[Biography] Margaret Morse, media theorist and art critic, has written on a multitude of topics revolving around New Media and cultural subjects. In 1977, she earned a doctorate in German literature and the philosophy of culture at UC Berkeley, where she was also involved in a seminar on film theory. This seminar proved to be influential in her career-long interest in media, both electronic and digital, which she has been writing about since the eighties. Morse analyzes the media and how it is situated within our culture, examining the potentiality as well as the limitations of engaging technology and the practices that surround it. Interactivity between humans, machines, and images is the primary focus of her research, though Morse has also written on film history and theory, as well as the documentary and science fiction. Morse co-authored *Hardware*, *Software*, *Artware* (1997), and in 1998, she published her second book, *Virtualities: Television, Media Art and Cyberculture*. She has authored numerous essays on a range of topics including virtuality, aerobics, on-line gaming, artificial intelligence, gender and technology, television, the news, and war. Currently Morse is a Professor of Film and Video at the University of California at Santa Cruz and her most recent research is based on smell, as it relates to culture, identity and cyberspace.

Margaret Morse: I am very touched and am honored to be here. I really appreciate the CADRE institute and the way it's structured and the work that comes out of it. I'm hoping I'll get a chance to learn more about your work. I want to know when you have your exhibitions so I can come and look. I'm not going to be doing as formal a talk or a pitch as Peter Lunenfeld. In fact, I wasn't even sure how long I was supposed to talk or much about your format so I came prepared with various subjects. I will begin by talking through the questions that were posed. Then I'm going to go on, if I haven't already addressed them, to issues of interface, interactivity and immersion and go through some visuals I have that are unfortunately a bit older. I have not put together any compilations of visuals for a while since my camera has been broken, along with my computer.

Your wonderful list of guiding questions first ask about something that was quoted from *Virtualities* in a section on cyberspace and travel where I was actually talking about a piece by Michael Naimark. (see www.banffcentre.ca)

It had an interface that simulated a stereoscopic kinetoscope. It even recreated the kind of flash you get between frames in undercranked movies. Naimark's visuals were travelogue segments that dealt with various types of experimentation with movement in image space and a flicker effect that lent a sense of the uncanny and unreality to virtual travel. The question you asked was about my statement: "The social practice of travel is driven by romantic desire for transformative, symbolic experience in another place, preferably a paradise from which one could return renewed." I tend to look for the utopian aspects of things that make people want to do things, no matter how awful they are in actuality. The effort of traveling through material space can be pretty grueling. But we have this idea, that by traversing space, that we will come into contact with another realm and that we will thereby actually transform ourselves. Travel in virtual space is often a reiteration of this kind of navigation, driven by a desire to travel to enter another world, often one that we couldn't get inside any other way.

Now the question was, "Do you see any parallel desires or relationships in playing computer games. "Well, I'm a wannabe person about computer games. I don't really know them as well as I could, so you might be able to correct my answer. But this is what I think after having worked with my students and their computer game projects. I think computer games are somewhat different in their motivations than travel to a utopian world or paradise. I see the computer games as being a paraspace, which means another space where you learn skills, where you practice, where you start assembling your identity, where you try on different identities, where you gradually pass through levels. The metaphor of levels is almost universal. I don't think it's quite this paradise world. Instead, it's a world of dissatisfaction or imperfection that has to be remedied or improved. My students like games depending on how long it takes to wear them out. The more difficult, the more frustrating a game is, the more likely it will be to be the kind of game a student might like, or actually anybody might like. There might be different kinds of roles that otherness plays. It might be like in film The Matrix when they go to practice before they go out into the real Matrix. They have a paraspace where they gather their equipment and where they learn their skills. I think of gaming as operating with a different kind of desire. I don't know…you gamers correct me. I was so impressed, because the question implied that you had all read *Virtualities.* I couldn't believe it.

Joel Slayton: Everyone read something in *Virtualities*.

Margaret Morse: Because I think *Virtualities* has some pretty tough stuff. But oddly enough, the toughest section and most boring section has been the most help for me in my own thinking on computer games.

In fact, it's a section, in the first chapter when I try to introduce the concept of interactivity and inter-subjectivity, and so on. That I think has turned out to be, oddly enough, not only helpful to me, but to a dissertation in Australia that I read as an outside reader. It had a section on computer gaming and it used my discussion of interactivity and modes of address as a kind of tool. And then I went to a gaming conference in Maastricht and oddly enough, the same thing happened. I think the only reason this happened is not because I was so brilliant but because so few people have written on interactivity.

In fact, someone like Lev Manovich has really jettisoned the idea of interactivity in his own writing on the language of new media. I asked him why he'd done that. And he said, "Well, I regret it now." He said it was ubiquitous, so ubiquitous that you didn't have to deal with it. I think precisely, that's why you have to deal with it. It may be everywhere, but it is not same everywhere. Interactivity is a massive term and its covers so many different phenomena. However, its universality tells you that it's absolutely critical to the very idea of working with a computer and in some way with new media. I link this in my first chapter to the very notion of discourse. I try to explain what virtuality is. I open up right away by saying that with the advent of information, ideas and knowledge are commodified by stripping them so that they can fit in anywhere. That is why you can take information and pass it from one context to another. But in every case, once you've accessed information, you have to re-contextualize it. That to me is the heart of what virtuality is. It's a re-contextualization of subject, space and time, which are missing from this kind of commodified data that is passed around like money. Information, when it becomes an exchange medium is extracted from its situatedness in subjectivity and time and space, that then have to be re-created in some way. Thus worlds are created. This is one aspect of virtuality. I'm sure there are other ways of explaining it and other aspects, but that's the way I think of it. And then I tie it to this notion of feedback that I think is absolutely critical. And I connect feedback to the responsiveness of conversation as discourse. Discourse is that aspect of language that is about the here and now, about I and you.

I think because I come from a background of being a German scholar and having studied linguistics as well as early film theory, early in the sense of Christian Metz. I tie discourse back to linguist and theorist named Emile Benveniste. The very notion of I and you is so fascinating because it's a shifter. Anyone of us can be an I or a you depending on the context and we exchange these tokens between us—I am I to me and you are I to you. Thus anything that is situated as "I," the speaker can be a subject of language, including writing machines and artificial intelligences. Most people think that interactivity is something different than face-to-face conversation. However, I try to show in my introduction to Virtualities how subjects in face-to-face

discourse are no less simulations than subjects in virtual conversation online. Even "reality itself" and paramount reality is already a kind of fiction. It is a different fiction than say a movie or a novel, and it is dangerous because it can have material effects—but it is no less a fiction.

