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The Collaborative Subject

Telerobotic Performance and Identity

David Z. Saltz

Digital technology is augmenting our most basic notions of the self. It is doing so in at least two very different ways. First, a flesh-and-blood human being (rather disturbingly referred to in computer parlance as a ‘user’) can assume control over a purely digital incarnation in a virtual environment – as happens, for example, in most video games. The technical term for this kind of digital double is an ‘avatar’. Second, technology can extend or enhance a person’s real, biological body, for example, through robotic limb or electronic eye implants. The now-familiar term for the resulting entity, part flesh, part machine, is a ‘cyborg’.

Digital technology is similarly augmenting our notions of space. Here too we should distinguish between two different phenomena, the spatial equivalents of the avatar and the cyborg: virtual reality and telepresence. Virtual reality systems fully immerse a subject in a computer-simulated environment, a purely virtual space with no physical, real-world spatial coordinates. Telepresence, by contrast, uses computers, telecommunications and robotics to conjoint two or more real-world locations. Eduardo Kac, one of the most prominent theorists and creators of ‘telepresence art’, suggests that the most significant characteristic of telepresence is ‘the primacy of real time over real space’. As he puts it: ‘The shortest distance between two points is no longer a straight line . . . the shortest distance between two points is real time’ (Kac 1993). Ken Goldberg, another champion of telerobotic art, observes that ‘VR [virtual reality] is simulacrual, TR [telerobotics] is distal’ (Goldberg 2000: 5).1

I will focus here on the use of cyborg and telepresence technologies in interactive and performance art, in particular on works that demonstrate the intimate connection between these two technologies. The most provocative of these works, I will argue, reveal an important new possibility: that just as one can collapse the distance between multiple geographic locations to produce a single virtual space, one can, in so doing, collapse the distinction between multiple subjects to produce a single virtual subject. I call this kind of subject a ‘collaborative subject’. The collaborative subject is an important and intriguing phenomenon in its own right. Just as importantly, however, I will suggest that it is a powerful metaphor that sheds new light on a great many cultural practices and, in particular, on theatrical performance.

TELEPRESENCE AND TELEROBOTICS: WHERE AM I?

In a 1978 essay, the philosopher Daniel Dennett asks us to imagine that his brain has been severed from his body and put in remote control of a robotic body (Dennett 1978: 310–23). As his robotic body ventures forth on a perilous mission, it transmits visual, tactile and auditory data back to his brain, which is safely ensonced in a vat many miles away. Where, Dennett asks, am ‘I’ in such a
situation? Dennett constructs this thought experiment to confound our intuitions about spatiality and identity, and in particular the assumption that we exist, at any given moment, in a particular, singular point of geographical space. By the early 1990s, Dennett had developed this line of thought into a full-fledged attack on what he calls the ‘Cartesian theater’ model of consciousness: the notion that the subject exists as a point of consciousness in the brain gazing though the eyes out into the world (Dennett 1991).

Telerobots have been used since the 1950s to accomplish tasks too dangerous or physically impossible for humans to undertake, and while telerobotic technology today still cannot come close to providing the sort of complete sensory experience that Dennett imagines, it has progressed remarkably far in the two decades since Dennett’s fanciful thought experiment. Telerobotic devices handle radioactive material and explore the Martian surface. Robert Ballard, who led the famous team that used a telerobotic submarine, nicknamed ‘the tethered eyeball’, to locate and explore the remains of the Titanic on the ocean floor, announces that ‘Now we can cut the ultimate tether – the one that binds our questioning intellect to vulnerable human flesh.

Through telepresence, a mind detaches itself from the body’s restrictions and enters the abyss with ease, and with lightning-quick fiber optic nerves’ (Ballard 2000: 311).

One of the earliest examples of telerobotic art was Norman White and Doug Back’s 1986 Telephonic Arm Wrestling. As White describes it, this installation allows ‘contestants in two different cities to arm wrestle, using motorized force-transmitting systems interconnected by a telephone data link. . . . You could almost feel the pulse of the other person . . . it was uncannily human-like – the sensation of sinews and muscle – not at all like feeling a machine’ (see Shanken 2000: 70). By 1996, telerobotic art had hit the mainstream with Techs the Rhinestone Robot, who started making daily appearances at the Thousand Oaks shopping center in Nashville. This robot interacts with the audience, talking, asking questions and replying to the answers. Operators hidden in a control room wear an exoskeleton body suit that replicates their movements on the robot on stage, and a virtual reality helmet that allows them to see and hear what is happening in the robot’s environment through three color-video cameras and microphones on the robot and set (Chain Store Age 1996: 76).

