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14 Political, Corporate, and Ritual Economic Processes of Early Historic South Asia

I Introduction

This chapter explains the economic profile of early South Asia by framing production, consumption, and distribution within their sociopolitical contexts. Here, I emphasize the importance of the plurality of social-political and religious agencies, discuss the interaction between various actors, and explore various strategies of interaction as the stimulants of both economic changes and the development of networks.

Interaction through the coordination and counterbalancing of the economic impacts of various actors led to economic change and development in the period between 300 BCE and 300 CE. Broadly, economic development is visible in the processes of production and connectivity. An increase in production (and possibly productivity) is indicated by reliance on specialized methods of irrigation that increased production, especially of commercial agricultural goods; the presence of a greater variety of specialized crafting associations; the volume of ceramics found in excavation; and intensive monetization of various regions. Indices for increased connectivity of early historic South Asia are the increased number and greater size of urban settlements; development of ports alongside their regional hinterland and satellite settlements; and more intense use of particular corridors and highways due to the intensive commercial and social travel by both inland and sea routes.

Owing to regional diversity in terms of physical geography, the nature of polities, and social norms, the changes just outlined were neither uniform nor occurred at the same pace throughout the subcontinent. Similarly, the indices of economic changes differ in intensity as well as extent. For example, the history and development of cities and their satellite settlements in the northern alluvial plain differed from that in parts of the Deccan plateau and the Western Ghats. Similarly, the monetary practices of the northern and western regions were different from those in the economies of the south in terms of the intensity of circulation of locally produced coins.

While great regional difference was undeniable, we must also be mindful of the diversity of source material available to us. At times, the sources allow deep insights into specific economic processes and developments, while they remain silent on many issues. It is, therefore, impossible to work out a general narrative of the economy of early historic India as a whole. This is not a problem of the quantity of source material, which is rich and abundant. We have both indigenous and for-

eign literary accounts, epigraphic records, and numismatic and material remains.¹ However, the sources present particular challenges in terms of their composition and how they may be brought to bear on the larger picture. First, most of the literary sources available to us are normative, narrative, and canonical in nature. They are composite texts, and their compilation dates span centuries. Second, the *Arthaśāstra*, which is almost indispensable for gaining insights into economic and administrative practices, develops a state-driven scenario that is idealized and likely informed by the observation of a localized center with a relatively strong political and economic integration. Third, archaeological excavations have long been guided by textual studies. Finding urban centers mentioned in the texts was their main purpose, be this the search for Roman *emporia* along the western and eastern coasts, sites of Buddhist significance, or cities mentioned in the *kāvya* literature, the *Mahābhārata* and the *Rāmāyaṇa*.² Many sites, moreover, have experienced continuous occupation. Horizontal excavation and broad surveys have been rare, limiting the study of urban settlements and their function within the regions. Additionally, and related to the previous, is the limitation of the numismatic record. Coin finds are usually connected to sites through surface finds of hoards or in *stūpa* deposits, but rarely in stratigraphic contexts. This limits the chance of studying their role in wider economic contexts and developments. These limitations prevent us from developing a general model of processes in more than their broadest outlines.

However, sketching aspects of economic processes in the past need not require neat, flawless pictures. Therefore, this chapter is an attempt to understand economic behavior in various contextual scenarios without flattening regional particularities or silencing gaps in our knowledge. I shall first identify how the interaction of different social, religious, and political actors created favorable conditions for economic development in early India. Here, I identify three categories of catalysts at the social, religious, and political level: ethno-social stimulants and private associations; the rise of monastic religion; and imperial aspirations of various local polities. I shall then discuss the most important indices of economic change and how they might be related to what I have identified as the catalysts of change. This is followed by a section about changes in different sectors, such as the production and distribution of agricultural and artisanal goods; the greater connectivity of routes and urban settlements; and last but not least, an increase in elite and sub-elite consumption visible in the circulation of particular goods. In the final section, I discuss distribution and markets and the role of different actors facilitating the movement of people and goods, which shaped the connectivity in early India.

¹ For the discussion of sources, see Dwivedi, vol. 1, ch. 10.A; von Reden, vol. 1, ch. 10.B.

² For a discussion on beginning of archaeological and antiquarian studies in India, see Dwivedi, vol. 1, ch. 15.

II Stimulants of the Economy

There are various political and social stimuli that shape and characterize the economy. In the context of our region and time, there are political and social actors who operated within various institutions to reach their sociopolitical goals. This section identifies such political, social, and religious institutions and their role as catalysts of economic change and development, and most importantly, of the establishment of coordinated networks of transport and communication.

II.1 Ethnosocial Stimulants and Private Associations

The ethnosocial structure of society characterized the economic profile of early South Asia, and can be explained by two examples: first, the prevalence of dedicated labor groups in the socioritual organization of the society, which appear to be more prominent in the alluvial regions of the northern plains; and second, the formation and functioning of professional associations. These characteristics were embedded in two essential institutions of early India, private ownership of land and private entrepreneurship.

II.1.1 Occupational Groups and Labor Regimes

A particular feature of Indic society was its stratification into four socioritual groups, called the *varṇas*.³ In normative texts, these are also occupational groups with certain recommendations and restrictions for each social group. Even though there are various instances suggesting individual flexibility, a large part of physical labor in agricultural and domestic context was provided by the Śūdras (the lowest social classes). Even though the presence of institutionalized slavery in ancient India is a debated topic, we find mentions of people being reduced to the state of *dāsa*, which has ambiguous connotation of either being a paid servant or a slave. The evidence indicates the use of a large number of *dāsas* as laborers mainly in the context of royal palaces and monasteries.⁴ Surprisingly, we do not have evidence for the use of *dāsas* as agricultural labor. The *Arthaśāstra* recommends keeping agriculture free from the use of forced labor.⁵ Rather, it envisions two types of pro-

³ The four groups are Brāhmaṇa (teachers and priests), Kṣatriya (rulers and soldiers), Vaiśya (merchants, businessmen and agriculturists), Śūdras (craftsmen and servant groups).

⁴ For a discussion, see Dwivedi, ch. 5, III, this volume.

⁵ Forced labor, punishment, over-taxation, and animal herds are considered bad for the agriculture by Kauṭilya, see *Kauṭīliya Arthaśāstra* (KA) 6. 1. 10. However, labor of slaves and men paying their fines through manual labor are to be used during sowing of the fields, see KA 2. 24. 2.

ducers, small landowners working their own fields and tenants working on private or large royal holdings. Private land owners are typically organized in households and till their land with the help of seasonal wage labor.⁶ Land belonging to the king (*sītā*), by contrast, is farmed in a system of sharecropping;⁷ tenancies could be cancelled in case the tenants failed to cultivate and could be transferred to another who was willing to cultivate.⁸ Sharecropping was perhaps not altogether absent in nonstate contexts either, as we have epigraphical evidence for rich absentee landlords and monasteries as beneficiaries of agricultural land which they hardly cultivated themselves. According to the *Arthaśāstra*, moreover, the state created incentives for the expansion of agriculture by offering tax exemptions, rebates, and even loans to farmers willing to bring virgin land under cultivation.⁹ From the third century BCE onward there is a noticeable increase in the compilation of legal treatises (*dharmaśāstras*) defining terms of ownership and division of private property, which may indicate the increasing importance of private ownership in this period.¹⁰

II.1.2 Professional Associations and Corporate Bodies

The second feature is the prevalence of professional associations and corporate bodies, often called guilds (*śreṇi* and *negama/nigama*).¹¹ We learn of different types of associations in a wide range of occupational contexts ranging from flower merchants to weavers, ivory carvers, traders, and even mercenaries.¹² Economic security of both the members of the associations and their clients was perhaps the main reason for the formation of these guilds. Corporations and associations of any kind and size were of great economic consequences, as they provided security for their members against individual loss and misfortune, and allowed them to share various kinds of risks.¹³ The importance of associations can be seen in the enormous role they played in long-distance trade and travel, and the fact that they survived political change. Moreover, many associations were wealthy institutions using their as-

⁶ For more on the constitution of an agrarian household, see Dwivedi, ch. 5, II, this volume.

⁷ We find reference to *ardhasitika*, which is differently translated as ‘tiller tenants’ and/or ‘sharecroppers’ for half the share of the produce. There are other tenants too who get to keep one-fourth or one-fifth of the share depending on the type of crop and land. See KA 3. 11. 23; 2. 24. 16–18.

