

The Self-Aware Image in the Wireless Obscura

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Abstract

This paper introduces 'The Self Aware Image', a creative research project that is part of the Virtual Laboratory for Envisioning Connections (vLEC) consortium. The paper will outline the rationale of the project and locate it within wider debates about the relationship between art, consciousness and technology. The notion of the 'self-aware image' is touched on as an art historical trope, and the notion of technologically self-aware systems is introduced. Brief consideration is given to the camera obscura and its relation to contemporary debates about art, technology and consciousness. Reference is made to the problem of self-consciousness and the potential value of the modelling it as infinite self-reference. The wireless obscura laboratory is introduced, and its potential role in the production 'self-aware' images is discussed.

Introduction

In the summer of 2004 I initiated a creative research project entitled 'The Self Aware Image' at the Newport School of Art Media and Design, University of Wales, UK. Although in its very early stages, it is worth setting out the intended scope and purpose of the project here, if only to stimulate other potential contributors to engage with what I hope will become a widely distributed collaborative network.

Context

In 'The Self Aware Image: An Insight into Early Modern Metapainting' (1997), the art historian Victor Stoichita argues that in northern Europe during the sixteenth century there was a significant shift in the way painting was understood. By introducing pictorial devices such as mirrors and reflecting surfaces, images of images and within images, self-referential catalogues, authorial insertion, and internal paradoxes, many Dutch artists of this period conceived of image making as "Painting in itself". By this Stoichita means that painting attained a new consciousness of itself as artifice and became what he calls 'metapainting', that is, painting about or beyond painting.



This preoccupation with self-reference, paradox, illusion and internal punning finds a significant echo later in art history during the early-cubist era. As critics have pointed out, the works made by Picasso and Braque in the period leading up to World War I abound with complex visual allusions to the act of image making itself: Braque's famous nail which holds up a drawing within a drawing, the self-consciously awkward faux wood, the repainting of images or words, the inclusion of occult self-portraits, and so on (see Richardson 1996). At this time painting once again strove towards a kind of self-awareness, a self-watching or self-knowing, that has since rarely been paralleled.

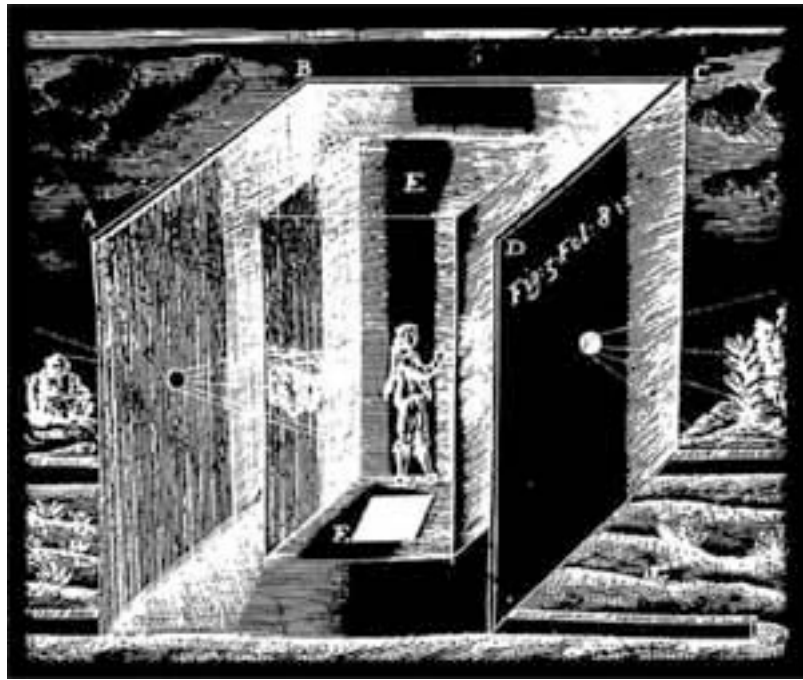


Today, a different technological age suggests a different kind of attribution of self-awareness to images. We are becoming increasingly familiar with the technologically distributed sensorium, the extended body, virtual and non-local experience, and the plethora of interfaces, projections and feedback systems that demand and shape our attention in daily life. In this climate, the intermingling of consciousness with all aspects of perceptible reality is so intimate that commentators, like Ron Burnett in 'How Images Think' (2004), have been led to conclude that images, which often mediate our experience of technology, are themselves imbued with human thought.

Implicit in this idea of 'thinking images' is that images might gain some subjective recognition of themselves as objects in the world, and following this, establish some dialogic relation between themselves, the world and their audience. That is, images might become in some sense artificially self-aware, or even conscious. How to conceive, construct and display such 'self-aware images', I have argued, will become one of the key artistic challenges of the 21st century, with all its aesthetic, ethical and technical implications (Pepperell 2003). This is a more than purely theoretical question given the various attempts now underway in a number of different contexts to develop artificially conscious systems, which artists may one day want to exploit (Pepperell 2004).

