THE DEVELOPMENT OF TRADE BETWEEN THE ROMAN EMPIRE AND THE EAST UNDER AUGUSTUS

By J. Thorley

During the period of the Roman Republic incense from Arabia, ivory from East Africa, pepper from India, and perhaps an occasional consignment of silk from China had reached Roman markets, having passed through the hands of many eastern merchants. The trade had remained small, for such wealth as Rome possessed was in the hands of a small number of landowners or financiers, and the unsettled conditions in the eastern Mediterranean were not conducive to a free flow of trade.

However, the establishment under Augustus of peace and stable rule throughout the Mediterranean rapidly altered the situation. For the first time the lands from Spain to Syria were organized to form an economic unity in which the necessities of life became readily obtainable, and the wealth previously expended in war was now available for more peaceful uses. It was perhaps the gravest economic mistake made by the Romans that much of this wealth, instead of being invested in furthering industries at home, was channelled into purchasing from the East the luxuries not obtainable within the Empire. Moreover, Alexandria and Antioch, the chief terminals for the eastern trade, had recently come directly under Roman control.

Although Augustus may not have been aware of the ultimate consequences, he was not blind to the more immediate advantages of the oriental commerce. Since one result of a booming trade was evidently to be a great increase in the taxable wealth of the eastern provinces, it was very much in the interests of the government to see to it that all measures were taken to ensure an unhindered flow of traffic within the provinces, and by treaty or otherwise to safeguard the commerce as much as possible outside the Empire. The Romans were no longer to be passive recipients at the mercy of foreign merchants.

The routes followed by the eastern commerce were already in regular if limited use by the time of Augustus. They can be divided conveniently into two groups: first, those based on the Red Sea and its hinterland, carrying the trade of Arabia, East Africa, and India; and second, the overland routes into Parthia and Central Asia, carrying principally Chinese silk, although also taking some of the Indian trade.
The first group focused mainly on Alexandria. From here the principal route to the Red Sea passed down the Nile as far as the region of Coptos, and there branched into two main roads, one north-east for six or seven days to Myos Hormos, the other south-east for about twelve days to Berenice, some three hundred miles further south on the Red Sea coast than Myos Hormos. Another route was wholly by water, going from Alexandria to the Pelusiac branch of the Nile, leaving this at Phacussae and travelling by canal through the Bitter Lakes to Arsinoe, built by Ptolemy II, who also improved the canal when he built the town. Warmington suggests that Augustus may have cleared this canal. This route was, however, by no means as popular as the Coptos route, for Arsinoe was notorious for its shifting shoals and a prevalent south wind coming up the gulf; and in addition to hazards at the port itself, the gulf was, at least early in Augustus’ reign, infested with pirates.

Strabo stresses the importance of the land routes to Berenice and Myos Hormos; the former had previously been of little significance as a port, but was now quickly gaining in importance because of its good landing-places, and although Augustus at some time early in his reign established a naval station at Myos Hormos, he also revived the Ptolemaic system of aiding caravans by supplying storage depots, reservoirs, and armed guards on the road from Coptos to both ports. At about this time Augustus also appointed a strategos as receiver of the Red Sea dues, presumably to supervise the tax-farmers of Myos Hormos and Berenice. Other inscriptions show that there was also a system of military supervision over the Coptos–Red Sea routes, perhaps even over the whole west coast of the Red Sea in Egyptian territory, and that local transit dues and road levies on caravans came under this supervision.

It is often difficult to assert that an action on the part of the emperor was done principally in the interests of trade, but the official protection which was given along these roads in Egypt and the organized system of levies and dues cannot be interpreted in this instance in any other way.

This much Augustus was able to do in Egypt. The speed with which these measures were taken (Strabo’s information was collected probably no later than 19 B.C.) shows how sudden was the expansion in the eastern trade under the newly constituted Empire, and also incidentally shows how quickly Augustus could act, at least in his own province.

1 See E. H. Warmington, The Commerce between the Roman Empire and India (Cambridge, 1928), 6 ff., henceforth referred to as ‘Warmington’.

