997), 'The Date of Lucian's Visit to Abonuteichos', *ZPE*, 119, 280–3.

Fonseca, H.Q. da (1989), *Os Portugueses no Mar. Memórias Históricas e Arqueológicas das Naus de Portugal* (2nd edn.; Lisboa).

Foraboschi, D. and A. Gara (1989), 'Le direttrici del commercio alessandrino', *Quaderni ticinesi di numismatica e antichità classiche*, 18, 280–2.

Freedman, P. (2005), 'Spices and Late-Medieval Ideas of Scarcity and Value', *Speculum*, 80 (4), 1209–27.

Freeman, P. (1996), 'The Annexation of Arabia and Imperial Grand Strategy', in D.L. Kennedy (ed.), *The Roman Army in the East* (*JRA Suppl. 18*) (Ann Arbor), 91–118.

Fuks, A. (1951), 'Notes on the Archive of Nicanor', *JJP*, 5, 207–16.

Gaastra, F. (2003), *The Dutch East India Company: Expansion and Decline* (Zutphen).

Ganguly, D.K. (1989), 'The Satamana Metallic Currency', in D.C. Bhattacharyya and D. Handa (eds.), *Prācī-Prabhā: Perspectives in Indology* (*Essays in Honour of Professor B.N. Mukherjee*) (New Delhi), 91–100.

Gates, J.E. (2006), 'Hidden Passage: Graeco-Roman Roads in Egypt's Eastern Desert', in E.C. Robertson, et al. (eds.), *Space and Spatial Analysis in Archaeology* (Calgary), 315–22.

Gawlikowski, M. (1994), 'Palmyra as a Trading Centre', *Iraq*, 56, 27–33.

——— (2003), 'The Nabataean Temple at Qasrawet', in Z. Hawass and L.P. Brock (eds.), *Egyptology at the Dawn of the Twenty-First Century* (Cairo), 195–99.

Gianfrotta, P.A. (2008), 'Il Commercio Marittimo in Età Tardo-Repubblicana: Merci, Mercanti, Infrastrutture', in J. Pérez Ballester and G.P. Berlanga (eds.), *Comercio, Redistribución y Fondeaderos. La navegacíon a vela en el Mediterráneo* (València), 65–78.

Göbl, R. (1960), 'Roman Patterns for Kushāṇa Coins', *Journal of the Numismatic Society of India*, 22, 75–95.

Godinho, V.M. (1981–1983), *Os descobrimentos e a economia mundial*, 4 vols., 2nd edn. (Lisboa).

Goitein, S.D. and M.A. Friedman (2008), *India Traders of the Middle Ages: Documents from the Cairo Geniza* (*'India book'*), *part I* (Leiden).

© 2015 The Trustees of Columbia University in the City of New York

Goossens, R. (1930), 'Un texte grec relatif à l'Asvamedha', *Journal Asiatique* 217, 280–85.

Graf, D.F. (1978), 'The Saracens and the Defence of the Arabian Frontier', *BASOR*, 229, 1–29.

——— (1996), 'The Roman East from the Chinese Perspective', *International Colloquium on Palmyra and the Silk Road* (*Les annales archéologiques arabes syriennes vol. 42*) (Damascus), 199–216.

——— (2007), 'The Nabataeans under Roman Rule (After AD 106)', in K.D. Politis (ed.), *The World of the Nabataeans* (Stuttgart), 173–86.

Greif, A. (2006), *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade* (Cambridge).

Hamilton-Dyer, S. (2011), 'Faunal Remains', in 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), 245–88.

Hammond, P.C. (1979), 'Nabataean', in D.S. Whitcomb and J.H. Johnson (eds.), *Quseir al-Qadim 1978 Preliminary Report* (Cairo), 245–47.

Hansman, J. (1973), 'A Periplus of Magan and Meluḫḫa', *Bulletin of the School of Oriental and African Studies*, 36, 554–87.

Harrauer, H. and P. Sijpesteijn (1985), 'Ein neues Dokument zu Roms Indienhandel, *P. Vindob*. G 40.822', *Anzeiger d. Österreichischen Akad. d. Wissenschaften, Phil.-Hist. Klasse*, 122, 124–55.

Hayek, F.A. (1991), *The Trend of Economic Thinking: Essays on Political Economists and Economic History* (London).

Healey, J.F. (2001), *The Religion of the Nabataeans: A Conspectus* (Leiden).

Hemmy, A.S. (1938), 'System of Weights', in E.J.H. Mackay (ed.), *Further Excavations at Mohenjo-Daro* (New Delhi), 604–12.

Hill, J. (2009), *Through the Jade Gate to Rome: A Study of the Silk Routes during the Later Han Dynasty 1st to 2nd Centuries CE* (Charleston).

Hirth, F. (Leipsic and Munich, 1885; repr. 1975), *China and the Roman Orient* (Chicago).

Ho, C. (2001), 'The Ceramic Boom in Minnan During Song and Yuan Times', in A. Schottenhammer (ed.), *The Emporium of the World: Maritime Quanzhou, 1000–1400* (Leiden), 237–81.

Höckmann, O. (1985), *Antike Seefahrt* (München).

Holladay, J.S., Jr. (1999a), 'Tell el-Maskhuta', in K.A. Bard (ed.), *Encyclopedia of the Archaeology of Ancient Egypt* (London and New York), 786–89.

——— (1999b), 'Wadi Tumilat', in K.A. Bard (ed.), *Encyclopedia of the Archaeology of Ancient Egypt* (London and New York), 878–81.

——— (ed.), (1982), *Tell el-Maskhuta: Preliminary Report on the Wadi Tumilat Project 1978–1979* (Malibu).

Horden, P. and N. Purcell (2000), *The Corrupting Sea: A Study of Mediterranean History* (Oxford).

© 2015 The Trustees of Columbia University in the City of New York

Hornell, J. (1914), *The Sacred Chank of India: A Monograph of the Indian Conch (Turbinella Pyrum)* (Madras).

Horton, M.C. (1996a), 'Early Maritime Trade and Settlement Along the Coasts of Eastern Africa', in J. Reade (ed.), *The Indian Ocean in Antiquity* (London and New York), 439–59.

