# ELECTRONIC TIME: THE MEMORY MACHINES OF JIM CAMPBELL
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In the age of computers, the concept of memory has acquired an increasingly strong association with the notion of control. Computer memory is what we intentionally store, something we amp up, make more powerful and deploy to create data bases, which are seen in turn as essential and infinite realms of information. Human memory is now commonly discussed in terms of the computer metaphor, with words like storage and retrieval, and increasingly seen as that which can be harnessed, reconfigured, sped up and expanded.

Yet the concept of memory-as-storage works in tension with the fleeting aspects of the live, transmitted image, at once instant but then ungraspable and gone. We often experience memory as something that is transitory, something that has to be searched for, yet which also can appear when we least expect it. Memory is resistant to our control, both arbitrary and random. It is possible that the fascination with computer memory is a reaction to the ways in which we experience our memory as so unlike the supposedly all-knowable data base.

Of all the work being produced in contemporary media arts, the electronic installations of Jim Campbell most directly address this tension, or paradox, in the way we understand memory in an electronic age. Campbell has degrees in electronic engineering and mathematics from Massachusetts Institute of Technology, and lives and works in San Francisco. His work has been shown internationally, and in North America at the San Francisco Museum of Modern Art, the Carpenter Center at Harvard University, the International Center for Photography, and most recently in a solo exhibition at the Art Center College of Design in Pasadena. He is represented by the Rena Bransten Gallery in San Francisco, and is currently showing a new work at the first InterCommunication Center Biennale in Tokyo.

Campbell's work presents both the fleeting nature of memory and its haunting presence. These works are often elusive and seductive, drawing us in only to confront our desire to see. In their explorations of the relationship of the electronic to remembrance, interactivity and voyeurism, they ask us in many ways to experience and then reconsider our connections to the electronic. These works are discrete devices that invite us to examine the small details of, and memory in, the moments contained within them. If nothing else, Campbell's machines undermine our preconceptions about the electronic in that they seem to have an unconscious.

## Time Passing

The measurement of time permeates this work, in ways that demonstrate both the aesthetics of the numeric marking of time as well as its fluid quality. Here the digital and the analog function as conceptual frameworks for time. In "Digital Watch" (1991), a large monitor displays the image of a pocket watch face. As viewers approach the monitor they see themselves in two worlds. Outside the circular watch face the monitor acts as a mirror of the surrounding space; yet inside the dial face, still images of viewers pass through a five-second delay in a staccato effect that is synchronized with the second hand. As the ticking hands relentlessly edge forward, the images of viewers appear and then pass through, as if memory is established in an instant, returns, and then is gone.

"Digital Watch" is an interworking of both digital and analog elements of time. The hands of the watch face are decidedly analog, representing the movement of time forward in geometrical form--time as the movement of hands, the increments between lines, as something tangible that we can hold onto and symbolize. The inexactitude of the analog watch can be deeply comforting--we do not necessarily know the exact second but are reassured that we have a sense of time by the shape of the hands. Yet, it is a digital framework that intercedes with our image, capturing it, storing it and replaying it through computer devices. Digital time is exact, atomistic, the opposite of the geometric image of the ticking hands. "Digital Watch" asks us to reflect on the ways in which the digital has reconfigured how we conceptualize time,

moving from the circular watch face with its implication of cycles and renewal to the digital world of time so easily captured and retrieved.

The representation of time passing is also examined in "Memory/Void" (1990), in which a series of monitors, stripped down to their bare screens, sits in ashes in glass containers. The glass vials, which are reminiscent of hourglasses, evoke a pre-digital sense of time's passage. Still images of viewers appear successively on the screens in time-delay, each progressively more difficult to see as the screens become smaller and more deeply buried in the ashes. Time, the work implies, is relentless, and the fragile electronic image is not immune from its material deterioration. The recycled video image that reasserts itself here works in tension with the simple image of time as a kind of earthly burial, swallowing up the present and rendering memories difficult to read.

Memory is the fabric through which time is rendered continuous, through which the present and the past are interwoven and interdependent. Campbell deploys electronic configurations in ways that represent memory as both elusive and ungraspable yet at the same time ever-present and assertive. In "Memory/Recollection" (1990), a similar set of stripped-down monitor screens replays a series of paradoxically "live," yet still, delayed images, which fade in resolution from left to right. While standing before it, viewers see their image appear in time delay on the left and then move across the screens as additional images emerge. However, the piece usurps our expectations because other more distant images also recycle through it (it has stored images since its creation). As one stands before it, expecting to see the familiar space of the gallery, the image will shift and new people will appear arbitrarily within it. Once, as I stood alone in the gallery with this work, watching my image move through it and fade into a deteriorated memory, I was suddenly confronted with images of crowds standing and looking, a group of men in suits standing awkwardly in front of the lens, and other images from the past. It was as if the work itself was asserting its memory, replaying what it had "seen."

