Cuteness Set in Stone

A New Materialist perspective on the affordances of
an Elamite wheeled hedgehog figurine

Amy Mercy
Student Number 2114637

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18 August 2026

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ABSTRACT

Amongst the corpus of Elamite art, the wheeled hedgehog figurine from Susa has rarely attracted scholarly attention beyond delight at its quirkiness and brief reductive interpretations of its putative function. This study addresses this oversight, taking a New Materialist perspective that looks deeply at the object itself, its materials, affordances, and sensory qualities. Its context as part of a ritual deposit at the Temple of Inšušinak is examined, exploring questions of agency and entanglement, and the way the figurine operates as part of a vibrant assemblage. Using the hedgehog figurine as a case study, a multi-lens methodology is applied which combines an analysis of the object's materiality with miniaturisation theory, and with academic models of cuteness that have not previously been rigorously applied to objects from the ancient world. Blending these methodologies produces insights into the agency of 'cute' miniature objects like figurines, and the ways in which their material, physical, and agential capacities can act to inform their own fate – and perhaps their continued survival – through a dynamic process of discursive enchantment.

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Declaration of AI use

No AI-assisted technologies have been used in any aspect of the research, planning, authoring, editing, checking, or formatting of this dissertation. It is, for better or worse and very aptly, entirely human-made.

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INTRODUCTION

Figure 1: The hedgehog figurine with its wheeled cart – oblique photographs taken from the left and right. Louvre SB2908.

This study aims to analyse and interpret a Bronze Age figurine of a hedgehog on a wheeled cart (Figure 1), excavated from the Elamite city of Susa and now on display at the Louvre Museum, Paris. Monographs on individual items of Elamite material culture are rare, and where it does briefly appear in broad catalogues of Elamite art, the hedgehog figurine is often perceived as something of a novelty (Álvarez-Mon 2020; Connan and Deschesne 1996; de Morgan et al 1905; Harper et al 1992). Usually interpreted as a child's toy (Wicks 2023), or as a ritual object, its affect and quirkiness make it an attractive object for photography in such catalogues and in image-driven social media posts. Yet there is no scholarly research that focuses explicitly on the hedgehog figurine itself, something that this study attempts to remedy.

The wheeled hedgehog figurine is a complex object crafted from multiple media. It exemplifies a fundamental quality of the Elamite civilisation, whose culture incorporated a chimera-like diversity into many aspects of their lives, and who themselves seemed to value complexity in their material world. It therefore seems appropriate to develop a methodology that instantiates the tensions in the figurine's hybridity and that embraces this complexity, analysing the figurine through multiple theoretical lenses working together but anchored in the object's materiality.

Beginning with an empirical observation of the figurine itself, insights from the handling of a clay replica also provide a way to interpret the manufacture of the object without recourse to speculation on its historical purpose or original function. Such guesswork, whilst apparently popular wherever the hedgehog figurine is mentioned in the scholarship, is ultimately unsatisfactory and necessarily inconclusive. Its focus can quickly drift away from the material object itself, which does no justice to the artefact in question, and is a tendency that this study aims to counter.

An introduction to the geography, art, and architecture of Elam and the city of Susa then allows the reader to place the figurine within its historical and archaeological contexts. Its deposition is examined, and the hedgehog is contextualised in relation to the trove of contemporary Elamite artefacts excavated from the same site. This thorough analysis of both the figurine and its background lays the groundwork for its use as a case study for the theoretical interpretation that follows.

In the subsequent chapters, this study broadens the idea of an object biography beyond the 'lived experience' of the object to encompass the ways in which its own qualities allow it to interact with its environment, and perhaps to shape the nature of that interaction. The materials and physicality of the hedgehog figurine are explored in detail in the 'Materiality' chapter. Affordance theory and sensory perception are used to create a phenomenological analysis of the hedgehog figurine as a material entity. Its agency and relational capacities are investigated, considering the object as part of a vibrant assemblage and interpreting it using a New Materialist lens.

The material analysis provides the foundation for a more hermeneutic examination of the figurine's conceptual qualities. In the chapter 'Short and Sweet', the hedgehog figurine is interpreted through the lens of miniaturisation theory, and a study of its affect and agency is enhanced by introducing academic theories relating to 'cuteness'. Archaeological and anthropological scholarship seems not to have previously engaged with the concept and consequences of an object's cuteness. This study therefore offers a novel approach to material culture studies by combining cuteness with materiality and miniaturisation lenses, considering an object's agency both as a complex artefact and as part of a dynamic assemblage.

This research does not attempt to engage with semiotic interpretations of the figurine, or to explore its ritual or religious significance. Despite several attempts to collate and interpret hedgehog imagery in parts of the ancient world (see Buchholz 1965, 1995; Clason 1993; Hamilton 2022; Leonard 2000; Mackay 2016; von Droste zu Hülshoff 1980) Elamite culture is notable in its absence from such scholarship. Furthermore, semiotic and ritual interpretations would entail the kind of assumptions about Elamite culture and society that this study wishes to avoid in favour of a more theoretically rigorous work anchored in the physical evidence.

The multi-lens approach that incorporates new facets of scholarship, it is concluded, may be used to gain insight into other small or seemingly trivial objects that act to draw in the beholder, alluring and engaging them in affective dialogue. Such enquiries are fundamental to the understanding of how an object's physical and agential qualities can inform their own fate, as part of the rich developing relationship between humans and things over time.

THE HEDGEHOG FIGURINE: AN OBJECT ANALYSIS

This chapter will offer an object description of both the hedgehog figurine and its wheeled cart, introducing them in detail and exploring their size, shape, and possible methods of manufacture.

A CLOSER LOOK

The hedgehog figurine is carved from smooth, dense white limestone (*calcaire blanc*, de Mecquenem, in de Morgan et al 1905:100). It has visible traces of a darker substance across the face and right foreleg which may be the remnants of pigment, intended to make the figurine's colouring a more naturalistic light- to mid-brown (see Figures 2 and 3). Numerous objects from Susa are pigmented in this way, including the roughly-contemporary life-sized clay funerary heads whose features are defined with large areas of bitumen (Figure 2).

Figure 2: The use of pigment on Susian sculpture. Left: a close-up of putative extant pigment visible on the hedgehog figurine. Louvre SB2908. Right: a near-life size clay funerary head, c.1500-1300 BCE, from Susa, showing use of bituminous pigment to colour surface features. After Álvarez-Mon (2020:Plate 92).

The hedgehog's form is a stylised, smooth ovoid with protruding stubby legs. It has a blunted snout and squared blunt spines raised from its body, an effect created by the grid of incised lines covering the back and sides of the animal. Its dimensions are tiny - 40 mm long and 28 mm high - and the entire object, hedgehog and cart, could readily sit on an open human hand. The rounded shape and small size, combined with the cold smoothness of the

Figure 3: The three species of hedgehog native to the Susiana region. After Aulagnier et al (2009:45).

stone and the tactility of the spines all contribute to an attractive, friendly appearance that invites the viewer to gaze and touch, something that will be discussed in later chapters.

The tiny figurine represents the animal at least six to seven times smaller than life-size (Aulagnier et al 2009:44). There are three hedgehog species native to the region around Susa: the Long-eared Hedgehog *Hemiechinus auritus*, the Desert Hedgehog *Paraechinus aethiopicus*, and the Brandt's Hedgehog *Paraechinus hypomelas*. Although it is not certain which is portrayed in the figurine, the Long-eared Hedgehog is the most common and therefore seems the likeliest candidate (Stubbe et al 2021; Hutterer 2016; Bhattacharyya et al 2016).

All three species have notably large protruding ears (Figure 3). These are absent from the figurine but may be evidenced by four circular drill holes in the animal's face, their locations suggesting inlays representing eyes and jutting ears, now lost. Elamite art has many such

Figure 4: Ibexes carved from bitumen, forming the legs of a tripod platter, c.2050-1500 BCE, excavated from the Apadana at Susa. Eye inlays are made of white shell with lapis lazuli irises. From Connan and Deschesne 1996:27.

Figure 5: Recumbent lion figurine in limestone, on a bitumen cart, with inlaid eye of lapis lazuli. Louvre SB2905.

Figure 6: Profile view of the hedgehog figurine removed from the cart, showing pegs extending below the clawed feet that secure the hedgehog to the vehicle. Louvre SB2908.

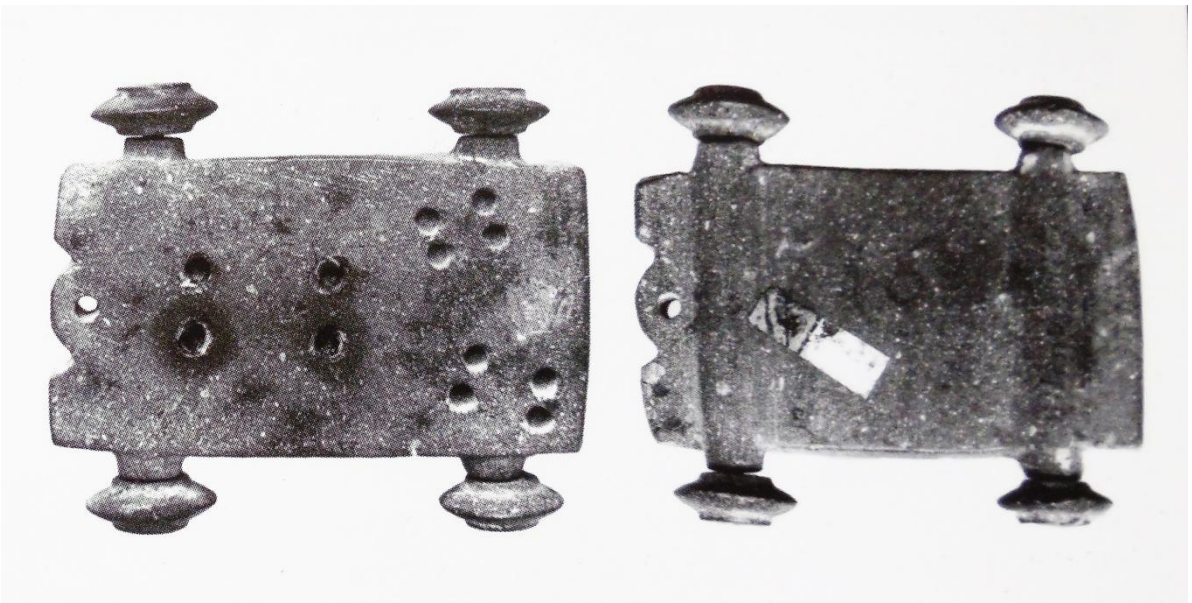

Figure 7: Two photographs showing the top surface (left) and the underside (right) of the bitumen cart, with the hedgehog figurine removed. From Connan and Deschesne (1996:273).

Figure 8: A mother Long-eared Hedgehog and her hoglets. From Stuart and Stuart (2016:97).

inlaid figurines, often featuring precious materials like lapis lazuli and shell adhered with bitumen into indentations in stone, clay, or bitumen rock (Figure 4). A recumbent lion figurine was excavated from the same cache as the hedgehog, of a similar size and likewise reclining on a tiny bitumen cart. The lion retains one of its inlaid eyes of lapis lazuli (see Figures 5 and 12): a remarkable survival that hints at how the hedgehog's features may also have been rendered.

The cart that the hedgehog sits upon is rectangular, measuring 68 mm long by 38 mm wide. It is drilled with three sets of four holes passing only part-way through the thickness of the base. The largest set of these indentations, or sockets, accommodates pegs that extend beyond the clawed feet of the hedgehog (Figure 6). The two smaller sets of sockets are laid out in the same ratio as the larger, and likely were made to fit a pair of smaller but equally proportioned figurines, now missing, that made up a cart-mounted tableau of a mother hedgehog and two hoglets (Figure 7). Figure 8 gives a good idea of the relative sizes of a mother Long-eared Hedgehog and her young, and it is not hard to imagine the scene once depicted on the cart of a couple of hoglets trotting along with their mother.

The cart is carved out of a black, solid substance identified as bitumen (discussed further in the chapter 'Materiality'), and sports four separate bitumen wheels. These were likely fixed to the cart using axle dowels that passed through the housings that stand proud of the base of the vehicle, as can be seen in Figure 7, rather than being simply attached with a peg at each wheel mount. This design would suggest that the cart was not a purely static object, but was capable of being moved along, with the cartwheels rolling on their axles. A further drilled hole perforates the scalloped front edge of the cart, perhaps as a place to secure a string or hook, in order that the cart might be dragged, or attached to another object.

It should be noted here that, curiously, the identification of the figurine as a hedgehog is not uncontested, and the object was described by the French team who discovered it in 1904 as representing a wild boar (*un petit sanglier*, de Mecquenem, in de Morgan et al 1905:100). The Zagros mountains in the north of Elam are home to a sizeable boar population (Stuart and Stuart 2016:43), and they were a common sight at Susa during early excavations (Dieulafoy 1877:666). However, the incisions on the figurine's feet depicting individual

Figure 9: A wild boar piglet (*Sus scrofa*), its coarse coat showing the distinctive longitudinal stripes typical of juveniles up to 4-5 months old. From Stuart and Stuart (2016:43).

clawed toes, and not cloven hooves, confirm that a hedgehog is a far more reasonable interpretation. Wild boar piglets have striped coats for the first 4-5 months of life (Baker 2020; Figure 9), and this may have influenced de Mecquenem's interpretation, given the regular grid of incised lines forming the spiny coat. Moreover, if the complete figurine represented a family group of wild boars, the largest adult animal would not have stripes but a thick wiry coat with a bristly mane, and tusks protruding beyond the lips (Stuart and Stuart 2016:42). There are no such tusks visible on the limestone figurine.

THE CREATION PROCESS

In the absence of being able to handle the original object, currently housed in the Louvre Museum in Paris, a clay replica of the hedgehog was created for this study (Figure 10). Making and handling the replica has been instrumental in better appreciating details of scale and manufacture, and to explore the haptic and agential qualities of the hedgehog figurine.

Most striking was the hedgehog's surprisingly tiny size, something that is difficult to appreciate when studying photographs and measurements but that comes alive in the handling. The creation of such a minuscule yet beautifully executed sculpture in limestone would have required a craftsperson with exceptional skill, eyesight, manual dexterity, and

Figure 10: Clay replica of the hedgehog figurine, showing the longitudinal central cuts on the back meeting the horizontal cuts on the flanks, forming triangles as the grooves traverse a rounded form in three dimensions. Held in the hand, the replica offers an appreciation of the original figurine's texture and miniature size. Photographs by author (2026).

experience. The two rear sets of holes in the surface of the cart suggest the scale of the two even more tiny hedgehog babies, each approximately the size of a 1p coin. The confidence of the craftsperson to create these miniatures from limestone would be remarkable. Although Elamite glyptic sculpture from this period can be very sophisticated (Figure 11), using similar skills of working stone at small scale, carving these hedgehogs in-the-round would have required exceptional mastery of the material. It is of course possible that the lost babies were created from a more forgiving material, perhaps wood, clay, alabaster, or

bitumen, and their subsequent loss may be due to being made from a more fragile or organic substance. The delicate nature of these objects raises questions about whether they are truly robust enough to be a child's toy, as the interpretation of both the original excavators and today's curators at the Louvre would have it, and illustrates how problematic the reductive process of assigning a singular function is to such complex artefacts.