2 Strabo xvi. 4. 24; xvii. 1. 45.

3 See Warmington, 14, and notes, pp. 333–4.
But the route into the Indian Ocean could not be secured simply by measures taken in Egypt, important as these were. Vessels sailing down the Red Sea had to pass close to the shores of three powerful peoples, the Ethiopians, the Axumites, and the Himyarite-Sabaean Arabs of South Arabia. In 25 B.C. Augustus endeavoured to solve the Arab problem, and perhaps take over some of the proverbial wealth of the Arabs, by sending an expedition under Aelius Gallus into Arabia with orders to subdue or conciliate the kingdoms which he found. But the competition for the oriental trade was already keen, and the Nabatean Arabs of Petra realized that Roman penetration into Arabia would cut off their trade with the Himyarite-Sabaean, which was one of their main sources of income, for they themselves were among the chief suppliers of Arabian products to the Romans. The story of the expedition is well known.\footnote{Strabo xvi. 4. 22 ff.; ii. 5. 12; Pliny, \textit{NH} vi. 160; Dio liii. 20.} It is clear from the accounts that the Nabataeans played no small part in the disaster, although the whole affair was ill conceived from the start, based as it was on a most sketchy knowledge of the Arabian peninsula. The Nabataeans did indeed achieve their purpose, for the Romans made no effort to control the land route from South Arabia to Petra,\footnote{See Warmington, 16; Schoff's edition of the \textit{Periplus Maris Erythraei}, note on ch. 19; De Laet, \textit{Portorium} (Bruges, 1949), 306 ff.} although the 25 per cent tax at their port of Leuce Come may date from this time.

At the same period as these moves against the Arabs were taking place the Romans were also attempting to enforce a stricter control over the Ethiopians,\footnote{Res Gestae 26. 5.} whose coastline on the Red Sea they were anxious to make safe for Roman vessels. Therefore in 29 B.C. the prefect of Egypt, Cornelius Gallus, after suppressing a revolt in the Coptos area caused by the arrival of the Roman tax collectors who were to be responsible for the dues and levies on the caravan routes, proceeded to fix the boundary between Egypt and the territory of the Ethiopians of Meroe at the First Cataract,\footnote{See Warmington, 16 f., and notes, p. 335.} and to make the Ethiopians a Roman protectorate. The next few years saw minor engagements on the frontier, in which the Romans pressed a considerable distance further south, but in 21 B.C., on the request of the Ethiopian queen Candace for an equitable settlement, Augustus fixed the boundary at Hierosycaminos. The Ethiopians remained subdued after this, in part because of the growing power of the Axumites on their southern frontier.

The Axumites with their large port of Adulis were somewhat beyond the range of Roman arms, and although there must have been a certain amount of trade rivalry between Axumite and Roman merchants there is no evidence of any aggressive action on either side. But one can
scarcely doubt that the Axumites played an equal part with the Arabs in trying to keep Indian vessels out of the Red Sea and Roman vessels in.

But the grip which these peoples had on the eastern trade was not destined to last much longer. Under Augustus the number of vessels leaving Egyptian ports quickly increased. Strabo records that when he was in Egypt (about 25–19 B.C.) one hundred and twenty ships a year were leaving Myos Hormos for India, as compared with the twenty which left under the Ptolemies. However, it was not the measures taken by Augustus in Egypt or the Red Sea region, but the discovery by Roman mariners of the use of the monsoon winds to reach India that finally broke the middlemen's power.

The Arabs had long known how to use the monsoons in crossing the Indian Ocean, but the date of the discovery by Roman mariners has been much disputed, with opinion tending towards a date some time in the reign of Tiberius or a little later. M. P. Charlesworth, however, has used Pliny's account of the successive routes to India to fix a date of about 20–10 B.C. for the initial discovery, that is, very soon after Strabo's visit to Egypt. Strabo's silence on the subject can reasonably be interpreted as due to mariners' ignorance of the monsoons at that time, thus setting an earlier limit to the discovery. While it must be admitted that Pliny's temporal divisions in the relevant passage are very vague, Charlesworth is surely correct in making the total lapse of time from the discovery of the monsoons to Pliny's own day at least eighty years, thus setting a later limit in the last years B.C. A date sometime between Strabo's visit to Egypt and the turn of the era can therefore be assumed with some confidence.

Such a discovery must have given a great boost to the Indian trade. It was doubtless in connection with this expansion that about 1 B.C. Isidore of Charax, Dionysius of Charax, and Iuba were commissioned by Augustus to survey both sides of the Persian Gulf as a preliminary to a proposed circumnavigation of Arabia, in which Gaius Caesar, who was in the area, probably in command of the fleet mentioned by Pliny, was concerned. At the same time there was talk in Rome of military conquests in the East. It would seem from this evidence that some sort of measures were being taken to protect shipping off the coast of Arabia, and the reason for such measures is not far to seek: the Arabs were trying to stop Egyptian vessels trading with India. Now that merchants from the Egyptian ports had discovered the use of the mon-
soons they were beginning to undercut the prices of the Arabian middlemen. For the previous twenty years or so western mariners had taken the long, expensive, and dangerous coastal route to India. It is true that no small number of vessels had been travelling along this route; one hundred and twenty vessels were leaving Myos Hormos for India, and the total may have been raised to about two hundred by vessels from Berenice and Arsinoe, less important harbours in Strabo’s time. Nevertheless, the Egyptian ports could not have thrived simply on these vessels going beyond Bab el Mandeb, which amounted to only one every two days shared between the three ports; most of their trade was in fact still with South Arabia in both local aromatics and luxuries from India, which the Arabs could still supply at competitive rates because they were using the monsoons while Egyptian voyagers to India were not. But when western vessels began to use the monsoons too, the Arabs saw that their trade in Indian goods with the Egyptian ports was in jeopardy, and presumably tried to prevent Egyptian vessels from passing out of the Red Sea. This was countered by Augustus with the measures described above.

