Silent Hardware*

In 1970 an exhibition at the Jewish Museum *Software: Information Technology, Its New Meaning for Art* was staged to analyse the relation of emerging digital technologies to artistic production. In his essay for the exhibition catalogue the curator Jack Burnham made a direct comparison between the strategies of conceptual art and developments being made in the field of computer programming. For the purposes of Burnham's argument *software* paralleled an artwork's conceptual properties, while *hardware* represented its formal actualisation, a principle that was in turn applied to the perceiving subject as that which divides mind from body.

Burnham's interpretation represents a binary relationship that has remained largely unchallenged since. It stresses the separateness of these two aspects (software/hardware, concept/form, mind/body), while covertly privileging both software and conceptualism as utopian ideals that will eventually, with the aid of technological development, be freed from their reliance on material form. Indeed the idea of hardware without software to execute is a troubling one, bringing to mind images of widespread obsolescence and catastrophic waste. These images relate also to the inconvenient corporeality of the human subject during their interaction with the increasingly virtual networks of communication that structure contemporary life. The growing discourse surrounding subjects such as animism are, in part at least, a reflection of the concerns this issue produces: the fear that our bodies will become trapped outside these sophisticated systems of information exchange.

Just as Burnham imagined human minds interacting directly with both computer software and conceptual art, floating free in a cerebral matrix, so we could too map the excluded body's latent phenomenal involvement with this inactive hardware or "transducers" of meaning. Similarly, the now almost redundant task of physically standing in the presence of an artwork, as opposed to scrolling through documented images of it online, could be likened to visiting a server bank where the content has migrated elsewhere. This also begs the question: can the act of sitting at a laptop be interpreted in a phenomenological manner?

If technological analogies like these are to remain of any use to artistic production, there is a need to reassess the persisting necessity of hardware, not just as a sterile technical interface between users and software, but also as totemic indicator of the systems of exchange that it facilitates and embodies. Despite being typically regarded as secondary to the functionality of machines, the casing, shell, or armature are all aesthetic manifestations of its operational potential. Just as in the way avatars represent graphical manifestations of their users within software, so too is hardware inscribed with symbolic form.

Perhaps more applicable is the term, also briefly glossed in Burnham's essay: *firmware*. Usually employed to describe a program embedded within a device, and designed to affect its operation in a fixed manner, firmware problematises the binary non-relation of software and hardware. Although potentially limiting the idealistic reach of an artwork, what it does offer is a better way of understanding the fragile symbiosis between its material characteristics and functioning within, and subsequent effect upon, a wider economy of signs. It suggests that maybe artworks are not programs to be loaded and run, but rather custom built, obdurate terminals situated within a network of subjective human relationships.

Neil Clements 2013

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* *Written to accompany the exhibition 'Silent Hardware' at David Dale Gallery, Glasgow, which featured the work of Neil Clements, Chadwick Rantanen and Magali Reus.*