Who's in Control? Issues in Interactive Media Art

By SARAH DRURY

Issues of control figure strongly in discussions of interactive digital artworks. What choices are offered to the user? Is the response reliable? Is the interface intuitive and quickly learned, and does it offer a sense of mastery? Conversely, interactive works with a critical focus might evoke and comment on the powerlessness possibly experienced by citizens of a digital culture, in the face of dysfunctional and dehumanizing technology. The work then critiques technology's control over its users.

But my experience of any art form is grounded neither in feeling a sense of control nor in critical awareness of its opposite. Rather, the work's impact seems to lie just in that area beyond what I know, beyond my sense of control and mastery, beyond grasping how it works. Interactive art may achieve its meaning not in giving its user a sense of mastery, nor in making the user feel out of control. Instead, the interaction may invite the user to remain open to whatever will happen, within or outside of the user's intentional control.

This article looks at interaction designed not to confirm or deny the sense of control, but to allow the user to give up control and to become a wholly engaged listener. My point of reference is my ongoing project, "The Listening Microphone," in which I am working with aspects of being in control, being out of control and voluntarily giving up control without losing it. Here, the song is a model to explore some of the elements at work in interactive art projects.

The Metaphor of the Song

Using the song as a metaphor for a discussion of control in interaction points to that moment in complex, multi-part, multi-rhythmic singing when you are both holding your own harmonic line and listening to every other part, listening to the whole. There is a paradox in maintaining your own role (output) against all the other dynamic pulls and influences while listening to those same influences (input), in their support of your line and their tension against it. It is the paradox of simultaneous singing and hearing. This heightened experience of listening might be reached any number of ways. It is both simultaneous input and output, and simultaneous awareness of separateness and the whole: to be in my part so completely that I can let it go, without dropping it, so as to be open to the multiplicity of all parts.

Logical structures—whether they be structures of language, of identity, of social interaction, of meaning, of material reality—confirm the already known,

practical conventions and illusions of daily interaction. When multiple processes occur simultaneously, like listening and singing, like input and output, linear logic may be inadequate in the attempt to grasp the experience. The only way to comprehend what is going on is to accept not knowing—that is, comprehension not based on matching knowledge retrieved from storage, but rather on a state of moment-to-moment listening.

I am researching this paradigm of listening in ongoing work on my sound and video installation project, the Listening Microphone.

Technical Description

The Listening Microphone uses Opcode's Max interactive MIDI (Musical Instrument Digital Interface) sequencing software. Max receives MIDI input from the voice of a user or performer vocalizing into a microphone. The voice signal is first translated to MIDI by one or more analog-to-MIDI converters, for example a pitch-to-MIDI converter or a drum module with a MIDI Translator.
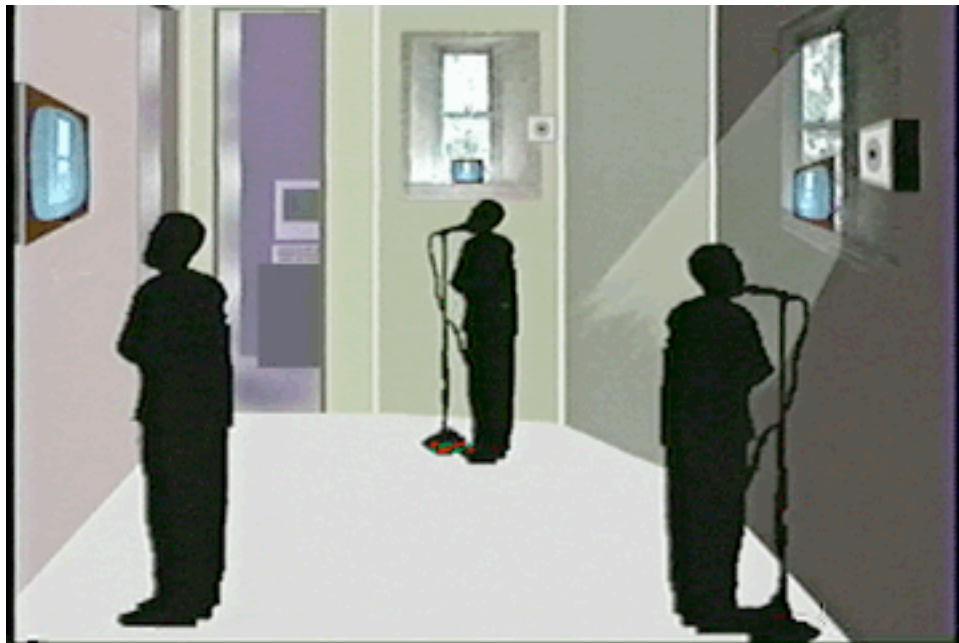
Max has been programmed to receive and sort the MIDI input in various ways, initially based on the rate and continuity of the input. The MIDI data coming into Max is channelled in variously patterned and random ways to trigger output from a SampleCell synthesizer card located in the CPU. Concurrently,