**TELEPRESENCE AND THE SUBJECT**

The landmark essay on the cultural implications of the cyborg is Donna Haraway’s socialist-feminist ‘A Cyborg Manifesto’, which concludes with her famous proclamation: ‘I would rather be a cyborg than a goddess’ (Haraway 1991). This essay exerts an influence in contemporary cultural theory comparable only to Walter Benjamin’s ‘The Work of Art in the Age of Mechanical Reproduction’ and Laura Mulvey’s ‘Visual Pleasure in Narrative
Cinema'. Unsurprisingly, Haraway’s utopic rhetoric informs the work of many contemporary artists who employ telerobotic technology, though often without Haraway’s sense of irony. For example, in Lynn Hershman Leeson’s 1998 installation *Tillie, the Telerobotic Doll*, participants anywhere in the world can access a website that allows them to control the eye movements of a doll in a gallery, and the doll’s eyes contain cameras that transmit images back to the website. The technology underlying this installation is trivial; the piece is functionally identical to myriad robotically controlled webcams currently inundating the internet with prosaic video feeds. Leeson’s way of describing the piece, however, is both typical and suggestive. The prevalence of tracking and surveillance techniques, she explains, has resulted in a culture that has a peripheral vision that extends beyond normal human physiology. In many cases, there is a merging of human and machine capabilities that create new beings, cyborgs, whose virtual reach, and in this case sight, is extended beyond physical location. Identity becomes intangible on the Internet and Tillie’s face becomes a mask for the multiple expressions of the self.

(Kusahara 2000: 203)

This doll, according to Leeson, does not merely function as an aesthetic object for the gallery audience. It is a literal extension of the people at remote locations who are visiting the website. In other words, it is a subject or, rather, a series of subjects capable of returning the gaze of the visitors in the actual gallery space. Leeson’s claim that she is extending the boundaries of human subjects using technology is a common refrain in the still-relatively-scanty literature about telerobotics. For example, Michael Idinopulos makes the general claim that ‘our goal should be to design telerobotic web sites in such a way that they cause users to form beliefs that are epistemically direct. Users must view the computer screen not as a source of evidence from which to infer conclusions about objects that are hidden from view, but rather as a window or scope through which to perceive those objects directly’ (Idinopulos 2000: 325). In other words, users should have the sensation that their knowledge of the remote location is unmediated. The interface itself should be transparent, something the user sees through (like a ‘window or scope’). Idinopulos’s uncritical valorization of transparency is a common feature of telerobotic theory though, as we will see later, some telerobotic artists assume a more reflexive, Brechtian stance toward the technology.

The vision of telerobotics that Leeson and Idinopulos espouse, like Haraway’s notion of the cyborg, conceives of the relationship between the human subject and technology as what phenomenologist Don Ihde would call an ‘embodiment relation’, which he distinguishes from a ‘hermeneutic relation’ (Ihde 1990: 38–41, 80–97). In an embodiment relation, the technology serves as an extension of the person’s senses or limbs. That is to say, a person interacts with the world through the technology. For example, I see the world through glasses and the stars through a telescope; I move through the streets in my car, and type these words with a computer. By contrast, in a hermeneutic relation, my focus is on the technology, which I must consciously interpret in order to gain information about (or affect change in) the world. In Idinopulos’s terms, my experience is epistemically mediated. For example, my relation to a thermometer, Ihde argues, is hermeneutic. When I am inside looking at a thermometer that measures the outside temperature, I do not actually feel the temperature; I interpret the thermometer’s reading.

N. Katherine Hayles has taken the idea of embodied technology a step further than Ihde or Leeson. In her view, technology, in particular digital technology, does not merely have the potential to transform individual subjects. It is radically transforming the very nature of subjectivity. She argues, in McLuhanesque fashion, that the subject in western culture has gone through three stages of development: the ‘oral subject’ first gave way to the ‘written subject’, which is now giving way to the ‘virtual subject’. The oral subject is
‘Fluid, changing, situational, dispersed, conflicting’; the written subject is ‘Fixed, coherent, stable, self-identical, normalized, decontextualized’, and the virtual subject is ‘Formed through dynamical interfaces with computers’. The body boundaries of the virtual subject are ‘extended or disrupted through proprioceptive coherence formed in conjunction with computer interfaces. A cyborg’ (Hayles 1999a: 93). Elsewhere, Hayles describes this transformation of the subject in even more sweeping terms, as the shift in our conception of ourselves from ‘human’ to ‘posthuman’. The posthuman ‘thinks of the body as the original prosthesis we all learn to manipulate, so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born’, and ‘configures human being so that it can be seamlessly articulated with intelligent machines’ (Hayles 1999b: 3).

