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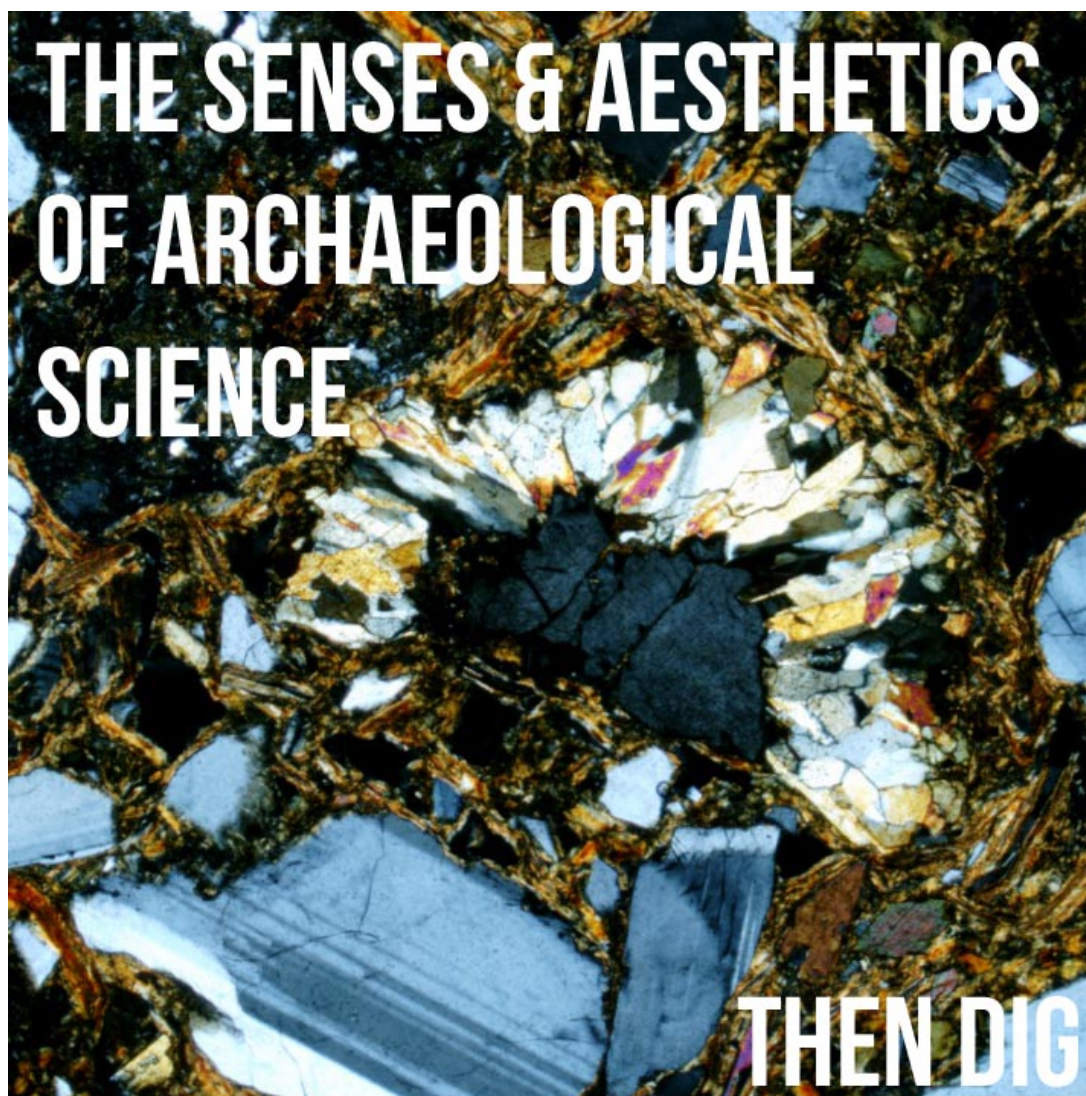
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The Beauty and Frustration of Single Moments, Frozen in Time

Our first entry in [The Senses and Aesthetics of Archaeological Science](#) comes from [Lisa-Marie Shillito](#), at the University of Edinburgh. Responses follow from co-editors of the issue, [Andrew Roddick](#) and [Colleen Morgan](#).



