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Writing Londinium with the Five Senses: Transporting Young Readers into the Past

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In this paper, children’s author Caroline Lawrence shares specific examples of how she gets inspiration for her historical novels by using the five canonical senses. Based on a practical session during a conference on sensory archaeology, she writes about visiting museums and reenactment events, handling real and replica objects, and trying to find other sensory links to the ancient world. Visual inspirations include the bones of the so-called Lant Street Teen from a Roman graveyard in Southwark, an ivory and iron knife buried with her, and a leather bikini bottom from a Roman-era well. Bay leaves, frankincense, and mastic have been found in Roman graves and along with the fishy scent of *garum*, they provide olfactory inspiration. During the conference, attendees chewed mastic gum, scraped scented oil off their forearms with a replica strigil, and sipped *posca* (water diluted with vinegar). After several other practical examples, Caroline concludes with a purely imaginary guided meditation.



Introduction

‘It wasn’t until I wrote a book from the point of view of a Romano-British woman,’ said Lindsay Allason-Jones, ‘that I started to think about things like: where did she keep her house key?’

Allason-Jones, archaeologist and author of *Roman Woman: Everyday Life in Hadrian’s Britain* (2000), was speaking at a Roman Army conference in Newcastle in 2016. I nodded enthusiastically when she said this because this is exactly the sort of question I ask when I write novels set in the ancient world. I write for children who need to be able to picture the world of the past. In order to make the stories seem real to my readers, I have to imagine my characters interacting with the sights, sounds, smells, and other sensory aspects of a specific time and place. For me, this is one of the best parts of the creative process. A bonus of writing this way is that as I imaginatively inhabit the characters and their world, I begin to get hints of the ancient mindset. For example, a key from the grave of a fourteen-year-old girl from Roman London was found near her left hip, so it probably hung from her belt (Ridgeway et al. 2013: 79). But the girl’s key was too small to be a door key and too flimsy to open a jewellery box. Might its function have been something more alien to our modern world? Could the key have been a charm to help her ‘lock’ a baby in the womb, like the so-called uterine amulets found in other parts of the ancient world (e.g. Aubert 1989: 446)?

I sometimes dare to dream that such an informed but imaginative exploration of a long-gone world might give me true insights, as was apparently the case with James Michener in his novel *The Source*. Michener, writing a section set in the tenth millennium BC in the Middle East, imagined his protagonist erecting a megalith in order to placate the gods. Although Michener drew heavily on archaeological reports, no such monuments had been discovered at the time of writing, and no archaeologists believed such megaliths existed in the tenth millennium BC. Many years after the publication of *The Source*, megaliths similar to the ones imagined by Michener were discovered in Turkey, proving that his informed intuition had been correct (Van Helden and Witcher 2020: 8–9).

My own interest in Classics was first sparked by reading a book set in ancient Greece, Mary Renault’s historical novel *The Last of the Wine* (1956). Having read it during my gap year at university, I signed up for classes in Ancient Greek and Latin. I was so captivated by the languages and archaeology of the ancient world that I chose to major in Classics at UC Berkeley and to read Classical Archaeology at Newnham College Cambridge. After a break to start a family, I studied for an MA in Hebrew and Jewish Studies at UCL.

In 1989, I became a primary school teacher and, ten years later, started writing historical novels for children set in the first century AD. I used Hollywood plot structure and archetypal characters from mythology in order to keep kids reading while I explored different aspects of the ancient world, which was—and still is—my real interest. Over the first decade of the twenty-first century, I wrote seventeen *Roman Mysteries* books for children, starting with *The Thieves of Ostia* (Lawrence 2001), still my best-selling book. In 2007 and 2008, ten of the books in this series were televised for the BBC. A dozen or so historical novels followed, including a four-book spin-off series of the *Roman Mysteries* set in Roman Britain: *The Roman Quests*. In 2016, I started a book inspired by the girl with the key mentioned above. She lived in Roman London, and her skeleton was found in a Roman graveyard in Southwark (Ridgeway et al. 2013: 79). An early working title of the book was *Ways to Die in Londinium*. Later, I changed the title to *The Girl with the Ivory Knife*, but because of the prevalence of knife crime in London, my nervous publishers convinced me to settle for a safer title, *The Time Travel Diaries* (Lawrence 2019).

In October 2018, I was invited to attend a conference on ‘Sensory Experience in Rome’s Northern Provinces’ (SERNP). Held in London, it was easy to attend, and I was thrilled to talk about how I use archaeology and artefacts to write my books. My target readers are children aged 7–12 who love the concrete world, so I called the talk ‘Writing Londinium with the Five Senses’. The following thoughts are based on my presentation.

Visual – Using Sight to Access the Ancient World

Aristotle firmly stated, ‘There are no other senses apart from the five, I am speaking of sight, hearing, smell, taste, touch...’ (*De Anima* 3.1). Although subsequent scholars have proposed dozens more senses (Francis 2020), it suits me as a writer and teacher of primary school children to think in these simple terms. For Aristotle, sight comes first, and it is the most important sense for me, too. How do I use sight? I simply go and look.