So, for example, even when we speak face-to-face there is an "interface." There is a gap between "I" and "you" in language and our speaking bodies and the sounds we emit. When I speak to you, and I feel that I have been understood, that is simply, in a way, already a kind of fiction. For Benveniste, this I and you situation was like a paradise, it was like a total and complete relationship. It was reality itself for him. But for someone like Derrida, when you speak or write, far from being present to yourself, you are alienated from yourself. All your words separate from you and you can't control what will happen or how they will be understood. Anyone can do anything they want with them. You cannot really be sure that you've ever been really understood. In a way, it's a kind of fiction effect. You can go on for a whole lifetime thinking you've been understood and never were and never could entirely be. There is nothing, no kind of exchange between any kind of otherness that doesn't include an interface. Everything has an interface, including face-to-face conversation. What does the very word interface suggest? It suggests this corporeality, this face that is speaking to another face and the space-in-between them. Everything has an interface, unless it isn't communicating at all, which seems unlikely. So, the topic is truly vast.

To return to games, I think they are inadequately theorized for many reasons. First of all, very young people play them and they seldom generate advanced scholarly writing. Rather, they write in a context like fan-ship that may not be analytic or critical. What I've seen and what I've heard from my students is that there are at least two things going on at once in computer gaming. The satisfaction of games has not only to do with the narrative, going through various levels, learning skills, and whatever contents. There is also the situation of playing the game, often in concert with other people. That, in a way, reminds me, in a way, of playing games when I was a kid—I seldom did it alone. It was like playing cards for the adults. I used to hide under my parents' card table when they had people over playing bridge. I would just sort of hide under there and listen to them talk. The bridge was intense occupation. It also brought this kind of interaction at a physical and verbal level that was incredibly important.

I mentioned at dinner that one of my students has three PC bangs in LA. That means fifty young guys playing with each other or other people or bots elsewhere via avatars. It's not just what is going on in the game that is important, it's also what's going on in the space of playing, be it a physical

PC bang or a chat space online where players can discuss the game play (rather than play the game).   I've heard from at least two other game researchers, that whenever the game falters…for example, if it were a very bad game or if there is a "cut piece" or a set segment of exposition or backstory, people or in this case, little kids would then turn their attention to the realm of the players and exchange personal information and develop incredible virtual friendships.

I would say then from this notion of the pc bang, also, that whenever you had the narrative pieces, the set pieces, the little bits of cinematic elements where you don't have interactivity, that was the cue for people to physically or virtually interact in play space. So I think it's a complex world of interaction. It multi-leveled, and the interface of the game allows this other world of discourse to organize itself around it. I think it's a very interesting and deep topic, that I want to learn more about. However, I have a feeling that my generation and my gender will mean that I will have depend on surrogates that will help me understand what is going on, so that I can even think about it and appreciate it and understand what my students are doing and saying. I am the stranger in a new world in which my students are relatively at home.

I heard an interesting paper also on corporate research that in a corporation in England where the theorist was doing her work. She discovered that internal models of the corporation were organized around games. They talked about levels. They were mostly men, they talked about and understood things in "levels" and they mostly had a history of gaming. Thus their idea of how to run a corporation and how to create relationships was based on gaming, and used gaming metaphors and language. I can't tell you how important gaming is. I don't need to and I'm sure you realize. I think it is an area where I want to be, but it will be as a complete outsider and whatever I will have to offer will be from that position.

I'll go on to question two. On page 203, in Virtualities, about the landscape, I write, "The viewer is implicated in the space of the virtual image, not only through stereoscopic perspective and as a voyeur or nature junkie, peeping through the postcards of the Canadian Rockies, but also as a surrogate traveler in the image." And the question is, "How is this different from daydreaming?" That's interesting. "How is navigation through virtual landscapes different from daydreaming?" I think it is a very interesting question. I've actually given this some thought, in another context. My thought is that, of course, a daydream is different in that it is YOUR daydream and anything that is a prepared virtual environment is somebody else's creation. So when you're daydreaming, you're in free reverie. If you were in a virtual landscape this would be more a guided reverie. Reverie is

at a different level than being a dreamer. It's daydreaming. Very often, if you're daydreaming, you're fiddling with something or you have some kind rhythmic motion, or you have something that goes along with it. You can find yourself going into reverie even when you're at the computer, typing away. In reverie you're aware that there's a page there that you're reading-- you're not as sucked into another world. So daydreaming is kind the double state of being aware of the screen world and of the viewing world at a movie except that the fiction-effect of movie watching is more inert and less awake. That strikes me as an answer to the question about whether immersion and interactivity can be combined productively. The answer in my mind, is absolutely yes. I think it is possible to have a kind of interactivity that invokes reverie and that you're fully aware that you are interacting as part of a symbolic world, which feeds that kind of dreamlike, immersion in a landscape. So I don't know if I answered the question but I think that daydreaming and interacting are both involved in fiction. There are different degrees of awareness of the "play world" and the "game world.

Now question three; have you found your game? Did I talk with you about how I was really interested in games?

Cindy Ahuna: Just briefly in your email.

Margaret Morse: The fact is that I haven't found my game. When I was working on the "Matrix" to write something on it, it struck me that the "Matrix" was basically about gaming. It is wonderful in evoking the situation of contemporary workers. The hero "Neo" is a hero but he is basically a hero lying down or actually totally inert and connected with his brain stem to the matrix. This whole idea of action, of being a hero, only through your surrogate and your avatar, strikes me a something that is very contemporaneous. While he is in his pod completely, serving the machine world with electricity, he reminds me of Case in *Neuromancer* who is in his pod while he goes into this imaginary world created by the computer. It reminds me of the situation of the gamer, who is busy typing away or using a joystick and so on and at the same time, participating in a world of action and surrogate heroism. I would think that changes the very notion of what the action is or heroism in a way that hasn't be the object of much reflection.