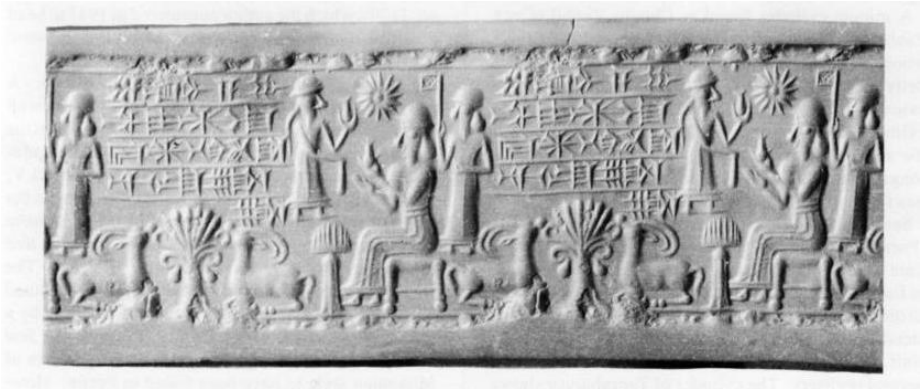

Figure 11: Impression of a Middle Elamite carnelian cylinder seal. After Porada (1993).

Although it is not possible to know exactly how the craftsperson set about manufacturing the figurine, going through the process of creating a replica offered insights into elements of the *chaîne opératoire*, particularly the carving process. The coat of spines has been carved using a grid of cuts, and the pattern's layout suggests that, once the rounded coat had been roughed out, the first three or four cuts were made running longitudinally from the centre of the face between the ears towards the tail end. These created a sort of 'centre parting' that the subsequent longitudinal cuts on the hedgehog's sides, starting at the ears and going back to the tail end, meet up with. Consequently, a few of the rear spines are not square but triangular, cleverly allowing the grid to conform to the rounded shape of the animal. It can be surmised that the craftsperson carefully planned and marked out the pattern onto the stone beforehand, resulting in a balanced and meticulously carved grid of spines, set off by a beautifully smoothed face and body. The holes on the bitumen cart are perfectly matched to the configuration of pegs on the animal's feet. This precision suggests that the sockets were drilled later, having been measured against the feet of the finished hedgehog figurine and her babies. Furthermore, the existence of the integral pegs extending from the feet of the hedgehog implies that even as the limestone was being shaped, the craftsperson always intended that the animal be mounted on a cart or platform. It was, from its inception, a

Figure 12: Three limestone animal figurines excavated from the same cache at Susa (it is probable that the bird figurine was attached to the stone base at a later date by Louvre conservators). Note the unusual reversal of the hedgehog on its cart. From Tehran Times, original copyright from AllPosters.

mixed-media object, one whose complex materiality combined with its animal imagery makes it so typical of Elamite art.

A modern photograph available on the Tehran Times website indicates that the mother hedgehog might be oriented on the cart to face either towards or away from her babies (Figure 12). Oddly, this ability to be positioned in different directions is otherwise unknown among images of the hedgehog in any catalogue or museum publication. The implication is that the sockets on the cart can accommodate the hedgehog's foot pegs in either orientation. This may be a coincidence, but it offers the possibility that handling, orienting, and playing with the hedgehog miniatures – by people of any age – may have been part of the figurine's story, and may indeed have been part of its original design.

The next chapter expands the analysis of the hedgehog figurine by exploring its archaeological and aesthetic contexts, beginning with a broad introduction to the Elamite civilisation and its capital Susa, before narrowing focus to examine the temple location where the cache containing the hedgehog figurine was discovered among a wealth of other Elamite artefacts.

THE HISTORY AND TOPOGRAPHY OF ELAM AND SUSA

THE LAND OF ELAM

Elam was a civilisation of contrasts. Situated in modern-day southwestern Iran (Figure 13), the boundaries of Elam's ever-shifting territory embraced both the highland country of the Zagros Mountains and the low alluvial plains east of Mesopotamia - broadly the modern provinces of Fars and Khuzestan respectively (Álvarez-Mon 2020:46). This duality or hybridity, a distinct yet multifaceted identity embodied in the very landscape of Elam, seems to have been a foundational quality of the Elamites that scholars today find expressed in Elam's confederated politics (Vallat 2011), in its social and cultural character (Álvarez-Mon 2020:46), and in Elamite law, economics, ethnicity, administration, language, and writing (de Graef 2013; Vallat 2011). It was central to their religious syncretism (Hinz 1971:662; Vallat 2011), and to their love of the fantastical in the imagery of their mythology (Hinz 1971:675).

Less celebrated today than other civilisations of the ancient Near East, Elam nonetheless endured for thousands of years as a significant player in the constant push and pull of power in the wider Mesopotamian region (see Hinz 1971; Mofidi-Nasrabadi 2022). Throughout the centuries Elam enjoyed both warm diplomatic relations and fierce enmity with the

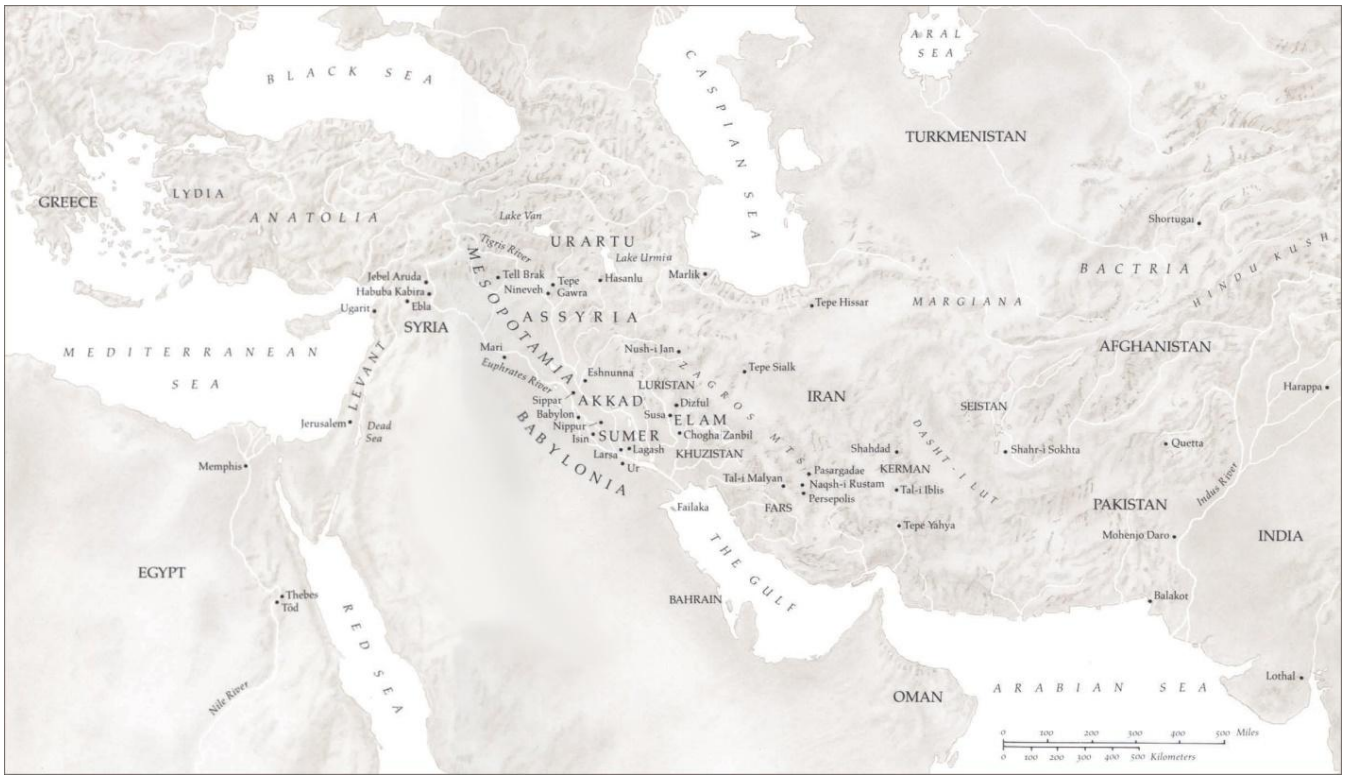

Figure 13: Map of the Ancient Near East, with Elam and Susa at the centre. After Harper et al (1992:xiv-xv).

Akkadians, Sumerians, Assyrians, Babylonians, Kassites, and Persians (Hinz 1971), until finally it was absorbed into the Achaemenid empire in the third century BCE (Vallat 2011). Historians have established a periodisation for Elam taking into account archaeological data and texts from both Elamite and Mesopotamian sources, with eras defined by Elam's ruling dynasties. This study will mainly use the chronology detailed in Harper et al's *Royal City of Susa* (1992), although those dates have been moderated and informed by the work of other scholars (Álvarez-Mon 2020; Gasche 2009; Potts 1999; Vallat 2011, 1990).

The hedgehog figurine that is the focus of this study dates from the Middle Elamite period, a time when the dynasties of the Kidinuids (c.1500-1400 BCE), the Igihalkids (c.1400-1210 BCE), and the Šutrukids (c.1210-1100 BCE) oversaw a shift away from a hyperlocal culture within the settlements of the Susiana plain toward a more consistent 'elamization' of their administration, writing, and religion (Vallat 2011). The Middle Elamite rulers embraced Elam's duality, styling themselves 'King of Anshan and Susa' (Potts 1999:188) as they sought to project a power that united highland Anshan with lowland Susa. Each dynasty saw that the policy was embodied monumentally on the plain of Susiana through the Kidinuid construction of the urban centre and religious-mortuary complex of Haft Tepe (Potts 1999:193, 204), and the vast Igihalkid ziggurat constructed at Tchogha Zanbil (Vallat 2011; Figures 14, 15, and 16). With the restoration and construction of a number of luxurious temples to the gods of both the city and the plateau, the kings of the Šutrukid dynasty made their mark in what had become the capital of the Elamite empire, the site where the civilisation's power was concentrated and epitomised: the city of Susa.

Figure 14: Excavated remains of a ziggurat and tombs built c.1400 BCE at Haft Tepe, Iran. Photograph by Koorosh Nozad Tehrani (2007).

Figure 15: The remains of the Middle Elamite ziggurat built c.1300 BCE at Tchogha Zanbil, Iran. Photography by Aneta Ribarska (2005), from UNESCO World Heritage.

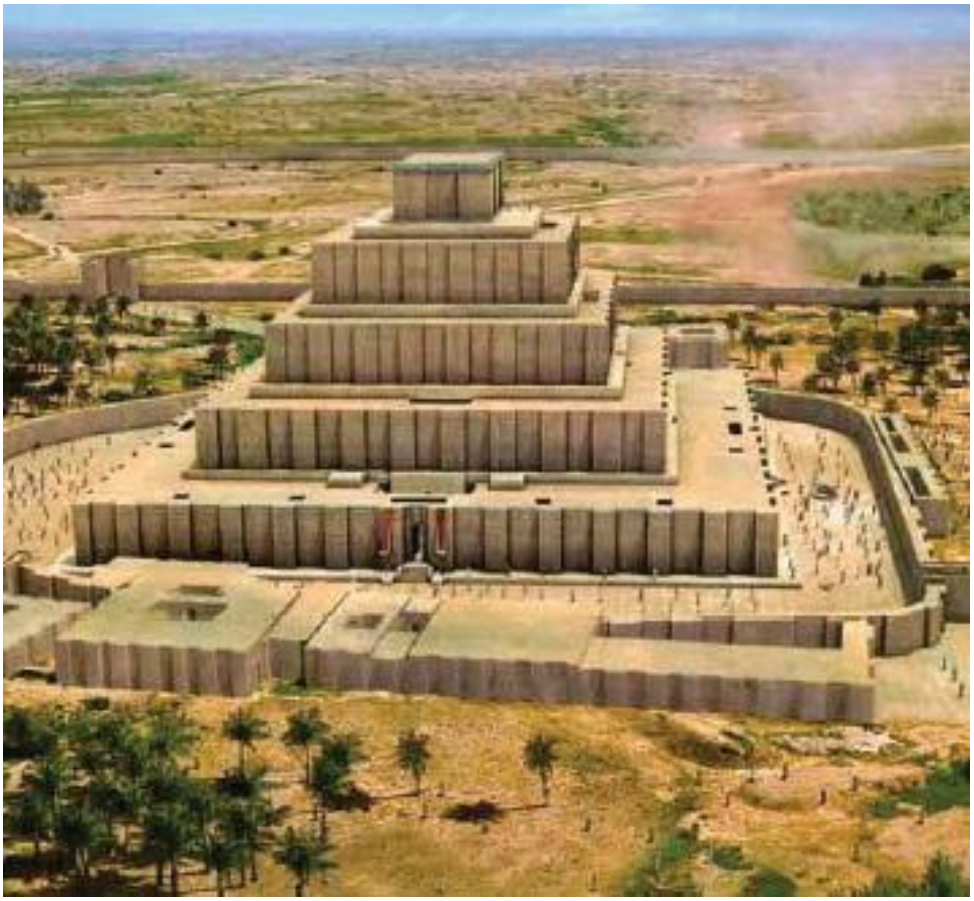

Figure 16: A digital reconstruction of the Middle Elamite ziggurat at Tchogha Zanbil. After Armin Shishegar (2010) in Afkhami (2019:7).

Figure 17: The spire of the tomb of the prophet Daniel at Shush, photographed in 2013. Photography by Auoob Farabi (2013).

Figure 18: Aerial photograph of Susa from the south, taken 1940, centred on the Acropole with the deep gouge of de Morgan's *Grande Tranchée* visible to the fore. The French 'Archaeological Castle' sits above on the northern tip of the Acropole, the Apadana rising behind. The pale spire of the Tomb of Daniel lies to the west, beside the Shaur river. From Schmidt (1940:Plate 55).

Figure 19: *Le tell de Suse avant les fouilles*, 1905, by Jules-George Bondoux, illustrating the height and topography of the mound of Susa before the de Morgan excavations. From Harper et al (1992:3).

THE ART AND ARCHITECTURE OF SUSA

A summary of the history and topography of Susa, homing in on the location of the hedgehog figurine's deposition in the foundations of the Temple of Inšušinak, is beneficial in providing context for the object's place at the heart of the city's religious culture.

Figure 20: A site plan of Susa, showing the principal hills that make up the mound. After Harper et al (1992:xvii), colouration added for clarity.