——— (1996b), *Shanga: The Archaeology of a Muslim Trading Community on the Coast of East Africa* (London).

——— (2003), 'Islam, Archaeology, and Swahili Identity', in D. Whitcomb (ed.), *Changing Social Identity with the Spread of Islam: Archaeological Perspectives* (Chicago), 67–88.

Humbert, J.-B. (ed.), (2000), *Gaza méditerranéenne: Histoire et archéologie en Palestine* (Paris).

Isaac, B. (1992), *The Limits of the Empire* (revised edn.; Oxford).

Israel, J.I. (1990), *Dutch Primacy in World Trade: 1585–1740* (Oxford).

Jain, V.K. (1990), *Trade and Traders in Western India, A.D. 1000–1300* (New Delhi).

Jameson, S. (1968), 'Chronology of the Campaigns of Aelius Gallus and C. Petronius', *JRS*, 58, 71–84.

Jomard, E.-F. (ed.), (1809–1828), *Description de l'Egypte ou Recueil des observations et des recherches qui ont été faites en Egypte pendant l'expédition de l'armée française, publié par les ordres de sa majesté l'empereur Napoléon le Grand* (Paris).

Jones, R.N., et al. (1988), 'A Second Nabataean Inscription from Tell esh-Shuqafiya', *Bulletin of the American Schools of Oriental Research* 269, 47–57.

Jördens, A. (2007), 'Neues zum Trajanskanal', in T. Purola, J. Frösen, and E. Salmenkivi (eds.), *Proceedings of the 24th International Congress of Papyrology, Helsinki, 1–7 August, 2004. Vol. 1, with appendices by A. Jördens (478–80), P. Heilporn (480–82), and R. Duttenhöfer (483–85)* 469–78.

——— (2009), *Statthalterliche Verwaltung in der römischen Kaiserzeit. Studien zum praefectus Aegypti* (Stuttgart).

Jung-Pang, Lo (1970), 'Chinese Shipping and East–West Trade from the Tenth to the Fourteenth Century', in M. Mollat (ed.), *Sociétés et compagnies de commerce en Orient et dans l'Océan Indien* (Paris), 167–76.

Karashima, N. (2009), *Ancient to Medieval: South Indian Society in Transition* (New Delhi).

Kennedy, D.L. (1980), '*Legio VI Ferrata*: The Annexation and Early Garrison of Arabia', *HSCP* 84, 283–309.

——— (1985), 'The Composition of a Military Work Party in Roman Egypt (*ILS* 2483: Coptos)', *Journal of Egyptian Archaeology* 71, 156–60.

Keppie, L. (1986), 'Legions in the East from Augustus to Trajan', in P.W.M. Freeman and D.L. Kennedy (eds.), *The Defence of the Roman and Byzantine East* (*BAR International Series 297*) (Oxford), 411–29.

© 2015 The Trustees of Columbia University in the City of New York

Kienast, D. (1966), *Untersuchungen zu den Kreigsflotten der romischen Kaiserzeit* (Bonn).

Kieniewicz, J. (1996), 'Pepper Gardens and Market in Precolonial Malabar', in M.N. Pearson (ed.), *Spices in the Indian Ocean World* (Brookfield, VT).

Kirkbride, D. (1990), 'The Nabataeans, Trajan and the *Periplus*', *Aram 2*, 253–65.

Kortenbeutel, H. (1931), *Der ägyptische Süd- und Osthandel in der Politik der Ptolemäer und römischen Kaiser* (Berlin).

Krishnamurthy, R. (2000), 'A Roman Coin Bronze Die from Karur, Tamilnadu, India', in B. Kluge and B. Weisser (eds.), *XII. Internationaler Numismatischer Kongress Berlin 1997: Akten-Proceedings—Actes I*. (Berlin), 552–53.

——— (2005), 'Some Roman Republican *Denarii* from Karur in South India', in C. Marcos, C. Alfaro, and P. Otero (eds.), *XIII Congreso Internacional de Numismática, Madrid 15–19 Septiembre, Actas—Proceedings—Actes, Vol. I* (Madrid), 625–28.

Krzywinski, J. (2007), 'Water Harvesting in the Eastern Desert of Egypt', in E.H. Seland (ed.), *The Indian Ocean in the Ancient Period: Definite Places, Translocal Exchange* (*BAR International Series 1593*) (Oxford), 45–57.

Kulke, H. (1999), 'Rivalry and Competition in the Bay of Bengal in the Eleventh Century and its Bearing on Indian Ocean Studies', in O. Prakash and D. Lombard (eds.), *Commerce and Culture in the Bay of Bengal 1500–1800* (New Delhi), 17–36.

Kunz, G.F. and C.H. Stevenson (1908), *The Book Of The Pearl: The History, Art, Science, And Industry Of The Queen Of Gems* (New York).

Lacerenza, G. (1994), 'Due nuove iscrizioni del tempio di Dusares dell'antica Puteoli', *Annali dell'Istituto Universitario Orientale di Napoli* 54, 15–17.

——— (1988/1989), 'Il dio Dusares a Puteoli', *Puteoli, Studi di Storia Antica* 12/13 119–49.

Lauffer, S. (1971), *Diokletians Preisedikt* (Berlin).

Levi Della Vida, G. (1938), 'Una bilingue greco-nabatea a Coo', *Clara Rhodos* 9, 137–48.

Lewis, M.J.T. (1997), *Millstone and Hammer: The Origins of Water Power* (Yorkshire).

Lima Felner, R.J. (1868), *O Livro dos Pesos, Medidas e Moedas por Antonio Nunes* (Lisboa).

Littmann, E. and D. Meredith (1953), 'Nabataean Inscriptions from Egypt, I', *Bulletin of the School of Oriental and African Studies* 15 (1), 1–28.

——— (1954), 'Nabataean Inscriptions from Egypt, II', *Bulletin of the School of Oriental and African Studies* 16 (2), 211–46.

Luther, A. (1999), 'Medo nectis catenas? Die Expedition des Aelius Gallus im Rahmen der augusteischen Partherpolitik', *Orbis Terrarum* 5, 157–182.

MacDowall, D.W. (1960), 'The Weight Standards of the Gold and Copper Coinages of the Kushāṇa Dynasty from Vima Kadphises to Vāsudeva', *Journal of the Numismatic Society of India* 22, 63–74.