One result of this rapid increase in trade with India was, as Augustus himself records, ‘Ad me ex India regum legationes saepe missae sunt’. It can be surmised that part of the task of these ‘legationes’ was to establish closer commercial ties with Rome. Precise details about their business are unfortunately lacking.

It now remains to consider the overland routes into Parthia and Central Asia. Antioch, already a prosperous trading centre and capital city under the Seleucids, continued to be the focus in the eastern provinces for the overland commerce, and its prosperity increased considerably as the eastern trade expanded. Eastwards the trade route went to Zeugma, the only Euphrates crossing under Roman authority in Augustus’ time. This was the last point in the Roman Empire; across the river was Parthia.

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1 For trade with Arabia see Strabo xvi. 4. 2–4. The destruction of Aden (Periplus 26) may have been the work of the Roman fleet under Gaius (see Charlesworth, loc. cit.), but the emendation ΕΛΙΣΑΡ for ΚΑΙΣΑΡ of the Periplus is very plausible, and would make the destruction the work of Eleazar, or Eleazus, the Arab king of the Frankincense Country between A.D. 29 and 65. (See Schoff’s edition of the Periplus, Introduction; also Periplus 27.) M. Cary (History of Rome [London, 1935], 496), says that the destruction of Aden was effected as a punishment for the breaking by the Arabs of the ‘amicitia’ which he believes was made by Aelius Gallus in 25 B.C. See also Warmington, 15–16, and note 32, p. 334, for full references. Warmington still prefers ΚΑΙΣΑΡ.

2 Res Gestae 31; for discussion of these embassies see Priaulx, Appendix to edition of Apollonius of Tyana (1873) (quoted by R. C. Majumdar, Classical Accounts of India, Appendix ii, 474–83). In contradiction of Augustus’ own statement, Priaulx maintains that there was only one embassy. See also Warmington, 35 ff. Literary evidence: Strabo xv. 1. 73; Florus, Epitome 4. 12; Dio liv. 9.
Although oriental goods had arrived in the eastern provinces in the late Republic, relations between Rome and Parthia had been far from cordial. However, by his settlement of 20 B.C. Augustus both secured his eastern frontier, and at the same time fostered the more amicable relations with Parthia which the expanding commerce required. For the next two centuries, in spite of the frequent internal troubles to which Parthia was so prone, Chinese silk passed in increasing bulk across the Iranian plateau. Only rarely, in times of actual war on the Parthian frontiers, were Roman merchants obliged to rely on other routes.

The Parthians, however, anxious to preserve their position as intermediaries, did not normally allow merchants from the Roman Empire to pass through their territory. But Isidore of Charax, who has already been mentioned in connection with the naval activities off the coasts of Arabia, was apparently allowed to traverse the country, although probably as a surveyor employed by Augustus and not as a merchant. He recorded his journey in his Σταθμοί Παρθικοί which is still extant. This work is little more than a list of places on the road from Zeugma to Nicephorium, cutting out the wide curve in the Euphrates. From Nicephorium the route continues to Circesium, here joining the route from Palmyra, a city quickly gaining in importance, and then following the Euphrates to Seleucia and Ctesiphon. From Ctesiphon one could meet the Persian Gulf traffic at Charax, some two hundred and fifty miles away at the mouth of the Tigris. Isidore’s route, however, goes from Ctesiphon up the Zagros Mountains to the east and on to the Iranian Plateau, past the rock of Behistun to Ecbatana; from there through the Caspian Gates to Hecatompylos, then due east to Antiocha Margiana (Merv). From this point Isidore’s account becomes much more sketchy as he describes the road from Merv to Kandahar, the last town on the route. Perhaps Isidore himself knew this section only from hearsay. It was in fact the route to India.

The precise date of Isidore’s journey is not known, but it probably took place in the latter half of Augustus’ reign when Roman–Parthian relations were still friendly enough to allow such a venture. An Augustan date has also been attributed to the journey of the agents of

1 Cf. Hou-han-shu, 88: ‘Their kings [i.e. of Ta-ts’in, the eastern provinces of the Roman Empire] always desired to send embassies to China, but the An-shi [Parthians] wished to carry on trade with them in Chinese silks, and it is for this reason that they were cut off from communication.’ Cf. also the story of Kanying in the same chapter. Text and translation are given in F. Hirth, China and the Roman Orient (Leipzig, Munich, Shanghai, Hongkong, 1885). See also G. F. Hudson, Europe and China (London, 1931), 83 ff.


