



5

A VIEW FROM THE HIGHLANDS

Holly Pittman

Opposite

Gold mouflon (wild sheep) head
ornament (33-22-177) from Tepe Hissar.



Introduction

The land between the Tigris and the Euphrates rivers, Mesopotamia, was rich in fertile soil, abundant marine life, date palms, and marsh reeds. Spindly trees, and woody date trunks, reeds for matting, bitumen for waterproofing, shells, and soft limestone were all locally available. Wheat and barley grew in the fields, and livestock were pastured in the nearby piedmont lands in the north. And yet, despite all of these resources, the alluvial lowland lacked those raw materials that would become the basis of urban civilization: hardwoods, metals, and colorful stones. These materials were, instead, to be found in the highland regions surrounding the vast Mesopotamian river valley. To the north and west, the Anatolian Plateau was an important source for copper, timber, and silver, particularly during the 2nd and 1st millennia BCE. But it was the east that captured the imagination and the attention of the early Mesopotamians: here, where the sun rose, lay the home of the great gods, and the lands where mythological heroes adventured in the high mountains and vast plains, returning with stories of unimaginably abundant riches. These same riches were sought by rulers to embellish temples—the houses of the gods—as well as their own palaces; to provision soldiers; and to make tools for the fields and workshops.

The region to the east of Mesopotamia's alluvial plains is a vast upland plateau that today constitutes Iran and western Central Asia (Figs. 5.1, 5.2). Unlike Mesopotamia, which is defined by its two major rivers, the Iranian Plateau is an enormous landmass of great diversity and little internal connectivity, possessing instead regional oasis river systems. The Zagros Mountains, running from the northwest to the southeast, are a formidable barrier between the Mesopotamian lowland and the Iranian highland plateau. Ascending more than 4,000 meters (over 14,000 feet) in places (the highest peak is 4,409 m or 14,465 ft), small highland valleys watered by artesian springs and snowmelt streams were home to wild sheep, goats, and bovids. By the 8th millennium BCE, the slow process of animal domestication had begun in small villages, yielding smaller and more docile animals that could be herded in large groups (see Chapter 2: The Geography and Agriculture of the Middle East). At first, such animals were used primarily for their meat, an important source of protein, but soon they were valued also for their milk, used to make cheese and yogurt; their hides and hair, which were made into leather and used for spinning and weaving; and their labor, useful for transportation and for plowing the fields. By the 6th millennium BCE, these domesticated animals, together with the domesticated varieties of wheat and barley that had first developed in the west, had become the fundamental pillars of subsistence in village life.

Beyond the mountain valleys to the east is a highland plain that stretches from the south shore of the Caspian Sea to the Persian Gulf. At its extreme south, this plain is essentially an eastern extension of the Mesopotamian river basin. Through this plain,

Fig. 5.1 Opposite

Map of highland regions discussed in this chapter.



the Karun and the Karkheh Rivers flow southwest from headwaters in the Zagros until they empty into the Persian Gulf, where they mingle with the water from the Tigris and Euphrates. This region, the site of the modern-day province of Khuzestan in Iran, was the home of Susa, a large and important city founded around 5000 BCE and inhabited until medieval times. From the time of its foundation through to the present day, Susa (now in the region of Ahwaz and Shushtar) has held a uniquely important place in the larger geopolitical landscape, acting as an eastern lowland gateway to the vast Iranian Plateau.

Beyond the central upland plains are the central deserts, the Kavir and the Lut. Together, these deserts form a large and essentially uninhabitable center that is surrounded on the south, east, and north sides by highland valleys that were home to both large and small communities during the Bronze and Iron Ages of the 3rd to the 1st millennium BCE. This part of Iran was densely if intermittently populated, particularly during the 3rd millennium BCE, by self-sustaining communities engaged in agriculture, animal husbandry, and craft production.

Even during the wetter global climate regime of the 4th and 3rd millennia BCE, the primary challenge for productive settlement on the plateau was finding access to

Fig. 5.2 Above

Landscape view of the Iranian plateau.
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reliable sources of water. As in Mesopotamia, rivers met this need. Originating in the mountains surrounding the central deserts, substantial rivers flowed in five different systems. Rather than debouching into the open waters of the Persian Gulf, however, most of these terminated in large marshy inland oases. In what is now Fars province, the Kur River flows through the valley to Lake Bakhtegan; in the region of present-day Kerman, rivers flow north out of the mountains into the great Lut desert; south of the mountains, the Halil River flows in the Jazmurian oasis to be joined by the Bampur River flowing to the west; the Helmand River system in the east originates in the Hindu Kush and flows into the great Helmand salt lake; and, in the north, the same system of oases rivers are found in the regions where today are located Turkmenistan, Uzbekistan, and Azerbaijan. These rivers provided water for crops and for livelihood, and were often augmented by artesian springs from underground sources.

At the very end of the 3rd millennium BCE, a global climate change led to a much drier and colder regime that would persist for centuries. Regions with reliable water sources attracted people away from more arid zones. Much of eastern Iran was profoundly affected by this change, and would not host large populations again until the Persians introduced the *qanat* system of underground irrigation in the middle of the 1st millennium BCE.

Routes and Roads

Moving around the highland plateau was never easy. Wheeled vehicles were rarely used, even for especially for long distance travel, because of the uneven terrain. Pictorial representations suggest that wheeled carts were used exclusively for prestige transport; such usage diverges from that known in southern Mesopotamia, where wheeled vehicles were used by the early Sumerians in warfare. Pack animals, such as donkeys and mules, were the primary beasts of burden, but people also must often have carried loads on their backs or on their heads.

