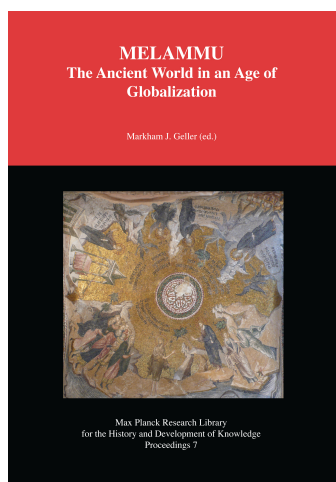


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Klaus Karttunen:

India and World Trade: From the Beginnings to the Hellenistic Age



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Chapter 15

India and World Trade: From the Beginnings to the Hellenistic Age

Klaus Karttunen

15.1 Introduction

The great significance and varying conditions of international trade are one of the central issues in the modern discussion of globalization, but it is also equally important for the present theme. In the first millennium BCE and even earlier, the regular network of international trade included South Asia, Iran, the Near East with Egypt and the Greek West. As far as India is concerned, most of this has been already discussed by me in my book in 1989,¹ but now it is time for an up-to-date survey.

To begin with, we must consider the geographical aspect. There are two possible routes for the Western trade of ancient India: Land and Sea. Both involved some difficulties. The most direct land-route from the Indus to the West was practically impossible because of the waterless deserts of Makran. Then there was the much longer route via Bactria and a flourishing caravan trade probably developed at an early date on this route. The short-cut via Kandahar and Seistan was a third alternative. The land-trade did not necessarily mean direct contact; probably the merchandise passed through a number of middlemen, and in any case, a caravan can only carry a restricted amount of merchandise. It has been rightly observed that the sea was the only feasible way of long-distance transport on a large scale before the railways.

Even the sea had its restrictions: The ancient mariners were unused to the open sea and the preferred way of sailing was to keep the coast always in sight and to spend every night safely on dry land.² Moreover, the early ships could take only so much cargo. This and the risks of storm and pirates made the long-

¹ See (Karttunen 1989, 11ff.), on the early Hellenistic period (Karttunen 1997, 328ff.).

² To avoid the dangers of the open sea, caused by the almost non-existent means of navigation, some sailors used to keep land birds such as crows and pigeons in cages. If the ship was carried into the open sea, the bird was freed, hoping that it would instinctively strike a course for the nearest coast. There is evidence for this custom in cuneiform sources, in the Bible and in Indian literature. See (Freedman 1973).

distance trade a risky business which was only taken on in the hope of large profits. Therefore, only cargoes of valuable luxuries were shipped and the whole enterprise concerned only the uppermost classes of society.

15.2 Early Period: Indus and Sumer

The first evidence of contacts between South Asia and the Near East goes back to the Neolithic period or even beyond. From archaeological evidence, we know that the spread of agriculture, then that of pottery, took place from West to East. Some plants (millets?) and animals perhaps came to the West. There are also examples of long-distance trade even in the prehistoric period, but this is not my speciality and the details must be left to archaeologists.

Mesopotamian sea trade seems to have started in the very beginning of Sumerian civilization. It has been claimed that the earliest (and rather close) contacts between Egypt and Mesopotamia in the late fourth millennium were perhaps by sea, around the Arabian Peninsula. On a lesser scale, a great amount of evidence testifies to the lively trade relations in the Gulf and the Arabian Sea in the late third millennium.³ It was both direct and transit trade. The main stations were the Sumerian ports in Southern Mesopotamia, then Dilmun, Makan, and Meluhha, or with modern names, Bahrain, Oman with Eastern Iran and the ports of the Harappan civilization. In addition to Mesopotamian and Indus sites (the port of Lothal), Failaka in Kuwait, the island Bahrain, Umm an-Nār in Abu Dhabi, Tell Abraq in Umm al-Qaiwain, Ra's al-Junayz on the east coast of Oman and Tepe Yahya in Eastern Iran have yielded important evidence for this early trade. The existence of this trade was established in the 1930s, less than ten years after the first knowledge of the existence of the Harappan civilization itself. I need not mention here all the details of earlier research since it was summarized in Karttunen 1989. The monograph of Ratnagar 1981 is still useful as an introduction. Daniel Potts' important monograph *The Arabian Gulf in Antiquity* (Potts 1990) appeared only in 1990, some months after my own book.⁴