For anyone studying Londinium, the jewel in the crown is the Museum of London (MOL), until recently located in the Barbican and soon to reopen in 2026 as the London Museum. There is also a branch of the MOL in Docklands as well as its associated archaeology department in Islington, the Museum of London Archaeology (MOLA). These three sites are full of inscriptions, artefacts, skeletons, and educational displays, including reconstructed life-sized spaces and small-scale models. Inscriptions give me names. Artefacts give me clues. Reconstructed rooms give me settings. Models showing miniature landscapes and tiny figures can suggest entire scenes. And a skeleton can inspire a whole book.

It was at the MOL that I first saw the bones of the so-called ‘Lant Street Teen’. She was one of four Roman Londoners on display there in 2015 as part of a temporary exhibition called ‘Written in Bone’ (Redfern et al. 2017: 1). Found in a Roman graveyard near Lant Street in Southwark, this fourteen-year-old girl was buried with several fascinating objects including two glass perfume bottles, a wooden and bone box, a flimsy copper-alloy key, and an iron clasp knife with an ivory handle in the shape of a leopard (Ridgeway et al. 2013: 79). Visual examination of her bones gave us her age and told us she had suffered from rickets as a child. Her teeth were in terrible condition, worse than any of the other subadults from Londinium. They showed gaping cavities, calculus (hardened plaque), periodontal disease and defective dental enamel, as well as a curious double incisor on the right side of her mouth, called a talon cusp (Redfern et al. 2017: 15). Further DNA and isotope analysis of her bones and teeth showed that she had blue eyes and a mother from northern Europe but that she grew up in the southern Mediterranean, possibly North Africa. Then, around the age of nine, her diet changed from a Southern Mediterranean diet to a London diet (Redfern et al. 2017: 15–16). Intrigued by this information and by all the questions it raised, I decided to write a possible scenario of how a blue-eyed girl from North Africa might have come to Roman Britain at the age of nine, why she died five years later and why she had such exotic grave goods. I didn’t realise it, but I had decided to take what Alexis Boutin calls the ‘osteobiographical’ approach: creating a fictive narrative based on bioarchaeology (Van Helden and Witcher 2020: 19).

Having already written over twenty-five novels set in the ancient world, including the four *Roman Quests*, I wanted a slightly different approach to keep things fresh. For a couple of years, I experimented with different narrative methods, but it wasn’t until London’s Mithraeum opened in late 2017 that I found a way of telling the story of the girl with the ivory knife. As I went down the black marble stairs of the new Bloomberg Building to the Mithraeum, I noticed inscriptions on the wall showing how street levels changed over time. Descending a few steps took me to the time of the Blitz in 1941. A few steps lower marked the street level at the time of Queen Victoria’s coronation in 1838. Then came the Great Fire of London in 1666, the coronation of William the Conqueror in 1066 and so forth down to the Roman level. The Mithraeum stairs are a clever visual illustration of what every archaeologist knows: that you dig down to go back in time. That’s when I got the idea of making the story of the Lant Street Teen a time travel book. Because ‘timeslip’ seemed such an overused trope in popular culture, I had rejected it as a narrative approach in the past. But on that day, I wondered if its very popularity might not be a sign of how appealing it is. After all, isn’t it the desire to travel back in time that motivates all of us, be we archaeologists or historical authors?

We long to know what the ancient world was really like. I told myself that as long as I made my timeslip story a bit different, it might work.

As I stepped off the lowest stair of London's Mithraeum and went into the space where the foundations of the temple lay, I had another idea: the time portal should be in a safe space that existed then as well as now. If a time traveller stepped through a portal at London's modern street level intending to land in third-century AD Londinium, they would fall seven meters and probably break both legs. A description of this comically visual image might even help children absorb the fact that the past is often beneath us. Choosing timeslip as a genre suddenly opened many other new ways of portraying the past. In my *Roman Quests* books, set in the late first century AD, I tried to avoid anachronisms by limiting myself to terms from the past. However, in a time travel book, I could compare ancient objects to modern ones. For example, a tunic could be described as 'a big T-shirt' and a toga as 'a blanket'. The floppy, so-called Phrygian, cap of Mithras resembles a Smurf hat. A Mithraeum initiation could be described as a flight simulator, and the seven grades of ascending status as levels of a video game. These anachronistic and sometimes surreal descriptions would all help young readers grasp alien concepts of the ancient world.

My hero would be a London schoolboy named Alex who does Latin club at school. His mentor is Solomon Daisy, the bazillionaire inventor of a time travel machine who (like me) is obsessed with the Lant Street Teen. I contrived a reason why adults couldn't travel back in time, only kids, and — *voilà!* — I had the premise for a story.

Tech bazillionaire Solomon Daisy is obsessed with the skeleton of a blue-eyed girl from Roman London. Although he invented a Time Machine, it's too dangerous for adults to travel back. So Daisy recruits a child time traveller: Alex Papas, a twelve-year-old London boy who speaks modern Greek and does Latin club at school. Alex's mission is to go back to Londinium through a portal in London's Mithraeum and find out all he can about the blue-eyed girl (Lawrence 2019).