Three overland routes ran between the Mesopotamian lowland and the plateau to the east. In the north, one could follow the Little Zab River up the mountains and wind down the eastern side to reach the Tehran Plain at Isfahan. This route was important in the 5th millennium BCE and was probably the one used for the transport of precious materials such as lapis lazuli and gold that ended their journey in the graves at Tepe Gawra. It was certainly active again in the early 2nd millennium BCE, when it was used by the Old Assyrian traders and their Iranian counterparts, who left evidence of their presence at the sites of Shemshara and Dinkha Tepe. The second and most important route onto the plateau from the lowland was the Great Khorasan or the Royal Road, which led from the lowland at the latitude of Baghdad, up through the Zagros Mountains following the Diyala River, northeast across the mountains, and onto the Iranian Plateau around the

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SUMERIAN EPIC HEROES

Holly Pittman

A series of myths, set in the golden age of Sumer and known to us from the early 2nd millennium BCE, constitute parables of a sort that demonstrate the superiority of the Sumerian urban ways of life over those of other regions. These focus on the heroic kings Enmerkar, Lugalbanda, and Gilgamesh, each of whom, according to legend, ruled Uruk for hundreds of years.

In *Enmerkar and the Lord of Aratta*, *Enmerkar and En-suhgir-ana*, *Lugalbanda and the Mountain Cave*, and the *Return of Lugalbanda*, a contest is described between the cities of Uruk and Aratta, with the former representing Mesopotamia and the latter representing the highland east. Uruk and Aratta vie not only to prove their superiority over the other but also to determine which is the most beloved of the goddess Inana. In a fifth myth, *Gilgamesh and Huwawa*, the contest is based in the west, in the legendary Cedar Forest located in the region of modern-day Lebanon: Gilgamesh, the brave but impetuous king of Uruk, defeats and slays Huwawa, the lonely and isolated but also enormously powerful monster who guards the cedars.

In each case, the Sumerian ruler of Uruk emerges as victor, and as intellectually, physically, culturally, and morally superior to his opponent.

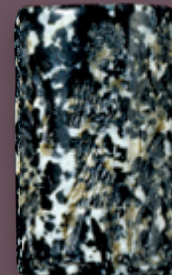
Underlying each of these myths is the dichotomy between the alluvial river valley and the foreign highlands, between civilization as defined either by urban centers, population density, and institutions of culture and rulership (Mesopotamia) or by small population centers (at best) amidst a wealth of raw materials that literally fall out of the mountains and streams (the foreign highlands).

Fig. 5S1.2 *Opposite Page*

This plaque (B15606) was part of the decoration of the temple excavated by Woolley at Tell al-'Ubaid. It carries a scene in low relief of the human-headed bull rising between the branches of a tree at the summit of a mountain. On his back is the lion-headed eagle, known in Mesopotamian mythology as the Anzu bird, the avatar of the warrior god, Ningirsu. Although its precise meaning eludes us, this combination must surely refer to one of the heroic myths in the Lugalbanda cycle.

Fig. 5S1.1 *Right*

This cylinder seal (British Museum 89137) made from a speckled black stone carries a procession of figures on an expedition to the Iranian Plateau. The inscription identifies the owner as Kalki the scribe. He is certainly the figure carrying a small tablet standing behind the central figure with a cap and a mace at his shoulder. Leading the procession is a mountain scout wearing mountain shoes with upturned toes and carrying a bow with a quiver full of arrows. © The Trustees of the British Museum.





In *Enmerkar and the Lord of Aratta*, the best preserved of the myths, the two eponymous protagonists (Enmerkar, the king of Uruk, and the unnamed king of Aratta) compete for the affection of the goddess Inana, who requires a lavishly decorated and opulent temple. Enmerkar demands that the Lord of Aratta supply the lapis lazuli, gold, silver, and strong timbers for this project and the Lord of Aratta refuses, dismayed by the thought that Inana might abandon his own great city for the splendor of Uruk. In the series of three complex challenges designed to resolve the standoff, Enmerkar proves to be the more clever and resourceful opponent. At the same time, a drought hits highland Iran that brings widespread famine. At the moment of crucial resolution, the rains come, Aratta is spared starvation, and the rulers agree to establish a mutually beneficial exchange, understood metaphorically as the “origin of long distance trade.”

The story of Lugalbanda, another of the heroic kings of Uruk, spans two related episodes, recounted in *Lugalbanda and the Mountain Cave* and *Lugalbanda’s Return*. Enmerkar, Lugalbanda’s father, initiates a military campaign against Aratta to gain the highland’s riches. On the journey through the rugged and desolate landscape, the commander of the army, Lugalbanda, falls ill and is left behind in a cave while his companions continue without him. He understands, through a dream, that the gods have chosen him for a heroic role. Emerging from the cave, he engages with the monstrous and terrifying guardian of the highlands, the Anzu bird, who controls and protects the east. Anzu grants Lugalbanda the gift of superhuman speed, which enables him to rejoin his comrades in the battle against Aratta. Upon Lugalbanda’s miraculous arrival on the battlefield, to the wonder of the companions who had left him for dead, Enmerkar sends him back to Uruk to seek the goddess Inana’s help. With his new powers, Lugalbanda makes the journey in one day and, with a magical ritual obtained from Inana, ensures the defeat of Aratta.



Fig. 5S1.3 Above

This clay tablet (29-13-209) tells the tale of Gilgamesh and Huwawa (or Humbaba), in which Gilgamesh and Enkidu travel to the Cedar Mountains and kill Huwawa, the rightful guardian of that place. The tablet is written in narrow columns to imitate the text on many stelae because this Gilgamesh story is related to the notion that survival of fame depended on carrying out great deeds and writing them on stone monuments for perpetuity.



In *Gilgamesh and Huwawa*, the hero Gilgamesh, son of Lugalbanda and the most famous of the legendary kings of Uruk, undertakes a journey to the distant Cedar Forest; he is accompanied not only by his companion Enkidu but also by fifty young men (bachelors) from his city. On arriving at the legendary forest, however, Gilgamesh finds it is protected by the monstrous and terrifying but also lonely and isolated guardian Huwawa. Through a combination of bravery and guile, Gilgamesh and Enkidu manage to defeat and slay the monster. This narrative ends somewhat differently from the others; while Gilgamesh is successful in his quest, and presumably in obtaining a valuable raw resource (cedar wood) for Uruk, he also earns the ire of the great god Enlil for slaying Huwawa, who had been fulfilling a divinely appointed and approved role in protecting the Cedar Forest.

