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7 Constituting Local and Imperial Landscapes

I Introduction

The economic actors discussed in the previous section inhabited diverse physical geographies, from the riverine central plains of China and the forests of South Asia to the desert-steppe of northern Mesopotamia. Delimited by mountain ranges, coastlines, rivers, and deserts, these landscapes are often conceptualized as the backdrops or contexts for human activity – the spaces inside of which humans lived and the barriers that they had to cross in order to interact. Descriptions of the physical geography of Afro-Eurasia are helpful in imagining the space and are therefore a valuable component of historical inquiry.¹ Landscape, however, is more than just physical geography. According to the definition of Tim Ingold, “the landscape is the world as it is known to those who dwell therein, who inhabit its places and journey along the paths connecting them.”² Landscapes are at once objective (physical) and subjective (experiential). They are not simply the backdrop for human ingenuity; they are participants in complex systems of human-environment interaction.

Human-environment interaction lies at the heart of a wide range of economic processes. Land used for agricultural production is entwined with the development of centralized power, while the extraction and mobilization of other natural resources expands this process beyond primary production.³ Control of movement through territories and across oceans plays a critical role in the development of pathways of connectivity that shape distribution as well as consumption. Representational narratives of landscapes turn physical places into symbols – transforming physical geography and the built environment into markers of territorial control and political power.⁴

Landscapes are constituted, in part, by nonhuman agents.⁵ Geological formations like mountains or ecological zones like deserts exert pressure on humans and other animals, and as such, have a hand in shaping behavior patterns. This idea of nonhuman agency, which grew out of the material turn in archaeology, pushes back against the perception that the physical environment was simply a container for historical processes and instead recognizes that the physical world can ‘act’ rather than just be ‘acted upon.’⁶ This ability to act, however, does not imply unbounded

¹ Cunliffe 2015, ch. 1 for a recent example of a broad overview of Eurasian geographies.

² Ingold 1993, 156.

³ Marston 2017.

⁴ Rosenzweig and Marston 2018, 91.

⁵ Walsh 2008.

⁶ Latour 2005; Jones and Cloke 2008.

Map 1: Regions under discussion. Region 1 – Eastern Desert of Egypt; Region 2 – Desert-steppe of northern Mesopotamia; Region 3 – Piedmonts in Central Asia; Region 4 – Forests of South Asia; Region 5 – Hexi ‘corridor.’ (Map generated using Natural Earth datasets).

power, nor does it mean that the physical environment is deterministic.⁷ Quite the contrary, recent work on agency is predicated on the idea of relationality: that various agents exist and function within networks. Thus, the ability of a desert or forest to ‘act’ is constrained by the fact that other agents in the system have the ability to ‘re-act’ – and not all will necessarily react in the same way.⁸ A formulation of relational agency that has gained traction among landscape archaeologists is the concept of *affordance*. Affordances are the opportunities (positive or negative) that a given environment can offer to other agents, for example individuals or communities.⁹

One method for studying the differential affordances offered to various communities comes from the field of political ecology, which provides a framework for thinking about the intersection of political factors with human-environment systems.¹⁰ Although traditionally focused on the political dimensions of environmental change,¹¹ political ecology and related approaches offer methodologies for considering the intersection of social context and natural factors that influence human behavior.¹² Thinking in terms of political ecology is useful because it allows us to weigh both ‘natural’ and ‘cultural’ factors while highlighting the importance of political context. This methodology combines insights from social sciences and humanities and allows us to avoid blunt essentialist or deterministic approaches to the physical world while still creating space for comparative analysis. It also creates space for discussing how factors like environmental change and political realignment can restructure human behavior without denying that humans are themselves engaged in a never-ending recursive process of reshaping their physical worlds.

We begin this chapter with three observations about human-environment interaction and economic history in the context of this project: (1) Although we reject totalizing models of long-distance trade, patterns of human mobility both within and between regions are critical to understanding economic developments in Afro-Eurasia, with local patterns of movement playing a significant role in these processes. (2) The contours of such mobilities come into high relief in ecological transition zones or along political frontiers, where particular – and particularly embedded – forms of exploitation played a significant role. (3) Despite the importance of

⁷ On landscape agency, usually approached through the question of affordances, see recently Heras-Escribano and de Pinedo-García 2018.

⁸ E.g., human modifications to landscapes stretch far back in history (Butzer 1990).

⁹ Developed first in the field of environmental psychology (Gibson 1977; 1979) applied more recently to landscape archaeology and particularly quantitative studies of landscapes (Gillings 2012; Llobera 1996).

¹⁰ For an anthropological-historical consideration of political ecology as it relates to imperial power, see Rosenzweig and Marston 2018.

¹¹ E.g., Vayda and Walters 1999.

¹² Brite 2016, 5–6.

mobility, these regions were never simply spaces to be crossed but instead afforded a variety of opportunities for exploitation.

Building from these observations, we have selected five regions that highlight different patterns of short- and medium-distance mobilities while also highlighting various exploitation schemes (Map 1). We begin in Egypt with a consideration of movement across both desert and ocean. Next, we move to two regions where mobile pastoralism shaped movement patterns: the desert-steppe of Northern Mesopotamia and the foothills of Central Asia's Pamir-Altay mountains. Then, we consider the role of movement in and through a specific ecological zone: South Asia's forests. We conclude with a discussion of one of Afro-Eurasia's classic terrestrial 'trade corridors' in northwestern China.

II The Eastern Desert of Egypt

At a global scale, the Eastern Desert of Egypt divides two great ocean systems: the Mediterranean via its Nile extension and the Indian Ocean via its Red Sea extension. It is a forbidding landscape. Annual precipitation ranges from three to 25 mm, and when it does come, the rain falls in torrents that cause violent flash floods.¹³ At the same time, rain and the Nile feed an aquifer close enough to the surface that it occasionally breaks through in springs (though these are rare), and wells can be dug to tap it. Furthermore, the Red Sea Hills, which run parallel to the coast, contain significant mineral wealth, including gold and decorative stones. The desert could not be ignored by the inhabitants of the Nile Valley, but they were never comfortable in it. To the Egyptians of the Pharaonic period, the desert was the 'Red Land,' a dangerous counterpoint to the comfortable 'Black Land' of the valley. To the Greeks and Romans, it was a wasteland of scorching sun, inhabited only by strange people who were barely human.¹⁴ But the desert inhabitants were human, and they played a variety of roles in the interoceanic trade that crossed their homeland.

We know little about the inhabitants of the Eastern Desert in our period.¹⁵ They left no archaeological trace datable to the Ptolemaic or early Roman periods, so we have to rely on literary and documentary records written by others and on ethnographic analogy with the modern inhabitants, the Beja.¹⁶ The latter have been de-

¹³ Climate: Sidebotham, Hense, and Nouwens 2008, 22–24; Sidebotham 2011, 7–13; Sidebotham and Gates-Foster 2019, 13–18.

¹⁴ Reger 2017.

¹⁵ Barnard 2019; Lassányi 2012.

¹⁶ Barnard (2019) summarizes these sources, gives further literature, and discusses the use of ethnographic analogy. For surveys of historical and documentary sources from the Hellenistic period, see Gates-Foster 2012b; for documentary sources from the Roman period, see Cuvigny 2014.

scribed as “multi-resource nomads,” shifting between settled and mobile life ways according to circumstance, and we should expect similar flexibility in the past.¹⁷ In addition to small-scale agriculture, mobile pastoralism would have played a significant role. In the modern period, the Beja moved seasonally from north to south following the rains, although the precise location and timing of the rain was unpredictable so movement patterns were flexible. They also went to work in the Nile Valley during harvest time.¹⁸ It would be reasonable to expect similar patterns of movement and close interconnection with settled communities in antiquity.

Fishing on the coast was also an important subsistence strategy. Greek writers describe *ichthyophagoi* (‘fish-eaters’) as exotic and uncivilized.¹⁹ Our longest description comes from Agatharchides, writing in the second century BCE, who describes the *ichthyophagoi* as a sort of ‘noble savage,’ happy because they have simple wants that are fulfilled with little effort. Intriguingly, he also describes a very particular relationship with the landscape.²⁰ Places where the water is deep by the shore and sandy beaches, that is, places where a Mediterranean sailor could anchor their ship or drag it onto shore, are “hostile to their way of life.”²¹ Instead, they live in places where the coast is rocky and interrupted by deep, jagged ravines that are flooded at high tide. By building porous weirs out of stones, they trap fish left stranded when the tide goes out.²² Agatharchides describes this method as primitive but also highly productive. By the second century CE, however, at least one self-identified *ichthyophagos* was using a small fishing boat. We only know this because he needed permission from a tax collector to move it from one harbor to another (a requirement probably meant to control smuggling) and submitted his request on an ostrakon.²³ Archaeological evidence from Myos Hormos and Berenike suggests that the part of the community engaged in fishing was distinct from and less ‘Graeco-Roman’ than the part engaged in shipping. At the same time, most of the fishing equipment was similar to that found in the Mediterranean.²⁴ If these remains do represent indigenous communities, their fishing methods were much more diverse than those described by Agatharchides. There might have been a shift from the second century BCE, or Agatharchides might simply have ignored the less exotic and sophisticated techniques to portray the *ichthyophagoi* as barbaric. What is clear is that the affordances offered by the Red Sea coast varied depending not only on one’s goals, fishing vs. shipping, but also on the technology and techniques available.