A text I was deeply intrigued by, and it is kind a key text for me, is *Neuromancer*. I think the "Matrix" has many differences with *Neuromancer*, but it strikes me as having more in common with my own life. I don't know about you all because you are so young, but when you play and work like this, and when you work at machines for decades, your health begins to suffer. You have to actually work very hard to keep your health up. You have

to develop timeouts to get out and exercise your body. It is a way of life and it is very difficult. The scene where Neo is actually brought back to life through all of those prods and needles in him, so that he could redevelop his muscles, reminded me of going to the chiropractor after being at my computer too long. It think we live in a world that is really hard to negotiate. It is really hard to develop a balanced life.

What you mentioned Peter Lunenfeld was doing with his books, reminds me of my own mood lately. My own mood is that I am drawn away from things that are completely related to media and computers. However, I don't have to look at the computer, move cursors, use my mouse, and all that sort of thing, in order to actually be dealing with a world that is completely mediated.

There are couples of pieces that I liked at the ISEA in Nagoya, where I was in recently. One of them was a piece, actually had been in the bay area at the Headlands for the Arts. Kaori Motomiya had wired lemons together into a network in which they would generate current that would operate little noise making apparatuses. Her piece is called *California Lemon Sings.* So, I thought, wow. Of course, the natural world can do these things. We don't need to plug into a socket. And it reminded me at another level, of a piece by Catherine Richard, who is a Canadian artist, about electromagnetic waves. She built a Faraday cage, which [we are told] diverted electromagnetic energy away from it. It was a reminder that we are always plugged in. Inside the cage you are possibly in the only place you might ever be that would be free of being penetrated by electromagnetic waves on a constant basis—or at least you can imagine you are free.

The entire world is completely wired. I like things like that because I am so tired of sitting at GUIs and working that way. I just can't bear it. Lev Manovich called the GUI the greatest artwork of second half of the twentieth century. I don't think of it is as an artwork. I think of it as genius, but not as an artwork. To me, an artist would be actually taking us away from this and developing other potential interfaces. For example, installation artists that use television screens and other media are creating other kinds of apparatus relationships to spectators and users. Rather than having a television model of looking at something, installation art and interactive work, closed circuit work and open networks are actually develop totally different relationships to screens and bodies. So I am looking for embodied relationships to screens. How may of you have worked with close circuit?

Margaret Morse: It's when you are using live video to in the mode of the early days of video art, when the very first time people got their video cameras. They were oddly fascinated with being able to see their own

images at the same time as they were shooting, because it changes the nature of television completely. And in fact, what it does in many ways is demystify the television because it sets up an entirely different kind of spatial relationship. It would be almost impossible to actually have a one to one relationship with your own image in a closed circuit. You would have a temptation to try to see yourself in a mirror relation, but you would never really achieve it. The closed circuit work is to a large extent about removing your image from your body, shifting it, multiplying it, and making you to lose it. Peter Campus is one of my very favorite artists and the work he did in that period included a lot of very interesting closed circuit work that teased you with your own image, but then would withdraw it. For example, you came to a threshold of a room that had a little bit of a corridor in it, and you could detect that there is an image down there and you actually would realize that it was you. But it is so skewed, so asymmetrical and anamorphic, so non-head on, and so out of scale it was a very distorted you. Further more, the more near you would try to get to it, the less you could see and the more you would lose yourself. By the way, there was a lot of closed circuit work in Nagoya. But it's closed circuit work in the context with computers, so it's a little bit different. And lot of those pieces did not achieve saying something new by using the visitor's image, I think, but a few pieces did. One of my favorite pieces at the Nagoya show is closed circuit. In Yoshiyuki Shirakawa's *Safe Torturing Series –9 yo*u went into a photo booth, it captured your image, and then your image was projected in a context where it had sort of a blood-like liquid electronically poured over it. You also saw your image projected into a blender with tiny styrofoam balls floating on top, whirled up and mangled into indecipherability. So in essence, your *image* would be tortured. As the name suggests, this artist had worked on various images of torture for quite a while. It struck me, of course, that this relationship to our own proper image isn't trivial. it is our *identity* to which we are emotionally attached. It was actually fairly moving to have the feeling of your image being tortured. And interestingly enough, I think the piece was more effective in conveying a feeling of torture--my own--than another piece that was more of a thought experiment about torture, but torture I as visitor would commit on other virtual beings somewhere else. In Margaret Tan's *Virtual Bodies in Reality*, a male and a female body image recreated from visible human project were already bruised. You must choose the male or the female body and you also choose to "heal" or "kill" by clicking. Click. So, I chose to heal and the female body and I clicked on a body part. Then I noticed that my interaction was listed with other screen names on a sidebar with long list. After my screen name, I read "healing not successful." Down the list I read "killing successful," "killing successful." It definitely made me think about touch and interaction itself as healing or killing. But then, I sort let it go, since it somehow remained in a virtual sphere. It let me reflect on my own emotional detachment from these

virtual beings, a disturbing effect, But whatever my choice and good intentions, I was ineffectual. I didn't know why I couldn't heal or why my predecessors were so much more successful at killing. In the context of an exhibition, I all too quickly reached an impasse. Margaret Tan's work was not a closed circuit work but the other torture piece was. Again, I think that closed-circuit is kind a pre-computer activity, that allows interaction with your own image and its loss. I wrote at length about this in a piece for *Wide Angle.*

I don't know if this is working for you, this going through the question thing. It is scattered. You let me know if you can't take it anymore. I've been asking questions of you. I am open to additional questions.

Joel Slayton: One comment first. When I first I began to work with computers in 1976, we were working with frame buffers, that was a closed circuit technology basically creating camera scanning pointing at yourself or something. And I would argue that that was the catalyst for the development of software design that had to do with manipulating the image. It gave rise to small but discrete little applications of interaction for transforming that image to move it away from its discrete relationship with you outside of the camera and object out side of camera. So I think it is an interesting point.

Margaret Morse: Have you ever written on this or have you ever read anything written on this?

Joel Slayton: I haven't.

Margaret Morse: I think you should write up a little thing on that, in my opinion.

Joel Slayton: One of the things that I wanted to come up to and that was really interesting was this... Can you imagine a piece of software that has its own double state? A piece of software that is its own daydreaming, a piece of software that is in an essence of its own interface.

Margaret Morse: A very narcissistic piece of software!

Joel Slayton: But that changes this relationship of all models being fiction. Because to software, the idea of fiction/non-fiction might be kind of irrelevant, not a consideration, not the quite of the scheme of how to think about it. I am quite interested in that possibility...where the software, has its own language, its own reality, separate from ours. What do you think about that?

