

**Heaven on Earth:
Spiritualism and Environmental Agency in Telepresence**

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Introduction

“Contact service immediately if you see ghosts”.
 Adelphia Cable Television Service Manual,
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Recent books and research have traced a long, strange history of electronics and their relation to the supernatural. The haunting “You have a message from beyond” was immediately tied to early telecommunications and stayed uniquely bound throughout recent media history. Tom Gunning’s work with spirit photography helped explain that the ontology of a particular technology can lure a cultural phenomenon and that together they merge into one of the many threads of media history.

It is unusual then, that the current discourse on telepresence is not included in this history...despite the metaphoric and socio-cultural similarities. Increasingly, telepresence is defined as the ability to take physical action in a remote environment. However, the presentation of that remote environment back is equally telepresent...it is a dialogue between abstracted presences, one physical, one presentational. Telepresence is therefore a telecommunications media and as such, ties to the spiritual cultural history that embraced early and present forms of the technology.

This paper will begin with a look at the history of electronics in relation to the supernatural including spirit photography and early paranormal associations with automation. It will consider recent new media artworks that investigate the spiritual side of telecommunications media. It will quote current discourse on telepresence, but by looking at recent research in ambient telepresence, it will also show that this discourse is only considering half of the mediation. We can understand telepresence better if we include it in this cultural media history that ties to sentient space and contact with the supernatural and look at work that endeavors to create awareness of remote data, not communication. Finally, it will consider a possible next step—the capture and presentation of ambience itself, ‘reading’ architectural space using new media sensor technologies. Maybe after 100 years, it’s time to stop seeing the ghosts and start exploring the haunted house.

Using the history of the supernatural’s relationship with new media, this paper hopes to expand the current ontological understanding of telepresence. Supernatural metaphors and parallels seemed to assist in the understanding and acceptance of electricity and new media technologies of the time, perhaps the emergence of telepresence may benefit from the same analogies. “Whenever streams of consciousness and electrons converge in the cultural imagination, there lies a potential conduit to an electronic elsewhere that, even as it evokes the specter of the void, also holds the promise of a higher form of consciousness, one that promises to evade the often annihilating powers of our technologies and transcend the now materially demystified machine that is the human body.” (Sconce)

Media and the Supernatural

The odd relationship between the supernatural spirit world and electronic media began immediately. In her book When Old Technologies Were New, Carolyn Marvin traces the spiritualistic associations made when electricity was introduced. She recounts how even Edison believed that electricity was the key to creating a machine that could communicate with the dead. “Electrical science was treated as an extension of religious revelation. This approach did not subordinate the physical universe to its creator, but identified all forces in the universe, including electricity, with God Himself.” (Marvin) People superstitiously feared those who possessed ‘electrical powers’ and saw the new technologies around them as embodied and haunted. In her description of early light shows, Marvin says that “one compared electric light spectacles to supernatural phenomena, fairylands, ghostly pointing fingers, and otherworldly, dreamlike settings...(electric lights) belonged to a natural and supernatural world that seemed nearly, but not quite, beyond man’s creative power, and to a legendary world of cultural giantism.” (Marvin) In 1887, the Edison Company demonstrated their electrical lecture by invoking a séance—with drums, glowing skulls, flashes of fire, and unnatural sound. “It was clear that science could do magic better than magicians.” (Marvin)

Spirit Photography

One of the best ways to understand the electro/spiritual relationship is to look at Tom Gunning’s work on spirit photography...a body of early photographs that ‘reveal’ ghosts in their images and were used as proof of supernatural existence. Visual media has so many multiple histories, it is encouraging to see how its ontological qualities also affected use. Gunning argues that photography’s ability to create a double made it the perfect tool for looking beyond this world into the ‘other’, “to defamiliarize the surfaces of reality through poetic redescription.... at the same time that the daguerreotype recorded the visual nature of material reality it also seemed to dematerialize it, to transform it into a ghostly double.” (Gunning). Photographs connect and disconnect their viewers and by recognizing its relationship with spiritualism, we can understand photography better.

Photography, spiritualism, and spirit photography all came into being within twenty years of each other. Many spiritualists of the time used the tricks of modern advances in technology—wireless telegraphy, electricity, and chemistry—to fool their clients. The similarities between séance and photography were surprising—dark corridors, flashes of light, the psychic as a highly sensitized receiver. “The process of materialization mimes a photographic process. The woman medium retires into a dark chamber (camera obscura) and produces a double of herself which emerges into the light.” (Gunning) Photography’s *qualities* made the leap the spiritualism, more than the content.

