

Rowan, Erica. 2023. The Pedagogical Benefits of Sensory Archaeology: A Case Study on Roman Britain. *Theoretical Roman Archaeology Journal*, 6(1): pp. 1–23. DOI: https://doi.org/10.16995/traj.10639



# The Pedagogical Benefits of Sensory Archaeology: A Case Study on Roman Britain

Erica Rowan, Department of Classics, Royal Holloway, United Kingdom, erica.rowan@rhul.ac.uk

Archaeology, by its very nature, is a highly sensorial discipline. Teaching archaeology should be equally sensorially engaging. However, modern higher education prioritizes the visual and the auditory, and while handling sessions, laboratory work, and site visits are often part of a standard archaeology degree, they vary heavily based on departmental and student resources. At the same time, archaeology is in something of a crisis, tackling a lack of diversity, reduced funding, and a deep legacy of colonialism. This article demonstrates how the incorporation of theories and methods of sensory archaeology into higher education curriculum can add sensorial density to a degree, enhance research, and at the same time help alleviate some of our current crises. As the first paper to explore the use of sensory archaeology in university education, it also makes an important contribution to the rather limited field of archaeological pedagogical research.

#### Introduction

The modern university classroom, from the sensory perspective, is an incredibly dull space. Blank walls, blank tables, and a blank white screen used to project PowerPoint presentations characterize the average lecture theatre or seminar room. The learning experience is similarly sensorially limited with an intense focus on the visual and the auditory (Classen 2014: 16; Thyssen and Grosvenor 2019: 122). This set-up does not promote student engagement regardless of the discipline, and for those studying archaeology, it allows for little interaction with the rich and textured past nor the practices of archaeology in the present (Price 2020; Todd et al. 2021). Object-based learning, which includes handling sessions, is a simple and effective way to enhance the sensory experience as touch, and sometimes smell and taste, are involved (Chatterjee 2008; Hannan et al. 2013; Angelo and Aguila 2022). However, access to a wide array of artefacts is not always possible and varies based on departmental resources. At the same time, there is a growing recognition of equality, diversity, and inclusion (EDI) issues, and an understanding that as the student body diversifies away from white middle-class students, a variety of external factors such as inflation, limited finances, or caring responsibilities may limit or entirely hinder a student's ability to participate in the more sensorially dynamic aspects of archaeology including fieldwork or site visits (Aitchison 2006; AdvanceHE 2023). The inclusion of sensory archaeology is a cost-effective way to ensure that at least some of the sensory experiences remain.

The use of sensory studies in archaeology is a relatively new practice. While it is increasingly being incorporated into research methodologies, it is yet to be widely incorporated into archaeological pedagogy (Pellini et al. 2015; Betts 2017; Rowan 2019; 2021). For example, none of the chapters in the multi-volumed Routledge series *The Senses in Antiquity* focus on teaching (Butler and Purves 2014; Bradley 2015; Squire 2016; Rudolph 2018; Purves 2018; Butler and Nooter 2019). As this article will demonstrate, introducing the theoretical frameworks of sensory archaeology and associated methodologies into archaeological teaching is an incredibly effective way to navigate and help mitigate many of the problems presented above. In fact, it not only helps tackle current challenges in higher education but also benefits academic research. This paper will first review sensory studies in education and the issues facing archaeological pedagogy. These overviews will be followed by a discussion of the advantages of teaching sensory archaeology, before moving on to use a seminar session created by the author as a case study. The benefits and challenges associated with creating and running such a session will be discussed in detail.

# **Sensory Pedagogy**

Historically, there has been significant variation in the ideal pedagogical 'sensescape' (Classen et al. 2016; Landahl 2019; Todd et al. 2021: 246). In the Roman world, for example, students were taught in any number of locations; at home, in a busy and noisy basilica, under a portico or in a rented shop (Bloomer 2011: 12-15). Teaching university students in 2023 involves a very different pedagogical sensescape. It is one where 'the familiar optics and acoustics of the silent, motionless and attentive classroom ... and the relation between sound and silence, motion and stillness, visibility and invisibility have played a central role in characterizing the sensory world of schooling' (Todd et al. 2021: 246). A legacy of the nineteenth and twentieth centuries, the continuation of this sensorially limited focus is partially due to higher education's current neoliberal agenda, which sees students as passive learners (Landahl 2019). Students are considered empty vessels to be filled with knowledge and then sent out into the workforce as qualified, satisfied customers (Hamilakis 2004: 293; Cobb and Croucher 2020: 151). Consequently, we are often required or expected to teach quiet students in a sterile classroom. This approach does not encourage critical thinking. Despite expectations, in many universities a greater focus on discussion, student participation, student-led education, and the use of a wide array of digital learning tools all work to counteract the still, listening student (Snelling 2021; Rapanta et al. 2021).

The desire to create a more dynamic classroom has only strengthened since the pandemic (Todd et al. 2021; Assif et al. 2022). Online teaching exacerbated the already sensorially simplified process of learning and was particularly damaging for a subject like archaeology. Classen (1999: 278–278), one of the original scholars to introduce sensory studies into anthropology, states that,

'...we in the modern West need to be reminded that we are not just creatures of the eye, we are full-bodied beings with the capacity to learn about the world through all of our senses. In an era of 'virtual reality', where life often seems to be limited to what takes place on a screen, ... other [more] sensorially-aware cultures offer a timely lesson about the importance of recovering the multiplicity of sensory experiences in our lives'.

This statement, published over 20 years ago, when screens were even less prominent, still rings true. Today, in addition to the sterile classroom, tactile experiences in higher education are more limited than even a decade ago. For example, most students type rather than write and read texts online rather than from a book. While these methods of learning were already becoming typical, they have become fully normalized since the pandemic. The need to reintroduce a more dynamic sensory environment, at all levels of education, is slowly being realized within the pedagogical research community (Biswas 2021; Harris 2021).

# **Teaching Archaeology**

Archaeologists have, of course, long understood the need to incorporate sensory experiences into education (Hamilakis 2004: 298–299; 2013: 81; Burke and Smith 2007). Site visits, museum visits, object handling sessions, and laboratory sessions are all regular parts of an archaeological education. However, these sensory experiences tend to be passive, in that the engagement with touch or smell, for example, occurs but is neither emphasized nor reflected upon (Angelo and Aguila 2022). Archaeology, to its credit, did arrive somewhat late to sensory studies. Other disciplines including geography, sociology, religion, and art history underwent their own sensory turns in the 1990s and 2000s (Howes 2020: 26). Since archaeologists only began to thoroughly make use of this new theoretical framework in the early 2000s, it is perhaps understandable that sensory archaeology has not yet made its way into most classrooms (Tilley 2004; Skeates 2010; Howes 2020).