What was traded? Textual evidence is important here as some of the goods do not survive for archaeologists to excavate and many do not reveal their origin. Timber was imported into Mesopotamia, but it is much later that we can clearly define the species. Copper came from Oman, gold and silver from the North-East, steatite from Eastern Iran, several kinds of precious and semi-precious stones from their various places of origin. The lapis lazuli of Badakhshan and Iran and

³More precisely: in the period between the Akkadian and Ur III States of Southern Mesopotamia (Potts 2007, 122).

⁴Some pertinent articles are also found in the first part of (Reade 1996).

agates and carnelians from India were particularly important.⁵ Ivory came from India, and even multicolored birds—perhaps peacocks⁶—are mentioned as imports. Hump-backed cattle and fowl were apparently introduced in this period from India.

There are some illustrations of merchant ships on seals and works of art—both in India and in Mesopotamia. The excavated site of Lothal by the Gulf of Cambay was a port of the Harappan civilization. The excavations at Ra's al-Junayz on the east coast of Oman yielded some meagre remains—bitumen slabs—of third millennium boats, according to Cleuziou (1994), probably used in the Indian trade. The same site also produced a sherd with a Harappan inscription (Tosi 1986, 105f.).

Sometimes optimistic scholars have seen too many contacts, even where the evidence is clearly negative. Thus, the Ancient Egyptians did not know India, and what few Indian products can be seen in the late pharaonic period usually came via South Arabia or Mesopotamia. There is no evidence of any contacts of Phoenicians with India and the ships of Hiram bringing the gold and other products of Ophir, as related in the Old Testament, probably did not go as far as that, but rather to South Arabia or North-East Africa.⁷ However, we may note that the Egyptian accounts of the Punt expeditions, wherever it was exactly located, and the less-detailed evidence of the Phoenician activity at least show the existence of a trade connection in the Red Sea area. In the seventh century, Pharaoh Necho had a fleet on the Red Sea. As one recent author put it, there was Red Sea trade at least from the time of Solomon to Darius and later, carried out by Egyptians, Phoenicians and especially Arabians.⁸

The early commerce between Mesopotamian and India slowed down in the second millennium. It did not come to a complete stop as was earlier supposed, but apparently the goods arrived through middlemen so that the very knowledge of their origin was forgotten. Even the terms were given new meaning: *Makan* and *Meluhha* were now located in or close to the Red Sea. We can perhaps understand why the trade diminished. In South Asia, the Indus Civilization withered, the towns were almost emptied and apparently the population was drastically diminished. The Aryans came to fill the vacuum with their nomadic tribal system. In this situation, there was little need for imports and trade as business probably disappeared for a while, to return only with the second period of Indian urbanization in the first millennium. However, the excavations at Tell Abraq in Umm al-Qaiwain show continuous contact with the Central Asian–Indian area from c.

⁵On agates and carnelians, see (Allchin 1975), on lapis lazuli, (Tosi 1974) and (Casanova 1994).

⁶Cf. (Potts 2007, 123).

⁷See again (Karttunen 1989).

⁸See (Salles 1996, 255). But are we really entitled to speak of Solomon as a dated historical figure? In any case, the legend of the Queen of Sheba refers to existing caravan trade.

2600 BCE until the early centuries CE (Potts 1994). In India, the main area of the Aryan culture long remained inland, far from the sea, and we know hardly anything of what happened in the coastal regions.