Margaret Morse: It is an intriguing idea. First of all, you may be assuming that subjectivity depends on being human. I don't think it does. I think it is anything occupies this I-you relation. Despite the fact, that machines and machine logic are not everyday things, they do represent aspects of what it means to be human. So I don't make a huge divide that many people would make. I think all of these things that are avatars, all of the things that are software, as representing, and not really completely belonging to a machine world, as having a human aspect to them, and being sort of further developments of an impetus that was originally human. So, to me, they can probably have deep structures that are inescapably human and have to do with our rootedness in gravity, have to do with deep metaphors of embodiment, of up and down, all of these things. Furthermore, they represent in many ways a desire for transcendence, a desire to escape the human state. So, I am not sure that's where you wanted to go with it, and I am trying to imagine what this software would be doing, but in so far as it is emulating a kind of self-absorbed, narcissistic dream state...hello, human. Where were you going to go with it, Joel?

Joel Slayton: I was thinking about removing from the equation, the human strategies of design and trying to think about the possibilities of software that combine in interesting ways or transpose themselves in interesting ways, to sort of immerge a reality in the software itself that is not easily talked about in terms of it being a model of human notions of narrative, fiction/nonfiction, or even what is real and not real. It is hard for me to imagine that is too, but I do like to imagine it to think about those possibilities, because that is a different kind of software.

Margaret Morse: But doesn't it have the same implications of any automaton, anything you've given some sort of impetus that will develop its own program and may actually go in directions that you hadn't anticipated. Isn't the joy of it, actually seen something you hadn't anticipated...where you have actually created a kind of child, an other, that is somehow like a child, developing in directions that you could never have foreseen?

Glen Sparer: So, aren't we already in a feedback loop with computers?

Margaret Morse: Absolutely. I think so, but what would you be thinking of?

Glen Sparer: I was thinking something like what Joel mentioned. I was thinking of feedback loop, human and computer where at some point, you can't tell who actually initiates the action. It becomes this kind of, at a mental level, it become self-originated between the two components, human and computer. In a way, I think this is already happening in the society.

Human began to become something like automaton, psychologically. And, also the machine becomes more human like.

Margaret Morse: Right.

Glen Sparer: I think that what is very attractive about the whole idea of discourse, dealing with humans and computers. So, I think this feedback thing that Joel was talking about is already occurring. I think Joel is talking more about some specific kind of operational system.

Margaret Morse: I see. I am sure you are talking about something I would love to see, but could never make myself. By the way, what you've just said reminds me of something I wrote in the *Poetics of Interactivity*, something that is in press, on women and new media. I try to discuss what interactivity is and in the process, I talk about the interface. So, in the section on "inter," I will skip the most of it but read a couple of sections that evoke what you just said and what we were talking about. "Inter" from the Latin meaning "among"; suggests a linking or meshing function that connects separate entities. Like "intra," a prefix for connections or links within the same entity, "inter" joins what is other or different together. "The liaison between mind, body, and machine, between the physical world and the other virtual scene, requires a translator or interface, most often a hardware devices," (...and I go on about potential, different kinds of a hardware devices...) "One interacts by touching, moving, speaking, gesturing, or other corporeal means of producing a sign that can be read and transformed into input by a computer." And I go on to talk about various aspects of this, and then this is the section that reminded me of what just we were talking about.

"However, the computer cannot to be reduced to a medium of communication between human subjects. Its very capacity to give feedback and the immediacy of its response lends what is computational tool, the quality of person. This responsiveness allows it and the virtual entities that it displays to pose or function as subjects, however, quasi, partial, imaginary and virtual, involved in the interactive exchange. The degree of influence and control of the interacter varies by design from an immediate one to one response to greater the complexities delays and computations. Interactivity may be even initiating a process that grows out of the users control into the relative autonomy of agents and artificial life. From the beeps and clicks that acknowledge our touch, to its capacity to mirror the user like a second self, the computer can also function like an exteriorized mind. The interface is then, a very special mirror, that not only reflects, but acts on and generates the symbols that we virtually encounter, enter or process." So, this suggests that various qualities of liveness, all of these things suggest that our

relationship through the interface with a computer is a very complex one that does precisely that you were talking about. It mixes these things.

Glen Sparer: How do you think it's going to start evolving more and more in that kind of direction? It seems like things are moving to that way. What do you see as a possible future something like that, this relationship?

Margaret Morse: Since I have no connection to corporate world, I don't know what the corporate world is doing. I only go by the art I've seen. To me, I always love the pieces that are really related more to ubiquitous computing and to the idea of interactivity that is embedded in various ways in the world. To me, that is the thing I find the most thought provoking and exciting.

Glen Sparer: What do you mean embedded in the world?

Margaret Morse: The computing example that has been around for more than a decade would be with this desk, the real desk, that you interact with your computer by actually manipulating the objects on the real desk. But almost all kind of sensors and surveillance aspects of the world are related to these kinds of computational objects embedded in the world. So that any kind of smart house, anything that responds to our movement, and anything with which we "interact in the world " would be part of this. I feel that more and more we will be working at our computers, and getting more and more ill and more and more locked down like prisoners, in a way. So that's another possibility. It is the one I welcome the least.

Joel Slayton: There are two very classic ways to thinking about nature of human computer interface. In one model, the position of the individual is essential...outside the box, through the interface, to the content of the distribution of information in the network, but it places of the individual in a primary capacity. And another model de-emphasis the individual completely and realizes that in a highly distributed ubiquities framework the action is taking place at any particular node in that network, in this machine or any other machine plays a very minuscule role in the significance of the ubiquity of the system. You look at the dynamics of the design of the human-computer interface from that perspective. I think that those two are very important ways of posturing how we think about the production of cultural product within those contexts, and specifically as an artist, where you position yourself.

Margaret Morse: I think someone like Lue Courchesne has taken a middle road in that. It is kind of interesting because he posits personalities that are completely fictitious with which you interact. But you quickly learn that you

don't matter as much to these personalities as they do to each other. You have to work your way through obstacles or tests and ingratiate yourself into the world of avatars and personas. You have to learn what their rules are, with their set of relationships, what they are asked, and what kind of politesse, what sort of things you need to get in. It humanizes the situation of not been central anymore. I think that closed circuit work does it too, that makes you no longer have that mirror relationship that was deeply related to the mirror stage and the idea of mirror as a kind of identity tool.