A late arrival to the sensory turn, however, is not the only reason for its delay into a wider archaeology curriculum. Firstly, there is the general lack of research into archaeological pedagogy. Interest in the topic peaked in the United Kingdom in the 2000s; at the same time, sensory studies were becoming more common. Since then, there has been a steep decline in the number of publications that explore teaching in archaeology (Flatman 2015). As stated above, a neoliberal agenda does not view students as participants in knowledge exchange and therefore research and teaching are considered separate entities. Research, and the acquisition of funding, are prioritized. Research into archaeological pedagogy has not been considered as valuable (or REFable),¹ and thus not given much time or attention (Cobb and Croucher 2020: 8–11). This dichotomy between teaching and research is, of course, false and teaching does indeed lead to valuable knowledge exchange.

The lack of archaeological pedagogical scholarship is, however, only one of the many challenges currently facing our discipline. When deciding what and how to teach, archaeology departments and courses have been caught between the expectations associated with a university degree and the knowledge and practical qualifications required by commercial archaeology employers. Not all students on an archaeology course go into the profession and many join tangential sectors, such as cultural heritage, where a somewhat different series of skills is required. It is beyond the scope of this paper to address this struggle in detail, but it is sufficient to say that it has now occupied archaeological pedagogical considerations for quite some time (Aitchison 2004; Flatman 2015; Cobb and Croucher 2020: 16–17).

Lastly, it is well known that archaeology has been tackling both its colonial past and the consequences in the present, particularly classical archaeology (Kamash 2021). Classics and archaeology have long been dominated by 'old white men' and predominantly white students. There is now significant concern regarding the lack of diversity within the archaeological student body and, in particular, the faculty. The student body is now more diverse than the staff teaching them (Cobb and Croucher 2020: 116). A lack of staff diversity results in the continued promotion of dominant narratives, again often created by men in senior positions (Goodwin and Chavarria 2020). The repetition of such narratives does not allow for non-normative explorations and interpretations, and so, as Cobb and Croucher (2020: 13) warn, '...the more we tell (and teach) narrow and socially specific narratives, the less relevant archaeology (and the historic environment) is and the less sustainable the future of the discipline becomes'. Feminist archaeology has gone a long way in addressing and challenging these narratives, but there is still much more to be done, and the discipline remains in a precarious state (i.e. Joyce 2006).

# **Teaching Sensory Archaeology**

Why focus on sensory archaeology? What is it about sensory archaeology that makes it particularly well suited to not only address, but aid, in minimizing all the abovementioned challenges? Firstly, sensory methodologies are inherently flexible and welcome the plurality of experiences (Hunter-Crawley 2020: 442). In third wave sensory studies, where theory and methodology are fully incorporated, the aim is to ask new and inspiring questions of our archaeological material, thus keeping the discipline relevant. Secondly, practicing third wave sensory studies requires a range of backgrounds, life experiences, and non-normative points of view. Sensory archaeology therefore embraces a diversity of voices and a multiplicity of experiences and forms of knowledge production (Tringham and Danis 2020: 51). Thirdly, this celebration of diverse ways of thinking helps break down and/or challenge current narratives. Despite a rise in the number of women in archaeology, most senior positions are still held by men, and many of the dominant narratives in archaeology continue to be perpetuated by a single or limited range of voices representing a distinctly un-diverse community (Lodwick 2020; Angelo and Aguila 2022). Fourthly, sensory methodologies refocus teaching on knowledge exchange and encourage students to be active participants in their own learning. As the case studies below will show, it also draws out interdisciplinary ways of thinking as students can, and are, encouraged to draw on both archaeological and literary evidence. Finally, from personal observation, sensory archaeology helps students, especially those who have grown up in a very digital world, consider and often reconnect with non-digital sensory experiences. Such experiences enable them to better engage with the ancient world, even from a sterile classroom.

Aside from Hamilakis' (2004) description of using sensory methods as part of an ancient food and drink module, few pedagogical examples have yet been made available. Performance studies have recently begun to explore the benefits of using sensory theory in archaeology, but they have yet to be integrated into the regular curriculum (Pearson and Shanks 2001; Prokopios Trimmis and Kalogirou 2018). Educators running objectbased sessions have also started to actively incorporate sensory theory. Diemke (2022) introduced students to ancient smells through the recreation of ancient perfumes, and subsequently published on the benefits of integrating sensory archaeology into pedagogical practice. Her seminar session proved to be highly successful. It allowed for the exploration of more marginalized members of society, in this case women. Students said they felt more connected in relation to the ancient world, and there were very high levels of participation and student-led research initiatives beyond the original seminar. Hopefully, such sensorially oriented experimental activities, if resources allow, will become more common in archaeological teaching. However, in order to extract the maximum pedagogical and research benefits from sensory archaeology, there must be a deeper student engagement with sensory theory, and not simply the senses themselves. The following case study aims to demonstrate how such engagement can occur.

# Case Study – Sensory Experience of Food Consumption in Roman Britain Background

The two-hour seminar session, A feast for the senses: Ancient Romano-British diet and sensory archaeology, was held on 21 November, 2022 as part of a third year Royal Holloway, University of London module, Food in the Ancient World. Seminar sessions for the module are held on a weekly basis. Discussions cover a wide range of archaeological and literary material and topics. The module is cross-listed for both Classics and Archaeology students and runs over two terms.

The session consisted of a 30-minute lecture, designed to introduce students to sensory archaeology and provide some background knowledge on diet in Roman Britain. Following the lecture, students were divided into groups of four to five and each group was given a case study to work through. They were told explicitly that the aim of the exercise was to consider the range of possible sensory experiences and, using that information, to generate questions on topics such as cultural change, economics, and individual identities. Groups then presented their conclusions to the class. As we ran out of time, a survey was emailed rather than handed to the students to get session feedback.

Later in the term, as a part of the module, students participate in a 'cooking day' whereby small groups prepare ancient dishes of their choice. At the end of the session

there is a banquet where students taste each other's recipes. Connected to the cooking day is an assessed reflective log. Students are required to document their processes and reflect upon the sensory experiences of the day; thus, the sensory seminar is also designed to prepare students for this later project.