input signals also cause jump cuts to different places in a Quicktime movie and variations in the playback rate of the movie.

SampleCell holds 32 MB worth of sound samples—in this case, samples of voices taken from conversations, stories and songs, recorded live with friends and acquaintances. These samples are played back in a manner that has both organized and random elements. The way the user vocalizes determines the output. For example, continuous input will be read as singing and will play back "singing" samples, while staccato input will be read as talking, causing samples of speech to play.

Talking samples of short phrases or words play back in an order that follows the structure of a sentence. At some points the playback may be fragmented, better heard as sound or music, despite being made up of spoken words. The thread of a narrative begins to take shape. Sound playback is accompanied by a video image of a face animatedly telling the story.

In this way, the user's voice elicits a story from the Listening Microphone. In order to hear more of the story, the user must continue to vocalize. His or her voice mingles with the machine's recorded voices. A sense of verbal dialogue and musical duet ensues, the video image cutting to associative images.

Samples are output through small, amplified speakers. The speakers are placed so as to create audio zones (a certain voice will predominate in that area of the room), and to blend voices in overlapping zones.

Re-Thinking Control

Being in control is generally a desirable aspect of any communication. From a technical standpoint, it is a primary goal for any functional telecommunications application. However, an interaction operating within the metaphor of the song may be geared toward a different goal: the parallel experience of being in control (singing my part) and being able to give up control to something bigger (hearing the whole song).

With the Listening Microphone, the user experiences a great deal of response to her or his voice, something like being talked back to or being sung with; but without the intention of a linear dialogue, as with speech recognition software. The participant uses her or his voice to play the computer like an instrument, with unexpected twists and turns in the progress of events. There is only one reliable expectation: the user's voice elicits other voices.

In order to listen to these voices, the user has to keep on engaging breath, vocal vibration or possibly words, bringing her own voice into play, supported, contradicted, amplified, multiplied by the computer-controlled response.

Giving Up Control as a Creator

One aspect of composer John Cage's profound influence on contemporary art is his work with "indeterminacy," the pursuit of music beyond the shaping forces of conscious intention. He cultivated an art practice based on not knowing what he would get, with the intention of changing, rather than reinforcing, his role as creator.

"So I want to give up the traditional view that art is a means of self-expression for the view that art is a means of self-alteration, and what it alters is mind, and mind is in the world and is a social fact. . . . We will change beautifully if we accept uncertainties of change; and this should affect any planning. This is a value." (Conversations with Cage, p. 1972)

The determinate speaks to the human tendency to limit, define, name, measure, calculate or predict in an effort to control, to ensure that we know and like the results. The challenge of creating interactive works is that of creating conditions in which the user's interaction shapes the work. Cage's method of indeterminacy puts both artist and audience into the role of listeners, open to the particular form the work takes in a given interaction with a given user.