Speaking of the Aryans, we can note that they laid the foundation for trade becoming important in much later ages. They introduced the horse into India and thus established the basis of the importance of horses in Indian warfare. But as the tropical climate is badly suited to the breeding of good horses, the country has ever since been dependent on the import of horses. First, they came mainly from the north-west, from Iran and western Central Asia; in the Middle Ages, they also came by ship from Arabia.

15.3 Assyrian, Neo-Babylonian and Old Persian Period

After 1000 BCE, a new direct contact was made between Mesopotamia and North-West India. Both the Assyrians and Neo-Babylonians were involved. Animals like hump-backed cattle, monkeys, domestic fowl and peacocks and plants (pepper?) started to arrive and some were also naturalized in the West.⁹ Both the sea route and the land route were already used in Assyrian times. The Bactrian camel depicted on the obelisk of Shalmaneser III clearly points to the use of the land route. The import of the lapis lazuli of Badakhshan (and some from Iran) in Mesopotamia had already started in the third millennium. For the sea-trade, Salles (1996, 256) summarizes: “Soft stones and copper from Oman, precious woods and black wood from Oman, Makran and India, parrots, precious stones, pearl, bdellium, and so forth.”¹⁰

It is more difficult to say what were Indian imports in the first millennium BCE. Some pottery has been found, in India and in the various steps along the trade-route, but pottery as such was hardly profitable enough to make the transport pay. The real merchandise was probably packed in those jars, but we do not know what it was. Pearls and coral were probably part of the trade. The pearl fisheries of the Gulf were already in use in the third millennium and much lauded in several classical texts such as Theophrast (*de Lapidibus* 36), the *Periplus* (35) and Pliny (*Hist. nat.* 6, 28, 10). The Mediterranean red coral, according to Vidale (2005), started to appear in North-West India as early as the late second millennium.

The rise of Media and Persia changed the political map of the Near East, but the existing trade relations continued. An important new feature was the Persian

⁹I have discussed these in (Karttunen 1989, 25ff.). On peacocks see also (Rybatzky 2008), on monkeys, (Barnett 1973) and (Mendleson 1983).

¹⁰I wonder whether he is not operating on too slight evidence. Is the trade in parrots only founded on the *Bāverujātaka*? Considering the importance of the local pearl fisheries of the Gulf, did they really import pearls from India? And he seems to have forgotten ivory.

expansion in the east, although very defectively known.¹¹ In any case, Bactria soon developed into an important eastern centre of Achaemenid power, certainly at least partly because of the caravan trade. This trade led both to the North-East, via Sogdiana to Siberia, and to the South-East, the Kabul and Indus Valleys.

But we must not exaggerate the importance of Achaemenids. Long ago, Wheeler saw them as the great bearers of civilization to Central Asia and India who brought irrigation, iron technology, urbanization and other things. Later research has shown that all these existed much earlier. The urbanization in Bactria and North-West India started in the early first millennium,¹² and before the middle in the Gangetic basin.

The Achaemenid presence in what is now Afghanistan and Pakistan is well established in literary sources—Greek and Old Persian.¹³ To this can be added some numismatic evidence. Achaemenid coinage, first issued by Darius at the end of the sixth century, has been found, in addition to stray finds, in the Tchamoni-Hazouri hoard near Kabul and at the Bhir Mound in Taxila. There are also a number of Greek coins, not only the Athenian owls for which local forgeries have been suggested, but also coins of several Ionian, Greek and Macedonian towns. For the history of trade, it is interesting to note that Achaemenid sigloi are often found in association with Indian-style bent-bar and punch-marked coins.¹⁴

It is likely that the very idea of coinage was brought by the Achaemenids to North-West India. This and other cultural influences can be seen in a number of Old Persian loan words in Sanskrit: *karṣa* and *kārṣāpaṇa*, a silver weight and the corresponding coin, *mudrā* ‘seal’, and *lipi* ‘writing’ (Morgenstierne 1974, 273f. Baghbidi 2006). Moreover, the presence of the Aramaic language in the Pakistan-Afghanistan area is attested by the Aramaic versions of Aśokan inscriptions and the development of the Aramaic-based Kharoṣṭhī script.