My plot would be a fairly straightforward variation of Joseph Campbell's 'Hero's Journey' (Campbell 2012) as adapted by Hollywood screenwriters Christopher Vogler (Vogler 2020) and Blake Snyder (Snyder 2005). In this formulaic but powerful template, a hero gets a call to adventure, crosses a threshold into a new world, encounters obstacles, battles some sort of opponent, has a brush with death and finally returns home with the 'elixir'—in this case, some knowledge about the girl. As a teacher at heart, my aim is not to write great literature but rather a fun, action-packed narrative that will inform children without their realising it.

Having blocked out the main plot beats, I needed some 'fun and games', i.e., scenes to keep my young readers engaged and to bring the world alive (Snyder 2005: 80–84).

One such scene was suggested by the serendipitous juxtaposition of displays seen at the Museum of London. I was examining a glass-fronted case with items of entertainment such as dice, game counters and beakers of wine. What caught my eye was a pair of leather bikini bottoms which had been impressively preserved in the boggy soil of a well in Londinium (**Figure 1**). Another pair had been found in a second well, and the museum label suggested that they ‘were probably worn by young girls who were acrobatic dancers’. Gazing at them, I immediately thought of the ‘bikini girls’ from the famous fourth-century AD mosaic at Piazza Armerina (Pensabene and Gallochio 2011: 34). Then, I remembered some girl acrobats my husband and I had watched in the streets of Nîmes in April 2016 before a ‘gladiator games’ reenactment extravaganza in the Roman amphitheatre.



Figure 1: Leather ‘bikini bottoms’ from Roman London, MOL ID: 21233. Photo: C. Lawrence.

Back at the Museum of London, with these associations clear in my head, I moved a few steps away from the display with the bikini bottoms to a model of London's port (Figure 2). With its miniature boats, warehouses, wharves under construction, and the earliest version of London Bridge, this display is enchanting. As I looked at the bridge, crowded with a tiny oxcart, a cohort of soldiers, and various merchants, I had the sudden image of girl acrobats in leather bikinis walking along the raised guard rails, like gymnasts balancing on beams.



Figure 2: A model from the Museum of London (by Valhalla Models) depicting the earliest version of London Bridge. Photo: C. Lawrence.

That gave me the idea that maybe my young time-travelling hero Alex has to get to the north bank fast but is held up by an ancient traffic jam of oxcarts, soldiers, merchants, and families impatient to cross the bridge in order to get to the gladiator games in *Londinium*'s amphitheatre. Alex hears the crowd of people begin to laugh and buzz like bees, a popular method of applause in Roman times according to Latin writers (e.g. Suetonius, *Nero* 20.3). Alex and his girl companions see the reason for the buzzing: four leather-bikini-clad girl acrobats doing cartwheels as they move along the guard rail. The sight of the girls making their way across the side of London Bridge gives Alex and his friends an idea: they can imitate the girls and walk along the guard rail, too

(Figure 3). Back at my desk in Battersea, I used my imagination to visualise the scene, and as I wrote, something happened that I had not consciously considered. As Alex gingerly follows the boldly balancing blue-eyed girl with the ivory knife, the girl he’s been seeking, he falls. . . in love.

This indulgent use of the imagination would be dangerous for an archaeologist but is pure gold for the novelist. In this case, I knew I was imposing a twenty-first-century rom-com mentality onto my narrative, but I made a conscious decision to put the plot first. Having gained such fruitful inspiration from the MOL displays and models, it was gratifying when, in the summer of 2019, the museum devoted a special case to the grave goods of the Lant Street Teen with the label ‘Inspiration for a time traveller!’ (Figures 4–5).

Other visual prompts useful for recreating the world of *Londinium* were interactive maps like *The Archaeology of Greater London online map* produced by MOLA (Mola 2015). Alan Sorrell’s marvellous paintings and drawings, some of which are part of displays at the MOL, are almost like set designs but seen from a bird’s eye view. Sorrell was a British archaeologist and artist who worked as an aerial photographer during the Second World War. His ‘bird’s eye views’ of Roman London are full of accurate detail and inspired invention (Perry and Johnson 2013: 140–151). Movies set in the ancient world are usually full of inaccuracies, and sometimes, these inspire me to correct the filmmakers’ mistakes in my own stories. But occasionally, I see a film and instinctively feel it has captured something of the past. One such movie that informed my *Time Travel Diaries* was the 2013 film *Hard to Be a God*. This Russian film, directed by Aleksey German, is set in a medieval world full of mud, excrement, and chickens. It reminded me that the streets of *Londinium* were probably rivers of mud studded with gravel, as the nearest sources of stone to London were the ragstone quarries of Kent, making stone too precious for paving city streets (Barker et al. 2021: 22 n. 104).



Figure 3: An illustration of an imagined London Bridge from *The Time Travel Diaries* (Lawrence 2019) by Sara Mulvanny, reprinted with the kind permission of Piccadilly Press.




Figure 4: Display at the Museum of London the grave goods of the Lant Street Teen, with a label that says, 'Inspiration for a time traveller?'. Photo: C. Lawrence.

Inspiration for a time traveller?

*Grave goods from the wealthy burial of a young girl, AD 300s
Found in Lant Street, Southwark*

These artefacts were part of the inspiration for Caroline Lawrence's latest children's book, *The Time Travel Diaries*. Caroline spent time researching the collections, speaking with staff and with primary school pupils who were taking part in workshops at the Museum of London.