TELEPRESENCE AND COMMUNITY

In different ways, all of the artists and theorists I have discussed so far reveal the potential of telepresence and telerobotic technologies to unsettle some of our most fundamental assumptions about subjectivity – in particular, the humanist conception of the subject as autonomous and uniquely embodied. Still, the focus typically remains on the individual subject in relation to technology. The fascination with the cyborg, for example, centers on the way technology augments the abilities and extends the boundaries of an individual biological self. Equally significant, however, is the ability of these technologies to transform inter-subjective, or social, interactions. In 1932, in a remarkable anticipation of Internet culture, Bertolt Brecht recognized this potential for social telepresence, imagining a future in which radio will cease to be merely ‘an apparatus for distribution’ and become ‘the finest possible communication apparatus in public life, a vast network of pipes’. Radio, he argues, must learn ‘how to receive as well as to transmit, how to let the listener speak as well as hear, how to bring him into a relationship instead of isolating him’ (Brecht 1964: 52).

In 1969 Allan Kaprow created a multi-site happening, Hello, that used the facilities of WGBH-TV in Boston to link four locations in the Boston area: a hospital, an educational videotape library, the Boston Airport and MIT. Kaprow, stationed at the television studio, randomly opened and closed live video links between the sites so that, for example, a woman at the airport would begin a conversation with someone at MIT and then suddenly find herself face-to-face with someone at the hospital (Youngblood 1970: 343). In 1973 Mabou Mines collaborated with visual artist Keith Sonnie on a multi-site performance, Send/Receive/ Send, that used CB radio to transmit dialogue into a performance space in downtown Manhattan from locations throughout the city (Maleczek 2001).

The first large-scale attempt to investigate the aesthetic implications of telematics, however, was Kit Galloway and Sherrie Rabinowitz’s 1977 ‘Satellite Arts Project’, a series of ‘telecollaborative’ dance and musical performances linking together geographically dispersed performance sites using live television. As the artists describe it, the goal was:

To demonstrate (for the first time), that several performing artists, all of whom would be separated by oceans and geography, could appear and perform together in the same live image (The image as place). Everyone would see themselves all together, standing next to each other, able to talk with each other, and alas [sic], perform together – ‘A performance space with no geographic boundaries’.

(Galloway and Rabinowitz 1998)

At the time of the Satellite Arts Project, broadcast satellites offered the only way to convey television signals over long distances. Clearly, this technology was far too costly for widespread use by experimental artists and performers; Galloway and Rabinowitz gained access to it only with the help of large grants from NEA, PBS and other sources.

By the early 1990s, new technologies allowed the transmission of video images over long distances at a very low cost – albeit with much lower resolution and slower frame-rates than satellite television. In particular, a number of performance groups used
the Internet to create multi-site performance events. For example, in a 1994 production *Nowhere Band*, George Coates used free CU-SeeMe videoconferencing software to allow three band members at various locations in the Bay Area to perform live with a Bulgarian bagpipe player in Australia for an audience in San Francisco (Illingworth 1995). In 1995, Cathy Weiss used the same software to create an improvised dance performance at The Kitchen in New York with the real-time participation of a video artist in Prague and a DJ in Santa Monica. In 1999 the Australian Company in Space created a live duet between a dancer in Arizona and her partner in Australia (Birringer 1999: 368–9). In 2001, the opera *The Technophobe and Madman* took advantage of the new high-speed Internet2 network to allow half of the performers—the Technophobe, a percussionist and a keyboard player—to perform at Rensselaer Polytechnic University, while the other half—the Madman, a pianist and a bass player—performed 160 miles away at New York University; separate audiences at each location watched the remote performers on a large projection screen (see Mirapaul 2001 and Gann 2001).

Such multi-site performances are intriguing on a theoretical level. But how much difference does the use of telematic technology really make to an audience? Reflecting on his experience with *Nowhere Band*, George Coates observes that

> When you're in the theater, there's always a feeling it could all be mocked up. The guy from Australia could have been in the back room. The only time the audience really believed for sure it was happening is when it would break down.