⁸ KA 2. 1. 10.

⁹ KA 2. 2. 30; 2. 1. 86; 3. 9. 33. See also Mital 1995, 84–85.

¹⁰ For a discussion on laws, see Dwivedi, ch. 10, IV, this volume.

¹¹ For a detailed discussion on corporate bodies, see Dwivedi, ch. 5, V.2, this volume.

¹² For examples of epigraphic references to guilds, see Mirashi 1981, pt. 1, 95–100; Thakur 1987, 73. For mercenary guilds or corporate troops (*bhṛtabala* and *śreṇībala*), KA 7. 8. 27; 9. 2. 1, 4. For the economic role of armies, see Dwivedi, ch. 5, IX, this volume.

¹³ The guilds may have assumed the liabilities for the deposit of raw material or cash in case of death. Being a part of a guild also enabled the members to accept deposits, see KA 4. 1. 1–4.

sets for moneylending, which influenced the development of credit and banking.¹⁴ The economic potential of these corporate bodies can also be seen when one looks at monetary donations as ‘perpetual endowments’ (*akṣayanivī*) made to them, with an agreement that a percent of profit shall be donated to a dedicated monastery every month (also below, II.2.1).

Regarding the internal functioning of guilds, we have little information. The *śreṣṭhi* was probably the head of the association, but the term can also have the connotation of rich merchant, financier, and banker.¹⁵ The size of corporate organizations also varied. Though there were profession-based organizations within villages, it also seems possible that settlements and even cities formed parts of a corporate body with administrative functions.¹⁶ Seals and coins bearing the term *nigama/negama/nekama* have been found at various sites. These have been interpreted as closed currency systems or even insignia of corporate or civic bodies.¹⁷

II.2 Monastic Institutions as Financial Magnates

The emergence of an elaborate ritual and social network associated with the rise of monastic Buddhism was an important socioeconomic phenomenon. A large number of Buddhist sites situated along the inland trade routes, riverine ports, and other urban settlements exhibit the commercial connections and coordination of mercantile networks. Buddhist monasteries acted as an economic stimulant in two fundamental ways: as repositories of wealth and credit institutions, and as centers of urban innovations.

II.2.1 Rise of Monasteries as Repositories of Wealth and Credit Institutions

From the second century BCE onward, Buddhist monasteries had become recipients of *dāna*, donations for merit, in the form of goods and money. Apart from individuals making donations, commissioning sculptures, and constructing cave dwellings for the monks, there were large monetary deposits to assure the monasteries had a

¹⁴ The head of a guild was called *śreṣṭhi*, which also has the connotation of banker in Sanskrit. There are references to guilds or the heads of the guilds is found commonly in the literary sources. Various *dharmaśāstras* and the *Kauṭilya Arthaśāstra* establish the rate of interest at which the loans are to be given. See Mishra 1992, 53–58; Evers 2017, 167–168.

¹⁵ There are variants to the term *śreṣṭhin* (Skt.), such as *seṭṭhi* (Prakrit), and *sreṭhi* (Gāndhārī). A Gāndhārī birch bark manuscript from Afghanistan, dated between 1–100 CE, refers to *sreṭhiputra*. Baums and Glass 2002, search word “sreṭhi.” See more about *seṭṭhi* as a local economic elite in Dwivedi, ch. 5, IV, this volume.

¹⁶ The reference here is to the *nigama* type of corporate bodies, Thakur 1987.

¹⁷ Thakur 1987; Ray 2010.

sustained income. First, kings seem to have made donations of tax income from certain villages and reallocated customs collected at ports. Then, from the first century onward, there were also ‘perpetual endowments’ (*akṣayanivī*) that associations or guilds received on behalf of a monastery with an agreement for paying a certain portion of their profits to the monastery at regular intervals.¹⁸

The close associations among Buddhist monasteries, merchant groups, and guilds has been emphasized frequently. There are numerous references to monks and merchants travelling together by land and sea.¹⁹ The close connection between associations and monasteries is perhaps also a reason for monasteries developing into credit institutions. Schopen has explained the development of formula for written credit notes and contracts in Buddhist contexts in much detail. He has shown that monasteries, at least of the *Mūlasarvastivādi* tradition, accounted for their wealth by separating what would be stored in the inner treasury or depository (*koṣṭhikā*), with a portion kept aside for the maintenance of monastery and for lending.²⁰ The *Mūlasarvastivāda-vinaya*, citing the Buddha, also recommends lending at interest and the fixing of the loan in writing to avoid situations of nonpayment. A written contract should be drawn up that included the date of the agreement, the lender and the borrower, the “property” lent out, and the interest to be paid. The contract should be sealed and witnessed:

The Blessed One said: “Taking a pledge (*ādhillbandhaka*) of twice the value (*dviguṇa*), and writing out a contract (*likhita*) that has a seal and is witnessed (*sākṣimat*), the perpetuity is to be placed. In the contract the year, the month, the day, the name of the Elder of the Community (*saṃghasthavira*), the Provost of the monastery (*upadhivārika*), the borrower, the property, and the interest (*vṛddhi*) should be recorded.”²¹

Possibly, monasteries adopted written contractual forms from Greek models, but they also adapted them to their own tradition of contracting transactions orally.²² Yet by adopting the written form for formulaic credit notes and contracts in their daily business, monastic communities greatly contributed to, or even initiated, greater security in credit transactions, and most likely greater volumes of them.²³

II.2.2 Monasteries as Centers of Technological Innovation and Dissemination

As wealthy participants in growing economies, monasteries participated in technological innovations, both in a narrower and wider sense, and both actively and pas-

¹⁸ See Dwivedi, ch. 5, VII.2, this volume.

¹⁹ A Chinese pilgrim, Faxian, visited India in 399 CE and took a mercantile ship on his way back to China. He reports having taken a ship from Tamralipti to Sri Lanka and from Sri Lanka to China through Southeast Asia, Sen 2006, 25–26.

²⁰ Schopen 2004, 48–51.

²¹ *The Vinayavibhanga* of the *Mūlasarvāsrivāda-vinaya* vide Schopen 2004, 49.

²² See also sec. II.3.2 for the Greek influence on Indic practices.

²³ Schopen 2004, 45–90.

sively. A large number of monumental remains of Buddhist institutions show their use of new building materials and artistic styles. Monastic complexes consisted of *stūpas* (apsidal shrines consisting of relics of the Buddha), *caityas* (prayer halls), and *viḥāra* (residence complex for monks and nuns). Most important is the evidence for the use of burnt bricks in the construction of the buildings and the advanced masonry in the often elaborate architectural structures. They were embellished with carvings and sculptures depicting life of the Buddha and different Bodhisattvas (potential Buddhas).²⁴ The importance of Buddhist architecture can be taken from the fact that no other institution or organization in the early historic period has left such conspicuous and elaborate monumental remains. Most of what is studied as early historic art comes from monastic complexes.

There is, moreover, a notable involvement of Buddhist monasteries in hydraulic engineering. Evidence of monastic waterworks is mainly of two kinds: aqueduct channels within monastic complexes, and tanks for water storage. A particularly close relationship between Buddhist monastic sites and irrigated agriculture and horticulture has been found in the area around Sanchi.²⁵ The development of irrigated agriculture may have been related to the key role Buddhist organizations played in the commercial farming and trade of cotton in the western Deccan.²⁶

As centers of education, monasteries also participated in the dissemination of written culture and writing materials. From the first century onward, a large number of Buddhist manuscripts on birch bark shows that writing was an important and desirable skill that was encouraged and spread by monasteries.²⁷ By issuing written credit notes and contracts in their dealings, they also disseminated the use of literacy for new purposes.²⁸

II.3 Political Stimulants: Imperial Aspirations of States

The changes and development in the political economy of early India was marked by two phenomena: the emergence of regional imperializing states, and the steady intervention and influences of political powers from the northwestern regions of the subcontinent. Both shaped the fiscal institutions, monetary profile, and development of religious institutions in the subcontinent. Local and external political processes were not mutually exclusive, but rather cumulative in nature.

²⁴ See also Dwivedi, ch. 5, VII; Morris, ch. 13, IV.3, this volume.