### Session Preparation

In advance of the session, students were given required and optional readings (Required – Hamilakis 2011; Weddle 2013; Livarda 2018; Optional – Bakels and Jacomet 2003; Van der Veen et al. 2008). The chapters by Hamilakis and Weddle were intended to provide an overview of sensory archaeology and an example of its usage in Roman archaeology respectively. The publications by Livarda, Van der Veen et al., and Bakels and Jacomet provided background information on the types of food available in Roman Britain and a familiarity with imported vs. locally available ingredients.

#### Lecture

The lecture and case studies were prepared in advance. Sensory conceptualization and consideration are relatively straightforward. Students are asked to think about, for example, the amount of lighting in a space, the types of smells that might emanate from certain activities such as baking, or the sound of water running from a fountain. However, describing third wave sensory studies—explaining how to use a hypothetical range of sensory experiences to ask additional questions—can be more challenging. In order to do so, I made use of modern objects, a practice well documented in archaeological pedagogy (Wobst 2007; Zimmerman 2007; Cobb and Croucher 2020: 151).

I started the session by placing and lighting a scented *WoodWick*® candle in the middle of the room, ensuring that there were no allergies or sensitivities to perfumed objects. As an object not found in the standard university classroom, with the lights turned off on a gloomy November afternoon, it made a strong impression. I had also specifically chosen an object that would engage as many senses as possible; sight, smell, and, as the wick is designed to crackle and mimic a larger fire, sound. Students were asked why the company had created this type of wick and what its presence told us about modern western culture. A five-minute guided discussion led to the answer. People enjoy the sound of a fire, yet few homes have fireplaces anymore, thus it is a sensory experience designed to evoke a sense of nostalgia, and a particular atmosphere, namely the cozy warmth of a fireplace. It is an example of an object where a deeper exploration of its sensorial properties reveals much about contemporary society, domestic spaces, technology, and modernization.

In the lecture itself, I used the example of the recent replacement of plastic straws with paper versions. Plastic straws maintain their shape for longer and have a better mouthfeel than paper straws. On the surface, they appear to be the more 'logical' choice. However, as we all know, they are harmful to the environment and wildlife, and in the UK, they have been almost entirely replaced by paper straws. The valuable lesson here is the influence of culture over comfort. Another easy example, at least for the moment, is the sensory deprivation that arose from the Covid-19 lockdowns. Students were asked if they missed going to restaurants and why. Over the course of the discussion, students came to realize that it was the ambience and the social aspects of eating in a restaurant, often more so than the food, that they valued. Here, students were required to consider all the senses involved in an experience and not only the most obvious (i.e. taste). There was then a brief overview of dietary changes in Britain from the Late Iron Age until the late Roman period.

#### **Case Studies**

The case studies were designed to allow the students to explore as wide an array of dietary experiences as possible. Case studies were situated in different geographical locations and site types varied (rural (non-elite), rural (elite), urban, military). Selected individuals or characters represented a cross-section of society, which included women, migrants, slaves, farmers, and members of the local elite. The case study scenarios were all based on real-world locations or individuals, so that artefacts, site plans, and images could be used by the students. The case studies are as follows.

# Case Study One

The first case study was based on the second century AD tombstone of Regina of Arbeia, found near South Shields (Figure 1). This funerary monument was dedicated to Regina by her owner, and then husband, Barates from Palmyra, Syria, and has inscriptions in Latin and Palmyrene. Students were provided with translations of the inscriptions (Carroll 2012).

Scenario One – Barates arrives in South Shields after a long trip from Palmyra. He sails into southern Britain where he buys Regina, his new slave, before heading north.

- 1. What new dietary patterns or trends would Barates have needed to get used to when he moved to Roman Britain?
- 2. Was everything he was used to available?
- 3. What new foods might he have encountered?

<sup>\*</sup>hint – think about climate, seasonality, cost, availability, taste



**Figure 1:** South Shields Roman Fort located in South Tyneside, UK. (Photo: Chabe01 via Wikimedia Commons. CC BY-SA 4.0).

Scenario Two - Imagine he is invited to a dinner at the commander's house at the South Shields military fort.

1. What do you think the experience would be like? Familiarities? Differences?

Included images: The funerary relief, location of South Shields within the UK and within the modern town of South Tyneside, location of Palmyra (both highlighted on Google Earth), plan of the Commander's house within the military fort, and Table 7.1 from Cool (2006), listing the number of amphorae finds from South Shields.

#### Case Study Two

The second case study was based on Chedworth Roman Villa, an elite residence located 12 km from Roman Corinium, modern Cirencester. General information on the villa, its amenities, and the elaborate mosaic in the triclinium with its underfloor heating, were provided (Figure 2). Archaeological evidence of food remains, including shells and animal bones were also listed (Cleary 2013). The genders of the individual and spouse in the scenario were intentionally left ambiguous.

Scenario One – February AD 350. You and your spouse are part of the Romano-British elite. You can trace your family heritage back to the pre-Roman period, where your ancestors led, or were high-ranking members, of the local tribe. For the last two centuries, your family has lived in Cirencester (Corinium) and you are currently a member of the town council. You've been invited for an overnight stay at Chedworth



**Figure 2:** Triclinium floor mosaic from Chedworth Roman villa depicting the four seasons and a scene of Bacchus and Adriane. (Photo: Rodw via Wikimedia Commons. CC BY-SA 4.0).

villa to celebrate the arrival of the owner's uncle and nephew from Rome. Here, you will partake in all the typical Roman activities offered at elite villas such as a trip to the baths and a dinner party.

- 1. What would the experience be like for yourself and the visiting uncle and nephew? Think about the time of year, location, activities, etc.
- 2. What do you think would be served at the dinner? What might not be served?
- 3. What types of conversation would you have?
- 4. What would it feel like to be inside that dining room? What sensations would be noticeable?

Included images: Plan of the villa, images of the hypocaust system, and triclinium mosaic.

#### **Case Study Three**

The third case study was based on a comparison of urban and rural life, and the introduction of shellfish to the local diet. The information utilized the isotopic findings of Cheung et al. (2012) whereby populations from Gloucester and Circncester were found to have consumed more fish than those living in nearby rural settlements. A brief history of Corinium, its access to trade routes, and evidence of coastal and other non-regional imports were provided.

Scenario – It's AD 230 and you live on a small farming settlement just 5 km outside Corinium (Cirencester). Your settlement has been occupied since the Bronze Age and your family has been living in the region for hundreds of years. They moved to this particular location about 200 years ago. You work the land just like the rest of your family. You have been to Corinium on occasion but not much farther. You've never been to the coast or seen the sea.