The believers were many, because “when in the face of tremendous advances in science and technology, the human psyche is still entranced by the paranormal and its attendant proof.” (Brown) The key is projection of images. Gunning discusses Balzac

who believed that “every object, place, and person is continuously radiating these images.” (Gunning). The idea that people, places, and objects could generate or leave behind their own image was intriguing at the time (and still is). “The process of individual entities constantly broadcasting normally perceptible signals which can be received as images exemplifies an extraordinary new mythology of modernity as it confronted technological change.” (Gunning) The author clearly saw how this unusual ‘side’ history of a media improved our understanding.

The aspect of photography that seemed to occult to Balzac, not simply that it captured the trace of something, but that it involved a nearly endless series of images that all objects constantly radiate...the process of mechanical reproduction does more than dissolve the aura of uniqueness that seemed to guarantee individual identity; it replaces the unique with a mirror play of semblages. The undermining of traditional modes of authenticity and truth that thinkers from Benjamin to Baudrillard have associated with modern image-making processes depends on this proliferation of images. (Gunning)

Domestic Automation as Possessed

“Household appliances and domestic systems are isolated from one another, silently dumb. Wouldn’t it be a good idea to enable all of these appliances to communicate, and link them together in an ‘intelligent house’?” (Miller)

The recent promises of a wired, automated, remotely-controlled home are touted as a new innovation but sound very similar to promises of electrical innovations in the home in the 19th century. The addition of sensors to living spaces brings another technology to be considered via its supernatural history.

Machines were seen as haunted, possessed when they were introduced into the home, and home automation going evil and awry has been the stuff of fiction for the last century. The problem is that automation can appear to have a mind of it’s own—“digital poltergeists are afoot these days as an explosion of garage door openers, television remotes, cellular phones and other wireless devices create quirky and dangerous interference in the increasingly crowded airwaves.”(Shiver) The fear of sentient space is the dark underbelly of bright, cheery domestic automation.

The relationship between domestic automation and haunted space is shown in a research project done at Georgia Institute of Technology. The team created “Aware House” a fully automated living space. “We are building a home that will serve as a living laboratory for ubiquitous computing in support of home life to produce an environment that is capable of knowing information about itself and the whereabouts and

activities of its inhabitants.” (Kidd, et al). By loading the house with computational systems, they claimed to create an “environment to interpret and begin to understand the contextual cues of its occupants.” (Kidd, et al). What is more interesting is that they quickly made the leap from the Aware Home to the Beware Home...a haunted fun-house. Using similar technologies to their previous model, they created a Halloween horror environment where ghosts controlled the appliances, Grandma spoke from her picture frame, writing appeared on the wall, a disembodied head floated around, and mirrors distorted their reflections. Apparently, on some level, we still view automation as possessed.

New Media Artworks

The development of telegraphs and broadcasting allowed people to hear voices from the invisible. The instruments had the power to scatter one’s body and consciousness all across the globe...similar to the way the Internet and telecommunications feel now. Media is space for disembodied communication, then and now, and the technological models all seem to fit a spiritualistic metaphor. More new media art is addressing this odd parallel. In Tony Oursler’s *The Influence Machine*, he ties two events in the 1840’s—the invention of the Morse Code and the sensation created when a young girl began communicating with the spirit of a murdered peddler by rapping her own ‘morse’ code on the walls of her house. “This relation between psychic communication and telecommunications runs through each successive invention--the radio, the television, and finally, the computer.” (Oursler) He recognizes the beginning of telecommunication as one of the powerful moments in history and that the sudden electric inventions created a susceptibility in the public to believe that anything was possible...”human consciousness expanded exponentially with these technological possibilities...If you suspend your disbelief for a moment, you will understand that the most powerful influence of all was the fact that people *wanted to believe* that all these things could be possible. And that belief persists today.” (Oursler)

Other media artists have responded as well. In television, urban myths abound about monitors that come alive and speak messages directly to the lonely guy in the late night control room, about televisions hypnotizing, about messages hidden in the static. Susan Hiller’s “Belshazzar’s Feast” is a new media installation that includes reports of foreign beings seen on television screens after station close-down (www.absoltearts.com). In Fujihata’s “Global Interior Project” the artist uses an architectural model for avatars to mingle...it is a haunted house of sorts. “By setting up special kinetic sculpture in real space, it made possible to back and forth between real and virtual space and in the virtual space in image of realspace in a virtual space respectively. People would discover a metaphysics of reality by moving, acting, viewing and analyzing these links, relations and differences in this art work.” (Fujihata)