²⁵ For a detailed discussion on involvement of Buddhist monastic centers with development in hydraulic infrastructure, see Dwivedi, ch. 10, VI.1, this volume. Also see Shaw 2007; 2018.

²⁶ Brancaccio 2018.

²⁷ Skilling 2008, 61.

²⁸ Schopen 2004, 45–90.

II.3.1 The Impact of the Mauryan Dynasty

The Indo-Gangetic plains of the subcontinent experienced the earliest of the expansionist states, where the earliest of the territorial polities called *janapada*, were merged to form sixteen 'greater' territorial polities (*mahājanapada*) during the sixth and fifth centuries BCE. The sixteen *mahājanapadas* were monarchical in nature. Around the fourth century BCE, one of the *mahājanapadas*, Magadha, had emerged as the dominant political center of northern India under the Nanda dynasty usurped by the Maurya dynasty at the end of the fourth century BCE. The founder of the Maurya dynasty, Candragupta Maurya, had unified the north under his political supremacy and established the western boundary of his empire under the famous Treaty of Indus (ca. 303 BCE) with Seleukos.²⁹ Under his successors, especially his grandson Aśoka, a large part of the subcontinent was brought under Mauryan rule. The pan-Indian presence of Aśokan edicts, except in the deep south, is indicative not just of the spread of his moral teaching, but also of the consolidation of networks of communication that were necessary for the spread of an imperial ideology. Arguably, the possibility of establishing a functional network of administration and resource appropriation was also the background of the *Arthaśāstra*. The establishment of various offices responsible for the upkeep of channels of communication, the gathering of relevant information about resources within the domain, and the maintenance of records are also known from various epigraphic sources.³⁰

The Mauryan political system is usually regarded as the first empire in South Asia. Some scholars regard the imperial experience as a stimulus for state formation in the Deccan and deep south. This is a questionable approach that posits a hierarchical model of state formation and political evolution leading to derivative state structures.³¹ However, from an economic perspective, the growth of urbanism, monetization, and spread of pottery from the third and second centuries BCE onward shows the enormous economic dynamics set in motion by the greater connectivity of the subcontinent in the course of the Mauryan period.

II.3.2 Influences from the Northwest

The northwestern region has been considered a crossroad, leading to the presence of mutual sociopolitical influences from different cultures including Greek, Iranian, Central Asian, and Indian. Leaving Indo-Buddhist influences in Central Asia and Iran aside, scholars have emphasized Hellenistic influences above all in northwestern India in different spheres, ranging from cultural and political to monetary and

²⁹ Von Reden, vol. 1, ch. 1, 25.

³⁰ For an overview of the fiscal system, see Dwivedi, ch. 10, II, this volume.

³¹ Dwivedi, vol. 1, ch. 3; ch. 15.

technological. Hellenistic influence is quite noticeable in various sculptural representations in Buddhist art in the northwest. Under the western polities, like the Indo-Greeks, Scythians, and subsequently also the Kuṣāṇas, the Buddhist monastic religion continued to flourish. Some scholars attribute this to the continued practice of royal patronage under most of the political powers active in northwest India, while others argue for the role of local elites who patronized Buddhism, contributing to the rise of monasteries as centers of wealth.³² Politically, a large degree of imperial coevolution has been emphasized, leading to the growth of diplomacy, routes of connections, and defense structures that both secured borders and relationships between the Hellenistic and Indian polities.³³

The northwestern region also experienced a complex monetary scenario where the Indic monetary denomination, *kāṛṣāpaṇa*, and the Greek coinage cocirculated.³⁴ Greek coins spread as far as Barygaza, where their circulation was still attested in the first century CE.³⁵ The northwest emerged as a multilingual region where bilingual and biscriptual coins circulated for several centuries. The practice of placing portraits of rulers on coins became widespread in northern India with the expansion of the Indo-Greek kings into the northwestern regions. Such iconography was clearly used a political statement in the rivalries between the Śakas and Sātavahānas, for example when Gautamīputra Sātkaṇi counterstruck Nahāpana's coin after defeating Nahāpana in the early first century CE. Moreover, the standard of the gold *dināras* introduced into the subcontinent by the Kuṣāṇas continued to be used by polities even long after the decline of the Kuṣāṇas.

As indicated above, the practice of written debt notes and contracts is sometimes thought to have resulted from Greek influence in the northwestern regions, as did more standardized methods of written recordkeeping. There is no direct evidence for this influence, but the fact that such tools are first attested in the northwestern regions, while oral contracts and oaths remained more widespread in the south, might suggest that cultural interaction was a fertile breeding ground for their local development.

III Indices of Economic Change

In this section I will look, in more detail, at specific forms and indices of economic development, as can be seen in an increase in agricultural and craft production,

³² Fussman 2015. See also Morris, ch. 4, IV.2; ch. 13, III.2; this volume.

³³ Apart from the numerous accounts of a more colonial kind, see the nuances brought forward by Kosmin 2014, 31–78.

³⁴ See also Dwivedi, ch. 10, III, this volume; Morris, ch. 9, II.3, this volume.

³⁵ *Periplus Maris Erythraei* (PME) 47. Memories of Greek presence in the region remained strong, according to this passage.

expansion of settlements, greater connectivity between regions, and complex processes of monetization in the subcontinent.

III.1 Agricultural Development: Hydrological Advancements and Regional Strategies

In early historic South Asia, a greater variety of grain crops was cultivated than in any contemporary world region. This is owed to the long tradition of local domestication of wild plants and their adoption from other regions since the third and second millennia BCE.³⁶ Many vegetables and fruits were domesticated still during the early historic phase.³⁷ Many crops, moreover, were cultivated in year-round agricultural cycles, or underwent ‘double cropping,’ referring to the cultivation of both winter and summer crops. Rice, millet, mustard, sesame, cotton, hemp, and some pulses formed the main crops of the summer cultivation cycle irrigated by the monsoon rain from July to August. Winter crops included wheat, barley, flax, safflower, and a variety of pulses, which were watered by the winter rainfall in the northwest, river irrigation, residual soil moisture, and artificial water reservoirs (‘tanks’) in other regions.³⁸ As a year-round activity in the alluvial plains – Indo-Gangetic region and Narmada, Tapti, Mahanadi, Godavari, Kaveri, and Krishna river valleys – agriculture must have absorbed a large part of the available workforce. Middle- and long-distance transfers of agricultural produce and subsistence goods probably drove the thriving use of routes and road networks.

The expansion of hydraulic infrastructure suggests much agrarian development from the second century BCE onward. Given the very different environmental and topographical features of the subcontinent, technologies differed among regions. The northern plains saw more canal irrigation dependent on the perennial rivers. In the Deccan, ‘tanks’ became more common. In Sri Lanka, reservoirs were constructed to create artificial cascades in some regions.³⁹ In areas not inundated by perennial rivers, it was the diversification of crops and usage of drought-resistant varieties that intensified agricultural production.⁴⁰

Commercial agriculture also flourished in this period, perhaps as a response to the rising demand for pepper, cotton, nard, and some other products outside the subcontinent. By the first century CE, they were marketed and exported in massive

³⁶ Murphy and Fuller 2017, 6.

³⁷ Murphy and Fuller (2017) refer to tree crops such as mango, jackfruit, citric fruits etc., along with a variety of cucurbitaceous vegetables being grown in the subcontinent.

³⁸ Petrie and Bates 2017, 89; Murphy and Fuller 2017.

³⁹ For a discussion on the development of hydraulic infrastructure and role of different actors in different regions, see Dwivedi, ch. 10, VI.1, this volume.