Your friend, who lives in Corinium, and whose shop is doing well, has come to visit for your birthday. They've brought some new foods for you to try, including oysters, grapes, and olives. They've also brought a small jar of wine, another that contains some smelly fish sauce, and two new drinking vessels made of glass (Figure 3).

- 1. What do you think your first experience of these foods would be like?
- 2. What about drinking out of a glass cup for the first time?
- 3. How might you and your friend reflect on changes in diet? What other foods might your friend have tried while living in Corinium?



**Figure 3:** A Roman glass cup dating to the second to third centuries AD. MET, 74.51.246, The Cesnola Collection, Metropolitan Museum of Art. (Photo: Pharos via Wikimedia Commons. CCO 1.0).

Included images: Location of Corinium and nearby rural settlements, Table 7.2 from Cool (2006) listing early to mid-second century amphorae finds from Cirencester.

Each case study ended with the following question: What broader research questions can be generated following your analysis of this scenario?

#### **Session Outcomes**

The session was very successful, with high levels of student engagement. At first, students were concerned about getting the 'correct' answer. However, after being reassured that there were no wrong answers, they began to relax, and this allowed for more creative thinking. There were times when the discussion flowed away from food, but that was encouraged as tangentially related questions can prove to be fruitful avenues for later discussion and future research. By the end of the session, each group was able to generate new and enriching questions concerning both the archaeological material and the lived experiences of those eating and drinking in Roman Britain. As such, I wish to outline the discussions by each group in detail, in order to draw attention to the sheer volume and variety of conversations and considerations that arose from only three scenarios.

#### **Group Discussions**

The conversations surrounding case study one, Barates, led to questions of knowledge exchange, mutual dependency, and power imbalances. As a migrant unfamiliar with the local language, students wondered how much Barates would have relied upon and benefited from his wife's regional knowledge, giving her some degree of power and agency despite her initial enslaved status. Regina's experiences of moving north were also considered. In discussions of food, students noted the differences in the types of fats and oils that would have been used and their variable textures and viscosities—olive oil in Barates' journey through the Mediterranean but animal fat in Britain. This observation raised questions about taste profiles. A number of variables were taken into account when considering the sensory experience of dining at the commander's house. Such variables included the commander's origins and his personal food preferences, the weather, language barriers, and Barates' potential encounters with new or unfamiliar ingredients. Even a potential allergic reaction, upon trying new items, was considered. This possible danger, resulting from the introduction of new foods, remains unexplored in Classical Archaeology.

Discussions surrounding the second case study, on Chedworth villa, took on a rather different focus. There were the expected conversations surrounding seasonality, the weather, and the availability of ingredients. Students questioned the arrival of individuals from Rome as winter was a notoriously dangerous time to sail, and as a result the potential lack of olive oil for the guests, which was an important marker of elite status. By the end, however, the discussion had shifted, and the group was wondering how the owners of Chedworth villa would promote and highlight British food culture to their Roman relatives. It is unclear whether this line of thinking was due to the increased promotion of British-made products, especially following Brexit, but nevertheless, it opened the opportunity for a discussion of our own modern biases

and views on food (Lyons 2019). While the notion of the modern nation-state clearly did not exist in antiquity, there is no reason not to consider and investigate further ideas surrounding pride in regional ingredients and dishes within Roman Britain and the northern provinces more broadly.

In the discussion of the third case study, and experiences of rural life, questions about knowledge exchange again arose, alongside considerations of desire and identity. Unlike the first group who thought about the taste of new foods, the discussion here turned to the logistics of consuming these new items. How do you open an oyster? What happens if you don't know that olives have stones inside them? The students realized that the adoption of new foods usually requires a facilitator, someone with the knowledge to show you how to prepare or consume an item correctly. In Classical Archaeology, we rarely, if ever, consider the importance of that facilitator and tend to focus exclusively on tracing the spread of new ingredients (cf. Livarda 2011). The students also considered the practicalities and experiences of using glass for the first time. Lastly, they discussed the way new foods, and either their adoption or rejection played into finances and notions of identity. What if these new items were enjoyed and now desired, but remained unaffordable? If they were rejected, was it out of dislike or because it signified the adoption of foreign cultures or a different more urban lifestyle? In sum, the ability to evoke and consider such a wide range of experiences demonstrates that the students had a clear grasp of the aims and uses of sensory archaeology.

#### Session Feedback

Positive feedback in both the follow-up survey and the final module survey indicates that the students greatly enjoyed the session. The use of the candle at the start, mentioned multiple times in both surveys, created an unexpectedly strong memory for the students. Its popularity reveals both how important and also how easy it is to desterilize a classroom. When asked if they enjoyed the session, students stated:

I did enjoy it. The candle in the first part was very interesting and unexpected. I feel that it helped setting the mood for the rest of the session. And it also reminded me of the sound of winter fires growing up in Romania. I also enjoyed the discussions we had based on the case studies. In our group we ended up discussing topics that we would probably not have been thinking of if it weren't for this session.

I really enjoyed the session. The variety of case studies were engaging and thought provoking, while the atmosphere in the room was talkative and involved everyone well. The initial laughter of the candle set quite a fun tone to the class, which I believe did assist with the talkative nature and engagement of everyone involved. Also, the candle smelt very nice.

(At first the students thought it quite entertaining to be asked to silently sit and 'listen' to a candle.)

Yes, I did really enjoy today's session as it forced you to think outside the box and consider the lives of more ordinary lower-class Romans who are too often overlooked. I think because once you consider the 'what/how' (like the smells and noise) you get closer to understanding the 'why'. And having never really understood what exactly a sensory approach was before, I'm surprised that different topics I studied in my first and second years (like the Tudors, etc.) haven't utilised such a hands-on approach when they are much closer in time to us than the Romans were.

The feedback also indicates that the session allowed them to better understand or envision life in the past and to consider topics outside the module or even degree content. It also helped them to understand the theoretical underpinnings and uses of sensory archaeology and reflect upon their own biases.

I found that it enabled me to really engage with the Roman world at a much deeper level (and now thinking about it, a world which is difficult to access through ancient literary texts only). I think that it essentially allowed the student to 'put themselves in the shoes' of the Roman individual being studied, which is an effective tool for better understanding daily life in the Roman world.