The seat of the Elamite kings, and later the Achaemenid rulers of Persia, Susa was continuously occupied from its settlement in about 4,300 BCE (Potts 1999:46, 84) to its eventual abandonment in the thirteenth century CE (Harper and Caubet, in Harper et al 1992:xiv). Elamite history is enduringly interwoven with that of the Susiana region and the city of Susa itself, which continued to thrive long after the demise of the Elamites, later becoming the capital of the Persian empire under Darius I (522-486 BCE) and Artaxerxes II

(404-359 BCE) (Nasiri-Moghaddam 2017:202). Monumental ceremonial terraces erected in the very earliest period of the city suggest that Susa's growth was due to its importance as a major religious centre (Carter, in Harper et al 1992:25). This religious significance seems to have continued to manifest throughout the long life of the settlement, as a site of pilgrimage for Jews, Christians, and Muslims drawn to the tomb of the prophet Daniel (see Figures 17 and 21), and to the Sufi monastery and early mosques built at Susa (UNESCO 2015:64).

Rising out of the Susiana plain on what was originally a pair of small natural hills east of the Shaur river (Álvarez-Mon 2020:62), the city developed upon a series of artificially constructed tells that eventually towered above the surrounding landscape (Figures 18 and 20). Even at the start of the twentieth century CE, archaeologists noted that the extant ruins still stood more than 34 metres high (Dyson 1968:28), and a contemporary painting by Jules-Georges Bondoux conveys the colossal proportions of the manmade mound rising out of the desert plain before major excavation works forever changed the Susian topography (Figure 19). Today, modern Shush is still dominated by the remains of Susa as the town encircles the ancient site and sprawls out across the alluvial plain (Figure 21).

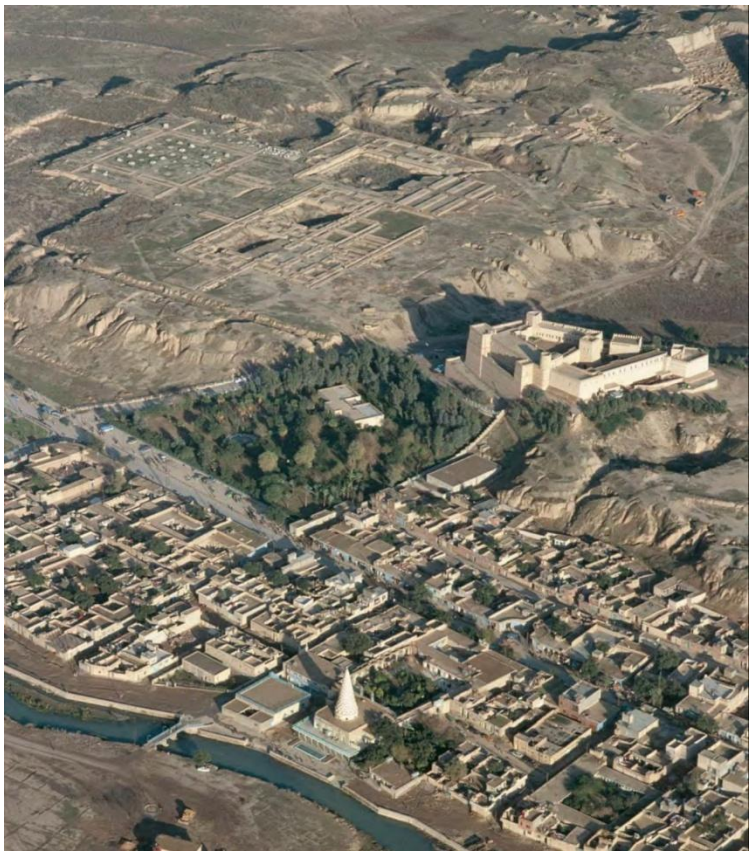

Figure 21: Susa from the south-west, the plan of the Palace of Darius clearly visible on the Apadana. To the south sits the massive 'Archaeological Castle' on the Acropole. Below, the Tomb of Daniel lies between the modern town of Shush and the Shaur river. Photograph by Georg Gerster, from UNESCO (2015).

Susa's five distinct hills (Figure 20) were identified and named by those who excavated the site in the nineteenth and twentieth centuries. The northernmost tell, the 'Apadana' supports the remains of the sixth century Achaemenid Palace of Darius (Figure 21), a colossal mudbrick construction decorated with dramatic polychrome glazed reliefs (UNESCO 2015:50, 71; Figure 22). Beneath the Achaemenid complex lie the remains of Elamite palace structures dating back to the Uruk period, c.4,000-3,100 BCE.

Figure 22: An exhibition in the Louvre, Paris, of glazed brick friezes depicting Achaemenid archers, lions, and mythical beasts, from the Palace of Darius on the Apadana in Susa. Louvre, AOD 488.

South-east lies the Great Platform, or the 'Ville Royale', settled during the Middle Elamite era until the Islamic period (Gasche 2009). Here, and on its southern tip known as the 'Donjon', the people of Susa built their homes, burying their dead beneath the floors in such numbers that the hill was initially interpreted by archaeologists as a vast cemetery (Carter, in Harper et al 1992:22).

The varied terrain of the 'Ville des Artisans' lies below and to the east of the Ville Royale. Settlement here is generally of a later date than the higher mounds, dating between the later neo-Elamite to the Islamic periods, with evidence for houses, a substantial necropolis, and Islamic and Sufi religious buildings (Gropp 2005; UNESCO 2015:63-4).

THE ACROPOLE AND THE TEMPLE OF INŠUŠINAK

The hedgehog figurine featured in this study was discovered on the last of these main hills, the western elevation of the 'Acropole', known in Persian as the *alumelu* or 'high-rising' (Álvarez-Mon 2020:62). Here a huge 'Funerary Platform' was constructed from mudbrick in c.4,000 BCE (Potts 1999:47), associated with which are the remains of several domestic buildings and early ritual structures, and a vast cemetery (Álvarez-Mon 2020:62-7).

The Funerary Platform was dwarfed several centuries later by the construction of a 90 x 82 metre cross-shaped stepped platform rising 10 metres from the hill, just 7 metres to the north (Álvarez-Mon 2020:68). The sides of this 'High Terrace' were lavishly decorated with perforated tiles, mosaics, ceramic 'wall nails', and clay models of goats' horns (Álvarez-Mon 2020:70-2; Potts 1999:48). The structure is believed to be 'one of the largest edifices in the ancient world at this time', serving as Susa's 'cultic hub' (Álvarez-Mon 2020:72) for many hundreds of years, with temples, storerooms, and associated buildings creating a sacred complex on its vast surface.

Perhaps the most important of these temples was that of the tutelary god of Susa, Inšušinak, whose sanctuary was one of a pair that stood proud on the Acropole (Gasche 2009; see maps in Figures 20 and 23). Built and dedicated to Inšušinak by the Mesopotamian king Shulgi (2094-2047 BCE) at a time when the kings of Ur ruled Elam, the temple was frequently repaired and restored, and by the Middle Elamite period it had benefited from the performative largesse of the Igihalkid and Šutrukid dynasties (c.1400-1100 BCE) as it loomed over the other buildings of the Acropole (UNESCO 2015:148).

The hybridity of the material culture from Susa in this late Middle-Elamite period was invigorated by a sense of internationalism, spearheaded by the Elamite king Untaš-Napiriša who was at the hub of an astonishing network of rulers across the Ancient Near East. Descended from a line of intermarriages between Elamite kings and Babylonian Kassite princesses, Untaš-Napiriša was also related through the marriages of his wife's sisters to the Hittite king Šuppiluliuma and the Egyptian pharaoh Akhenaten (Amenhotep IV) (Matthews and Nashli 2022:378; Podany 2022; UNESCO 2015:143-4). The material culture from this period seems to reflect the ambition and power of the king, featuring beautifully wrought objects from fine materials, and grand constructions.

At nearby Haft Tepe a scribal school was flourishing, and clay seals and inscriptions reveal a campus of specialist workshops producing an abundance of craft work in mosaic, metals, decorative bitumen, ceramics like the life-size clay portrait heads noted earlier, and ivory evidenced by the discovery of an almost-complete elephant skeleton nearby (Dabbagh 2019; Potts 1992:199). Buildings with floors of baked brick were decorated inside with thick gypsum plaster before coloured motifs were painted or incised onto walls and ceilings (Matthews and Nashli 2022:374).

Elsewhere on the Susian plain, it was the well-connected king Untaš-Napiriša who oversaw the construction of the mighty ritual complex of Tchogha Zanbil. His desire to make his mark on a revitalised Elam is reflected in his naming of his new holy city 'Al Untaš-Napiriša'

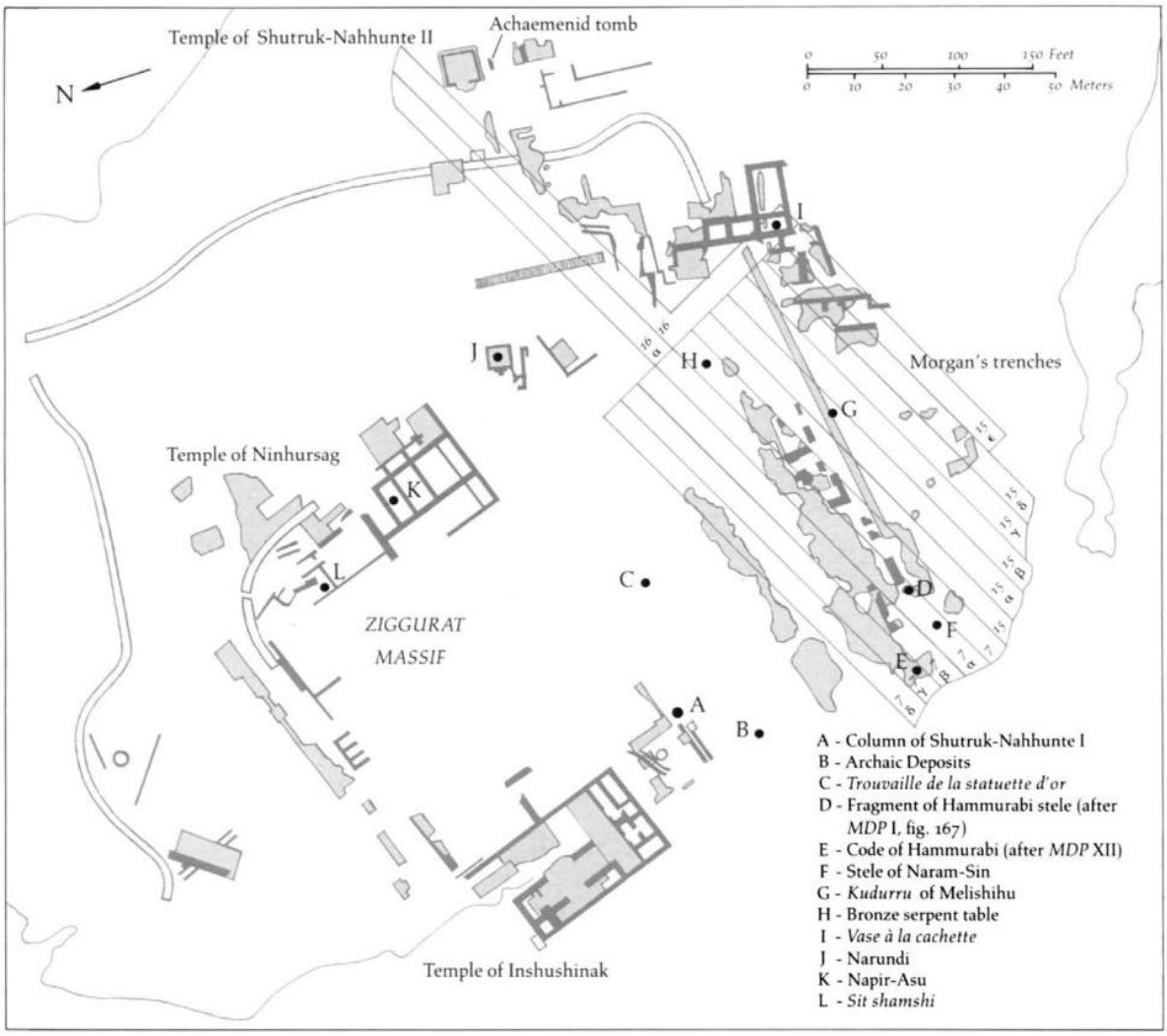

Figure 23: A site plan of the Acropole, showing the Temple of Inšušinak on the west of the ziggurat, the strip trenches that formed de Morgan's *Grande Tranchée*, and the locations of major finds. Plan by Heim and Tallon, from Harper et al (1992:124, Fig. 41).

('Napiriša established me'; UNESCO 2015:137), echoing the contemporaneous founding of the new Egyptian capital Akhetaten (Amarna) by his iconoclast brother-in-law Akhenaten. Meanwhile, in the Elamite capital at Susa, Untaš-Napiriša's costly restoration of the Temple of Inšušinak on the Acropole is attested in an inscription cursing those who would demolish his 'high-temple in bricks of gold and silver, obsidian and alabaster' (Inscription IRS:77, translation from Potts 1992:210).

The renovation of the Inšušinak temple is thought to have been the reason for the deposition of two rich votive caches nearby which contained some of the most emblematic objects of this period at Susa. Although it is difficult to provide a precise date for the deposits, Untaš-Napiriša's reign, from 1340-1300 BCE, suggests a *terminus post quem* for their concealment near the foundations of the newly refurbished temple. It was here in one of these votive caches that the hedgehog figurine was found.

EXCAVATIONS AT SUSA

Early surveys at Susa by British archaeologists Williams and Loftus as part of an Anglo-Russian mission (Gasche 2009; UNESCO 2015:20) led to excavation in 1885 by a dedicated French team. Led by Jane and Marcel-Auguste Dieulafoy, this delegation uncovered remarkable Achaemenid remains (Carter, in Harper et al 1992:21; Gasche 2009). However, the Dieulafoys' agenda, prioritising evidence of architecture over all other finds, was complicated by their team's inability to distinguish mudbricks from the surrounding soil, leading at times to the inadvertent destruction of the very structures they sought (Dyson 1968:25-6).

In 1897, work at Susa began on an industrial scale under the direction of mining engineer, antiquarian, geologist, and topographer Jacques de Morgan (Paladre 2023:282-3; Saint-Jalm n.d.). With an approach that seemed 'more an engineering project than archaeology' (Gashe 2009), de Morgan removed mudbricks *en masse* from the nearby religious complex at Tchoga Zanbil in 1898 to build a comfortable fairytale castle on Susa's Acropole hill as a secure base for his delegation (Chevalier, in Harper et al 1992:18; Dyson 1968:28; UNESCO 2015:179; Figure 24). Within the next decade, he set about removing the top ten metres of

Figure 24: De Morgan's *Grande Tranchée* on the Acropole, with the 'Archaeological Castle' beyond. The remains of the Temple of Inšušinak lie out of frame, just to the left of this photograph. After UNESCO (2015:294, Photograph 4-2).

the rest of the entire Acropole using an army of nearly 1,200 labourers, before initiating work on his *Grande Tranchée*, a colossal trench dug to depth and designed to reach the most ancient levels of Susa in the shortest possible time (Paladre 2023:284).

