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Louder Than Orange: a chromosonic sense of archaeological usewear photography



The Points of No Return
Late Natufian, Hayonim Terrace, Western Galilee

The point that killed a partridge amongst the oak and pistachio trees	The point that is made from the lower leg of a mountain gazelle	The point that caught a Jordan River carp that was eaten	The point that caught a Mediterranean sea bass that was never eaten	The point that cut my finger while I was cleaning it
The point that acted as a lever to open a tortoise carapace	The point that was heated and pierced a cattle hide	The point that helped repair a fishing net	The point that was carried off by a raptor	The point that was gnawed on by a mouse
The point that assisted in making a basket	The point that couldn't dent the skin of a legless lizard	The point that ended the life of a hare	The point that choked a fox, whose teeth were later used as a necklace	The point that points to invisible evidence
The point that was scraped with a lovely flint thing	The point that helped make me short-sighted due to long hours of microwear analysis	The point that was a poisonous blow-dart	The point that was polished and heated to make it stronger	The point that killed a pigeon in the Cave of Pigeons next to the Terrace of Pigeons

Louder Than Orange: a chromosonic sense of archaeological usewear photography

Brian Boyd

You are looking at a series of colour photographs of the surfaces and edges of worked bone artefacts (pointed objects) from the Late Epipalaeolithic (Late Natufian) levels at Hayonim Terrace, Western Galilee (Israel). They were made and used around 11 thousand years ago. The artefacts that is, not the photographs. The photographs were taken during 1994 and 1995 in the East Building of the McDonald Institute, University of Cambridge, using a Leica Wild Photmakroskop M400 stereo microscope with a Schott KL1500-T light source, to which was attached a Leica Wild MPS52 camera operated by a Wild MPS46 Photomat. The light source used was an Instralux 6000. The film used was Fuji Reala (ASA 100). The purpose of this microscopy and photography was to identify microscopic traces of the manufacture and use of the objects. You can read all about this research in detail [HERE](#).

Directly beneath the photographs you are reading a series of observations, interpretations and speculations based upon the results of the microscopic and photographic analyses.

Together, the above photographs and descriptions were presented as a visual contribution to an exhibit mounted at the May 2014 Theoretical Archaeology Group conference (University of Illinois at Urbana-Champaign) titled “The Archaeologist as Artist: research photography in a new context”, organized by Kaeleigh Herstad and Elizabeth Konwest. I called the piece “The Points of No Return”, in reference to articles by Ofer Bar-Yosef and Anna Belfer-Cohen in which they argued that the Epipalaeolithic Natufian “culture” was the “point of no return” on the social evolutionary trajectory towards settled agricultural life in the Levant around 10,000 years ago (Bar-Yosef & Belfer-Cohen 1989, 2000).

But the real point of the piece was to think about the use of colour in usewear photography of archaeological artefacts. Microwear photographs are usually black and white. Obviously the financial restrictions of most publications is a major issue here, but there are other interesting theoretical considerations to explore. Do colour usewear images give us something more than black and white/greyscale photographs in terms of analytical and interpretive value? On viewing the photographs, several TAG participants thought they were abstract pictures of landscapes, perhaps computer-enhanced aerial shots of ancient fields and river terraces. This got me thinking about colour studies in archaeology.

In the 1980s, we were told “archaeologists don’t attempt a technicolor version of man’s early life” (Binford 1983). So what does this early life look like once all the colours have been drained away? Another TAG session (Stanford 2009) on “The color of things”, and Jones & MacGregor’s *Colouring the Past* (2002), worked to address this problem. Both however highlight the conventional archaeological focus on colour – the use of pigments, dyes, colour in material culture studies, the colour of things, objects. Only occasionally do these studies go beyond the material and into the realms of what art historians, philosophers, industrial and organic chemists have long dealt with: the social lives of colours, the “mysteries” of colour.

Maybe in recent “sensory archaeology” we see a similar reaction to that of Wittgenstein – “colours spur us to philosophize”; a move away from the “boring” questions about colour (Taussig 2009) or a “chromophobia” (Batchelor 2000) towards a concern with perception, cognition, semiosis, language and signs, and so on.