3 See M. Cary in CQ, n.s. vi (1956), 130 ff. The relevant passage is Ptolemy i. 11. 1–6.
a merchant named Maes Titianus, who, according to Ptolemy's account in which he cites his authority as Marinus of Tyre, followed the same route as Isidore, but continued further, arriving eventually at the Stone Tower (Tashkurgan) in the Tarim Basin. Why merchants were allowed through in this instance is not known, but certainly both journeys are in keeping with the outburst of mercantile activity under Augustus. It would seem that even if Roman merchants were not usually permitted to cross Parthia, at least a few intrepid individuals managed to penetrate the country and to bring back reasonably accurate reports of their travels into Central Asia.

The route through Parthia, then, was the main channel for trade between China and the Roman Empire; but it was not the only route. Goods from both northern India and China could bypass Parthia to the south, and probably also to the north.¹ Strabo reports that Aristobulus, who accompanied Alexander on his eastern campaign, said that at that time Indian wares passed down the Oxus into the Caspian and then to the Black Sea. Pompey, during his eastern campaign, learnt more about this trade. When he reached Harmozica in the Caucasus he heard, according to Pliny, that goods were still reaching Phasis in Colchis from north-west India by this same route, and that the first part of the journey as far as the 'Bactrus flumen', a tributary of the Oxus, took seven days, the last stage from the River Cyrus to Phasis five days. It is true that the Oxus flows into the Aral Sea, not the Caspian, a fact not mentioned in either account; but it is possible that two thousand years ago the Uzboi Channel across Ust Urt was navigable and joined the Oxus to the south of the Aral Sea. At the least a portage across Ust Urt by way of this channel would have been an easy link from the Oxus to the Caspian; either way the route need not have touched the Aral Sea. The evidence does therefore seem sufficient to establish the existence of this Caspian route in Republican times. There is no direct reference to trade along it in the Empire period, although there are reasons to believe it continued to be used.² It seems from its name that 'radix pontica', the drug rhubarb, which was a Chinese export, may have reached the West by this route. Moreover, it is quite possible that the activity on the east coast of the Black Sea under Vespasian and Hadrian was inspired by commercial interest.³ Augustus' moves in Armenia may also have been partly to ensure that the Caspian route remained open.

¹ Strabo xi. 7. 3-4. See also Warmington, 26 ff., and M. P. Charlesworth, _Trade Routes and Commerce of the Roman Empire_ (Cambridge, 1924), 104 ff. Also Pliny vi. 52.
² Celsus 5. 23.
The route to the south of Parthia is in no doubt. From the Pamirs silk passed down the Indus Valley to the north Indian ports. This was the normal route for supplies to north-west India, but some silk continued on its way by sea to Gerrha or Charax Spasinu on the Persian Gulf, and then on to Petra, either across the desert or round Arabia by sea to Aelana, Petra’s port. Indeed, Roman mariners may already have been picking up silk themselves at the north Indian ports, just as the author of the *Periplus* did in Nero’s time.

But these routes carried only a small proportion of the silk which entered the Empire. Their main function was as a safety-valve against any stoppage of trade across Parthia, or even excessive demands on the part of Parthian merchants, who were doubtless made aware that they did not possess a monopoly. In fact Petra was a regular retailer of silk, though the fact that silk from this source (Arabian silk) was said to be of especially high quality would imply that it was small in bulk compared with the normal consignments arriving at Antioch or Palmyra.

These, then, were the routes which carried the vastly increased bulk of eastern goods in the time of Augustus, and indeed for the next two centuries. Some alterations were made in the routes across the Indian Ocean and a few Roman mariners extended their horizons well beyond India during the next two hundred years; but in the Near and Middle East Augustus’ efforts to promote the safety and convenience of the ancient routes ensured their continued use.

The Augustan period produced no work like the *Periplus Maris Erythraei* or Pliny’s *Naturalis Historia* which has survived. Consequently, in order to discover what products were arriving from the East in the first forty years of the Empire one has to rely on incidental references in the literature of the period. The list from such sources cannot be expected to be exhaustive; nevertheless, most of the typical products of the East which are described more fully in later times do already occur in Augustan writers, a clear indication of the speed at which the trade developed.