The foundations of the Temple of Inšušinak were discovered in 1902, and by 1905 had been entirely exposed and dismantled (Paladre 2023:286). There are few pictures or plans showing the temple remains, revealed as they were during the rapid excavation of the *Grande Tranchée*, but Paladre adeptly covers the available evidence in a thorough analysis of Susian mudbrick buildings (2023). The temple itself measured 22 x 11 metres and was constructed of mudbrick and glazed-sandstone material, but there is scant evidence recorded for the surrounding mudbrick ziggurat to the south-east in which the votive deposits were interred (Paladre 2023:289-90). A location for the first, and most pertinent to

this study, of the two deposits can only be estimated, somewhere within 20 metres of the second deposit marked 'C' on Figure 23 (Álvarez-Mon 2020:536).

THE INŠUŠINAK TEMPLE DEPOSITS

The first deposit was discovered on 1 January 1904 by de Mecquenem below a pavement near the remains of the temple of Inšušinak, where excavation revealed a three-sided brick-built cist measuring 120 x 150 cm (Potts 1999:217; Tallon, in Harper et al 1992:145). Inside was a 60cm-thick layer containing many hundreds of objects including pendants in gold and silver, 115 gold rings, and dozens of bronze figurines of worshippers (Álvarez-Mon 2020:534; Figure 25). Potts notes that also present were unfinished objects and raw materials, oddments of various metals, unengraved cylinder seals, and unpierced beads (1999:217-8). Five bitumen carts with drilled sockets like the one beneath the hedgehog figurine were discovered, as well as a broken figurine depicting a long-necked bird made of white limestone with many indentations for now-missing inlays (Figures 12 and 29; Álvarez-Mon 2020:543).

Many of the objects appeared to be jumbled, damaged, or fragmentary, with the excavators noting the 'extreme disarray' within the deposit: 'lumps of stone, vessels, rings, and statuettes all jumbled together' and leaves of silver, bronze, and gold rolled up and 'folded over and over on themselves' (de Mecquenem, in de Morgan et al,

Figure 25: Bronze figurines of worshippers found on 1 January 1904 near the Temple of Inšušinak. After de Morgan et al (1905:74, Plate XV).

Figure 26: Gold and silver statuettes depicting a king as an offering-bearer, from the eponymous *trouvaille de la statuette de l'or*. From Matthews and Nashli (2022:379).

Figure 27: Schist whetstone with gold lion-headed finial. From Matthews and Nashli (2022:380).

1905:63). They were taken aback by the disparity in the value of items across the cache, which placed scraps of metal, seashells, and stones beside silver rings and ivory fragments. Commenting that 'none of these things would typically belong in a treasure trove' (*rien de cela n'aurait dû prendre place dans un trésor*), they chose to interpret the deposit as a 'gathering of offerings made by worshippers of all social classes' (de Mecquenem, in de Morgan et al, 1905:63).

Some weeks later, on 22 February, another even more extraordinary cache found 'clustered on a green-glazed, brick platform' measuring 96 x 64cm (Potts 1999:218) was discovered some 20 metres away, at the spot on the map in Figure 23 labelled 'C - *trouvaille de la statuette d'or*' (discovery of the gold statuette). This rather more orderly deposit included two exquisite figurines measuring less than 8cm tall depicting the king as an offering-bearer, one in silver and one in gold, and nearly identical in their design and remarkable quality (Matthews and Nashli 2022:378; Figure 26). Nine worshipper figurines in glazed faience were found, along with a recumbent lion fashioned from agate, seventy-one agate and carnelian beads, and an unused green schist whetstone topped with a fine gold lions-head finial (Álvarez-Mon 2020:538, 544; Tallon, in Harper et al 1992:145; Figure 27). An 11.5cm dove carved from a solid block of lapis lazuli and decorated with gold studs featured a

Figure 28: Lapis lazuli dove figurine, inlaid with gold (beak now missing). Louvre SB2887.

separate tail, beak, and feet, attached to the body with bronze pegs (Figure 28). Although its beak is now lost, excavators observed two lapis fragments in the deposit that may have been these missing pieces (Tallon, in Harper et al 1992:151).

The fine artistry of these objects, together with their animal motifs and composite materials, are key aspects of the aesthetic of Middle Elamite material culture, reflected in the hybridity and confidence of the art found at Susa. Porada determined that the use of animal imagery constituted a definitive Middle Elamite style, notably in what she calls the 'minor arts' (1965:47-52). Similarly, the representation of animals during this period exhibits what curators Harper and Pittman at the Metropolitan Museum of Art define as 'a distinctive Elamite style... characterised by naturally rendered forms and decorative surface patterns' (1987:94). Although not created from such valuable materials as those in the smaller *trouvaille*, the limestone hedgehog on its bitumen cart seems to share an aesthetic connection with the lapis dove, and with the composite gold and schist whetstone. The dove's symmetry and smooth shape is also evident in the hedgehog figurine's gentle abstraction and in the light touch of its expert craftsmanship. There are further, more obvious, similarities with the long-necked limestone bird and lapis-eyed lion, and the array of bitumen carts. Taking these two major deposits as a representative sample of Middle Elamite material culture, it can be suggested that the style and materiality of the hedgehog figurine existed comfortably within the Susian artistic milieu of the period.

Figure 29: Figurine made of limestone in the form of a long-necked bird. Note the incised details that suggest feathers, and the hollows to accommodate inlays, now lost. Louvre SB2909.

The accuracy of archaeological records suffers greatly from the Inšušinak temple precinct having been, as Matthews and Nashli characterise it, 'brusquely excavated' (2022:378). This lack of precision has led later scholars to vary in their interpretations of these deposits, sometimes even conflating the two assemblages. The archaeological context of our hedgehog figurine therefore requires some unravelling. Potts (1999:217-8) gives the name 'Deposit I' to the larger jumbled cache found first, differentiating it from the lavish *trouvaille de la statuette d'or*, which he calls 'Deposit II'. It is amongst this second, richer assemblage that he includes the hedgehog and lion figurines on their carts. Matthews and Nashli choose to use the assemblages 'as articulated by Potts' (2022:378), also placing the animals and their carts in the same cache as the richer objects, the *trouvaille.*

Conversely, Bahrani places the hedgehog figurine into the first assemblage (Potts' Deposit I), calling it 'another deposit from the same temple' as that of the *trouvaille* (in Harper et al 1992:156). Álvarez-Mon follows Bahrani in placing the hedgehog and lion figurines and their carts in the larger, jumbled assemblage. He names this 'The Inshushinak Temple Hoard', giving Potts' Deposit II, or the *trouvaille*, the grander title of 'The Royal Hoard' (2020:534-44).

The original excavation report produced by de Mecquenem (in de Morgan et al, 1905) is unhelpful in its tendency to bundle together all of the finds from the wider Inšušinak temple precinct. However, we are perhaps fortunate that the director of excavations in 1904, Jacques de Morgan, was an ambitious man with a keen eye for publicity. The popular American publication *Harper's Monthly Magazine* had a wide remit, and in its Spring 1905 edition, between pithy poems, serialised romance novels, and features on rare wasps and the Wild West, can be found an article by de Morgan in which he recounts his most recent discoveries: those of the 'Temple of Susinak', on the Acropole at Susa (1905:875-84).

In his article, de Morgan imaginatively describes the burial of the two caches, conjuring the image of an enormous gathering of crowds 'from all parts of the kingdom' to celebrate the consecration of the temple foundations, 'what we would call to-day the laying of the corner-stone' (1905:880). The smaller *trouvaille* cache, laid beneath the pavement's surface on a square of enamelled bricks 'grown green with time, but which had been originally of a turquoise blue' comprised the rich objects that de Morgan declares are 'the gifts which I

attribute to the king' (1905:880-1). He goes on to say that 'in another place are heaped pell-mell the most different ex-votos certainly cast down by the crowd'. De Morgan summarises the nearly 'two thousand' objects of this larger deposit, 'far more numerous than those of the offering of which I have just spoken', and notes – tellingly for this study – that it included 'small figures of animals in silver and in hard stone' (1905:881). Given the flamboyant tone and popular context of his article in *Harper's*, de Morgan was almost certainly aiming for drama and fascination over archaeological exactitude. And yet, this differentiation by the excavation director himself between the nature of the two caches, and de Morgan's own reference to stone animals within the larger deposit, are a valuable and convincing indication that the hedgehog figurine should be included not with the *trouvaille,* but with the huge assortment of fragmentary and varied objects from the brick cist.

With the hedgehog figurine having received regrettably sparse and often muddled attention in the scholarship, this chapter has attempted to place it within its cultural, geographical, archaeological, and aesthetic contexts, engaging with the uncertainties of the deposit's stratigraphy and analysing the hedgehog as part of a distinctly Elamite assemblage. Questions remain – and will probably always remain – about the original function of the figurine, its accompanying cached objects, and the deposit itself. De Morgan's right-hand man de Mecquenem was himself undecided as to whether the caches should be interpreted as votive foundation offerings or as funerary objects dumped into looted graves (Paladre 2023:289; Potts 1999:218). However, the fragmentary state of many of the objects suggests a long or complex use-life prior to their burial, further complicating any attempt to label them with a single simple function. A more productive approach may be an interpretation of the hedgehog figurine that instead focuses closely on its attributes and potentialities. The next chapter therefore takes a close look at the materials and materiality of the figurine itself.

MATERIALITY

This chapter will look more deeply at the materials and materiality of the hedgehog figurine, both in terms of their physical properties and their relational qualities. The analysis tries to balance both 'etic' and 'emic' perspectives (per Renfrew 2004), attempting to understand the qualities of these materials both within an Elamite cultural context, and within themselves, outside of place and time, by engaging with the artefact's affordances. Sensory aspects will be considered through teasing out an experiential understanding of the object. Finally, this chapter casts a New Materialist eye over the hedgehog figurine in dialogue with its votive assemblage, examining the vibrant interaction of materials that gives the composite object a significance beyond the sum of its parts.

LIMESTONE

The limestone that forms the hedgehog figurine is fine and dense, almost like alabaster in its granularity, allowing a sharp cut with a chisel to create the smooth lines of the grid that forms the animal's spines. This limestone is a material native to the Elamite regions (Álvarez-Mon 2020:49), and was used at Susa for statuary, steles, cylinder seals, and ritual equipment such as a cultic basin from the Acropole featuring carved reliefs of characteristically Elamite goat-fish hybrid figures (examples of these in Figure 30). In its natural form, the native limestone was used as the basis for monumental Elamite rock-cut reliefs at vast highland open-air sanctuaries at Kurangun and Naqsh-e Rustam (Álvarez-Mon 2014; Figure 30).

However, despite its accessibility and durability, limestone does not seem to be an overwhelmingly dominant material in the corpus of Middle Elamite sculptural artefacts. It was not used in architecture at Susa, where mudbricks predominated, along with the lesser-used baked or glazed clay brick (Paladre 2023). Elamite sculpture often makes use of bitumen, clay, or metal in preference to this readily available but intractable stone, and the use of limestone for luxury wares was supplanted in favour of metals during the second millennium at Susa (Connan and Deschesne 1996:389).

Figure 30: Examples of Middle Elamite limestone. Clockwise from top left: (a) statue fragment showing eyes and carved serpent headdress, 10.9 cm x 11.4 cm, from Susa (Louvre SB6442); (b) cuneiform inscribed stele of Shilhak-Inšušinak, from Susa (Louvre A6043); (c) cultic basin, 94 cm x 64 cm, from Susa (Louvre AS6054); (d) rock-cut reliefs at Kurangun open-air sanctuary (Álvarez-Mon 2014:753, Figure 5a).

Porada's analysis (1965) examined Elamite sculptures in bronze, created using the 'lost wax' method where wax is carved to make forms into which the molten metal is poured. Comparing those with figures made from harder materials such as limestone, she concluded that the Elamites were 'principally metal-workers' who favoured 'modelling in a soft material' due to what she perceives as an 'expressiveness' present in the bronze objects that is missing from stone reliefs and statuary (Porada 1965:67-8).

Stone vases were certainly deemed valuable when used in trade exchanges between Elam and nearby Mari (Larsen, in Aruz et al 2008:15). With limestone thus seemingly reserved for statues, inscriptions, and fine objects, it may therefore be suggested that the significance of

limestone at Susa was concerned less with any value it had as a raw material and more with the scarcity of the expertise required to shape and control it, combined with a change in fashion that favoured the qualities of more easily manipulated materials.

BITUMEN

The hedgehog figurine's cart is made from a rock-like substance referred to variously as bitumen mastic (Connan and Deschesne 1996; Deschesne 2003), bitumen-compound (Potts 1999), rock-asphalt (Singer et al 1954, in Porada 1965), and in many sources simply as 'bitumen'. De Morgan, the excavator of Middle Elamite Susa, remarked upon the distinctive regional habit of using bitumen as a sculptural material, 'springs of which exist three days' caravan journey northwest of Susa' (1905:876). Amiet believed it to be a 'Susian originality', made from liquid bitumen tempered with fine sand (in Harper et al, 1992:6).

French researchers Connan and Deschesne, in their seminal 1996 catalogue of Susian bituminous objects, *Le Bitume à Suse*, felt similarly. Following detailed research, they announced that it was an artificial substance that blended liquid bitumen with organic matter and crushed local grey-black calcites (Connan 1997), heated to beyond 250˚ C to form a sort of artificial stone (Connan and Deschesne 1996:43-4, 430). Perplexed by their own results, they marvelled that such advanced technology had been developed at such an early period, and then did not change for thousands of years (1996:430). They were surprised that the Susians should conceive of 'such a complicated material' in a region with abundant stone (1996:44), and that neither the material nor the technology seemed to have been exported to neighbouring territories (1996:431). They were mystified as to why semi-liquid bitumen had not been modelled or cast before being allowed to harden (1996:430).

These questions were unexpectedly answered just a few months after their research project concluded, when a survey at Ghali Kuh in the Zagros mountains, 150 km north of Susa, collected samples of naturally occurring bituminous rocks. One of these, rich in organic matter and crushed stone, was discovered to be identical to the 'bitumen mastic' of Susa (Connan et al 1999; Deschesne and Connan 2001; Deschesne 2003). The sculpting of bitumen, it was eventually concluded, was a distinctive Susian specialism deriving from the exploitation of a local natural resource (Deschesne and Connan 2001).

Figure 31: Examples of Middle Elamite bitumen, all from Susa. Clockwise from top left: (a) statuette fragment of a bull's hoof, 3.8 cm x 6 cm (Louvre SB11524); (b) sculpted weight in the form of a duck (Louvre SB9347); (c) bitumen and shell eye inlay for a statue (Louvre SB12227); (d) cylinder seal depicting griffins and foliage (Louvre SB6242).