This kind of sly assertion of the machine is common in Campbell's work. All of his installations are obliquely described as being comprised of "custom electronics" that he is reluctant to explain. It is as if these works are given, through his construction of their interactivity, a kind of agency in which they seem to notice, evade and survey viewers. Through their capacity of digital storage, which Campbell has programmed to "remember" randomly over time, these devices seem to be conduits for memory's assertions and evasions.

What are the forms in which memory is manifested? We commonly associate memory with talismans such as photographs and perceive the memories themselves to take the form of an image or sound. In Campbell's "Memory Works" series, the question of personal versus collective memory is related to an examination of the forms in which memories exist. In each work in the series, an "original" memory is presented as electronically stored and contained within a metal box. This memory is then represented through another form or system. In "Photo of My Mother" (1996), the artist's breath, recorded for an hour, is the "memory" that mediates a faded image of his mother as a young woman, transforming it from foggy to clear. In "Portrait of My Father" (1994-95), the image of his father flashes on and off with the rhythm of his heartbeat recorded over an eight-hour period. The implication is that memory is always mediated by something, always filtered through another form that prevents it from remaining stable in any way.

Other memory works reveal an atomistic, one could say digital, view of the forms in which cultural memory resides. In "Typing Paper" (1994-95) the sounds of an old typewriter are presented to suggest the text of Martin Luther King's "I Have a Dream" speech; in "I Have Never Read the Bible" (1995) the "memory" of the Bible is evoked by the sound of a voice whispering the letters of the text of the Bible one by one next to a worn book, which turns out to be Webster's Dictionary. These works are provocative in their reduction of these cultural memories to some kind of elemental form: letters, the sound of typing, the ASCII text. In many ways, Campbell is playing off the very essence of the digital. Unlike analog, the digital reduces all information (and in this case all memory) to bits, to ones and zeros, to elements that are infinitely changeable and malleable. What happens when you reduce the Bible to each letter--the digital Bible? It becomes, of course, meaningless, a jumble of letters. Campbell states, "In other words, even though I have not read the Bible, this work is a representation of me reading the Bible."[ 1] He asks us to think not of the meaning of the words but of the bit-like presence of the letters. It is as if the digital framework is playing a joke on language and philosophy--what, after all, is the Bible but a bunch of letters? Whose memory is it then? Here, the metal boxes evoke an anachronistic sense of storage--the metal box that in its very form presents a kind of mortality--in relationship to the electronic storage of memory that is so ungraspable, so elusive as a physical object. Here, Campbell implies that the Bible actually undergoes a kind of data compression, and the idea of storage is played out: the data base as a one-dimensional form of

memory. Indeed, here digital storage is revealed as potentially meaningless. Campbell plays this out further in "The End" (1996), in which a computer algorithm is used to generate all possible video images, and viewers see a blank set with a small dot of light in its center. If all images are containable, and the potential number of images is finite, then why bother to create more? In these works, Campbell is mocking the fetishization of storage and safe-keeping that surrounds the contemporary data base.-what we end up with is archived yet essentially incomprehensible.

Interactivity and the Pleasures of the Response

The sly nature of many of these works, at once profound and provocative, is derived primarily through the almost secretive nature of the ways in which they reveal themselves to viewers. Because of the "black box" nature of Campbell's "custom electronics," viewers often engage with these works by trying to figure them out and bypass their systems; in the very least the experience of them is one of negotiating machine devices. That this never seems to work at the level of trickery is a testament to the self-consciousness and irony that Campbell has constructed in relationship to the viewer. It's as if Campbell sets up an exhibition space as a means to both seduce and deter the viewer, and in the process he often forces viewers to examine the issue of desire--specifically our desire to see what we have been told we cannot see. What emerges is a carefully constructed electronic environment, or way of being, that is about surveillance and monitoring.

In "Hallucination" (1988-90), Campbell intercedes into a video "mirror" image in such a way that viewer expectations are confounded. Through a mix of live imagery and stored images, viewers are alternately mirrored by a video screen and seen in time delay, their silhouettes set on fire within it, and they interact with a woman who appears randomly on the screen, tossing a coin and looking directly at them. At other times viewers simply disappear. This piece is constantly changing its rules, never quite following a set sequence, so that viewers are always a bit off balance if they try too hard to figure it out. Like many of Campbell's installations, one feels constantly reflected in this work and unable to get away from its lens. Indeed, to go to a Campbell exhibition is to see one's image constantly and often uncomfortably, never to be "left alone" as a viewer.

This sense of viewer surveillance pervades Campbell's work, and is often refined in such a way that viewers feel their every movement is noted, perhaps judged. Nowhere is this more evident than in "Untitled (for Heisenberg)" (1995). In this work, viewers enter a long dark room that contains, at the far end, a platform resembling a double bed. The surface of this bed is covered with salt, shaped like a rumpled set of bed sheets, and onto it is projected the image of a naked couple who are either sleeping, caressing or in sexual embrace. As the viewer enters the space, this scene is visible yet distant, entreating people to move closer to get a better look. The room, as in many of Campbell's works, is wired to our response; as we move toward the bed the projector zooms in and the image becomes abstract to the point where we can only see blurred body parts. As we move away, the image readjusts to "show" us more. Campbell titles this work "for Heisenberg" as a reference to the Heisenberg Uncertainty Principle from quantum physics, which contends that the act of observation always has an impact on the object of observation; because of this, one can never observe an object in its "purest" form. Here, however, he is deliberately transferring this concept to questions of desire and sight. As he puts it, "the more you want to see the less you see."