© 2015 The Trustees of Columbia University in the City of New York

——— (1991), 'Indian Imports of Roman Silver Coins', in A.K. Jha (ed.), *Coinage, Trade and Economy: The 3rd International Colloquium, January 8th–11th 1991* (Anjaneri) 145–63.

——— (1997), 'Western Impact on the Coinage of the Great Kushans', in R. Allchin, et al. (eds.), *Gandharan Art in Context. East–West Exchanges at the Crossroads of Asia* (New Delhi), 231–43.

MacDowall Hellings, T.C.L. (1998), 'The Defacement of Roman *Aurei* Exported to India', in A.K. Jha and S. Garg (eds.), Ex Moneta: *Essays on Numismatics, History and Archaeology in Honour of Dr. David W. MacDowall, Vol. 1* (New Delhi), 129–44.

Mainkar, V.B. (1984), 'Metrology in the Indus Civilization', in B.B. Lal and S.P. Gupta (eds.), *Frontiers of the Indus Civilization: Sir Mortimer Wheeler Commemoration Volume* (New Delhi), 141–51.

Maiuri, A. (1938/1939), 'Statuetta eburnea di arte indiana a Pompei', *Le Arti* 2, 111–15.

Majumdar, R.C. (1960), *The Classical Accounts of India* (Calcutta).

Malekandathil, P. (2001), *Portuguese Cochin and the Maritime Trade of India 1500–1633* (New Delhi).

Malouta, M. and A.I. Wilson (2013), 'Mechanical Irrigation: Water-Lifting Devices in the Archaeological Evidence and in the Egyptian Papyri', in A. Bowman and A. Wilson (eds.), *The Roman Agricultural Economy: Organization, Investment, and Production* (Oxford), 273–306.

Maqbul Ahmad, S. (1954), *India and the Neighbouring Territories as Described by the Sharif al-Idrisi in his Kitāb Nuzhat al-mushtāq fi'khtirāq al-āfāq of Sharīf al-Idrīsī: Part 1* (*Arabic text*) (Aligarh).

——— (1960), *India and the Neighbouring Territories in the Kitāb Nuzhat al-Mushtāq fi'khtirāq al-Āfāq of Sharīf al-Idrīsī* (Leiden).

——— (1989), *Arabic Classical Accounts of India and China* (Shimla).

Marek, C. (1993), 'Die Expedition des Aelius Gallus nach Arabien im Jahre 25 v. Chr.', *Chiron* 23, 121–156.

Margariti, R.E. (2007), *Aden and the Indian Ocean Trade: 150 Years in the Life of a Medieval Arabian Port* (Chapel Hill).

Mathew, K.S. (1997), *Indo-Portuguese Trade and the Fuggers of Germany: Sixteenth Century* (New Delhi).

Mayerson, P. (1992), 'The Island of Iotabê in the Byzantine Sources: A Reprise', *Bulletin of the American Schools of Oriental Research* 287, 1–4.

——— (1993), 'A Confusion of Indias: Asian India and African India in the Byzantine Sources', *JAOS*, 113, 169–74.

——— (1995a), 'A Note on Iotabe and Several Other Islands in the Red Sea', *Bulletin of the American Schools of Oriental Research* 298, 33–35.

——— (1995b), 'Aelius Gallus at Cleopatris (Suez) and on the Red Sea', *Greek, Roman and Byzantine Studies* 36, 17–24.

© 2015 The Trustees of Columbia University in the City of New York

——— (1996), 'The Port of Clysma (Suez) in Transition from Roman to Arab Rule', *Journal of Near Eastern Studies*, 55 (2), 119–26.

McCrindle, J.W. (1885), *Ancient India as Described by Ptolemy* (London).

Medas, S. (2004), 'Lemboi e Liburnae', in L. Braccesi (ed.), *La Pirateria nel Mondo Antico* (Roma), 129–38.

Meredith, D. (1953), 'Annius Plocamus: Two inscriptions from the Berenice Road', *JRS*, 43, 38–40.

Messeri, G. (2004–5), 'Un nuovo trierarco e la presenza della flotta romana nel Mar Rosso', *Analecta Papyrologica* 16–17, 69–73.

Metcalf, W.E. (1979), 'Roman *Aurei* from India', *American Numismatic Society Museum Notes* 24, 123–27.

Michaelides, D. (1995), 'Cyprus and the Persian Gulf in the Hellenistic and Roman Periods: The Case of *Pinctada margaritifera*', in V. Karageorghis and D. Michaelides (eds.), *Cyprus and the Sea. International Symposium organized by the Cyprus Ports Authority and the Archaeological Research Unit of the University of Cyprus, 25–26 September. Nicosia 1993* (Nicosia), 211–26.

Minorsky, V. (1937), *Hudūd al-ʿĀlam: The Regions of the World. A Persian Geography 372 A.H.–982 A.D.* (London).

Monteix, N. (2013), '"Caius Lucretius [. . .], marchand de couleurs de la rue des fabricants de courroies." Réflexions critiques sur les concentrations de métiers à Rome', in A. Esposito and G.M. Sanidas (eds.), *'Quartiers' artisanaux en Grèce ancienne: Une perspective Méditerranéenne* (333–52).

Mordini, A. (1967), 'Gold Kushana Coins in the Convent of Dabra Dammo', *Journal of the Numismatic Society of India* 29, 19–25.

Morelli, F. (2011), 'Dal Mar Rosso ad Alessandria: Il verso (ma anche il recto) del "papiro di Muziris" (*SB* XVIII 13167)', *Tyche* 26, 199–234.

Morgan, P. (1991), 'New Thoughts on Old Hormuz: Chinese Ceramics in the Hormuz Region in the Thirteenth and Fourteenth Centuries', *Iran* 29 67–83.

Morley, N. (2007), *Trade in Classical Antiquity* (Cambridge).

Morrison, K.D. (2002), 'Pepper in the Hills: Upland–Lowland Exchange and the Intensification of the Spice Trade', in K.D. Morrison and L.L. Junker (eds.) *Forager-Traders in South and Southeast Asia*, (Cambridge),105–30.