Giving Up Control: Speaking, Writing and Sound

An important aspect of the song metaphor is the element of sound as a sense channel that connotes presence. Communications historian Walter Ong correlates aspects of the different sense channels in communications to structures of social and economic control. He distinguishes the pre-literate sensorium of sound from the visual or spatial sensorium that evolved with the advent of writing. The sound sensorium is one of present time, while the visual/spatial sensorium allows the recording of the present for use in the future.

In this way, the development of political and economic institutions based on recorded information came to replace social structures based on face-to-face communication. Larger and more powerful institutions developed based on the predominance of the visually-recorded and transmitted word over the ephemeral spoken word.

Digital media represents the highest evolution of the impulse to record, transmit and control communication, even as it strives to return to the sense of presence in ever more "real" applications. The voice itself, whether recorded or broadcast live, signifies presence, however illusory. The challenge is the use of this complex mesh of controlled information, the mediated ground of daily life, to arrive at communication that touches on the spontaneous, unpredictable, vibrant experience of a surprising conversation.

Giving Up Control: Who's Telling the Story?

New Media theorist Sherry Turkle discusses how orality in the world of multimedia and telecom simulations can achieve a full double-bind of simulated presence: the computer becomes not just a medium of communication, but a presence itself, a speaker and a listener. Citing various postmodernist theorists, she argues that we are able to perceive the computer as a presence because we are fundamentally resigned to mediation, even in face-to-face communication. Language itself is as predetermined by structures of social and psychological control as the technologies that convey it.

The computer-inspired genre of hypertext reflects the structure and intentions of deconstruction, the postmodernist strategy for freeing language from structures of control. As a literary form based on hyperlinking, a hypertextual narrative offers variable choices, breaking up the linearity of a story into multiple, possibly contradictory narratives. The reader traces their own branching version of the narrative, thus sharing authorship with the story's creator. Multiple viewpoints can be encountered in a constantly changing order. The user ends up as a wanderer who, freed from the determinism of a single story with a single ending, may also become quite lost.

The Listening Microphone reflects the premises of deconstruction and hypertext. The participant experiences the paradoxical sense of being both in control and lost, which is implicit to reading hypertext. The participant's intentional use of her voice results in the unpredictable sound of many different voices. Participants have spoken of a sense of disorientation in the experience of the simulated voices almost seeming to emit from one's own voice. One's physical expectations are upset.

The song metaphor presents an intensely connected and dynamic social space, in which the difference between self and others is in constant motion. Rather than a unity, it is a whole comprised of difference, where allowing difference (between my part and other parts) and allowing merging (hearing all parts together at once) happens in active, paradoxical play. I am able to know this complex space through hearing it moment by moment. With the Listening Microphone, this play of self and other involves speaking, singing and playback generated by the responsive computer. It similarly engages the participant in the paradoxical experience of speaking and hearing at the same time. This strange experience raises the questions: Who is speaking, and to whom? What is the difference between my own voice and the voices I am hearing?
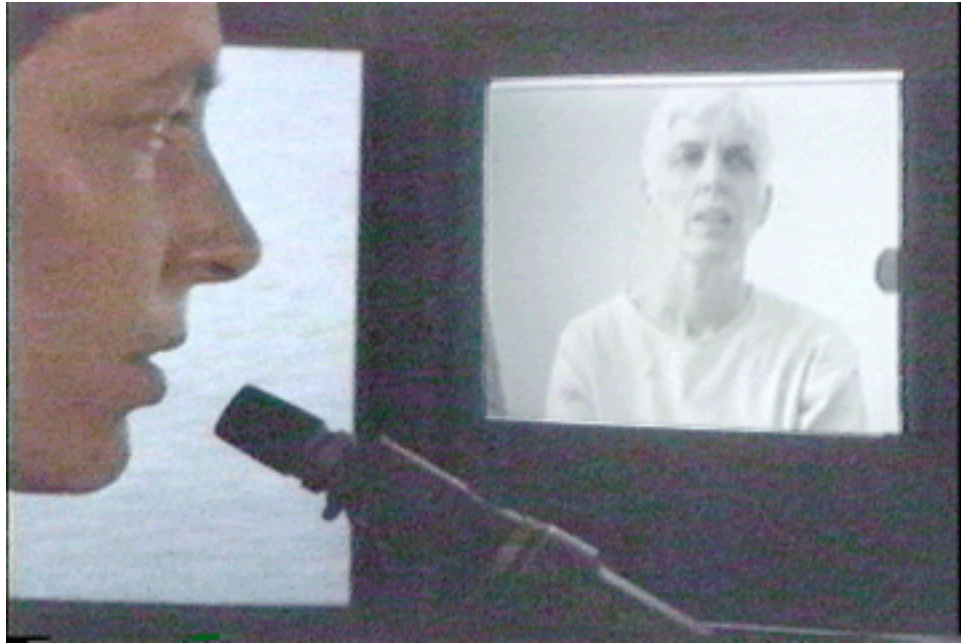
Intimacy with an Uncontrollable Other