Each of the narratives in this group, if variously developed and nuanced, suggests that the superiority of Sumerian civilization justifies the subjugation of the highlands and other regions. Not only do the raw materials from these regions rightly come to Uruk, but so also do the talented craftspeople that are skilled in transforming these materials into objects worthy of the goddess.

Fig. 5S1.4 Above Left

Carved on this orange-brown carnelian cylinder seal (British Museum 89763) is the scene of Gilgamesh and his partner Enkidu struggling with the monster Humbaba (earlier Huwawa) who is attempting to escape. To the side a worshipper stands in front of the symbol of the god Marduk and the stylus of the god Nabu. Such scenes of the combat between heroes and monsters are common on 1st millennium seals. © The Trustees of the British Museum.

Fig. 5S1.5 Above Right

Huwawa or Humbaba, the mythical protector of the Cedar Forest, was envisioned as a monstrous creature whose wrinkled face resembled the intestines of an animal. Many plaques like this one (B15192) in terracotta were impressed with the “mask” of Huwawa during the early centuries of the 2nd millennium BCE.

modern-day city of Kermanshah. The third possible overland route would have reached Susa in a leg probably still made by boat in the 3rd millennium BCE but subsequently by land, before proceeding southeast toward Fars and Kerman. This is clearly the route which is described in the Sumerian legend *Enmerkar and the Lord of Aratta*.

The other means of reaching the Iranian Plateau, one which also permitted access to the riches of the Omani peninsula, was through maritime travel. Following the coastal edges, boats from Mesopotamia would have found easy passage onto the plateau at the points where the modern ports of Bandar Bushire and Bandar Abbas are located in the Straits of Hormuz. If the Sumerians were great river sailors, it is worth noting that they rarely plied boats all the way to the Indus Valley. Instead, merchants from Mesopotamia would meet Indus or Omani sailors at the entrepôt on Dilmun, contemporary Bahrain. This maritime route was extremely active during the Bronze Age of Exchange of the 3rd millennium, and continued in use until around 1300 BCE.

Natural Resources

The highland zones of the Middle East are rich in raw materials distributed unevenly across the landscape. Initially attracted by their bright colors, curious people soon discovered these materials possessed useful properties when transformed from their natural states. Some of the earliest such materials to be systematically exploited were microcrystalline stones like cherts, which could be flaked to produce sharp cutting edges. The most desirable such material was obsidian, available in the Middle East only in close proximity to two dormant volcanoes, which were located in central and eastern Anatolia respectively. As early as 14,000 BCE, obsidian (in the form of tools) was in use at sites long distances from its points of origin, indicating the existence of informal trading systems to acquire highly desirable and useful materials. Since that early moment, people have sought to acquire ever-greater varieties of such raw materials through direct or indirect acts of trade and exchange.

The Iranian Plateau and its geological extension on the Arabian Peninsula across the Persian Gulf are rich in raw materials useful to people. Lapis lazuli (Fig. 5.3), a beautiful blue stone, is found, like obsidian, in only a very few locations; these include the mines of Badakhshan in northeastern Afghanistan. Turquoise is only slightly more abundant, with known sources located in northeastern Iran near Mashad, in the Sinai near Egypt, and deep in Central Asia. Most of the other colorful and semi-precious stone used in antiquity are found in veins and nodules all over the Iranian Plateau into Central Asia. Agates, chalcedonies, jaspers, and carnelian could be collected as pebbles near riverbanks. The large carnelian beads found in the Royal Cemetery at Ur and in the Indus Valley were probably mined directly from a rich source in the vicinity of modern day Gujarat in India (Fig. 5.4). This region would have been situated at the eastern end



Fig. 5.3 Above

The beautiful dark blue stone, lapis lazuli, from distant northeastern Afghanistan was highly prized by Mesopotamians. Because of the uniquely rich find of the Royal Cemetery at Ur we have abundant material evidence for its use. It was imported as a raw material and was made into jewelry, cylinder seals, small vessels, and other luxury objects. This chunk of raw lapis (B17102) was found in the King's Grave (PG 789).

of what became a long-distance network of exchange during the second half of the 3rd millennium BCE.

In addition to colorful stones for jewelry and ornaments, calcites and alabasters, chlorite and steatite, and gabbro and diorite were also highly sought after both locally and abroad. Calcites and chlorites, the most commonly used of the light and dark stones, are found in many locations on the Iranian Plateau in different qualities and quantities. In the 3rd millennium BCE, both types of stone were extensively used by local populations to make vessels, ritual objects, and sculpture; they were also exported to resource-poor Mesopotamian cities. Workshops found in eastern Iran at Shahr-i Sokhta and in south central Iran at Tepe Yahya hint at the burgeoning craft specialization underway across the plateau in the 3rd millennium BCE. Diorite and gabbro, two types of very hard stones, are found on both sides of the Persian Gulf in Iranian Makran and the Omani peninsula. While rarely exploited in Iran in antiquity, both stones were considered highly desirable in Mesopotamia for their hardness and shine and were imported to make monuments celebrating kings and gods.

Metals, perhaps even more than stone, also attracted experimentation due to their transformative properties. Gold, a beautiful and stable but soft metal, was never an industrial material but rather used as a marker of status, luxury, and wealth. It is found in small quantities in many places across the Anatolian and Iranian plateaus and beyond, often as nuggets washed from buried veins. In Iran, gold mines are known from the central Zagros region, the south central region of Kerman, and the northeast around Damghan and Nishapur. Gold mines, some still active today, are also known from Central Asia, in particular from areas close to the sources of lapis lazuli in Afghanistan. Silver and lead, two other important metals for the ancient world, are derived from a single argentiferous ore that is widespread in the Middle East. Early in the 3rd millennium BCE, silver was used by the proto-Elamites in Iran to make sculptures and jewelry. At the same time, silver began to be used extensively in Mesopotamia as the standard of value in economic exchanges (see Chapter 7S5: Currency). By the 2nd millennium BCE, sources for these metals located in Anatolia and Syria overtook those in the east.

