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Recent Research on Trade in the Red Sea and the Indian Ocean (1st c. - 7th c.)

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In 1989, Lionel Casson published a new edition, with translation and commentary, of the Periplus Maris Erythraei, a handbook for traders in the Red Sea and the Indian Ocean written in Greek by an Egyptian merchant in the first century AD. Casson’s erudite work on literary evidence represented a major achievement in the study of the history of intercontinental relations. Almost twenty years later, research on the trade that linked Europe, the Middle East and India is very much alive, but has tilted towards that of archaeological evidence despite imposing political difficulties and, at times, dangerous working conditions.

The three books under review here belong to three different genres. One is a series of articles concerned with one site, the second is a collection of articles devoted to one product, and the third is a monograph about a specific set of archaeological finds. The Ancient Red Sea Port of Adulis, Eritrea: Results of the Eritro-British Expedition 2004-2005 is an exemplary lesson in the value of non-destructive archaeological surveys. Roman Foodprints at Berenike: Archaeobotanical Evidence of Subsistence and Trade in the Eastern Desert of Egypt is a must-have for any serious classics library, and, despite occasional repetitions, Food for the Gods. New Light on the Ancient Incense Trade provides readers with a fine example of international collaboration on the study of long-distance trade. In addition, it offers a seminal article on the subject.

The last named volume opens with a brief preface and a short introduction by the editors.
The first chapter, "The Incense Kingdoms of Yemen: An Outline History of the South Arabian Incense Trade" (p. 4-27) by C. Singer, discusses the incense trade with a good and well-illustrated summary on frankincense trees, on incense, on its trade in antiquity, on its different routes, as well as on its social context. I have but one quibble. For the culture of frankincense trees, which is still now limited to very specific areas, it is important to stress that scholars depend not upon archaeological evidence, but on ethnological research and on Pliny's account in Book 12 of his *Natural History*. The Roman encyclopaedist's treatise on perfume is a highly ideological and critical construction (to summarize: for Pliny, trade perverts nature), and I have the impression that his description of the culture of frankincense trees and their social setting should be considered more critically and not simply taken at face value.

Chapter 3, "Basalt as Ships' Ballast and the Roman Incense Trade" (p. 28-70; written by D. Peacock, D. Williams and S. James) is the most important article in the book, is a lesson in archaeological method, and it comes with very important results. It shows how the most unspectacular objects are significant for archaeological research. Here the authors studied uncut rocks (beach boulders of basalt) found at Quseir al-Qadim (Myos Hormos) and Berenike, two Egyptian ports on the Red Sea, mentioned in the *Periplus*. These stones are certainly noticeable (unfortunately they appear so common that the editors did not include a photograph) because they do not belong to the local geology. Such boulders had been imported as ballast to balance lightly laden ships, and they were subsequently dumped when a heavy load was taken on. Ships arrived in the Egyptian ports with luxury items such as frankincense and departed with heavier goods such as wine amphorae and wheat. Peacock and his team collected samples from these stones and compared them with similar ones from potential sources in Saudi Arabia, Yemen, Oman, Eritrea and Somalia (because of the geological age of the stones, India was ruled out as a potential source). In all, some 300 samples were examined. The authors of the article need to be commended for the clear rationale they provide for their selection of possible source sites (based on a close reading of the *Periplus* and on the geology of the Red Sea's and Indian Ocean's shores) and for managing to collect samples from so many different countries. They are also scrupulous in noting with due caution that the use of these stones cannot be dated with certainty to the Roman period.

The conclusion reached by their thorough investigation was that all samples from Berenike came from Qana' in Yemen. Qana' also accounted for 70 percent of the samples from Quseir al-Qadim, with the remaining 30 percent believed to have come from Aden. The authors then (pp. 59-63) discuss these findings in relation to the literary evidence of Pliny's *Natural History* and the *Periplus*, and they propose several hypothesis about the chronology of the trade of frankincense, its division into caravan and maritime routes, and the switching importance of
the harbours of Qana’ and Aden. It is not possible to summarize here this complex discussion, but I would like to stress how the archaeological study of seemingly insignificant rocks has brought to light the maritime connexions between frankincense producers in Yemen and Roman ports in Egypt, something ancient texts have glossed over. It forces us to revalue the comparative importance of the monsoon transoceanic Indo-Roman commerce and of shorter coasting journeys, and to rethink the comparative importance of land and maritime contacts between Yemen and the Roman Empire. We also have to consider afresh the role of Arab middlemen in the aromatics commerce (on which see Gupta’s article in the same volume).