Mukund, K. (1999), *The Trading World of the Tamil Merchant: Evolution of Merchant Capitalism in the Coromandel* (London).

Murray, G.W. (1925), 'The Roman Roads and Stations in the Eastern Desert of Egypt', *The Journal of Egyptian Archaeology* 11, 138–50.

Nagaswamy, R. (1991), 'Alagankulam: An Indo-Roman Trading Port', in C. Margabandhu, et al. (eds.), *Indian Archaeological Heritage: Shri K.V. Soundara Rajan Felicitation, Volume II* (Delhi), 247–54.

——— (1995), *Roman Karur* (Madras).

© 2015 The Trustees of Columbia University in the City of New York

Nappo, D. (2009), 'Roman Policy in the Red Sea between Anastasius and Justinian', in L.K. Blue, et al. (eds.), *Connected Hinterlands: Proceedings of Red Sea Project IV held at the University of Southampton, September 2008* (Oxford), 71–77.

Nizami, K.A. (1994), 'Early Arab Contact with South Asia', *Journal of Islamic Studies* 5 (1), 52–69.

Oertel, F. (1964), 'Das Problem des antiken Suezkanals', in K. Repgen and S. Skalweit (eds.), *Spiegel der Geschichte, Festgabe für Max Braubach zum 10. April 1964* (Münster), 18–51.

Ogden, J. (1996), 'The Pearl in Classical Jewellery', *Jewellery Studies* 7, 37–42.

Oleson, J.P. (1984), *Greek and Roman Mechanical Water-Lifting Devices: The History of a Technology* (*Phoenix Supplementary Volume*) (Toronto).

Oren, E.D. (1982), 'Excavations at Qasrawet in North-Western Sinai: Preliminary Report', *Israel Exploration Journal* 32 (1), 203–11.

Papi, E. (2002), 'La turba inpia: artigiani e commercianti del Foro Romano e dintorni (i sec. a.C.–64 d.C.)', *JRA*, 15 (1), 45–62.

Parker, G. (2008), *The Making of Roman India* (Cambridge).

Parker, S.T. (1986), *Romans and Saracens: A History of the Arabian Frontier* (Winona Lake).

——— (1996), 'The Roman 'Aqaba Project: The 1994 Campaign', *ADAJ* 40, 231–57.

——— (1998), 'The Roman 'Aqaba Project: The 1996 Campaign', *ADAJ* 42, 375–94.

——— (2000), 'The Roman 'Aqaba Project: The 1998 Campaign', *ADAJ*, 44, 373–94.

——— (2002), 'The Roman 'Aqaba Project: The 2000 Campaign', *ADAJ*, 46, 409–28.

——— (2003), 'The Roman 'Aqaba Project: The 2002 Campaign', *ADAJ* 47, 321–33.

——— (2009), 'The Roman Port of Aila: Economic Connections with the Red Sea Litoral', in L.K. Blue, et al. (eds.), *Connected Hinterlands: Proceedings of Red Sea Project IV Held at the University of Southampton, September 2008* (Oxford), 79–89.

Peacock, D. (1993), 'The Site of Myos Hormos: A View from Space', *JRA*, 6, 226–32.

Pearson, M.N. (2007), *The Indian Ocean* (London).

Pekáry, T. (1968), *Untersuchungen zu den römischen Reichsstrassen* (Bonn).

Petruso, K.M. (1981), 'Early Weights and Weighing in Egypt and the Indus Valley', *M Bulletin: Museum of Fine Arts* (79; Boston), 44–51.

Phillipson, D.W. (2009) 'Aksum, the entrepôt, and highland Ethiopia, 3rd–12th centuries', in M.M. Mango (ed.), Byzantine Trade, 4th–12th Centuries. The Archaeology of Local, Regional and International Exchange. (Ashgate), 353–68.

Piacentini, V.F. (1992), *Merchants, Merchandise and Military Power in the Persian Gulf* (*Sūriyānj/Shahriyāj-Sīrāf*) (Rome).

Pleket H. (1990), 'Wirtschaft', in F. Vittinghoff (ed.), *Handbuch der Europäischen Wirtschafts-und Sozialgeschichte, I*. (Köln) 25–160.

Pomeranz, K. and S. Topik (2006), *The World that Trade Created: Society, Culture, and the World Economy, 1400 to the Present* (New York).

© 2015 The Trustees of Columbia University in the City of New York

Posener, G. (1938), 'Le canal du Nil à la Mer Rouge avant les Ptolémées', *CE*, 13, 258–73.

Potts, D.T. (1994), 'Augustus, Aelius Gallus and the *Periplus*: A Re-Interpretation of the Coinage of San'â' Class B', in N. Nebes (ed.), *Arabia Felix: Beiträge zur Sprache und Kultur des vorislamischen Arabien. Festschrift Walter W. Müller zum 60. Geburtstag.* (Wiesbaden), 212–22.

Power, T. (2012), *The Red Sea from Byzantium to the Caliphate: AD 500–1000* (Cairo and New York).

Prakash, O. (1994), *Precious Metals and Commerce: The Dutch East India Company in the Indian Ocean Trade* (Brookfield, VT).

——— (1998), *European Commercial Enterprise in Pre-Colonial India: The New Cambridge History of India, Vol. II* (Cambridge).

——— (1999), 'The Portuguese and the Dutch in Asian Maritime Trade: A Comparative Analysis', in S. Chaudhury and M. Morineau (eds.), *Merchants, Companies and Trade: Europe and Asia in the Early Modern Era* (Cambridge) 175–88.

Prange, S.R. (2011), ' "Measuring by the Bushel": Reweighing the Indian Ocean Pepper Trade', *Historical Research* 84 (224), 212–35.

Purpura, G. (1996), 'Testimonianze storiche e archeologiche di traffici marittimi di libri e documenti', *ASGP* 44, 368–75.

——— (2005), 'Osservazioni sulla pesca del corallo rosso nell'antichità', *Archaeologia Maritima Mediterranea*, 2, 93–106.

Rajan, K. (1996), 'Early Maritime Activities of the Tamils', in H.P. Ray and J.-F. Salles (eds.), *Tradition and Archaeology: Early Maritime Contacts in the Indian Ocean* (Delhi), 96–108.

