Interfacing the past

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As archaeologists, we spend a great deal of time and effort looking at interfaces, be they between soil horizons or between cultural horizons, for instance. We pay rather less attention to the digital interfaces through which we access and analyse our evidence. And yet it is important that we do consider the nature of the negotiations that take place through the mediation of those interfaces. As Johanna Drucker has argued:

> *No single innovation has transformed communication as radically in the last half century as the GUI*. In a very real, practical sense we carry on most of our personal and professional business through interfaces. Knowing how interface structures our relation to knowledge and behavior is essential. (Drucker 2014, vi, emphasis in original).

One reason why it is essential is that the interface is specifically designed to function more or less invisibly – it is only when it no longer functions smoothly and interrupts our workflow that we become aware of it. Seeing the interface represents failure to an interface designer – for instance, Don Norman suggested:

> If I were to have my way, we would not see computer interfaces. In fact, we would not see computers: both the interface and the computer would be invisible, subservient to the task the person was attempting to accomplish. (Norman 1990, 219).

This transparency of the interface, not just disappearing into the background but ideally disappearing altogether, is very much a characteristic of the Human-Computer Interaction (HCI) approach to user interface design. How often have we heard that the interface should just 'get out of the way' and let us focus on the task in hand? However, the concept of the invisible interface and the idea of the designed user experience are squarely paradoxical and one consequence of the characterisation of the interface as a transparent surface is a tendency to downplay their

affordances and mediations.

Indeed, the very ubiquity, mundanity, and supposed transparency of the digital interface disguises the underlying structures – what it does and does not let through – and in the process, camouflages the limitations, restrictions and assumptions that control our access. The interface provides certain avenues to access and manipulation while simultaneously denying others. To an extent, this is a bargain we implicitly accept since in exchange we are admitted to information and tools which would otherwise be difficult if not impossible to employ. However, as computers are increasingly critical devices that support and extend our own cognition, this illusory transparency becomes a significant issue.

Consequently, whether we realise it or not, the digital interfaces which make our work possible and provide opportunities for innovation and knowledge creation, also act as constraints, limiting what we can do, and, on the whole, do so covertly. For example, Michael Dieter suggests that interfaces are constructed as cognitive scaffolding – they incorporate patterns of interaction, a series of actions and relations that are anticipated, planned (and revised after implementation) (2015, 170). As a result, interfaces can heighten the sense of personal agency: they "… seize upon the autonomy and rationality of a user through their promises of empowerment" (2015, 176) yet at the same time,

> … interface design should be understood as being materially indexed to power relations … [it] can easily resemble a device of capture, as a journey is plotted out through which mechanisms are triggered and set off that reduce autonomy into zones of non-knowledge. (Dieter 2015, 173).

So an interface is far more than simply an instrumental 'thing' in its own right, and it may be more useful to characterise it more in terms of a dynamic system, a zone of activity or liminal space. An interface is what Johanna Drucker calls a space of being and dwelling (2014, 152), what David Berry has characterised as "a site which is a non-place of confrontation, engagement and control" (2015, 44), and what Alexander Galloway defines as a threshold: "mysterious zones of interaction that mediate between different realities … autonomous zones of activity … not things, but rather processes that effect a result of whatever kind" (2012, vii).

What then do we need in an archaeological digital interface? Anne Burdick has described a series of attributes and qualities that we might adopt in future humanistic interface designs. For example, she argues that the black box should be replaced by the availability of the inner workings, that there should be multiple world views available, that the interface should be context-specific and observer-dependent, partial and situated, and that the interface should be capable of viewing and manipulating data in an infinite number of ways (Burdick 2015, 31). As she says, the design challenge is to how to give form to dynamic materials and practices. There is little discussion of this as yet in an archaeological context, but we can see elements of these features coming through in the graphical interface developed by Rachel Opitz and Tyler Johnson who suggest that "a well-designed, theoretically-informed GUI can aid archaeologists toward a more sophisticated engagement with these media" and whose design of for a post-excavation experience of the excavations at Gabii seeks to "encourage a slower, more reflective, embodied interaction with the … archaeological materials" (Opitz and Johnson 2016, 3).

The challenge, therefore, is to move away from interfaces that focus on ease of use and recognise that they structure as much as they facilitate access, that they frame interaction and representation. Given our interests as archaeologists in materiality, in tool use, in communication and interaction, in symbolism and representation, in spaces and activity areas, we should engage with the process of interface development to better support our epistemologies. To do otherwise would, to use Sherry Turkle's phrase, abdicate authority to the simulation (Turkle 1995, 70).

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