One insight that my group discussed was the glass cup and how something so simple to us could be experienced so differently for a poorer lower-class Roman that probably couldn't afford such luxuries. Also, I think it made me realise just how important it is to not apply a modern lens to the ancient past. Myself and my group also found it interesting that beer was drank, rather than wine in Roman Britain, especially considering how much of a staple wine could be in the Roman diet.

In sum, the session achieved all the desired pedagogical aims and objectives. There was an excellent level of student engagement, it resulted in a deeper connection with the past, provided time for creativity and critical thinking, generated knowledge exchange and new ideas, and finally, resulted in a highly memorable educational experience.

#### **Challenges and Future Considerations**

Teaching is a constant work in progress. Each time we run a module or seminar, we reflect upon areas of success and areas for improvement, and we adjust accordingly. My seminar was no different, and here I wish to highlight some of the challenges encountered and make some suggestions for those who may wish to run similar sessions.

Generating new teaching material always takes time. The lecture content is not module specific, and as I had given the lecture in previous years, I was able to simply reuse it. The case studies, however, did require a considerable amount of time to create, as suitable sites and materials needed to be found and decided upon. Finding suitable material was not difficult as there is an abundance of evidence for diet and dietary practices in Roman Britain. The challenge instead lay in finding the 'right' sites and artefacts, in other words, creating scenarios where there was enough detailed description and background information yet still space for creative thinking (Allen 2007). I had to keep in mind that while some students were on archaeology degrees, for others this was their first encounter with ancient material culture. By this point in the module, I had ensured that the students were acquainted with the necessary range of artefact types including tableware, mosaics, and plant and animal remains. The social structure of Roman society, and ancient notions of identity, and seasonality had also been discussed in previous seminars. Nevertheless, most of the students were not familiar with the archaeology of Roman Britain, making it more difficult for them to picture particular places and spaces, such as elite villas or military camps.

Despite this lack of knowledge, Roman Britain was chosen because it ensured students could relate to and envision the landscape, the seasons, the weather, the local growing conditions, and the need to import certain ingredients. Situating the scenarios in, for example, Rome, a location not all students had had the opportunity or financial means to travel to, would have generated inequalities. The students' lack of familiarity did not appear to have any detriment on the outcomes of the session but may have hindered even deeper analysis. Next time, I would run the session later in the term, or hold a specific seminar on Roman Britain beforehand. Such changes would also make scenario generation faster and easier. I had run a similar session in 2020 in a module on Pompeii and Herculaneum, but towards the end of the second term. Moreover, the module's intense focus on only two sites meant that students were already very familiar with all the necessary archaeological material and locations. Generating case studies or scenarios was much easier and required little more than having the students imagine, for example, a trip to the baths or a walk home at night from a dinner party. In all instances, however, it is worth the time required to generate case studies as they can be used repeatedly, and character focus or traits easily modified. Instead of having the focus on Barates in case study one, I could have Regina play the central role next time.

The final challenge was time management within the session. I had planned to provide students with 10–15 minutes at the end to complete the feedback surveys but ran out of time. Instead, I emailed the survey to the students, which generated a lower

response rate than doing it in person (8 of 16). Nevertheless, the feedback gathered, partly for this article and partly for my own pedagogical development, proved to be valuable and confirmed student learning and enjoyment of the session. When asked if there was anything they would change or improve about the session, some students said that they would have liked to have had even more scenarios.

#### Discussion

Teaching sensory archaeology adds value to our discipline both within, and well beyond, the classroom. There are clear pedagogical benefits, as my case study has shown. A single seminar can create a memorable educational experience and, in fact, the sensory dullness of a modern classroom is partly why it works so well with such little input (i.e. just a candle). In a system of infrequent, high-percentage value assessments, students struggle to embrace creativity, and are rarely given the opportunity to simply follow a train of thought or a discussion and see where it leads (Harvey 2006). Moreover, it very easily allows for an exploration of non-normative experiences and minority groups in the past. The scenarios can be populated with whomever is desired and provided with any backstory or life history deemed pedagogically beneficial. It is also a good method for a modern audience, if done carefully, to explore and work through the more difficult or uncomfortable aspects of antiquity, such as violence, sexual violence, slavery, and discrimination, as the scenarios are all hypothetical. Alternatively, or additionally, sessions can focus on conceptualizations of time and temporality, or sensory hierarchies and assumed dichotomies between sensory perception and culture (Ingold 2011; McLeod 2017).

Once taught, the methodologies can be incorporated into future classes and assessments. Student success in such follow-up assessments, which, in my experience, almost always achieve higher grades than a standard essay, validates their own observations and experiences. When writing the reflective log for my module, students had little difficulty reflecting upon and articulating their sensory experiences. Since it is impossible to do sensory archaeology without an awareness of one's contemporary framework, it also forces students to consider their own biases and expectations (Tringham and Danis 2020: 48). During the cooking session, for instance, students discovered that their version of 'normal', with respect to ingredient combinations, has been dictated very much by contemporary British society and that the Romans operated under entirely different principals and flavor expectations. In their logs, they commented on, and suddenly appreciated, the speed and efficiency of modern cooking equipment, and there was a recognition of the physical effort required to make food in the past.

Furthermore, these sessions and assessments demonstrate to both the students and the wider archaeological community that a diversity of life experiences and backgrounds is something to be embraced; a process which actively works against older colonial hegemonic narratives and generates more inclusive conclusions about the uses and experiences of material culture in the past (Hunter-Crawley 2020: 442). The continuation of such practices is vital as the student body continues to diversify and we strive to create a more inclusive discipline at all levels (Mol and Lodwick 2020). The students taking the *Food in the Ancient World* module came from a mixture of religious backgrounds, places of birth, first languages, and gender identities. During the case study discussions, it was student food allergies and dietary restrictions that led to the contemplation of ancient food allergies. Varying degrees of familiarity with particular ingredients resulted in the conversation surrounding the need for a facilitator when introducing new items.

The session also made students aware of their own sensory limitations. There were proprioceptive experiences (i.e. dining while reclining), tactile experiences (i.e. using a mortar and pestle), and gustatory experiences (i.e. the taste of fish sauce) they had never encountered or considered. An awareness of both sensory biases and limitations creates better archaeologists, museum curators, cultural heritage managers, and those working in any related field or profession. Archaeologists can approach material culture with a more open mind, and museum staff are able to create exhibitions that cater to those from diverse backgrounds (Baker and Cooley 2018). Recent scholarship on the benefits of community engagement has shown that more sensorially interactive displays lead to greater participation, knowledge exchange, and a greater feeling of connectivity with the past and the local community (Minkoff 2015; Greenberg 2019). In another module, Life in the Big City, co-taught by myself and colleague Jari Pakkanen, I incorporated sensory methodologies into every session. We had students design a public-facing sensory experience as part of a final project on city tours. In this assessment, sensory studies were applied to contemporary displays with a consideration of audience, cost, feasibility, and accessibility. Since many archaeology graduates enter public-facing employment, providing students with an awareness of sensory studies will lead to a more sensorially sensitive future.