⁴⁰ For a bibliography on the issues of agricultural intensification through various techniques, Kingwell-Banham 2019, 6487–6488.

quantities to the cities and harbors along the coasts of the Arabian Sea and the Mediterranean, as is well-known from the *Periplus Maris Erythraei* and other sources. It is interesting to note, however, that each of these products has its own methods and ecological niches of production. For example, spices were grown above all in the highlands and mountainous areas of the Malabar region dependent on seasonal rainfall. The traditional knowledge of foraging combined with swidden agriculture ensured the production and processing of spices before they were ready for transportation.⁴¹ If we can believe the author of the *Periplus*, pepper was grown most abundantly in an area called Kottanarike, probably identical with Tamil Kuttam or Kuttanātu, located in the wetlands on the foothills of the Western Ghats.⁴² Cotton, another important commercial crop, was produced in the western Deccan in the water-retentive black soil, *regur*. The allied industries related to processing cotton and weaving also thrived alongside the increase of its cultivation. Nard, or spikenard, was another plant-based commodity exported to the Mediterranean.⁴³ Though it grew in the Himalayan mountains of north India, it was called “Gangetic nard” in Graeco-Roman sources because it was available at the riverine ports along River Ganga first, and then transported to other coastal ports in the Western Ghats. We must also consider the commercial cultivation of coconut trees for the production of coir, which is required for the building of ships in the stitched-boat tradition.⁴⁴ These boats were particularly noteworthy to foreign observers and were most closely associated with long-distance trade. Chakravarti relates the donation of 32,000 coconut saplings to the monastic community at Nasik for the commercial investment in the production of coir in the first century CE.⁴⁵ The great variety of production centers shows the great connectivity of the Indian subcontinent, both in terms of infrastructure and communication relevant for concentrating these products in export harbors.

III.2 Craft Production and Artisanal Goods

Archaeological remains from the third century BCE onward show a substantial increase in a large variety of manufactured goods, particularly relief carvings and sculpture, beads, glass, and above all, pottery. There was a great variety of regionally produced pottery, broadly categorized into three types. First, ‘glazed ware,’ including northern black polished ware (NBPW), black slipped ware (BSW), and russet coated painted ware (RCP). Second, ‘grey ware,’ variants of which include a variety of rouletted ware (RW) and moldware. Third, ‘red ware,’ including the red

⁴¹ Morrison and Lycett 2013, 132–133.

⁴² *PME* 53 with De Romanis 2020, 88–89, for a discussion of the location of Kottanarike.

⁴³ Dalby 2000, 86.

⁴⁴ Ray 2003, 59–60 for a discussion.

⁴⁵ Chakravarti 2017, 324–325.

and black ware (RBW) variants.⁴⁶ The red wares and the RBW go back to the Chalcolithic period and NBPW has been dated to ca. the sixth century BCE. Yet many regional varieties have been found from the third century BCE onward.

While the presence of a greater variety of pottery is indicative of increasing economic complexity, it is also an indicator of other economic factors. First, we can identify the movement of fine, polished luxury tableware from the north to the southern regions. NBPW is first found in the middle Ganga valley, but from the third century BCE onward it was also produced in the lower Ganga valley. NBPW was also exported to Sri Lanka and port sites of Wari-Bateshwar in present-day Bangladesh before it moved on to ports of Thailand.⁴⁷ RW shows a similar increase in the extent of its distribution. The epicenter of its production was the lower Ganga valley and the present Gujarat region. From the third century BCE it is found together with NBPW at various sites in southern and central Thailand, in Oman, and many other sites along the Persian Gulf and the Red Sea.⁴⁸ The second notable feature is the imitation of certain pottery types in southern regions. In Tamil Nadu, coarse red and black wares mainly associated with storage are identified as locally produced imitations of the northern varieties. The practice of imitation, including the use of locally available raw materials, shows that there were not just functional but also stylistic takeovers and adaptations.⁴⁹ There was not only an increased demand for pottery for regular use as storage containers, but this demand was also increasingly supplied by local craftsmen.

The production of glass beads is another industry of interest, associated with the hinterlands of coastal regions.⁵⁰ It is argued that glass ingots were imported, melted, and crafted into glass beads in local workshops that used the furnace-winding technique as the most common and simplest method of beadmaking.⁵¹ More than 35 centers of production have been identified within the subcontinent. The most important centers of glass-bead production were Ahichchatra and Kaushambi in the north, Arikamedu and Karaikadu in the south, and Kolhapur and Nevasa in the Deccan.⁵² Noteworthy is the mention of raw glass as an item of import at the port of Barygaza (Bharuch) and Muziris (Pattanam) in the *Periplus*.⁵³ Certain sites,

⁴⁶ See Reddy 2015; Tripathi and Singh 2018; Cherian and Menon 2014, 88–95; Lefrancq and Hawkes 2020.

⁴⁷ Jahan 2012, 209–10.

⁴⁸ For observations on regional centers of production and long-distance transportation, see Pavan and Schenk 2012; Reddy 2015; Rai et al. 2014.

⁴⁹ Smith 1999, 117–118.

⁵⁰ Also, Evers 2017, 168–170 for a discussion and further reference.

⁵¹ The furnace-winding method involves the production of glass beads by twisting the glass around a metal rod, and the beads produced by this method are the wound-bead type (Kanungo 2004, 129).

⁵² Kanungo 2004.

⁵³ *PME* 48–49, 56 with Casson 1989, 22–23.

like Arikamedu, may have been production centers for custom-made glass products for Southeast Asian and Chinese markets.⁵⁴

Sculpting and masonry also seem to have experienced a surge from the third century BCE onward. This was connected in large degree to the rise of monastic Buddhism. Visual representations of religious narratives on stone reliefs, friezes, and sculptures were media of storytelling in early Buddhist contexts and developed in close association with monastic settlements. Examples come from various sites at Gandhāra, Sanchi (Madhya Pradesh), Bharhut (Madhya Pradesh), Amaravati (Andhra Pradesh), Nagarjunakonda (Andhra Pradesh), Kanaganahalli/Sannati (Karnataka), as well as the rock-cut caves in Maharashtra and hundreds of other sites across the subcontinent.⁵⁵ Yet the increase in masonry and sculpture was not just related to representations of Buddhist deities. Many of the sites, such as Mathura, exhibit Hindu, Jaina, and Buddhist religious arts in conjunction.⁵⁶ The pan-Indic phenomenon is indicative of networks of knowledge and communication, as well as the mobility of artisans skilled in their craft. The development of construction work and sculpture is also connected with the development of settlement and urbanization to which we turn next.

III.3 Development of Cities, Ports, and Hinterland

The development of urban centers can be seen as an increase in the productive capacity of the immediate hinterlands of settlements, as well as their connectivity with more distant centers of production. The focus here is the growth of cities as centers of consumption and redistribution, and questions of physical connectivity are discussed in the next section.

Archaeological, epigraphic, and literary sources offer combined evidence for the growth of urbanism throughout the subcontinent. Yet cities grew for different reasons. Pātaliputa, Taxila, and Madurai are examples of fortified administrative centers. Korkai, Bharuch, Pattanam, and Arikamedu grew as nodes of long-distance trade networks. While others, such as Sanchi, Varanasi, and Sarnath, experienced growth as religious centers.

Most of the cities in the northern plains had a long history of continued occupation and saw steady expansion from the first millennium BCE onward.⁵⁷ In the early historic period, there is no evidence of royal city foundations and colonization as is known from Hellenistic Asia.⁵⁸ Royal patronage and fiscal privilege do

⁵⁴ Borell 2010, 137.

⁵⁵ For a discussion and bibliography, see Dwivedi, vol. 1, ch. 10.A, 433–435. See also Morris, ch. 13, IV.3, this volume.

⁵⁶ Singh 2004.

⁵⁷ Chattopadhyaya 2003, 50–55.

⁵⁸ Kosmin 2014, 46.

not seem to account for the prosperity of these cities. However, in the western Deccan a change in settlement patterns is visible around the second and first centuries BCE. There was an increase in the number of settlements and also a change in the nature of material remains. During this period, market centers and cities along trade routes in the western Deccan emerged,⁵⁹ and we also know about a few Sātavāhana rulers who founded cities.⁶⁰ In the eastern Deccan and further south, settlement culture is identified with the megalithic phase starting from about 1000 BCE, which continued till 300 CE.⁶¹ In the early centuries CE, however, inscribed sherds, iron tools and weapons, gold ornaments, and processed grain from both burial and settlement zones indicate greater connectivity of the settlements with regional as well as distant sites.⁶² Yet the sites remained small. Those classified as large settlements were about five ha in extent, capable of supporting a population of about 1,000.⁶³

By the early historic period, most of the important cities had well-connected satellite settlements. The urban center was not marked by a productive hinterland, but by being a part of other well-connected clusters of site. For example, Mathura has been identified as a 'settlement locality' with a series of urban sites forming an urban microregion.⁶⁴ Varanasi, Sanchi, Anuradhapura, Tirunelveli, and Tungabhadra valley also exhibit connected satellite settlements that formed an urban cluster.⁶⁵ It is believed that this clustering of sites and their connectivity allowed the emergence and sustenance of villages with specialized craftsmen and servicemen. There were villages of ivory carvers (*dantakāragrāma*), centers for textile production, and for the maintenance and upkeep of a monastery.⁶⁶ References to such settlements are found quite often in literary sources, and it would not be wrong to conclude that such specialized settlements survived and operated when functioning as a cluster for their mutual needs. Specialized corporate and professional associations also operated within these regions. The phenomenon of clustering of sites goes beyond what the archetypical urban zones of the north and the western Deccan. Even the settlements of the megalithic sites show clustering in southern re-

⁵⁹ Ray 2006a, 116–117.