More important even than gold and silver for the urban populations of the 3rd millennium BCE Near East were copper and, later, tin (used to alloy the metal into bronze). Already by the 5th millennium BCE, craftspeople in south central Iran had moved beyond simply hammering native copper to mastering the craft of smelting ores to remove impurities. Melting and smelting, importantly, rendered metal liquid, allowing it to be shaped by pouring the molten metal into a mold. Once these basic techniques were grasped, both on the Tehran Plain and in south central Iran near Kerman, the exploitation of copper ores exploded to meet a growing demand for copper and later also bronze tools, weapons, sculptures, and all sorts of other useful objects. Copper ores are conveniently found in the highlands surrounding the Mesopotamian alluvium and so

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Fig. 5.4 Above

Carnelian was more readily available than lapis in the landscape to the east of Mesopotamia. Thousands of beads, many already manufactured, were imported and were combined with lapis and gold to make all sorts of items of adornment, like this string (30-12-627) of carnelian and lapis lazuli beads from the Royal Cemetery at Ur.

IMPORTING RAW MATERIALS AND FINISHED GOODS

William B. Hafford

Mesopotamia had few natural resources and had to acquire many materials from afar, particularly stone, wood, and metal. Long before cities arose, the people of this region had already established trade relationships and were adept at acquiring goods that were not locally available. By 3100 BCE, about the time when the first cities were appearing in Mesopotamia, the site of Tarut Island, located

Fig. 5S2.1 Below

Mesopotamian cities relied on imports of stone and metal, as well as luxuries, from afar. This map shows the available resources around Mesopotamia and some of the trade routes that were functioning to acquire those resources.

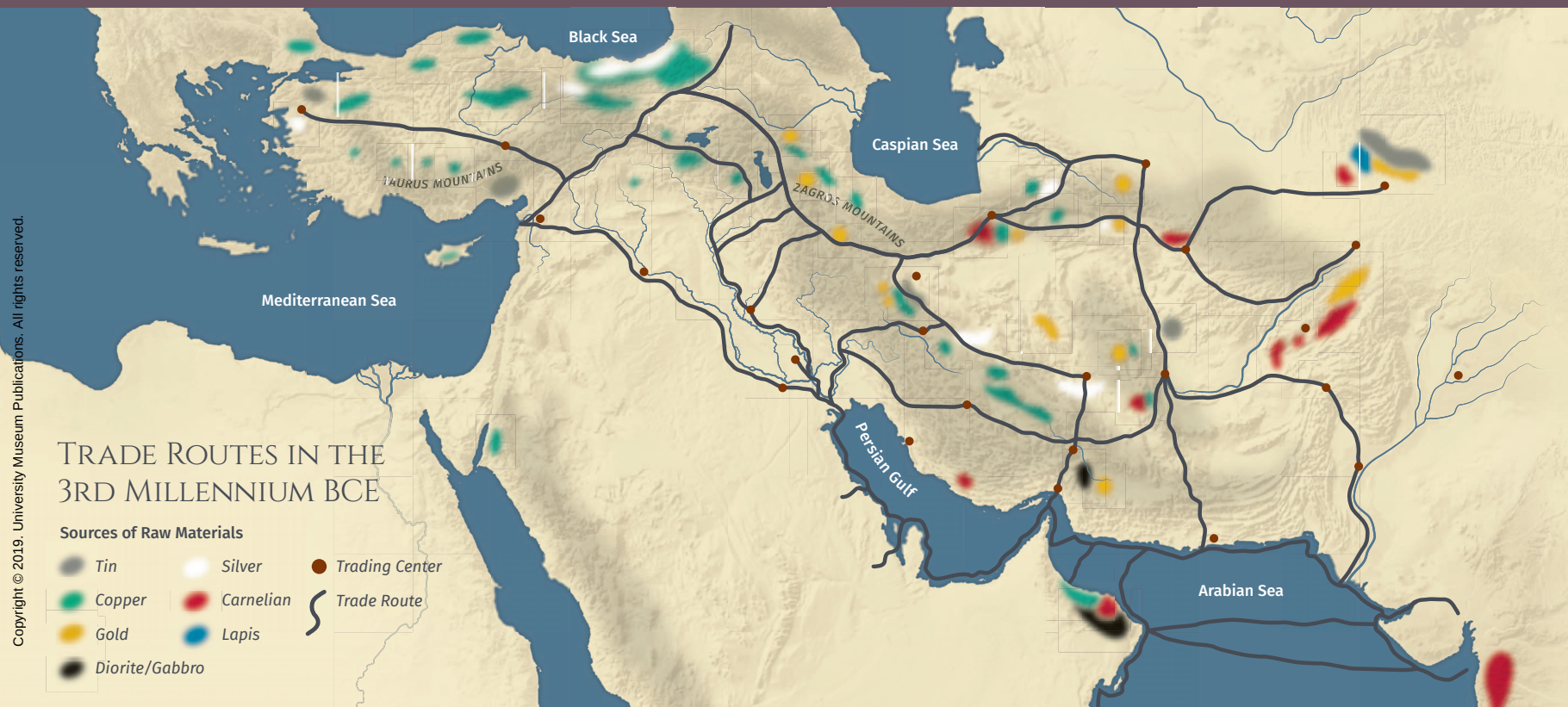




Fig. 5S2.2 Above

The materials that make up this necklace (B16799) all came from far outside Mesopotamia. Gold from the area that is now modern Iran, lapis lazuli from the mines of modern Afghanistan, and carnelian from the Indus Valley of modern Pakistan and India. The etching on the carnelian in this example is particularly characteristic of the Indus Valley.

north of Dilmun (modern Bahrain), was already established as a central node in trade with the Gulf region. By the 3rd millennium BCE, not only are seals of the Dilmun type (see Fig. 7S4.1a) found in Mesopotamia but also Mesopotamian artifacts—including a copper bull's head of the type known from musical instruments in the Royal Cemetery at Ur (see Chapter 8S1: The Bull-Headed Lyre of Ur and Its Shell Plaque)—are found on Tarut island.