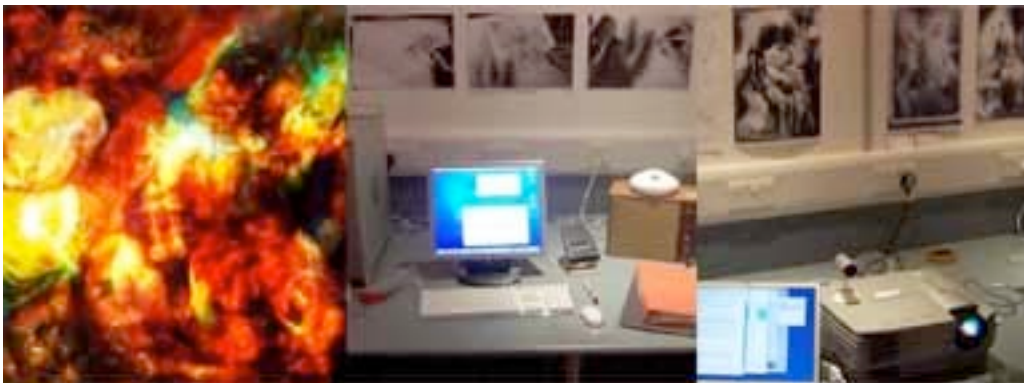


At the same time there is a continuing fascination, in certain art historical circles at least, with the role of optical devices such as the camera obscura in the construction of painted images. This is evidenced by the longstanding work of Martin Kemp (1990), Philip Steadman's analysis of Vermeer's methods (2001) and David Hockney's more recent claims about the use of optics in 'Secret Knowledge'(2002), about which controversy continues to simmer. This fascination can be partly explained, I'd suggest, by the way in which the camera obscura, in an almost unique way, synthesises three epistemological domains: art, technology and consciousness. That is, we see in the camera obscura the primal impulse to capture visual data manifested through a mechanical device, which at the same time reinforces the widely-held analogy between mind and screen (see below), with all its phenomenological ramifications. To the contemporary mind, this triadic combination is all the more heady given that each element — art, technology, consciousness — is currently subject to such intense speculation in a number of different intellectual arenas.



'The Self-Aware Image' project then sits somewhere in this nexus of ideas, from conventional and revisionist art histories to theories of artificial consciousness, perceptual psychology and phenomenology. The aim of this project, in the spirit of vLEC, is to envision the extraordinary connections between these apparently diverse areas of enquiry.