In sum, teaching sensory archaeology sets the groundwork for future archaeological experiences, both inside and outside the classroom. There are, however, pedagogical barriers still to overcome. A decade ago, sensory archaeology was considered useful for outreach activities in museums, especially to teach children, but not academic enough for serious research (Hamilakis 2013: 65). Today, it is still considered a subdiscipline of archaeology rather than a theoretical framework to be incorporated into the wider

practices of Classical Archaeology. The use of sensory methodologies remains rare in publications beyond dedicated volumes and handbooks. However, as other recent publications demonstrate, sensory archaeology is becoming more and more mainstream (Nissin 2022). Once it is mainstream in publications, it will no doubt work its way into a greater number of classrooms.

#### **Conclusions**

Today, there is a growing recognition of the value of using sensory methods in education (Thyssen and Grosvenor 2019). For those who teach archaeology, a discipline that requires multisensory engagement, this rediscovery of the senses is particularly pertinent. Sensory archaeology is a relatively new method that gained popularity during a period of decline in archaeological pedagogical research, and therefore it is not surprising that it has not yet been identified as a cost-effective tool to reintroduce sensory engagement into sterile university classrooms. As I have shown here, theories and methodologies of sensory archaeology, which welcome diversity and multivocality, have clear benefits for student learning and the wider archaeological community. There are also clear research gains. We can embrace the increasing diversity of the student body and work together with their differing perspectives to generate new questions about our extant material. We can seek out improved understandings of the past, particularly regarding non-normative experiences. I have aimed to demonstrate these benefits by using my own seminar on the sensory experience of eating and drinking in Roman Britain as a case study. The discussions and feedback generated by the students illustrate that it was a highly engaging and pedagogically beneficial session, whose practices and lessons translated into success in follow-up assessments and resulted in a deeper connection to the past. Many of us work in a neoliberal system where standardized learning outcomes and assessment points stifle creativity. Consequently, I have also hoped to show that teaching sensory archaeology is a way to reintroduce creativity and imagination, but in a way that does not impinge upon our already compressed time. While some preparation work is required for the initial set-up, once that has been created, it is possible to repeat sessions or run the same one across multiple modules. Although on the surface, it appears to require direct engagement with ancient artefacts, common modern-day objects are sufficient and thus variable departmental resources should not be a hindrance. In conclusion, sensory archaeology should, for the continued survival, development, and enjoyment of the discipline, be incorporated into archaeological pedagogy whenever possible.

#### Note

<sup>1</sup> REF is the Research Excellence Framework, which is a research impact evaluation tool which underpins the funding of British Higher Education Institutions. The next UK REF cycles closes in 2029 (JISC 2023).

#### Acknowledgements

I would firstly like to thank all the students in *Food in the Ancient World* who participated in the session and whose discussions provided such wonderful food for thought. All students provided written consent for the publication of their feedback and discussion points. I would also like to thank Tom Derrick and Giacomo Savani for their kind invitation to publish in this issue and for their patience while a broken ankle delayed submission. I would like to thank the reviewers for their helpful feedback. Lastly, I would like to thank Liz Gloyn for her guidance in publishing such a piece.

#### **Competing Interests**

The author has no competing interests to declare.

#### References

AdvanceHE. 2023. Students' Engagement with Their Studies has Largely Bounced Back to Pre-Pandemic Levels, Says New Report. 16 February 2023. Available at https://www.advance-he.ac.uk/news-and-views/students-engagement-their-studies-has-largely-bounced-back-pre-pandemic-levels-says [Last accessed 20 June 2023].

Aitchison, Kenneth. 2004. Supply, demand and a failure of understanding: addressing the culture clash between archaeologists' expectations for training and employment in 'academia' versus 'practice'. *World Archaeology* 36(2): 203–219. DOI: https://doi.org/10.1080/0043824042000260988

Aitchison, Kenneth. 2006. What is the value of an archaeology degree? *Papers from the Institute of Archaeology* 17: 4–12. DOI: https://doi.org/10.5334/pia.260

Allen, Mitch. 2007. Scenarios for archaeologists: a teaching tool. In: Heather Burke and Claire Smith (eds). *Archaeology to Delight and Instruct*. Walnut Creek, CA: Left Coast Press: 245–252.

Assif, Maria, Sonja Nikkila, and Shivon Sue-Chee. 2022. Finding our way back home: a vision of post-pandemic classrooms. *University Affaires Universitaires*. 23 March 2022. Available at https://www.universityaffairs.ca/opinion/in-my-opinion/finding-our-way-back-home-a-vision-of-post-pandemic-classrooms/ [Last accessed 20 June 2023].

Angelo, Dante and Valentina Hernández Aguila. 2022. Building bridges between education and archaeology: orphan objects, senses and interactive engagements. *Archaeologies* 19: 342–375. DOI: https://doi.org/10.1007/s11759-022-09453-2

Bakels, Corrie and Stefanie Jacomet. 2003. Access to luxury foods in Central Europe during the Roman period: the archaeobotanical evidence. *World Archaeology* 34(3): 542–557. DOI: https://doi.org/10.1080/0043824021000026503

Baker, Abigail and Alison Cooley. 2018. Breaking through the language barrier-bringing 'dead' languages to life through sensory and narrative engagement. *Museum Management and Curatorship* 33(5): 428–446. DOI: https://doi.org/10.1080/09647775.2018.1501601

Betts, Eleanor (ed.). 2017. Senses of the Empire: Multisensory Approaches to Roman Culture. London: Routledge. DOI: https://doi.org/10.4324/9781315608358

Biswas, Tanu. 2021. Who needs sensory education? *Studies in Philosophy and Education* 40: 287–302. DOI: https://doi.org/10.1007/s11217-021-09763-y

Bloomer, Martin. 2011. The School of Rome: Latin Studies and the Origins of Liberal Education. Berkeley: University of California Press. DOI: https://doi.org/10.1525/9780520948402

Bradley, Mark (ed.). 2015. Smell and the Ancient Senses. London: Routledge. DOI: https://doi.org/10.4324/9781315736051

Butler, Shane and Alex Purves (eds). 2014. *Synaesthesia and the Ancient Senses*. London: Routledge. DOI: https://doi.org/10.4324/9781315729848

Butler, Shane and Sarah Nooter (eds). 2019. *Sound and the Ancient Senses*. London: Routledge. DOI: https://doi.org/10.4324/9781315648248

Burke, Heather and Claire Smith (eds). 2007. Archaeology to Delight and Instruct: Active Learning in the University Classroom. Walnut Creek, CA: Left Coast Press.