The following article, by A. Sedov, “The Port of Qana’ and the Incense Trade” (p. 71-111) is a detailed, sometimes repetitive, summary of the results of archaeological excavations by a Russian team in Yemen, and its publication makes important discoveries available in English. Unfortunately, although the article is rich in illustrations, there are none showing the most spectacular find: “a warehouse for holding incense with large amounts of burnt incense found all over its floor and in baskets or big bags made of palm” (a sample of incense from the warehouse and three samples from a temple have been analyzed: see C. Mathe et al., “Analysis of Frankincense in Archaeological Samples by Gas Chromatography-Mass Spectrometry”, Annali di Chimica 97 (2007), p. 433-445; available online at http://www3.interscience.wiley.com/cgi-bin/fulltext/114262939/PDFSTART; accessed on 2008-09-10).

Sedov has to be commended for his clear outline of the chronological developments of Qana’. The site was limited to the areas around the warehouse in the first century AD. The city flourished from the second to the fifth century, a period which saw the construction of big multi-roomed houses, shops, a big temple for a local deity, and a synagogue. The success of the port city was connected to the organisation of the Hadhramawtian and Himyarite kingdoms. Qana’ shrank during the sixth century before being abandoned in the seventh. The final report of these excavations has been announced for December 2008: J. F. Salles, A. V. Sedov, Qani’: le port antique du Hadramawt entre la Méditerranée, l’Afrique et l’Inde. Fouilles russes 1972, 1983-1989, 1991, 1993-1994 (Turnhout, 2008).

S. Gupta’s, “Frankincense in the Triangular Indo-Arabian-Roman Aromatics Trade”, p. 112-121, is a stimulating piece. Although not entirely convincing in all its details, Gupta’s article has the merit to suggest a complex model for the trade, which mixes an old trade network between India and Arabia dealing in cheap Indian essentials and the new Indo-Roman trade focused on high-value commodities. In this piece Gupta also summarizes the results of his excavations in Kamrej in India, the Kammoni mentioned in the Periplus, 40 km upstream of the Gulf of Kambhat. It seems that rice, cotton products and iron were exported from
Kammoni to the Arabian Peninsula or to Ethiopia. The activity on this inland site, intended for intercontinental exports, shows that the angles of the triangular oceanic trade extended to points in land networks. The article is less convincing when Gupta tries to explain his model by adding discussions in the Roman Senate, as reported by Pliny, about the negative effects of luxury trade. The role played by Roman authorities in the development of commerce is still a matter of debate. Grand strategies at the top level of administration and pragmatic daily decisions by small merchants sailing along the coasts of the Indian Ocean were intertwined, and we should not insert too much modern economic reasoning into ancient economies nor should we exaggerate the hand of the Roman state in the “triangular” trade, especially since Rome controlled only the Red Sea tip of this triangle.

J. Bird’s, “Incense in Mithraic Ritual: The Evidence of the Finds”, p. 122-134, is a reprint of an article that appeared in M. Martens, G. De Boe (eds.), Roman Mithraism: The Evidence of the Small Finds (Brussels, 2004). It deserves its republishing here because it illustrates the other end of incense archaeology as it focuses on consumption and iconography.

D. Peacock and L. Blue (p. 135-140) present a summary of their work in Adulis (considered at length in the next reviewed volume), and M. Shackley, “Frankincense and Myrrh Today”, p. 141-151, nicely closes the volume with a presentation of the contemporary uses of frankincense in Europe and in the Middle East as church incense, in traditional medicine and as a fumigant. She also touches on its globalisation through its use in aromatherapy. The contemporary evidence is also a cautionary reminder for archaeologists and historians as it stresses that a lot of frankincense is illegally harvested and exported, something that makes it impossible to reliably quantify its production even in our modern world economy.