(Mirapaul 2001: E2)

Telematics acquires its greatest impact when the spectators are given the ability to interact directly with people at the remote site, and thereby can experience the uncanny collapse of space firsthand. Once again, Galloway and Rabinowitz set an early precedent for this sort of participatory telematic performance event. In 1980, they created an elegantly simple installation called *Hole-in-Space*. They installed one large video monitor in a department store in downtown Los Angeles and another at Lincoln Center in New York, and established a two-way audio and video link between the sites via satellite so that people passing by on one site could interact with the life-size image of their counterparts at the other site. A wide range of spontaneous encounters took place between strangers at the two sites, and soon word about the installation got out and long-separated friends and relatives arranged face-to-face rendezvous (Wooster 1990: 285).

In the 1990s, new media artist Paul Sermon created a series of interactive art installations that build on the impulse behind *Hole-in-Space*, collapsing physical space to produce telematic social interactions. His first such piece, *Telematic Dreaming*, consists of two identical beds in remote locations. When you lie on the physical bed in your location, you are joined on the other side of the bed by a real-time video projection of a participant in the second location. *Telematic Vision* is a variation on this concept, consisting of two sofas in the two remote locations, each in front of a video monitor. When you sit on the sofa and gaze into the monitor, you see a composite image of yourself sitting beside a visitor in the remote location. The two participants can interact through both gesture and speech. Subsequent installations place the remote participants around a diningroom table and a séance table (see Sermon 2000; Shanken 2000: 70–2; and Birringer 1999: 374).

The work of artists such as Galloway, Rabinowitz and Sermon, in striving to transcend the limitations of distance, evince a utopic impulse that permeates much of the discourse about telepresence and virtual reality. For example, Jaron Lanier, the dreadlocked hero of cyberculture who coined the term ‘virtual reality’ and invented many of the key technologies that constitute VR, envisions a time in the not-too-distant future when ‘something very special is going to happen, which I call post-symbolic communication. This is an idea of a new type or stratum of communication where people are skilled at, and used to, co-creating shared worlds
spontaneously, improvising the content of the objective world. . . . So that'll be like a conscious shared dreaming. And to me, that's the reason to do all of this' (Leeson 1996: 49). The rhetoric of telematic artist and theorist Roy Ascott is even more extravagant:

The holistic ambition of Native American culture is paralleled by the holistic potentiality of telematic art. More than a technological expedient for the interchange of information, networking provides the very infrastructure for spiritual interchange that could lead to the harmonization and creative development of the whole planet. With this prospectus, however, naively optimistic and transcendental it may appear in our current fin-de-siècle gloom, the metaphor of love in the telematic embrace may not be entirely misplaced.

(Ascott 1990: 247)

Sermon insists that his installations do more than offer a unique forum for communication across space. They virtualize the space the participants inhabit and, more interestingly, the participants' own bodies:

[The participants] start to explore the space and understand they are now in complete physical control of a telespresent body that can interact with the other person. The more intimate and sophisticated the interaction becomes, the further the users enter into the telematic space. The division between the remote telespresent body and actual physical body disappears, leaving only one body that exists in and between both locations.

(Sermon 2000)

At best, Sermon's installations have this kind of effect only in those cases when both participants give themselves over entirely to the telematic interaction. In my own experience with Telematic Vision, my remote partner and I waved self-consciously at one another while continuing to interact with other people in our separate physical environments; the virtual encounter was not immersive enough to produce a deep sense of dislocation.

Notice, however, that even if Sermon's installations were to achieve precisely the effect that Sermon describes, they would not threaten the distinctness and individuality of the participants' identities. Sermon's installations, like all of the multi-site works I have considered so far, complicate the question 'where am I?' in intriguing ways. The underlying notion of selfhood, however, remains solidly humanistic. The embodiment relation between each of the participants and the technology remains one-to-one. That is to say, the technology serves to extend the senses and project the actions of individual subjects. Allucquère Stone, writing about William Gibson's cyberpunk novel Neuromancer, offers an insightful description of the Cartesian geometry of cyberspace that applies equally well to installations such as Sermon's, and indeed to the vast majority of telespresent and telerobotic installations and performances: 'the "original" body was the authenticating source for the refigured person in cyberspace; no "persons" existed whose presence was not warranted by the concomitant existence of a physical body back in "normal" space' (Stone 1995: 34).

**THE COLLABORATIVE SUBJECT**

A more radical exercise in using technology to push the boundaries of subjectivity is to create what I call a 'collaborative subject'. A collaborative subject is not anchored firmly in any pre-existing, individual subjectivity. Rather, it relies on the contributions of multiple subjects to synthesize a single virtual subject. Stelarc, a brilliant cyborg performer in his own right, lays out this potential clearly when he observes that you may have a cluster of human experts on Earth controlling one sophisticated robot elsewhere: the deft and precise control of a surgeon with the knowledge of a software programmer or the acute vision needed in a hostile terrain. So it conjures up very interesting notions of extending human presence, projecting a physical action.