Raman, K.V. (1988), 'Port Towns of Tamilnadu: Some Field Data and the Prospects of Maritime Archaeology', in S.R. Rao (ed.), *Marine Archaeology of Indian Ocean Countries* (Goa).

Rao, S.R. (1985), *Lothal: A Harappan Port Town (1955–62: Memoirs of the Archaeological Survey of India)* (New Delhi).

Raschke, M.G. (1978), 'New Studies in Roman Commerce with the East', in H. Temporini and W. Haase (eds.), *Aufstieg und Niedergang der römischen Welt, II.9.2* (Berlin), 604–1378.

Rathbone, D.W. (2000), 'The "Muziris" Papyrus (*SB* XVIII 13167): Financing Roman Trade with India', in M. Abd-el-Ghani, S.Z. Bassiouni, and W.A. Farag (eds.), *Alexandrian Studies II in Honor of Mostafa el Abbadi, Societé Archéologique d'Alexandrie* (Alexandria), 39–50.

——— (2002), 'Koptos the Emporion: Economy and Society, I–III AD', in M.-F. Boussac (ed.), *Autour de Coptos: Actes du colloque organisé au Musée des Beaux-Arts de Lyons (17–18 mars 2000)* (Lyon), 179–98.

——— (2007), 'Roman Egypt', in R. Saller I. Morris and W. Scheidel (eds.), *The Cambridge Economic History of the Greco-Roman World* (Cambridge), 698–719.

© 2015 The Trustees of Columbia University in the City of New York

Rau, W. (1973), *Metalle und Metallgeräte im vedischen Indien* (Wiesbaden).

Raven, E.M. (2006), 'Kuṣāṇa Echoes and the "Indianization" of Early Gupta Gold Coin Design', in F. De Romanis and S. Sorda (eds.), *Dal denarius al dinar: L'oriente e la moneta Romana. Atti dell'incontro di studio, Roma 16–18 settembre 2004* (Roma), 201–37.

Ray, H.P. (2003), *The Archaeology of Seafaring in Ancient South Asia* (Cambridge).

Redmount, C.A. (1995), 'The Wadi Tumilat and the "Canal of the Pharaohs" ', *Journal of Near Eastern Studies* 54 (2), 127–35.

——— (1989), 'On an Egyptian/Asiatic Frontier: An Archaeological History of the Wadi Tumilat' (Unpublished Ph.D. dissertation, University of Chicago).

Rey-Coquais, J.-P. (1978), 'Syrie romaine, de Pompée à Dioclétien', *JRS*, 68, 44–73.

Roaf, M. (1982), 'Weights on the Dilmun Standard', *Iraq*, 44, 137–41.

Robert, L. (1940), 'ΠΕΤΡΑΙΟΣ onomastique et géographie', *Hellenica: Recueil d'épigraphie, de numismatique et d'antiquités grecques, vol. 1.* (Paris), 121–26.

Roche, M.-J. (1996), 'Remarques sur les Nabatéens en Méditerranée', *Semitica* 45, 73–99.

Rostovtzev, M. (1931), 'Review of Greek *Ostraka* of the Bodleian Library', *Gnomon* 7, 23–26.

Rougé, J. (1957), 'Ad ciconias nixas', *Revue des Études Anciennes* 59, 320–28.

Rougelle, A. (1996), 'Medieval Trade Networks in the Western Indian Ocean (8th–14th Centuries)', in H.P. Ray and J.-F. Salles (eds.), *Tradition and Archaeology: Early Maritime Contacts in the Indian Ocean* (Delhi), 159–80.

Ruffing, K. (1993), 'Das Nikanor-Archiv und der römische Süd- und Osthandel', *Münstersche Beiträge zur Antiken Handelsgeschichte* 12, 1–26.

Ruggiero, M. (1888), *Degli scavi di antichità nelle province di Terraferma dell'antico regno di Napoli dal 1743–1876* (Naples).

Sachet, I. (2000), 'La céramique fine de Gaza: Une fenêtre ouverte sur les voies commerciales', in J.-B. Humbert (ed.), *Gaza Méditerranéenne: Histoire et archéologie en Palestine* (Paris), 51–53.

Sachs, C. and M. Blet-Lemarquand (2005), 'Le monnayage d'or des Kouchans et de leurs successeurs nomades: altération et chronologie', in C. Marcos, C. Alfaro, and P. Otero (eds.), *XIII Congreso Internacional de Numismática, Madrid 15–19 Septiembre, Actas—Proceedings—Actes, II*. (Madrid), 1659–67.

Salomon, R. (1990), 'A Kharoṣṭhī Inscription on a Silver Goblet', *Bulletin of the Asia Institute*, 4, 149–57.

Salonen, A. (1965), *Die Hausgeräte der alten Mesopotamier nach sumerisch-akkadischen Quellen* (Helsinki).

Sastri, K.A. Nilakanta (1939), *Foreign Notices of South India: From Megasthenes to Ma Huan* (Madras).

Sathyamurthy, T. (1992), *Catalogue of Roman Gold Coins in the Collections of Department of Archaeology, Kerala* (Thiruvanthapuram).

© 2015 The Trustees of Columbia University in the City of New York

Scheidel, W. (ed.), (2009a), *Rome and China: Comparative Perspectives on Ancient World Empires* (Oxford).

——— (2009b), 'In Search of Roman Economic Growth', *JRA*, 22 (1), 46–70.

Schneider, P. (2004), *L'Éthiopie et l'Inde: Interférences et confusions aux extrémités du monde antique* (Rome).

Schoff, W.H. (1912), *The* Periplus *of the Erythraean Sea: Travel and Trade in the Indian Ocean, by a Merchant of the First Century* (New York).

Schörle, K. (2008), 'The Roman Exploitation of the Eastern Desert of Egypt', (University of Oxford).

——— (2010), 'From Harbour to Desert: An Integrated Interface on the Red Sea and its Impact on the Eastern Egyptian Desert', *Bolletino di Archeologia Online* <http://www.bollettinodiarcheologiaonline.beniculturali.it/bao_document/articoli/5_SCHÖRLE.pdf>, accessed.