Adulis, in Eritrea, is an important city to explore. It was one of the most southern places mentioned in the Periplus and was an important harbour for the Kingdom of Aksum. Its critical importance for the history of Africa lies in the site’s utility as a purveyor of firm chronological dating information for African archaeology through the association of well known Mediterranean pottery with local or other African artefacts. The book on Adulis edited by D. Peacock and L. Blue, with a speed to be commended, is actually a consequence of the, mentioned above, search for basalt comparisons with samples from Berenike and Myos Hormos. It is the result of two field seasons in 2004 and 2005, and it is a remarkable achievement as, though Adulis was well known and parts of the site had already been excavated, it lacked a good map. The survey was not without danger as parts of the site were not accessible due to mines left during the recent conflict between Ethiopia and Eritrea. It is to be hoped that archaeological excavations will start again in Adulis and this book provides a solid foundation for new work.
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In that volume, the article by D. Glazier and D. Peacock, “Historical Background and Previous Investigations”, p. 7-17, offers a briefly commented list of ancient literary evidence related to Adulis, from Pliny to Cosmas Indicopleustes, and a quick survey of previous visits to and explorations of the site, which was identified first at the beginning of the 19th century. Because there are not that many, it is a bit of a missed opportunity that the editors do not provide an addendum with the corpus of Greek and Latin texts, as well as a translation, which would have added to the utility of the volume. There is one omission for the modern travellers to the site: D. de Rivoire, “La baie d'Adulis et ses alentours”, Bulletin de la Société de Géographie 15, 1868, p. 236-267 (available online through Gallica, the digital collection of the Bibliothèque Nationale de France: http://gallica.bnf.fr/ark:/12148/bpt6k37692d) (see below).

The next chapter by D. Glazier et al., “Topographic and Geophysical Survey, p. 19-32,” presents with a clear methodological introduction three maps drawn after their surveys. The maps also record previously excavated buildings. Map analysis allowed the scholars to distinguish at least two phases in the urban history of Adulis, with a regulated grid plan succeeding that of a more scattered earliest phase. The fact that no clear evidence of a defensive wall could be found is explained by the power and prestige of the Aksumite Empire which made physical protection unnecessary, though pirate raids were mentioned in the Periplus for an earlier phase of the city’s history.

D. Peacock and L. Blue, “The Galala Hills”, p. 33-37, convincingly identify what are now inland hills with Diodorus Island, the harbour mentioned in the Periplus. In the next chapter (“The Ancient Shoreline and Maritime Landscape”, p. 39-56), they show through sediment analysis how the shoreline has moved between the first century AD and the present period.

Next, L. Blue and D. Peacock, in “Survey of the Island of Deses” (p. 57-64), present the geography of this small island, convincingly identified as Oriene, also mentioned in the Periplus. Field surveys have identified fragments of Aksumite, Aqaba and Roman ceramics, with variations according to different parts of the island, but it is a bit dangerous to draw conclusions about settlement phases from this fact. Clear satellite images of the island are provided, but a drawing would have helped the reader to better distinguish the remains of an “artificial mole” which the authors propose to see in a lagoon at the centre of the island.

In the following chapter (“Samidi”, p. 65-77), D. Glazier et al. explain how they went looking for Samidi, a place mentioned only once, in what they call “a sixth century map by Cosmas Indicopleustes”, which is actually a rather detailed miniature illustrating Cosmas’ text in manuscripts dating at the earliest from the 9th century. After investigations in the region, “given the lack of other contenders” (p. 64), they identify “two substantial mounds of stone 7 km to the north of Adulis” as Samidi. This is nothing more than an interesting hypothesis, and it is unfor-
tunate that the article does not provide any modern name for these mounds, or any explanation for the name Samidi. If the name is in any way etymologically related to the Greek word *sema*, "sign by which a grave is known, mound, cairn, barrow", "memorial" (*LSJ*), it would nicely fit the proposed hypothesis that these mounds were royal burial sites. Once again, the maps, drawing and pictures illustrating this article will help further research. A short appendix with good photographs and a satellite image is devoted to the "Massawa airport mounds" (p. 74-77), "about 100 mounds over a distance of c. 2 km". These also seem to be funerary tumuli. It is possible that these tumuli are the same as the ones mentioned by de Rivoire in his account of a visit to the bay of Adulis around 1868. The French traveller did not hesitate to secretly excavate one of these mounds, but he was very disappointed to find "only" a complete male skeleton.

"Pottery from the Survey" (p. 79-108), by D. Peacock et al., consists of a detailed presentation of the surface pottery from six different sites in Adulis. It allows the authors to make some hypothesis about the history of the occupation of the city from the first century BC to the seventh century AD. The number of amphorae originally from Aqaba in Jordan is remarkable.

D. Peacock's, "Stone Artefacts from the Survey", p. 109-124, offers a fascinating account of the architectural fragments found in Adulis. Aside from local stones, the marbles have many different origins such as the Tiber Valley, Egypt, Sparta, Dokimeion in Turkey, the Pyrenees, or the island of Proconesos in the Aegean Sea. Many of these exotic marbles were probably imported during the sixth century for church ornamentation, and it is probable than some of them transited through Constantinople.