(Stelarc 1993: 38)

One of the best-known examples of an interactive installation that uses telepresence to create
communal action is Ken Goldberg’s *The Telegarden*. As William Mitchell describes it,

> Membership in this community allows you remotely to maneuver a robotic arm via a Web interface, to plant and water seeds, and to monitor all actions and view the state of the garden. This all creates a sense of accountability for one’s actions, and people keep returning because they want to see how their garden is growing and changing. (Mitchell 1999: 126)

*The Telegarden* exemplifies a straightforward example of *group* action, wherein a number of distinct subjects performing individual actions work in concert to pursue a common goal.

The Gertrude Stein Repertory Theatre (GSRT) takes a further step toward producing truly *collaborative* subjectivity in its *Ubu* Project. As of this writing, the production is still under development and has been performed only in fragments in a workshop setting. Performers in far-flung locations, such as New York and Japan, work together in real time to create live performances in both locations simultaneously, with the faces and bodies of actors in one location being projected via video-conferencing on masks and costumes worn by actors in the second location to produce a composite identity. The GSRT draws a parallel between this process, which they call ‘Distance Puppetry’, and Japanese performance traditions such as bunraku and ningyo buri that also employ multiple performers to portray individual characters (The Gertrude Stein Repertory Theatre 2000).

A singularly provocative use of telerobotics to explore collaborative subjectivity is a participatory performance/installation called *Project Paradise*, created by Carnegie Mellon’s Center for Metahuman Exploration (CME) in 1998. This installation consists of three highly polished aluminum chambers, two of which are rectangular and approximately the size of telephone booths, the third, cylindrical and approximately 10 feet in diameter. These three chambers are sometimes placed side-by-side, but in some installations, such as the 1998 SIGGRAPH Art Show where I saw *Project Paradise*, the two rectangular booths are close together and the cylindrical chamber is situated some distance away, out of sight of the smaller booths. The large cylindrical chamber is a performance space. It holds two live actors who play ‘Cyborg Adam’ and ‘Cyborg Eve’ in a cheesy ‘paradise’ environment filled with plastic foliage and surrounded by a cyclorama depicting a perfect blue sky. This chamber has no area for an audience, and indeed from the outside it appears to have no entrance at all. Viewers see the performers only by way of video cameras. The two actors are entirely naked with the exception of an elaborate, precisely machined metal brace strapped to one arm and wrist. The high-tech metal structures covering the naked flesh are an unmistakable trope of technofetishism. But they are more than costumes: they are functional, custom-designed robotic exoskeletons.

Participants interact with *Project Paradise* two at a time, one in each of the two rectangular booths. Each booth contains a touch-tone telephone and a video monitor. The monitor in one booth displays the Cyborg Adam, with Eve’s hand, and sometimes arm, visible from a first-person perspective. The monitor in the second booth displays the Cyborg Eve, with Adam’s hand and arm visible. A ringing telephone entices you into the booth. When you pick up the receiver, you hear a voice declare: ‘Hello and welcome to Project Paradise. Push the
buttons on the touch-tone telephone in order to touch Adam [or Eve]. You may now begin. If you are in the booth displaying Adam in the monitor, you assume control of Eve’s arm, and vice versa. You learn by trial-and-error to use eight keys labeled with arrows to rotate the wrist and to move the arm up and down and side to side. Keys labeled ‘close’ and ‘far’ allow you to move from a close-up to a medium shot. With these controls, you can guide ‘your’ actor’s hand to touch any visible part of the ‘other’ actor’s face and body. Both actors play along, doing their best to translate the mechanical movements of the exoskeleton on their arms into sensual caresses, and responding to the caresses of the other actor with expressions of erotic delight.

According to the artists’ statement, the goal of this interface is to enable the two participants to interact with each other by projecting themselves into a remote ‘paradise’. Participants ‘inhabit’ the bodies of remote human avatars to engage in ‘physical’ interaction. . . . Through the empathy invoked by the human avatars, Project Paradise extends traditional telepresence to engage in sending and receiving human will and emotion.

(The Center for Metahuman Exploration 1998: 54)

This explanation is valid as far as it goes, but it applies just as well to most two-way telematic interactions, including a simple telephone conversation, and does not do justice to the peculiar complexities of the interactions this piece elicits. In order to tease apart the complex interactions between the individual subjects who participate in Project Paradise, we need to consider some of these interactions one by one.

