Digitally mediated archaeologies

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Quartz, the digital news outlet, recently published an interview by Adrienne Matei with Peter Kahn, a psychology professor at the University of Washington. In it, they discuss how technology is affecting our lives and becoming a means to mediate the real world. The item references some of the research that Kahn and his colleagues at the Human Interaction with Nature and Technological Systems Lab (HINTS) have undertaken, aspects of which have direct relevance for understanding technology within archaeology. They raise issues such as the limitations of technological devices, questions of authenticity, changing perspectives, and what they call the 'shifting baseline problem', all of which have their echoes within digital archaeology.

For example, in one study, they compared the experience of subjects presented with natural views from a window to those given real-time views of the same view on a large plasma screen (Kahn et al. 2008). The physiological recovery of subjects from low-level stress was faster with the glass window, while there was no difference between the display and a blank wall. Problems identified with the plasma display included the inability of viewers to change their perspective on outside objects by shifting their position (the parallax problem), as well as issues to do with pixilation and depth perception (Kahn et al. 2008, 198). They also report that subjects made judgments about what it means for a view to be 'real' as opposed to 'represented' and how these judgments then fed back into the physiological and psychological system to affect the outcome of the experiment.

So what can we take from this?

First, we can borrow their concept of 'technological nature' (e.g. Kahn et al. 2009a, 21) and insert digital archaeology into it: 'technological archaeology' is therefore digital technologies that in various ways mediate, augment, or simulate archaeology. This implicitly reveals the range of a technological (digital) archaeology – it encompasses everything from virtual and augmented reality, through structure from motion modelling of everything from landscapes to monuments to excavations to artefacts. It includes GIS, agent-based and network modelling, knowledge-based

systems, right the way down to database systems and archive systems, all of which we use in various ways to mediate, augment, or simulate archaeology. And it's as well to remember that this is what our digital technologies do for us – they represent the archaeology in question; they assist in its capture, its recording, its modelling, its presentation, and ultimately hold that representation in perpetuity within our archives. What they don't do is present reality – they offer a version of reality filtered by the knowledge, interests, and biases of the archaeologists concerned, and at the same time mediated, augmented or simulated by the technology.

Secondly, this digital mediation alters our experience of the past: we view it at least one step removed, through a glass darkly. We look at it through our digital screens, not through a glass window. So we too suffer from variants of the parallax problem – we're limited by the image on the screen and its two-dimensional perspective. This is increasingly offset by the growth in three-dimensional interactive imagery and 'virtual' reality which allows us to shift our viewpoint and perspective, but at the cost of operating within an increasingly modelled environment, in certain respects still further removed from the reality. We are also confronted with judgements concerning the 'real' versus the 'represented', all the more so given the drive towards hyper-reality, fidelity, photorealism, accuracy, and authority in our three-dimensional models, together with the importance of 'presence' in reinforcing a sense of immersion in these modelled spaces, providing a perception of truth in the resulting imagery.

Thirdly, this digital mediation also removes us physically from the past. Not just in terms of a physical contact with the past, but in a sensory manner too, and consequently our engagement with it is altered. Ironically, we do this through digital devices which in turn seek to reduce or otherwise minimise our engagement with them, through making themselves 'user-friendly', 'transparent', reducing their presence and disappearing into the background as far as possible. This physical separation is all-too real, and an inevitable part of archaeology: after all, we recognise that often the only evidence available to us is the data left by previous investigators, and it is either not possible or not feasible to gather those data again. So this mediation is useful – indeed, vital – when we do not otherwise have access to the original archaeological 'reality'. It does however have consequences for our data, physically removed from us in time and space, mediated through the perspectives of those who originally recognised and recorded the data, and mediated again digitally, often by others who are again separated in time and space both from the original investigators as well as us. What then are the implications for our archived data as the only record of what was originally physically perceived in the field?

Fourthly, the definition of the 'shifting baseline problem' (Kahn et al. 2008, 198) – that we accept a degraded condition as the non-degraded condition, depending on what we have become accustomed to – is equally interesting in an archaeological context. They define it in terms of attitudes to pollution, environmental degradation, etc., but more generally it is seen to be a function of technological mediation: specifically that technological mediations are not just different but are impoverished versions of what was originally there. These technological systems and our interactions with them can therefore shift the baseline of what is accepted to be the norm. In other words, it can seem as if 'almost real' and 'just as if it were real' essentially become reality to those who have not experienced otherwise. They note that one of the consequences of this is that if you try to explain to someone what we're missing out on through this technological mediation, they won't understand, and won't appreciate that anything is missing (Kahn et al. 2009b, 41).

Kahn and his colleagues finish with a warning:

> "The peril is this: Through the loss of experience with actual nature, and the increase in technological nature, the good enough will become the good. It will become so because of the increasing loss in our capacity to experience, and to even know of that loss." (Kahn et al. 2009a, 38)

What happens when we substitute 'nature' with 'archaeology' in that statement? At what point does the digitally mediated 'good enough' archaeology become the good? And what do we lose (and gain) in the process?

References

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