There is also some evidence of the growing maritime activity of the Achaemenids. Herodotus (4, 44) tells of the expedition sent by Darius, participated

¹¹ Arrian (*Indica* 1, 3) claims that even the Assyrians had conquered parts of Afghanistan, but there is hardly any evidence for this. (Kločkov 1990) describes an eye-stone with a cuneiform inscription of Esarhaddon (680–669), but its provenance is unknown. It comes from the Kabul antiquarian market, and Kločkov thinks it must be of local origin. The story of the Indian campaign of Queen Semiramis is wholly legendary, though often mentioned in Greek literature (Daffinà 1990).

¹² In Taxila, the beginnings of urbanization seem to be around 1000 BCE (Dani 1986, 36ff. and 81) and according to (Magee et al. 2005, 715f.), Charsadda was also occupied as early. The main subject of (Magee et al. 2005) or the ancient town of Akra, situated in Bannu Basin is of interest. It seems to have had close connections with Arachosia and was a very important centre in the Achaemenid period.

¹³ E.g., Herodotus, Ctesias and Arrian; DB. The Kabul Valley, Greek Paropamisadae, is also mentioned in the Avesta.

¹⁴ The numismatic history was briefly discussed in (Karttunen 1989, 30f.). See also the summary in (Bopearachchi and Rahman 1995, 21ff.).

in and described by Scylax of Caryanda. They went to the east using the land-route via Bactria, built a navy and sailed from the Kabul and Indus rivers down to the sea and, following the coasts, up to Suez.¹⁵ Herodotus further says that as a consequence of this expedition, the Indus Valley was conquered by Darius and adds that he also opened the sea for ships. In the Suez stele, Darius boasted of the reopening of the canal to the Nile and sending a fleet to Persia.

The epigraphical evidence from Susa mentions a number of imported goods: ivory from Kush and India and wood from Carmania, Gandhara and Makran. Gold came from Bactria, carnelian and lapis lazuli from Sogdiana (DSf). There is the famous case of the hard-wood *Dalbergia sissoo*, identified by Gershevitch in his well-known article.¹⁶ The Apadana relief shows us Indians and Gandharans bringing various products. Cotton was known to Herodotus and rice to Sophocles.¹⁷ Around 400, Ctesias saw a number of Indian products at the Persian court (elephants, peacocks, swords, precious stones, drugs and poisons, dyes, even cheese and wine). More or less at the same time, pepper became known in Greece as the Indian or Persian medicine. Imports came both via Bactria—Ctesias speaks of Bactrian merchants—and by sea.

In this period, another trade route was opened. Literary sources lead us to conclude that Indian or Arabian seafarers had rather early learnt to put aside their traditional fear of the open sea and to use the regular monsoon winds to cross the Arabian Sea. This is connected with the early flourish of spice trade. Cassia and cinnamon have their origin in South India and Sri Lanka (originally perhaps in South-East Asia), but as early as before the mid-first millennium BCE, they started to arrive in the West via South Arabia. This is attested as early as Sappho (F 44) and the Old Testament (*Ex* 30:23, *Prov.* 7:17, *Cant.* 4:14), and both are also in Herodotus (3, 111). In the Near East, the spice-trade was part of the Arabian caravan and sea trade connecting the Mediterranean coast with South Arabia. We, of course, note immediately that from South Arabia there was a sea connection to India, but in the ancient West, the real origin of spices remained hidden. Even in the Roman period, it was commonly supposed that cinnamon grew in South Arabia or North-East Africa (Karttunen 1989, 19ff.).

¹⁵The fantasies of (Panchenko 1998)—Scylax starting at the Ganges and sailing around South India—are certainly to be rejected. I have myself discussed Scylax in (Karttunen 1989, 65ff.).