17 Barnard 2019, 399.

18 Barnard 2019, 399–400.

19 Ray 2003, 49–51 summarizes the literary evidence. See also Casson 1989, 97–100.

20 Agatharchides *De mari Erythraeo* (Agath. *De mari*) 5. 32–34.

21 Agath. *De mari* 5. 32a.

22 Agatharchides describes a similar technique used by the inhabitants of the Babylonian coast, with the difference that they build a barrier with one-way gates out of reeds (5. 50).

23 Cuvigny 2014, 171–173.

24 Thomas 2012.

For imperial societies, the Red Sea's most important affordance was shipping, although they happily ate the seafood as well. Berenike and Myos Hormos, both Ptolemaic foundations of the third and second centuries BCE respectively, were the main ports in our period.²⁵ The locations of ports along the coast are related both to local geomorphological conditions and to the larger wind and current regime of the Red Sea. Berenike, the southernmost, illustrates the relative importance of shipping affordances. It was sheltered from the strong, south-flowing along-shore current by Ras (cape) Benas, and the wadi mouth that formed its harbor disgorged sand that, while threatening to silt up the harbor, also prevented the growth of a coral reef that would otherwise have cut the harbor off from the open ocean. At the same time, it had few water sources nearby and its hinterland was not well-suited at all to agriculture.²⁶ Berenike was a port first and foremost.

The impact of the winds and currents of the Red Sea is more controversial. Strabo writes that the southern location of Berenike was a response to difficult sailing conditions in the northern part of the Red Sea,²⁷ but this has been challenged by scholars arguing that navigation in the Red Sea was not as difficult, and the Nile not as easy, as generally supposed.²⁸ In the northern part of the Red Sea, north of 18°–20°, the predominant winds blow from the north year-round, but the southern two-thirds of the sea are influenced by the monsoon. From May or June to September, when the monsoons in the Indian Ocean blow from the southwest, the winds throughout the Red Sea blow from the north and the current flows south, providing favorable conditions for outbound voyages throughout the sea. From November to March, when the monsoons blow from the northeast, the winds in the southern Red Sea blow from the south. Although these winds stop short of Berenike, surface currents also flow from south to north in the winter, reaching all the way to Myos Hormos, ca. 270 km to the north. Sailors setting out from India in December (as recommended by Pliny the Elder),²⁹ could ride the monsoons west to the Bab al-Mandab Strait and then the Red Sea winds and currents north until roughly the end of March. While Hellenistic and Roman sailors were capable of sailing against the wind, this would have been more difficult for the largest ships, such as those carrying elephants for the Ptolemaic army and pepper for the Roman market.³⁰ Again, the affordances offered by the sea depend not just on the environment but on the goals and technology of those who interact with it.

²⁵ Cobb 2018, 29–30, 52–56.

²⁶ Sidebotham 2011, 9–13; Kotarba-Morley 2019.

²⁷ Strabo 17. 1. 45.

²⁸ Cooper 2011 for the Red Sea and Nile; Whitewright 2007 for the Red Sea; for the Red Sea and Indian Ocean together, see Cobb 2018, 128–148; Seland 2011.

²⁹ Pliny the Elder *Naturalis historia* (Plin. HN) 6. 106.

³⁰ De Romanis (2015, 123–124) emphasizes the size of ships in navigability. For the difficulties faced by elephant carriers in the Red Sea, see Agath. *De mari* 5. 85. For the size of Indian Ocean ships, see Cobb 2018, 84–90.

This annual cycle would have imparted a distinct seasonal rhythm to movement across the Eastern Desert and to life in the Red Sea ports.³¹ Departures would have peaked in July and the surrounding months. Arrivals from East Africa would have peaked in November and December. Those from India peaked in December and January, possibly continuing through March. In September and May, the winds in the Red Sea were variable, so sailing would have been avoided.³² The port towns would have bustled during these arrival and departure seasons, attracting support workers, including porters and long-distance transporters but presumably others providing secondary goods and services as well. Sailors and merchants who had arrived in the winter might have stayed until summer, when they departed on their return journey. Not only would the size of the population have fluctuated seasonally, different people would be constantly coming and going. Without a stable core of inhabitants, these port towns would have been very different places from cities elsewhere in the Mediterranean. Early Roman Berenike, for example, never developed a base of economic support and remained reliant on Nile imports for basic goods such as food and textiles. Furthermore, no early Roman cemetery has been found, despite years of archaeological research. While many people lived in Berenike, few would have considered it home.³³

The Eastern Desert itself was important to imperial societies both as a space between the Nile and the Red Sea that had to be crossed and as a source of mineral wealth. The two were interconnected. Approximately 500 km upstream from the Delta the Nile bends to the east, shortening the distance between the valley and the coast by about 50 km. This is also the point where sailing upstream becomes more difficult since the northerly winds are no longer aligned with the direction of travel.³⁴ Between this curve and the Red Sea lies the northernmost concentration of gold deposits in the Red Sea Hills,³⁵ so mining and transit trade occupied roughly the same area. Epigraphic evidence from the second century BCE attests to Ptolemaic officials in charge of both mining and trade,³⁶ and in the first century CE, a single Roman official oversaw both the roads and the mines.³⁷

Koptos, on the easternmost part of the Nile bend and at the mouth of a wadi running east, was the primary interface between the desert and the Nile Valley.³⁸

31 We set aside the question of a geographic distinction between exports and imports. Some have argued that exports would have gone through northern ports and imports through southern ports. While this would be a logical response to the landscape, what evidence we have suggests that the southern ports were much more important than the northern ones in our period. For a summary of the debate, see Cobb 2018, 133–135.

32 Sidebotham and Gates-Foster 2019, 18–19.

33 Sidebotham 2011, 78.

34 Cooper 2011, 197–198.

35 Faucher 2018, 50–52; Harrell 2019 for mining in general.

36 Gates-Foster 2012b, 200–201.

37 Gates-Foster 2012a, 742.

38 Pantalacci 2018; Rathbone 2002.

The Egyptian god of Koptos, Min, was associated with desert nomads and the eastern trade, and Strabo describes the city as “shared by the Egyptians and Arabs (i.e., nomads).”³⁹ However, this was not inevitable. In the third century BCE, when the Ptolemies were establishing ports, mines, and fortified roads in the Eastern Desert, the most important route seems to have run between Berenike and Edfu, further south. The road to Edfu was abandoned, however, at the end of the century in favor of routes leading to Koptos, probably because a major rebellion threatened Ptolemaic control of the more southern route.⁴⁰ Subsequently, Koptos was the fiscal center of the Red Sea-Nile trade routes. In the Roman period, Berenike and Myos Hormos were officially designated ports with customs posts, and taxes on imports were assessed at Koptos.⁴¹ Koptos’s central position was certainly reinforced by its physical setting relative to the Nile and the Eastern Desert, but the geography of power, specifically Ptolemaic weakness farther south, also played an important role.

In the desert itself, the first mining settlements and roads were established under Ptolemy I but expanded considerably under Ptolemy II, who founded several ports along the Red Sea to gain access to war elephants.⁴² After the Roman conquest, probably in response to an increase in Indian Ocean trade, the Roman army built more wells and cisterns, but the major expansion of road infrastructure came in the late first and early second century CE, when a network of fortifications, wells, and cisterns was established.⁴³ These lined roads that were unpaved but marked by cairns and windrows of small stones cleared from the roadbed.⁴⁴ The roads followed wadis running east-west between the Nile and the sea, routes that were heavily constrained by the physical landscape. Only the *Via Nova Hadriana*, connecting the ports to the newly founded city of Antinoopolis, deviated from this pattern, and it was little used by merchants. In contrast to most Roman roads, those of the Eastern Desert were not marked by milestones. The roads themselves, therefore, seem not to have had the same ideological function as normal Roman roads. In other parts of the Empire, the straightness, paving, and milestones of Roman roads inscribed empire and dominion onto the landscape.⁴⁵ Not so in the Eastern Desert.⁴⁶ Nevertheless, by the second century CE, port, mine, and road infrastructure were scattered throughout a triangular-shaped portion of the Eastern desert measuring almost 400 km on the Red Sea coast, 160 km along the northern, shorter route from the Nile to the sea, and 380 km along the longer, southern route.⁴⁷ The density of

³⁹ Strabo, 17. 1. 44; Pantalacci 2018, 8–10.

⁴⁰ Brun 2018, 144–145; Redon 2018, 40–43.

⁴¹ Rathbone 2002, 183–186.

⁴² Redon 2018; Cobb 2018, 28–60; Sidebotham 2011, 32–54.

⁴³ Brun 2018.

⁴⁴ Sidebotham 2011, 125–174; Sidebotham and Gates-Foster 2019, 19–23.

⁴⁵ Purcell 1990.

⁴⁶ Gates (2006) describes these roads as “hidden passages.”

⁴⁷ Brun 2018, fig. 19.

infrastructure in this zone varied, and the imperial control that it enabled is best visualized as a series of ribbons stretching across the desert rather than as a block of territory.⁴⁸

The establishment of mines, ports, and road infrastructure shaped movement in the desert, both for members of the imperial states traveling east-west and for the desert inhabitants, who had more reason to travel north-south.⁴⁹ The inhabitants of these places all had to be supplied in large part from the Nile, so traffic along these roads was multifaceted, consisting of supplies, extracted mineral wealth, and trade goods. For nonlocals, who did not know the desert, the infrastructure would have eased navigation.⁵⁰ Strabo (a champion of Roman infrastructure) wrote that, in previous times, merchants crossed the desert at night, navigating by the stars and carrying their own water, but now wells and cisterns have been built.⁵¹ Graffiti and dedications to Pan “of the good road” (among other epithets) attest to the trepidation with which travelers crossed the desert. It might be significant, then, that Pan disappears from the epigraphic record in the late first century CE,⁵² around the same time as the Flavian construction program.