Joel Slayton: I think this relates back to your first notion that you talked about tonight which was sustaining levels of dissatisfaction. And if you think about nature of the design of search engines and browsers, one might have to take into consideration that their designs, as cultural products, rely on sustaining levels of dissatisfaction, of being decentralized within the network, of not being important, not being the center of that process. What is really important isn't that you are searching, not that you are searching for anything, or in fact you get anything. What is significant is that search is taking place by a large community of searchers. When one asks, "What is interesting about searching for something?" it makes no sense in this new world of computing to look at the individual at all. It makes the most sense to look at the search as it relates to large communities of action that are taking place. I think it is something to do with why the design of such things is what they are, because sustaining levels of dissatisfaction in a search is a requirement in the design. If you actually got you were looking for, that would be a bad thing.

Margaret Morse: In the search, you are using that in a metaphoric way, not as like using a search engine?

Joel Slayton: I think even using a search engine; I would argue that if you actually got what you are looking for, you wouldn't want it.

Margaret Morse: I actually love to use a search engine that isn't so carefully designed that it actually gives you a right answer because then you find that what you are dealing with is language and unintended metaphorical relationships that can be incredibly revealing. And I've actually based some of my research on things that I've found collated together by using certain search engines. So I would have insights about relationships that I hadn't even intended to have. I think you are absolutely right. This all fits in to the way that the computer raises into a much larger feature of our consciousness, the whole idea of collectivity and the dream. The fear of collectivity was the cold war nightmare that I grew up in. And the dream of collectivity is often linked with the utopian aspects of the computer, this idea of transcending itself.

And there is something ecstatic about sinking into a collectivity, about losing yourself and realizing "Hey, I don't matter." You find that this larger entity is partly human and partly machine —I am thinking of online games that are massively interactive, for example, that include thousands of people. Sinking into that world has an incredibly ecstatic aspect to it because of this. The same feeling is also an engine that drives a lot of the activism against the corporate world. On one hand, the corporate world is deeply related to these massive collective forums. On the other hand, it is a world that is rapacious and self-centered, devouring the earth in a different way than the anti-corporate entities. So what we find is a deep awareness of collectivities and a treasuring of them and also a struggle against certain aspects of the corporate world that are also collective forms. It is fascinating. I think this desire for, this feeling of ecstasy of losing oneself, it is like being in love, it is like dying, it is like a lot of things where you actually fall, it is an immersion in many ways. What is immersion but the crowd, the collective, and sinking into whatever it is with which you are involved? I never believe that you sink all the way, because it is always a fiction. But immersion is one of a fundamental human metaphors and desires. So I agree totally.

Stephan Hechenberger: Probably the immersion is what I call an attention economy or a least it is an important aspect of the way immersion works. So if you have part computer, part human, how does the attention economy work in that hybrid? Do machines give each other attention? Can they give attention? Is it satisfactory if a machine gives you attention or do you always need to go back and tell somebody else that you used this machine and then you get the attention from some other real person?

Margaret Morse: Do you have to have your attention? By "attention economy," I think you mean actually a fundamental aspect of identity, that identity can be created through this attention from, say a "maternal figure" or whatever. This attention is very important to becoming a person. Is that what you are talking about?

Stephan Hechenberger: Of course we cannot define the whole concept right now but I want to note it's crucial for the complacency of everybody.

Margaret Morse: This ties into my own trying to work through, and I still haven't worked through it, the notion of surveillance and the notion of creation of identity in a world that is built very differently than when I was a child and created my identity. I believed that you had to do everything in private; once you had mastered things you would come out. You have this private world where you learn to do stuff, you put on your make up, or whatever it is, and then you would come out and you would be part of this

public world. And this is a very ancient way of creating identity. But then I realized and I have actually asked psychologists and psychiatrist what they think. They say yes, there is a mass of shift in the way identity is created, at least in the United States. It could be totally different in other situations. But it has much more to do with…you become alive, you become who you are, when you are watched and it is being in the light of the gaze or attention that you create your identity. So it is such a different thing and has to do often with surveillance and also violation of privacy of the body and person at a very early age.

Stephan Hechenberger: Do you think it is possible to create an identity in interacting with a computer?

Margaret Morse: Sure, why not? It would not be the only thing you need. I talked about this in my book under the notion of machine subject, subject machine. We've delegated so many aspects of the maintenance of culture, of nurturing, to machines. Television…what is it, but a babysitter for one thing. We treat machines as if they had facets of personality and subjectivity, and machines play a big role in the creation of our own culture, at least in our American western culture. So I think, absolutely, machines, I think of, as a very particular evocation of human capacities, that have been delegated, and these delegates can play an incredibly critical role in the development of what it means be human today.

Stephan Hechenberger: If you agree with that, that you can create an identity by interacting with a computer, can actually a computer create an identity by interacting with another computer?

Margaret Morse: If no human is watching, you mean? I think you could have that happen. I think, sure why not. You could actually imagine creating worlds that go on whether you are there or not. These worlds, it is like Joel was talking about, these worlds aren't simply coming into existence when you coming to the room. They are going on all the time and developing. This is the thing that Luc Courchesne was playing with, communities that go on when you are not there. And you actually come in and leave, but they have their own virtual existence. But the idea would be yes, that you could imagine these kinds of "machinic" relationships that definitely going on without you. Yes, I can imagine it.

Joel Slayton: So I have a question for you, Stephan. Would you call it the identity of a machine if one computer were sharing itself with another?

Stephan Hechenberger: I would think so. As soon as they are sharing themselves with another we have an attention economy. So the attention flow is present which in turn is necessary to create an identity.

Joel Slayton: So, would you then say that identity does not require awareness in a machine?

Stephan Hechenberger: I think the attention flow is the awareness. [Laughter]

Joel Slayton: This is why it's so difficult. [Laughter] We're in the same terrain of trying to make sense out of this thing that was alluded to earlier about the nature of software itself.

Margaret Morse: ...that software has its own relationship to itself.

Joel Slayton: That software has its own relationship to itself.

Margaret Morse: Why not? We can create things that go on without us. And isn't that the whole idea, when we create culture, that it goes on without us? Why not? I don't see why not.