¹⁶See (Gershevitch 1957), see also (Maxwell-Hyslop 1983).

¹⁷Herodotus 3, 106 on cotton in India. At least in the end of the fourth century, cotton was also cultivated in Bahrain, as we learn from Theophrast, *Hist.* 4, 7, 7. On rice, Sophocles F 607 Nauck. Note (Potts 2007, 128), on the possibility of the early introduction of rice into Mesopotamia.

15.4 Alexander and Hellenism

Let us turn back to the Gulf route. The political upheaval caused by Alexander does not seem to have much altered the patterns of trade (Salles 1996, 257). When Alexander reached the delta of the Indus in 325, he was able to find pilots for the coastal waters of Gedrosia, who then guided the navy of Nearch. In the region of Ormuz in Carmania, they even found a pilot who spoke Greek.¹⁸ Greek historians generally give the impression that Patala in the Indus Delta was a rather primitive place, but this seems to be misleading. Onesicritus was here able to obtain information about Taprobane (Sri Lanka) and the ways of sailing there, which indicates that Patala had far-reaching trade relations. Sri Lankan traditions put the original home of the Sinhalese in Eastern India (Orissa), but linguistic peculiarities of the Sinhalese language clearly point to an origin in Western India. Obviously, contact was still kept between the two in the late fourth century.¹⁹

Alexander fell in love with war elephants and his successors also much esteemed these ancient tanks. This gave the Seleucids an advantage as they could import elephants from India. The famous agreement between Candragupta Maurya and Seleucus involved the transfer of 500 elephants,²⁰ which became a great advantage in subsequent wars. The importation of elephants naturally made use of the land-route. Before Alexander, the Achaemenids also had some war elephants.²¹ The Ptolemies soon developed their own supply of African elephants, but for a while the word “Indian” was a professional term for “mahout” (in the *LXX*, Polybius, and so forth).

Indian goods are occasionally encountered in texts of early Ptolemaic Egypt.²² There is a reference to Indian dogs in a third century papyrus,²³ and the description of the triumphal procession includes both men and animals from India (Athenaeus 5, 200f.). Probably they did come to Egypt from the caravan trade, but if so, was it with Mesopotamia or with South Arabia?

¹⁸Strabo 16, 3, 7 (cf. Arrian, *Indica* 27).

¹⁹The information of the Pāli chronicles about the Orissan origins—there were certainly contacts—hail from the beginnings of the CE.

²⁰Appianus 11, 9, 5, Justinus 15, 4.

²¹It remains open whether the Assyrians imported elephants. There are some early pictures of Indian-type elephants, but they may also be Syrian elephants, not yet extinct in Assyrian times. See (Karttunen 1989, 24). Ctesias saw elephants in Persian service and they took part in the battle of Gaugamela.

²²We can safely eliminate here the so-called “Buddhist” or “Sumerian” heads from Memphis. When these terracotta figurines were found by Flinders Petrie, they were dated to the Achaemenid period or even before (Petrie 1908) and this idea has been carried into much later studies (Nayar 1971). But as early as 1939, Gordon placed them on stylistic and historical grounds in the first century CE (Gordon 1939). See also (Harle 1992).

²³Indian dogs were already mentioned by Ctesias and Xenophon in the pre-Alexander period. See (Karttunen 1989, 163ff.).

It seems that in the early Hellenistic period, the Seleucids maintained sea trade with India from the Gulf. There were ports such as the island of Failaka on the western side and the Alexandria founded by Alexander east of the Shatt el-Arab. However, this trade faded away with the rise of Parthia: Failaka was abandoned c. 150 BCE (Salles 1996, 252) and Alexandria/Antiochia developed into the Parthian Spasinou Charax. The Greek sources show that Bahrain (Greek Tylus or Tilus) continued as an important entrepôt and they tell of the commercial activity of the Arabic Gerrhaeans. Before his sudden death, Alexander was preparing a campaign to the Arabian Gulf Coast—one motive was certainly to get full control of the trade. Of the role of Oman, little is known before the first century CE.

