
Productivity, criticality and pleasure

Simon Penny

Arts Computation Engineering
University of California
Irvine, CA, 92697
penny@uci.edu

Abstract

A study of the so-called *New Media Arts* and in HCI is a fascinating microcosmic case of the problem of the *two cultures*. HCI and Digital Media Arts are approximately the same age and utilize similar technologies, yet the intellectual, philosophical and theoretical traditions from which they arise are starkly different and belie radically different motivations, commitments, approaches and solutions. This paper takes an historical and theoretical overview of the differences and similarities in HCI and Media Arts.

Keywords

Digital Cultural Practice, Media Art, Productivity, Criticality, Pleasure, Instrumentality, Control, Interaction, Embodiment, Objectivity Subjectivism, Panopticism, Perspectivalism, Diexis.

ACM Classification Keywords

Introduction

I have spent much of the last fifteen years doing technical research for artistic ends. I have also spent much time asserting the value of art methodologies in technical research. It is an easy case to make¹, there is an undeniable record of technological invention in the arts preceding similar invention in

the academic/technical/commercial world. Yet it must also be asserted that the arts have value in and of themselves, whether or not they can be applied to advance or augment technical research. What I hope to do here is to coolly assess the nature of the venn diagram concerning HCI and the media arts – where they cross and have common interests and goals, and where they must remain separate, not necessarily opposed but simply pursuing different goals.

Productivity, criticality and pleasure

A study of the so-called *New Media Arts* and in HCI is a fascinating microcosmic case of the problem of the *two cultures*. HCI and Digital Media Arts are approximately the same age and utilize similar technologies, yet the intellectual, philosophical and theoretical traditions from which they arise are starkly different and belie radically different motivations, commitments, approaches and solutions. For the sake of this discussion, I will start with an overly simplistic assertion that HCI as a discipline is nested like a babuschka doll in a set of traditions of increasing breadth and age: computer science, engineering, positivistic science. I will then attempt to enunciate the ways that these traditions inform HCI.

I will then make a similarly simplistic set of assertions about digital arts practices and will attempt to enunciate the complex of traditions which inform it.

Having thus laid the groundwork, I will explore the way these two emerging disciplines have developed, sometimes mixing and merging and sometimes defining themselves in opposition to each other.

What follows is a more or less disjointed series of discussions points which are indicative of the tenor of the paper.

Productivity

Efficiency, optimality, economy, these are bywords of engineering which belie its role in harnessing science for economic ends. And these values underly most HCI projects – increasing workflow, improving communication, enhancing productivity: the value of an HCI tool is demonstrated by the fact that by its use, work is done faster, cheaper and/or more accurately. Now while these values are clearly very desirable in an aircraft assembly plant or a travel agency, there is no indication that they have a useful role in the arts – the readers digest condensed version is not better than the full length *Gravity's Rainbow*. Reducing word count or average length of words in Shakespeare's sonnets would not make them better. Likewise, decreasing the time to completion of paintings would not make Monet a better painter.

Criticality

One of the virtues assigned to great or even good art is that it induces consideration of ideas and situations which extend beyond the condition of the artwork itself, or perhaps reflexively addresses the class of artifact or practice of which it is an example, to render the thing opaque or present-at-hand. Such induction of critical thought is anathema to most HCI projects, which aspire to being 'intuitive' which would be the exact opposite of opaque.

Instrumentality

" Martin Heidegger,...thought that the essence of technology is a project of enframing, of putting the world at our disposal, and that science is the means of achieving that. We dominate nature through

knowledge: science gives us access to the levers of power. And, at the same time, we enframe ourselves, becoming parts of a posthuman assemblage of production and consumption. I think Heidegger was right. The last few centuries can be characterised by an ever-growing assemblage of knowledge and power, science and technology, which does enframe the world and ourselves within it."ⁱⁱ Andrew Pickering's words are as succinct a synopsis of the project of instrumental science as one might hope for. And to the extent that HCI identifies as a scientific pursuit, it will identify with these general tendencies. One might contrast 'Control Theory' that thoroughly instrumentalised product of cybernetics, with the 'Conversation Theory' of Gordon Pask. 'Control' is self explanatory, 'conversation' lays out an entirely different calculus of relations which does not presume the existence or necessity of hierarchy and hegemony.

Objectivity and subjectivism.