With the exception of a few statuettes, the sculptural use of this natural bitumen rock at Susa was declining by the Middle Elamite period, featuring mainly as the fabric for weights, beads, eye inlays for statues (Figure 31), and what Connan and Deschesne call 'stands for toys or statuettes', so placing the hedgehog's cart firmly in the realm of what they term 'utilitarian wares' (1999:389). Perhaps due to its relative softness, bitumen had become a preferred material for glyptic artists, and 56% of all bitumen objects found at Susa from the Middle Elamite period are cylinder seals (Connan and Deschesne 1996:389). It is intriguing that, as Connan and Deschesne note, the use of limestone for glyptic was also declining as fashions changed, and seals for the elite were now made from semi-precious stones,

whereas bitumen replaced stone of lesser quality in the seals created for 'humbler clientele' (1999:389).

The hedgehog figurine's bitumen cart was only one of a number of similar items discovered in the Inšušinak temple cache. Although they are all shaped and smoothed from solid bitumen rock, and then drilled with mortise sockets to mount figurines, the hedgehog's cart is somewhat more sophisticated than the others in its design. It alone features a scalloped finish to one of the short edges, and projecting wheel mounts along with integral axle housings that stand proud of the underside of the cart (see Figure 7).

The wheels of the cart are also sculpted from bitumen, and the evenness and symmetry of their carving suggests that they may have been turned on a kind of lathe instead of being carved freehand. The wheels are perfectly circular, drilled centrally to accommodate an axle, and feature a concave filleted surface that is somewhat more elaborate than the more straightforward convex chamfer of the wheels on the cart of the recumbent lion figurine (see Figure 5). Despite the many stone vessels and cylinder seals found at Susa there is no direct evidence for lathes. And yet lathe-turning may not be as far-fetched as it seems, as such tools were known to the Egyptians since 1300 BCE (Kamperidou and Barboutis 2013:57), and a comparable technology of the potter's wheel, or tournette, had been in use in Susa since at least the Chalcolithic period (The Metropolitan Museum of Art 2026).

ABSENT FRIENDS

The figurine we see today is a fragmentary object, and yet it gives strong indications of materials now lost, and that were not mentioned by the excavators at Susa. The pair of sockets drilled low on the hedgehog's face would have accommodated eye inlays, made of shell or lapis lazuli perhaps, as with the recumbent lion figurine. Lapis lazuli was, at that time, imported into Elam and the wider Iranian plateau from northeastern Afghanistan via the ancient and strategically powerful trading city of Tepe Hissar (Mousavi and Sumner, 2012:28-34). The higher pair of sockets may have held inlays of imported shell, fashioned to resemble surprisingly large ears: these can measure more than half the length of the head on a living Long-eared Hedgehog (see Figure 3; Ballenger 1999). Recalling the lost beak of the dove figurine (Figure 28) it is tantalising to think that these could simply have been missed by excavators. With pigment and both sets of inlays in place, the appearance and

outline of the figurine would have differed significantly from the white creature with hollow eyes that we see today.

The cart too has evidence of absent materials. As previously noted, the bitumen wheels would have been mounted to the cart using axles of wood (or perhaps metal), and images of the figurine make it clear that conservators at the Louvre have re-mounted the wheels using modern dowels to replace the lost material (see Figure 1). Moreover, the hole near one edge of the cart indicates an attachment point for a now-absent string or chain, allowing a person to pull the cart along or to couple it to another cart. Also missing are the baby hedgehog figurines, and, as has been mentioned earlier, it is not impossible that these may have been moulded out of a different material that has since decayed, such as wood. These organic materials are no longer part of the object that visitors to the Louvre enjoy, but would have been part of a dynamic assemblage of materials that constituted the figurine as it was made and enjoyed in the ancient past.

Despite being masterfully conceived and executed, neither limestone nor bitumen – the only two constituents that we have firm evidence for - were exceptionally elite materials during the period that the hedgehog was created, and yet they still had considerable social cachet. Equally, the use of imported fine materials like shell and lapis lazuli imply that the figurine was not a common item available to people of every social stratum at Susa. It seems clear by the deftness of its sculpture that the object was created by a skilled craftsperson. Its apparent inutility indicates that it was a luxury item: it is cleverly engineered to move, and yet this is superfluous, it is not a tool nor a mode of transport. It may not be elaborately modelled or formed from precious materials, but it is nevertheless what might be termed 'fancy'. These inferences can tell us something of how the object might have been perceived by an Elamite audience. However, during its possible roles as a toy, an ornament, a votive statuette, or something else altogether, the figurine's materials will have embodied qualities beyond their economic value or status.

'SOCIAL' MATERIALS

These materials, and the objects they constitute, have a social aspect that is reflected in their manufacture and their economic and cultural value to the beholder over time, contributing to an epistemological concept that Bourdieu called *habitus*, or the way that a

person's thinking is shaped by their physical and social environment (Bourdieu 1977; Hodder 2012:122-3; Tilley 2006). Nevertheless, an object and its materials also exist outside of that human framework, and their biography is imbued with meaning outside of the human/thing interactions that normally form the itinerary or narrative through which we choose to understand them as artefacts, museum objects, or physical representations of the beliefs and capacities of an ancient culture.

Hurcombe argues that artefacts have a core value to the archaeologist beyond simply standing as evidence for certain technologies. In discourse with the human, their embodied knowledge is rooted in the way that '… materials and material culture are sensual extensions to the body and part of a melding of mind, body and objects' (2007:536). Hurcombe believes that even as we are 'cultural outsiders' who cannot experience a material culture as it was originally intended, the key to better understanding such ancient objects is to engage our senses, and to consider what it is about objects that draws our attention (2007:539). By concentrating on the sensory perception of these objects within their past environments, Hurcombe writes, we can draw out new meanings for them, and that by focusing on the attention-drawing aspects of an object we can decentre our own world view and re-centre that of the people who made and used the object. Renfrew (2004) objects to such 'shoe-putting' as he calls it, asserting that a phenomenological approach that relies on personal, sensory experience to put oneself 'in the shoes' of past peoples is in his opinion a solipsistic, relativist delusion that can be swiftly dispelled by due consideration of the *habitus.*

This study takes the approach that social context is of course an important consideration in interpreting any object from another time or space, particularly when using those interpretations to extrapolate inferences about the lived experience of past peoples. However, it agrees with Miller (2005:36-7) that there is a danger of reifying the terms 'cultural' and 'social' that risks over-centralising the human, and enforcing the 'social' as the *raison d'etre* for materials and things. A way must be sought to explore the human interaction with objects that is not entirely contingent on uncritical assumptions of cultural function or meaning; as Bailey's pivotal study of prehistoric figurines suggests (2005), a little shoe-putting through material engagement might prove to be a more productive approach than the historic overreliance on semiotics to interpret figurines as representational objects.

Examining the affordances of things and materials, employing sensory and experiential methodological lenses, can allow the embodied knowledge of the hedgehog figurine's *habitus* to be fully explored independent to, but not entirely severed from, its Elamite context. With due deference to Renfrew, the *habitus* might be better considered by embracing – and not rejecting outright – a phenomenological approach.

How best to achieve this? Ingold (2018) suggests that in order to resolve the theoretical dispute between the physical realism advocated by Hurcombe and the kind of 'cultural constructionism' championed by Renfrew, there is a way forward: through a refashioning of Gibson's theory of 'affordances'. Hodder, like Ingold, embraces Gibson's theory in his own work on entanglement as he attempts to 'look more closely, harder at the thing' (2012:3); Hodder defines the affordances of an object as 'its potentialities for a particular set of actions' (2012:49). In place of a realist model that only accounts for the intrinsic properties of objects, Ingold suggests leaning into Gibson's more relational approach toward affordances being realised through perception, echoing both Hurcombe's focus on 'attention-drawing' qualities, and Hodder's examination of somatic 'resonances' (2012:125-32). Instead of presenting culture and perception as incompatible, Ingold contends that this would then allow us to 'cease thinking of culture in terms of systems of representation, or of schemata for constructing them' and instead reframe culture as consisting of a mesh of 'variable skills of perception and action' (2018:40). This sensible middle ground, rejecting the dualism between cultural context and sensory perception, informs the sensory analysis that follows.

SENSING MATERIALS

Our senses offer an experience of the world that is subjective, culturally informed, and profoundly shaped by our bodily capacity, prior experience, and social conditioning (Edensor 2022). And yet, although our experiences of sensory encounters are intensely personal, exploring a sensory response to an object's affordances allows access to an affective process that is profoundly human, and a valuable tool in interpreting the past (see Skeates 2026; Skeates and Day 2019; Tilley 2019; Tilley and Cameron-Daum 2017). Wilson, a neurologist writing about how the hand shapes and mediates human experience, suggests that the human brain 'reaches out to the body, and with the body it reaches out to the world' (1998:307). This is the way that Hamilakis uses the 'archaeologies of the senses', to examine

the subjectivities of others in order to 'come to terms with the fully embodied, experiential matter-reality of the past' (2011:209; 2013). The process offers us admission to the minds and perceptions of the people in the past who conceived, created, and experienced an object – something Edensor calls 'sensory empathy and strange communion' (2022:30).

Sight is often our dominant sense, and we reach for photographs, plans, and ekphrases (pictorial descriptions) as the most elementary ways to express our sensory experience when undertaking this kind of study. However, the privileging of sight is a Eurocentric habit that is even more problematic when looking at ancient objects from a non-European context (Slaney 2018:108; Stoller 1989:9). Reflecting on the way materials and objects look, but also how they smell, sound, feel, and work together can help deepen our understanding.

Visually, the tiny hedgehog figurine's white limestone and black bitumen provide a pleasing visual contrast of light and dark. Brown traces across the face of the hedgehog suggest that it may once have had pigment applied, and yet the contrast of juxtaposed colours of the raw materials may still have had significance to the Elamites: Connan and Deschesne record a practice at Susa where two identical jars, one of alabaster and one of bitumen, 'were often place in the same tomb' (1996:431). Once pigmented, the coloured coats of both the mother and two baby hedgehogs would have given them an affective realism, even at their tiny scale. Large shell ear inlays and lapis lazuli eyes would have contributed a shimmer and liveliness that is missing from the fragmentary object we see today.

In contrast to white limestone's lack of smell, Connan and Deschesne describe the raw hard Susian bitumen as giving off 'a strong odour of hydrocarbon when the surface is scraped' (1996:43). The asphalt-like smell would have been emitted when the cart was held in warm hands, or as the friction of pulling it along spun the axles in their bitumen sleeves, gently scraping the black wheels against the projecting bitumen wheel mounts. Like the smell of modern newly-tarmacked roads, it may not have been thought of as a lovely smell, but it was not unfamiliar to the people of Middle Elamite Susa. Indeed, making objects from bitumen was such a distinctively Susian practice that its smell may have carried strong cognitive associations with their expression of cultural identity, and perhaps even an emotional sense of belonging: something like civic pride. Scraping, moving, handling, and

even playing with the hedgehog figurine on its cart (if such a thing were possible in its current museum context) has an astonishing capacity to connect us to the people of Susa and their olfactory heritage.

The figurine does not immediately seem to have acoustic properties, and yet imagining it in the hand allows us to envision it during its use-life: the squeak of wooden axles as the wheels turned, perhaps a 'trundle-trundle' as it rolled over an uneven surface. The sounds bring the object to life. The carved marks themselves embody the sounds of its manufacture: the tapping of a chisel, the whirring of a hand-drill or pole-lathe, the scrape of a file, the insistent shushing sound of the face of the hedgehog and the surface of the cart being sanded smooth. In Ingold's contemplation on 'telling by hand', the process of making is described as a dialogue between the maker and the material (2013:115). If that is so, then these sounds are its fleeting language, an audible symbol of co-creation.

Handling an object offers us a uniquely immediate, 'proximal' way of knowing it, perceiving its affordances through observing its texture, temperature, shape, weight, and movement. Touch is, after all, the first one of our senses to develop, and one of the earliest ways we as humans engage with, encode, and recognise our surroundings (Bremner and Spence 2017). Ingold invokes Heidegger by taking this further and suggesting that use of the hand itself is central to our humanity (2013:124), and to our way of 'being' in the world (2013:122).

Merely attending to the sensations in our own bodies while considering the tactility of sculpted objects can cultivate what Herder called the 'haptic frisson' generated by 'potential kinetic engagement' (Slaney 2018:106-7). Whilst it is unfortunate that the hedgehog figurine cannot be handled directly for this study, its materials and composition offer evident haptic possibilities.

Handling the clay replica (see Figure 10), it is striking how the bumpy texture of its grid of carved spines stands in contrast to the evenness of the animal's face and feet, and the smoothed surface of the bitumen cart and wheels. The limestone of the original figurine could feel either cool or warm to the touch, reflecting the climate of its immediate environment or how long it has been held in the hand. Both hedgehog and cart may seem heavier in the hand than expected, provoking a sort of cognitive dissonance between the

signals sent to the brain by the eye perceiving a tiny, insubstantial animal, and those of the hand, holding an unexpectedly weighty handful of stone.

Further cognitive dissonance might be experienced when the cart moves, loaded with its hedgehog cargo. The animal's feet remain still, and yet it moves forward on its wheels, something impossible in nature that is both delightful and faintly ridiculous. None of this happens without the intervention of the hand propelling the figurine forward with a push, or a pull of the string looped through the hole in the cart. The string invites the hand to grip and pull, feeling the tension in the fingers and the sensation of the cord running over the palm, connecting the object to the person, and the person to the object.

WITHIN THE RITUAL ASSEMBLAGE

The previous consideration of the figurine in isolation produces a close phenomenological analysis, placing it under the metaphorical microscope to look at the way the materials interact and communicate to the senses of the beholder. However, if we now consider it as part of the assemblage uncovered at the Inšušinak temple at Susa, the hedgehog figurine reveals a greater network of inherent connections and material dialogues specific to its context.

Although records for stratigraphy and context are extremely sparse, remarkably de Morgan included a description of the fill of the deposit in his article for Harper's Magazine. Describing the objects 'thrown pell-mell under the pavement' de Morgan noted how they were 'mingled with calcined bones, cinders, fragments of vases… leaves of bronze', and 'the remains of the palms and bouquets which had figured in the ceremony', seemingly jumbled up with 'relics of sacrifices and libations' (1905:881). This uninhibited interpretation of a snapshot in time, extrapolating the performance of a religious rite accompanied by a vast cast of shadowy worshippers, should prompt our utmost caution, despite being typical of the archaeology of the time. And yet the material evidence is surprisingly convincing, that this disordered deposit embodies the praxis of a foundation ritual. Whether the objects were placed immediately into the ground by worshippers, or cleared away and interred by someone at the end of a ceremony (or even many ceremonies), the cache nevertheless seems to instantiate ritual activity in that place. Instead of a neat, considered cache like the more orderly 'Royal' hoard, this deposit appears to be an emergent entity, an enmeshed

and inter-relating multitude of private expressions of dedication to the temple. For the Elamites who so delighted in the chimerical, this entanglement of mixed materials may not have been insignificant.