Our knowledge of the sea trade of the Arabian Sea and the Red Sea in this period is almost completely founded on Greek and Latin literature. There are thousands of South Arabian inscriptions, but unfortunately they completely ignore any international relations (Salles 1996, 251). The Greek and Roman sources are usually late, and it is often difficult to decide what refers to the Hellenistic and Roman period and what to earlier times. At least in Hellenistic times, the island of Soqatra (Dioskorida of the Greeks) was an important market, perhaps even earlier.²⁴ Agatharchides, in the mid-second century BCE, stated that ships from Potana (Patala in the Indus Delta) arrived there.²⁵ Cosmas (3, 65) claimed that the island had been colonized by the Ptolemies so that the islanders still spoke Greek in his time (early sixth century CE).

In India, the urbanization in the South came relatively late and its early history is very defectively known. On the eastern side, the new excavations in 1989–92 (Begley) at the famous site of Arikamedu show the occupation starting with a Megalithic Phase A, from c. 250 to 150 BCE, but only Phase B, c. 150 to 100, shows the first Rouletted Ware (imitating Mediterranean).²⁶

The joint excavations of the University of Kerala and the British Museum at Pattanam near the Keralan coast are currently revealing what appears to be the famous port of Muziris, mentioned both in classical sources and in early Tamil poetry. But here the situation is similar, the earliest levels go back to the Megalithic phase, but Western trade starts only in the first century.²⁷ Other famous markets of the Indian west coast (Bharukaccha, Supara, etc.) are unexcavated, as

²⁴See (Salles 1996, 255). In later times, at least, there was an Indian colony on the island and the very name Soqatra is probably derived from Sanskrit *sukhataradvīpa*.

²⁵Agatharchides F 105ab, also mentioned by Salles (1996).

²⁶See (Begley 1996). Briefly mentioned in (Salles 1996, 262). See, however, (Schenk 2006) on the interpretation of the Rouletted Ware.

²⁷My information on Pattanam excavations hails from two papers, read by members of the team at the *South Asian Archaeology* conferences in London (2005) and Ravenna (2007), the first by V. Selvakumar, P.K. Gopi and Roberta Tomber, the second by P.J. Cherin, K.P. Shajan and V. Selvakumar.

they are either situated under more recent settlements or still unlocated. In several periods of history, from Harappan times on, there certainly were important ports in the Indus Delta, but the geologically unstable character of the area makes it rather unlikely that any remains are preserved. We must also note that until recent times, Indian archaeology has mainly concentrated on prehistoric sites and our knowledge of the early historical period is therefore very imperfect.

Quite a lot has been written on the history of Indian shipping, but nevertheless our knowledge of the early period is scanty, indeed. The earliest illustrations of ships, beside those of the Harappan civilization, are found on Sātavāhana coins of the early centuries CE.²⁸ Indian texts have very little to say, except that the sea trade was at the same time very lucrative, but also very dangerous and was better avoided by the wise. Stories of sea monsters, shipwrecks, and marvelous adventures in distant islands were popular entertainment, but there is very little actual information to be culled from these texts. The *Bāverujātaka* testifies to Mesopotamian trade, but the exact date is problematic (Karttunen 1989).

The story of the shipwrecked Indian sailor rescued in the Red Sea and then piloting Eudoxus of Cyzicus on his two voyages to India (and the unsuccessful third attempt around Africa)²⁹ during the reign of Ptolemy VIII Euergetes II (145–116) already heralds a new age in the history of international commerce and cannot be discussed here.