Telepresence’s grandfather artwork, Paul Sermon’s “Telematic Dreaming” is more frequently seen as a reaction to advances in networking and the video signals that allowed for transmission. An important and seminal work, Sermon telematically linked beds in disparate locations and, via projection, people would appear to be present next to

one in bed. Many of the participants described ‘the other’ in bed as a ghost or ‘ghost-like’. A shrewd commentary on personalizing technology, voyeurism, and interactivity, it also demonstrates that, initially at least, telepresence was linked to spiritualism.

Telepresence

Jeffrey Sconce’s excellent Haunted Media covers the relationship between telecommunications and the supernatural. He begins his history with the spiritual telegraphs of the American Spiritualist movement on to the early 20th century where “interest in occult media intensified...as research into psychic phenomena became more empirical and systematic.” He discusses the mystical dialogue over the emerging wonders of wireless where “operators had the unprecedented experience of eavesdropping on messages from thousands of miles away, but at the same time this paradox of presence that brought distant signals into the family garage could make for more unsettling forms of contact.” (Sconce) He shows that the history continued in the 1960’s with electrical researcher Mark Dyne who believed that the unseen vibrations of radio and TV in the air were up there with similar disturbances in the ether caused by the spirit world. “Dyne’s comments demonstrate that the question guiding such research even at the dawn of the computer age, was not *if* electronics could be used to contact the dead, but rather *how* they would be used. The affinity of spirits and electricity remained unquestioned, as did the search for a technological bridge between the two worlds.” (Sconce). The book also covers Raudive’s radio contact with the dead in the 1970’s, ghosts on television screens, the current explosion of supernaturalism in cyberspace, and contemporary cinema that dramatizes the relationship. Little Drew Barrymore being kidnapped by ghosts and held hostage in the television set in *Poltergeist* is part of a long media history.

However, despite the phenomenological similarities, it seems strange that the discourse on telepresence rarely includes any mention of supernatural visitation. Indeed, in Sconce’s entire volume he never mentions telepresence, opting for a more general concept called ‘electronic presence’. One wonders if he felt ‘telepresence’ was redundant. “In postmodernism’s fascination with the evacuation of the referent and an ungrounded play of signification and surface, we can see another vision of beings who, like ghosts and psychotics, are no longer anchored in reality but rather wander through a hallucinatory world of eternal simulation where the material real is forever lost.” (Sconce) Surely he saw the importance of the disembodiment/re-embodiment model of telepresence, but chose to look at the phenomenon from a broader perspective. “Variously described by critics as ‘presence,’...this animating, at time occult, sense of ‘liveness’ is clearly an important component in understanding electronic media’s technological, textual, and critical histories.” (Sconce) While electronic presence is an important theme in media technology, the presence created by telepresence deserves more specific consideration. Telepresence implies televisual presence, like television, and therefore fits into this history along with the telegraph on down.

Looking more closely at telepresence as a new media technology, we can hypothesize some reasons for not including it in the cultural history that would associate

it with supernatural communications. Most importantly, telepresence is not understood as a communications model. Our use of new media is frequently tied to electronic/computational extension of our senses—we are seeing on Mars, hearing Europe, touching the bottom of the sea. Telepresence is the embodiment of the old telephone company adage--“Reach out and touch someone” by not actually visiting, but by connecting via an electronic interface. By definition, it is the ability to functionally control devices at a distance and includes a range from telesurgery to remote exploration of space. Telepresence played a key role in exploring the ruins of the World Trade Center. It is a unique context—people can experience remote worlds from perspectives and scales different than human. We can look at the world through someone else’s point of view...another body, another situation, another place, and another identity.

The promise of telepresence is that the screen is ending as the common border between the real world and the spectacle...now viewers rediscover their bodies in disorienting copy worlds. The telematic interface throws people from remote sites into the same space of experience...ignoring the confusion that seems imminent. We seem to be adjusting and easily accept the telepresence in ATMs, Internet, video games, and even remote TV controls. Every day, we accept ourselves as extended or distributed bodies reaching beyond our edges into virtual spaces where our bodies are reduced to action and response. We have a mutating construction of our identity and each day it becomes less clear where we actually ‘stop.’