⁶⁰ For example, the foundation of Vijayapūri (Nagarjunkonda) is credited to Vijaya Sātakarṇi, Navanagara was probably founded by Pulumāvi, and Vaijayanti (modern Vanavasi in Karnataka) was founded by Cuṭukulānanda Sātakarṇi. Mirashi 1981, pt. 1, 121.

⁶¹ The megalithic phase is marked by the iron-using communities who raised monuments of stones that were often of sepulchral nature.

⁶² For further references, see Dwivedi, vol. 1, ch. 10.A, 447–448.

⁶³ Ray 2006a, 114–115.

⁶⁴ Chattopadhyaya 2003, 68–69.

⁶⁵ Rea 1904; Coningham et al. 1999; Shaw and Sutcliffe 2003; Basant 2012; Bauer 2015.

⁶⁶ See Dwivedi, ch. 5, VII, this volume. For 'slave' settlements with primary function of taking care of monasteries, see Schopen 1994.

gions. In a study of settlements around iron ore zones in Tamil Nadu, about 70 sites were found within a distance of up to twenty km.⁶⁷

The late first and early second centuries CE saw a great increase in coastal sites and pottery all along the Bay of Bengal and the Arabian Sea.⁶⁸ Many of the coastal sites are identified as port cities that must also be understood in their regional context. Inland cities, such as Pāṭaliputra, Mathura, Madurai, Varanasi, Anuradhapura, and others, are all situated along navigable rivers with connectivity to the coastal zone areas by fluvial routes.⁶⁹ South Asia has four coastal zones that were connected to the subcontinent: the western coast of India, with centers in modern-day Gujarat and Maharashtra; the eastern coasts opening into the Bay of Bengal; the Malabar coast and the south of Tamil Nadu, and closely connected to the latter; the coastal ports of Sri Lanka. In earlier scholarship, the development of larger ports along these coasts was explained by their role in Roman trade. However, with Begley's study of regional pottery styles and the growth of Arikamedu, the theory of Indian coastal ports as standalone Roman emporia was overhauled. Begley was able to contextualize the port of Arikamedu within a series of interconnected settlements along the Gingee River.⁷⁰ Following her pioneering work, other port sites were studied with an emphasis on their regional contexts and fluvial connection to the hinterlands. Most of the important ancient ports were located at the mouth of river estuaries rather than on the coast directly. The best examples are Barbarikon on the Indus River, Barygaza (Bharukaccha) in the estuary of the Narmada River, Muziris (Pattanam) at the Periyar River, Poompuhar at the Kaveri Delta, Tamralipti at the mouth of the Ganga River, Godavaya at the delta of Walawe Ganga, among many others.⁷¹ The location of ports and harbors on riverine routes makes them part of a history of growing connectivity.

III.4 Routes and Connectivity

Ethno-archaeological approaches and Indic literary sources have long referred to the traditional routes traversed through time immemorial. However, it is only in the early historic period that we find references to established routes. Long-distance travel within early South Asia went along large and smaller inland routes, rivers, and cabotage along coastlines. Together, they formed a complex network of highways and arterial roadways.⁷²

⁶⁷ The author further explains that the sites appearing in the vicinity of iron ore are only 40 percent, rest are farther and yet have yielded iron objects. For a detailed discussion, see Moorti 1994, 16, 108; Ray 2006a, 114–116.

⁶⁸ Ray 2006b; 2018.

⁶⁹ See Dwivedi, vol. 1, ch. 3, map 1.

⁷⁰ Begley 1983.

⁷¹ Deloche 1983; 1994, 5–128.

⁷² Dwivedi, vol. 1, ch. 3, map 1.

Despite the undeniably local origins of routes and roads, much imperial effort was devoted to improving roads for the movement of armies, people, and tributes. The second Major Rock Edict of Aśoka announces that “on the roads trees were planted, and wells were caused to be dug for the use of cattle and men.”⁷³ The seventh pillar edict mentions wells and rest houses built in short intervals.⁷⁴ Moreover, royal roads (*basilikai hodoi*) were a notable feature that Greek authors observed when writing about India. Strabo, based on earlier Hellenistic geography and ethnography, reports a royal road of 10,000 *stadia* that ran from the northern regions to Pataliputra.⁷⁵ Pliny gives the length of a route from Peucolatis on the bank of the Kabul River via Taxila to the mouth of the Ganga by measuring the distances from station to station.⁷⁶ Strabo mentions magistrates who built roads and set up pillars at distances of 10 *stadia*.⁷⁷ The equipping of such roads with supply stations and distance markers may have been modeled on the Achaemenid royal road system, or was simply a typical imperial strategy. In any case, well-equipped, publicly supervised roads embedded in clustered settlements and cities were indispensable means of drawing together people, revenue, and armies in an ecological context where large stretches of territory were unsuitable for urbanization and travel.

Routes filled a large variety of functions – they played a role in administration and trade, but also formed semiautonomous regional centers of communication and exchange, and in some places were clusters of religious and cultural activity.⁷⁸

III.5 Monetization

The first coins, called the punch-marked coins (*kārṣāpaṇa*) in the northern parts of South Asia, are dated to the sixth century BCE, and minted in both silver and copper variations. Each punched symbol seems to have signified the authorization of the coins by different bodies. From about 300 BCE there was a much greater variety, and far greater volumes, of coinage.⁷⁹ From the second century BCE onward, coin legends became common. Uninscribed *kārṣāpaṇa* and inscribed coins circulated together, suggesting that they were mutually exchangeable, or that different coin systems operated side by side.

Various numismatic developments throw light on greater degrees of monetary connectivity from the third century BCE onward. Most regional coins of *kārṣāpaṇa* standard were minted in copper from deposits in the Aravalli Hills, which spread

⁷³ Rock Edict (RE) 2, trans. Hultsch 1925.

⁷⁴ RE 7; Neelis 2011, 188–9 for the debatable translation of ‘rest houses.’

⁷⁵ Strabo *Geography* (Strab.) 15. 1. 11.

⁷⁶ Such distances were measured by so-called bematists who measured routes by counting steps.

⁷⁷ Strab. 15. 1. 50.

⁷⁸ Fussman 1987–1988, 66–68; Thapar 2003, 196; Neelis 2013, 14.

⁷⁹ See also Dwivedi, ch.10, III.1; Morris, ch. 9, II.3, this volume.

into the mineral-rich plateaus of central India and the modern state of Bengal.⁸⁰ The Indo-Greeks, by contrast, minted coins in silver that may have been acquired from more distant sources.⁸¹ The Sātavāhanas, furthermore, issued their coins in lead, along with potin and copper. It is possible that the lead for these coins was not only mined locally, but also imported. The *Periplus* mentions lead and copper imports in bulk at Barygaza (Bharuch).⁸²

Greek *drachms* and Indic/Graeco-Indian *kārṣāpaṇa* started to circulate together from the time of Indo-Greek presence in the northern region, as we said above. The use of bilingual and bscriptual coin legends, moreover, is indicative of monetary zones in which multiethnic and multilingual communities lived and interacted. There were also stylistic changes, such as the use of a king's portraits on the coins as a result of interaction and conflict with the Greek in the northwestern region. At the same time, regional political confederacies (*janapadas* of the Yaudheyas, Ārjunāyanas, Kuṇinda, and others), and monarchies (Mitrās, Pāñcāla, Daśārṇa, Śibis, Sātavāhanas) issued and counter-struck coins to establish their own political identities, suggesting a greater interest in self-definition vis-à-vis others.⁸³

The southern parts of the subcontinent also experienced a great influx of non-regional coins. Examples are the northern punch-marked coins that spread further south from the second century BCE onward, and Roman silver *denarii* and gold *aurei* entering the southern subcontinent in some quantity from the first century CE onward. Whether the nonlocal coins functioned as media of exchange has been debated.⁸⁴ While they certainly acted as stores of value, their use as currency is uncertain. The extra-monetary functions of these coins might be emphasized by their being found in *stūpa* deposits and other ritual contexts.⁸⁵ It is important to note that in the subcontinent other items still functioned as money, while not all coin-like objects had monetary function.⁸⁶

III.6 Elitism and the Rise of Middling Occupational Groups in Urban Spaces

The administrative posts of the Mauryan state created economic opportunities for a growing 'middling group' in the ancient context.⁸⁷ Epigraphic sources, too, hint at

⁸⁰ Shrivastva 1999, 174–177.