References to the Seres and silk before the Empire period are rare; yet during the forty-five years of Augustus’ reign the Seres and their silk are mentioned fairly frequently, especially by the poets. From the

1 See Warmington, 30-1, and notes, p. 338.
2 See Pliny xi. 75. Propertius refers to Arabian silk (ii. 3. 15), but without comment about its quality.
3 Chinese and silk before the Empire period: Ezekiel i6:10 and 13, קָשָׁ (true Chinese silk?); Isaiah 49: 12, חַיָּנִי (Chinese?). Caesar is said to have possessed silk curtains (Dio xliii. 24). *Coae vestes* were made of some insect product similar to silk, but were not the silk of *Bombyx mori*. See Hudson, op. cit., 59-60 (footnote) and 92; also Pliny xi. 76-8.

Augustan references: Hor. *Odes* i. 12. 56; iii. 29. 27; iv. 15. 23; *Epodes* 8. 15-16; Ovid. *Am.* i. 14. 5-6; Virg., *Geor.* ii. 121; Prop. i. 14. 22; ii. 3. 15; iv. 8. 23; Strabo
distribution centres of Antioch, Palmyra, and Petra the silk was conveyed to the towns on the coast of Syria, principally Berytus, Tyre, and Sidon, where it was rewoven into several different forms, often with the addition of linen or wool, and then dyed. The weaving and dyeing industries were, of course, well established in these towns. It is interesting to note that pure, close-woven silk, the form in which the material arrived, was not seen in Rome until Elagabalus wore a robe made of it. The high cost of garments made from silk in this form can scarcely have been an objection to their production, for lavish spending was fast becoming a common feature of high society. The main reason for the reweaving of the silk was undoubtedly the boost it gave to the industries of Syria. By creating from silk several materials of their own design the textile craftsmen of the eastern Mediterranean both encouraged the silk trade and invigorated their own industries. Here at least trade with the East was combined with industry within the Empire so as to be economically beneficial to the industry.

In spite of the 'trade war' against South Arabia, trade with the Arabs also increased considerably in the early Empire. It has already been pointed out that a large percentage of the trade of the Egyptian ports must have been with Arabia. Incense and unguents of Arabian origin had long been used in the Roman world, with literary references going back to Plautus, but again the references increase in the Augustan period. Arabian products arrived either by the sea route along the Red Sea to the Egyptian ports or to Petra’s port of Aelana, or by the ‘incense route’ from South Arabia through Medina and Petra to the eastern Mediterranean. The latter was perhaps the more used for the actual Arabian products of incense and myrrh.

Incense and myrrh were probably the only exported products of Arabia itself, but the Arabs had for a long time, as noted above, carried on a most profitable trade with the West in many commodities from India, and perhaps also from East Africa. As Roman merchants expanded their contacts in the Indian Ocean the Arabs lost more and more of this retail trade, although the process was a gradual one. Even at the time of the Periplus and Pliny, and perhaps for the whole period of Rome’s eastern trade, the Arabs retained some of the trade in Indian...
products, probably by some arrangement with the Indian merchants. The outstanding example of this is the Arabian, and later Axumite–Arabian monopoly in cinnamon and cassia, both used in perfumes, incense, medicines, and as condiments and both found only from India eastwards. Even in the time of Herodotus cinnamon and cassia were obtained from the Arabs, although Herodotus had been told that cinnamon (but not cassia) came from ‘the land where Dionysius was brought up’, which was usually thought to be India. Strabo had also heard, quite correctly, that cinnamon and cassia came from India, although both he and most other writers continued to believe, as the Arabs and Axumites wanted them to believe, that both plants were grown mainly in Arabia and East Africa.1

The Arabs of North Arabia had their own monopoly; ebony, much used in the West for furniture and statuary, was imported into the Empire from India exclusively through the Arabian ports of Apologos and Ommana on the Persian Gulf, and thence overland through Petra. This route might well be called the Timber Route, for other timbers, including fragrant woods, were carried along it. Ebony was always the most important item in this trade, and the only wood attested by Roman sources during Augustus’ reign, although it may be that teak, blackwood, and sandalwood, all mentioned in the Periplus as part of the same trade, were already obtainable in the West. Yet in spite of a complete Arabian monopoly in these timbers, Virgil knew that ebony was an Indian wood;2 in this case the monopoly was maintained without secrecy. The author of the Periplus knew the whole organization of the trade, but apparently was still unable to buy these woods himself at Barygaza.