Lisa-Marie Shillito

It wasn't until I became a micromorphologist that I understood how beautiful even the most unremarkable bit of earth can be, or that I truly understood context. I've previously described thin section micromorphology as 'excavation under the microscope' – observing deposits, describing their physical characteristics, determining the stratigraphic relationship between components, and reconstructing the processes by which they have formed (Shillito 2013). The sediments themselves become part of material culture. Produced as they are directly by human activity, understanding their mode of formation can aid in the interpretation of the activities that produced them.

The moment where you peer down the lens of the microscope and a picture comes into focus, you may find yourself glimpsing at that elusive 'frozen moment in time', a true single depositional event, preserved for prosperity between layers of glass. The moment where you can see the single layer of paint that was applied to a wall and subsequently covered and covered again; you can see the hand of the person that so carefully replastered and painted those walls over and over. The moment where you look at a sequence of floors and see a layer of fine dust less than 1mm thick that accumulated beneath a mat, the everyday dirt that escaped the fastidious sweeping of floors. Beyond buildings we may see the tell-tale undulations and orientations of particles within soft midden sediments that indicate where a person (or creature) once walked, perhaps taking a short cut to a neighbour over the way or making a rest stop to relieve themselves (we see evidence of that too...).

The closer we look, the more we see; the very process of examining archaeological deposits under the microscope gives a new understanding of the past. It is only by examining deposits at the microscale that you can gain a true understanding of 'single context' and how the tiny traces from individual activities combine to form cumulative palimpsests (to use the terminology of Bailey 2007) even in cases where we may think we have a 'single' context in the field. That moment you realise that 'in situ' is a relative concept, and materials we assume are intact have often undergone a series of post-depositional disturbances that have consequences for how they can be interpreted. At one magnification we may be looking at an event that occurred within a single moment; change magnifications and suddenly the temporal resolution shifts.

The implications of Schiffer's ideas on formation processes are frustratingly obvious at the microscale. How can we really link that date with that artefact, when even in the same layer some

small creature has come along and mixed things up a little? And how do we even know this disturbance has happened without using the microarchaeological eye? These processes occur more often than not, yet without microarchaeology, they may go unrecognised. It has been suggested by Smith (1992) that we cannot isolate and analyse instantaneous occurrences in archaeology and even if we could (as is sometimes the case with micromorphology) how do we decide what to analyse? The picture becomes so complicated I wonder if we can ever have a 'true' understanding of the archaeological record. Of course the answer is always, 'it depends'. We can observe deposits at higher and higher resolutions, but the resolution that is necessary depends on specific research objectives.

Unlike specialisms such as zooarchaeology and lithic analysis where you can handle the bones and stones, pointing to features, however subtle, and explain your interpretations, my speciality lies in the unseen, the hidden worlds, the intangible. Explaining is not as straightforward. Explaining the importance of microarchaeological research and being transparent in how you arrived at an interpretation requires the visual. Under the microscope stratigraphy becomes differentiated, the relationships between components within a deposit become apparent and the mechanisms by which materials ended up in their positions can be directly observed in a way that is simply not possible at the macroscale.

Like single context archaeology, one of microarchaeology's greatest contributions lies in sites with well-preserved stratigraphy and architectural features (Morgan 2010), and its true value can only come from collaboration between specialisms, and considering the sediment as part of the assemblage along with all the other materials we uncover. The sediments can speak their own stories about people in the past, but they also provide important constraints on the myriad of possible interpretations of other artefact and ecofact assemblages, going some way towards reducing their equifinality. It can be disheartening being the specialist whose greatest contribution is in pointing out the taphonomic problems with a favoured interpretation. Luckily, the beauty of the world under the microscope (mostly) makes up for its frustrations.

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Schiffer, M.B. 1987. *Formation Processes of the Archaeological Record*. University of New Mexico Press, Albuquerque

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Tracing the Past under the Microscope

Andrew Roddick

Lisa Marie's reflections highlight the analytical quandaries, the frustrations, but also the new interpretive and aesthetic worlds that open up through the microscopic gaze. This exploration of the unseen and intangible might be considered as an exploration of the trace, an archaeological element of an entirely different scale than the impressive houses and mounds at Çatalhöyük. Rosemary Joyce (2006: 15) contrasts the trace, which is subtle and contextual, with the monumental, which are those realms of material culture with external hierarchies of value meant to convey sets of meanings over time. Joyce argues our job is to work at "rematerializ[ing] traces of practices in the past" (Joyce 2012: 121). Such rematerializing requires the specialized tools, learned techniques, and careful theoretical insight and reflection, all essential to our modern disciplinary practice.