Theatrical Actors
The relationship between the actors portraying Adam and Eve is much like that of any theatrical actors; the actions they perform are understood at some level to be fictional, being doubly authorized by both the artists who enlisted and directed them, and by the real-time guidance provided by the participants controlling the telerobotic exoskeletons. However, the physical intimacy of these actors'
interactions, and their state of undress, inevitably blurs the line between fiction and reality. The eroticism of the encounter highlights the ontological doubleness of any live theatrical event, where by definition real events represent fictional ones. As Bert O. States has wryly observed, in theater ‘An act of sexual congress between two so-called signs will produce a real pregnancy’ (States 1985: 20). At what point can anyone, including the actors themselves, determine when a pretend caress becomes a real one?

Collaborative Agency

The phenomenon of collaborative agency comes into play when we consider the relationship between the actors and the participants who telerobotically direct their movements. This relationship relies on a high degree of identification, though not simply (or even necessarily) the identification that characterizes ‘empathy’. First of all, my visual encounter with the Paradise environment comes entirely from the first-person perspective of the character I control, whose own face and body (aside from the arms) I cannot see. Thus, the camera strongly implicates me as the subject of my character’s actions. But of course, the interactive element of my experience takes this identification to another level. As a participant, I may very well begin my interaction by entering into what Ihde calls an ‘alterity relation’ with the technology. Ihde conceives embodiment, hermeneutic and alterity relations as forming a continuum: the embodiment relation provides the sensation that I am perceiving the world directly; the hermeneutic relation draws my attention to the technology as something that I need to interpret to obtain information about the world; and the alterity relation positions the technology itself as the ‘world’ or ‘other’, the object of my interest, the focus of my investigation (Ihde 1990: 97–108). As I learn how to use the touchtone buttons to move the arms up and down and back and forth, I will very likely start by sending entirely arbitrary commands just to confirm that

\*Project Paradiso*, 1990. Initial booths for participants with characer for actors in background. Courtesy of Center for Metahuman Exploration

the technology works. I may investigate the range of movements the robotics allows, curious, for example, as to whether the installation grants me access to certain taboo anatomical features (it doesn’t, but just barely). But as I gain facility with the interface, which, since the interface is extremely simple, does not take long, I may pass through the alterity relation into a hermeneutic relation and finally approach — though never, as I argue below, quite achieve — an embodiment relationship with the telerobotic technology. If I permit myself to play along, I will begin to experience my actions as caresses rather than as mere mechanical movements. My ability to control the robotic exoskeleton does not in itself give rise to collaborative subjectivity. On the contrary, telerobotic control itself merely extends my own subjectivity. The distinguishing feature of Project Paradise’s telerobotic design is the integral role played by the live actors, who must actively embellish my crude directions to produce their erotic encounter. My guidance functions as a kind of script, and as such requires the actor’s creative ‘filling in’. Hence, my role is a combination of puppeteer and author/director. The actions performed by the cyborg body I ‘control’ are neither fully mine nor the actor’s. My identification with the actor’s actions can never be complete, and it is precisely this element of ineluctable alterity that gives rise to collaborative subjectivity. The telerobotic technology does not merely transform an individual human being, either the participant or actor, into a cyborg; it is a conduit that links the participant’s subjectivity to the actor’s.

Even my role as ‘author’ is inherently collaborative. There is another agency that comes into play at this point: that of the artists and engineers who conceived of Project Paradise and designed its hardware and software. Their choices define the basic ground rules for my choices both conceptually — they defined the Edenic setting and the eroticism of the interaction — and technically — they have rigorously circumscribed my choice of actions through the technical design.

In particular, the use of the telephone has a profound impact on the participant’s relation to the piece. As an overdetermined symbol, the telephone interface adds a layer of irony that distances the participant from the world of the performance: first through its playful allusion to phone sex, and second through its literal reference to the phenomenon of telepresence, recalling Jaron Lanier’s description of VR as the ‘future of the telephone’ (Leeson 1996: 49), not to mention AT&T’s invitation to use the telephone to ‘reach out and touch someone’. Even more significant than its symbolic function, however, is the telephone’s pragmatic role in determining the participants’ relationship to the actors. The telephone helps maintain a crucial balance between the participant’s sense of embodiment and alterity. The crudeness of the telephone interface, with its rigorously limited vocabulary of ten keys, gives the actors an enormous amount of leeway. This deliberately coarse, comically low-tech interface produces a kind of Brechtian Verfremdungseffekt that distances the participant from the technology and militates against the Method-like transparency that much cyborg and telerobotic theory celebrates.