The Parthians likewise took a regular share in the Indian trade, although they do not seem to have possessed a monopoly; or if they did it had certainly been broken by the time of the Periplus. They dealt primarily in spikenard, costus, amomum or cardamomum, and malabathrum (probably betel), whose passage through Parthia is

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1 The trade was already old: Exodus 30: 23–4 (יהיון and יִדוּ); Psalms 45: 8 (verse 9 in the Hebrew text, יִדוּ); Ezekiel 27: 19 (יִדוּ); Hdt. iii. 110; Plaut. Curculio i. 2. 8. Augustan references: Virg. Georg. ii. 466 (cassia); Ovid, Fasti iii. 731 (cinnamon); Met. x. 308 (cinnamon); xv. 308–9 (cassia, cinnamon); Prop. ii. 29. 17 (Arabum de gramine odores—presumably this refers to cassia, etc.), iii. 13. 8—a definite statement that the Arabs sent cinnamon; Strabo ii. 1. 17; xv. 1. 22; xvi. 4. 14, 19, and 25; Periplus 14. See also Warmington, 185 ff.; but cassia, cinnamon, and betel are not parts of the same plant as stated by Warmington.

2 Pre-Augustan references to ebony: Aristotle, Meteorologica iv. 7. 16; Pseudo-Aristotle, De Plantis ii. 96; Theophratus, Historia Plantarum iv. 4. 6; v. 4. 7; Hdt. iii. 97. The ebony mentioned in Ezekiel 27: 15 came from Dedan, which was probably in Ethiopia. Augustan references: Virg. Georg. ii. 116–17; Ovid. Met. xi. 610. See also Periplus 36; Warmington, 212 ff.
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variously indicated by the adjectives Achaemenian, Syrian, and Assyrian in the Augustan poets. These plants are all grown in India (Grattius knew that the nards at least were Indian) and were widely used in the ancient world in the production of perfumes, as ingredients in medicines, and sometimes as condiments. Nard, or spikenard, a plant found only in the region of the Himalayas, was already finding its way to the Near East before the days of the Roman Republic, but apparently seldom went any further until Augustus’ reign. The Augustan poets, however, were quite familiar with perfumes made from nard, and refer especially to its use as a kind of hair oil. Costus did not gain the popularity of nard, but cardamomum, a spice related to ginger, was quite common under Augustus; it was chiefly used in making funereal perfumes.\(^1\)

As far as the other items of the oriental trade are concerned, it would seem from the adjectives applied to them and from the lack of reference to any middlemen that they were usually obtained from the beginning of Augustus’ reign from their countries of origin—mostly India.

At the height of the eastern trade the largest export in tonnage from India to the Mediterranean world was undoubtedly pepper. There is no Roman reference to it earlier than Horace, although a few references in Greek from Theophrastus onwards show that pepper must have reached the Mediterranean world in small quantities from at least the fourth century B.C. But the reference in Horace, written about 20 B.C., implies that pepper was now becoming fairly easily obtainable, although still classed with incense and perfumes (‘tus et odores et piper et quicquid chartis amicitur ineptis’).\(^2\)

During the Republic pearls had been obtained in the Red Sea and the Mediterranean, although the costliest may already have been Indian.

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\(^1\) Spikenard: Song of Solomon 1: 12; 4: 13 and 14 (בּ). The nard referred to under the term nardium (nard-flavoured wine) in Plaut. Mil. Glor. iii. 2. 11 seems likely to have been nardus Gallicus, a European plant, probably valerian, which is of the same family as nard. (See Warmington, 371, note 25.) Augustan references: Hor. Odes ii. 11. 16 (Assyrian); iv. 12. 17; Epodes 13. 8–9 (Achaemenian); 5. 59; Tibull. ii. 2. 7; iii. 4. 27; iii. 6. 63 (Syrian); Prop. iv. 7. 32; Strabo xvi. 4. 25; Grattius, Cyngetica 314 (nardifer Ganges); Ovid, Met. xv. 398. Also Warmington, 194 ff.

\(^2\) Pre-Augustan: Theophrastus, Historia Plantarum ix. 7. 2–3; De Odoribus 32. 25; Virg. Ecl. 3. 89, 4. 25; Ovid, Æpp. ex Ponto i. 9. 51–2; Her. 21. 166; Trist. iii. 3. 69; Tibullus i. 3. 7; l. 5. 36; iii. 2. 24. Also Warmington, 184 ff.

Malabathrum: Hor. Odes ii. 7. 7–8 (Syrian).

Virg. Georg. ii. 465, Assyrio veneno, no doubt refers to one of these aromatics.

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Anomum or cardamomum: Theophrastus, Historia Plantarum ix. 7. 2–3; De Odoribus 32. 25; Virg. Ecl. 3. 89, 4. 25; Ovid, Æpp. ex Ponto i. 9. 51–2; Her. 21. 166; Trist. iii. 3. 69; Tibullus i. 3. 7; l. 5. 36; iii. 2. 24. Also Warmington, 184 ff.

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\(^2\) Pre-Augustan: Theophrastus, Historia Plantarum ix. 20. 1; Hippocrates, Morbi Mulierum i. 81; ii. 205.