Glen Sparer: You seem to be talking about almost three different definitions of identity. You seem to be mixing them up. There seems to be personal identity, machine identity, identity between machines, software identity, and cultural identity. Don't they operate differently? I mean, they're on different levels. So some of them you couldn't even say they're, what we would traditionally say is conscious identity. This word identity, I think, is not useful when talking about these things that don't make sense to say... machine has identity. What kind of identity is that? Culture has an identity. Well, what kind of identity is it? Is it identity connected to us? Separate from us? The culture remains after we're gone. We also interact with it, give back part of our identity to the culture. And there's an interface of identity between us and the culture, a feedback loop. These are all different kinds of identities. And then together, as a group of different forms, they create a multiple identity, too. So there are many different, many levels to identity and definitions of what it is.

Margaret Morse: Absolutely. And I think that if we were going to write about these issues, we would have to be very specific about what we were talking about. I think you're absolutely right. The artist who raises these issues about identity and attention economy and is Julia Scher and her surveillance art. I think that her art is far scarier than most people even think it is. Most people think of surveillance as something you don't want, as a violation.

Clearly, her surveillance is constitutive of space, and time and identity; it's not merely some violation. It's that attention economy that creates actual identities. It's sort of scary. I think hers has to do also with deep violation…sexual abuse, for example. Torture would be another instance where that kind of capacity to develop a self in some other way was destroyed. I'm not saying we have sexual abuse everywhere or torture everywhere. But this idea of constitution of self through the gaze, through the attention economy, I think is something that's raised in her work in a very scary way. She was interested in radar and the advent of microwave and did some things where she would constitute little sugar babies of people's own body scans in miniature. So you would look exactly like your body, nude body, scanned into baked sugar. These sugarbabies would be in the microwave oven. Remember Hansl and Gretl and the witch that wants to bake them? Think of the meaning of oven in relation to birth and death and transformation. Could you imagine what sort of thoughts and connotations it all has? It's just hair raising.

Michael Velasquez: I've got a quick question. You were talking about immersion and how there's always some fiction…they can only get so far. What about groups of people who are so into the gaming that their whole social interactions…they go and play these games with their friends, and then when they go to work, they're programming these same games that they're playing so that where the immersion ends, they take it out into the real world. Like, I have a group of friends who are game-makers and they always play games. And they actually only refer to themselves by names they've gotten from their avatars, like from online. They call themselves "Liu Kang" or names from street-fighter games. Are they still in that fiction? Are they just trying to take it out even further? Where the immersion stops, are they trying to take it out in their real lives?

Margaret Morse: Their real lives become intermixed with that. Don't they? It becomes a very fascinating and problematic kind of a life; it becomes almost circumscribed. Doesn't it? Their world seems very hermetic, closed.

Glen Sparer: A bit farcical I would say.

Margaret Morse: There were a number of other questions you posed that I found very, very interesting, one about the gulf war and our contemporary war that is about to happen. I have a whole section in my book on the gulf war and the use of computer graphics to fight it, so that actually graphics become tools of war. There was an interesting thing in the chronicle this last Sunday, War Without Death, that really dealt with this very same situation. The various tools become a way of erasing death from the gulf war. Well, I dealt with the computer graphics as another way of maintaining the fiction

that no one is there and that no one is being killed. So the answer is absolutely...I do think that the gulf war has changed the image of war quite successfully and that whatever we have will be more of the same.

The other thing is...is there any bridge that takes you "into" a graphic display that is a compromise or settlement that between the physical and the virtual? Absolutely. Even verbal cues can be bridges into another world, such as "once upon a time." There are bridges as simple as a z-axis move or a cursor and a mouse that take us through in our imaginations into the graphical world. The very nature of these things is feedback. They are representatives of ourselves within the screen-world.

Margaret Morse: One of the things that I think of is deep metaphor...that is, metaphors that are about embodiment and how they are carried through in work that is based on media.

This piece, *No Present* by Jim Campbell is from a show at the UCSC Sesnon Gallery in a show that I co-curated with E.G. Crichton. It deals with fictions of presence and displacements of space and time.

Hallucination is another Campbell closed-circuit piece that has more to do with the notion of identity and playing with it and the self-image. It is an old piece, you know, 1990. As you get closer to the screen, your image turns on fire. The closer you get, the more brightly and loudly it burns. Oddly enough, you discover that you are not the only one in there. There are worlds of people that are somehow operating on different laws then you are, that are not on fire. We a woman who is not on fire. She is mysteriously exempt. This playing with fire, bye the way, is deeply metaphorical. One major theme of Campbell's work deals with the destruction of the self-image.

Okay, this is from *Conceiving Ada* a film by Lynn Hershman. It plays with this idea of wanting to enter into the computer and with computer metaphors, like "save" and "find." It plays with this idea you can go back in time by means of a photo of Ada Lovelace taken in a particular time and place and by using these commands as magical incantations. We discover that the heroine outside of the screen has actually been impregnated by this image of Ada Lovelace. Her child's DNA is mixed with Ada's DNA. So you have this kind of fantastic mixture of being impregnated by the image, being able to reach back into space and time through this screen and the fantasy of actually climbing into the screen. Ada's unfulfilled genius that went unrecognized in her own time would be recreated in a presumably less hostile world.

Artificial Changelings is by Tony Dove. Her work always has a kind of glow of some sort, emanating from another realm. Here again there is a connection between different kinds of historical periods, the future, now and the past. And, you as an interactor, have the floor, and by where you step on the floor it changes the level and relationship to the past, future or present. You create a kind of dance. You tell the story. You have a kind of rabbit hole between these various levels and these various creatures. So, you can toggle between rebirths, between ancestors and generations. I taped what we are seeing while I was doing this stuff with my feet, dancing on interface, getting these different levels of the story. And furthermore, she has made these figures so that they move in response to your movements. So you can get them to twirl, by twirling yourself, and that sort of thing. I tried to show you the interface on the floor here. Direct address means that you can get the protagonists to talk to them close-up. You, in a way, are creating the particular selection of scenes and the movement of the figure. You can actually create the figures' movement by moving yourself. So, it is fairly complex and very interesting kind of software.

I actually had a lot more material here that related in many ways to different things we talked about tonight. For example, I had Jim Campbell's *Shock Treatment* that involved your image and you press a button and it gradually dissolves your image, definitely related to the idea of self-destruction.

The idea of touch is explored in a very early piece by Jean-Louis Boissier. For instance, your cursor would touch a woman's breast and, a baby would start suckling. Your cursor would do things with touch that really made the inter-textuality of interaction through touch very obvious.