With the advent of the organizational system of the state, trade relationships could be regularized, systematized, and established over larger distances. Objects and materials came from regions corresponding to modern Iran, Oman, India, Pakistan, and Afghanistan. In return, Mesopotamia sent textiles, perfumed oils, and in some cases grain as well, though this latter was too bulky and perishable to travel very great distances. Trading routes (Fig. 5S2.1) were established both overland and by sea. The sea route was significantly faster and less costly and so the Gulf region, readily accessible by water, became a particularly important destination for traders and merchants.

Copper and diorite that came into Dilmun from Magan (modern Oman) were particularly important in this trade. Products from farther east in Meluhha (modern India) also

Fig. 5S2.3 Right

This very large (19 cm or 7.5 inches high and 21 cm or 8.25 inches diameter) stone mace head (B14933) bears an inscription declaring it to be booty taken from Elam (Iran) in the campaigns of the Akkadian king Rimush (2279–2270 BCE).





Fig. 5S2.4 Left

Several gold pendants on this necklace (B16794) found at Ur are made with spiral wire in a style that is so reminiscent of the jewelry from the region around Troy in western Turkey that the necklace could be an import from that very distant region.

came to Dilmun for trade. These included carnelian beads as well as lapis lazuli, and gold (Fig. 5S2.2) that had been mined in Afghanistan and shipped down the Indus River.

Items from cities in southeastern Iran, particularly chlorite bowls (see Fig. 5.11), have been found on the small island of Tarut and in Mesopotamia, particularly in temples. These certainly arrived by sea, but some also came via overland routes. Other high value items, such as small amounts of lapis lazuli, gold, alabaster, and carnelian from farther east, may also have been carried overland through sites like Shahr-i Sokhta before finding their way to maritime routes.

When Sargon of Akkad (2334–2279 BCE) took control of Mesopotamia, he decided to bypass the middlemen of Dilmun in his trade with Magan and Meluhha; the two regions are directly referenced in his texts. Control of trade routes in this period was maintained through military means.

If a region failed to engage in trade, the Akkadians would force it to submit, as evidenced by artifacts carried back to Mesopotamia that are inscribed “booty of Magan” (Fig. 5S2.3).

The Akkadians also engaged in trade to the north and west, so that Sargon could boast of ruling an empire stretching from the Lower to the Upper Seas (the Persian Gulf to the Mediterranean). Cedar wood and silver were obtained from Lebanon and Turkey (see Chapter 5S1: Sumerian Epic Heroes), and some of the jewelry in the Royal Cemetery at Ur (see Chapter 8: The Royal Cemetery of Ur) shows stylistic connections with regions as far away as Troy.

With the fall of the Akkadian Empire around 2150 BCE, Mesopotamia’s trade routes contracted. When the Ur III kings took control of Mesopotamia around 2100 BCE, however, they re-established extensive trade with the region of the Gulf and Iranian Plateau.



Fig. 5.5 Above

Buff pottery painted in dark brown or black paint with bold designs was typical of lowland Khuzestan during the 5th and early 4th millennium BCE. These two impressive vessels on long-term loan from the Louvre—a beaker (L-2018-3-3) and a bowl (L-2018-3-4)—were found in graves at Susa dated to the Susa A Period. The imagery on the bowl appears abstract but can be interpreted as a schematic representation of the landscape surrounding Susa, bordered by the two rivers (Karun and Kharkeh). In the center is a square with a cross which may be a symbol for Susa itself.

could be extracted and smelted into ingots close to their points of origin. The resulting ingots would then be exported and subsequently reprocessed through melting, cleaning, and admixing other compounds to produce a stronger or more fluid metal alloy. Copper from certain regions in Iran was naturally alloyed with arsenic, which has the effect of making the metal more fluid. Lead was another common addition to copper in early periods, and functioned to make the copper softer and less porous. Tin, which rarely co-occurs with copper naturally, was also added to liquid copper to make it stronger; copper-tin alloys were useful for making heavy tools and weapons. Tin bronzes, however, only rarely occur in Mesopotamia during the later 3rd millennium BCE, as the tin had to be imported from small mines in the Zagros and Taurus Mountains. The major tin sources in Afghanistan were not exploited until later in the 2nd millennium BCE, when tin was extracted in large quantities for the Old Assyrian traders.

Early Village Cultures

Self-sufficient village cultures based on rain-fed or irrigation agriculture combined with animal husbandry were well established by the 6th millennium BCE. In the southwest, in the alluvial extension of the Mesopotamian plain into Khuzestan, two important centers at Susa and Chogha Mish followed developmental paths similar to those of contemporaneous centers in southern Mesopotamia. Chogha Mish, a large center on the eastern side of the plain, was surrounded by smaller villages. A large public building excavated at the site was subsequently destroyed by fire and the site and surrounding countryside were abandoned by 4500 BCE. During the same period, the site of Susa was established in the fertile area between the Karun and the Karkheh Rivers. As at Uruk, Susa had two major areas of settlement: these are termed the Acropolis and the Apadana; the name of the latter is derived from its use during the much later Persian Period. Around 4200 BCE, a low platform was built near the center of the Acropolis, against which was situated a huge burial ground with more than two thousand graves. The pottery in these burials was a very high-quality buff ware bearing strong patterns in dark brown paint (Fig. 5.5). Three distinct types of vessel seem to accompany each burial: a large beaker, an open bowl, and a small jar. These vessels carry both figural and abstract designs that seem to reference features in the landscape. Several of the open bowls, for example, carry two bold zigzag patterns with a symbol between them. Given the location of Susa between the two prominent rivers on the plain, this composition may be understood as a schematic map of the position of the site. Similar zigzag patterns on the beakers may also evoke the rivers, with checkerboards indicating the surrounding mountains.