Teleactive

To Lev Manovich, the primary component of telepresence is action. “Telepresence allows the subject to control not just the simulation but reality itself. Telepresence provides the ability to remotely manipulate physical reality in real time through its image...thus the essence of telepresence is that it is antipresence. I don’t have to be physically present in a location to affect reality at this location. A better term would be teleaction. Acting over distance. In real time.” (Manovich) Catherine Wilson defines telepresence even more specifically, as “mediated agency is action on a real object from a distance.” (Wilson) However, the ‘control of the simulation’ is misleading, the presentation of a remote entity is substantively controlled by that remote entity.

To understand telepresence, we must look at both ends of the communication. Gunning’s spirit photographs taught us a valuable lesson—consider the ontology, consider the history, consider the metaphors. When we do this, realize that telepresence contains three possible *stations* of presence. The first, Wilson and Manovich’s actor, is the person extending a physical component into remote world. Their action is telepresent. However, the person or object is being ‘snatched’ from that world and presented back—they too are ‘telepresent’, a visual representation of themselves floats before the one who called. In ghost terminology, where is the telepresence? The seer calling out to the spirit world and contacting a ghost or the ghost leaving the other side to appear embodied before the seer?

To confuse matters more, the actor's robotic extension or sensor would be perceived as telepresent to one in the remote environment. In a recent interview on nanotechnology, UCLA's Jim Grimslewski explained that the atoms 'know' they are being watched and respond accordingly...a new type of awareness. If the device doing the 'watching' is perceived, telepresence takes on yet another meaning.

Telepresence is too general a term for the three-fold component...each station of telepresence should be separately considered. I accept Manovich's 'teleaction' but would like to posit the following for clarity: telepresence is the presentation or embodiment of teleaction, remote presence is the machinery making contact.

Telepresence Reconsidered

As direct observation disappears from our lives, we experience much of the world through mediation. The distance between objects and us is becoming less important and vicarious presence is destroying the old laws of proximity—the historic notions that what is close to us is truer than that which is far away. Commenting on the challenges facing museums, William Mitchell notes that “In our daily lives, we continually have to choose among different grades of presence with different properties and different associated costs. There is an emerging economy of presence.” (Mitchell) Translating this to daily life, it is the decision whether to fly to New York for the meeting, teleconference from one's desk, telephone from a mobile phone, or simply email...each demonstrating a gradient decision to be less 'present' for the meeting. We measure what percentage of ourselves is truly needed.

It is important to clarify that we are not just discussing telepresence as the GUI interface of remote teleaction. The teleactor is initiating the 'call', true, but to respond, one's voice is needed for the phone, one's head and shoulders for the videoconference, one's entire body for a meeting. The presentation or simulation of the remote element is central to the discourse on telepresence. To reduce it to simply action, we ignore the importance of the visualization/embodiment.

Electronic media has thus given us a peculiar new problem—how do we interpret remote or non-immediate presence? Ken Goldberg argues that “As Walter Benjamin foresaw in 1936, we have an increasing urge to view and manipulate distant objects through their images. Tele-technologies, always useful for science, are increasingly relevant to politics and our daily lives.” (Goldberg). Benjamin believed that an object's 'aura'—the radiating quality that Gunning traced back to Balzac—is destroyed as it is reproduced. This idea of our spirits projecting via an aura outside of us is not unusual—many have believed this projection could appear as a portion of our presence.

Many religions and occult teachings conceive of the immortal soul, or the enduring self, so to speak, as a wispy, untouchable, and, under certain circumstances, even visible apparition. All speak of a being separate from the body...A prehistory of attempts to effect presence in distant

places cannot avoid the image. Before the “invention of art”, the image was understood to be loaded with occult power that connected us to remote objects and beings...images allow for direct interaction with the gods, and secure presence and power for that which is represented.” (Grau).

Hubert Dreyfus even felt it necessary to delineate--“the most important element absent from telepresence: intercorporeality...that is our sense of being in the presence of other people.” (Dreyfus) An environmental approach to telepresence, relating to ambience, will show that it not an interface subset of teleaction.