⁸¹ It was long thought that there were few or no silver resources in India, making most silver items, including coins, foreign imports. Yet recent studies of Dariba and Agucha in the Aravalli Hills of Rajasthan have revealed that there were mines yielding argentiferous lead suitable for the extraction of silver (Craddock 2014, 1088).

⁸² *PME* 49, 56, 60.

⁸³ See also Bhandare 2006; Dwivedi, vol. 1, ch. 10.A, 452–456; ch. 10, III, this volume.

⁸⁴ Cobb 2018, 250–271 for a summary of evidence and discussions.

⁸⁵ Dwivedi, vol. 1, ch. 10.A, 453–458.

⁸⁶ For a discussion on this issue, Dwivedi, vol. 1, ch. 10.A, 456–458.

⁸⁷ Smith 2018.

an elaborate administrative apparatus that hired a number of officers employed as skilled workers and in managerial positions at various levels. The presence of a complex and multitier bureaucratic machinery under the Mauryas can also be gleaned from the fragments of the *Indica* of Megasthenes, the Macedonian ambassador to the court of Candragupta Maurya.⁸⁸ Epigraphic sources relating to the Sātavāhanas, King Khāravela, and other unattributed polities provide evidence for similar occupational specializations in other parts of the subcontinent.⁸⁹ In the *Arthaśāstra*, officers are recommended to be paid regular salaries that created a ranked society depending on the resources at the disposal of officials. The highest officials were those closest to the king's office and received 48,000 *paṇas* a month.⁹⁰ Successive salaries were halved with each lower office. The lowest monetary compensation was 1¼ *paṇa* monthly, along with a ration and some share in produce depending on the nature of work.⁹¹ The pay scale of the *Arthaśāstra* does not perhaps reflect real salaries, but the idea of status depending on occupation and the scale of income might not have developed in a political vacuum.

Occupation in the royal administrative hierarchy was perhaps the most important means of attaining, or confirming, social status. Yet there were other means of expressing that one was in a high social position. Monetary donations and sponsorship of art for Buddhist monastic communities are among the most conspicuous. They are evidence not only for the spending capacity of particular occupational groups, but also for the significance attached to the display of the financial means that an occupation entailed. The importance of occupation and spending capacity is clear from the large number of donative records by individuals who identify themselves by their professions, such as merchants, bankers, caravan leaders, and goldsmiths, to name but a few.

The growing degree of social mobility in urban contexts is also evident from some literary sources.⁹² We find compilations of treatises or guidebooks on how to train oneself as a successful member of the urban elite. A text like the *Kāmasūtra* of Vātsyāyana, for example, provides a 'cultural grammar' expressing the social expectations and ideals that a successful urban dweller was to fulfill.⁹³ This included personal grooming and proper adornment with luxury items.

In this context, the growing circulation of luxury tableware is noteworthy. The expansion of demands for the specially glazed NBPW in the Ganga valley is attribut-

⁸⁸ Thapar (2013, 119–172) discusses the complexity of administrative machinery under the Mauryas.

⁸⁹ Mirashi 1981, pt. 1, 119–128; Kant 2000, 63–64; Sastri 1925, respectively.

⁹⁰ KA 5. 3. 3; for a note of caution using these figures at face value, Chattopadhyaya 2003, 218.

⁹¹ The highest paid offices are of the sacrificial priest, the preceptor, the minister, the chaplain, the commander-in-chief, the crown prince, the king's mother, and the crowned queen (KA 2. 24. 28–29).

⁹² Kaul 2011.

⁹³ Pollock 1985. On the *Kāmasūtra*, see Dwivedi, vol. 1, ch. 10.A, 431–433.

ed to the Mauryan period;⁹⁴ Roman glass tableware found in the Pattanam excavations is dated to the early centuries CE;⁹⁵ and the red-on-golden and red-on-red slipped wares start to occur so frequently in the Swat Valley during the third century CE that Olivieri has called “fashion ware.”⁹⁶ The movement of these luxury items was made possible by complex networks.

IV Networks and Movement of People and Goods

“Pull towards the coast” is a phrase used by Chakravarti to describe the phenomena of inland settlements experiencing greater connectivity with coastal regions.⁹⁷ Chakravarti’s notion is based on the observation of the rise of numerous port cities in coastal regions from the first century CE onward. Moreover, Ghosh has explained this phenomenon by contextualizing the port cities in their hinterland. She suggests that the growth of hinterland in immediate areas as centers of production sustained the port cities as centers of trade. Apart from the immediate hinterland and their local production centers, the ports also received supplies from more distant regions, which she identifies as discontinuous hinterlands. An example of the former is Barygaza (Bharuch) at the mouth of the river Narmada with production centers for beads, cotton, and gemstones. In contrast, the port of Barbarikon at the mouth of River Indus was a port city serving as a terminus for transit trade without a significant production center. Barbarikon, rather, had an extended and perhaps discontinued hinterland from where goods like Chinese pelts, indigo, nard, lapis lazuli, and a few others were exported.⁹⁸ Understanding how people and goods moved through the hinterlands is thus essential to understanding the functioning of port cities.

IV.1 Caravan Groups and Cooperatives As Movers

The state maintained roads as well as inland and coastal ports,⁹⁹ but unlike in Han China, we are not aware of any restrictions on the use of roadways by private travelers.¹⁰⁰ While the state was involved in the transport of certain goods, the majority of

⁹⁴ Rai et al. 2014.

⁹⁵ Cherian 2011.

⁹⁶ Olivieri 2017.

⁹⁷ Originally, the phrase was used by Chakravarti (2011) in context of early medieval economic processes. However, in his other writings he has observed and explained the factors and contexts of the “pull” even in the early historical times. See also Chakravarti 2017; 2020.

⁹⁸ Ghosh 2014.

⁹⁹ For development of infrastructure, see Dwivedi, ch. 10, VI, this volume.

¹⁰⁰ In China, certain lanes were strictly reserved for the emperor, Leese-Messing, ch. 11, VI.2, this volume.

transport activities can be attributed to private individuals, merchants, and trading organizations. Retail and reselling did not earn great revenues for the state, but toll taxes (*vartanī*) and escort charges (*ātivāhika*) are mentioned in the *Arthaśāstra* as important sources for state income.¹⁰¹ The importance attributed to privately organized transport becomes clearer with the prevalence of references to caravans in the *jātaka* texts. Caravans of merchants moved seasonally.¹⁰² Monks had rock-cut caves dedicated to their seasonal halts during the monsoon season.

The leader of the caravan, *sārvavāha*, was responsible for arranging the security of the caravans, ensuring the availability of fodder for animals, and keeping track of navigation and the route of transport.¹⁰³ *Sārvavāhas* are often described as leading a large number of wagons from the eastern regions to the western limits (*pubbāntaparānta* in Prākṛt).¹⁰⁴ There were trails of as many as 500 bullock carts loaded with commercial products, frequently composed of shared cargos. Shared cargos are a common phenomenon in antiquity when people preferred to move in bigger caravans, as this reduced the risks involved in traveling long distances. Early historic pottery remains have been found with graffiti marks and inscriptions that have been identified as post-fire markings distinguished from a potter's marks. These markings in the form of symbols and names were likely marks of ownership for easy identification of the merchandise in a composite cargo.¹⁰⁵

Alongside ox-drawn carts, animal portage must have formed an important part of the caravan trade.¹⁰⁶ Though ancient sources say little on the subject, comparative studies and references in the travel accounts of later periods suggest that long-distance transport involved a differentiated system of animal (and human) portage. The most commonly used animals were pack-oxen in the tropical parts of the subcontinent, while the dromedary performed the same role in more arid areas. Additionally, mules and donkeys took over in higher altitudes. Horses and elephants may have been used occasionally for long-distance commodity transportation, but their cost of maintenance and strength were disproportionate to the requirements of transportation.¹⁰⁷ To judge again from comparative studies, there

¹⁰¹ KA 2. 16. 18.