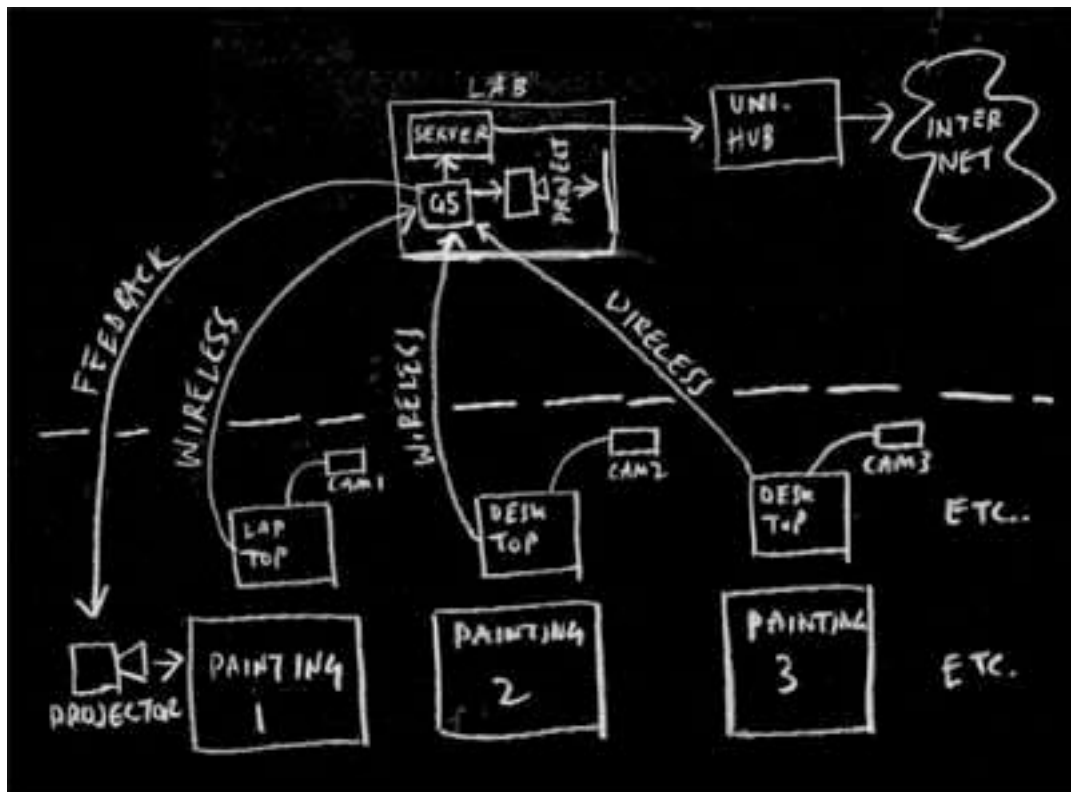
The project



'The Self-Aware Image' project is the preliminary stage of a larger programme that seeks to establish by what means the image, or the object of art, might be rendered self-aware. It occurs within the Wireless Obscura, a small laboratory situated in an art school that investigates the creative applications of wireless and network technology. It was established in the University of Wales, and funded by the Science Research Investment Fund of the Higher Education Funding Council for England, and is part of the vLEC consortium.

Exploring the potential for distributed media offered by the internet and wireless mobile cameras, 'The Self-Aware Image' project attempts to

integrate two kinds of technological process often seen as incompatible – painting and computer networking. A number of paintings are made, each of which is monitored by a web-cam connected by wireless link to a server. The progress of the work can be viewed on a continually updated basis on a web site, which also offers the opportunity for text-based conversation with the artist. Moreover, the output of this process is fed back into the painting using projections, mirrors and image processing software.



Schematic representation of the 'Self-Aware Image in the Wireless Obscura' project

The intention is that, unlike with the conventional camera obscura in which the artist is a disembodied observer standing apart from the image, the wireless obscura is turned upon itself in order to monitor its own activity; the artist then becomes one of many distributed observers whose collective interventions are a source of productive 'interference' in the system as a whole.

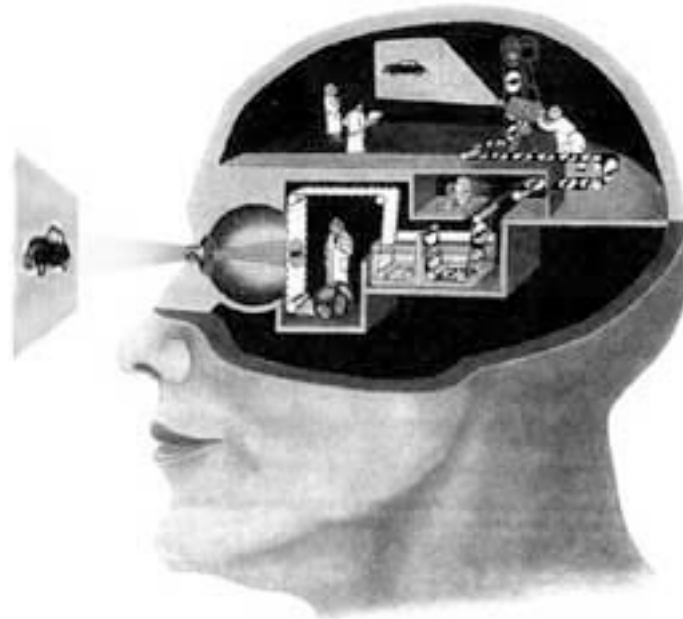
The philosophical problems invoked by this project are too many and complex for the scope of this paper.

But I will offer a brief summary of the key ideas in order that those who recognize the arguments might wish to join me in taking them further.

There are in fact several linked philosophical problems being addressed, as well as a host of technical, aesthetic and epistemological ones I can barely touch on here. The main problem is the very ancient one of what self-awareness, or indeed consciousness, is. To circumvent the plethora of debates for the purposes of this paper, I propose a model of self-awareness based on perpetual self-reference. That is, a model in which the cognitive

apparatus looks at itself looking at itself looking at itself, ad infinitum. I am not alone in suggesting something along these lines: Sigmund Freud, for example, in 'The Interpretation of Dreams' describes consciousness as the "sense organ for the perception of psychical qualities" (Freud 1976), suggesting a sense organ that senses other senses - a smeller of smells, a seer of sight, and so on. And there are many allusions to self-reference in the philosophical literature on consciousness (e.g. Brook and DeVidi 2001), as well as references to reflexivity in Zen theories of mind (see Sekida 1985), and elsewhere.