Subject Position
Yet another intriguing relationship develops between the participant who controls Eve and the actor who plays Adam, and vice versa. These relationships push the phenomenon of the spectator’s gaze to the edge of parody. The exteriors of the two control booths are identical; participants enter the booth without knowing whether they will adopt the perspective of Eve or of Adam, unless a previous participant has forewarned them. (Indeed, they do not know they will adopt any perspective at all, or anything else about what awaits them inside.) Project Paradise’s arbitrary assignment of the participant’s subject position is delightfully subversive. Homophobic participants (and perhaps heterophobic ones as well) sometimes make a hasty exit when they find that they are being asked to assume the ‘wrong’ subject position and enter into an erotic encounter with someone of the ‘wrong’ sex (Saltz 1999: 38–9). Complicating
my relation to the object of my gaze is my awareness that 'I' (not the 'real I', but the collaborative one embodied in a form that I cannot even see) am the object of the actor's gaze. And that relationship is further complicated by my awareness that the other actor is being guided by an invisible participant just like myself – whose sexual identity may or may not align with the actor whose body she or he controls.

At first blush, the heterosexual pairing of Adam and Eve in Project Paradise seems to reinforce an ideology of compulsive heterosexuality. The multi-layered questions of identity that the piece raises, however, constitute a radical challenge to the very notion of a fixed sexual identity. When a lesbian participant caresses Eve using Adam’s hands, is the encounter a ‘lesbian’ or ‘straight’ one? Does the situation change if the participant controlling Eve’s exoskeleton and gazing at ‘you’ is male? What if you initially think the other participant is a woman, but later discover it was actually a man? The performance of gender within the Project Paradise environment goes well beyond drag; indeed, it is strikingly similar to the metaphysical high jinks depicted in Spike Jonze’s (1999) film Being John Malkovich, when Lotte Schwartz (Cameron Diaz) enters John Malkovich’s body in order to make love to Maxine (Catherine Keener).6

Identity in Question

This last complication brings us to the final relationship I will consider: the one between the two participants, the Eve controller and the Adam controller. The ambiguous status of this relationship becomes most clear if, after I exit my booth, I encounter the participant with whom I just interacted. Have I just shared a physical encounter with this person, whose body I never touched and indeed whom I may never even have set eyes on until this moment? We are conditioned to expect unequivocal answers to such questions. We operate socially, ethically, and legally on the basis of a deep presumption about personal identity: subjects are embodied. Each subject gets its own body, and each body gets its own subject. The depth of this presumption fuels our fascination with exotic stories of multiple personalities and alien or spiritual possession, the subject of countless comic books, films and television episodes. Much of Project Paradise’s power derives from the simple, elegant, concrete way that it forces us to abandon our one-to-one assignment of subjects to bodies, without recourse to psychosis, magic, or science fiction.

I would like to suggest that Project Paradise as a system gives rise to a pair of virtual agents, Adam and Eve, who perform a set of actions above and beyond those of any of the individual agents involved. Just as virtual space, such as the virtual sofa where participants meet in Sermon’s Telematic Vision, has no fixed location in the ‘real’ world, collaborative subjects, such as the virtual agents of Project Paradise, have no fixed real-world identity. These virtual agents enter into a series of physical encounters between real bodies (supplied by the actors) in real space and real time. What makes these agents ‘virtual’ is that they perform actions governed by an intentionality that goes beyond that of any individual human being. The actions are the collective result of contributions from audience/
participants, artists, engineers and the actors themselves.

This collective kind of virtual subjectivity is quite distinct from the virtual subjects described by theorists such as Sherry Turkle, who investigates the fictional personae created by people in anonymous corners of cyberspace such as MOO environments (Turkle 1995). It is also distinct from the virtual subjects that theorists such as Donna Haraway, Kathleen Hayles and Aluquère Stone describe, the fluid cyborg subjects that result from the fusion of a flesh-and-blood person with technology. Both of those kinds of virtual subjects are variations on or modifications of pre-existing individuals. The virtual subjects of Project Paradise, by contrast, are irreducibly collaborative.