VIBRANT MATTER AND COMPOSITE OBJECTS

Interpreting the figurine as part of a vivid assemblage is typical of an approach to materiality known as New Materialism (Bennett 2010; Coole and Frost 2010; Govier and Steel 2021). Objects are conceived as 'things', philosophically extricating them from the subject-object nexus that frames them as passive and inert. Bennett sees things as actors suffused with an agency that she calls 'thing-power', 'the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle' (2010:6). Bennett further suggests that materials themselves are constituted of vibrant matter, 'an active, earthy, not-quite-human capaciousness' (2010:3) that comprises all things, alive or inanimate. Her New Materialist theory develops the metaphysical ontologies of Spinoza (Bennett 2010:2) and of Deleuze and Guattari, who posit that all things and forces - all 'words, plants, ideas, minerals, dreams, and animals' - are expressions of an unformed 'plane of consistency' (Bogue 1989:149), and that matter is always 'in movement, in flux, in variation' (Deleuze and Guattari 1987:409). Similarly, Bennett's vibrancy of matter facilitates a sense of commonality, communion, perhaps even communication, between all forms of matter, effectively countering the 'thinginess' or fixedness of things that isolates them as being static, without energy, force, or agency (Bennett 2010:20).

This communion finds expression in the New Materialist concept of 'assemblage', where it extends beyond the sense of the physical, archaeological assemblage to encompass a relationally-connected confederation of objects, materials, interactions, and processes (Govier and Steel 2021:30) – analogous in some ways to the mathematical concept of the 'set' (Potter 2011). Ingold defines these as 'entanglements', the 'meshwork of interwoven lines' along which objects relate (2010:3), through which they figuratively cross paths.

Bennett believes that a thing, an 'actant' composed of vibrant materials, 'never really acts alone', and that its agency 'always depends on the collaboration, cooperation, or interactive interference of many bodies and forces' (2010:21). This is achieved, she believes, through a process of 'distributive agency' that engages with the 'swarm of vitalities at play' (2010:32).

In the same way, Barad's ontological theory of 'agential realism' explores the expressive and 'intra-active' nature of matter, and she describes the world as being 'a dynamic process of intra-activity' differentiated through an 'ongoing flow of agency' (2003:817). Matter is always, to Barad, playing an 'active, indeed agential role in its iterative materialization' (2003:826). Emmet's book *The Passage of Nature* (1992) predates the New Materialist movement and yet her work on process philosophy, with its reflections on agency, causation, and the nature of 'things', provides a stimulating foil to Deleuze and Guattari, whose rejection of things as purely physical objects can be a challenging premise in a study on material culture. Emmet devises the concept of the 'thing-in-process', where a three-dimensional thing with the facility to act and be acted upon also exists in a fourth dimension: in time. 'It exists and persists through a process… We can think of it as a changing system', one which exhibits 'immanent causation' (Emmet 1992:56). With this she offers a more tangible, more 'material' take on Deleuze and Guattari's concept of matter constantly in flux.

To Emmet, the thing-in-process is always in a state of becoming, of expressing or exercising its agency. Likewise with Barad, who states that 'agential intra-actions are causal enactments' (2003:824), meaning that things do not 'have' agency, but that they are capable of agential action through time, not because they exhibit intentionality but because the intra-actions themselves and the causations they generate can be best understood through a more expansive, posthumanist definition of agency (2003:826). As Jervis observes, in a world where everything is conceived as vibrant and affective, the conceptual challenge of ascribing the locus of agency becomes a hindrance, detracting from 'what it is about the vibrancy of things which makes particular occurrences happen' (in Averett 2022:174). In that sense, it is perhaps better to understand things by knowing them through their actions, their entanglements, and their co-creations. Things have agential capacities rather than agential qualities because they act, interact and intra-act; they are vibrant with, as Bennett would say, thing-power.

THE ENTANGLED HEDGEHOG

The hedgehog figurine, as a composite object, exists as an assemblage in itself. Its limestone and bitumen, largely preserved, have enmeshed and interacted over time with the absent materials of pigment, inlay, axles, and cord, that may have been lost gradually as the object

moved through time, a 'thing-in-process'. The 'machinic' or material aspects of the assemblage are entangled with stories of its manufacture by a craftsperson (or several craftspeople), its use-life in the hands and homes of individuals, and its lines of significance as a votive deposit buried as a tiny part of a much larger meaningful activity. The figurine also holds within itself virtual capacities that express the 'enunciative' aspects of its assemblage (per Tsoraki et al 2020), embodying a multiplicity of possible functions.

In an archaeological context, the dynamic correlations and entanglements of the hedgehog figurine can be perhaps most readily appreciated as part of the votive assemblage in which it was deposited at Susa in the Middle Elamite period. Each of the thousands of votive offerings was placed by human hands into the brick-lined cist on the Acropole that had been dug, prepared, and lined in advance of that moment. The assemblage may have come together during, or following, the performance of a ritual, placed into the ground as a single act of dedication. Conversely, it is also possible that this is a kind of 'sacred clutter', the broken and unwanted remnants of a temple storeroom or display that had evolved and aged. When the time came to clear them away, their status as votives warranted the ritual of burial, if not a careful or considerate one.

Calcined animal bones were part of the fill: did the act of deposition include animal sacrifice, or perhaps the celebratory consumption of meat, before the bones were thrown into the hole? Broken vessels indicate too that wine may have been drunk, or libations poured, either around the pit itself, or in a separate location from where the haul of ritual 'things' were moved and deposited in the brick-lined pit. There is so much activity, identity, and embodied praxis wrapped up in the fragmentary remains of the assemblage, and yet each thing exists apart from its personal, religious, or evidentiary significance. The jumble of bronze, stone, clay, bitumen, silver, bone, ash, wood, lapis lazuli, gold, and the remains of food and drink were physically as well as figuratively entangled as they fell into the cist, creating new relational meanings through their new proximity. Some held material resonances that echoed to each other across the pit: the limestone and bitumen of the wheeled lion figurine and the hedgehog on its cart, and the tiny long-necked bird; the 115 gold rings that may each have lived separate lives beforehand. Others came together in unfamiliar ways: bitumen and wine, silver and bone, communing strangely and vibrantly.

The assemblage of things, processes, ideas, and substances form a meshwork of narratives, and a meaningful group alive with collaborative vitality. Yet as it lay in the ground, the assemblage was not static but continued to develop – metals oxidised, fill settled, organic materials decomposed over centuries causing further shifting and settling. The elements of the hedgehog figurine and its companions crumbled, collapsed, continually 'became', exerting their material agency. In burying the votive cache as part of a temple dedication the ancient Elamites may have understood, in a fashion, that things and materials do not cease to be significant once concealed, but achieve a powerful sense of meaning – they retain, and perhaps even increase, their vibrancy.

De Landa remarks upon 'matter's inherent creativity' (in Bennett 2010:7), its ability at the atomic level to self-structure into crystalline forms. Might this not also extend to the process of decay, with materials oxidising, and entropic processes continuing after interment? Bennett is inspired by Sullivan on this point, proposing that 'a vital materiality can never really be thrown "away", for it continues its activities even as a discarded or unwanted commodity' (2010:6).

Perhaps this theory of vibrancy in decay could conceptually be taken even further: in instances where two different metals are in contact in the presence of a conductive liquid (e.g. rain, seawater, condensation, wine), one metal causes the other to corrode at an accelerated rate, a galvanic process known as bimetallic corrosion. This is an intriguing perspective to consider for any deposit containing mixed metal objects: these two metals in collusion with the liquid are surely co-creative, agential entities, exerting their thing-power!

This chapter has analysed the present and absent materials that made up the hedgehog figurine, and considered them individually, within their Elamite *habitus*, and as part of a larger depositional assemblage. The materiality of the figurine has been explored through observation of its sensory capacities and its attention-drawing qualities. These analyses have led to a discussion of the figurine's agency and its participation in a vibrant discourse through ongoing processes of entanglement within the assemblage. The lively, agential power of the thing-in-process will now be developed further in the next chapter through a combined application of methodologies relating to the figurine's miniature size and its appealing cuteness.

‘SHORT AND SWEET’: MINIATURISATION AND CUTENESS

This chapter consolidates the combination of a sensory approach to materiality and the New Materialist ‘thing-power’ explored in the previous chapter, developing it by considering how miniaturisation might shape an object’s affordances and appeal, and how this in turn might influence its agency. This is taken a step further by engaging with modern theories on ‘cuteness’ to consider whether scale and affect can combine to impact an object’s agency in the question of its own survival. The hedgehog figurine is used as a case study throughout in the application of these methodological lenses.

MINIATURISATION THEORY

The material qualities of miniature objects, such as figurines, have often been overlooked in a body of research that has preferred to investigate their semiotic or representational attributes (López-Bertran and Vives-Ferrándiz 2018; Weismantel and Meskell 2014). The editors of the book *The Tiny and the Fragmented* themselves recognise a need for studies of votive figurines to move beyond reductive theories of ritual significance or symbolic imagery that overlook the affective properties of miniatures, treating them as simply ‘embodied data’ (Martin and Langin-Hooper 2018:2). In the vanguard of a more enlightened, experiential approach is the foundational work on miniaturisation by Bailey, whose research focuses on the materiality of Neolithic figurines (2005; 2014). Bailey (2005:26-44) identifies a dynamic combination of mechanisms by which reducing the size of an object gives it affective power. Bailey underscores the crucial difference between a ‘model’, created for representational accuracy, and a ‘miniature’, which does not emphasise precision but instead employs visual understatement to engage the viewer – the category in which figurines such as the Elamite hedgehog belong. He posits that processes of size reduction, ‘abstraction’, and ‘compression’ all have their part to play in an active engagement between object and beholder.

Reduction in size forces the beholder into a reciprocal spatial relationship with the figurine, creating intimacy, Bailey believes. This mirrors the conclusions of López-Bertran and Vives-Ferrándiz (2018), whose analysis of Iberian Iron Age figurines leads them to determine that the tiny objects’ materiality incites immediacy and intimacy, making them ‘agential’, and

even inspired a modification of the Iron Age beholders' perception of self, evidenced by a stylistic shift in that region's material culture.

'Abstraction' is the mechanism by which the miniature's selective brevity of detail requires the beholder to infer, to fill in the blanks. As Bailey puts it, 'through abstraction, a miniature is an object made active; it forces the viewer to do something that otherwise they would not do' (2005:32). It suggests that in the materiality of the object itself there are agentic forces at work.

'Compression' represents the figurine's ability to say more with less, its smaller scale producing a 'denser expression' of reality that enriches or 'multiplies the weight' of meaning even as the miniature is reduced in material, scale, and detail (2005:32-3). Meirion Jones, recalling Mack's *The Art of Small Things,* calls this facet of miniaturisation 'artefacts as microcosms' (2012:58; see also Mack 2007:69-74). Although his analysis explicitly references Bailey's distinction between models and miniatures and their relative levels of representational detail, it later conflates the two and is weakened somewhat as a result (2012:33-4; 58). However, Meirion Jones's use of Mack's microcosm hypothesis to consider how miniaturisation can distil or concentrate (human) knowledge provides an intriguing foil to Bailey's more object-oriented approach.

The combination of these capacities allows a miniature to affect a beholder in a number of ways, suggests Bailey (2005:33-4). The change in scale causes the beholder to feel enlarged and thus empowered, giving a gratifying sense of omnipotence. This control is extended by the ability to physically hold the miniature, facilitating better (proximal) knowledge and therefore making the world of the miniature object more 'manageable' through sensual engagement. The feeling of control promotes comfort, and therefore a sense of pleasure, inducing a mutual intimacy. By playing with an alternative world of uncommon parameters, the beholder is liberated, able to fantasise and experience an alternate physical and psychic space. By confronting the beholder with the material paradox of miniaturisation, the reciprocal action required by abstraction unsettles them, stimulating their mind and drawing them into the tiny world of the figurine. Bailey recounts the astonishing research by Delong into how one's perception of time can be dramatically distorted by imagining oneself inside a scale model (Bailey 2005:37; see also Meirion Jones 2012:33). It makes a convincing

case study, alongside Bailey's complex of mechanisms, to illustrate that the effect on the beholder of three-dimensional miniature objects is not simply emotional, but also functional and metaphysical. Interacting with miniatures can effectively change our perception of reality.

HANDHELD HEDGEHOGS

Like most figurines, the Elamite hedgehog is not just miniature but also three-dimensional. With echoes of Gibson and Ingold, Bailey suggests that this combination of qualities means they 'afford touching and being held in the hand' (2014:32), something he labels 'cheirotic apprehension', or more plainly: 'knowing through touch'. To be adequately perceived, the miniature three-dimensional object must be brought into the beholder's own personal space, establishing a relationship that Bailey deems to have 'proxemic consequences' (2005:39). Proxemics, pioneered by Hall in the 1960s, is principally concerned with the relative depths of personal relationships reflected in the different distances maintained between two subjects during an encounter – put more bluntly, physical closeness reveals personal 'closeness'. Bailey believes that the very physicality of the miniature three-dimensional object invokes the urge for palpable connection (2005:37-9), what Martin and Langin-Hooper call 'an invitation to tactile interaction' (2018:3).

The intimacy, or intersubjectivity, resulting from touch allows for a breakdown of the conceptual bounds between an object and its environment, producing an uncertain, fluid, context-specific interpretation known as 'proximal knowledge' (Bailey 2014:33). The abstraction of miniaturisation allows for multiple, polyvalent meanings and responses, due to the miniaturised object's embodied potential for different, subjective inferences to be drawn, 'all of which', believes Bailey, 'within reason, are equally valid' (2005:32). From a New Materialist viewpoint this immediacy raises the question of whether there is a kind of reciprocity between hand and object, the physical and metaphysical barriers between each fluctuating and intertwining, with neither body being contained entirely by its surface (see Merleau-Ponty's ideas on 'reversibility' 1968:137ff; Ahmed, in Coole and Frost 2010:244-8).

Harris and Sorensen define this reciprocity generated through intimate connection as an 'affective field': 'the relationship between agents, where something… is stimulating an emotional response in a causal set of events' (2010:150). In their work on emotion in

material culture, they seek to underline the ways that emotions are embodied, and therefore cannot be separated from the material world. The relational network of the 'affective field' is therefore realised through practice, through Bailey's 'proximal knowledge'. Miniaturisation is therefore key to any sensory analysis of the hedgehog figurine, its reduction, abstraction, and compression producing an effect on the beholder that invites touch, or even simply the desire to touch, generating the 'haptic frisson' that makes it so alluring. Experientially, this can be understood when handling the life-size clay replica hedgehog (see Figure 10), and when exploring the proxemic possibilities. The limestone figurine is as alluring to Louvre Museum visitors today, tantalisingly 'un-touch-able' in its glass case, as it was to the Elamite hands that made, admired, possessed, bequeathed, and buried it in the ancient past. The miniature hedgehog allures, it is vibrant; through its thing-power it affords intimacy.