Carroll, Maureen. 2012. 'The insignia of women': dress, gender and identity on the Roman funerary monument of Regina from Arbeia. *Archaeological Journal* 169(1): 281–311. DOI: https://doi.org/10.1080/00665983.2012.11020916

Chatterjee, Helen. 2008. Staying essential: articulating the value of object based learning. *University Museums and Collections Journal* 1: 1–6.

Cheung, Christina, Hannes Schroeder, and Robert Hedges. 2012. Diet, social differentiation and cultural change in Roman Britain: new isotopic evidence from Gloucestershire. *Archaeological and Anthropological Sciences* 4: 61–73. DOI: https://doi.org/10.1007/s12520-011-0083-y

Classen, Constance. 1999. Other ways to wisdom: Learning through the senses across cultures. *International Review of Education* 45(3-4): 269–280. DOI: https://doi.org/10.1023/A:1003894610869

Classen, Constance. 2014. Introduction: the transformation of perception. In: Constance Classen (ed.). A Cultural History of the Senses in the Age of Empire. London: Bloomsbury Academic: 1–24. DOI: https://doi.org/10.5040/9781474233095.0006

Classen, Constance and David Howes. 2016. The museum as sensescape: Western sensibilities and indigenous artifacts. In: Elizabeth Edwards, Chris Gosden, and Ruth Phillips (eds). *Sensible Objects: Colonialism, Museums and Material Culture*. New York: Berg: 199–222. DOI: https://doi.org/10.4324/9781003086611-11

Cleary, Simon. 2013. Chedworth: Life in a Roman Villa. Stroud: The History Press.

Cobb, Hannah and Karina Croucher. 2020. Assembling Archaeology: Teaching, Practice, and Research. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780198784258.001.0001

Cool, Hilary. 2006. *Eating and Drinking in Roman Britain*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511489570

Diemke, Justine. 2022. Teaching about the senses in antiquity: exploring the ancient world of scents through recreating ancient perfumes. *Journal of Classics Teaching* 23: 117–120. DOI: https://doi.org/10.1017/S2058631022000034

Flatman, Joseph. 2015. 'A slight degree of tension': training the archaeologists of the future. *The Historic Environment: Policy & Practice* 6(2): 142–155. DOI: https://doi.org/10.1179/17567505 15Z.000000000079

Goodwin, Karl and Sophie Chavarria. 2020. Roman archaeology in lockdown. *Theoretical Roman Archaeology Journal* 3(1): 1–10. DOI: https://doi.org/10.16995/traj.434

Greenberg, Raphael. 2019. Wedded to privilege? Archaeology, academic capital, and critical public engagement. *Archaeologies* 15(3): 481–495. DOI: https://doi.org/10.1007/s11759-019-09374-7

Hamilakis, Yannis. 2004. Archaeology and the politics of pedagogy. *World Archaeology* 36(2): 287–309. DOI: https://doi.org/10.1080/0043824042000261031

Hamilakis, Yannis. 2011. Archaeologies of the senses. In: Timothy Insoll (ed.). *The Oxford Handbook of the Archaeology of Ritual and Religion*. Oxford: Oxford University Press: 208–225. DOI: https://doi.org/10.1093/oxfordhb/9780199232444.013.0016

Hamilakis, Yannis. 2013. *Archaeology and the Senses: Human Experience, Memory, and Affect*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9781139024655

Hannan, Leonie, Rosalind Duhs, and Helen Chatterjee. 2013. Object based learning: a powerful pedagogy for higher education. In: Anne Boddington, Jos Boys, and Catherine Speight (eds). *Museums and Higher Education: Learning at the Interface*. Ashgate: Farnham: 159–168. DOI: https://doi.org/10.4324/9781315596471-15

Harris, Anna. 2021. A Sensory Education. London: Routledge. DOI: https://doi.org/10.4324/9781003084341

Harvey, David. 2006. Neo-liberalism as creative destruction. *Geografiska Annaler: Series B, Human Geography* 88(2): 145–158. DOI: https://doi.org/10.1111/j.0435-3684.2006.00211.x

Howes, David. 2020. Digging up the sensorium: on the sensory revolution in archaeology. In: Robin Skeates and Jo Day (eds). *The Routledge Handbook of Sensory Archaeology*. London: Routledge: 21–34. DOI: https://doi.org/10.4324/9781315560175-2

Hunter-Crawley, Heather. 2020. Classical archaeology and the senses: a paradigmatic shift? In: Robin Skeates and Jo Day (eds). *The Routledge Handbook of Sensory Archaeology*. London: Routledge: 434–450. DOI: https://doi.org/10.4324/9781315560175-25

Ingold, Tim. 2011. Worlds of sense and sensing the world. *Social Anthropology/Anthropologie sociale* 19(3): 313–317. DOI: https://doi.org/10.1111/j.1469-8676.2011.00163.x

JISC. 2023. Future Research Assessment Programme. Available at: https://www.jisc.ac.uk/future-research-assessment-programme [Last accessed 5 December 2023].

Joyce, Rosemary A. 2006. Feminist theories of embodiment and anthropological imagination: making bodies matter. In: Pamela L. Geller and Miranda K. Stockett (eds). *Feminist Anthropology: Past, Present, and Future.* Philadelphia, PA: University of Pennsylvania Press: 43–54.