Augustan: Hor. Ep. ii. 1. 270; Sat. ii. 4. 73–4; Ovid, Ars Am. ii. 417. For the importance of pepper later in the Empire, see Errukkaddur Thayam Kannanar-Akam 148, and Oaranar-Puram 343 (accessible in R. K. Mookerji, A History of Indian Shipping). See also Warmington, 181 ff.
The Red Sea continued to be a regular source in the Empire period, but after contact with India had been firmly established more and more pearls were obtained from the Indian ports. In the early Empire, when Barygaza was the port most frequently visited, the ultimate source of the pearls was probably the Persian Gulf, for it was from here that the merchants of Barygaza procured them; but some of better quality may have been brought from South India and Ceylon, which are still among the chief producers.  

The use of tortoise-shell (testudo) as an inlay was, according to Pliny, introduced early in the first century B.C. by a certain Carvilius Pollio, and references in Cicero and Varro show that its use was already well established in Rome in the late Republic. By the time of Augustus it was known to come from India, but the ultimate source was probably Malaya and the East Indies where the Hawk's Bill turtle flourishes, providing the best quality material.  

Mother-of-pearl (if this is what 'concha' means) was said to come from both the Red Sea and India. Both are certainly likely sources for mother-of-pearl, although concha could simply mean 'pearl'; and pearls were likewise available in both the Red Sea and India.  

Ivory had long been in use in the Mediterranean world. The Egyptians used some African ivory, but the source of that used in Phoenicia and Mesopotamia is more likely to have been Syria, where elephants survived into the ninth century B.C. In classical Greece both African and Indian were used, but after Alexander the conditions on the land route reduced Indian supplies, whereas the trade in African ivory was considerably increased by the Ptolemies, who organized systematic elephant hunts in the Somali region. However, the settled conditions and increased mercantile activity under Augustus soon revived the commerce in Indian ivory both along the land and sea routes, although supplies of African were still doubtless obtained from the Axumites and their Somali neighbours. The poets once more show how common ivory was becoming: Horace implies it was used to decorate ceilings;
Cynthia asked Propertius for ivory dice; but the commonest use continued to be as inlay on wooden furniture and statuary.¹

As old as the trade in ivory was the commerce in precious stones. Ezekiel’s prophecy of judgement on Tyre and its king (especially chapters 27 and 28), ever a fruitful source of information on ancient commerce, does not fail here: sard, topaz, diamond, beryl, onyx, jasper, sapphire, emerald, and carbuncle; all, with the possible exception of topaz, came from India, at least in ancient times. Europe began to receive plentiful supplies after Alexander’s conquests, and the trade was no doubt helped by Roman conquests in the eastern Mediterranean during the late Republic, when precious stones became by no means uncommon. Yet here again the familiar pattern of the oriental commerce is seen; Augustus’ reign brings not only a great increase in general references to ‘gemmae’, but also evidence of an accurate collector’s interest in the different varieties of stone. Propertius especially shows himself a connoisseur; beryl, onyx, smaragdus (emerald?), chrysolithos (topaz?), and crystallus are mentioned by name; and furthermore Propertius was aware that India was the source of precious stones. Augustus’ donation of 500,000 gold pieces’ worth of pearls and precious stones to the temple of Jupiter Capitolinus attests to the volume of the trade.²

Parrots seem to have been the only livestock regularly exported from India to the West. They appear not infrequently on cameos and the like. The one Augustan reference is the well-known poem of Ovid on the death of a pet parrot. Later in the Empire the taste for parrots developed greatly; Elagabalus had enough to be able to feed his guests and his lions on them.³

¹ Ivory was already being imported into Egypt in pre-dynastic times: see S. Lloyd, *The Art of the Ancient Near East* (London, 1961), 26, illustration 7 (left); also J. A. Wilson, *The Culture of Ancient Egypt* (London, 1951), 26. Literary references before Augustus: Homer, *Od*. xix. 563; xxiii. 200; Arist. *Birds* 218; *Knights* 1169; *Plutus* 815; Plato, *Hippi. Maior* 290 C; Pausanias v. 12. 3; Ezekiel 27. 6 and 15 (¶); Song of Solomon 5: 14; Varro, *De Lingua Latina* 9. 47; Catullus 64. 48; Suet. *Julius* 84.

² Museum collections show the wide variety of precious and semi-precious stones used in the ancient world.

³ See also Warmington, 162 ff.; Cary and Warmington, *The Ancient Explorers* (London, 1929), 88 f.
Trade with the East in animal skins is mentioned once in the Augustan period: Strabo says that Asian as well as European nomads brought skins to Tanais on the Black Sea at the mouth of the Don, where they were bought by merchants from the Bosphorus.¹

Two further items may have been imported from the East in Augustus' reign, but there is considerable doubt in each case.