THE EFFECT OF AFFECT: AGENCY AS AN AFFORDANCE

Bennett's theory of 'distributive agency', where things and forces work in concert as an 'agentic assemblage' (2010:21) seems to be irretrievably at odds with models of 'object agency'. These are typified by the work of Gell (1992; 1998) whose influential theory suggests that the agency of an object stems from its 'enchantment', an embodiment of the human technical processes used to create it, something which Bennett criticises as unnecessarily 'constructivist' (2010:17; for further structural critique of Gell's model of agency see Morphy 2009). Gell's agency is anchored by the human response, whilst Bennett's New Materialism decentres the human. Yet this study questions whether these are indeed mutually exclusive positions, and wonders whether a close look at a thing's affordances, of its potentialities, might instead suggest that distributive agency may be an expression of a thing's embodied agential capacities when viewed relationally. A decentring of humanity does not necessitate its exclusion, but perhaps requires a re-evaluation of the human as an assemblage of materials and forces acting agentially among Bennett's 'swarm of vitalities' (2010:32). As Hodder says, 'agency is simply the ever-present force of things' (2012:215).

Could this mean that these two conflicting definitions of agency might therefore be two sides of the same coin? Objects interacting display agency: a cup 'holds' tea, a screwdriver 'tightens' a screw, a kettle 'boils' water. They may have been created by human hand, but

the affordances provided them exist without the ongoing intervention of an engineer or an artist. The electric kettle has agency through the way it affords boiling, and in discourse with water, electricity, heat, and a person to fill the kettle and switch it on, an agentic assemblage is instantiated where the agency of each element communes and communicates to produce hot water. The materials are vibrant, and their vibrancy is expressed not just in the way the assemblage intra-acts, but in the capacities of each element and how they come together unconditionally. The thing has not *been enchanted* as much as it has itself *become enchanting*. The New Materialist approach toward embodiment does not devalue a creator's capacities for symbolism or reflexivity, but as Coole and Frost assert, reconsiders them as 'diffuse, chance products of a self-generative nature' (2010:20-1). Thus the engineer and the artist, whom we might call here the 'affordance-makers', whose actions shaped some of the object's agentic capacities, are simply elements of former, now-fragmented vibrant assemblages in which the object once operated.

DEFINING CUTENESS

The examination of emotions in material culture studies is a wide and growing field of research that investigates the affective interaction of people and things (see Harris and Sørensen 2010 for a thorough bibliography). This dissertation however limits itself to an exploration of just one emotion that is vanishingly rare in such studies: a reaction to certain stimuli that is often referred to as 'the cuteness response'.

It is important to note that there are two facets of 'cuteness': as a descriptor, and as an emotion. The first is an aesthetic quality that Genosko defines broadly as signifying 'beings or objects whose attributes elicit affective responses' (2005) – things can 'look cute'. It is often associated with what Lorenz's influential research (1943; Kawaguchi and Waller 2024) called the *Kindchenschema*, or 'baby schema', whereby craniofacial features in childlike proportions elicit a care response in humans. Lorenz felt that the response was not culturally contingent but an innate human reaction to stimuli, since he had noted in subjects as young as one year old. Lorenz isolated seven characteristics of a human or humanoid that he believed were required to trigger a cuteness response: a relatively large head; a domed forehead; large, deep eyes sitting below the centre-point of the skull; extremities that are relatively short and thick; a generally rounded body shape; a soft, smooth body texture; and rounded 'chubby' cheeks (1943). It is interesting for this study to note the way Lorenz

extended his hypothesis to representations of cute animals: ‘All living creatures, even all inanimate dummies, which show several of the characteristics mentioned above, appear ‘cute’ with an almost astonishing degree of unanimity among a wide variety of people’ (1943).

The second aspect of cuteness is the human response to this aesthetic, which is significantly less well-researched. Unlike other human emotive responses, such as fear, that have received more scholarly attention (Buckley 2016; Simón 2023), this may be due to a linguistic omission: while most major language groups have a word for cute, there is no corresponding word for the human emotion felt upon perceiving cuteness (Buckley 2016; Kawaguchi and Waller 2024). Lorenz himself, writing in German, originally suggested the words *niedlich* (pretty), *süß* (sweet), or *herzig* (cute) for the feelings induced by cuteness (Kawaguchi and Waller 2024:2). The Japanese word *kawaii* and its Chinese equivalent *ke ai* have been in use for more than a thousand years, originally meaning ‘pitiable’ (Dale 2017:39) or ‘loveable’ (Buckley 2016:2), but although *kawaii* is a popular term among scholars of cuteness it has been complicated by its application to specific modern fashion subcultures. In the absence of an appropriate English term for the cuteness response, Buckley pragmatically proposes the word ‘aww’ (2016).

Many recent scholars have sought to distance themselves from Lorenz’s perception of this ‘cuteness response’ as a human instinct, conscious of Lorenz’s problematic history with Nazism and eugenics and how this may have informed his understanding of the ‘instinctual’ (Dale 2017:44-5). Collating scholarly research on cuteness in the important volume *The Aesthetic and Affects of Cuteness*, Dale does not deny the validity of the ‘baby schema’ as a conceptual framework, but proposes that the cuteness response to it may be just one example of ‘prosocial’ behaviour, resulting in a ‘positive affective response’ to aesthetic stimuli that is more complex than a primal parental caretaking impulse (2017:44-6). ‘Prosocial behaviour’ can be defined as positive, beneficial action intended to promote social acceptance and cohesion, the opposite of ‘antisocial behaviour’; in this sense a desire to protect the most vulnerable. Genosko (2005) similarly underscores the complexity of cuteness, asserting that making objects cute gives everyone ‘a chance to be a kind of nurturer through consumption’, but that while cuteness creates ‘delight and emotional warmth’, it fails to engender any kind of ‘understanding and respect’ which he links with the

capacity of cuteness to convey the sense of 'control of a lesser being'. There are echoes of Bailey's miniaturisation theory here, with the affective power arising from the differential in scale and the sense of control that is conferred.

Ngai describes cuteness as a quality that discloses 'the surprisingly wide spectrum of feelings, ranging from tenderness to aggression' that humans feel toward 'subordinate and unthreatening commodities' (2010:949). In these definitions alone it is clear to see the difficulty in separating cuteness as an affective aesthetic register from the emotional cuteness response, and yet this has been a preoccupation in the scholarship (Dale et al 2017:1) that has potentially hampered creative analysis of the phenomenon. Cuteness as an aesthetic concept is less readily defined than a genre or aesthetic style, which has left it vulnerable to allegations of subjectivism; however, cuteness is nevertheless 'no less rooted in history than other categories used… to classify cultural products' (Ngai 2010:953). The editors of *The Aesthetic and Affects of Cuteness* suggest that the answer lies somewhere in the middle: that cuteness results from a 'complex interplay' between subjective judgement and a quality inherent to cute objects themselves (Dale et al 2017:1). This study likewise aims to avoid becoming sidetracked by the intricacies of these arguments by embracing the phenomenology of the perception process, and by considering the cuteness of a thing and the cuteness response of a beholder to be two elements in a complex flow of synergies within a vibrant assemblage, inseparable and entangled.

CUTENESS AND MINIATURISATION ASSEMBLED

Combining theories of cuteness and miniaturisation can offer a new perspective, as both mechanisms work together to vitalise the cuteness response. Marketing studies academics Li and Eastman (2023) conducted experiments in consumer decision-making, to explore whether reducing the relative size of an object altered consumer evaluation of its cuteness at smaller scale, and therefore increased its attractiveness. Their results revealed that, across all their studies, 'the findings offer converging evidence that smallness leads to increased cuteness perception' (2023:1307). A simpler study by the psychologist Simón (2024) reaches a similar conclusion: that miniaturisation enhances the probability that something will be considered cute. Simón hypothesizes that the cuteness response elicited by the 'baby schema', centred on the affective qualities of bodily attributes, is heightened by the perception of miniature size. He links this to a Lorenzian 'evolutionary' caregiving

instinct (2024:458-9), but it can also be explained more broadly as a prompt toward prosocial behaviour.

There are intriguing associations to be drawn here with proxemics (per Bailey 2005:39): a correlation between the cute tiny object's ability to manipulate prosocial behaviour into creating a more intimate connection, and the miniature's proxemic capacities, where a thing within intimate reach is deemed more personally meaningful and affective. Put plainly, cute things allure, but tiny cute things are even more alluring. Both mechanisms work agentially together to draw the beholder into the alternative world of the miniature.

CUTENESS IN THE HAND

There is an additional mechanism that, astonishingly, may have the power to enhance the cuteness response even further: touch. The previous discussions of touch as a way of knowing – 'proximal knowledge' through 'cheirotic apprehension' – take on a new dimension when applied to cute objects. Bailey's work, like Gell's, never truly departs from his idea of the figurine as the embodied motivation of its maker, despite his forays into the agency of tiny objects – and yet Bailey's relocation of focus from what miniatures *say* to what it is they *do* provides new insight into that of objects made to be cute, particularly when held in the hand. Ohashi and Nittono, researchers in cognitive psychophysiology, have shown that physical contact positively influences the perception of an object's cuteness (2026). Their experiments have shown that both softer 'baby schema' features and the act of being held increase the cuteness of objects in a way that is not culturally contingent (2026:9). Their experiments build on the work of Okada et al (2022), who found that when videos were shown of a humanoid robot presenting a small doll to the study's participants, they perceived the doll as being cuter whenever it was being handled. Both studies infer that proximal knowledge increases perception of an object's affective qualities. Proxemically speaking, bringing a thing closer helps us 'feel closer' to it. That this result persists at one remove, even when viewing an image of that object being held by someone else, is a fascinating illustration of the affective dialogue between agents. This is the 'invitation to tactile interaction' harnessing the beholder's urge to touch, the 'haptic frisson', encountered in our previous discussion on sensory perception.

IS THE HEDGEHOG FIGURINE REALLY CUTE?

In creating a complex methodological lens from theories of materiality, miniaturisation, and cuteness through which to view the Elamite hedgehog figurine, an essential question arises: how can we say that it is, in fact 'cute'? Looking at the object's materiality, there are physical cues deriving from the affordances shaped during its manufacture. The hedgehog has blunt, unthreatening spines, and rounded friendly features that invite touch. Its large inlaid eyes sitting below the centre-point of its head, rounded smooth body, and short stubby legs all positively correlate with Lorenz's 'baby schema' (see Figure 32). By these criteria, and the evidence of our own emotive response to handling the clay replica, the hedgehog is certainly cute. Its miniature size encapsulates the abstraction of form noted in Bailey's theory, with an intriguing brevity of detail that draws in the beholder: a pleasing and slightly unnatural symmetry, no visible mouth, sparingly detailed feet and toes, and its spines laid out in a sensual but unrealistic squared grid. Through miniaturisation, it compresses and distils its 'hedgehogginess' into a tiny lump of stone and a series of well-

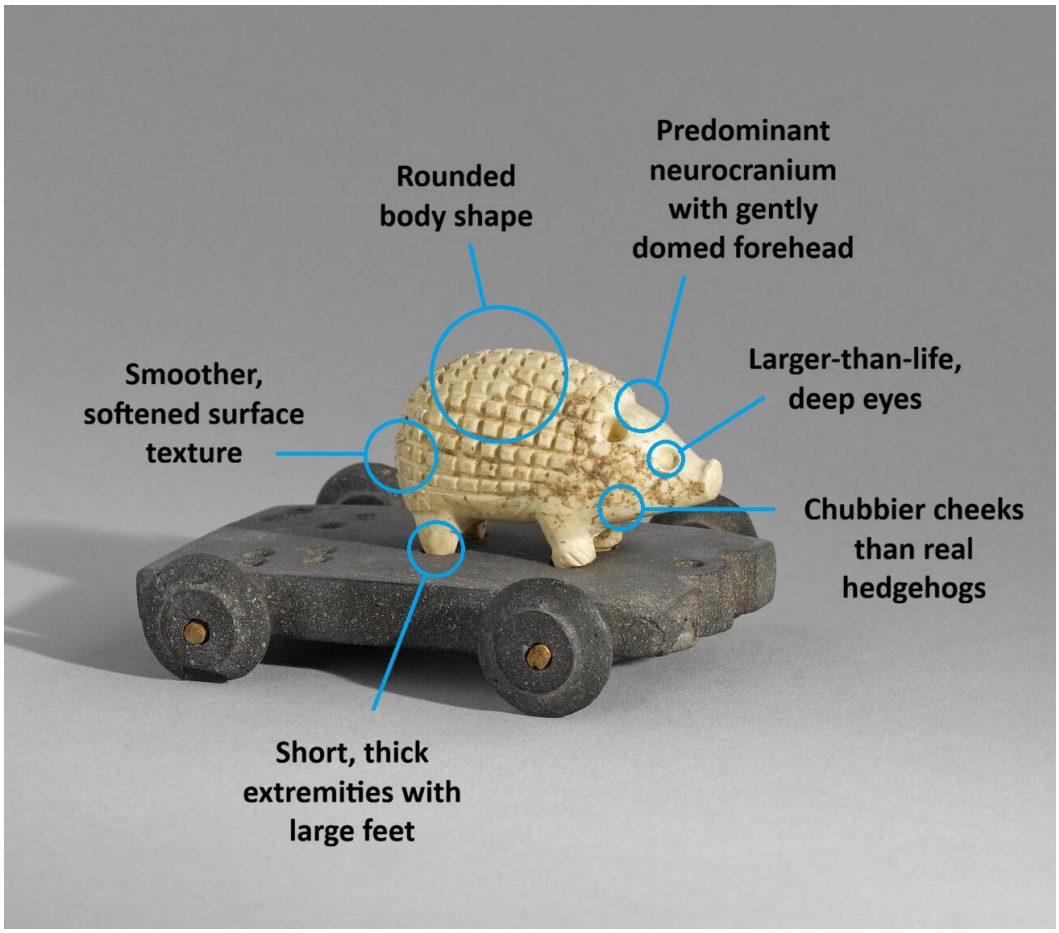

Figure 32: The Elamite hedgehog figurine annotated to show correlations with Lorenz's 'baby schema'. Compare with images of real hedgehogs in Figures 3 and 8. After Louvre SB2908, annotations by author.

chosen incisions. As Li and Eastman's experiments suggest, its smallness increases its cuteness, and through this manipulation the figurine invites the beholder to approach and touch.