The artefacts were buried with a 14-year-old girl in a cemetery to the south of Roman London, in modern Southwark. They may have been her bridal dowry, perhaps indicating that she was unmarried when she died. Analysis of her aDNA indicates that she had blue eyes and that her mother's ancestry was northern European. Stable isotope analysis shows that she had spent her childhood in the southern Mediterranean but had lived in London from at least the age of nine.

- 1. Wooden box with bone inlays, Roman**
A wooden box with copper-alloy fittings and carved bone inlays was placed below her feet.
- 2. Clasp knife with chain and copper-alloy key, Roman**
The clasp- or pocket-knife has an ivory handle carved in the shape of a leopard holding its prey in its forepaws. It is a rare and expensive item, using ivory imported from Africa or perhaps India. It may have been attached to the key by the chain and the key may have been used for the box (although no lock survived).
- 3. Glass flasks, AD 170-300**
The wide flask is known as an aryballos and the other, with a pointed base and spiral trail of fine glass, is called an amphorisk. The flasks were placed on either side of her head and may have contained perfumes or oils for bathing.

Figure 5: Close up from the label from the display described in Figure 4. Museum of London.

Continuing to brainstorm the visual world of Roman London, I tried to think of sights we do not see today that would have been commonplace then. A crucified man on a cross, for example (Duhig and Ingham 2022: 27–29), barefoot beggars in rags (or even naked), and people with the sorts of diseases, parasites, and disabilities that are easily treated today (Redfern et al. 2017: 3). The absolute darkness of night-time in a world with no electricity or streetlights (Lavan 2020: 120–122). The awe-inspiring sight of the night sky packed with stars (e.g. John Chrysostom, *Homily XXVI on Acts XIII.1.2*). Black night—the pure *absence* of sight—might be alleviated by an oil lamp or a flaming

torch, strikingly visual ancient objects you could also feel and smell. The thought of torches reminded me that many men carried staffs in Graeco-Roman times, as often referenced in literature and art (e.g. red-figure *pelike* BM 1864, 1007.189). A staff could mark someone out as a leader, speaker, philosopher, or traveller. A sturdy walking stick or cudgel could also serve as protection against robbers or dogs (e.g. Jerome, *Apologia contra Rufinum* 2.4). The butchering of an animal is another sight few people in Europe witness today unless they work in an abattoir or live on a farm. However, animal sacrifices would have been common occurrences in ancient urban centres, bringing with them elements to assault the other senses, especially sound and smell.

Olfactory – Using Smells to Access the Ancient World

Smell is one of the most evocative senses, but it is difficult to convey in words. Giacomo Savani, co-organiser of the SERNP conference, quotes a Rosemary Sutcliffe phrase, ‘blue reek of wood-smoke’ (Sutcliffe 1954: 6, quoted in Savani and Thompson 2020: 227). This is a nicely synaesthetic description of a scent in visual terms.

Two small glass bottles were found in the grave of the blue-eyed girl with the ivory knife, one placed on either side of her head. Bottles like these are generally thought to have contained perfume but may have contained many other substances for a variety of uses, including apotropaic or magical qualities, especially in burials like this (Derrick 2018: 40–42). The more I look at ancient artefacts and read primary sources, the more I suspect the interaction of superstition with many everyday objects. Therefore, the scent in these bottles might well have been intended to keep away evil spirits. However, looking from the girl’s ravaged teeth to the so-called perfume bottles, I wondered if one might have contained clove oil, a reputed remedy for toothache. Although clove oil is a relatively modern treatment, exotic spices and herbs were believed to have extra power (Derrick 2018: 34–35). Partly for this reason, I made my blue-eyed girl the daughter of a trader of spices and perfume (Lawrence 2019: 132). When my time-travelling schoolboy Alex finally catches up with her, the scent of cloves on her breath reminds him of the apple pies his grandmother bakes, and her frankincense perfume reminds him of the incense in the Greek Orthodox church he attends in South London.

In the summer of 2018, the Museum of London Docklands put on an exhibition called ‘Roman Dead’, centred around dozens of skeletons and cremation urns found in Roman London. The exhibition was brilliantly interactive and featured canisters suggesting possible scents of a burial: frankincense, bay leaves, and mastic (**Figure 6**).

Dr Sophie Jackson, one of the archaeologists who re-located London’s Mithraeum below the Bloomberg building, decided to add visual and aural elements to help visitors



Figure 6: Museum scent boxes from the Museum of London demonstrate the smells of frankincense, bay leaves, and mastic. Photo: C. Lawrence.