East-west traffic represented a resource that the desert-dwellers could exploit in several ways. Because they would have been familiar with the desert, they could have acted as guides and perhaps monitored and protected the traffic.⁵³ Direct evidence for this from the Ptolemaic period is sparse,⁵⁴ but there is a strong possibility that, after the revolt of the Thebaid in the early second century BCE, Ptolemaic officials made arrangements with the desert-dwellers to oversee east-west traffic rather than managing it themselves.⁵⁵ Raiding was another way to exploit this traffic. Documentary evidence for hostile encounters with ‘barbarians’ peaks in the second century CE.⁵⁶ This is probably related to the increased militarization of the infrastructure, but the nature of the connection is not clear.⁵⁷ In the third century, the situation

⁴⁸ Reger 2017, 135.

⁴⁹ By focusing on movement, we pass over certain interactions between state-based people and the indigenous desert-dwellers. These include the possible employment of desert inhabitants as guards in Ptolemaic mines (Gates-Foster 2012b, 198), an “Arab” selling fish, an account of an indigenous fishmonger who has been robbed circulating among the guard posts, “barbarians” buying oil, and one making pots for a water wheel (Cuvigny 2014).

⁵⁰ Sidebotham 2011, 139–140; Sidebotham and Gates-Foster 2019.

⁵¹ Strabo 17. 1. 45. On the other hand, Pliny the Elder, writing decades after Strabo, reports that nocturnal travel was normal (Plin. *HN* 6. 26. 103).

⁵² Reger 2017, 132.

⁵³ Inscriptions honoring caravan leaders in Palmyra document this type of activity in a similar context.

⁵⁴ The term is found on a recently discovered ostrakon from the second half of the third century BCE (Sidebotham and Gates-Foster 2019, 7).

⁵⁵ Gates-Foster 2012b.

⁵⁶ Cuvigny 2014, 173–184.

⁵⁷ Cobb (2018, 102–105) cites the high volume of commercial traffic as the primary cause. Sidebotham and Gates Foster (2019, 37–38) speculate about a fiscal motive, while Brun (2018, 150) wond-

changed again, and we see ‘barbarian’ groups operating within the Roman military structure (although banditry did not cease altogether).⁵⁸ The documents mainly concern supply, but assuming these barbarians were securing the roads and mines as the soldiers in the second century did, they were benefiting from the imperial demand for goods coming from and across the Eastern Desert. Thus, the landscape provided desirable transit and extraction affordances to those embedded in imperial systems, generating traffic that itself became a valuable affordance to those living in the desert. Furthermore, this complex dynamic between geography, imperial power, and local economies is not unique to Egypt’s Eastern Desert.

III The Desert-Steppe of Northern Mesopotamia

Northern Mesopotamia’s Jezirah Plain, the territory between the Tigris and Euphrates rivers stretching northward to the Zagros, is (and was) a rugged desert steppe with scarce water resources and challenging conditions for rainfed agriculture.⁵⁹ By the first century CE, the landscape was dotted with the so-called caravan cities – places like Palmyra, Hatra, Edessa, Nisibis, and Dura-Europos – whose presence looms large in studies of ancient Silk Road trade and connectivity.⁶⁰ The cities, however, were much more than links in a trade network. They developed out of interactions between various communities of local residents and their ecologically marginal landscape, and rose to prominence alongside the burgeoning empires in the Mediterranean and Iran. The sudden importance of these cities in regional interaction networks beginning in the late Hellenistic period typifies the role of both natural and social features in responding to changing geopolitical pressures.

As far back as the Bronze Age, the communities living in Northern Mesopotamia comprised both sedentary and nomadic elements existing in a state of intense interaction and entanglement.⁶¹ These communities included settled village or city dwellers practicing small-scale agriculture, as well as their ‘tribal’ or nomadic neighbors, who moved generally north-south across the same steppe territory fol-

ers if an influx of precious goods attracted more raids and points out that increased traffic would have put pressure on existing water supplies. Cuvigny (2014, 183–184) suggests the increased Roman presence took precious resources from the desert-dwellers, and was therefore a threat as well as a temptation to raid. A connection with increased quarrying is also possible (Maxfield 2000, 434).

⁵⁸ Cuvigny 2014, 185–197.

⁵⁹ Palermo 2019, ch. 1 for a discussion of environmental conditions in Northern Mesopotamia.

⁶⁰ See, e.g., Millar 1998; Rostovtzeff 1932.

⁶¹ On the flexibility of these relationships, see Porter 2012, 13–14. For the idea of ‘dimorphic’ societies including both mobile and sedentary elements, see Rowton 1977, although the binarism implicit in this model is now frequently rejected.

lowing seasonal rainfall, raising sheep and goats.⁶² This pattern of pastoralism is different from the wide-ranging movement in the Great Eurasian Steppe or the camel-dependent 'Bedouin'-type of Southern Arabia, where territories exploited by the mobile pastoralists were more distinct from those of their sedentary neighbors, and where as a result, links between the communities were of less structural importance. The social linkages that developed in Northern Mesopotamia were contingent on the complementary presence of both types of communities in a single shared landscape and enabled the resultant collective to make the fullest use of available resources.⁶³

Hatra, a fortified urban site with access to fresh water, was located at a junctural point between the northern and southern parts of the Jezirah and was well-connected to both through a dense network of paths.⁶⁴ Near both the Tigris and Euphrates rivers, it offered an opportunity to control riverine traffic as well. The urban center of Hatra emerged surprisingly quickly, beginning to develop into its monumentalized form only in the first century BCE and reaching its apex in the second century CE.⁶⁵ Its fluorescence occurred in the period of maximum Arsakid and Roman interest in the region, with the city itself coming to serve as a dominant monument in the desert steppe. Hatra proved remarkably resistant to direct foreign control, a trait that classical sources attributed to the city's desert environment, which deprived would-be conquerors of necessary resources for a siege. And indeed, the city repelled at least three Roman sieges beginning with Trajan's campaign in Mesopotamia in 117 CE. Hatra's endurance, however, involved political factors as well. After the first confrontation with the Romans, the local dynasty aligned itself more closely with the Arsakid Empire, with the kings of Hatra remaining in Arsakid fealty until the rise of the Sasanian dynasty.⁶⁶

The city was not well regarded by classical authors, with Dio commenting that it was neither large nor prosperous, surrounded by a bleak desert.⁶⁷ It fell into decline after the third century CE so that by the time Ammianus Marcellinus visited a century later, he called it an "old city, positioned in an empty landscape."⁶⁸ These assessments are at odds with the monumental character of the fortified city, which had a distinct cultic quality, including a central temple to the sun god Shamash.⁶⁹

⁶² Palermo 2019, 98.

⁶³ This configuration is often referred to as enclosed nomadism, but see Alizadeh 2010.

⁶⁴ Altaweel and Hauser 2004.

⁶⁵ Palermo 2019, 98; Sommer 2005, 356–365. See Dirven 2013, ch. 1 for an overview of scholarly perspectives on the origin of Hatra. There are some debates about the presence of an earlier city on the site, but archaeological evidence suggests that previous settlement was certainly not as extensive as the Arsakid-Roman period site.

⁶⁶ Sommer 2013. On post-Trajanic alignment of the local kings, see Gregoratti 2013.

⁶⁷ Cassius Dio 68. 31. 1.

⁶⁸ Ammianus Marcellinus 25. 8. 5.

⁶⁹ Dirven 2013.

The development and monumentalizing of this urban center has been connected by some scholars to its role in facilitating long-distance trade and by others to its status as a religious pilgrimage center.⁷⁰ Archaeological research has revealed an active hinterland surrounding Hatra in the eastern Jezirah, with evidence for nomadic activity as well as the intensification of village settlements beginning in the Arsakid period, which suggests widespread regional changes.⁷¹

Rather than interpreting the city as either a caravan or cult center, it is better understood within the context of its hinterland, as a focal point for interaction between local constituencies. This is true on a physical level, with the built structures of the urban core and its massive walls anchoring a new spatial arrangement that redefined how the wider landscape functioned. It both monumentalized and formalized the nomadic-sedentary interactions that defined the region. The name of the city itself suggests this, seeming to derive from the Arabic term meaning ‘to camp near perennial water.’⁷² Several of the more than 400 Aramaic inscriptions from the site make explicit reference to the overlapping communities present in the area and elucidate their patterns of interaction. The two communities mentioned most often are the Hatrenes (*ḥṭry*), or city-dwellers, and the Arabs (*ʿrby*) – with ‘Arab’ here taken to refer not just to pastoralists but rather to the wider dimorphic hinterland population.⁷³ The kings who ruled over both groups were referred to not as the kings of Hatra, despite their seat in the city, but rather as the kings of the Arabs, suggesting a blurry divide between the urban center and its hinterland in an ethnocultural sense. Two legal inscriptions erected near the city’s entrances and detailing criminal penalties, meanwhile, mark an explicit legal distinction between the space inside of the city walls and that outside and further distinguish four groups of stakeholders to whom different legal penalties could apply: (1) the Hatrenes themselves; (2) all the inhabitants of *ʿrb*, which presumably means those in the hinterland; (3) all those who come and leave from Hatra (but do not dwell there); and (4) all those who live in Hatra, but who were not included in the category of the Hatrenes, so presumably residents with other ethnic ties.⁷⁴

Hatra was well situated to facilitate movement north-south from the Mesopotamian lowlands to the Armenian plateau, and east-west from Ktesiphon to the Mediterranean.⁷⁵ There is evidence for such movement in ancient descriptions of routes like the Peutinger Tablet, while recent archaeological assessments of ‘hollow ways’

⁷⁰ Kaizer 2006, 140 for bibliography.