Over the years, I have been exposed to such an enormous collection of stuff, that almost everything reminds me of something else. When things work well, I create contrasts in which one piece illuminates another and vice versa.

I think that what I am going to do is simply pop in this piece here. A lot of people don't like big VR pieces. But, I think you can learn something by being in a completely immersive environment and wearing one of those helmets. Char Davies has done two very large VR pieces, one *Osmose* and one *Éphémère*. I wrote about *Osmose* in my book.

This is *Éphémère*. *Osmose* was done in a semi-realistic kind of graphics, while *Éphémère* is semi-abstract. It could be a landscape, it could be a space underground, it could be inside the body. Thus, the scale was ambiguous. I took some students up to Ottawa, and we went through this piece. I noticed that every person went through the piece differently. What you see is the

view through one eyepiece of a virtual trip through *Éphémère* that one of my students was taking. I had one student who was an ice skater, and she went through the piece beautifully. She covered greats amount of ground. Interestingly enough, when I compare how it feels to navigate space in Davies' two VR pieces, they are completely different. In *Éphémère* I didn't feel like I was covering ground or really moving. Even though you were traversing this world, it would suggest you were traversing an abstract painting. You wouldn't have nearly the feeling of speed as when you were virtually traversing a realistic landscape. Also seeing how other people moved so differently in it the same abstract space was very, very informative and illuminating to me.

This is Katherine Richard's piece *Charged Hearts*. It uses electro-magnetic waves like the Aurora Borealis or northern lights. Here you create a contact with another person that activates the blue glow

Here is another Richard piece, *Curiosity Cabinet at the End of the Millenium*. I talked about the Faraday Cage, that when you went in, it protected you from the electromagnetic radiation.

Stephan Hechenberger: The Faraday Cage doesn't protect you from the electromagnetic radiation *per se*.

Margaret Morse: She had made it all from copper and had it grounded. You could go in and have the feeling that you were protected. The people would go in and write in a notebook about how they felt. "Do I feel like I'm being barraged with electromagnetic radiation or not?" Don't ask me whether this is real or not. I think that, when I went in, I did feel somewhat less radiated, so I wrote that down.

I've gone through an awful lot of material. It seemed scattered I'm sure. But, the fundamental things that I wanted to deal with were different kinds of interfaces and the idea that the interface is there for absolutely every kind of exchange and this idea of interactivity, and its relationship to machines. We have been talking about that in various ways too. There are other things that have come up, but I think those are the two key things.

We haven't successfully gone through much material, but we have talked about a lot of things. I think we can take a couple of minutes to discuss some things more, and maybe stop, because I am sure you are exhausted.

Jenny Hager: I am really interested in your work on smells.

Margaret Morse: Okay.

Jenny Hager: I know that it takes you into a totally different direction, again.

Margaret Morse: Yeah.

Jenny Hager: But, I got curious after you said that.

Margaret Morse: Okay, now…it's fascinating. I have some tapes on it. I will quickly tell you what I did. I did a lot of research on it, but mostly on the anthropology of smell. Since the 18th century in the West there has been a history of taking the odors out of social and urban life. So, we live in a world that is more deodorized all the time. But, on the other hand, a kind of industry has developed that creates fake odors. There were, for a time, a couple of companies during the *dot com* boom, that were involved in trying to create artificial odors for video games and other kinds of contexts.

And then I talked with Myron Krueger, who may be familiar to you as the beginner of a certain kind of artificial reality, pre-VR. He had been working for many, many years, trying to develop a kind of smell on demand. Thus, you could interact with smells. He found it very, very difficult. He wanted to use it for medical purposes. He was working with a doctor. Most people don't realize that the smell of a body can be an important symptom. During an operation, different kinds of smells can be very important for a surgeon. So if you have this idea of telematic operations, operations over space, separated from the actual body, then you would need to have artificial clues related to smell. So this is what they were working with. Apparently, the difficulty is very much related to the ability to create the right velocity and the right distribution and how to get rid of the smell, so you could have the next smell. There are huge problems in the delivery.

On the other hand, vast parts of capitalism are organized around creating fake-o smells that are everywhere. The whole smell industry is fascinating too. There is often a nose involved; a professional nose. There is a creation of a whole array of industry smells related to evocations of particular kinds of memories of connotations and so on.

I read that the Paris subway system is very, very clean. It is cleaned several times a day. They use a disinfectant they call Madeleine (thanks to Proust) that evokes memory. Unfortunately, the subway Madeleine smell is not like the Madeleine cookie, it is more like a conifer. Much of the smells we are experiencing are actually created by corporations, rather than by the Earth.

Matt Mays: It is closely related to the food additive industry, the artificial flavors.

Margaret Morse: Absolutely, it is related to junk food, too. The perfume industry is actually very old and shrinking all the time. In fact, the modern view of perfume is often more related to a much larger palette, so that there are perfumes that evoke cocktail parties. There are perfumes that evoke, you know, cherry pie and home fires and things like that. So there is a movement away from florals. Young people apparently prefer evocations of environmental worlds that we may not even actually have, cherry pie at home and fires and all that sort of thing to things they associate with old ladies. There is one environment based smell called funeral that I read about.

The thing that strikes me about smell is that it is deeply related to power, not just memory, but also power, because smell is what divides us from each other. We belong to different cultures and we smell differently. This smell, I think, can be a very powerful way of creating a sense of hierarchy. There is an idea that some people smell and some don't. It is completely related to culture, and power, and gender very often.

There is a wide spread idea that women smell worse than men. It has to do with power and the idea of being other. In anthropological terms, the cattle people smell better than the fish people. It goes on and on.

Jenny Hager: Age too.

Margaret Morse: Age too. Old people smell. The women artists that I dealt with, that I discovered through the help of my research we are dealing with social hierarchies.

One of them was Helgard Haug. She is a performance artist. She mostly lives in Frankfurt. She did a piece on commission for Berlin Alexanderplatz, and that was of course, not too long after it became integrated with West Berlin.

It used to be a mayor thoroughfare, in that, it used to be the center of the city before it was broken into East and West. It was a very important part of East Germany.