Walbrook stream that ran beside London's Mithraeum, and several are on display there (Tomlin 2016: xv). My own replica writing tablet smells of honey because the wood is authentically coated with beeswax. Other scents from Roman London might have included the ammoniate scent of open sewers, the peaty aroma of outdoor braziers, the roast pork smell of a body being cremated, and the resinous smoke of burning pinecones to keep evil away from the grave. I once attended a Saturnalia dinner, and smoke from the replica oil lamps soon gave me a headache. I often use essential oils such as myrrh, cinnamon, myrtle, and rose to evoke the past; we know from sources like Martial (e.g. *Epigrammata* 11.54) and Pliny the Elder (e.g. *Naturalis Historia* 12.54) that those scents were well-known to Greeks and Romans. I have a pack of frankincense nuggets bought in the British Museum gift shop. *Garum* and other varieties of fish sauce were ubiquitous in the Roman Empire. *Il Garum Osteria*, a restaurant in Bacoli near Naples, prepares certain dishes with *garum* and even sells gift packs of the sauce. But you don't have to travel to Italy to buy *garum*; it is available online.

imagine it in Roman times. The Mithraeum Experience involves steam and lights to suggest lost walls. Sound effects provide the squeak of doors, the haunting blast of a horn and the voices of men chanting in Latin. Many *mithraea* have produced chicken bones, plates and drinking vessels, hinting that celebrants often ate a sacred meal of roast chicken (Wright 2017: 97). Jackson was one of the speakers at the SERNP conference and told us about recreating the 'Mithraeum Experience.' She confided how they had considered adding various olfactory elements, too, but realised that the scent of cooked chicken might cause visitors to suspect the existence of a Kentucky Fried Chicken or Nandos nearby.

Hundreds of wood and wax writing tablets (*tabulae ceratae*) were preserved in the boggy soil of the

Gustatory – Using Taste to Access the Ancient World

Taste is closely associated with smell, so whenever possible, I don't just smell; I taste. One of the most famous 'tastes' of ancient Rome was the *garum* just mentioned, aka fish sauce. Food historian Sally Grainger has done much to clear up the misconception that fish sauce was rotten and disgusting. She has shown that it came in many varieties — such as *garum*, *liquamen*, *allec* and *muria* — and it was mainly added to food sparingly to enhance flavour (Grainger 2012: 1–8). Vessels with traces of *garum* have been found in Roman Britain, proving that fish sauce was a fashionable condiment right from the conquest (Locker 2007: 142). The Roman cookery author Apicius often calls for its use, usually referring to it as *liquamen* (*De Re Coquinaria*, passim). Experts like Sally Grainger prepare Roman dishes using Roman cooking utensils and even Roman heating methods (Figure 7).



Figure 7: Food historian Sally Grainger preparing a Roman dish. Photo: C. Lawrence.

Recreating and eating these ancient Roman recipes are a gustatory illustration of how alien that world was. A Roman omelette made with fish sauce and honey sounds revolting but is surprisingly palatable (Grainger 2006: 121). But you don't need *garum* to transport your tastebuds to Roman times. You can easily replicate the diet of Roman

Britain by using the following common foodstuffs: porridge made with oats or spelt, coarse brown bread, vegetables, fish, oysters, and cheese. At a reenactment event, I was once served hot grilled sausage in a cool cabbage-leaf wrapper — Genius!

We know from literary sources that a popular drink among legionaries was *posca*, water with a splash of vinegar (Scriptores Historiae Augustae, *Hadrian* 10.2). The vinegar does the same job wine would have done in ancient times: it kills most bacteria and makes the water safe to drink, although the Romans didn't know why (Majno 1975: 186–188). I often drink *posca* from a replica glass made by Roman glassmakers David Hill and Mark Taylor (2023), based on a real mould-blown chariot beaker found in Colchester and now in the British Museum (Harden 1987: 168).

Another taste of ancient Rome was mastic, one of the sniffable objects at the MOL Dockland's 'Roman Dead' exhibition. I first came across mastic while reading the Flavian poet Martial. In one amusing epigram, he writes about a toothless man who pretends to pick his teeth with a mastic (*lentiscus*) toothpick (Martial, *Epigr.* 6.74). Mastic is an odiferous gum from the tree *Pistacia lentiscus*, found mainly on the Greek island of Chios (Encyclopedia Britannica 2023). Today, it is still used to aid digestion and freshen the breath and is mainly sold in the form of chewing gum. In fact, the words 'mastic' and 'masticate' are linked to the Latin 'mastico', meaning to chew (Lewis and Short 1975: 1117). While I was researching my first series of books, *The Roman Mysteries*, my husband and I visited Chios, where we bought a small box of raw mastic in a village shop. The drops of sap had hardened to nuggets of resin. These nuggets were pale yellow and translucent, but after a few minutes of chewing, they became opaque and white, exactly like modern chewing gum. The taste was unique, something I can only describe as a cross between carrot and cumin. A few days later, in Athens, we were offered a mystery digestif at a taverna and asked to guess what it was. My first sip told me it was neither *ouzo* nor *raki*, but when I sipped again, I recognised the distinctive carrot-cumin taste. It was *mastiha*, a liqueur flavoured with the resin from Chios. Back in London, I even encountered mastic-flavoured *gelato* at an artisan ice cream shop on the King's Road in Chelsea. Exotic mastic was known in Roman London, too: traces found on the bones of the so-called Spitalfields woman possibly came from her woollen shroud (Brettell and Heron 2016: 3). At the SERNP conference, I doled out some *ELMA* brand mastic chewing gum to let participants experience 'a taste of ancient Greece' and got a variety of reactions (Booth 2018).

