

Towards the Aesthetics of the Instrumental Medium

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The Instrumental Medium

Frieder Nake (5) has described the computer as an instrumental medium. We use it instrumentally as a tool or an automaton while communicating with it as a medium. This constant shifting between the instrumental use and the communicational and representational functions of the medium is inherent to most computer applications – even computer games and net.art have a functional dimension related to navigation, interaction and functions such as "save", "open" or "print", while functional software tools also have representational dimensions, often as an intrinsic part of the very metaphor(s) behind the software design.

While one can with good reason argue, that HCI until recently has focused too narrowly on the functional dimension, where the computer as a visible medium was supposed to disappear, the current aesthetic turn to some extent risks falling into the opposite ditch by focusing on the mediated dimension, even though it might be relevant for a while to emphasize the media dimension to counterbalance the functionalistic dogmas.

Bolter and Gromala (1) have argued that interfaces have a transparent or functional and a reflective media- dimension. What should be underlined is that these two dimensions are intrinsically interwoven in all interfaces. Even interfaces that tries to dress up as either 'purely' functional or 'purely' artistic, representational have both dimensions. Just look at how a plain ordinary 3D button in any interface highlights the schism of the instrumental medium.

A button

A button indicates a functional control, by means of which something well defined and predictable will happen as an effect of the user pressing the button; the fact that it is often rendered in 3D simulates a physical, mechanical cause-and-effect relationship. Of course, we know that it is in fact a symbolic representation and as such a mediation of a functional expression, but we nevertheless see and interpret it as something that triggers a function – and for good reason indeed, since it is designed to perform in this way. It is a software simulation of a function, but normally this simulation does not point toward its representational character, but acts as if the function were natural or mechanical in a

straight cause-and-effect relation. Yet it is everything but this: it is conventional, coded, arbitrary and representational, and as such also related to the cultural. Or perhaps the cultural, conventional and representational elements are disguised as pure technical functionality. Furthermore, as manufacturers of technological consumer goods from cars and hi-fi equipment to computer hardware and software know, buttons have aesthetic qualities and should respond to a desire to be pushed. This could in aesthetic terms be interpreted as a desire for control, but perhaps it is also and primarily a tactical desire. Buttons and knobs are supposed to feel good – one can even read car reviews that criticize the buttons and controls of a Korean car for their cheap 'plastic' feeling.

Consequently buttons have aesthetics, though mainly of a kind we do not recognize – and in many cases perhaps should not recognize. My point here, is not that we should blindly complicate all the functional dimensions by dressing them up as reflective, representational, only that the dialectics of the instrumental medium is still there – recognized or not.

Chiasmus

I believe that we have to see the aesthetic semiosis and the functional as an intertwined chiasmic¹ relationship, where the aesthetic semiosis can (should!) never be stopped or short-circuited to the benefit of the functional (user-friendly etc.), if we do not want interfaces that enslaves the user to the conceptual model of the interface (3), but instead want enriching interfaces. Still we should also be aware, that the semiotic and the functional are closely related in the computer – here words and images actually do things, become commands and code. This is especially the case when we talk about interfaces and interaction design.

¹ The chiasmus is a rhetorical figure for an inverted relationship between the syntactic elements of parallel phrases (a + b : b + a). They are often found in e.g. Kierkegaard or Shakespeare, e.g. "I wasted time, and now doth time waste me" (*King Richard II*). Also John F. Kennedy used chiasmus, while George Bush does not get beyond dichotomies...

Chiastic design

If we take the chiasmic relationship seriously, where does this get us? If we combine function and aesthetics in a chiasmus, we get functionalistic aesthetics and aesthetic function. How could this be understood?

Functionalistic aesthetics could be an aesthetics that is pre-occupied with its function, but where the aesthetic, representational level is still important and part of the function. If the functional becomes too imperative we end up with interfaces that under-estimate the user, that makes the user stupid instead of helping the user to understand the representation simultaneously with the workings of the representation. In short, a too literal implementation of the What You See is What You Get – in itself a reducing dogma. If on the other hand, the balance is well kept, we get innovative and innovating representations and metaphors such as e.g. the windows metaphor (Xerox Park, Macintosh, Microsoft, Linux, etc.). The window is a rich representational metaphor with relations all the way back to the renaissance (Alberti) and with strong connotations to new media from photography, cinema and the computer. And in the computer interface, the windows metaphor is not understood in a narrowing literal sense, but as a representational metaphor – perhaps a metaphor of representation itself? As such, this is an example of well-designed functional aesthetics.

Aesthetic function is then an aesthetics, where the aesthetic, cultural values are important, but which does not see itself as apart from the functional reality. If the aesthetic part of the equation takes over we end with either naïve, pure art, which is unaware of its function and place in society or with aesthetisation, where the aesthetics is used to disguise the functional, material levels – what the Marxists would call the exploitation or the production process. Thus, we have advertising, branding storytelling – especially if these marketing techniques are only used as sugar coating, that are applied after the production process and are not used to convey new understanding. A better way to think of aesthetic function would be to think in the terms of critical functionality, critical interfaces, interaction aesthetics (2), ways in which the aesthetics can reframe the functional. Here we are of course closer to the domain of the cultural; critical design, software art, culture jamming, some computer games, and even some marketing. And HCI should not overlook the cultural interface (4).

Difficulties...

Thinking in chiasmus is difficult and perhaps that is why, we always end up with dichotomies. And of course I am not arguing that digital art and HCI tools will end up being the same thing. We will still have digital art and digital

tools, but it will be wise to see how the one reflects the other. And if we use the chiasmus functional aesthetics and aesthetic function as a way of thinking, we will not be satisfied with just beautified tools. A new version of Bauhaus is not enough, we need the re-think Bauhaus for the informational age and for the instrumental medium. We need to design and look for interfaces where materiality, representation, and functionality is counteracting and chiasmically intertwined: Where the representation becomes functional and the functional becomes represented.

Acknowledgements and further work

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I would be happy if anyone could provide me with further references to people/theories, which parallel Nake's concept of the computer as instrumental medium and carries this out in a thinking that does not limit the aesthetic dimension. Furthermore, examples and discussions of my categories are welcome...

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