One of the key and signal transitions evidenced in the arts, in critical theory and in the biological sciences over the last half century has been the movement away from the presumed authority of ossified objectivist viewpoints to an endorsement of dynamic first person, subjectivist engagement. This trend is perceived in the crisis Heisenberg and Schroedinger brought to modern physics as it is in the demise of the author (Barthes) and ultimately to hypertext. The transition from the authority of the cinematic eye/screen to the contingencies of gaming is similar. The phenomenologically inflected turn against 'good old fashioned artificial intelligence'(Dreyfus) and the mentalist school of cognitive science associated with it, led to the recognition of situated and embodied cognition. In human and animal biology, the study of modalities of perception, clinically isolated from lived

experience, has given way to active sensing, which asserts the importance of examining the kinesthetically engaged, temporal coupling of sensing and action. Simultaneous with these changes, the arts have engaged new tools which allow the design of behavior and interaction and thus demand the abandonment of old aesthetics notions of passive contemplation and calls for the formation of an aesthetics of dynamic engagement by and with cultural artifacts. It would appear that this new subjectivism is late in coming to HCI and remains a minority concern. (Agre)

Embodiment and Computational Cartesianism

It is, one would hope, unnecessary in this context to rehearse the history of the field in any great detail, but simply to reiterate that the ur-HCI project was the SAGE system, which put soldiers with keyboards and lightpens in front of monitors in order to handle the complex pattern recognition functions which the system could not autonomously determine. This constellation of technologies was the model for the keyboard-mouse-monitor paradigm. The fact that this 'man in the service of machine' paradigm was to be clad in the rhetoric of liberation in the heyday of interactive multimedia is deeply ironic. As a lifelong practitioner of practices of embodied intelligence, I remain surprised that we are prepared to accept as generally useful, a machine system which is only capable of interpreting linear strings of alphanumeric characters. Such a system is excellent for doing arithmetic and accountancy, calculating tide and firing tables, storing and retrieving textual records: the kinds of practices which the technology was originally designed for. It remains astonishing to me the almost entire absence of informed critical assessment of the relevance of such a technological paradigm to activities like choreography, painting, or infant education: complex cultural and social

practices in which the calculation, storage and retrieval of data play a vanishingly small part, and in which spatial awareness, texture, gesture, tone of voice, perceptual integration, active sensing, kinesthetics and proprioception play key roles. What this means, in effect, is that the technology to which we are encouraged to apply to these functions is incapable of sensing or measuring these qualities (I hesitate to even call them variables). In effect, the conventional PC is a filter which filters out all aspects of our complex embodied intelligence except that small part which can be encoded as strings of alphanumeric characters. Such systems do violence to the human spirit.

From Sage to Sonic: Man-machine interaction and technophile rhetorics of liberation

The physical conformation and functionality of the machine we use has a cultural history. This history is military, bureaucratic and commercial, to varying degrees, depending on who you read. Interactive multimedia, we must recall, is the child of Cold War computing research. Specifically, the screen/keyboard/pointer interface paradigm was developed for the SAGE early warning system. Why do I sit at a desk to use a computer? The unavoidably historical answer is that the device was developed as a replacement for a component of a

preexisting socially constructed organisational and architectural order, in this case the office. The desktop computer is an enhanced typewriter with added filing cabinet functionality. It follows then that it is particularly useful and relevant for activities which resemble office desk activities, and is decreasingly appropriate for activities whose socio-architectural placement diverges from that scenario. Most cultural and artmaking activities do not resemble office work in their physical contexts, methodologies or goals.

We are conditioned to imagine that the output (and input) of an interactive system will be symbolic, textual and graphical, probably on a monitor, a technologically arbitrary arrangement determined only by historical factors. At this point is necessary to proclaim the hegemony of the desktop and explore the range of possible practices less constrained by paradigms of data-entry and command-and-control. The interface which has tricked down to artists is a machine for the quasi-arithmetic manipulation of abstract alphanumeric characters. It is very good at that, but the question must be forced: is art practice about the logical manipulation of symbolic entities? And the answer may fairly be no.

ⁱ I did this in my paper Bridging Two Cultures : Towards an Interdisciplinary History of the Artist-Inventor and the Machine-Artwork. Presented at the Refresh conference at Banff New Media Institute in September 2005.

ⁱⁱ Andrew Pickering BEYOND DESIGN: CYBERNETICS, BIOLOGICAL COMPUTERS AND HYLOZOISM. International conference on the philosophy of technology, copenhagen, 13-15 oct 2005