Schroeder, L. von (1895), 'Das Kāṭhaka, seine Handschriften, seine Accentuation und seine Beziehung zu den indischen Lexikographen und Grammatikern', *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 49, 145–71.

Seland, E.H. (2012), 'The *Liber Pontificalis* and Red Sea Trade of the Early to Mid 4th Century AD', in D.A. Agius, et al. (eds.), *Navigated Spaces, Connected Places: Proceedings of Red Sea Project V Held at the University of Exeter, 16–19 September 2010* (Oxford), 117–26.

Selvakumar, V., K.P. Shahjan, and R. Tomber (2010), 'Archaeological Investigations at Pattanam, Kerala: New Evidence for the Location of Ancient Muziris', in L. Blue, R. Tomber, and S. Abraham (eds.), *Migration, Trade and Peoples, Part 1; Indian Commerce and the Archaeology of Western India* (London), 29–41.

Seshadri, G. (2009), 'New Perspectives on Nagapattinam: The Medieval Port City in the Context of Political, Religious and Commercial Exchanges between South India, Southeast Asia, and China', in K. Kesavapany, H. Kulke, and V. Sakhuja (eds.), *Nagapattinam to Suvarnadwipa: Reflections on the Chola Naval Expeditions to Southeast Asia* (Singapore), 102–34.

Sewell, R. (1904), 'Roman Coins Found in India', *Journal of the Royal Asiatic Society* 591–637.

Shajan, K.P., et al. (2004), 'Locating the Ancient Port of Muziris: Fresh Findings from Pattanam', *Journal of Roman Archaeology* 17, 313–20.

Sheehan, P. (2012), 'The Port of Babylon in Egypt', in D.A. Agius, et al. (eds.), *Navigated Spaces, Connected Places: Proceedings of Red Sea Project V Held at the University of Exeter, 16–19 September 2010,* (*BAR International Series 2346*) (Oxford), 103–15.

Shinde, V., S. Gupta, and D. Rajgor (2002), 'An Archaeological Reconnaissance of the Konkan Coast from Bharuch to Janjira', *Man and Environment* 27 (1), 73–82.

Sicker, M. (2000), *The Pre-Islamic Middle East* (Westport).

© 2015 The Trustees of Columbia University in the City of New York

Sidebotham, S.E. (1986a), *Roman Economic Policy in the Erythra Thalassa 30 B.C.–A.D. 217* (Leiden).

——— (1986b), 'Aelius Gallus and Arabia', *Latomus* 45 (3), 590–602.

——— (1996), 'An Overview of Archaeological Work in the Eastern Desert and Along the Red Sea Coast by the University of Delaware—Leiden University, 1987–1995', *Topoi* 6 (2), 773–83.

——— (1997), 'Caravans Across the Eastern Desert of Egypt: Recent Discoveries on the Berenice–Apollinopolis Magna–Coptos Roads', in A. Avanzini (ed.), *Profumi d'Arabia: Atti del Convegno* (Roma), 385–93.

——— (1999), 'Survey of the Hinterland', in S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1997: Report of the 1997 Excavations at Berenike and the Survey of the Eastern Desert, Including Excavations at Shenshef* (*CNWS Special Series*) (Leiden), 349–69.

——— (2000), 'Survey of the Hinterland', in S.E. Sidebotham and W.Z. Wendrich (eds.), *Berenike 1998. Report of the 1998 Excavations at Berenike* (*Egyptian Red Sea coast*) *and the Survey of the Eastern Desert* (*CNWS Special Series*) (Leiden), 354–77.

——— (2002a), 'From Berenike to Koptos: Recent Results of the Desert Route Survey', in M.-F. Boussac (ed.), *Autour de Coptos: Actes du colloque organisé au Musée des Beaux-Arts de Lyon* (Lyon), 415–38.

——— (2002b), 'Late Roman Berenike', *JARCE* 39, 217–40.

——— (2007), 'Chapter 4: Excavations', in S.E. Sidebotham and W. Wendrich (eds.), *Berenike 1999/2000: Report on the Excavations at Berenike, Including Excavations in the Wadi Kalalat and Siket, and the Survey of the Mons Smaragdus Region* (Los Angeles), 30–165.

——— (2011), *Berenike and the Ancient Maritime Spice Route* (Berkeley, Los Angeles, and London).

——— M. Hense, and H.M. Nouwens (2008), *The Red Land: The Illustrated Archaeology of Egypt's Eastern Desert* (Cairo).

——— and W.Z. Wendrich (1995), *Berenike 1994: Preliminary Report of the 1994 Excavations at Berenike* (*Egyptian Red Sea Coast*) *and the Survey of the Eastern Desert* (Leiden).

——— (1996), *Berenike 1995: Preliminary Report of the 1995 Excavations at Berenike* (*Egyptian Red Sea Coast*) *and the survey of the Eastern Desert* (Leiden).

——— (1998), *Berenike 1996: Report of the 1996 Excavations at Berenike* (*Egyptian Red Sea Coast*) *and the Survey of the Eastern Desert* (Leiden).

——— 1999), 'Interpretative Summary and Conclusion', in 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), 445–56.

——— (2000), *Berenike 1998: Report of the 1998 Excavations at Berenike* (*Egyptian Red Sea Coast*) *and the Survey of the Eastern Desert, Including Excavations in Wadi Kalalat* (Leiden).

© 2015 The Trustees of Columbia University in the City of New York

——— (2007), *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).

——— and R.E. Zitterkopf (1995), 'Routes Through the Eastern Desert of Egypt', *Expedition: Bulletin of the University Museum of the University of Pennsylvania* 37 (2), 39.

——— (1996), 'Survey of the Hinterland', in 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), 357–409.

——— and J.A. Riley (1991), 'Survey of the Abu Sha'ar–Nile Road', *American Journal of Archaeology* 95 (4), 571–622.

Sijpesteijn, P.J. (1963), 'Der Τραιανός ποταμός', *Aegyptus* 43, 70–83.

Silver, M. (2009), 'Glimpses of Vertical Integration/Disintegration in Ancient Rome', *Ancient Society* 39, 171–84.

Singer, C. (2007), 'The Incense Kingdoms of Yemen: An Outline History of the South Arabian Incense Trade', in D. Peacock and D. Williams (eds.), *Food for the Gods: New Light on the Ancient Incense Trade* (Oxford), 4–27.