Perhaps unsurprisingly then, the hedgehog may indeed have been well-handled: the limestone surface reveals wear to the smoothed-off square edges of the spines, there are small dents and scratches to its face and underbelly, and its pigment and inlays are now lost. These marks were visible immediately after excavation in 1904 (Figure 33), and suggest that in ancient Susa, whatever its apparent function, the hedgehog had the capacity to invite the beholder into a tactile, proximal relationship.

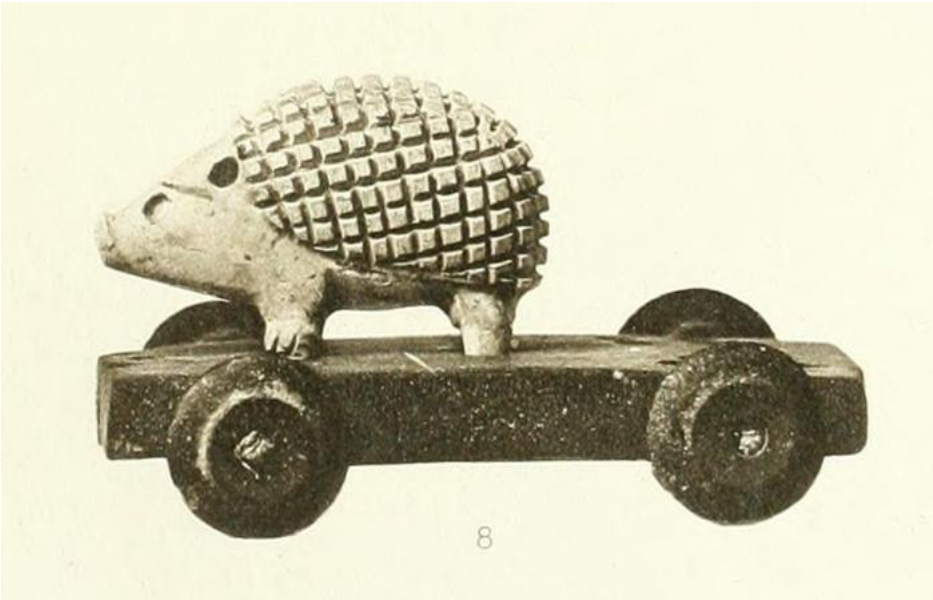

Figure 33: The Elamite hedgehog figurine on its cart, photographed soon after excavation in 1904. Note the wear, including scratches on face and underbelly. After de Morgan et al (1905:Plate XXIII).

The bitumen cart is also scratched (see Figures 7 and 33), its wheels are worn and chipped around the edge and one rear wheel perhaps even sports a conservation repair across its diameter (see Figure 1). Nevertheless, for an object that seemingly invites play, the cart appears less worn than the hedgehog figurine – it could have been a later addition to the hedgehog, although the animal's foot pegs, crafted from its inception to fit sockets in a specific surface, suggest not. Perhaps the hedgehog was picked up off the cart and handled more frequently? Dale (2017:51) considers the definition of an object's cuteness to be 'an appeal to others', with the elicited cuteness response 'high in approach motivation', in behavioural science terminology. As we have seen, the allure of the figurine's tiny size and

cute features would have encouraged this, and may explain why the even tinier (and possibly even cuter) baby hedgehogs are absent: handled to death, maybe, or appropriated by someone who found them just too alluring!

The surreal and slightly ridiculous tableau of a hedgehog, or a family of hedgehogs, riding on a wheeled cart exhibits a playful cuteness that goes beyond merely the affective features of the animal figurines. The presence of the bitumen cart contributes to the cuteness of the composite object by employing a slightly different mechanism: 'whimsical cuteness'. Nenkov and Scott (2014) propose that 'whimsical cuteness' operates separately from the 'baby schema', producing a cuteness response that is rooted not in a caregiving impulse but in an appeal to playfulness or fun. Their research concludes that whimsically cute objects elicit feelings of pleasure, and increase levels of interaction, consumption, and self-indulgence (2014:339). A New Materialist perspective evokes parallels between whimsy and the vibrancy arising from the intra-action of the figurine's elements and materials. The hedgehog figurine's whimsical cuteness enhances its thing-power and its alluring capacity to commune with people and other objects in its vibrant assemblage.

It is impossible to state with certainty that those at ancient Susa who interacted with the hedgehog figurine believed it to be cute in the same way we do today. Yet Lorenz's assertion that cuteness is not culturally contingent is borne out by recent studies that suggest both the concept of cuteness and the 'cuteness response' transcend national and cultural boundaries (Nittono et al 2021). We might reasonably infer from this that the cuteness response could also transcend temporal boundaries, being just as relevant to the lived experience of ancient people as it is to us today. The 'baby schema' cuteness of the hedgehog combined with the whimsical cuteness of the entire object, vitalised by its miniaturisation and tactile materiality, all combine to strongly suggest that this object was as alluring – as 'enchanting' – to Bronze Age Elamites as it is to modern eyes.

SURVIVAL THROUGH (DISCURSIVE) ENCHANTMENT

In formulating his theory of agency, Gell contends that when objects are decorated, they leverage what he calls the 'psychological technology' of enchantment (1992; 1998:74), which allows an object to attend better to the needs and desires of the people who interact with it. Gell's work centres on art objects and how they act upon their beholders, gaining

power from the embodied technical processes used to shape them (Gell 1998:43-4). However, it might be argued that even with the affordance-making mentioned above, the intervention of the human artist is not necessary to somehow instil this enchanting agency into an object, and that naturally occurring things might equally produce an affective response. Viewed from a materials-focused perspective, neither manmade nor natural objects have intentionality, and yet both can act agentially when in dialogue with other objects or people. As we have seen, both miniaturisation and cuteness can act to elicit and enhance that dialogue.

This study posits that there is a discursive element to this: that the enchanted/enchanting object forms transitory assemblages with people and other things. Within the assemblage, vibrant intra-action produces what is known in the marketing industry as 'association', a mesh of links between ideas, concepts, or memories that work to enchant and re-enchant the elements of the assemblage. Association between agents can therefore be seen to generate a 'discursive enchantment' that operates relationally (see Hartmann and Ostberg 2013). In miniaturised objects that have prompted an intimate connection with a beholder, the affective capacities afforded by miniature scale work to vitalise that connection. In turn this harmony of agencies acting relationally enhances the possibility that the small enchanting object will be handled, kept, interacted with again and again, given layers of associative meaning, and thus is less likely to be discarded.

In the case of the hedgehog figurine, its cuteness enhances that further. Recent study in the field of consumer research has shown that humans are more likely to retain and take good care of objects if they are deemed to be cute (Jia et al 2013; 2015). Similarly, cute objects actively draw our attention, and merely looking at them has been seen to dramatically increase rates of consumer engagement (Bellfield et al 2011). More surprisingly, the act of viewing cute images actually narrows our focus, and alters our behaviour so that we take more care over tasks (Nittono et al 2012). These attention-drawing mechanisms recall Hurcombe's (2007) recommendation to look at an ancient object's attention-focusing properties so that even as 'cultural outsiders' we might perceive clues to the object's agentic affordances - the elements of enchantment - even as our cultural references palpably differ from those of past peoples. The hedgehog figurine's cuteness, viewed as an affordance, may have allowed it a more active role to co-create its trajectory through time,

Figure 34: Elamite lion and hedgehog figurines displayed among other Elamite objects at the Louvre Museum, Paris. Photography by Karl Steel, taken 4 April 2012.

entangled in vibrant communion with people and other objects. As Ngai says simply, 'cute things evoke in us a desire to protect them' (2010:950). In short, it affords survival.

THE SURVIVAL OF THE HEDGEHOG

The hedgehog figurine survives today as a museum object (Figure 34). In its glass case, it silently embodies its past usages and associations, and has been co-opted as a *jouet* (a 'toy') to be a microcosmic representation of the otherwise mysterious life of Elamite children. It still allures and enchants. Of course, museums and archives are not packed with only tiny, cute things that have disproportionately survived the ravages of time, having outcompeted all other objects that were just too large, plain, and ugly! We have also considered that exceptionally cute objects like the lost baby hedgehogs may have suffered from *too much* attention in the ancient past. And yet, the cuteness of a thing may impact our desire to keep it close. Certain objects catch our eye, captivating us, something that Gell touches on with his idea of 'cognitive stickiness' (Gell 1998:86; Küchler and Carroll 2021:152-3). Cute objects certainly do this, exhibiting Hurcombe's 'attention drawing phenomena' (2007), as do tiny things with their unsettling invitation to intimacy. In the case of ancient objects this

facilitates a way of interpretating that is less preoccupied with hypothesising function or locating objects within a typology, but that allows the visitor to enter into the world of the object itself. After all, museums are sites of what is termed 'affective engagement' (Tolia-Kelly et al 2017; Varutti 2022), and the act of curation attempts to distil and leverage what it is about a certain object that speaks to us as the beholder. Choices are made in affective collaboration with the enchanting object, as its materiality gives it possibilities for reciprocal action, a 'mutual recognition of affordance' (Küchler and Carroll 2021:155).

In the case of the hedgehog figurine, this choosing process began to happen long before it came into the gloved hand of the curator: Elamite hands too chose this particular object to own, to enjoy, to dedicate to the Inšušinak temple, to bury in the ground alongside many other chosen objects. Persian and French hands that found it in 1904 chose not to discard it, but to clean it and record it, and to send it off to Paris so that it may enchant others. With echoes of Delong's scale-model experiments, Dale et al consider that cuteness is essentially 'atemporal', with a 'metaphoric ability to condense a number of thoughts and sentiments, thereby lifting us briefly but compellingly out of linear syntax' (2017:15-6). Perhaps the hedgehog's alluring miniaturisation and manipulative capacity for cuteness can be said to contribute materially to its being a 'thing-in-process', as Emmet would say, acting agentially through time to the benefit of its own survival. After all, it can be no coincidence that it sits on public display in the Louvre while nearly half a million other objects languish in the darkness of the museum's stores (Louvre 2026).

The biography of every storied object tells a similar tale of entanglement and discursive enchantment, and cuteness is just one of a number of primary motivators that shape the survival of ancient objects. A New Materialist viewpoint contributes the novel idea that it may be the vibrant material thing itself, in discourse with the people, objects, and forces within its assemblage, that influences the way its story plays out.

CONCLUSIONS

This study has provided an analysis and contextualisation of the Elamite hedgehog figurine, a captivating and whimsical object that has formerly received little scholarly attention. The study has then gone on to explore the figurine more deeply using a multi-lens methodology, employing a New Materialist approach to the physical object, its materials, and its affordances, to interpret it as an active and intra-active element of a number of transitory but vibrant assemblages. Theories of miniaturisation and, innovatively, academic models of cuteness are added to the methodology in order to explore questions of agency, and the way in which the material qualities and appeal of the hedgehog figurine have contributed to its entangled use-life and deposition, and to its survival through a process of discursive enchantment. In dialogue with the other objects and materials in its votive deposit at Susa, just as much as in its museum case today in Paris, the figurine offers material echoes and interactions. Now an agent acting independently of its maker, aged and recontextualised, it nevertheless presents affordances that inspire a 'haptic frisson' and a desire in the beholder to touch, gaze, and draw near. It is durable, eminently tangible, tiny, and cute, and these attributes may well have contributed to its complex and ongoing biography. The multi-lens methodology allows us to find insights that go beyond reductive hypotheses of function or cultural value. It allows us to look directly at the thing, not as a commodity or as a piece of evidence, but as an agent, a thing-in-process, and an active participant in its own story.

The study has embraced its limitations, notably in attempting a sensory and material analysis of an object without access to the thing itself. However, such *in absentia* phenomenological exploration is not without precedent when examining inaccessible places or art objects, and it is hoped that this study can demonstrate how much insight can be achieved through engagement with a replica, and with in-depth consideration of the materials and contexts of the original. There is potential for a future application of the materials-miniaturisation-cuteness methodology that incorporates fragmentation theories, for which the cache of objects from the Temple of Inšušinak would provide an excellent case study (see Appendix). It is hoped that the perspectives gained on the hedgehog figurine in this dissertation, and the multi-lens methodology created, may act as a critical foil for future, less materially-focused studies, and finally give this charming object the attention it deserves.

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APPENDIX: A NOTE ON FRAGMENTATION AND THE NEW MATERIALISMS

Discussions of miniaturisation often go hand-in-hand with those of fragmentation, both being scholarly approaches to incompleteness, either conceptual or material (Mack 2007:68-75; Martin and Langin-Hooper 2018:1). Whether deliberate or the result of wear and gradual loss, interpreting the fragmentation of deposited objects is frequently used to signal the anxieties and motivations of the person who placed them in the ground. Was it important to symbolise loss or a kind of object-death, or to evidence care and wear and therefore human connection? In their volume *The Tiny and the Fragmented,* Martin and Langin-Hooper use a materialist methodology to suggest that these losses, if deliberate, could signpost the elements of an object considered most affective (2018:8), thereby giving insight into the ancient people's mindset. Such interpretations can offer valuable clues to the lived co-existence of people and objects in the past. However, by disproportionately prioritising human expectations and placing a relative value on completeness, this approach conflicts somewhat with a New Materialist perspective, which does not cherish the concept of 'intactness' in the same way, and tensions appear between the two methodologies.

Nevertheless, although an analysis of fragmentation is unfortunately outside the scope of this study, intriguing implications arise for future research. Martin and Langin-Hooper note that fragmentation, like miniaturisation, is a 'relative state' and 'conceptually messy', something that has deterred anthropologists and art historians from formulating cohesive 'fragmentation theories' (2018:21), despite the importance of the process to other disciplines (Sonderegger 2002). Indeed, there are some scholars who call the conventions of fragmentation entirely into question, believing that even supposedly 'complete' objects are themselves fragments of the human-object networks that they once inhabited (see Feldman 2018; Joyce 2018). Sonderegger (2002) considers that wholeness itself should be thought the exception instead of the rule when observing ancient sculpture, an idea which invites a deliberation on material boundaries and assemblages.

There are therefore fascinating possibilities offered by a New Materialist look at the fragmentation of the Elamite hedgehog figurine, and of the entire assemblage of the Inšušinak temple deposit with its profusion of worn and broken objects, raw materials,

unengraved cylinder seals, and unpierced beads. The archaeological record of the cache is somewhat unreliable but nevertheless suggests that the deposit includes evidence of ritual or cultic activity, what might be termed 'fragments of praxis' (calcined bones, ash, broken libation vessels). Exploration of the inter- and intra-actions of the objects, forces, and evanescent significances of the assemblage in this context may benefit from allowing such research to be located within a Latourian framework employing Actor-Network-Theory (Latour 2007), something that has also regrettably been outside the scope of this current study. Mereology – a branch of ontology concerned with the philosophical study of parts and their wholes – may also have an intriguing contribution to make to such research.

There may be much insight to be gained by engaging with a combination of these theories and methodologies (and the tensions between them) to look closely at the Inšušinak temple deposit. Future research directions might include explorations of scale and affect, representative materials, absent materials, and the power of inferred agency between parts and wholes among fragmented objects.