⁷¹ Tucker and Hauser 2006, Hauser 1998.

⁷² *al-ḥaḍr* < *ḥaḍara*. On this, see Macdonald et al. 2015, 34.

⁷³ Macdonald 2003.

⁷⁴ H336, see Macdonald et al. 2015, 39; Kaizer 2006, 143 on the categories. The nonlocal elements referenced in the gate inscriptions, both the temporary visitors and the residents, likely included both traders and soldiers.

⁷⁵ Palermo 2019, 103–105.

attest to the same.⁷⁶ However, unlike other of the so-called ‘caravan cities’ like Palmyra, where inscriptions provide detail about the control and financing of trade activity, the Hatrene epigraphic corpus provides few such clues. Whether this reflects the lower importance of trade or the different nature of the epigraphic record is, unfortunately, unclear. The movement of troops through and around the city is better attested. Despite its Parthian orientation, Roman soldiers were occasionally present in the city, as attested by three Latin dedicatory inscriptions found in religious structures.⁷⁷ There is also a single Roman milestone dated to the Trajanic period found at the site of Karsi, located to the northwest of Hatra and connected to it by a well-attested route.⁷⁸ Judging by the assessments of this region by Cassius Dio and Ammianus Marcellinus, the Romans found this space unfriendly and forbidding, so such milestones may have been an attempt to make the locally known desert routes legible to outsiders, allowing imperial actors to move more easily and expand their direct hold on the land.

As it turned out, however, neither the Romans nor the Arsakids were able to gain such a direct hold. Instead, according to the Islamic historian al-Ṭabarī, in the twilight of the Arsakid Empire and under renewed Roman pressure, the local kings in Hatra consolidated their power, expanding briefly to control a broad region of Northern Mesopotamia before their defeat at the hands of the Sasanians.⁷⁹ The tumultuous frontier politics of Mesopotamia made the territory important for imperial interests in both the Roman and Arsakid world, but the local Arab communities were able to capitalize on the underlying patterns of movement that bound their territory together, drawing on a power base that covered both sedentary and pastoralist landscapes.

IV Piedmonts in Central Asia

Among Central Asia’s diversity of landscapes, historical human exploitation is most archaeologically visible through the remains of settlements in river valleys and plains supported by irrigated agriculture.⁸⁰ However, this constitutes only one kind of subsistence system. Dry farming and especially pastoralism practiced along varying scales of mobility have also contributed considerably to the wider region’s economy throughout its history, the viability of these strategies being, however, strongly

⁷⁶ Altaweel and Hauser 2004. ‘Hollow ways’ are tracks visible in satellite imagery that are notoriously difficult to date, but which are suggestive of patterns of connectivity.

⁷⁷ Roman soldiers are attested by epigraphic evidence in the third century CE, Kaiser 2004.

⁷⁸ AE 1926 0087, see recently Palermo 2019, 29–30.

⁷⁹ Ṭabarī, 828.

⁸⁰ I thank Ladislav Stančo for kindly sharing some bibliography that was otherwise inaccessible to me (LM).

determined by the affordances of any particular landscape. Semidesert and steppe mountain piedmonts are a ubiquitous type of landscape in Central Asia which present intersecting possibilities for both pastoralism and limited agriculture. Taking also into account the availability of minerals in certain landforms, in addition to the manner in which mountains channel human movement, piedmonts are thus a locus in which the interests of historical mobile, settled, and imperial actors could intersect and even collide.

A relatively well-studied landscape of this kind, in terms of both geography and archaeology, is located in modern southern Uzbekistan (Surkhan Darya region), the eastern foothills of the Kugitangtau and Baysuntau. These are the western spurs of the Hissar range, itself part of the Pamir-Altay system. The eastern Kugitangtau and Baysuntau piedmonts have a cold, semiarid climate, with high seasonal and diurnal temperature variation. The majority of this undulating landscape is covered in various forms of scrubby plant cover which can be exploited as pastureland, and the numerous small and seasonal streams produce, in some places with favorable geomorphological and climatic conditions, the potential for pockets of dry and even irrigated agriculture. Thus the real affordances of this landscape for pastoral or agricultural exploitation are hardly homogenous and have been illuminated in detail foremost through Soviet-era geography, which divided landscapes into minor units of analysis defined by (among other qualities) their geology, soil, vegetation, and potential for human exploitation.⁸¹ Stride adapted and applied the major work of this discipline covering the Surkhan Darya province to its long-term settlement patterns, focusing on historical modes of exploitation prior to the advent of pumping systems for irrigation introduced in the Soviet period.⁸² Judging from the affordances of the relevant minor landscape units in Kugitangtau and Baysuntau piedmonts, and also from ethnographic sources pertaining to the end of the nineteenth century,⁸³ two main types of historical exploitation should be expected here: 1) settlement in villages supported by dry farming, perhaps small-scale irrigated agriculture, and limited pastoralism, and 2) transhumant seminomadic pastoralism.

Although it may appear deterministic, it is still useful to be aware of landscape units that illuminate affordances for forms of historical mobile pastoralism, as these leave limited traces in the archaeological record. Currently, our knowledge of mobile populations who utilized this landscape in antiquity is restricted to burials commonly typologically ascribed to mobile pastoralists. Those which date from the period of our concern include the connected Rabat I and II *necropoleis* in the Baysun district (still only partially published, with their surface remains destroyed by the

⁸¹ See Stride 2007, 102.

⁸² Stride 2005, 2:73. The main unit of interest here is the desert of the piedmont and lower mountains, Landscape IV/1, for which see Stride 2005, 2:89–99.

⁸³ See Stride 2007, 104

modern development of the landscape),⁸⁴ and the single Grave 3 cut into the site Tilla Bulak in Sherabad district.⁸⁵ That being said, the identity and primary modes of exploitation utilized by the populations represented in these burials remain far from certain. The Rabat burials explored thus far by different projects have been dated by their excavators to around the first century BCE–first century CE and connected with the Yuezhi nomadic confederacy,⁸⁶ at least part of which migrated into northern Bactria in the second century BCE. Others consider the spatial and typological group including these burials to be connected with the migration of a Saka population.⁸⁷

However, turning away from scholarly narratives concerned primarily with historical migrations of hostile foreign nomadic confederacies, it is particularly interesting that Rabat I and II were located in close proximity to the fortified settlement of Payon Kurgan,⁸⁸ and accordingly may host the burials of the settled population there rather than any nomadic group.⁸⁹ Likewise, the grave at Tilla Bulak was located near the main regional settlement of Dabil Kurgan.⁹⁰ At the very least, the difficulty of identifying the populations represented by these burials should reopen questions about the interaction between mobile and settled populations and how the interactions and the modes of subsistence of these groups (for example, through sedentarization processes) changed over time. Numerous other features usually associated with mobile pastoralists have been detected in this landscape, including kurgans or kurgan-like features (i.e., without burials) composed of earth or rock, being particularly ubiquitous in the eastern piedmonts of the Kugitangtau, but the dates of the majority of these features remain unconfirmed, pending excavation.⁹¹

In antiquity, permanent settlements were established in locations in this landscape that either supported agriculture and/or had strategic significance from imperial perspectives for controlling movement.⁹² Settlements of the first kind in particular could also act as loci for small-scale trade, where sedentary and mobile

84 Abdullaev 1999, 8–9; Abdullaev and Annaev 2001; Abdullaev 2007, 80–81.

85 Gruber, Il'yasov, and Kaniuth 2012.

86 Abdullaev 1999, 8–9; Abdullaev and Annaev 2001, 23–24; Abdullaev 2007, 80–81; Khasanov, Tang, and Xomidzhonova 2019, 54.

87 Lyonnet 1997, 165–169; Rapin 2007, 51.

88 Occupied at least from the Late Hellenistic to Early Kushan period, perhaps established as early as the time of Alexander's invasions (Sverchkov 2008, 165), though this remains unconfirmed by survey data (Stančo et al. 2019, 158).

89 Sverchkov 2005a, 15.

90 On the proximity of the sites, see Gruber, Il'yasov, and Kaniuth 2012, 372. For the history of settlement at Dabil Kurgan, thought to have been established in the Achaemenid period and occupied throughout antiquity, see Rtveldadze 2013, 25–26.

91 Some excavated features date from the Early Iron Age (Yaz I). See Havlík et al. 2018; Havlík, Stančo, and Havlíková 2017; Havlík, Havlíková, and Stančo 2018.