Ambient Telepresence

A handful of interesting experiments in ambient telepresence have surfaced in the last couple of years that show the responsive presentation of telepresence is not necessarily tied to action—it is more concerned with the telepresence sent, not the ‘teleactor’. Ambient Telepresence is about *awareness*, not communication, and points to a trend that wishes computing to be more discreet. Mark Weiser even argues computing will only become integral when it becomes invisible:

The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it...We are trying to conceive a new way of thinking about computers in the world, one that takes into account the natural human environment and allows the computers themselves to vanish into the background...there is more information available at our fingertips during a walk in the woods than in any computer system, yet people find a walk among trees relaxing and computers frustrating. Machines that fit the human environment, instead of forcing humans to enter theirs, will make using a computer as refreshing as taking a walk in the woods.” (Weiser)

So far, studies in Ambient Telepresence pursue one of two themes—data visualization or emotional connection. One research group considered the possibilities using ambience as a GUI to information display (e.g. one’s wall is blue if the network is running smoothly), while the other group changed room ambience based on the passive activities of a remote loved one (one knew that faraway mom was sleeping because soft music was playing). Both consider an interesting subgenre of telepresence where temperature, sound, lighting, etc. are the interface. The experiments have strived to achieve two goals—present information in a three-dimensional/architectural interface (a break from a screen-based GUI) or to ‘connect’ emotionally with someone far away. Either way, it’s still a haunted house.

Research in Data Visualization

The Tangible Media Group at MIT has been using architectural ambience as a way of communicating data...we are ‘aware’ of information, not directly processing it. Their goal is to relay information by using room ambience as an alternative GUI. “We envision that the architectural space we inhabit will be a new form of interface between humans and online digital information....Ambient Displays present information within a space through subtle changes in light, sound, and movement, which can be processed in the background of awareness.” (Tangible Media Group) They are trying to take a broader view of display than the conventional GUI, making use of the entire physical environment as an interface to remote digital information. Instead of various information sources competing against each other for a relatively small amount of real estate on the screen, information is moved off the screen into the physical environment, manifesting itself as subtle changes in form, movement, sound, color, smell, temperature, or light. The idea is to keep users aware of people or general states of large systems, like network traffic and weather. The concept of ‘awareness’ is central to their redesign of interfaces.

Starting with a dull office cubicle, the MIT group” developed the ambientROOM as a platform supporting the expression of online digital information with ‘ambient media’ – ambient light, sound, airflow, and physical motion used as peripheral displays at the background of user attention.” (Tangible Media Group) Their demonstration involved a pet hamster in a remote laboratory—the hamster’s wheel was ‘translated’ through a device that rippled water and projected it onto the ceiling. Workplace activity was shown as moving dotted wallpaper, writing as sound, and room temperature as a quiet audio cue of falling rain. They envisioned more global events to be translated into ambience—the stock market, network uptime, weather. “The mapping of data from information source to ambient display is a key consideration and challenge for ambient media...A designer of ambient media must transform the data into a display that successfully maps the information into a new form.” (Tangible Media Group)

Research into Emotional Connection

The idea of transmitting an ambience is more frequently explored in relation to remote connection with a loved one. Indeed, loneliness at a remote research facility even triggered the project in one case...”the idea of the project came from a real and shared longing to feel closer with distant loved ones. We decided to investigate alternative means of conducting emotional long distance communication. The people surrounding us every day weren’t simply ideal ‘users’ for a design project, but a wide range of people experiencing the same kind of emotions as we were.” (www.ifonly.org)

Citing Weiser as their starting point, another research project emanated from a course in ubiquitous computing at MIT. Four researchers (Sutinen, Wendel, Rydberg, Eneman) “chose to examine if a feeling of presence could be transmitted via an ambient communications system and, if so, how this could be done. The system was to show whether a person was awake or asleep. The purpose of our project was to examine if this transfer of the feeling of presence would affect the person receiving the information in a

calming and positive manner. We also wanted to see if this could possibly counteract the feeling of loneliness that can affect persons suffering from insomnia.” (Sutinen, et al). By wiring (literally, with electrodes) the sleeping friend, the data was transmitted to an insomniac’s bedroom as a projection onto the ceiling that varied in light, color, and focus. The experiment met with mixed results--actually causing some test subjects to sleep even worse--however, in some cases they did find that “the light was experienced by many as calming and promoted a sense of security.” (Sutinen, et al)

A third research project in Germany followed the same lines—to promote a sense of presence through a computational measurement of ambience and sending that data. Beigl and Gellersen defined ambient telepresence as “a method to give someone the feeling that someone else is present while that person is in fact not co-located. In contrast to other telepresence approaches, ambient telepresence is focused on mediating background activity to promote a peripheral sense of presence. A remote person’s handling of everyday objects is mapped to an ambient presentation in the local work environment, based on ubiquitous computing and context-awareness technologies, allowing people at different locations to experience the ambient presence of others.” (Beigl & Gellersen). Like the Tangible Media Group, their work focused on ambient representation of remote data...ghosts on the wall. Instead of direct input translated into ambience, however, they preferred to focus on background activity. Banal actions like drinking coffee were translated into ambience at a remote location.