Auditory – Using Sound to Access the Ancient World

Several display cases in the Roman section of the MOL have sound effects and voices (some in Latin) connected with the artefacts. These inspired me to pull out my notebook

and make a list of sounds my young time traveller might have heard in Roman London. We know from archaeology that Londinium had several bathhouses. One of these is the Billingsgate bathhouse on Upper Thames Street, occasionally accessible today. A famous passage from the Roman philosopher Seneca describes how noisy bathhouses would have been in Roman times, echoing with the sound of slaps and grunts of the masseuse, the shouts of the hair-plucker and his client, the echoing splash of a man who jumps into a plunge bath and the cries of fast food sellers in the colonnades (Seneca, *Ad Lucilium Epistulae Morales* 56.1–2).

In the entrance of London's Mithraeum, one whole wall is taken up by a state-of-the-art modular display case full of hundreds of artefacts that you can view on your smartphone from anywhere in the world (London Mithraeum 2023). Standing in front of the objects put me in mind of many noisy professions one might hear in Roman London: hammering carpenters, banging blacksmiths, shouting merchants, crooning fortune tellers, potters at their whirring wheels, zinging knife-sharpeners, jingling cavalry officers, legionaries marching in hobnail boots, and shoppers haggling or jingling coins. One class of delightfully noisy artefacts does not immediately suggest a particular profession. These are the small copper alloy bells of varying shapes. I have my own copper alloy bell made by a Roman reenactor. When I do author visits at schools, I often ask the children to come up with ten uses for such a bell. Some are obvious: to keep track of an animal or announce the entry of someone into a shop. Other functions of bells reveal more about the culture of Roman times: the bell might summon an enslaved person, call the family to the shrine for morning prayers or keep away demons and evil spirits, because bells were also apotropaic (Parker 2018: 58).

Over three tonnes of animal bones were found in the Walbrook area during the Bloomberg excavations, and I imagine animal sounds from Londinium would have featured crowing cockerels, clucking chickens, bleating goats, honking geese, quacking ducks, baaing sheep, squealing pigs, neighing horses, snorting oxen, and barking dogs. Remains of all those animals, along with bones of quieter creatures such as a cat and a red deer, have been found in Roman Southwark alone (Ridgeway et al. 2013: 50–53).

Tactile – Using Touch to Access the Ancient World

Touch is a deeply evocative sense. I am not usually permitted to handle ancient artefacts, but I have touched a few. The one and only time I went on an archaeological dig (in Wroxeter near Shrewsbury), I found a roof tile with a dog pawprint immortalised in it. At the time, I thought it an extraordinary find, but I have since seen literally hundreds in museums and storerooms. In fact, animal prints in tiles are so common that they must have been intentional. I have a hypothesis that these might have been apotropaic,

placed at boundaries, and on roofs of houses where evil spirits might lurk. In the MOL Roman gallery, visitors are encouraged to touch a real Roman tile with two small pawprints in it (Figure 8).



Figure 8: A tile with dog prints from Roman London in the MOL Roman gallery. Photo: C. Lawrence.

Touchable objects at the Museum of London Docklands ‘Roman Dead’ exhibition from 2018 included a replica clay urn, a replica copper wrist guard, and replica Roman shoes of waxed leather with iron hobnails. Touch can be experienced not just with fingertips and lips but also with feet. Imagine your bare feet on a mosaic floor, a herringbone pavement of London brick, a gravel-studded road, the glutinous mud of the Thames foreshore or — best of all — in squishy, still-warm manure. Imagine the warmth of a beehive kiln and the hard-baked earth around it. Imagine wet grass against your bare calves where they emerge from the hem of a tunic or itchy mosquito bites on those same bare legs. Speaking of clothing, imagine wearing a tunic of loom-woven linen, a blanket-like cloak of wool, and a belt pouch of wool or leather (Wild 2002: 23). When I dress up for reenactment events, I discover the reality of wearing Roman clothing. My replica *carbatinae* (one-piece leather shoes) rub the tops of my feet and offer no cushion for my soles. I bought them long ago at a reenactment event and was told they are based on a Dacian model.

Dressed as a Roman woman, I'm constantly looking for somewhere to put my accessories. Belt pouches are fiddly to open and close, especially if attached by a leather thong to your belt. This is when I discovered that you can most easily drop something down the front of your tunic. The belt will catch it and it will remain safely there where you can feel it. This brought me to the revelation that the word *sinus* in Latin and *kolpos* in Greek, sometimes translated either 'breast' or 'lap', can mean the pouch of fabric in the fold of a toga or more commonly at the front of a tunic (Lewis and Short 1975: 1709). The more primary sources I read in Latin, Greek, and Hebrew, the more this makes sense. One example appears in an epigram by Martial on a notorious thief at banquets: *latet in tepido plurima mappa sinu* 'Many napkins end up hidden down the warm front of his tunic' (Martial, *Epigr.* 8.59). I have been able to insert most of these tactile revelations into my books set in Roman London, not dwelling on them in great paragraphs but either slipping in a phrase or two or making them intrinsic to exciting plot development.

Multi-Sensory Activities

It is obvious that many, if not all, of the objects and artefacts under discussion can be perceived with more than one of the senses. When I go into schools to talk about how artefacts spark ideas for my books, I bring objects that can be explored with at least four of the canonical five senses. Tried and true successes include my replica clay oil lamp (which health and safety prevent me from filling with olive oil and lighting), my wood, leather and beeswax replica writing tablet (too dangerous to pass around the bronze stylus with it), my copper alloy bell (which can be used to silence excited children), and my famous sea-sponge on a stick or 'Roman loo roll' (which I save for the finale because it invariably wins a round of applause).