92 For the Baysun district, see now the survey areas of Darband village and the Sairob-Rabat Steppe Zone in Stančo et al. 2019, 150–160.

populations may have exchanged, for example, agricultural produce, craft goods, and primary and secondary animal products. Kugitangtau and its piedmonts also were the locus of historically extracted mineral resources – salt at Khodzhaikan, and ores (including iron) at Tillokan and Chujankan – which are thought to have been extracted since around the first century CE.⁹³ It is possible that certain settlements were established or grew in response to imperial interests in these resources; for example, Sverchkov considers it likely that Dabil Kurgan was connected with the mining of rock salt, while Rtveladze envisages that intensive settlement at this site in the Kushan period is connected with increased export of iron to other regional cities.⁹⁴ It should be reiterated that settlements across this landscape were not simply a product of its affordances, but their lives were also shaped by imperial interests. For example, on the Kugitangtau piedmonts, certain micro-oases were settled in the Bronze Age and Early Iron Age, with apparently no settlement from the fourth century BCE, picking up again in the second century CE.⁹⁵ It is probable that this pattern is connected with the invasion of Alexander the Great and the resulting large-scale abandonment of settlements and depopulation of the wider region.⁹⁶ On the other hand, extensive settlement in the piedmont of the Baysun district appears to begin only in the Hellenistic period⁹⁷ and saw the construction of numerous fortresses before being largely abandoned by the late Kushan period,⁹⁸ reflecting the rise and fall of this region from an imperial strategic perspective.

Indeed, the stark relief of the Kugitangtau and Baysuntau produced clear affordances for mobility across these mountains, particularly a well-known major historical pass known as the ‘Iron Gates,’ which funneled movement from the two major agricultural plains of the Surkhan Darya (northern Bactria) and the Kashka Darya (Sogdiana). This pass came to be developed as a northwestern imperial frontier between northern Bactria and Sogdiana under the Graeco-Bactrians and Kushans. Archaeological remains located 3 km from modern Darband reveal a 1.5 km long wall (thus the Darband wall) built across the Shurob-say valley, which was constructed from mudbrick, stone, and pakhsa and preserved in some places to 3 m in height. The wall was strengthened with a number of towers and fortresses and shows evidence for phases of disrepair and reconstruction in the Hellenistic and Kushan periods.⁹⁹ This wall, in addition to the Hellenistic-period mountain fortress

⁹³ See further in Sverchkov 2009, 152–153.

⁹⁴ Sverchkov 2008, 181; Rtveladze 2013, 26.

⁹⁵ Augustinová et al. 2017, 129–130.

⁹⁶ Stančo and Tušlová 2019, 363.

⁹⁷ Stančo et al. 2019, 170.

⁹⁸ Sverchkov 2005b, 60.

⁹⁹ The full results of the French-Uzbek excavations are still forthcoming; see for now Rakhmanov and Rapin 2003 and further information in Rapin et al. 2006; Rapin 2007; 2013. Note, however, that a recent Czech-Uzbek survey has argued that the wall was built and used primarily in the Graeco-Bactrian period, according to surface pottery and coins they collected (Stančo et al. 2019, 148, 150).

of Uzundara¹⁰⁰ and the piedmont fortresses Kurganzol and Payon Kurgan,¹⁰¹ comprised a militarized frontier. However, although most scholarship concerning this frontier emphasizes its defensive role, putatively against the regular threat of raids, or invading hordes of nomads,¹⁰² we have seen that other mobile pastoralists very likely lived within this frontier during antiquity, and it is doubtful that their existence was dependent on the microstages of the Darband wall's disrepair. Instead, it seems likely that the wall served to control rather than stop large-scale, nonhostile movement – for example, of caravans – by perhaps performing a customs function, as encountered by Ruy Gonzalez de Clavijo during his fifteenth-century embassy to the court of Timur in Samarkand:

The lord Timur is sole master of these Iron Gates, and the revenue is considerable to the state from the customs imposed on all merchants who come from India going to the city of Samarkand and to the regions beyond.¹⁰³

Interestingly, ongoing research at Uzundara indicates the reality of other, more ancient economic activity along this militarized piedmont frontier. The existence of a (presumably) periodic market at the Hellenistic period fortress can be inferred from the distribution of numerous bronze coins in small denominations clustered in a space outside its eastern entrance. Here, through exchange, soldiers of the garrison could obtain food or crafts from local producers, who could then obtain the coinage necessary to pay taxes¹⁰⁴ – once again showing how the interests of different actors could intersect in piedmonts.

V The Forests of South Asia

Having discussed several classic 'transit corridors,' we turn now to a quite different type of ecological zone: the forest. Our case study for a forested zone that is nevertheless a central locus for movement and interaction comes from South Asia, where a major section of central India is thickly forested, even today. This is of course not the only forested area of the subcontinent – the northeastern regions and the Western Ghats are as well, and it is argued that even the Punjab region and areas near present Delhi, which are currently devoid of arboreal vegetation, may have had thick vegetation during the period of our concern.¹⁰⁵ Forests in the subcontinent are

100 With ongoing excavations, see an earlier summary of excavation data in Dvurechenskaya 2019.

101 See Sverchkov 2008; 2014.

102 See, e.g., Rapin 2007.

103 Trans. from Le Strange, Clavijo 1928, 205.

104 Dvurechenskaia 2018, 175. See also Morris, ch. 4, III and ch. 13, V.2.2, this volume.

105 For a discussion on the issue of forest cover and deforestation in the subcontinent, see Erdosy 1998. It is explained that even in Indo-Gangetic plains, after millennia of agricultural expansion

not homogenous spaces in terms of vegetation or level of human interactions. The vegetation type ranges from tropical deciduous of northern and central India, humid tropical forests of the Western Ghats to dry tropical and subtropical shrub forests further south, and tidal forest at the mouth of the Ganga basin in the east.¹⁰⁶

In South Asian historiography, questions of human interaction with forests are often associated with deforestation and the peasantization of the forest dwellers, which are seen in the context of political processes of state formation and expansion. This narrative is also associated with the 'Brahmanization' of the subcontinent. We often hear phrases like "agricultural expansion into economically peripheral zones,"¹⁰⁷ which is a result of the heavy bias favoring settled agriculture considered to be the core of economic activities. This viewpoint places settled agrarian societies at the evolutionary end of socioeconomic history, thus ignoring the vast amounts of economic activity that remain historically under-recorded, if not unrecorded, which have sustained the pastoralists and forest dwellers for millennia through the rise and fall of empires and polities. However, these communities have never lived in complete isolation or self-reliance, but have instead had sustained interactions with settled agriculture-dependent societies, socially, politically, and economically. This section regards forests as more than marginal spaces. We discuss the issues related to human and institutional participants interacting with, traversing through, and acquiring resources, while also considering the various claimants of the forest spaces based on the social imaginary.

While there are many Sanskrit terms denoting the space of forest, the *aranyā* and *vana* are two terms of particular importance.¹⁰⁸ These are generally the counterparts of the terms associated with settlement, *grāma* (village) and *kṣetra* (agricultural fields). The *aranyā* is compared to the *grāma*, where the latter is settled, organized, and with boundary, while the former, i.e., *aranyā* is flexible, unknown, and unorganized. It is the *aranyā* that represents the lack of any political and social boundaries. On the other hand, the *vana* is a counterpart of the *kṣetra* (agricultural fields), which like the latter is full of resources and does not stand in opposition to settled society. And it is the term *vana* that is used in the texts to indicate forests of resources, such as *hastivana* (forest of elephants) and *dravyavana* (forest of commodities) that will be discussed below.

As ecological zones, forests are not homogenous spaces in South Asia. The intensity and nature of human interaction and interventions in the zones are also not uniform. While some areas comprise heavily dense evergreen forests on plains; oth-

the deforestation and denudations, the actual loss of forest covers emerged only with the Industrial Revolution.

106 Morrison and Lycett 2014; Mani 1974, 171–176.

107 Sinha Kapur (2011, xvii) uses the phrase while introducing the recurring questions in the writings of environmental history of India. However, she misses the opportunity of pointing at the limitations of such agricultural-settlement centered approach.

108 For a discussion, see Thapar 2001.

ers may cover hilly areas relatively sparsely, but nevertheless impeding travel. Yet both types of forests were traversed. However, the frequency of movement may have varied and would have been dependent on various factors, such as the size of the group of travelers, the season of movement, and nature of movement, i.e., whether crossing the forested area or just moving to and fro within it. The forested regions also had many stakeholders, such as the pastoralists, forest dwellers, foragers, royal hunters, monks, merchants, and pilgrims, some making a living out of the space and some just passing through. Most of the studies of forested regions are based on the evidence left by those with whom the forest dwellers interacted, such as those living in more sedentary contexts, as well as on the opinions of those who traveled through forested regions.

One of the most noticeable examples of this particular view of forests comes from discussions of the forest that covers central India, which is considered the ‘crossroads’ of the two traditional routes, called the *uttarāpatha* (northward route) and *dakṣiṇāpatha* (southward route). As a result, the area is also called ‘corridor’ between the north and the Deccan.¹⁰⁹ On the other hand, the forested region in the Palaghat Ghat is perceived as a shortcut connecting the western coast across the hills (the Nilgiris and Anaimallai) channeling the movement to the eastern coast. The use of this corridor reduced the need for navigation around the southern tip of the subcontinent and the island of Sri Lanka.¹¹⁰ For those who traversed through the forests, the rainy season with heavy monsoon rainfall between July and September was to be avoided. This is very clear in the Buddhist texts, which repeatedly refer to travel restrictions and shelter for traveling monks during the rainy season.¹¹¹

Other than travelers passing through the forests, literary sources provide much information about what kind of resources were gathered in the forests. However, about the scale of that extraction, we can only speculate. The forests with resources have often been identified as *dravyvana* and *kupyavana* (forest of commodities), *hastivana* and *nāgavana* (forest of elephants), etc., and the extraction of these resources occurred as the result of a recurring process of interaction. These two types of forests seem to have attracted the nearby organized polities the most.

