

INDEXICAL IMMATERIALITY: PHOTOGRAPHY AND FILM INSIDE THE MACHINE

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At stake in my research in interface design is the indexicality of the photographic, not just its function in fixing moments of historical time but also the ambiguity of its meaning and the ability to navigate between its material and immaterial aspects. In contrast to the idea that the digital is eroding the power of the photographic, the digital extends its role as a conceptual art and is a rich area for exploration in interface design.



Fig 1. *Cultivating Pasadena: From Roses to Redevelopment, 2005* © The Labyrinth Project, USC



Fig 2. *Tracing the Decay of Fiction: Encounter with a Film by Pat O'Neill, 2002* © The Labyrinth Project, USC

Certainly, within film theory, confronted with the threat and/or promise of the digital, indexicality as a category has attained a new centrality....

—Mary Ann Doane “The Indexical and the Concept of Medium Specificity” (2006)

In the work that I do I am drawn to the indexicality of the photographic, that is its trace of the real, and wonder how this may function differently within a computerized environment than in a cinematic one. How does the photographic, whether still or moving, affects one’s sense of space and time once subsumed within a computer interface. If, in cinema, movement, and sequence represent time, then does a still photograph represent space? How does the indexicality of the photographic function within a computer interface? How is it different than within cinema, or is cinema just another type of interface that doesn’t significantly affect this? If we look at cinema for an answer, then, what can we conclude about Chris Marker’s film *La jeteé* (1962), a series of stills about a man who time-travels? Or Michael Snow’s 45-minute film, *Wavelength* (1967), a single shot as the camera’s lens slowly zooms across the space of a New York loft, to a still photograph on the wall opposite. Or the embodied time rendered in Michelangelo Antonioni’s films where viewers feel the sheer duration of the on-screen events? Even within one medium there exist a wide variety of techniques that can affect one’s sense of space and time quite differently.

It is in this vein that I examine *Tracing the Decay of Fiction: Encounters with a Film* by Pat O’Neill (2002) and *Cultivating Pasadena: From Roses to Redevelopment* (2005), two interfaces that I was key in developing while working at USC’s The Labyrinth Project. Both these works present full-screen photographic imagery within a robust computer interface, yet they move physically and emotionally in different ways. One privileges archival and contemporary still photography, and explores a city’s history through this imagery, while the other privileges the cinematic by converting contemporary 35mm film footage of a dilapidated hotel into an interface that combines history and fiction. The content and style of both of these works has no doubt benefited greatly from the influence of certain modernist cinematic inclinations, like those already mentioned, as well as in films by Alain Resnais with their emphasis on the past haunting the present, and the mix of fiction and history, or by Federico Fellini’s tangents and digressions. Furthermore, the 35mm film we worked with is by renowned experimental filmmaker, Pat O’Neill, who has created various strategies and techniques—around issues of movement, time and space—that, in their inventiveness and execution, inspired the design of a unique interface.

Before I began working in new media, I was experimenting in photography as conceptual art and did not necessarily see it functioning as a pure medium, but as something that could easily encompass hybrid artistic forms and technologies. This eventually led me into new media as an art form and makes sense now, for these times, described by art theorist Rosalind Krauss as our “post-medium condition.” Krauss suggests that art’s adoption of photography—as not so much a specific medium but as a “theoretical object”—was a precursor to this condition. In 1980, Barthes published *Camera Lucida* in which he also considers the photograph as a theoretical object. Barthes writes about how he considered the photograph not only to be unique in its representation of reality as an actual “trace of the real” but also to be something akin to “the child pointing his finger at something and saying: that, there it is, lo! but nothing else.” It is interesting to consider the use of technology as a way of pointing at things. In this sense, a mouse, cursor and camera have something in common. In 1978, I had made my first encounter with a computer as a worker producing letters on a word processor with no images and no mouse. Now, I find it interesting to consider how my livelihood as an administrator and my avocation as an artist working in photography merged so quickly. I went from developing and printing film in the darkroom and experi-

menting with biochemical processes to scanning in analog photographs for manipulation on the computer, to directly hooking up a digital camera to the computer, voilà, no film. One could be expected to wonder: in this evolution of photography onto the computer what exactly is happening?