In their final chapter, D. Peacock, L. Blue and D. Glazier, "Review, Discussion and Conclusion", p. 125-134, can, with a legitimate pride, summarize the brilliant results of two campaigns of non-destructive archaeology. They offer a brilliant and convincing explanation for an expression in the *Periplus* that has puzzled scholars for a long time. Adulis, Muza and Apologos are described in this text as "emporion nomimon" (legally designated harbour). Peacock and his collaborators offer the following definition. It was "...an area in which trading had to occur outside of the town, within an officially designated area". They also present some reflexions on the relation between Aksum, the centre of the kingdom, and Adulis, its main gate to outside of Africa, and their interdependency.

A very useful appendix by D. Peacock and L. Blue, "The Topography of Periplus Ports: a Comparison", p. 135-139, consists of a quick survey, with an up-to-date bibliography, of the ports mentioned in the *Periplus* and of what we know about them through archaeology or observation.

This slim volume is a success and its editors need to be warmly praised for it. However, I
have two minor objections. First, the scholars seem to have completely neglected toponymy. I have already noted that with regard to Samidi, but, more importantly, they did not discuss the meaning of the word Adulis itself. It was such a strange word that Pliny himself proposed a wrong etymology, related to slaves (douloi), to explain it. This lack of curiosity for place names is regrettable because, if G. Lusini's hypothesis that the name Adulis has a pre-Geez etymology that could go back as far as the end of the 2nd millennium BC is correct, it would represent another trace of the pre-Roman occupation of the site, which is so strikingly absent from the surface survey (see G. Lusini, "The Early History of Eritrea: A New Perspective", in P.G. Borbone et al. (eds.), Loquentes Linguis: Studi linguistici e orientali in onore di Fabrizio A. Pennacchietti, Wiesbaden 2006, 447-454: Adulis would mean "(territory) allotted"). The other regret one may have concerning this book is that there are insufficient mentions of the artefacts found by previous excavators or explorers. While some stones kept in the British Museum have been studied for this volume (by K. Matthews, p. 122-123), other museum collections are not mentioned. Fortunately, a separate article appeared almost simultaneously with the book: C. Zazzaro, "Oggetti in metallo da Adulis (Eritrea) nella collezione archeologica del Museo Africano di Roma", Africa 66 (2006), p. 454-482. It offers an interesting presentation of metal objects from Adulis, now in Rome, and, p. 455, it lists other museum collections with objects from Adulis. Peacock and his team have more than fulfilled their scholarly duty to map and survey previous excavations on the site; let us hope that their work will be continued in Adulis itself and in museums in London, Rome, Addis Abeba and Asmara.

Cappers' Roman Foodprints at Berenike: Archaeobotanical Evidence of Subsistence and Trade in the Eastern Desert of Egypt, is an important book which also makes for very pleasant reading. Because several reviews have already been written (for instance A. Zuiderhoek, BMCR 2006-10-41, available at http://ccat.sas.upenn.edu/bmcr/2006/2006-10-41.html, or M. van der Veen, JRA 20(2007) p.631-635), I will be brief. Although at first sight this volume might attract only people specialised in limited fields such as archaeobotany or the Indo-Roman trade, in my view, it is an important book for anyone interested in Roman history. First, for each plant remain found at Berenike, Cappers has provided an extensive list of parallel evidence from texts and from archaeological excavations covering the extent of the Roman Empire, and his clear style makes scientific information understandable to lay readers. His book is a very good introduction to the archaeology of plants. Second, and more importantly, though Berenike was an important point on the luxury and exotic trade, Cappers has not restricted his study to aromatics or other unusual plants. For instance, a few pages before he begins a chapter on one of the most spectacular finds of Berenike, an Indian jar filled with 7.5 kg of black pepper, one can read of watermelons, which were probably grown locally around
Berenike, and their seeds. The study of the way home grown products were consumed beside imported goods makes Berenike a valuable case-study for the working of trade networks, of daily life in the Roman Empire, and for the integration of the Roman economy.

Because of the quality of the archaeological research revolving around the trade between Rome, Yemen and India, one can reasonably expect soon a synthesis on these intercontinental relationships, which will take into account both their mundane and extraordinary aspects and leave aside the social or cultural prejudices of the ancient authors and, one hopes, the remnants of colonial ideology. Archaeology gives back their voices to African, Arab and Indian shipmen and traders; they can be heard together with the Romans who left written records. Intrepid Roman monsoon travellers traded alongside many different peoples who shaped, in equal measure, the luxury trade of Rome.

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