From the perspective of a state, resource management and extraction from the forests was a long-term process that required regular labor, water availability, and other relevant inputs. Much of the interaction of a state with the forested regions, in the period of our concern, is studied with respect to the Mauryan monarchical state – their expansion through the subcontinent and interaction with the forested regions in a limited manner.¹¹² Considering the demands of an administratively well-organized monarchical state, their interactions with the forested regions may

¹⁰⁹ Basu Majumdar 2017.

¹¹⁰ Deloche 2010.

¹¹¹ Schopen 2004, 32–34, 173, 228–238.

¹¹² For further information and bibliographies, see Parasher-Sen 1998; Trautmann 2009; 2015.

have facilitated the emergence of an extraregional microeconomic system, which is visible in the extraction of two very important resources, a) elephants, and b) spices and medicinal plants. Both are forest products, required for different purposes and acquired through very different processes.

Although ivories were a very prized product from elephants, elephants themselves were perhaps more prized as war animals, beasts of burden, and symbols of royalty.¹¹³ The capture of wild elephants and their sale was not a single-step form of resource acquisition. Rather, the capture of wild elephants was possible with the aid of trained elephants, who may have been raised in a domestic/captive setting. Not only was it a high-risk job, it was also a long-term one. A captive calf or adult elephant needed to be trained. After the initial training, depending on the age and sex of the animal, their ongoing care required a number of people. For an elephant in royal stables, Kauṭilya recommends a retinue of 14 attendants, consisting of a veterinarian, a trainer, a groom, a guard, a feeder, etc.¹¹⁴

Beyond the forested regions in the northern plains, the upland and mountainous forests of the Himalayan foothills and Western Ghats saw a relatively different form of human-landscape interaction. Morrison and Lycett's work on the acquisition of spices, resins, and other nontimber forest products throws light on the active intervention of foragers and gatherers in selecting plants and doing selective cultivation within the forests, which were not wild natural growth.¹¹⁵ The foragers were noted to have practiced unconventional farming, swidden agriculture and shifting cultivation. The processes of acquiring and preparing the commodities were highly labor intensive. These included harvesting, drying, and other types of processing before the items were ready to meet the consumer demands both regionally and further afield.¹¹⁶

Since most of the forested regions discussed here were semiautonomous spaces, attempts at expansion into these regions by nearby state-like polities were common. The expansive ambitions of the imperializing polities are visible in literary and epigraphic sources. The forester and forest dweller are *āṭavika*, *āraṇyaka*, and *vanacara* who appear in the *Arthaśāstra*. The mention of the Aṭavi in the Aśokan edict and in particular the Aṭavikarājya, the kingdom of *āṭavikas* (foresters), at the time of the Guptas (fourth–fifth century CE) perhaps refers to a relatively more organized polity than is assumed in a 'tribal' setup.¹¹⁷ The contacts between state-like organizations and those dwelling in the forest are quite dynamic, including both conflict and cooperation. Since the borders of the forest zones are flexible, including areas of buff-

¹¹³ Trautmann 2009; 2015.

¹¹⁴ *Kauṭīliya Arthaśāstra* (KA) 2. 32. 15–16.

¹¹⁵ Morrison and Lycett 2013.

¹¹⁶ Morrison 2002.

¹¹⁷ For the Rock Edict 13 of Aśoka, see Sircar 1971, 30–36. For the Gupta inscription, see Chhabra and Gai 1981, 203–220.

er zones around the forests and the agricultural societies in deforested areas, the question of ownership over the forest land and resources is a complex one. The complexity of such relations is visible in references to agricultural villages sending their cattle for grazing in areas around forests;¹¹⁸ in the use of forested regions as central spaces among hermits, where rituals are performed and where, perhaps, children of proper age were sent for education after their initiation (*samskāra*); in the status of the forest as a place of exile;¹¹⁹ finally, in the fact that the state could impose taxes on forest products.¹²⁰

The interactions that different groups have with the forest are both reflected in and get shaped by how they imagine the forested regions, and by doing so they claim the forests in their own manner. In the Hindu perception of life stages, the third stage of a human's life, out of the four prescribed stages,¹²¹ refers to the stage of retirement from all his social and economic duties. This stage is called the *vāna-prastha* which literally means retiring to forest. Even in the Buddhist understanding, the forest is an ideal place of dwelling, in that it is a place of peace and proximity to nature. In order to recreate such conditions, monastic premises had elaborate gardens around the monasteries. The importance of the forest in the expression of royalty is also worth noticing: it can be seen through, for example, the elaborate ceremonies of royal hunts, or the symbolic representation of certain wild animals as their royal emblems.¹²² Additionally, the urban population romanticized forests, both as places where wilderness hides many mysteries, monsters, and dangers, and as places of peace, spirituality, and meditation.¹²³ This is clearly visible in the presence of perhaps protected groves like Vṛndāvana and Jetavana near the cities and high-density settlements, which became sacred spaces because of their association with Kṛṣṇa and Buddha, respectively.

Studying forests in South Asia is a very good opportunity to examine the dynamic relationship of humans and landscapes. While the presence of forested spaces in the subcontinent provides for economic opportunities in terms of special

118 The classic example is that of the childhood stories of the deity Kṛṣṇa, who along with other kids of his community would take the cattle of the villages for grazing. This occurs in various texts such as the *Mahābhārata* and *paurāṇic* stories.

119 A fitting example would be the exile of Rāma in the *Rāmāvana*, and instances of the Pāṇḍava brothers being asked to serve a period of exile in the *Mahābhārata* and related texts.

120 The *Arthaśāstra* (2. 17. 1–17) mentions appointment of the *kupyādhyakṣa* (superintendent of forest produce), who along with other responsibilities have to ensure the supply of forest produce and maintain a monopoly on sale of certain forest produces and price regulations.

121 A man is expected to fulfil the following four stages in his life: a) student, b) householder, c) retired from his duties, d) renunciant in search of *mokṣa* (transcendence). For a detailed study of the *āśramas*, see Olivelle 1993.

122 For a discussion about the importance of wilderness and conquest in royal ideology, see Falk 1973; Singh 2017, 368–459.

123 This is expressed well in Parkhill's (1995) terms, "the liminal context for spiritual transformation." For a discussion, see Thapar 2001, 8–9.

animal and plant resources, it also creates travel limitations for people. However, how different social communities interact with these spaces reshapes the affordances of forest spaces themselves. To a long-distance traveler, a hilly forest may appear as the worst phase of his journey, on the other hand, to a community practicing foraging and shifting agriculture the forests on the hill are their agricultural field where they plant and tend pepper trees on a seasonal basis. To a forest dweller, the elephants could be their companions in the jungle, while for a state actor they were war machines to be captured, trained, and sometimes also gifted to other kings. We, therefore, learn that the affordances of a particular type of landscape are in fact not universal, but rather subjective. They are shaped by the experiences and aspirations of different individuals and communities, which could range from purely economic to purely spiritual, or more often a mixture of both.

VI The Hexi ‘Corridor’

The region commonly called the ‘Hexi corridor’ (*Hexi zoulang* 河西走廊),¹²⁴ roughly corresponding to the western part of present-day Gansu province, PR China, is a long and narrow strip of land pressed between two geographical zones characterized by harsh landscapes and climates: the Qilian 祁連 mountains of the northeastern Qinghai-Tibetan Plateau to its south, and the southwestern edge of the Gobi desert to its north. It is approximately 1,000 km long along a roughly (south-)east – (north-)west axis, with its width varying between a few km up to around 100 km. Its northwestern end, at the ancient site of the ‘Jade Gate’ (Yumen 玉門), is connected to the Tarim Basin (in today’s Xinjiang Uyghur Autonomous Region), while its southwestern end opens toward the northwestern part of central China. Its altitude rises from east to west and mostly ranges between 1,000 and 1,500 m. Average annual temperatures vary between 2 to 6 degrees Celsius. Annual precipitation rates decrease from east to west, ranging from 200 ml to a mere 40 ml. Its landscape is largely characterized by thin vegetation layers. Large parts are covered by desert shrubs, while some areas feature grasslands and forests.¹²⁵ Climatic conditions appear to have been somewhat warmer and wetter during ancient times. Accordingly, both transmitted ancient landscape descriptions and archaeobotanical evidence suggest that forest and grassland areas were more prevalent during the Han period than they are at present.¹²⁶ Whereas the region is generally characterized by scarce water resources, several inward-flowing rivers sourcing from glaciers of the Qilian

124 Alternatively called ‘Gansu corridor.’ ‘Gansu’ is the name of the province to which the region belongs today. ‘Hexi’ is an ancient designation for a broader region including the ‘corridor,’ and literally means ‘west of the Yellow River.’