Now that these areas have joined forces, each has been transformed. Indeed, in the infinite possibilities of its manipulation by the machine, now re-constructed via bits and pixels, and removed from its biochemical process, the photographic has further lost its credibility as a representation of some kind of truth. Also, the computer has progressed from its first tasks of evaluating polynomials to word processing, telecommunication and so forth, to now being also a machine for the creation and manipulation of image and sound as well as their viewing in a conflation of a cinema-computer (Manovich, 2001). We still trust the computer's ability to do invisible computational tasks, and similarly the photograph has not completely lost its credibility to visualize the real. What Susan Sontag wrote in *On Photography* in 1973, still has resonance: "The picture may distort; but there is always a presumption that something exists, or did exist, which is like what's in the picture." The photochemical image as trace and thereby as index of the real does not preclude the digital photograph from bearing this trace as well. There is still the pointing finger.

What I am curious about is how photography or cinematography exists, or functions, within an environment that tends to spatialize data. How can existing techniques for exploring space and time as found in experimental film, video and photography be employed within a computer interface? Can these techniques and the computer's inexhaustible ability to spatialize, manipulate and present data be combined in ways not yet explored? The interactive nature of the computer makes viewing content a different experience from that of cinema or television. Yet, a clip viewed on the computer is not so different from viewing it on television. That is, until it is made programmable. I find myself, so-to-speak, drawn to this place—where all media, once digitized, is created equal (Manovich, 2001). It is at this point where interface design takes place and artists, interface designers and programmers can really explore giving users a different kind of experience.

For my purposes, it is interesting to consider visual effects found in cinema— such as animations, dissolves, abstractions, montage, framing and composite images. They are both material and symbolic. A dissolve is just an image atomizing into very fine particles, but metaphorically it can represent a transition, or relay an emotional state. The experiments of avant-garde filmmakers and photographers have already made their way into the popular imagination as ways of representing mental processes. How can this materiality be transformed within the programmable computer and made to serve the agency of the viewer in a way that will be different than if it was viewed in a film or video? It is here that I would situate the crux of the work that I have done and that I would like to expand upon for future projects.

Both the projects addressed in this essay are concerned with giving the user a full-screen, photographic or, cinematic experience, but one with the pleasure of agency—not only a space or place to embody but a unique way to navigate it too. Giving a sense of embodied space within a new media environment demands that an interface designer create suggestive "real world" models or metaphors of navigation that reverberate cognitively and emotionally for the user. The following considers the two above-mentioned projects in this register.

The goal of *Cultivating Pasadena* is to allow the user to visually explore the development of Pasadena and its surrounds from the end of the 19th Century to the present in a unique and enjoyable way. The project's main appeal is the archival and contemporary camera shots of the exact same place taken decades or even more than a century apart. Users can perform cross-dissolves between archival black-

and-white photographs and contemporary color photographs of precisely the same city scene—often taken many decades apart—and easily and precisely control the speed and repeatability of the cross-dissolve between the two images—pausing, reversing, as well as comparing smaller versions of the images side by side. It is the simple action of moving the cursor from the left to the right of the viewing screen to see the photograph change from “then” to “now”. If the user stops or slows down somewhere in the middle, she can examine at leisure how the images intermingle and overlap, noting the ghostly impressions one photograph leaves behind as it is totally replaced by the other. (The archival photograph is black-and-white and the contemporary photograph is in color so it is easier to distinguish what superimpositions belong to what photograph.) It is both a material occurrence and psychological activity, suggesting among other things, time-travel and recoverable memory. In a much more prosaic way than *La jetée*, it also has the effect, like the film’s narrator says, of drawing attention to “the paradoxes of time” and perhaps, reminding one that, “there is no way out of time.”

For me, the cross-dissolves in *Cultivating* provide the “punctum” that Barthes discusses in *Camera Lucida*, but in a slightly different way—a kind of double punctum. In describing this concept Barthes implies that it is something the viewer adds to the image. The experience is something analogous to Barthes description of Lacan’s concept of the *Tuché*, the chance encounter with trauma. In Lacanian terms the *Tuché* or touch is the disruption of the compulsory self-regulation of the symbolic order—the moment when something happens to break its normal operations and reveal the Real—which ‘pierces the viewer’. In *Cultivating*, the work itself adds a kind of punctum in revealing the contemporary image and, perhaps, a radical transformation, but the viewer must herself add something in the gap or absence of time between the images. In a sense, *Cultivating* is a work that tries to straddle the symbolic and the Real. Symbolically it is a space in which to explore change, transformation and preservation on topics ranging from architecture, cityscapes and geography to culture, race and community. Also, the photographs, labeled and described, are objects of discussion for historians and aficionados of Pasadena, thereby entering into the realm of language and the symbolic. The Real in *Cultivating* is the demonstration of the passage of time and the transitory nature of life.