¹⁰² A long-distance traveler was expected to be away from home for months. Wives are often recommended to wait for a couple of years, in some cases as long as twelve years, before remarrying (KA 3. 4. 24–27).

¹⁰³ The *jātakas* are replete with the importance of *sārvavāhas*. In many stories they are the protagonists, the 'potential Buddha' (Bodhisattva). For discussion on the *jātakas* as a source of history, see Dwivedi, vol. 1, ch. 10A, 433–435.

¹⁰⁴ Chakravarti 2007b, 43.

¹⁰⁵ Coningham et al. 1996, 89–92.

¹⁰⁶ The *Arthaśāstra* discusses in detail the guidelines for acquisition and maintenance of porting animals and beasts of burden, including oxen, horses, donkey, camels and mules (KA 2. 6. 7; 2. 15. 50–54; 2. 29).

¹⁰⁷ Deloche 1993, 236.

were specialized groups that raised oxen for hire. While there also were merchants traveling with their own animals, a large part of the caravan animals was provided by nomadic, semi-nomadic, and other pastoral groups specializing in the breeding and lending of animal for portage. Also, peasants in the countryside lent their animals for the transport of goods to regional markets during slack periods.¹⁰⁸

IV.2 Ceramic Evidence of Storage and Transport

In comparison to the Graeco-Roman world, where we know of large amounts of grain being transported from long-distance to large cities, South Asia experienced a more regional and multifocal distribution of resources. Notably, there are hardly any recommendations for concentrating all in-kind taxes in a single core. The *Arthaśāstra* recommends to the ‘superintendent of storehouses’ (*koṣṭhādhyakṣa*) to ensure building regional storehouses (*koṣṭhāgāra*) and warehouses (*bhaṇḍāgāra*) of different goods. Regional storehouses allowed for better management during times of natural calamities and food shortages. A seal from the Bengal region dated to the period of our concern corroborates the presence of such warehouses.¹⁰⁹

The large number of ceramic finds in archaeological contexts are not just material evidence for large-scale craft production, but also for the importance of storage facilities. Storage facilities are often identified through the concentrations of pottery at a higher-than-normal density. One of the most discussed sets of ceramic studies comes from the site of Pattanam (Kerala), possibly Muziris. A very large number of Indian pottery (99 percent of all finds), together with Roman amphorae and Parthian torpedo jars (less than one percent of the finds), have been interpreted as the storage site near a littoral port.¹¹⁰

Smaller assemblages of foreign ceramics have been taken to be the storage containers of travelers for personal consumption. The discoveries of Mediterranean pottery in India and that of Indian potteries in the Arabian Gulf and the Red Sea areas represent diaspora communities for whom commodities from their respective place of origin were transported. The presence of Mediterranean diaspora communities along the Malabar coast was identified by the presence of foreign pottery by Tomber and that of Indians in the Arabian Gulf by Reddy and Pavan and Schenk.¹¹¹

IV.3 Markets and Their Operation

Markets were important nodes in widespread networks of exchange. The market system in early India can be structured into various levels, starting from local vil-

¹⁰⁸ Deloche 1993, 226–254.

¹⁰⁹ Sircar 1965, 82–83.

¹¹⁰ For a discussion on the pottery finds at Pattanam, see Cherian 2015.

¹¹¹ Tomber 2007; 2009; Reddy 2016; Pavan and Schenk 2012. For a brief discussion on developments in the study of early historic potteries see Dwivedi, vol. 1, ch. 10.A, 448–451.

large-level markets (*āpaṇa*), market centers in cities (*nagara/pura*), and port cities (*velākula*, *pattana*, and *paṇyapuṭabhedana*), as well as monastic markets and seasonal fairs.¹¹² There were also transactions, such as gateway sales, that did not take place in a marketplace, but were nevertheless part of the market system.¹¹³ Unfortunately, evidence for the location of markets is rare. However, we can discern the structure and functioning of the market in certain scenarios. I will discuss the role of the state in organizing markets, especially in urban contexts, the role of non-urban markets, and some aspects of the organization of private trade.

IV.3.1 City Markets and the Role of the State

Greek visitors observed that cities did not have just a single and central marketplace.¹¹⁴ Market streets (*āpaṇa-rathyā* and *āpaṇa-vīthi*) are prominent features of cities in many narrative texts in the Hindu, Buddhist, and Jaina traditions.¹¹⁵ We also learn of private residences with ‘interior shops’ (*antarāpaṇa*), which were both sites of exchange and workshops.¹¹⁶ Shops for particular products were concentrated in certain parts of the city with streets named after the commodity.¹¹⁷

Normative texts tend to emphasize state regulation of marketing sites. Dedicated spaces for market exchange and quarters for merchants within the city walls are important parts of city planning in the *Arthaśāstra*.¹¹⁸ The state’s role in organizing spaces of exchange was clearly not just for the sake of facilitating exchange, but for easy taxation, the regulation and surveillances of merchants, and checks on fraudulent trading practices as well. Transactions (*kraya-vikraya*) are one of the main sources of tax income for the state in the *Arthaśāstra*. Other than the ‘director of trade’ (*paṇyādhyakṣa*), two other officials, ‘director of tolls and customs’ (*śulkādhyakṣa*) and ‘superintendent of the marketplace’ (*samsthādhyakṣa*) influenced the operations of markets.¹¹⁹ Megasthenes also mentions the office of city commissioner (*astynomos*), regulating market exchange in India.¹²⁰

¹¹² Chakravarti 2001, 24–25.

¹¹³ For example, the workshops attached to the residence may not have required items to be brought to the markets and rather the produce was sold at the center of production, as discussed below. Additionally, items bought with agreement for a deferred payment may not have taken place at a public marketplace.

¹¹⁴ Strab. 15. 1. 65.

¹¹⁵ Schlingloff 2013, 11–14.

¹¹⁶ For discussion of terminology, see Schlingloff 2013, 14, n. 10.

¹¹⁷ Thapar 2003, 146. An example is that of the independent goldsmiths and other artisans mentioned in the KA (2. 13. 2), whose workshops (*āveśana*) are located in a cluster. Olivelle (2013, 537) notes that the market street (*viśikhā*) could refer to ‘gold dealers’ street.

¹¹⁸ KA. 2. 4. 9. Schlingloff (2013) shows how various city plans found in archaeological excavation in the northern region were similar to the descriptions in the KA.

¹¹⁹ KA 2. 6 with Chakravarti 2019, 122–124.

¹²⁰ Strab. 15. 1. 50–52.

As merchants are seen with suspicion in the *Arthaśāstra*, it was the state's obligation to repress malpractices – *kaṇṭakaśodhana* literally meaning 'Removal of Thorns' as the title of an entire book in the *Arthaśāstra*.¹²¹ The list of malpractice for which the merchants were supposed to be punished includes selling commodities lower in weight and number than agreed; misrepresenting the quality of articles; overpricing to attain profits higher than permitted; adulteration of food and medicinal products; cartelization; and hoarding that affected the prices of commodities.¹²² There are also indications of official price regulations in the city markets. According to the *Manusmṛti*, state officials were supposed to fix the prices of imported commodities by taking into account various expenses of traders – place of production, place of sale, period of storage, and likely profit. Such prices were to be fixed every five or fifteen days by the king publicly.¹²³ The *Arthaśāstra*, in turn, allows local merchants to add no more than a five percent margin, while visiting or nonlocal merchants (*āgantunām*) were allowed ten percent. To ensure normalcy of prices, officers would restrict the sale of a commodity in one location when there was a glut of a particular commodity. Olivelle suggests that market interventions were aimed at maintaining price stability, controlling wide fluctuations, and eliminating price gouging.¹²⁴

The state was also supposed to prevent price manipulation. Cartels are a well-recognized problem in the *Arthaśāstra*, as the members of a cartel, no matter how small, were subject to fines of the highest order (1,000 *paṇas*).¹²⁵ Nonlocal merchants, however, were given some protection from being sued by the state in certain monetary matters.¹²⁶ This was perhaps a measure for encouraging traveling merchants who were not familiar with local laws or did not have the support of a guild.