Colour allows something else into the picture, or the narrative: the language available – saturation, luminosity. At the technological level – the tips and shafts of those bone points were often burned/heated to achieve a desired hardness, robustness, strength. They were worked not until they reached a certain *temperature*, but a certain *colour*. When an object reached that exact colour it was ready to be used, a brownish-black. If it starts to go white it's too late, too brittle. In the discussion to Jones & MacGregor (2002), Chris Scarre called for not only colouring the past, but also making it *sound*. The sound/noise of manufacture/production: scraping, sharpening, polishing. The two media are entwined in a sound/colour relationship, witness C.S. Peirce's "red trumpets", Winston Smith's (Orwell's) "yellow note". Kristin Hersh's "louder than orange". A chromosonic sense of objects emerges.

Techniques of sensing (and sensing techniques) in and out of the laboratory

Andrew Roddick

Moments before setting down to read Brian Boyd's contribution I finished giving a lecture in my class "Religion and Power in the Past". In this course we are exploring ritual and religion through archaeology, in essence flipping Hawkes' well-known inferential ladder. For the past week and a half we have been considering the potential for a "sensory archaeology". To encourage students to question the visual dominance of our narratives, we watch an extract from the film *Perfume* (<https://www.youtube.com/watch?v=KvK4u8LryLI>), a film which encourages the viewer to consider the multi-sensorial. (Is this is what the past looks like if the color has not been drained away, but also if the sounds and smells are re-inserted?) We then discuss Classen's study of Andean and Amazonian sensory orders, before moving to some archaeological case studies including the sound and touch of South African rock art, auditory archaeology in the Britain and Peruvian highlands, and the tastes of colonial Africa.

Boyd similarly engages with a multi-sensorial past, from the chromatic richness of projectile points to the potential acoustic elements of their production. He specifically enters this discussion from the perspective of the microscope, a technological extension of the senses that "channels perception along modality-specific lines" (Howes 2013). Boyd shows how such a focus on the microscopic can blind us to obvious variation in color, and its related analytical and interpretive value. But even more interesting to me is his suggestion that we must push our analysis of tool

production to a larger sensory realm, to consider also the sounds, and even tastes of particular material practices. Those of us working at the microscope might also consider, for instance, potters tasting and smelling their clays, a common practice in many potting regions today, and not altogether different from the practices of modern geologists, who sniff and taste rocks to seek out the presence of minerals such as sulfur, halite, sylvite, and kaolonite.



The colors of potting clay in highland Bolivia...but what about their taste?

In a recent chapter, Krysta Ryzewski (2013) explores how the traces of sensory perceptions might be explored in crafted iron goods from historic Rhode Island. Much like Boyd, she suggests a sensory archaeology have real consequences for those exploring the microscopic, impacting not only our interpretations, but shifting the very questions we ask. For instance, “what happens to conventional models of the *chaîne opératoire* (Leroi-Gourhan 1964) of forging an iron tool when the archaeologist is asked to account for concurrent sensory variables” (Ryzewski 2013: 359)? Drawing on Ingold’s “textility of making” (2010), she discuss the sensory aspects of iron working: “How material properties are harnessed by the ironworker and made to interact in the process of making—as the iron is exposed to heat, to repeated blows from the hammer, and to flux and as decisions are made by the experienced crafts-person—exemplifies the relations between material properties, sensory clues, and the reading of these clues by the craftsperson. All of these decisions must mix with each other effectively in the generative process of making an iron object successfully.” (Ryzewski 2013: 360)

Boyd makes an important step in critically reflecting on the multi-sensorial aspects of his projectile points, at both the macro and micro-scale. Ryzewski argues that micrographs of various iron artifacts reveal microstructures, but also larger sensorial engagements. Ryzewski suggests that the details gained through the microscope must be re-inserted into practice. She explores such a step by combining her laboratory analyses with experimental work, taking part in a form of apprenticeship in practice (see also Keller and Keller 1996; Lave 2011): “[T]o understand how the crafts-person follows materials in his or her work, so too must those who study that work also study the material. In other words, as the archaeologist joins and follows forces and lows of material that bring the form of work into being through countless sensory mediations, the micrograph, in this case, invites the viewer to join the craftsperson and the archaeologist as a fellow traveler.” (Ryzewski 2013: 364) Much as Ouzman (2001) asks about the relationship of rock engravings in South Africa to the nearby “gong rocks”, perhaps we too need to widen our understanding of a truly contextual archaeological science, to consider the larger landscape of practice and senses associated with production. To understand the sensorial and embodied experiences of production, we must send our findings back out from the laboratory.