Rice could have been brought occasionally from India. The word is of Tamil origin, and Strabo knew of its cultivation in India. Horace refers to it once implying that it was not uncommon at this time, apparently being used as a medicinal gruel. But Strabo says rice was also grown in Syria, which is the more likely source for the Roman market.²

Cotton, too, may have been imported from India. The word carbasus (Greek κάρπασος, Hebrew כָּרְבָּסָה) is derived from the Sanskrit karpāsa (cotton), but it seems also to have been used for linen. Even when cotton may be meant (and this is never clearly indicated) the source could well have been Egypt. At the time of the Periplus, however, Indian cottons and muslins were part of the regular trade.³

There remain a few objects which arrived in the Roman Empire from the East, but which cannot be regarded as forming a part of the regular trade. The prime examples are the tiger, snake, and other creatures which are recorded as having been brought by Indian embassies and exhibited by Augustus.⁴ Intriguing as these were for Roman spectators, they were simply a spectacular sign of trade contacts in more marketable products.⁵

No Augustan writer makes any mention of how imports from the East were paid for, but fortunately archaeological evidence goes some way in answering the question.⁶ In the hoards of Roman coins found in South India a good percentage are from Augustus' reign. This does not mean that the amount of trade under Augustus was in direct proportion to the finds of coins; and indeed, apart from the obvious fact that coins are used long after the date of minting, there is good reason to believe that a considerable number of the Augustan coins was im-

¹ Strabo xi. 2, 3; cf. Periplus 39, Pliny xxxiv. 145; xxxvii. 204. In the Periplus and Pliny the skins are associated with the Seres, which meant generally Turkic or Mongolian rather than specifically Chinese. See also Warmington, 157 ff.
² Strabo xv. 1, 13 and 18; Hor. Sat. ii. 3. 155.
³ Cf. Fordyce on Catullus 64. 227. See Warmington, 210 ff.
⁴ Suet. Aug. 43; Hor. Ep. ii. 1. 196; see also references to Indian embassies, p. 213 n. 2.
⁵ It is possible that the biferi rosaria Paesti (Virg. Georg. iv. 119; cf. Ovid, Met. 15. 708; Martial iv. 42. 10; vi. 80. 6) may have consisted of gifts of rosa Indica from an eastern embassy, or perhaps been added to a consignment of silk, as Warmington suggests (p. 220). But the evidence is slender, and one might have expected some reference to an eastern origin if such were the case.
⁶ In A.D. 22, however, Tiberius stated in a letter to the senate that currency was being exported to pay for precious stones (Tac. Ann. iii. 53; cf. Dio lvi. 15). The most convenient analysis of the Roman coins found in India is R. E. M. Wheeler, Rome beyond the Imperial Frontiers (London, 1954), 164 ff.; also Warmington, 272 ff.
ported into India somewhat later than A.D. 14 because of the acknowledged reliability of the standard weight. Nevertheless, the fact that the reliable standard of Augustus' coinage was known in India and the evidence of a flourishing trade both lead to the conclusion that at least some, and probably no small percentage, of these coins were imported to India after the discovery of the monsoons. It is true that Roman subjects were not at this period sailing direct to South India, as many did by the time of Nero; but neither was the author of the *Periplus*, who also sailed in Nero's time, but coasted southwards from the ports of North India. It is more than likely that merchants under Augustus were already following the course described in the *Periplus*, coasting down to the Tamil ports in search of pepper, precious stones, and high-quality pearls. But the weakness in the oriental trade which became very apparent under Nero, and even troubled Tiberius, was already in evidence: the Romans had no commodity of comparable value which they could exchange for the luxury products of the Deccan, and so the large balance was made up in imperial coinage.

Roman products did, however, make their way to India as a supplement to the coinage. Under Augustus the glass industry in Syria and Alexandria had begun to expand greatly, in part because of the discovery of glass-blowing instead of the old method of moulding. High quality glassware quickly spread over the whole of the Empire, and although no Roman glassware found in the East has been definitely assigned to the time of Augustus, later finds and references show that glass was exported to many areas and in considerable quantities. It is not unlikely that the trade began under Augustus. The same argument might be applied to the export of wines, linen, coral, and pottery; indeed, with more confidence in the case of pottery, for some of the finds of amphorae and Arretine ware at Arikamedu in South India may date from the very end of Augustus' reign. But further evidence of Augustan exports to the East is still awaited.

During his forty-five years as leader of the Roman world Augustus was able not only to instigate new ideas and new ventures, but also to establish them as a permanent feature of Roman life for many years to come. Roman trade with the East can be said to have begun in earnest only with his accession; by the end of his reign the trade had already become essentially what it was to remain for the next two centuries. The changes that took place afterwards were variations and developments on a theme already firmly established by A.D. 14.