Margaret Morse: But the question was, "How do you create a kind of piece for that subway, for the underground stop at Berlin Alexanderplatz." Helgard Haug decided to create its smell that you could buy in a little vial in a souvenir automat.   She and a "nose," an industrial expert in smell

concoctions, would create the smell together of Berlin Alexanderplatz. So they went around and rather than doing a full chemical analysis, he, the "nose" picked up smells. What they discovered is that the three main smells that they encountered were bread, fresh baked bread and oil and some sort of electrical sparks. Have you ever noticed that you can smell when electrical sparks have been around? He wanted to revise what he smelled to smell great. She said no, no I want it to smell, you know yucky, too. I have the souvenir vial and I've given several talks with it. But I've discovered that what ever was in the vial that smelled even remotely like old Berlin is gone. In fact, in Paris I put it on a little handkerchief my friend had given me, out of a suitcase her parents had last opened in the 20's. I needed a piece of cloth and I said what do you have? And she takes this suitcase out, and I put this Berlin Alexanderplatz on it and handed it around. And someone said, "Do you know this is like 'telephone'...not only do you have a French handkerchief from the 20's but we've handed this to everyone here, and everyone is putting their own smell on it, so by the time it goes almost no distance at all, it is not going to smell like anything, like what you'd expect it." But I just liked the idea of having this little vial. And do you know what? They discovered also that the hot bread smell was completely fake. A store that sold bread pumped out fresh hot bread smell that was completely industrially created.

Michael Velasquez: Yeah, Cinnabon does that

Margaret Morse: The odd thing about this smell piece was that when she got feedback from the public, and she actually got quite bit of feedback, people almost never talked about the precise smell or anything like that. They would always talk about things it evoked in their memories. And very often it would be things before the wall fell. So people from West Berlin would say, "Oh this reminds me of those dead stations in the underground that you would go through and you would not be able to get out. You would just be going through East Berlin in a tunnel and they would have a terrible smell." Another friend of mine said, "This smell is like x-station, where there is an awful lot of feces and..."

John Bruneau: The reason smell evokes memories is because the shortest neuron connection in your whole body is between the nose and the brain. It is only two neurons. So you've got a direct link, instantaneously right there.

Margaret Morse: Right, there is something quite different about the way we process smells. There is an artist; she is a Canadian, of Italian descent. Her name is Clara Ursitti. She works out of Scotland and she has devoted a significant amount of work to smell, beginning with her work as a graduate student in art, where she concocted a lipstick out of her own menstrual

blood. Then she started working with a nose, a very famous nose, named George Dodd. And did a number of pieces with him. Their first piece was on the smell of some kind of funky party place, a pub in Glasgow. Another on she did was *Bill*, meaning Bill Clinton. That was the smell of sperm of whomever. She developed a concept for a pheromone dating club, where people would wear absorbent shirts and get them as smelly as possible and she would create these dating packs, so you could (sniff) and find your pheromone other.

Glen Sparer: Was that in the real world or in a gallery?

Margaret Morse: The pheromone dating club is something she has never been able to realize.

Cortney Smyth: Actually, interestingly enough, in Australia, in nightclubs, you can go into the bathrooms, girls or guys, and get a pack of pheromones, and put it on yourself and it is meant to make you more attractive to the other sex. But the pheromones come from pigs, which is a bit concerning...

Margaret Morse: Now you've tried it, does it work?

Cortney Smyth: Um I haven't but I have bought it. It smelled awful, but I was curious...

Margaret Morse: It depends on this idea of pheromones...Now the piece I would show you, would be George Dodd smelling her nude body, going over it, saying "this is like a fine French cheese," and "this is a rare smell, mostly on male bodies, but it is an aged wine of vintage."

Glen Sparer: Where do you get that done?

Margaret Morse: What it evokes is that the body actually has the funky smells of very wonderfully aged and fermented wine and cheese and fresh fish and things like that.

The piece that I think, in some ways hard to understand when it was not in exhibition was a piece by Jenny Marketou, called *Smell Bytes*. It connected to a web data collection and also worked as an agent that would categorize people. Then later in another piece on she trained a similar agent to go fetch things from other chat rooms and things like that, to capture people's images and then to characterize them in terms of smell. What she was basing this work on is the Boltzman Institute in Vienna that did a lot of research on smell. To me the research reeked of racial and gender bias. The idea is that attractive people, number one, don't smell and number two,

they are symmetrical. Therefore, symmetrical people don't smell. In Marketou's piece if you took a picture of someone and the picture didn't look symmetrical, then they would automatically be labeled with less attractive smells. So it played with the Boltzman Institute's finding and showed their absurdity.

I think, though, that I am sick and tired of simply dealing with hearing and vision. I am sick and tired of it, and I want to think about other things. I have thought about kinesthesia and movement for a long time, and I want to move on. I feel that I want to go and if computers want to come along for the ride, fine and if not, I am just going to go and investigate elements of virtualization that are not necessarily dependant on the computers. Now, how does this relate to power?? Well, I would have to go into much greater depth to describe that. But oddly enough, when I talked about this in Paris, in Dec 2000 at ISEA, one of the first speakers dealt with sex, and all she showed were these abstract images. People were going sex, what? what's up you know with the swirls and all that… The next speakers were a lesbian couple that talked about this photo that they'd been working on for 20 years.

And then I came up, and I started talking about my smell work, and oddly enough in the question period, people in the audience started fighting. I remember someone said, 'I can't believe that you'd talk like this about odors. It's a deep insult to the French and all that sort of thing' and someone else said, "Oh no, no what she is doing is blah blah blah..." and pretty soon the whole audience was in an uproar. Somebody actually went over a seat and threatened to beat up another guy. I said "Oh my god I can't believe it." What I found was that if I have a full chance to develop it, that people tend to be very upset and offended by this discussion of smell, oddly enough. You're not at all. It is probably rather innocuous to you. But it was a very powerful thing, which really, I think, caused things to happen that where very un-intellectual and very disturbing.

Margaret Morse: Oh really? At any rate, you can see where the smell work is going. This also touches on the notion of list serves. This idea of a data world and contacts, that I create largely, virtually with women I don't know...but who I feel comfortable enough with to say I am working on smell. They find these rather rare pieces and let me know about them. Oddly enough, most artists I know have at some time in their lives done some work on smell. I don't know whether you have or not, but whatever. I haven't really found out enough about your work, so I hope that our connection will continue, and that I'll be able to look at the work you're doing when you do your show.

Joel Slayton: Great Margaret thanks.

Margaret Morse: Thank you.

[Transcription Editor: Jenny Hager]