Howes, David

2013 The Expanding Field of Sensory Studies.

<http://www.sensorystudies.org/sensorial-investigations/the-expanding-field-of-sensory-studies/>

Ingold, Timothy

2010 The Textility of Making. *Cambridge Journal of Economics* 34:91–102.

Keller, Charles M. and Janet Dixon Keller

1998 *Cognition and Tool Use: The Blacksmith at Work* Cambridge University Press, Cambridge.

Lave, Jean

2011 *Apprenticeship in Critical Ethnographic Practice* University of Chicago Press, Chicago, IL

Ouzman, Sven

2001 Seeing Is Deceiving: Rock Art and the Non-visual. *World Archaeology* 33(2):237-256.

Ryzewski, Krysta

2013 The Production Process as Sensory Experience: Making and Seeing Iron in Colonial New England, In *Making Sense of the Past: Toward a Sensory Archaeology*. Edited by Jo Day, pp. 351-370. Southern Illinois University Press, Carbondale.

Black/White/Technicolor

Colleen Morgan



Zoom in/Zoom out – shot at Dhiban, Jordan, 2009.

Archaeological photography has woven a bright ribbon through the last decade of my research; in my thesis I discussed photography as a way to understand the affordances of media making and the digital turn within archaeology, mixing theory and practice as part of a methodology based partly on critical making. The above photograph is an example of such work—the object of interest is highlighted in black and white, the serious, publication format for archaeological finds. The frame for the object is messy technicolor chaos, the kind that I would usually wave my hands about, insisting that it was tidied away before any kind of photography took place.

But I liked it, the small, “scientific,” desaturated moment surrounded by all of the don’ts in archaeological photography. The shadow, the context folder, dirt, the bucket full of finds, sample bags in a radiating halo, exhausted student archaeologist leaning against a broken ashlar—it’s a tongue-in-cheek comment on the context of this scientific photograph. Art historian Frederick Bohrer states that “at its most scientific, archaeology seeks to approach the photographic image as document, not to look at the photograph so much as to look through it to the object pictured” (2011:26). This photograph invites a telescoping view—instead of taking the importance of the black and white object, with the totemistic scale placed in parallel for granted, it can be re-situated as a pause in action, a moment cut from the whole cloth of archaeological process.

Brian Boyd invites us into the technicolor dream of usewear photography, paired with captions of “observations, interpretations and speculations” such as “the point that was heated and pierced a cattle hide” and the “point that points to invisible evidence.” The usewear photos, arranged in a grid, are meaningless without captions, and Boyd chooses to forgo the tricks of analyses and didactic locative information and jumps straight into the story of these objects, the moment that these objects came alive through microscopic damage.

Boyd then goes on to consider color in usewear images. As he states, “microwear photographs are usually in black and white” due to the financial restrictions of publications—though this is becoming less of an issue as publication goes digital. Why not have both color and black and white? Why not have a version that contains a roll-over caption, or an animated GIF of the object in motion, showing the usewear from each side? Or a QR code leading to a download of the 3D scan of the object, to be directly loaded into your 3D printer, so that you can run your fingers over the plasticky, simulacra divots and ridges?

Yet black and white photography connotes a collection of past moments in visual technology, moments that drifted through photography, to film, to television, each eventually erupting into color like Dorothy in Oz. So perhaps archaeologists could and use black and white as a preferred visual mode of representation to better convey both our affinity for the past and our previous interpretations of the past. When presented side by side, old interpretations of the past could gray-out, flicker and tear, supplanted by the new, the colorful, the high-definition versions that will eventually convey their age through technological affordances.

Bohrer, F. N. (2011). *Photography and archaeology*. London: Reaktion Books.