In short, the old séance mantra of “I sense the presence of a loved one from beyond” is inherent in studies of ambient telepresence. Written in spiritualist vernacular, ambient telepresence and our old haunted house stories have a peculiar connection. Space as haunted is a form of telepresence...someone from another world is present, communicating through the environment. We already have a common cultural language to understand a new concept.

Telepresent Ambience

However, what seems the next step in the research has not yet been taken. To date, no research seems to have been presented about actual ambience being measured. Instead, researchers have been interpreting data and transforming it into ambience, not interpreting ambience itself.

While much is discussed regarding using new media technology to make our bodies extend through telepresence, it is interesting to note that these same new sensor technologies allow for telepresence of space. By capturing , reconfiguring, and transmitting the ambience of a room, we have new options for a type of passive interactivity...not responsive environments, but environment-responsive. “Telepresence is transforming the classical perception of space, which had been linked primarily to physical location...we are on the threshold of change in regards to a location oriented concept of persons.” (Grau) But what can environment tell us? Perhaps a little Poe will help.

The Fall of the House of Usher

The idea of sentient space has surfaced in fiction through the centuries. One of the finest, most powerful examples is Edgar Allan Poe's "The Fall of the House of Usher." Poe cleverly weaves the parallel journeys of both the character's mind and the character's space into a blurred narrative. In the story, the narrator is called to cheer up an old friend...Roderick Usher and his sister were dying of ennui. Poe uses anthropomorphic details with the house, describing it as "melancholy" with "bleak walls and vacant eye-like windows", while describing Roderick Usher in architectural terms—repeatedly referring to his 'frame', his "finely molded chin," and his "inordinate expansion in the regions about his temple." Man as house, house as man. The Ushers are a dark family and in "the perfect keeping of the character of the premises with the accredited character of the people" (Poe) both are now known as the House of Usher...the family and the family mansion. One of the founders of X-ray cinema, James Watson Jr., created a modernist avant-garde film of "Usher". His education as a doctor led him to visualize the mansion interior as "encoded to resemble the interior space of a body." (Cartwright)

Poe quickly makes the leap from ambience to sentience. The narrator believes that the house creates an "utter depression of soul...there are combinations of very simple natural objects which have the power of thus affecting us" and "that a mere different arrangement of the particulars of the scene, of the details of the picture, would be sufficient to modify, or perhaps to annihilate its capacity for sorrowful impression." (Poe) The narrator naively believes that rearranging the ambience might change the mood of the place but Roderick Usher believes otherwise—that the arrangement of the very stones had "moulded the destinies of his family and made him what he was." (Poe) His environment was killing him and, like the house, he and his sister were both living and decaying.

When the sister dies, they bury her in an abandoned dungeon in the basement. But eight days later, on a dark and stormy night, they hear the creaking and realize that "We have put her living in the tomb!"...in the living tomb of the house. Sis bursts into the study, killing Roderick with terror, and "*collapses*" inward on her brother while the house goes down with a "long, tumultuous shouting." Space and character are so closely tied, they go down together...the fall of the houses of Usher. Death by ambience.

Sensing environmental changes for a message

"Usher" shows us that space is not only sentient, but embedded with meaning and history. As we increasingly become defined by our electronic presence, the line between man and space is blurry. We are 'home' when the lights come on, the stereo is turned up, the computer boots up, the heat is on. The architectural component of ambient telepresence shows that all those sensors are not measuring the people moving, but the space being affected by movement. In a sense, all the surveillance/exhibitionist cameras are 'reading' space when the subject has left the room—the empty parking lots with surveillance cameras, the vacant dorm rooms when the sorority webcam vixen is off at

class—as the presence of an environment remotely viewed. While peeping often is associated with illicit viewing of a human subject, it is important to remember that the environments are also being secretly watched—it's a keyhole to a bedroom. The history of voyeurism is closely tied to looking through a secret window—an architectural model. We must look at presence with architectural considerations.