125 Tse 2018, 27–28; Yang et al. 2019, 958.

126 With regard to the Juyan region, for instance, see Hu and Li 2014, 345.

mountains, most importantly the Shule 疏勒,¹²⁷ Shiyang 石羊¹²⁸ and Ruo 弱¹²⁹ Rivers, have been sustaining oases since ancient times. The Ruo River lends the region a northward-extending ‘arm’ through the Gobi Desert, famous for the relics of the Han frontier garrison of Juyan 居延 and numerous finds of associated wooden administrative documents.¹³⁰

The term ‘Hexi corridor’ (or ‘Gansu corridor’) is a modern expression without any parallel in ancient Chinese texts,¹³¹ and its modern use appears to be tightly connected to ‘Silk Road’ narratives. Historical and archaeological studies alike typically refer to the region as a “passageway” or a “key section of the ancient Silk Road connecting China and Central Asia.”¹³² The designation of the region as a ‘corridor,’ however, is in itself not an objective description of its physical geography, but already points to a subjective interpretation of its landscape that focuses on its potential for mobility and exchange between east and west, i.e., between the Tarim Basin and Central Asia, on the one hand, and central China on the other hand. At the same time, it disguises alternative perspectives on the space that focus on connectivities in other directions (e.g., between north and south, between the depression and the mountains to its south), as well as economic activities that utilized the landscape beyond its usage as a ‘transit zone.’

When the Han first seized the region in 121 BCE by subduing two Xiongnu 匈奴 kings who had been controlling the region,¹³³ the conquerors’ interpretation of the newly captured space as a ‘corridor’ enabling westward mobility appears to have played a secondary role at best. Quite the contrary, their military endeavor was primarily fueled by their concern over the region’s providing a connection between the areas to its north and south, which were inhabited by predominantly mobile pastoral groups of the Xiongnu and the so-called ‘Qiang’ 羌, respectively.¹³⁴ The

127 Also called Changma 昌馬 River.

128 Also called Gu 谷 River.

129 Also called Heihe 黑何, Etsin Gol, or Ejin River.

130 The classic study in English language on the Juyan documents is Loewe 1967.

131 A common designation of the region used during the Later Han period was ‘the four Hexi commanderies’ (‘the four commanderies west of the Yellow River’), which included all the ‘corridor’ commanderies, i.e., Wuwei, Zhangye, Jiuquan, and Dunhuang (from east to west). The term ‘four commanderies’ already turns up in the “Geographical Treatise” in *Hanshu* (28B.1644) with regard to the Hexi commanderies, but it is also used in other regional contexts by the same work. In other instances, one often finds the broader designation ‘Liang Region’ (Liangzhou 涼州, lit. ‘chilly region’), which, however, additionally included several more commanderies to the south and south-east of the ‘corridor.’

132 E.g., Tse 2018, 28, and similarly, 12; Yang et al. 2019, 958; Liu et al. 2019, 972.

133 Both kings had reportedly announced their submission to the Han. One of them, King Hunye, killed the other one, King Xiutu, and then surrendered to the Han along with 40,000 people, including both his own and Xiutu’s followers. *Shiji* 110.2909, trans. Watson 1993, 152–153.

134 This view appears to have been still predominant when the administrative units in the region were established in the region. *Shiji* 110.2913, for instance, states that “in the west, [the Han] established Jiuquan commandery in order to block the routes that connected the Hu [i.e., the Xiongnu]

latter, whom Chinese ancient sources describe as having been largely dwelling in and around the region of the Qilian mountains and Qinghai Lake (Koko Nor), had reportedly been acting as an ally of the Xiongnu, and may also have been important to these with regard to economic provisions.¹³⁵

For the first years after their successful conquest, the Han were not even interested in occupying and colonizing the region by themselves, but rather invited the Wusun 烏孫 people, who were at that time residing in the faraway Ili Valley, to move to the region and serve as a buffer between the Xiongnu and the Qiang, and to win over further allies in the northwest against the Xiongnu. It was only after the Wusun's rejection and a Qiang attack in 112 BCE that the Han finally aimed at direct military and administrative control over the region.¹³⁶ The knowledge that the envoy Zhang Qian and his aides had meanwhile brought back from their journeys to the states of the Tarim Basin and beyond definitely aroused the interest of certain actors at the Han court in the region as a 'passageway' to the west.¹³⁷ Viewing the space in its potential for providing a route to faraway polities now became a more relevant option. In some cases and for some actors, these new connections also came to be associated with the hope of acquiring particular goods, as was the case with Emperor Wu's interest in Wusun and Dayuan 大宛 horses.¹³⁸ Nevertheless, even with regard to the period thereafter, approaching the economic history of this space with a focus on the 'corridor' perspective can be misleading. It disguises the complexities involved in different human groups' various interests in and economic interactions with the region's landscape.

During the centuries predating the imperial period, the people inhabiting the region were prevalently using its landscape by means of mobile pastoralist subsistence strategies, which they supplemented by low-intensity agriculture including wheat and barley cultivation. Their major livestock animals were sheep or goat, cattle, horses, and camels.¹³⁹ Permanent dwellings structures seem to have played a marginal role at best. Ancient Chinese records suggest, for instance, that even those 'Qiang' people that practiced agriculture were using portable housing, and

and the Qiang" 西置酒泉郡以隔絕胡與羌通之路, even though another chapter of the same work also mentions "establishing a connection to countries of the northwest" 通西北國 as a motive for this move (*Shiji* 123.3170). *Hanshu* 28B.1645 (written more than 150 years later), combines both motives. **135** Di Cosmo (2002, 250), suggests that the provisions that the Xiongnu were supplied with by the 'corridor' and the Tarim Basin oases were "agricultural goods and the products of urban craftsmen." The latter, however, is only applicable to the Tarim Basin oases, not the 'corridor,' which did not have any urban centers before the Han conquest. On the 'Qiang' more generally, see M. Wang 1992; De Crespigny 1984, 54–172.

136 *Shiji* 30.1438, trans. Watson 1993, 80.

137 For ancient reports on Zhang Qian and his missions, see *Shiji* 123, trans. Watson 1993, 231–252; Nienhauser 2019, 55–104; *Hanshu* 61, trans. Hulsewé 1979, 205–238.

138 *Shiji* 123.3170–3177; trans. Watson 1993, 240–250.

139 Yang et al. 2019.

the only known fortified settlement of the pre-Han period, which may have existed right up to the Han conquest, also utilized yurts rather than permanent dwellings.¹⁴⁰ After occupying the region as part of a primarily military strategy, the Han drastically changed parts of its landscape by establishing ‘agricultural garrisons,’ building defensive walls, irrigation networks, and oasis towns, and colonizing it with hundreds of thousands of settlers.¹⁴¹ Whereas the dimension of agricultural and sedentary use that Han military presence brought to the region was doubtlessly unprecedented, the economic use of its landscape did have quite a multifaceted prehistoric past. As archaeological evidence has shown, both agriculture and sedentariness had played a much more important role in earlier periods, long before Han people first encountered it. For instance, the archaeological record testifies the common use of pigs, the cultivation of millet, and copper smelting during earlier times, all of which declined drastically during the first millennium BCE. Whether climatic or sociocultural factors were the key drivers for the changes in subsistence strategy toward mobility and pastoralism, is still a matter of debate.¹⁴² In any case, this historical variety illustrates the complexity of landscape affordances provided by the region.

Even after the Han conquest and colonization of the region, the forms of economic exploitation of its land varied widely. They did not suddenly shift toward an overall agrarian use and mobility along an east-west axis. Neither did its former inhabitants and resource users simply disappear. Even though ancient historical sources leave the impression that the region had been ‘void’ (*kong* 空) of people right after the Han conquest (which is unlikely to have been true),¹⁴³ the same and other sources clearly mention other than Han people lingering in the ‘corridor’ during the following decades and centuries. Unfortunately, archaeological evidence for the Han period is scarce in this space except for those finds that are directly related to Han military and administrative presence, such as the spectacular finds from the Juyan 居延-Etsin Gol area and from the Xuanquan 懸泉 postal station near Dunhuang 敦煌.¹⁴⁴ Chinese textual evidence from transmitted historical texts, and from the documents excavated from the sites just mentioned, therefore remain our primary

¹⁴⁰ Liu et al. 2019, 982.

¹⁴¹ The transmitted 2 CE census gives a total registered population of approximately 280,000 people (in ca. 61,000 households, corresponding to an average quota of ca. 4.6 people per household) for the four ‘corridor’ commanderies. These figures may not have entailed most non-Han inhabitants of the region. See Tse 2018, 40.

¹⁴² Yang et al. 2019; M. Wang 1992, 14–57.

¹⁴³ For instance, according to the “Account of the Xiongnu” in *Shiji* 110.2912, Han troops in 112 BCE “did not see a single Xiongnu” 不見匈奴一人 in the area, and the “Account of the Qiang” in *Hou Hanshu* 87.2877 states that the “land west of the Yellow River was void” 河西地空.

¹⁴⁴ The tendency of non-Han people in the region toward mobile pastoralist lifestyles has been suggested as the main reason for their archaeological invisibility during the Han period. M. Wang 1992, 96. Hitherto archaeological preferences may, however, also play a role.

source of knowledge for non-Han people inhabiting, moving through, and making economic use of the region and its landscape in various ways.