One particular artefact that sparked a whole plot thread over the four books of my *Roman Quests* series was a clay baby feeder from Strada Campana (Campania, Italy) in the British Museum (BM 1856, 1226.422). I first spotted it at the Corinium Museum in Cirencester. It was part of a 2015 exhibition called 'Food for Thought', curated by Dr Zena Kamash (Kamash et al. 2015). Ancient 'sippy cups' like this one have been found throughout the Roman Empire, mostly in child burials. Some still contain residue of milk (Centlivres Challet 2017: 899). Some may have held liquids other than milk, for toddlers perhaps, but the design of the baby feeder from the British Museum makes its function patently clear. The hole at the broad end is pressed against the mother's nipple so milk can be expressed. The handle at the side is for getting a firm grip and possibly for hanging on a string or belt. The narrow spout at the end is for the baby's mouth. Presumably, the holes could be sealed with beeswax when not in use. I am

guessing a baby feeder such as this would be used only occasionally to pacify the infant when the mother or wet nurse was temporarily unavailable. This particular baby feeder (BM 1856, 1226.422) has a dramatic mask imprinted in the clay. I suspect this is an apotropaic device to frighten off any malicious spirit that might cause the milk to go sour. In one of Aesop's fables, a dramatic mask is equated with a *mormolukeion*, a scary face like a *gorgoneion* (Lawrence 2022: 42). The sinister face on the British Museum baby feeder adds dramatic resonance, subliminally suggesting that something bad might well occur.

Meditating on this object, I had the image of three children fleeing Rome at night, taking their baby sister with them. They must elude their pursuers and get to their destination, but what if the baby wakes in the night and begins to cry? The milk in the baby feeder — temporarily sealed with beeswax — is just enough to keep her quiet until morning, or is it (Lawrence 2016: 1–2)? A baby feeder like this is multi-sensory, especially if you are the baby. Unfortunately, we can't fill this ancient baby feeder with breast milk and have a sniff and a taste, so we must use either a replica or our imagination.

Here are some interactive activities with replicas which involve many of the senses at once. Find a replica writing tablet of wood coated with wax, possibly hinged with leather thongs. Hold it. Open it. Close it. Sniff it. It will probably smell of honey. Try making marks in the wax with a stylus of wood, bone, or metal. Each stylus will have a different feel. The wax is sticky and collects in small balls at the end of the stylus. If you press hard enough, the sharp tip of the stylus might scratch the wood beneath the wax. In fact, this is how the so-called Bloomberg tablets were designed to be used. Most of the 400 writing tablets from the Bloomberg excavations of the Walbrook Mithraeum were of pale silver fir coated with black-dyed beeswax, so when a needle-sharp stylus was applied, the letters would show pale against the black wax (Tomlin 2016: 15).

Fill an ancient or replica oil lamp with olive oil and put a linen wick in the nozzle. Light it and move about with it — preferably after dark — both outside and inside. Be aware of the weight of the lamp in your hand. The lamp may feel greasy after a while because the porous clay exudes oil. Carefully observe the quality of light it produces and the smell of the smoke. My replica oil lamp is based on a design dating to around AD 40–70. The original was crafted from a two-piece mould and featured the maker's mark on the bottom, indicating that the lamp came from the workshop of the Roman lamp maker Gaius Clodius. I sourced mine from the British Museum. You can also get replica oil lamps from Graham Taylor of Potted History and even from Amazon. Make *posca*, the drink of vinegar in water mentioned above and sip it from a replica mould-blown cup such as the so-called chariot beaker from Colchester.

Outside of London, sites like Butser Ancient Farm, Bath Roman Baths, and Fishbourne Roman Palace cater to all five canonical senses, especially when they are peopled by reenactors. I particularly admire the members of *Britannia*, the Ermine Street Guard, and Leg II Augusta. The Gladiator Games, held every few summers in London's Guildhall Yard directly above the ancient amphitheatre, provide a feast for all the senses. I often chat with reenactors, and they tell me what it's like to sleep on a bearskin under a leather tent or to cook bean and bacon stew in an outdoor cauldron.

When I go to schools, I wear a modern-dyed polyester dress, which American Civil War reenactors would call 'farb', i.e. fake and anachronistic (Horwitz 1998: 10–11). But when my husband and I were invited to attend an annual Roman extravaganza in Nîmes, we both wore authentic linen tunics and woollen cloaks tinted with natural vegetable dyes. The clothes and my husband's hobnailed sandals were supplied by Steve Cockings, a reenactor so obsessed with accuracy that he forged his own breastplate and reconstructed his own leather carrying pouch based on ancient remains. American Civil War reenactors would approve of such an attempt to find absolute fidelity by calling it 'hardcore' (Horwitz 1998: 7). As my husband walked in a procession through the streets of Nîmes, he discovered that cobblestones are hard on shoes. He lost several hobnails from the soles of his sandals in just one morning. In that same procession, I noticed that men in togas were constantly hitching them up or readjusting them. This gave me the idea for a scene where a young lawyer trips over his toga when he tries to run (Lawrence 2016: 207).