Siviero, R. (1954), *Gli ori e le ambre del museo nazionale di Napoli* (Sansoni).

Skinner, F.G. (1954), 'Measures and Weights', in E.J. Holmyard, C. Singer, and A.R. Hall (eds.), *A History of Technology, Vol. I* (Oxford), 774–84.

——— (1967), *Weights and Measures: Their Ancient Origins and Their Development in Great Britain up to AD 1855* (London).

Sleeswyk, A.W. (1979), 'Vitruvius' waywiser', *Archives Internationales d'Histoire des Sciences* 29, 11.

——— (1981), 'Vitruvius' Odometer', *Scientific American* 245 (October), 158–71.

——— (1990), 'Archimedes' Odometer and Waterclock', *Ancient Technology*, 23–37.

Sogliano, A. (1890), 'Di un'epigrafe dedicatoria ad Adriano', *N.d.sc.*, 17–18.

Sonnabend, H. (1999), 'Kanal', in H. Sonnabend (ed.), *Mensch und Landschaft in der Antike. Lexikon der historischen Geographie* (Stuttgart and Weimar), 243.

Soundara Rajan, K.V. (1994), *Kaveripattinnam Excavations 1963–73: A Port City on the Tamilnadu Coast* (New Delhi).

Speidel, M.A. (2000), 'Sold und Wirtschaftslage der römischen Soldaten', in B. Dobson, G. Alföldy, and W. Eck (eds.), *Kaiser, Heer und Gesellschaft in der römischen Kaiserzeit. Gedenkschrift für Eric Birley* (Stuttgart), 65–96.

Speidel, M.P. (1977), 'The Roman Army in Arabia', in H. Temporini and W. Haase (eds.), *Aufstieg und Niedergang der römischen Welt, II.8* (Berlin), 688–730.

Spijkerman, A. (1978), *The Coins of the Decapolis and Provincia Arabia* (Jerusalem).

Stabel, P., B. Blondé, and A. Greve (2000), *International Trade in the Low Countries* (*14th–16th Centuries*) (Garant).

Starcky, J. (1955a), 'The Nabataeans: A Historical Sketch', *Biblical Archaeologist* 18, 84–106.

© 2015 The Trustees of Columbia University in the City of New York

——— (1955b), 'Enno Littmann: Nabataean Inscriptions from Egypt', *Syria* 32 (1), 150–57.

Stephen, S. Jeyaseela (1997), *The Coromandel Coast and its Hinterland: Economy, Society and Political System, A.D. 1500–1600* (New Delhi).

Stern, S.M. (1967), 'Rāmisht of Sīrāf, a Merchant Millionaire of the Twelfth Century', *JRAS*, (April), 10–14.

Steuernagel, D. (2004), *Kult und Alltag in römischen Hafenstädten: Soziale Prozesse in archäologischer Perspektive* (Stuttgart).

Strack, E. (2008), 'Introduction', in P.C. Southgate and J.S. Lucas (eds.), *The Pearl Oyster* (Amsterdam), 1–35.

Strobel, K. (1988), 'Zur Fragen der frühen Geschichte der römischen Provinz Arabia und zu einigen Problemen der Legionsdislokation im Osten des Imperium Romanum zu Beginn des 2. Jh. n.Chr', *ZPE* 71, 251–80.

Stronach, D. (1965), 'Excavations at Pasagardae: Third Preliminary Report', *Iran* 3, 9–40.

Strugnell, J. (1959), 'The Nabataean Goddess Al-Kutba' and Her Sanctuaries', *Bulletin of the American Schools of Oriental Research* 156, 29–36.

Stückelberger, A. and G. Graßhoff (2006), *Klaudios Ptolemaios: Handbuch der Geographie*, 2 vols. (Basel).

Subrahmanyam, S. (1993), *The Portuguese Empire in Asia, 1500–1700: A Political and Economic History* (London and New York).

——— (1996), *Merchant Networks in the Early Modern World* (Brookfield, VT).

——— (1990), *The Political Economy of Commerce: Southern India, 1500–1650* (Cambridge).

Suresh, S. (2004), *Symbols of Trade: Roman and Pseudo-Roman Objects Found in India* (New Delhi).

Takmer, B. (2007), '*Lex Portorii provinciae Lyciae*: Ein Vorbericht über die Zollinschrift aus Andriake von neronischer Zeit', *Gephyra: Journal for the Ancient History and Cultures of the Eastern Mediterranean* 4, 1–22.

Tchernia, A. (1992), 'Le dromadaire des Peticii et le commerce oriental', *MEFRA* 104, 293–301.

——— (2005), 'Winds and Coins: From the Supposed Discovery of the Monsoon to the *Denarii* of Tiberius', in F. De Romanis and A. Tchernia (eds.), *Crossings. Early Mediterranean Contacts with India* (New Delhi), 250–76.

——— (2011a), 'L'utilisation des gros tonnages', in W.V. Harris and K. Iara (eds.), *Maritime Technology in the Ancient Economy: Ship-Design and Navigation* (Portsmouth), 83–88.

——— (2011b), *Les Romains et le commerce* (Naples).

Terpstra, T.T. (2013), *Trading Communities in the Roman World, A Micro-Economic and Institutional Perspective* (Leiden).

Thomas, E. (1874), *Ancient Indian Weights* (London, repr. Varanasi).

© 2015 The Trustees of Columbia University in the City of New York

Thomas, R.I. (2011), 'Fishing Activity', in D.P.S. 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), 211–20.

Thomaz, L.F.F.R. (1988), 'Malaka et ses communautés marchandes au tournant du 16e siècle', in D. Lombard and J. Aubin (eds.), *Marchands et hommes d'affaires asiatiques dans l'Océan Indien et la Mer de Chine 13e–20e siècles* (Paris), 31–48.

Thür, G. (1987), 'Hypotheken-Urkunden eines Seedarlehens für eine Reise nach Muziris und Apographe für die Tetarte in Alexandria (zu *P.Vindob. G* 40.822)', *Tyche* 2, 229–45.

——— (1988), 'Zum Seedarlehen κατὰ Μουζεῖριν', *Tyche* 3, 229–33.