Kamash, Zena. 2021. Rebalancing Roman archaeology: from disciplinary inertia to decolonial and inclusive action. *Theoretical Roman Archaeology Journal* 4(1): 1–41. DOI: https://doi.org/10.16995/traj.4330

Landahl, Joakim. 2019. Learning to listen and look: the shift from the monitorial system of education to teacher-led lessons. *The Senses and Society* 14(2): 194–206. DOI: https://doi.org/10.1080/17458927.2019.1619314

Livarda, Alexandra. 2011. Spicing up life in northwestern Europe: exotic food plant imports in the Roman and medieval world. *Vegetation History and Archaeobotany* 20: 143–164. DOI: https://doi.org/10.1007/s00334-010-0273-z

Livarda, Alexandra. 2018. Tastes in the Roman provinces: an archaeobotanical approach to socio-cultural change. In: Kelli Rudolph (ed.). *Taste and the Ancient Senses*. London: Routledge: 179–196. DOI: https://doi.org/10.4324/9781315719245-11

Lodwick, Lisa. 2020. Some brief statistics on women in classical archaeology. In: Eva Mol and Lisa Lodwick (eds). *AIAC-Round Table Discussion, Diversity in the Past, Diversity in the Present? Issues of Gender, Whiteness, and Class in 'Classical' Archaeology*. Panel 12.10. Archaeology and Economy in the Ancient World – Proceedings of the 19th International Congress of Classical Archaeology. Cologne/Bonn: Propylaeum: 33–43.

Lyons, Erin. 2019. How brands are working to boost Brits' appetite for 'local' as Brexit looms. *Marketing Week*. 17 April 2019. Available at: https://www.marketingweek.com/brands-boost-brits-appetite-local-brexit/ [Last accessed 22 June 2023].

McLeod, Julie. 2017. Marking time, making methods: temporality and untimely dilemmas in the sociology of youth and educational change. *British Journal of Sociology of Education* 38(1): 13–25. DOI: https://doi.org/10.1080/01425692.2016.1254541

Mol, Eva and Lisa Lodwick (eds). 2020. AIAC-Round Table Discussion. Diversity in the Past, Diversity in the Present? Issues of Gender, Whiteness, and Class in 'Classical' Archaeology: Panel 12.10 Archaeology and Economy in the Ancient World. Proceedings of the 19th International Congress of Classical Archaeology, Cologne/Bonn 2018. Heidelberg: Propylaeum.

Minkoff, Mary. 2015. Making sense of the fort: civically-engaged sensory archaeology at Fort Ward and the defenses of Washington. Unpublished thesis (PhD), University of Maryland.

Nissin, Laura. 2022. Smellscape of a Pompeian neighbourhood. *Journal of Roman Archaeology* 35(2): 621–653. DOI: https://doi.org/10.1017/S1047759421000830

Pearson, Mike and Michael Shanks. 2001. Theatre/Archaeology. London: Routledge.

Pellini, José Roberto, Andrés Zarankin, and Melisa Salerno. 2015. *Coming to Senses: Topics in Sensory Archaeology*. Newcastle-upon-Tyne: Cambridge Scholars Publishing.

Price, Robyn. 2020. Inspiring student motivation through multimodal learning. In: Pınar Durgun (ed.). An Educator's Handbook for Teaching About the Ancient World. Oxford: Archaeopress: 52–67.

Prokopios Trimmis, Konstantinos and Konstantina Kalogirou. 2018. Performative archaeology: exploring the use of drama in archaeology teaching and practice. *Scenario: A Journal of Performative Teaching, Learning, Research* 12(2): 31–45. DOI: https://doi.org/10.33178/scenario.12.2.3

Purves, Alex (ed.). 2018. Touch and the Ancient Senses. London: Routledge. DOI: https://doi.org/10.4324/9781315719665

Rapanta, Chyrsi, Luca Botturi, Peter Goodyear, Lourdes Guàrdia, and Marguerite Koole. 2021. Balancing technology, pedagogy and the new normal: post-pandemic challenges for Higher

Education. Postdigital Science and Education 3: 715–742. DOI: https://doi.org/10.1007/s42438-021-00249-1

Rowan, Erica. 2019. Same taste, different place: looking at the consciousness of food origins in the Roman world. *Theoretical Roman Archaeology Journal* 2(1): 1–18. DOI: https://doi.org/10.16995/traj.378

Rowan, Erica. 2021. Seasonal diet in the Mediterranean. In: Rubina Raja and Achim Lichtenberger (eds). *The Archaeology of Seasonality*. Belgium: Brepols: 39–58.

Rudolph, Kelli (ed.). 2018. *Taste and the Ancient Senses*. London: Routledge. DOI: https://doi.org/10.4324/9781315719245

Skeates, Robin. 2010. An Archaeology of the Senses: Prehistoric Malta. Oxford: Oxford University Press.

Snelling, Charlotte. 2021. Lessons from the pandemic: making the most of technologies in teaching. 29 November 2021. Universities UK. Available at: https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/lessons-pandemic-making-most [Last accessed 25 June 2023].

Squire, Michael (ed.). 2016. *Taste and the Ancient Senses*. London: Routledge. DOI: https://doi.org/10.4324/9781315719238

Thyssen, Geert. and Ian Grosvenor. 2019. Learning to make sense: interdisciplinary perspectives on sensory education and embodied enculturation. *The Senses and Society* 14(2): 119–130. DOI: https://doi.org/10.1080/17458927.2019.1621487

Tilley, Christopher. 2004. The Materiality of Stone. Oxford: Berg.

Todd, Sharon, Marit Honerød Hoveid, and Elisabet Langmann. 2021. Educating the senses: explorations in aesthetics, embodiment and sensory pedagogy. *Studies in Philosophy and Education* 40(3): 243–248. DOI: https://doi.org/10.1007/s11217-021-09776-7

Tringham, Ruth and Annie Danis. 2020. Doing sensory archaeology: the challenges. In: Robin Skeates and Jo Day (eds.). *The Routledge Handbook of Sensory Archaeology*. London: Routledge: 48–75. DOI: https://doi.org/10.4324/9781315560175-4

Van der Veen, Marijke, Alexandra Livarda, and Alistair Hill. 2008. New plant foods in Roman Britain – dispersal and social access. *Environmental Archaeology* 13(1): 11–36. DOI: https://doi.org/10.1179/174963108X279193

Weddle, Candace. 2013. The sensory experience of blood sacrifice in the Roman imperial cult. In: Jo Day (ed.). *Making Senses of the Past: Toward a Sensory Archaeology*. Carbondale, IL: Southern Illinois University Press: 137–159.

Wobst, Martin. 2007. Toilets as tools of teaching. In: Heather Burke and Claire Smith (eds). *Archaeology to Delight and Instruct*. Walnut Creek, CA: Left Coast Press: 201–210.

Zimmerman, Larry. 2007. Simple ideas to teach big concepts: 'excavating' and analyzing the Professor's desk drawer and wastebasket. In: Heather Burke and Claire Smith (eds). *Archaeology to Delight and Instruct*. Walnut Creek, CA: Left Coast Press: 211–222.