Associated with the period of the burials are an important group of stamp seals carrying images that enliven our understanding of the time. These most often show a



horned quadruped together with vegetation, much like the seals known from Tepe Gawra in northern Mesopotamia. In some cases, male figures with the heads of horned animals are seen mastering snakes. And, in a remarkable series of impressions, human figures depicted with animal horns or tails, and clad in skirts of a range of different patterns, are shown holding up beakers and surrounded by kneeling or standing nude figures holding open bowls. Surely we are seeing here a depiction of the kinds of rituals associated with the burials. One scholar, Frank Hole, has speculated that the burial ground at Susa was in fact a mass graveyard resulting from a deadly episode, perhaps disease or warfare, that brought people from across the plain to Susa, which had been established as a communal ceremonial center. Shortly after the burial event, a high terrace was built close to the low platform, on which have been discovered the remains of what was probably a sacred structure. Subsequently, and throughout antiquity, Susa remained an important center that connected the western Mesopotamian cities to the Iranian highland.

During the 5th millennium BCE, villages and towns dotted the landscape of the Iranian Plateau. Each region was essentially autonomous and subsisted on local

Fig. 5.6 Above

Grey ware pottery was produced at Tepe Hissar and Tureng Tepe during the last centuries of the 3rd millennium BCE. The surface of the vessels were highly burnished before firing to give them a high sheen. Some also have geometric patterns polished into the surface. The striking shapes seen here (33-21-853, 32-41-32, 33-41-12) are clearly influenced by contemporary metalwork.

agriculture and animal husbandry, developing craft traditions around available resources. We identify these local cultures on the basis of their pottery, which is usually the most distinctive and ubiquitous type of material culture available to archaeologists. During these early periods, pottery was handmade within individual communities using a variety of techniques: vessels could be built from slabs or from coils, or turned on a slow wheel. Most of the shapes can be associated with the processing, storage, or presentation of food. An important aspect of group cohesion in these small communities was periodic gatherings involving feasting, which served to strengthen social bonds. Depictions of such celebrations on the stamp seals from Susa give form to such important events. The most visible objects at such occasions, apart from probably elaborate clothing and body markings, would have been display pottery, painted with elaborate and significant imagery or patterns, that would signal status and alliances among the community. Pottery, thus, provides archaeologists not only with valuable information about craft production and aesthetic preferences, but also about the range of interactions and kinds of symbolism used by different communities.

To the southeast of Khuzestan is the modern-day province of Fars; this was the homeland of the Elamites from at least the 3rd millennium BCE and, later, of the Achaemenid Persians (550–330 BCE). At the site of Tal-i Bakun in the late 5th millennium BCE, a highly developed community flourished in architectural compounds of attached houses, which diverged in form from the tripartite house of southern Mesopotamia. A brown on buff pottery tradition, related to but different from that known at Susa, was characteristic of this community. Small conical cups rather than larger beakers were common, and were painted with powerful abstract designs. Stamp seals of a variety of shapes were also used at Bakun to control the storage of foodstuffs but these bore distinctive abstract patterns rather than figural images.

To the north, in a zone that extended from the plains east of the Zagros Mountains toward the rolling hills of the Damghan Plain, village culture also flourished, and local communities developed distinctive shapes and decorations to elaborate their pottery. The cups and beakers common in the south were replaced by pedestal goblets and bowls. Some vessels continue to be made from buff ware with black painted designs, but others have a red surface painted with black designs. This difference in color, interestingly, was due to the use not of different clays or slips but rather of different firing temperatures in the kiln. Occasionally, vessels were both buff and red, indicating their positioning in the kiln between the red wares, fired at cooler temperatures, and the buff wares, fired at higher temperatures.

Most of the vessels are painted with geometric patterns that evoke basketwork or vegetation. Some of the most striking examples, however, carry images of mouflon sheep with great sweeping horns, or running leopards. Birds, usually waterfowl and never birds of prey, are another important subject.

Early in the 3rd millennium BCE, the painted pottery cultures of the Iranian Plateau disappeared. In the Tehran Plain and in Fars, large sites were abandoned, apparently replaced by more mobile populations. To the northeast, in the foothills on either side of the Elburz Mountains, the ceramics indicate that the population turned away from the plain to the south and began to engage with the urban centers emerging in the river systems of western Central Asia, particularly along the Atrek River system. At Tepe Hissar, this transition is gradual and is manifested in a switch from red and buff painted pottery to a grey ware tradition that, over the course of five hundred years, becomes ever more elaborate and sophisticated (Fig. 5.6).

Craft Production Centers of the Highland

We have seen that the ceramic and metal craft production industries originated and developed on the Iranian Plateau in the 6th and 5th millennia BCE. Both of these industries are based in the transformation of materials by fire into highly useful and durable forms. In the 3rd millennium BCE, craft production continued to be vital to the lifeway of the villages and centers on the Iranian Plateau. Copper and other metals were extracted from their ores near the mines, and melted or smelted into forms that could easily be transported to centers nearby or far away to be manufactured into desired commodities. Craft production has been closely studied at Tepe Hissar and it has been shown that techniques developed millennia earlier were still in use at the site, suggesting the existence of quite a conservative tradition of metalworking and ceramic production in the region.

The grey ware ceramics from 3rd millennium BCE Tepe Hissar and the related site of Tureng Tepe on the other side of the Elburz are among the most striking of the pottery produced on the plateau until the much later ceramics of the Medieval Period. Grey ware developed its distinctive color from a type of kiln that burns without oxygen; it was fired in what is called a reducing environment. In addition to the specific firing technique they



Fig. 5.7 Left

Shapes for vessels were often copied from one material to another. From Tepe Hissar the elongated spout of the silver pouring vessel (33-15-722) was clearly imitated in ceramic (32-41-31). The use of a reducing atmosphere in the ceramic kiln produced the grey surface mimicking the similarly shiny grey surface of the silver vessel.