Bibliography

- Allchin, B. (1975). The Agate and Carnelian Industry of Western India. *South Asian Archaeology*: 91–105.
- Baghbidi, Hassan Rezai (2006). Iranian elements in Sanskrit. In: *Themes and Tasks in Old and Middle Indo-Aryan Linguistics. Papers of the 12th World Sanskrit Conference 5*. Ed. by B. Tikkanen and H. Hettrich. Delhi: Motilal Banarsidass Publishers, 143–166.
- Barnett, R.D. (1973). Monkey Business. *The Journal of the Ancient Near Eastern Society of Columbia University (JANES)* 5:1–10.
- Begley, V. (1996). *The Ancient Port of Arikamedu. New Excavations and Researches 1989–1992*. 1. Paris: École Française d'Extrême-Orient.
- Bopearachchi, O. and A. ur Rahman (1995). *Pre-Kushana Coins in Pakistan*. Amsterdam: Mughal Print.
- Casanova, M. (1994). Lapis Lazuli Beads in Susa and Central Asia: A Preliminary Study. In: *South Asian Archaeology: Proceedings of the Twelfth International Conference of the European Association of South Asian Archaeologists held in Helsinki University, 5-9 July 1993*. Ed. by A. Pärpola and P. Koskikallio. Helsinki: Suomalainen Tiedeakatemia, 137–145.

²⁸On Sātavāhanas, see (Ray 1986).

²⁹Poseidonius in Strabo 2, 3, 4–6. On Eudoxus, see Thiel (1966).

- Cleuzio, S. and M. Tosi (1994). Black Boats of Magan: Some Thoughts on Bronze Age Water Transport in Oman and Beyond from the Impressed Bitumen Slabs of Ra's al-Junayz. In: *South Asian Archaeology: Proceedings of the Twelfth International Conference of the European Association of South Asian Archaeologists held in Helsinki University, 5-9 July 1993*. Ed. by A. Parpola and P. Koskikallio. Helsinki: Suomalainen Tiedeakatemia, 745–761.
- Daffinà, P. (1990). Semiramide in India. In: *Indo-Sino-Tibetica: Studi in Onore di Luciano Petech*. Ed. by L. Petech and P. Daffinà. Giza: Bardi, 91–101.
- Dani, A.H. (1986). *The Historic City of Taxila*. Nottingham: Centre for East Asian Cultural Studies.
- Freedman, R.D. (1973). The Dispatch of the Reconnaissance Birds in Gilgamesh XI. *The Journal of the Ancient Near Eastern Society of Columbia University (JANES)* 5:123–129.
- Gershevitch, I. (1957). Sissoo at Susa: (Opers. yakā = Dalbergia sissoo Roxb.) *Bulletin of the School of Oriental and African Studies* 19:317–320.
- Gordon, D.H. (1939). The Buddhist Origin of the 'Sumerian' Heads from Memphis. *Iraq* 6:35–38.
- Harle, J.C. (1992). The 'Indian' Terracottas from Ancient Memphis: A Hitherto Unknown Deity? In: *South Asian Archaeology: Papers from the Tenth International Conference of South Asian Archaeologists in Western Europe: Musée National des Arts Asiatiques, Guimet, Paris, France, 3 - 7 July 1989*. Ed. by C. Jarriège. Madison: Prehistory Press, 375–384.
- Karttunen, K. (1989). *India in Early Greek Literature*. 65. Studia Orientalia. Helsinki: Finnish Oriental Society.
- (1997). *India and the Hellenistic World*. 83. Studia Orientalia. Helsinki: Finnish Oriental Society.
- Kločkov, I.S. (1990). Nadpis' Asarhaddona iz Afganistana. *VDI* 4:62–65.
- Magee, P., C. Petrie, R. Knox, F. Khan, and K. Thomas (2005). The Achaemenid Empire in South Asia and Recent Excavations in Akra in North-west Pakistan. *American Journal of Archaeology* 109: 711–741.
- Maxwell-Hyslop, K.R. (1983). Dalbergia sissoo Roxburgh. *Anatolian Studies. Journal of the British Institute of Archaeology at Ankara* 33:67–72, pl. 23.
- Mendleson, C. (1983). More Monkey Business. *Anatolian Studies. Journal of the British Institute of Archaeology at Ankara* 33:81–83.
- Morgenstierne, Georg (1974). Early Iranic Influence upon Indo-Aryan. In: *Acta Iranica, I. série, Commemoration Cyrus. Vol. I. Hommage universel*. Pahlavi: Bibliothèque Pahlavi, 271–279.
- Nayar, T. Balakrishna (1971). The Indian Figurines from Memphis. In: *Dr. V. Raghavan Shashyabdapurti Felicitation Volume*. Mylapore: Dr. V. Raghavan Shashyabdapurti Felicitation Committee, Kuppuswami Sastri Research Institute, 122–134.
- Panchenko, D. (1998). Scylax' Circumnavigation of India and Its Interpretation in Early Greek Geography, Ethnography and Cosmography, I. *Hyperboreus* 4(2):211–243.
- Petrie, F. (1908). The Peoples of the Persian Empire. *Man*:129f.
- Potts, D.T. (1990). *The Arabian Gulf in Antiquity. 1–2*. Gloucestershire: Clarendon Press.
- (1994). South and Central Asian elements at Tell Abraq (Emirate of Umm al-Qaiwain, United Arab Emirates), c. 2200 BCE–CE 400. In: *South Asian Archaeology: Proceedings of the Twelfth International Conference of the European Association of South Asian Archaeologists held in Helsinki University, 5-9 July 1993*. Ed. by A. Parpola and P. Koskikallio. Helsinki: Suomalainen Tiedeakatemia, 615–628.
- (2007). Differing Modes of Contact between India and the West: Some Achaemenid and Seleucid Examples. In: *Memory as History: The Legacy of Alexander in Asia*. Ed. by H.P. Ray and D.T. Potts. New Delhi: Aryan Books International, 122–130.
- Ratnagar, S. (1981). *Encounters. The Westerly Trade of the Harappa Civilization*. Oxford: Oxford University Press.
- Ray, H.P. (1986). *Monastery and Guild. Commerce under the Sātavāhanas*. Oxford: Oxford University press.