At the Sensory Archaeology Conference, co-organiser Tom Derrick brought homemade olive oil-based Roman perfume. To demonstrate the difference between the smell in the bottle and on the skin, he borrowed my replica strigil and encouraged attendees to rub his scented olive oil on their arms before scraping it off. Another conference member, Colin Gough, observed, 'One thing that surprised me was the amount of oil left on my skin after a good scraping. Unless the Romans were a lot better at it, there must've been a lot of sticky people leaving the baths, not to mention the oil slick on the water!'

Meditation without Artefacts

Have you ever meditated on your dig, your text, your historical character, your artefacts, or your bones? By meditation, I mean a deep contemplation of your world, characters, etc., using your non-verbal visual imagination. Albert Einstein famously stated that 'Imagination is more important than knowledge' (Viereck 1929). It goes without saying that he meant imagination employed in conjunction with knowledge, not apart from it. As a writer of historical fiction, that is my aim. To amass as many facts as I can about my

world, then use them to dive to a deeper level in order to re-create that world. I've given examples above of how I use artefacts as prompts for imaginative sensory exploration, but you can also engage in imaginative meditation without the useful presence of physical objects.

In 2018, the Cambridge Schools Latin Project (CSCP) began creating a free, online Roman history site for children in Key Stage 3 based around the archaeology of a real Roman person. Amarantus was a freedman who owned a house and a wine bar in Region 1.9 of Pompeii. I was invited to write a fictional story to accompany the course in collaboration with the archaeologists who had worked on the site, Professor Andrew Wallace-Hadrill and Dr Sophie Hay, among others (Lawrence 2021: 166). We decided to set the story in AD 62 and 63, seventeen years before the deadly eruption around the time of a devastating earthquake. One of my invented characters is a sixteen-year-old enslaved female who has recently arrived in Pompeii from *Britannia*, where Boudicca's revolt was quelled the previous year. Grata sleeps on a mat in the doorway of her mistress's bedroom. In one of the chapters, she wakes up at night in pitch black and has to grope her way to the loo. My aim in writing that chapter was to give children a non-visual experience of a Roman house (Lawrence 2021: 25).

In writing the story of Amarantus, I had no physical artefacts to work with, only plans and photos supplied by archaeologist Sophie Hay. She also pointed me to a QuickTime viewer that allowed me to 'walk through' the House and Bar of Amarantus via my computer (Brian Donovan/BSR Insula 1.9 Pompeii Project). Relying solely on visual input to explore the space, I then set myself the challenge of ignoring the visual descriptions to focus instead on touch, sound, and smell. Sometimes, when I ask children to imagine specific objects, say a sword, some can 'see' it clearly in 3D and vibrant colour, others only dimly, or not at all (I personally only imagine things dimly). One advantage of the following meditation is that we are not trying to see but rather to feel, hear, and smell. It takes the pressure off.

It might be helpful to have someone read the following out loud to you as your eyes will be closed.

Close your eyes, take a few slow, deep breaths and centre yourself. Now imagine waking up in a house in Roman London on a pitch-black night. How opulent or how poor is the house you have chosen? Acknowledge your first impulse, but if you're not happy, then imagine other options until you find one that 'feels right'. This is a dance between the rational and the imaginative, almost like playing. What is the temperature in the house? How damp or dry is the air? What is the floor made of? The walls? The ceiling? Can you feel a draft? Again, don't be constrained by your initial response; come up with a few options and choose one that feels right.

Imagine you are barefoot, wearing nothing but a knee-length linen tunic which has probably not been washed in weeks. Scan your body top to tow. Are there lice in your hair? Do you have an eye infection? Perhaps toothache? Is your stomach empty and your bladder full? Do you have bruises, weals, or burns from hard labour or punishment? Encourage the creative part of your brain to list five different things your fingers might encounter as you push yourself to your feet and start to grope your way along the corridor... Imagine five different sounds you might hear... Imagine five different aromas you might smell... Don't worry if some seem random or even foolish. Now, go deeper. Put yourself in the mindset of an enslaved person in Roman times. What past fears does the darkness trigger? In which dark corners or thresholds do evil spirits lurk? Imagine different ways your physical body might react to this night-time grope.

Now open your eyes and pick up a pen or pencil. As quickly as possible, cover several sheets of paper with unedited descriptions and thoughts of what you have just imagined. This stream-of-consciousness-writing, as creativity guru Julia Cameron calls it, can be a continuation of the meditative state. It helps us ignore the critical voice in our head and tap into the creative daydreaming part of the mind. She calls this exercise the 'Morning Pages', but you can do it any time. If we do it often enough, we often find ourselves writing details and descriptions that we weren't consciously aware of; they almost seem inspired (Cameron 1995: 10).

If you find meditation challenging, you could jump straight to the writing part of the exercise. If you feel uncomfortable writing about your main topic of research in a creative way, why not focus on an object, person or topic which is peripheral to your main area? Whether we are scholars, writers, historians, teachers—or all of the above—let us study the past not just with the rational part of our minds but also with our imagination and with all the senses.

Competing Interests

The author has no competing interests to declare.

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