Fig. 5.8 Right

This horned animal head (33-22-177) cut from sheet gold is a simple and powerful image that decorated the burial garment of the individual interred in the grave of the "Priest." Also in the grave was a bronze trident and an abstracted female figurine. These were possibly instruments used in ritual performances.



underwent, grey ware vessels were remarkable for their shapes and decoration, which are unique and transcend anything known from the neighboring regions. Elegant stemmed goblets and bowls are common forms, but it is the jugs with rounded bottoms or raised button bases that are the most striking. These elongated and attenuated shapes are sometimes carinated in a way that suggests imitation of metal (copper or silver) vessels. Jugs with long delicate spouts are represented among both grey ware (ceramic) and silver vessels from Hissar (Fig. 5.7). To enhance the remarkable shapes of these striking ceramic vessels, the potters used a technique of pattern burnishing in which the surface is rubbed to make a shiny (usually herringbone or crosshatched) design.

Around 2300 BCE, Hissar reached its zenith, as has been demonstrated by the excavation of the so-called Burnt Building. This structure, thought to be the residence of a prosperous citizen, contained numerous items of jewelry in precious metals and stones. Some rooms of the dwelling, moreover, seem to have been devoted to craft production while, in another area, a stepped podium with cruciform cutouts led the excavator to identify an altar or some kind of sacred space. In the period following the destruction of the Burnt Building by fire, the site of Hissar diminished in size and seems to have changed character. Dug into the earlier building remains, which had been disturbed by unremarkable simple burials, were six graves or hoards containing extremely rich goods. In addition to containing mouflon head ornaments in gold (Fig. 5.8), mirrors and tridents in copper, and grey ware pottery, the six richest graves also included ritual objects and vessels in alabaster that are very similar to such equipment found to the east at sites in western Central Asia. Although copper, gold, and silver production was certainly practiced at Hissar, there is no trace of alabaster manufacture at the site, and

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THE DEVELOPMENT OF URBAN TECHNOLOGIES

Holly Pittman

Many of the technologies that became fundamental for urban society were discovered and gradually developed in villages on the Iranian Plateau. Like the process of domesticating wild animals, these discoveries occurred in places where raw materials were both abundant and easily accessible. This was true particularly for the technologies that used heat to transform a raw material from one state to another. Among the earliest fired ceramics known from the 7th millennium BCE, for example, are those at the important site of Ozbeki, which is located in the Tehran Plain to the east of the Zagros Mountains. As with most discoveries, the initial observation leading to the innovation of ceramics was probably accidental. A clay object, perhaps a figurine or small air-dried container, may have been set near or accidentally dropped into an open fire. When the fire was extinguished, what remained among the ashes was a hard object that would no longer disintegrate when it came into contact with water. The technique for making waterproof and rigid containers, once discovered, rapidly ensured the replacement of early stone vessels—which were much more costly and time consuming to make—with those made of clay. The fire-based technology of pottery production spread quickly across the Middle East and beyond. In fact, the technology was probably discovered independently in multiple places in the region.

Fire-based technologies of course require fuel; clay was abundant, and so were forests that stretched for thousands of miles in all directions across the mountain valleys surrounding the central deserts. Over the millennia, the forests were gradually consumed, leaving the mountain sides



Fig. 5S3.1 Above
Copper slag (33-22-343) from Hissar.

essentially barren of anything other than small and scrappy oak and pistachio trees at lower elevations.

Metal is another raw material processed by fire. In the mountains across the Iranian and Anatolian plateaus are rich veins of copper, silver, and lead, as well as pockets of gold. The first experiments with metal involved hammering colorful rock-like nuggets found in streams. Native copper, bright greenish-blue in color, was pounded into shapes for pendants and small pointed tools. When these were exposed to heat, their molecular structure, which had become brittle through the pounding, was reorganized, allowing them to be worked even more. Some of the earliest evidence for copper working comes from the site of Tal-i Iblis to the west of the modern city of Kerman in Iran. Located close to a prominent copper



Fig. 5S3.2 Left

This spearhead (33-22-107) is one of the very few tin bronzes found at Tepe Hissar. The overwhelming majority of the hundreds of copper finds contained small amounts of arsenic and lead.



Fig. 5S3.3 Above

Copper animal figures (33-15-586 and 33-22-136) from Hissar III.

source, the earliest crucibles for melting the ore and removing impurities were found in a context dating to around 5000 BCE. By the 4th millennium BCE, metalworking had spread across the plateau and into the river valleys to the west, where large urban centers were rapidly forming.

The industrial level production of copper intensified in the 3rd millennium BCE. The ore was in all cases processed close to the point of its extraction. Melting allowed the surrounding impurities to be separated from the metal itself. Different sources had distinct impurities that affected the quality of the metal. Very important as sources of copper ore in antiquity were the Talmessi-Meskani mines in the Anarak district in the central Iranian Plateau. The ores from that region are naturally rich in arsenic as well as other impurities that make the molten ore easier to cast and the finished product strong with a fine finish. Bronze, copper alloyed with tin, was the most common of the copper alloys used from the 2nd millennium BCE onwards. The addition of tin made the copper more brittle but also much harder, and so particularly useful for making a variety of tools and weapons. Tin bronze is rare in the 3rd millennium BCE, particularly on the Iranian Plateau. This suggests that an important tin source in Afghanistan was probably not exploited until the Old Assyrian Period around 1900 BCE, when merchants from Ashur organized the overland trade in tin from the east and transshipped it to Anatolia in exchange for copper.