"Untitled" could easily be seen as either an exercise in frustration or a work of trickery, yet it succeeds in avoiding both. I have stood in the piece and watched people, after they understand how it "observes" their behavior, try to avoid detection by running to the bed or crawling along the walls (neither tactic works). Yet, what happens in those moments is that viewers are eventually confronted with their own behavior, caught trying to get a glimpse of an intimate scene, perhaps a potentially pornographic moment. In the process of revealing how our position as viewers affects what we see, this work also asks us to be conscious of the desire that propels us toward the image as if it will reveal something--our belief, for instance, that we could experience the intimacy presented on the bed.

The elements of interactivity that pervade almost all of Campbell's work are at their most obvious here in the push/pull between viewers and "Untitled." Yet, what kind of interactivity is this? Campbell states that he wants to make a distinction between controllable systems and responsive systems and to create works in which the concept of interactivity is derived from the work itself:

I've often wondered why most interactive work feels contrived and designed for a calculated response, like bad school art. I've seen so many CD-ROMs and interactive video discs that have felt like my interaction was completely scripted and predetermined within the pretext of a few choices... It's almost impossible for an artist creating an interactive work to not try and second guess the viewer. How else can an artist design the interface without seeing it from the other side? One of the ways that I've seen artists avoid this problem is to not put themselves in the viewer's shoes but instead to take the point of view of the work itself. Instead

of saying as viewer what can I trigger, saying as program what can I measure? . . . Because the artist doesn't write the viewer's side of the interaction the viewer can respond in a more open way. One of the consequences of this approach is that the work, like a painting and like a film, exists on its own. There is no attract mode. The work is not waiting for a person to complete it. In a way, the work becomes interactive not with people but with its environment.

While it may be that Campbell's works are not "waiting" for viewers to complete them, they are works that change character in response to the presence of viewers. As such, they are often experienced by viewers as withholding and secretive works that operate through deferring viewer desire. Like "Untitled," "Shadow (for Heisenberg)" (1993-94) reacts to the presence of the viewer in such a way that our ability to see further is impeded. Here, a transparent cube sits in a room; when viewers approach they can discern that the cube contains a Buddha figure who sits on a faded text of some kind. As we move closer to the cube, the surface fogs, obscuring the icon (as its shadow appears on the glass surface), preventing us from seeing the text (and, by implication, the wisdom) beneath it. Instead of being a mere exercise in frustration (why won't it let me see/read it?), this piece works by forcing viewers to reflect on their needs and wants-why is it, now that it is hidden, that I feel I have to see it? This work can been seen as demonstrating, as psychoanalysis has suggested, the ways in which that desire is always deferred and unfulfilled, constantly beyond reach. These discrete electronic devices, then, both circumvent and point to viewers' actions and reactions. They are intended to move toward a state of autonomous reaction, in which the presence of the viewers is merely one variable of many. As such, Campbell's work can be seen as allied with recent research on artificial life in which computer programs are designed to follow certain principles of evolution; that is, to move beyond their original programmed form into something else, something unpredictable. Time and memory are gauged and then set loose as viewers move in and out of these works. Memories are recycled and return according to a random set of rules. Campbell appears to give his devices a certain amount of autonomy, yet he seems intent upon demonstrating the fragile and ultimately random nature of machine interaction. The world he creates is therefore a complex amalgam of the fluid analog world with the rigid and expansive digital realm. These are machines that seem to retain and repress, to withhold and to respond, to pose questions with no anticipation of an answer. In many ways, this work bridges the realm of video with contemporary work in multimedia, so to categorize it as contained within a medium seems inappropriate. What it succeeds in doing is turning its lens back upon the viewer, and asking us again and again not to reflect on the nature of the machine so much as on ourselves.

NOTES

*1. All references to the artist's statements are from Jim Campbell, "Delusions of Dialogue: Control and Choice in Interactive Art," a talk delivered by the artist at the Museum of Modern Art in New York City, May 1996.*

PHOTO (BLACK & WHITE): Detail from "Shadow (for Heisenberg)" (1993-94) by Jim Campbell.
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PHOTO (BLACK & WHITE): "Portrait of My Father" (1995-96) by Jim Campbell.
PHOTO (BLACK & WHITE): Detail from "Untitled (for Heisenberg)" (1994-95) by Jim Campbell.
PHOTO (BLACK & WHITE): Installation view of "Memory/Recollection" (1990) by, Jim Campbell.
PHOTO (BLACK & WHITE): Installation view of "Digital Watch" (1991) by Jim Campbell.

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