THE UBIQUITY OF THE COLLABORATIVE SUBJECT

Are collaborative subjects an unprecedented product of telerobotic technology? Note, for the sake of comparison, that the notion of the ‘cyborg’ has gained currency in cultural theory, not because it represents a radically new phenomenon, but on the contrary because it provides a powerful metaphor for reconceptualizing our relation to our own bodies and challenging purported biological imperatives. The science fiction fantasy of the cyborg is important precisely because it directs our attention to a possibility that had passed beneath our cognitive radar: that we are all cyborgs already. The uncanny image of machine and flesh merging into a single organism provokes us to see quotient objects such as eyeglasses and automobiles in a new light, not merely as our tools or possessions, but as cyborg extensions of ourselves. Does the concept of the collaborative subject have a similarly expansive scope?

Consider the common case of a TV newscaster, say Diane Sawyer, responding to a prompter whom she hears through an earphone invisible to the audience. In the middle of an interview with George W. Bush, Sawyer suddenly announces, ‘we need to cut live now to Texas, where 100 executed prisoners have just risen from the dead and are setting fire to the state capital’. Whose action is Sawyer performing? The basic structure of this event is almost identical to that of Project Paradise. Diane Sawyer lends her body and voice to the act (in this case speech acts) of a telepresent prompter. The agent of this act is a virtual ‘Diane Sawyer’ created collaboratively by the prompter and the ‘real’ Diane Sawyer. We would not say, without qualification, that ‘the prompter cut off George W. Bush’. At the same time, if it turns out that the news report is a prank, we would not hold Diane Sawyer personally responsible for it.

Another example is a movie actor whose voice has been dubbed by a second actor, creating a virtual character comprised of aspects of two actors. Indeed, the dubbing is not really necessary for us to ascribe collaborative agency to a film actor’s performance; all the characters we see on screen are collaborative subjects to the extent that the photographic index of a once-live performer is manipulated through editing – not to mention costume, lighting, and text – to perform actions of which the original actor may not even be aware.

Indeed, cinematic technology is not required to
bring about this phenomenon; a similar dynamic of collaborative subjectivity underlies live theatrical performance as well. Actors are not ‘free’ agents. In conventional western theater, both playwrights and directors share collaborative agency with the actor for the acts performed on stage, acts further circumscribed by the scenic design, costumes, and conventions of theater itself. Indeed, the same situation obtains in many off-stage, extra-theatrical contexts, such as when an employee fulfills the dictates of an employer, or when two parents decide to maintain a united front when interacting with a child. Once we allow examples such as these, we open the floodgates to countless others. Initially I was interested in the phenomenon of telerobotic art, and in particular in Project Paradise, because it seems to embody a startlingly new conception of subjectivity. The more I endeavor to pinpoint what is unique about this phenomenon, however, the more parallels emerge with more common phenomena, until now what I find most interesting is the way telerobotic performances highlight and amplify the complex dynamics of collaborative subjectivity in a wide range of performative practices. Indeed, I am now inclined to wonder whether, far from being a unique property of telerobotic art, some degree of collaborative subjectivity is an inherent property of virtually all performance, and perhaps of subjectivity in general. Certainly, such questions are apt to become increasingly salient as telepresence and telerobotics become more prevalent in our daily lives.

2 Ihde also defines a third relation toward technology, the ‘altermity’ relation, which I consider later in this essay. Ihde’s conception of the embodiment relation is indebted to Merleau-Ponty’s analysis of the way artifacts extend bodily experience (Merleau-Ponty 1962: 143).

3 The CME website contains extensive information about the group’s projects (Centre for Metahuman Exploration 2000).

4 Laura Frost offers a useful overview of technofetishism as a trope in popular culture (1999).

5 Allanquère Stone cogently analyzes conventional phone sex in terms of information flow, describing the way phone sex workers she researched ‘took an extremely complex, highly detailed set of behaviors, translated them into a single sense modality, then further boiled them down to a series of highly compressed tokens. They then squirted those tokens down a voice-grade phone line’ (7).

Notice that Project Paradise, notwithstanding its use of telephones, exhibits an altogether different kind of information flow. First of all, while conventional phone sex is symmetrical, with all visual and tactile information in both directions being translated into auditory data, the information flow in Project Paradise is asymmetrical. The information flowing from the participant to the actor is kinetic; the participant’s touch of the keyboard is translated into a digital message and then translated again into robotic movements of the exoskeleton. The information from the actor to the participant, by contrast, is purely visual. Significantly, the telephone interface in Project Paradise relies precisely on two modalities that conventional phone sex translates into language: touch and vision.

6 The desire to perform alternative gender identities is a cultural phenomenon of growing interest to scholars in a number of disciplines, as evinced, for example, by the recent collection of essays Virtual Genders (O’Farrell and Vallone 1999).

REFERENCES


Sermon, Paul (2000) [http://www.hgb-leipzig.de/~sermon/vision/]