Tepe Hissar, located to the east of the Caspian Sea in the Damghan Plain, was an early site for the industrial production of arsenical copper; from here, it was certainly transshipped to other points on the plateau and perhaps also to markets in northern Mesopotamia. Huge areas of the site are strewn with slag (Fig. 5S3.1), the byproduct of smelting and purifying the ore. Studies of the industry at Tepe Hissar have shown that two levels of production existed side by side: one, industrial-scale processing, transformed the metal into ingots; the other, undertaken on a smaller and more domestic scale, saw the production of tools, weapons, ornaments, and other objects for local consumption and distribution (Figs. 5S3.2, 5S3.3). A likely source for Hissar's copper industry was nearby at Taknar in modern day Mazandaran province of Iran.

there is no nearby source for the stone. The remarkable alabaster objects (Fig. 5.9) found in the graves could, thus, only have been brought to the site by newcomers arriving from the east; these newcomers represented part of a larger movement of people toward the south and west at the end of the 3rd millennium BCE.

Bronze Age of Exchange

A remarkable millennium of trade and exchange, which brought into contact all of the Middle East from as far west as Troy on the Mediterranean Sea in Turkey to as far east as the Indus Valley in Pakistan, began just after the turn of the 3rd millennium BCE. Although the strongest evidence for this circuit of commercial activity has been found in Mesopotamia, archaeological investigation has shown that it involved the entire (known) world. The period may thus be legitimately characterized as one of globalization, in which independent cultures were brought into direct or indirect contact through the mechanisms of trade, exchange, and, in some cases, the forcible extraction of booty. The process of globalization began around 2900 BCE, with the simultaneous overland expansion of the proto-Elamites out of Khuzestan both toward the north, along the eastern side of the Zagros Mountains, and the southeast following overland and river routes towards Fars and the Halil River Valley, finally arriving at the Helmand River Valley. The mostly overland Elamite cultural expansion was accompanied by a simultaneous expansion through maritime routes by the Mesopotamians living in the ancient city of Ur, which was located on the mouth of the Persian Gulf. The development of maritime routes was vital for the importing of raw materials into Mesopotamia from the Iranian Plateau. Lapis lazuli, gold, and, much more rarely, also turquoise would be combined with agates, carnelian, jaspers, and alabaster; some of these materials came down the Indus to be loaded on Harappan boats while others were collected at large sites in the Halil River Valley and then loaded onto boats at a port site close to modern day Bandar Abbas.

Across the Iranian Plateau in this period, at dozens of sites both large and small, there is evidence for intensive craft production. At Shahr-i Sokhta, tens of thousands of wasters from lapis lazuli bead production are strewn across the site. The discovery of some of the highest quality lapis lazuli in the graveyard at the site indicates a high level of local consumption in addition to production for export. Also found at Shahr-i Sokhta is an area dedicated to the production of alabaster bowls. This cannot have been the only site on the Iranian Plateau to produce such bowls: the hundreds of alabaster vessels found at Mesopotamian sites of this period, as well as the vast numbers recovered from Iranian sites, were clearly made in centralized craft production centers situated near sources of high quality alabaster. At Hissar, during the last period of Bronze Age occupation, large numbers of such alabaster objects were found.

Fig. 5.9 *Opposite*

Objects in alabaster were only found in the richest graves excavated at Tepe Hissar from the end of the 3rd millennium BCE. There is no local source for alabaster and no earlier tradition of its use at the site. In addition to vessels and stands, like the ones shown here (clockwise from top left: 33-15-720, 33-22-186, 33-22-70, 33-15-512), the columns and handled disks are also found in graves to the east in Turkmenistan belonging to the Oxus civilization.

Other important craft products consumed on the Iranian Plateau but also exported to the west are vessels and other objects carved from chlorite, a soft dark stone. While chlorite is abundant in many highland zones, a production site discovered at Tepe Yahya and hundreds of bowls found in looted graves in the Halil River Valley identify other craft centers that produced locally consumed symbolically important objects. Some of these found their way west either as containers for precious ointments or food pastes or carried by Iranian traders and craftspeople. Chlorite vessels have, in fact, also been excavated from the Royal Cemetery at Ur; these were mostly plain (Fig. 5.10), and probably used in the feasts accompanying the extended funerary proceedings, but several examples were carved (Fig. 5.11), carrying figural and geometric patterns identical to those found on vessels recovered from the plateau.

Copper and diorite from the Omani peninsula were among the most highly sought-after commodities delivered to Mesopotamia via the maritime routes. Extensive metal extraction sites are well known in Oman during this period, and cuneiform texts from the end of the 3rd millennium BCE report boats laden with enormous quantities of copper arriving at sites like Ur and Lagash as well as at Susa. These metals were probably brought on boats owned by the seafaring merchants of Meluhha, launched at sites like Sukagen Dor and Lothal on the shore of the Indian Ocean. From the Indus came expertly fashioned carnelian biconical beads, as well as beads etched with white lines. By the reign of Sargon (ca. 2334–2279 BCE), the founder of the Akkadian Dynasty who succeeded in unifying much of Mesopotamia under the rule of kings based in the city of Akkad, we read in the cuneiform texts that boats from Magan and Meluhha docked at the quay of Akkad. At the end of the 3rd millennium BCE, Mesopotamian merchants under the Ur III kings may have bypassed some intermediaries and sailed all of the way to Oman to obtain copper as well as rare and precious goods for their homeland, but Dilmun (the modern island of Bahrain) continued to play a role in trade.

For Further Reading

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Fig. 5.10 Opposite, Top

Numerous plain bell-shaped vessels carved from chlorite were found in the tombs at Ur. These were imported, along with the decorated chlorite vessels, from southeastern Iran. They were used in both places as serving vessels. Puabi had more than a dozen of these vessels left from her funerary banquet. The one shown here (30-12-81) came from PG 1068.

Fig. 5.11 Opposite, Bottom

Vessels carved from chlorite were imported from southeastern Iran during the Early Dynastic Period. They were manufacture in the Halil River Valley and were brought to Mesopotamia perhaps for their contents. This one (B17168), from the grave of Puabi (PG 800) is one of the finest of its type found in the cemetery. Others, such as the one depicted here (B16226) with images of scorpions, and felines, as well as one with a human figure were also found at Ur.