In transitioning from a discussion of *Cultivating*—which though it contains some video and sound, is essentially grounded in still photography—to a work that is based on a 35mm film, one may consider what Barthes says about film. He asks: “Do I add to the images in movies? I don’t think so; I don’t have time: in front of the screen, I am not free to shut my eyes; otherwise, opening them again, I would not discover the same image; I am constrained to a continuous voracity; a host of other qualities, but not pensiveness....” It is essentially film’s ability to capture time and movement that separates it from photography, which freezes the moment. It is these two features that are played with in the interface to the interactive film described below.

Like Pasadena, the Hotel Ambassador in Los Angeles—the place O’Neill filmed—has a culturally important history, yet due to the cinematic ‘noir look’ of his footage one could be forgiven for entering into its space, perhaps expecting a story. However, *Tracing the Decay of Fiction* frustrates the viewer in terms of a traditional narrative story and has more in common with a film like *L’année dernière à Marienbad* in its enigmatic narrative structure. It is also quite different than the somewhat straightforward cultural history presented in *Cultivating* in that history and fiction blur. The similarities between the two works are that they both are an indexical record of an actual space over time and both provide the user with a way of navigating that recorded space. *Cultivating* privileges the still image and it is through these still images that one navigates which is quite the opposite in *Tracing* where the film is the ground on which one ‘exists’ rather than a changing set of different photographs by different photographers over many

decades. *Tracing* is more stylistically and spatially cohesive. It was filmed in one location, by one filmmaker and in a relatively short period of time. The space was filmed empty and with an eye for its nostalgic affect on visitors. O'Neill employed certain techniques such as time-lapse photography on a computer-controlled dolly system to accentuate this feeling of time passing. One could identify with this particular omnipotent stylistic camerawork as if it were one's own eyes—delighted by the play of light within in the hotel and on its grounds—that had captured it. In other words, there is something already intrinsically subjective about witnessing this camera vision, without then being given some direct control over it by an intuitive and nearly invisible interface. Within a computer interface, the ability of the user to control the vision of the camera can itself be the subject. In *Tracing*, the combination of time-lapse photography captured by a camera smoothly and steadily moving through a hotel, uncovering it in turns, with rapidly changing light and shadow became the reason for the interface. Watching this footage, one feels transported into an uncanny world where space and time are somehow different. The key to designing the interface was mainly to not impair this aesthetic experience.

Ordinarily, a space one can navigate on the computer is 3-D modeled, or virtual, like those found in a computer game or an architectural fly-through. Like the camera itself, a new media object can replicate human vision and agency. In the words of Lev Manovich: "As computer culture gradually spatializes all representations and experiences, they [users] are subject to the camera's particular grammar of data access. Zoom, tilt, pan, and track—we now use these operations to interact with data spaces, models, objects, and bodies." What is different about this work, however, is that you are navigating actual recorded two-dimensional space enhanced by time-lapse photography and a computer-controlled camera and tracking dolly system. The experience of navigating through this richly descriptive footage, this aestheticized trace of the real, and the fact that one must actually activate the movement or stand still, combines to feel like an uncanny experience of time and space. What would Barthes make of this? In *Camera Lucida* he writes: "Like the real world, the filmic world is sustained by the presumption that, as Husserl says, 'the experience will constantly continue to flow by in the same constitutive style'; but the Photograph breaks the 'constitutive style' (this is its astonishment); it is without future (this is its pathos, its melancholy)." Might he consider this work both photographic, in the melancholic way that he describes, and cinematic, simultaneously?

Mary Ann Doane writes: "Hence—and I think Krauss would agree—it is ultimately impossible either to reduce the concept of medium to materiality or to disengage it from that notion. In its very resistance, matter generates the forms and modes of aesthetic apprehension. Yet, technologies of mechanical and electronic reproduction, from photography through digital media, appear to move asymptotically toward immateriality...." For me, this raises the question that within the digital what is the difference between the material and immaterial? Doesn't the digital help to extend the role of photography as a form of conceptual art and be a rich area for exploration in interface design?

References and Notes:

The Labyrinth Project is a research project on interactive narrative under the direction of Marsha Kinder with collaborators Rosemary Comella, Kristy H.A. Kang, Andreas Kratky and Scott Mahoy. The goal of this theory and practice research, in Kinder's words, "is to generate a productive dialogue between the language of cinema and the interactive potential of new media."

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