Where objections to such approaches commonly arise is that models of self-reference that seek to account for phenomenal or subjective experience are prone the logical error of infinite regress. Like the theory of elephants that stand on each other's backs to hold up the Earth, or Aristotle's Unmoved Mover who sets all other motion in train, the sensing of senses, or the knowing of knowledge, might invoke an irresolvable circularity in which the explanation is the explanation of itself. The problem in is sometimes characterised as the 'Homuncular Fallacy' in consciousness studies, and is illustrated in this picture below:



The homuncular fallacy of the 'screen in the mind'

If visual perception of the world requires an internal observer that monitors, and experiences, the cognitively processed information on a metaphorical screen, then consistency demands a further white-coated observer inside the first observer's head to do the same. In other words, if the various sensory data we draw from the world is bound together somewhere in the brain and observed by an internal 'self' or 'pilot' to whom we can attribute the phenomenal experience of existence, we run the danger of supposing a further pilot in order to account for the first pilot's experience, and so on. This, as is widely recognised, is an insuperable logical problem, and the

homunculus model as it stands offers no real hope of explaining anything about how the mind, and our consciousness of our mind, operates.

Yet this logical curiosity has little bearing on what must really be going on in our minds in order to sustain conscious experience. Our minds are after all (as far as we know) physical systems that operate according to universal laws of physics, and there are plenty of examples of infinitely self-referential physical systems that do not invoke the same logical error as the mythical homunculus. The action of self-reflecting mirrors is a common example, but less common and more instructive is video feedback, in which extraordinarily beautiful patterns of complexity are generated when a video camera is pointed, under certain conditions, at its own image (Crutchfield 1984). Here is an example of an infinitely self-referential system that does not collapse into a logical black hole, but instead produces relatively stable, intricate behaviour through a continual feedback between input and output. In essence then, a model of self-awareness that embraces infinite self-reference, with all its consequent complexity, may be sustainable in light of the behaviour of other physical systems in which complexity emerges from perpetual feedback (This is discussed at greater length in Pepperell 2003).



'The Self-Aware Image' project uses these ideas to explore the possibility of the self-aware image, by which I mean an image that has some sense of its own being and place in the world. To do so the project draws an analogy between the camera obscura and its more contemporary instantiation, the wireless obscura. Like its traditional counterpart, the wireless obscura selects, captures and focuses streams of data from the world in such a way as to make them visible in an uncanny and strange way. But by turning the wireless obscura upon itself, one negates the fallacy implicit in the classical model, in which the artist is cast as the disembodied observer, standing like the white-coated homunculi as the agent of interpretation. Unlike the homuncular model, in which the mind is essentially a camera obscura inhabited by an observer to whom phenomenal experience is deferred, the wireless obscura draws itself into its own procedure. There is no central observer as such since by self-reflection, the observer becomes an integral component of the system itself. Through this, I argue, the image and the

system as a whole achieve a kind of self-awareness derived from a process of continual reflexivity.

I should in passing add there is another more trivial sense in which the procedure I adopt in this project implies heightened self-awareness. Inviting a possibly limitless number of others to observe the painting process via the internet is liable to make the artist rather self-conscious.



Conclusion

At significant moments in art history, artists have adopted self-referential motifs in order to heighten the state of self-awareness projected by images. Recent technological developments such as artificial consciousness have given rise to the potential for self-conscious devices, which artists of the future may want to exploit. A rudimentary theory of self-consciousness has been proposed upon which such devices may be built, which embraces the generative possibilities of infinitely regressive self-reference, as exemplified in video feedback. This theory overcomes the perennial problem of the logical fallacy invoked by the mythical homunculus, or screen in the mind. The wireless obscura is an electronically mediated analogue of the camera obscura that is used to capture data and make it available to the artist and the audience. Unlike the camera obscura, the wireless obscura observes itself in such a way that the artist and the audience become an integral component of the observation process. This self-referentiality is regarded as a productive trope, and one that suggests strong analogies between the creative process and consciousness itself.

Coda

I hope this brief paper might stimulate interest in the ideas proposed, and moreover provoke those who are interested in exploring the creative opportunities offered by online collaboration to make contact. vLEC welcomes approaches by artists, designers, theorists, scientists, technologists and other groups who wish to generate further productive alliances.

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Biographical profile

Robert Pepperell is an artist and writer. He studied at the Slade School of Art and went on work with a number of influential multimedia collaborations including Hex, Coldcut and Hexstatic. As well as producing experimental computer art and computer games he has published several interactive CD-Roms and exhibited numerous digital installations including at the Glasgow Gallery of Modern Art, the ICA, London, the Barbican Gallery, London and the Millennium Dome, London. His book *The Post-Human Condition* was first published in 1995 and has recently been published in a new edition. His second book *The Postdigital Membrane* was a collaboration with Michael Punt and published in 2000. He has spoken and lectured widely on art, philosophy and new technology.

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