The *Arthaśāstra* also mentions supervision of seafaring vessels, and ferries at river mouths and across natural and artificial lakes.¹²⁷ The *Periplus* refers to local fishermen in the king's service guiding seagoing vessels through the narrow delta by the port of Barygaza and up the river to the city.¹²⁸ At Pattanam, remains of a platform made of lateritic rubble and lime with brick lining at the water level have been interpreted as an indicator of a wharf. It was perhaps a ferry site from where the boats might have transferred cargos from the ships moored offshore.¹²⁹

The *Arthaśāstra* and other normative texts thus suggest a great amount of state intervention in the organization and regulation of markets. Scholars emphasize that

¹²¹ KA Book 4.

¹²² KA 2. 12. 32; 2. 21. 13; 4. 2. 22; *The Manusmṛti* (MS) 8. 398–400.

¹²³ MS 8. 401–402.

¹²⁴ Olivelle (2013, 46) on KA 2. 16. 1–3; 4. 2. 33.

¹²⁵ KA 4. 2. 21 with Mehta and Hawk 2018, 12.

¹²⁶ KA 2. 16.

¹²⁷ KA 2. 28. 1.

¹²⁸ PME 44.

¹²⁹ Gurukkal 2016, 183.

state intervention aimed to protect consumers.¹³⁰ Indeed, these texts convey a great amount of moral sentiment that did not just serve the interest of the state, but also its subjects. We cannot tell how much these texts were based on, or fed back into, real markets. Yet even if there were urban markets strongly influenced by state control, they were only part of a wider network of marketing facilities.

IV.3.2 Markets Outside Cities and Private Players in Market Spaces

Religious places of gathering and ceremonial celebrations, such as fairs, played an important role in early India. Ray emphasizes that Buddhist, Hindu, and Jain pilgrim centers emerged as market spaces even before the monuments and temples that survive today were constructed.¹³¹ The physical spaces around religious centers provided geographical anchors for marketing processes by acting as nodes of exchange and spatial contexts for the provision of credit facilities and knowledge exchange. Ceremonies and religious festivals were important occasions for trade and exchange. Abbott refers to the long tradition of the connection between ceremonial gatherings and market exchange, whereby religious institutions regulated market spaces as well as the moral codes guiding the behavior in market exchange.¹³² Some markets may have been open throughout the year for pilgrims, but others would have varied in size and scale according to season and the demand for certain commodities during festivals for donative and ritual purposes.¹³³

Merchants and mercantile organizations worked in cooperation with monastic communities. The Buddhist sites along inland routes, including the rock-cut caves found in the difficult terrain of the Western Ghats, provided shelter for long-distance travelers such as monks, pilgrims, and merchants alike.¹³⁴ Literary sources commonly mention monks and merchants traveling together, and it is possible that cave shelters were also used by merchants during their travels. Moreover, a Buddhist text expresses moral concerns relating to the practice of monks asking merchants to smuggle their items through the customs check to avoid being taxed.¹³⁵

Long-distance traders supplied both urban and monastic centers with large amounts of goods. It is difficult to ascertain whether there was a hierarchical organization of merchants. Yet many sources give glimpses that allow us to speculate a system in which a variety of merchants cooperated and functioned in coordination. The *Arthaśāstra* recommends providing dedicated spaces for associations and for-

¹³⁰ Goyal, Goyal, and Goyal 2013; Mehta and Hawk 2018.

¹³¹ Ray 2015, 288.

¹³² Abbott 2010, 80–81.

¹³³ For a brief discussion on pilgrim travels, see Dwivedi, vol. 1, ch. 15, 661–662.

¹³⁴ For evidence and discussion on connections between the Buddhist sites and trade routes, see Ray 1986; Neelis 2011.

¹³⁵ The discussion on disputes is preserved in the *Mūlasarvastivāda-vinaya*, see Pagel 2017, 106.

eign merchants along the city walls in certain parts of the city,¹³⁶ which could have provided storage spaces for traveling traders and intercity suppliers. Big merchants (*śreṣṭhis/seṭṭhis*) and associations of traders (*śreṇis*), owned warehouses within the cities where traveling merchants from other cities and from frontiers may have stored their commodities. An example comes from the *Akataññū-jātaka*, which describes Anāthapīṇḍaka, a rich *seṭṭhi* in the city of Śrāvastī, having agreed to offer warehouses for 500 cartloads of goods to be stored and sold by the agents of another merchant from a border region (*paccantavāsiko seṭṭhi*).¹³⁷ The *Arthaśāstra* implies that merchants used agents to carry out their long-distance travels and transactions.¹³⁸ One type of retailer was a paid laborer who handed over the proceeds of the sale, and in return earned a commission or one-tenth of the profit.¹³⁹ The other type of retailer (*pratīkretṛ*) bid for the right to sell goods by auction. It is suggested that such auctions were held in the case of imported and wholesale goods. Retailers in this case were no longer agents working for a wage, but entrepreneurs who calculated their own profit.¹⁴⁰ A more detailed understanding of the functioning of markets, however, depends on further research on this topic.

V Conclusion

The economic processes in early South Asia are characterized by a plurality of economic actors operating across diverse landscapes and within a range of political and social institutions and organizational forms. Economic power never truly remained the domain of one actor – cities, elites, kings, monasteries, corporate bodies, nor the state. The functioning and development of various levels of the economy must be regarded as driven by the combination of institutional factors. The cooperation between monastic religious bodies, merchants, and mercantile corporations has been emphasized throughout this chapter. There was also a highly dynamic relationship between state institutions and the institutions of corporate bodies. Even though the prescriptive text of the *Arthaśāstra* envisions strict regulation of markets and merchants, it also shows that there was a capacity for negotiation. The recommendation by law books to respect the norms and laws of the guilds (*śreṇīdharmā*), and the nonsalaried position of merchant/banker at the royal court (*rājaśreṣṭhi*) are further indications of a particular balance between state institutions

¹³⁶ KA 2. 4. 16.

¹³⁷ Cowell 1977, story no. 90.

¹³⁸ The KA mentions agents (*vaiyāvṛtyakara*) through whom commercial transactions could be carried out; KA 2. 5. 18; 3. 12. 25–31.

¹³⁹ KA 3. 12. 25–30; 3. 13. 27–28; 4. 2. 32. See also Gopal 2001, 932–933.

¹⁴⁰ KA 2. 21. 8, 13. with notes by Olivelle 2013, 555.

and professional corporations.¹⁴¹ Rulers also supported Buddhist monks financially while, in return, seeking their support. Important examples include the endeavors of Aśoka to build his imperial power on the establishment of *dharmaghoṣa* (the call of *dhamma*) and on missions to distant places to spread his faith. Additionally, dedications of shares in revenue from land and ports, and the grants of productive land by the ruling dynasties in the post-Mauryan period strengthened the economic power of the monasteries.¹⁴²

Economic development in early India must therefore be sought in changing structures of various organizations and institutions, as well as their joint political and ideological influence. The growth of cities and agrarian hinterlands was not so much a consequence of state development, but of many local factors as well. The emergence of corporate bodies and new degrees of imperial and interimperial connectivity was related not solely, but importantly, to the expansion of Buddhist monasticism. There were changing economic geographies responding to new levels of regional and interregional demand, yet the coordination of supply was driven by neither market forces nor state intervention, but by interlocking structures that were of apolitical and sub-political nature. At the current state of our knowledge, however, it would be premature to mold these dynamics into more specific models of economic change. The relationship between the state and other organizational forms, and the unique combination of localized and long-distance communication of state and nonstate actors calls for further analysis. There was a unique combination of religious and economic incentives, and a diversity of landscapes that, if developed effectively, had the potential for an increase in productivity at a scale and speed probably unusual for many ancient contexts. More archaeological, numismatic, and epigraphic research is needed to understand the economic patterns of the subcontinent and their effects at different temporal and geographic scales.

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141 For more on state and law, see Dwivedi, ch. 10, II, IV, this volume. For a discussion on the position of *rājaśreṣṭhi*, see Chakravarti 2007a; Dwivedi, ch. 4, IV, this volume.

142 Dwivedi, ch. 5, VIII.2, this volume.

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