Donna Haraway sees dualism as the belief system at the basis of alienation in human culture: self versus other; male versus female; black versus white; friend versus enemy; life versus death; human versus machine. For her, the philosophical resolution of this dualism is the cyborg: "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction." Haraway characterizes the cyborg as the potentially liberating relationship between human and technology, one in which dualism is transcended, offering a model based on affinity rather than on dualism.

Haraway's cyborg is a capricious and unpredictable, yet loyal entity—a machine that resists control and refuses to control others. Artificial, like Frankenstein, it is a scientific product that overcomes death. Free of desires, unlike Frankenstein, the cyborg is not envious of humans, happy to be a hybrid of living and dead parts, forcing us to acknowledge our constructed natures.

The Listening Microphone attempts to instill a sense of intimacy between user and machine, between live voice and recorded voices. It engages the play of presence and absence—the user's live voice, the live quality of voices played back and the obvious absence of those disembodied voices.

Live and Captured Voices

Thomas Edison's early experiments with recording earned him fame as an authority on the afterlife. His invention seemed to capture the presence of those whose voices it recorded. Being able to record the voices of the living seemed just one step away from being able to communicate with the dead. Edison planned the invention of a device that would allow the communications of the dead to traverse the energy fields between living and dead. This "spirit catcher" would be like an extremely delicate microphone, able to pick up the subtleties of the voices of the dead and then to muster the powers of science to magnify these signals to frequency levels audible to the living. Here the rational authority of science mingles with the desire to offset the finality of death.

I am attached to my sound samples, utterances that seem to become present again and again. Some are voices of familiar people, including my grandmother who has since died. Some are brief acquaintances. They play simultaneously with my own voice, but not as accompaniment (like karaoke) nor as conversation (like speech recognition software). They are human sound, evoked by my own human sound and evoking more sounds in return.

The Listening Microphone is an effort to make a whole vocal space, a responsive field of sound. Being in this space is being on an edge, somewhere in between the Edisonian desire to capture spirits, to make present in spite of absence, and Cage's space of "the void that is not nothing," present to silence as well as sound.

Along with its deafening distractions, interactive digital media offers rich opportunities for hearing this uncontrolled edge between the celebration of presence and the acceptance of absence.

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She has taught New Media at New York University and worked professionally on web and CD-ROM projects as a multimedia designer and producer. Drury has led experimental workshops in Online Distance Performance using Internet2, exploring themes of presence and absence in networked video. She has received numerous grants including an Artists Fellowship Grant from the National Endowment for the Arts and residencies at the Banff Center for the Arts and the Experimental Television Center in Owego, NY. Her work has been exhibited at such venues as the Brooklyn Museum, the Kitchen, the Galerie Arts et Empreintes in Paris, and the Pulse Art Gallery in New York City.