As a ceramicist I have been thinking recently about the relationship between my craft of archaeology and those craft producers in the deeper past who produced the vessels I study, and the traces I follow. Just as potters transformed into clay into a vessel through learned technical practice, the pottery is transformed again as it enters my laboratory. I must first decide which traces of the past I'm interested in following, as this choice will determine the next step of the transformation; the sample must be cut either vertically, horizontally or tangentially, each of which will produce distinct traces. Each step in following these traces also introduces new problems: Are these micro structural traces evidence of clay mixing, or simply bioturbation? These mundane objects introduce monumental issues at the microscale. But like Lisa Marie, these moments are disrupted by aesthetic appreciation, producing a kind of pause similar to that of a sun setting over an important monumental heritage site. Exhibits by archaeological scientists such as David Killick (<http://uanews.org/story/art-and-science-converge-state-museum-exhibit>) suggests there may be reason to invite a much larger public to peer down the microscope with us, demonstrating the beauty behind even behind the dirt beneath your mat, or the awe in an old clay pot.

Joyce R. A. 2006. The monumental and the trace: archaeological conservation and the materiality of the past. In Agnew N and Bridgland J (editor) *Of the Past, for the Future: Integrating Archaeology and Conservation*. Los Angeles: Getty Conservation Institute, 13-18.

Joyce R. A. 2012. Life With Things: Archaeology and Materiality. In Shankland D (ed.) *Archaeology and Anthropology: Past, Present and Future*. Proceedings of the British Association of Social Anthropologists. London: Berg Publishers, 119-132.



El tiempo lo aguanta todo by Leyla Cárdenas

The Microarchaeological Eye

Colleen Morgan

What is a context/archaeological unit? How can archaeologists deal with stratigraphic deposits that are too fine to feel, that disappear under the trowel? I find myself alternately defending the craft of archaeological excavation and now, wondering if field archaeologists are actually equipped to excavate at all. Lisa-Marie Shillito's microlayers: fingerprints, the stroke of a paintbrush, the dust under the mat, a breath, the barest whisper of a deposit, are terrifyingly ephemeral. How soon until we are able to excavate a painting stroke by stroke, unmaking masterpieces in reverse? Recent work in 3D printing fine art paintings by Tim Zaman may make this possible in the near future.

I spent a few days in January in the company of artists at the Van Eyck Institute as part of NEARCH, and after the lectures were done, we compared art practice and archaeology practice. How are we funded? Who is our audience? This process of making our professions intelligible was fascinating, but now I think we might have missed the main point. Archaeologists are un-doers, unravellers of the skein of time, picking out the stitches, ruining the weft. Perhaps that is why some of us refuse to re-knit the past back together again, it is too personal, we are too inexperienced and can only produce a vague, warped parody of the original.

Still, I think about the gestures involved in unpainting a painting. The tiny, precise swipe of the removal of a stipple. The broad slash, peeling off a jagged stroke. What would the Harris Matrix of a Mondrian look like? Squares and lines and red on black? Would the reverse-Pollock matrix be a tangled cloud? How does our arcane, chronologic, geography of a site describe and inscribe the parameters of human action?

One of the artists, Leyla Cárdenas at the Jan Van Eyck Academy specialized in a kind of microstratigraphic excavation. She peeled apart layers of paint, pried apart wallpaper to make an exploded stratigraphy of sites. She is interested in palimpsest, in sections sawed through art. I wonder if there is a microarchaeological movement in art?

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PUBLISHED BY**Colleen Morgan**

Colleen Morgan recently received her Ph.D. in Anthropology at the University of California, Berkeley. After receiving her B.A. in Anthropology/Asian Studies in 2004 at the University of Texas, Colleen worked as a professional archaeologist. Since that time, she has worked in Turkey, Jordan, Qatar, England, Greece, Texas, Hawaii and California, excavating sites 100 years old and 9,000 years old and anything in-between. Her dissertation is based on building archaeological narratives with New Media, using digital photography, video, mobile and locative devices. She is deeply interested in excavation methodology, high falutin' theory, interstitial spaces, skeuomorphs and good bourbon.

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