Toll, C. (1994), 'Two Nabataean Ostraca from Egypt', *Bulletin de l'Institut Français d'Archéologie Orientale*, 94, 381–82.

Tomber, R. (2008), *Indo-Roman Trade: From Pots to Pepper* (London).

Tracy, J. (1990), *The Rise of Merchant Empires* (Cambridge).

Tran tam Tinh, V. (1972), *Le culte des divinités orientales en Campanie en dehors de Pompéi, de Stabies et d'Herculanum* (Leiden).

Trombley, F.R. (2009), Amr B. Al-'ās's Refurbishment of Trajan's Canal: Red Sea Contacts in the Aphrodito and Apollōnonas Anō Papyri', in L. Blue, et al. (eds.), *Connected Hinterlands: Proceedings of Red Sea Project IV, Held at the University of Southampton, September 2008* (*BAR International Series 2052*) (Oxford), 99–109.

Tuplin, C. (1991), 'Darius' Suez Canal and Persian Imperialism', in H. Sancisi-Weerdenburg and A. Kuhrt (eds.), *Achaemenid History VI, Asia Minor and Egypt: Old Culture in a New Empire* (Leiden), 237–83.

Turner, E.G. (1954), 'Tiberius Iulius Alexander', *Journal of Roman Studies*, 44, 54–64.

Van der Wee, H. (1993), 'Structural Change in European Long-Distance Trade, and Particularly in the Re-Export Trade from South to North, 1350–1700', in J.D. Tracy (ed.), *The Rise of Merchant Empires: Long-Distance Trade in the Early Modern World, 1350–1750*, 14–33.

Van Neer, W. and A. Ervynck (1998), 'The Faunal Remains', in S. Sidebotham and W. Wendrich (eds.), *Berenike '96: Report of the excavations at Berenike* (*Egyptian Red Sea Coast*) *and the Survey of the Eastern Desert* (Leiden), 349–88.

——— (1999), 'Faunal Remains from Shenshef and Kalalat', in S. Sidebotham and W. Wendrich (eds.), *Report of the 1997 Excavations at Berenike and the Survey of the Egyptian Eastern Desert, Including Excavations at Shenshef* (Leiden), 431–44.

Vasunia, P. (2011), 'The Comparative Study of Empires', *JRS*, 101, 222–37.

Vats, M.S. (1940), *Excations at Harappā, Being an Account of Archaeological Excavations at Harappā Carried out Between the Years 1920–21 and 1933–34*, 2 vols. (Delhi).

Villeneuve, F. (2004), 'Une inscription latine sur l'archipel Farasan, Arabie Séoudite, sud de la Mer Rouge', *Comptes Rendus des Séances de l'Académie des Inscriptions et Belles-Lettres*, 419–29.

© 2015 The Trustees of Columbia University in the City of New York

——— (2007), 'L'armée romaine en mer Rouge et autour de la mer Rouge aux IIe et IIIe siècles apr. J.-C: À propos des inscriptions de Farasân', in A. Lewin (ed.), *The Late Roman Army in the Near East from Diocletian to the Arab conquest* (Oxford), 13–27.

——— (2009) 'Les îles Farasan et la mer Rouge', <http://www.mae.u-paris10.fr/arscan/Les-iles-Farasan-et-la-mer-Rouge.html>, accessed.

——— C. Philipps, and W. Facey (2004), 'Une inscription latine de l'archipel Farasan (sud de la mer Rouge) et son contexte archéologique et historique', *Arabia* 2, 143–90.

Wallace-Hadrill, A. (2008), *Rome's Cultural Revolution* (Cambridge and New York).

Ward, W. (2007), 'Aila and Clysma: The Rise of Northern Ports in the Red Sea in Late Antiquity', in J. Starkey, et al. (eds.), *Natural Resources and Cultural Connections of the Red Sea* (*British Archaeological Reports International Series 2007*), 161–71.

Wenning, R. (1987), *Die Nabatäer—Denkmäler und Geschichte: Eine Bestandesaufnahme des archäologischen Befundes* (Freiburg).

——— (2007), 'The Nabataeans in History', in K.D. Politis (ed.), *The World of the Nabataeans* (Stuttgart), 25–53.

Whitehouse, D. and A. Williamson (1973), 'Sasanian Maritime Trade', *Iran*, 11, 29–49.

Wilkinson, J. (1971), *Egeria's Travels* (London).

Wilkinson, J.C. (1979), 'Ṣuḥār (Sohar) in the Early Islamic Period: The Written Evidence', in M. Taddei (ed.), *South Asian Archaeology 1977* (Naples), 887–907.

Williamson, A. (1972), 'Persian Gulf Commerce in the Sassanian Period and the First Two Centuries of Islam', *Bastan Chenassi va Honar-e Iran* 9–10, 97–109.

Wilson, A.I. (2008), 'Economy and Trade', in E. Bispham (ed.), *The Roman Era* (Oxford), 170–202.

——— (2009), 'Indicators for Roman Economic Growth: A Response to Walter Scheidel', *Journal of Roman Archaeology* 22 (1), 71–82.

Wissmann, H. von (1976), 'Die *Geschichte* des Sabaerreichs und der Feldzug des *Aelius Gallus*', *ANRW* 2 9.1, 308–544.

Young, G.K. (2001), *Rome's Eastern Trade: International Commerce and Imperial Policy 31 BC–AD 305* (London and New York).

Yule, Sir H. (1915), *Cathay and the Way Thither: Being a Collection of Medieval Notices of China*, 4 vols. (revised edn. by H. Cordier; London).

Zayadine, F. (1985), 'Caravan Routes between Egypt and Nabataea and the Voyage of Sultan Baibars to Petra in 1276', in A. Hadidi (ed.), *Studies in the History and Archaeology of Jordan II* (Amman), 159–71.

——— (2007), 'The Spice Trade from South Arabia and India to Nabataea and Palestine', in K.D. Politis (ed.), *The World of the Nabataeans* (Stuttgart), 201–15.

Zitterkopf, R.E. and S.E. Sidebotham (1989), 'Stations and Towers on the Quseir–Nile Road', *The Journal of Egyptian Archaeology* 75, 155–89.

© 2015 The Trustees of Columbia University in the City of New York