- Reade, J. (1996). *The Indian Ocean in Antiquity*. Ed. by J. Reade. London: Kegan Paul International in association with the British Museum, London.
- Rybatzky, V. (2008). Farbigkeit und Vielfalt. Einiges zum Pfau und seinen Beziehungen in den zentralasiatischen Sprachen. *Studies on the Inner Asian Languages* 13:187–207.
- Salles, J.-F. (1996). Achaemenid and Hellenistic Trade in the Indian Ocean. In: *The Indian Ocean in Antiquity*. London: Kegan Paul International in association with the British Museum, London, 251–267.
- Schenk, H. (2006). The Dating and Historical Value of Rouletted Ware. *Zeitschrift für Archäologie aussereuropäischer Kulturen* 1:123–152.
- Thiel, J.H. (1966). Eudoxus of Cyzicus, A Chapter in the History of the Sea-Route to India and the Route Round the Cape in Ancient Times. (English translation of a Durch article from 1939). *Historische Studies uitgegeven vanwege het Instituut voor Geschiedenis der Rijksuniversiteit te Utrecht* 23.
- Tosi, M. (1974). The Lapis Lazuli Trade across the Iranian Plateau in the 3rd Millennium BCE. In: *Gururājamañjarikā: Studi in onore di Giuseppe Tucci. I*. Napoli: Napoli Istituto Univ. Orientale, 3–22.
- (1986). Early Maritime Cultures of the Arabian Gulf and the Indian Ocean. In: *Bahrain Through the Ages. The Archaeology*. Newark: KPI, 94–107.
- Vidale, M. (2005). On the Exploitation of Corals in the Indus Tradition. In: *South Asian Archaeology: Proceedings of the 16th International Conference of the European Association of South Asian Archaeologists held in Collège de France, Paris, 2–6 July 2001*. Ed. by Catherine Jarrige. Paris: Editions recherche sur les civilisations, 316–325.