Ancient Chinese texts suggest that many of the people that the Han called ‘Qiang’ were practicing a ‘mixed economy,’ including pastoralism, agriculture, and fishing. But because of the regional and ethnic imprecision of the oversimplifying exonym ‘Qiang,’ it is hard to say to what extent this also applied to those so-called ‘Qiang’ people that were dwelling in the ‘corridor’ (or only to those living further south).¹⁴⁵ In any case, Xiongnu and so-called ‘Qiang’ people reportedly regarded the area of what became the Han commanderies of Zhangye 張掖 and Jiuquan 酒泉¹⁴⁶ as “originally our land” (*ben wo di* 本我地) and worthwhile reconquering because it was “fertile and prosperous” (*fei mei* 肥美).¹⁴⁷ Eventually, the Han established ‘dependent states’ (*shuguo* 屬國) for ‘Qiang’ people in this area. Unfortunately, we know little about these *shuguo* other than that they existed.¹⁴⁸

One thing that all actors interacting with the landscape of the Hexi ‘corridor’ appear to have seen in it was the suitability of its grasslands for grazing. This potential was also recognized by the Han. The geographic treatise of the *Hanshu* (written in the first century CE) states that “in the region from Wuwei 武威 westward (i.e., in the ‘corridor’), [the availability of] water and grass suits livestock herding” 水中宜畜牧 and therefore, “the livestock of Liang Region (which included the ‘corridor’) is the most prosperous of all-under-heaven” 涼州之畜為天下饒.¹⁴⁹ Non-Han people, too, are mentioned occasionally in Chinese texts as grazing their livestock on the region’s grasslands.¹⁵⁰ Since the idea of ‘dependent states’ included the possibil-

145 M. Wang 1992, 58–97; Tse 2018, 99–105.

146 These were the two central commanderies of the four ‘corridor’ commanderies.

147 *Hanshu* 69.2973. This is what, according to a memorial by the Han general Zhao Chongguo 趙充國 (137–52 BCE), the Xiongnu had reportedly said to win the Qiang over for a new alliance against the Han around 90 BCE. Zhao Chongguo certainly had his own agenda when bringing forward this alleged communication between Xiongnu and Qiang, so his statements have to be taken with caution. But to the very least, they do reflect how plausible it was for people at the Han court to believe that Qiang and Xiongnu were regarding the area as their own territory that was worth fighting for because of its economic affordances. For a full translation of the memorial, see Dreyer 2008, 676–678.

148 The geographic treatise of the *Hou Hanshu* (treatise no. 23.3522) lists two ‘dependent states’ within the Hexi corridor for 140 CE, i.e., the ‘Zhangye dependent state’ with a population of 16,952, and the ‘Zhangye dependent state of Juyan’ with a population of 4,733 people. The former is associated with ‘Qiang’ people in Dou Rong’s 竇融 biography (*Hou Hanshu* 23.796), on which see also below. At least one other ‘dependent state’ of the ‘Qiang,’ i.e., the ‘Jincheng dependent state’ 金城屬國, existed further south from 60 BCE onward, but it is unknown for how long. Dreyer 2008, 705. On the institution of ‘dependent states’ in general, see Loewe 1967, 1:61–64; Bielenstein 1980, 109, esp. n. 139 on 189–190; De Crespigny 1984, 3, esp. n. 4 on 447–449; Yü 1967, 72–78.

149 *Hanshu* 28B.1645.

150 For instance, one fragmented Juyan document reporting on enemy activity mentions non-Han people “coming and going to graze [their livestock] at Biaoshi (in the ‘corridor’ commandery of Jiuquan) ...” 往來牧表是 [...]. Because of the fragmented nature of the document, the subject of the

ity for their officially subordinated inhabitants to largely maintain their former economic and social lifestyle, it can be assumed that the ‘Qiang’ of the corridor continued their pastoral activities in designated areas of the region, even though they were now officially controlled by the Han.

Yet, economic activities were not limited to a mere coexistence of Han and non-Han practices. After all, under Han rule the ‘corridor’ changed from a sparsely populated area bare of any known settlements to a heavily fortified region dotted by densely populated, urban oases within a few decades. Scattered evidence in the dynastic histories offers glimpses into the new economic possibilities and interactions between the different groups of people that went along with these fundamental changes. They show that the economic connections between Han settlers, Xiongnu, and ‘Qiang’ people may have been much more than marginal additions to the economic activities associated with the famous east-western exchange of goods between central China and Central Asia. Their interactions went beyond those that the sources indicate with relative frequency, such as mutual raids, mutual defections, military confrontations and collaborations, including in-cash or in-kind payment of non-Han soldiers.¹⁵¹ It is worth noting, for instance, that the region is associated several times with economic prosperity and stability, especially during times when the more central parts of the Han Empire were in turmoil, such as during the later phase of Wang Mang’s reign. A case in point is the example of the famous general Dou Rong 竇融 (15 BCE–62 CE), who purposefully asked to be appointed as commandant (*duwei* 都尉) of the ‘Qiang’ dependent state of Zhangye (Zhangye shuguo 張掖屬國). He reportedly did this in consideration not only of the area’s strategically favorable geography and availability of excellent cavalry, but also because of the region’s “abundance and wealth” (*yin fu* 殷富).¹⁵² Furthermore, a passage in the biography of the magistrate of Guzang 姑臧, the government seat of the southernmost ‘corridor’ commandery of Wuwei 武威, states that “Guzang came to be called a ‘wealthy town,’” 姑臧稱為富邑 and that “those settling down in the county all became rich and prosperous within less than four months” 每居縣者，不盈數月輒致豐積。¹⁵³ Most interestingly, this economic prosperity is not associated with the region’s westward ‘corridor’ connections, but rather with the “exchange of goods with the Qiang and Hu [i.e., the Xiongnu], with markets being open four times a day” 通貨羌胡，市日四合。¹⁵⁴

sentence cannot be determined with certainty. Giele’s reconstruction suggests them to most likely have been Xiongnu, possibly the Huhanye Khan and his followers. See Giele 2011, 59–60.

151 Administrative documents from Juyan mention, for instance, “cartloads of grain for the barbarian horsemen, 83.3 bushels” (Giele 2011, 69), and a group of one hundred Xiongnu people being paid 100,000 coins each for fighting against the Qiang (H. Wang 2004, 52).

152 *Hou Hanshu* 23.796.

153 Considering the context of this sentence, it is not entirely clear if ‘those settling down’ is supposed to generally refer to people settling down in the county, or particularly to bearers of higher administrative posts.

154 *Hou Hanshu* 31.109. On this passage, see also Z. Wang 2018, 16.

These examples show that in order to understand the economic history of the so-called ‘corridor,’ we need to see its landscape as more than just providing potentials for west-east connection. Future research, both historical and archaeological, would profit from putting more focus on what happened on the ground, i.e., the variety of local landscape affordances, the ways in which different groups of people used it for various economic activities, and how these groups and activities were interconnected. For this, taking a step back and seeing the ‘corridor’ interpretation as just one, at least partly anachronistic and misleading, interpretation of the region’s landscape seems like a good starting point.

VII Conclusion

In this chapter, we have approached the physical geographies and environments of a number of regions or zones as actors in their own right, able to shape human behavior through the opportunities they offer and the constraints they impose, looking at factors like landcover (the forests of South Asia), topography (Central Asia, China), and aridity (northern Mesopotamia, Egypt). These spaces existed not only as concrete physical spaces, but also lived in the various cultural imaginaries of the communities living in or near them. At the same time, we have pointed out that the landscapes that result from this human-environment interaction are neither static nor constant but are rather constantly produced through interaction with different groups of people or communities.¹⁵⁵

Thus, we find that the physical geography of the Red Sea coast created opportunities for specific types of fishing and port activities that were exploited by different populations, but also presented challenges that hindered agriculture among all communities. In China, the Hexi ‘corridor,’ well known for its role as a transit zone in long-distance, east-west exchange processes, also supported diverse communities practicing a range of subsistence strategies and could function both as a facilitator of and a barrier to north-south interaction. We see a similar pattern in the forested spaces of South Asia, which were at once an active space of long-distance mobility and also one of diverse resource extraction regimes. In the piedmonts of Central Asia, meanwhile, we find a space in which long-term patterns of human mobility appear to have interacted in intensified ways with settlement patterns based on resource extraction and control of movement. In Northern Mesopotamia long-standing hubs served as central places that acquired heightened importance in light of intense geopolitical pressures.

The balance of ‘continuity’ and ‘change’ within the context of the shifting pressures of Afro-Eurasian connectivity varied among the spaces discussed. In order to

¹⁵⁵ Human modifications to landscapes stretch far back in history, Butzer 1990.

tease out the reasons for this, we have paid particular attention to the discrepant human-environment relationships as felt by various communities within a given region. Our attention on such variation stems from the conviction that it is only through analysis at this scale that it is possible to build toward a larger discussion of how superstructures like empires participate in this story and the role that state power plays in shaping the interplay between ‘local’ communities, ‘regional’ interaction, ‘imperial’ agents, and physical spaces.

One relatively consistent dynamic is that state actors, who were often functioning at a larger and more coordinated scale than other groups, could create new pressures for the utilization of landscape resources, whether that meant the extraction of specific resources or the creation and stabilization of transportation infrastructure. The results of this concentrated and focused demand were then channeled through multiple local stakeholders, who often occupied different socioecological substance niches. In the course of this process, local relationships within a given space were often reconfigured. To see landscapes as actors in their own right, one must therefore keep in mind both the discrepant experiences of various communities and the recursive nature of local-regional-imperial relationships.

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