The sentience of Usher manor ties eerily to recent experiments and theory about environment as recording media. The concept that the physical architecture is viewed as a type of recording device—that can play back—traces back in media history as well. Carolyn Marvin recounts how the desire for some tangible imprint of domesticity on media was metaphorically rendered in a speech by Emile Berliner who looked forward to the day when sound recordings would be made from etched steel matrices and dinner plates would be records to play after the meal. (Marvin) Arthur C. Clarke tried to scientifically explain paranormal phenomena like ghosts and haunted houses by suggesting that structures and walls can somehow 'record' visual images and play them back to terrified visitors.

The idea of space as a recording media is not so far-fetched. We are finding media hidden all around us—recently ancient pottery has been hypothesized to have 'messages' in the actual grooves, historical DNA remnants in crime scenes are solving mysteries from decades ago. Maybe our new media will lead us to the oldest media, one we were never aware existed. "Invisible data which we can't see revolves in space and does not appear to be special because we can't see it." (Nishijima)

Outside of media art, others are using sensor technology to 'read' architectural space. An interesting report in *British Journal of Psychology* theorized that spectral sightings may be just a psychological reaction to environmental factors. "This project examines why some people report 'ghostly' experiences (e.g., a sense of presence, apparitions, feelings of intense cold) in apparently haunted locations." (Wiseman) Using highly sophisticated sensors, the researchers found unusual mixes of environmental factors that seemed to be embedded in the walls themselves—temperature changes, magnetic fields, and low-frequency audio waves. (Pethokoukis) As sensors become more sensitive and tune in to hidden environmental components, there is no telling what might be found.

Before all this devolves into an *X-Files* rerun, it is important to remember that the spiritualism/telepresence relationship is being investigated to assist in understanding this form of telecommunications...not to get caught up in ghost stories. Looking at the ontology of telepresence in terms of haunted, sentient space ties remarkably well to some recent theory. Even Kittler in *Gramophone, Film, Typewriter* quotes Friedlaende's "all the waves of all bygone events are still oscillating in space...all that happens fall into accidental, unintentional receivers. It is stored, photographed, and phonographed by nature itself" (Kittler). Kittler points out that electronic media does not rely on symbolic mediation the way printing does. It records, using sound and light waves, the "visual and acoustic effects of the real" (Winthrop-Young and Wutz). This recording model may extend to the mediation that is part of the natural world.

Close

Because of a rich history shared by electronic media and spirituality, we can better understand telepresence by using the same metaphors and cultural referents. By considering the transmission of ‘haunted’ space, we can see how ambient telepresence differs from the ‘teleaction’ of today’s discourse. And finally, by considering telepresent ambience, we stumbled into an area of environmental mediation that invokes Kittler and Benjamin.

We have to constantly look for synonyms when working with new media. Words like ‘interactive’ and ‘telepresence’ do not surface in our older texts, and if we’re to understand computational implications, we have to read between the lines, a thesaurus always running in our minds. The history of new media can be easily constricted by semantics...we have to look at how culture used and described new technologies to understand the better. However, we must be careful not to force correlations where none exist, as Sconce warns:

Although the process of elaborating electronic simultaneity into fantasies of disembodiment, teleportation, and anthropomorphization –all achieved through the common conceit of electronic transmutability—has remained constant over the last 150 years, there are tremendous differences in the actual social, cultural, and political “content” of these stories within differing historical and technological contexts. For this reason, the analysis of such fantastic media stories must recognize that the cultural construction of electronic presence is always inextricably bound to the social application of a technology within a given historical moment. Tales of paranormal media are important, then, not as timeless expressions of some undying electronic superstition, but as a permeable language in which to express a culture’s changing social relationship to a historical sequence of technologies.
(Sconce)

As Bruce Clark sums up, “the multiplicity of the concept of ‘media’ extends beyond its particular technological instantiations to include both scientific and spiritualistic registers.” (Clark) By looking at these spiritualistic registers where fundamental concepts like data and emotion also exist, we can more easily conceive of media art that is not a command-based structure but explores more nuanced forms of communication like awareness and presence. Jim Campbell dreams of computer “works that perceivably never repeat themselves. Works that respond to their environment not just in a short term way, but in a long term way unpredictably and meaningfully.” (Campbell) The capture and transmission of ambience as a form of telepresence seems to fit this possibility.

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