AN INTERVIEW WITH SHERRY TURKLE

Sherry Turkle is Professor of Sociology at the Massachusetts Institute of Technology and a licensed clinical psychologist. She has written numerous articles on psychoanalysis and culture and on the subjective side of people's relationships with technology, especially computers. Her books include Psychoanalytic Politics: Jacques Lacan and Freud's French Revolution, The Second Self: Computers and the Human Spirit, *and* Life on the Screen: Identity in the Age of the Internet. *Professor Turkle's work has been widely discussed in both the academic and popular press. This interview was conducted in February 1999 by Joseph E. Davis.*

We typically think of the mind or the self in unitary images. Even those psychodynamic theories that stress that there are unconscious as well as conscious aspects to the mind tend to describe the final, functioning "self" "as if" it were one. You have written about cyberspace as a place that calls into question images of a unitary self. Could you elaborate on this?

I have found that the experience of cyberspace, the experience of playing selves in various cyber-contexts, perhaps even at the same time, on multiple windows, is a concretization of a way of thinking about the self, not as unitary but as multiple. In this view, we move among various self states, various aspects of self. It suggests that our sense of one self is a kind of illusion . . . one that we are able to sustain because we have learned to move fluidly among the self states. In this view of selfhood, psychological health is not tantamount to achieving a state of oneness, but the ability to make fluid transitions among the many and to reflect on our-selves by standing in a space between states. Life on the screen provides a new context for this psychological practice. One has a new context for negotiating the transitions. One has a new space for commenting on the complexities and contradictions among the selves. So, experiences in cyberspace encourage us to discover and find a new way to talk about the self as multiple and about psychological health not in terms of constructing a one but of negotiating the many.

But this fluidity and ease with expressing multiple aspects of self must be contrasted with the experience of multiple personality disorder. People who suffer from multiple personality disorder have fragmented selves where different pieces are walled off from the others—often in the service of protecting parts of the self from secret knowledge, traumatic memories. People who suffer in this way can have the experience of opening their closet in the morning and not knowing who bought some of the suits inside it. In the case of people assuming online personas, people are aware of the lives they have created on the screen. They are exploring different aspects of themselves and are aware of the way they move among them. They are having an experience that encourages them to challenge traditional ways of

thinking about healthy selves as single and unitary. In this, the computer is taking a common cultural experience to a higher power.

We live an increasingly fragmented, multi-roled existence. A woman may wake up as a lover, have breakfast as a mother, and drive to work as a lawyer. A man might be a manager at the office and a nurturer at home. So even without computer networks, people are cycling through different roles and are challenged to think about their identities in terms of multiplicity. The Internet concretizes this experience of identity as multiplicity. It takes the fluidity of identity that is called for in everyday life and raises it to a higher power: People come to see themselves as being the sum of their distributed presence in all the windows they open on the screen. The technical metaphor of cycling through computer windows has become a metaphor for thinking about the relationship among aspects of the self.

Are there concrete ways in which virtual experiences impact on psychological development?

For some people, life on the screen provides what the psychologist Erik Erikson would have called a "psychosocial moratorium," a central element in how Erikson thought about identity development in adolescence. Although the term "moratorium" implies a "time out," what Erikson had in mind was not withdrawal. On the contrary, the adolescent moratorium is a time of intense interaction with people and ideas. It is a time of passionate friendships and experimentation. The moratorium is not on significant experiences but on their consequences. It is a time during which one's actions are not "counted." Freed from consequence, experimentation becomes the norm rather than a brave departure. Consequence-free experimentation facilitates the development of a "core self," a personal sense of what gives life meaning, what Erikson called "identity."

Erikson developed these ideas about the importance of a moratorium during the late 1950s and early 1960s. At that time, the notion corresponded to a common understanding of what "the college

years" were about. Today, thirty years later, the idea of the college years as a consequence-free "time out" seem of another era. College is pre-professional and AIDS has made consequence-free sexual experimentation an impossibility. The years associated with adolescence no longer seem a "time out." But if our culture no longer offers an adolescent moratorium, virtual communities do. It is part of what makes them so attractive.

Erikson's ideas about stages did not suggest rigid sequences. His stages describe what people need to achieve before they can easily move ahead to another developmental task. For example, Erikson pointed out that successful intimacy in young adulthood is difficult if one does not come to it with a sense of who one is—the challenge of adolescent identity building. In real life, however, people frequently move on with serious deficits. With incompletely resolved "stages," they simply do the best they can. They use whatever materials they have at hand to get as much as they can of what they have missed. MUDs [multi user domains] are dramatic examples of how technology can play a role in these dramas of self- reparation. Time in cyberspace reworks the notion of vacation and moratoria because they may now exist on an always-available "window."

You have written about computers as things to think with, including as a reflective medium for thinking about ourselves. Are computer metaphors contributing to a more deterministic popular psychology—people as programmed or the mind as a machine—in the culture at large?

Today's adults grew up in a psychological culture that equated the idea of a unitary self with psychological health and in a scientific culture that taught that when a discipline achieves maturity, it has a unifying theory. When people find themselves cycling through varying perspectives on themselves ("I am my chemicals" to "I am my history" to "I am my genes") they usually become uncomfortable. But such alternations may strike the generation of children who are growing up today as "just the way things are."

Children speak easily about factors that encourage them to see the "stuff" of computers as the same "stuff" of which life is made. You can see this in children's discourse about the seemingly omnipresent "transformer toys," which shift from being machines to being robots to being animals (and sometimes people). Children play with these plastic and metal objects, and in the process, they express themselves about how they see the fluid boundaries between mechanism and flesh.

For example, I observed a group of seven-year-olds playing with a set of plastic transformer toys that can take the shape of armored tanks, robots, or people. The transformers can also be put into intermediate states so that a "robot" arm can protrude from a human form or a human leg from a mechanical tank. Two of the children were playing with the toys in these intermediate states. A third child insisted that this was not right. The toys, he said, should not be placed in hybrid states: "You should play them as all tank or all people." He was getting upset because the other two children were making a point of ignoring him. An eight-year-old girl comforted the upset child: "It's okay to play with them when they are in between. It's all the same stuff," she said, "just yucky computer 'cy-dough-plasm.'"

Most adults today grew up thinking of the computer and the notion of "program" as linear and deterministic. Today's children are growing up in a computer culture whose dominant metaphors borrow from evolution, genetics, and neural networks. This makes the line between how computers work and how our minds might work seem far less rigid.

When in the first half of the twentieth century the Swiss psychologist Jean Piaget investigated how children thought about the question "What is alive," he found that children sort this question out by making increasingly fine distinctions about motion. Aliveness was a property associated with "things that could move of their own accord." As children grew older, the notion of moving on one's own accord became refined into the idea of the "life movements" of metabolism and breathing. In the late 1970s and early 1980s, I

found that the presence of a first generation of computational objects disrupted the classical Piagetian story for talking about aliveness. There was a new story: Children sorted out the question of what is alive by making reference to the computer's psychology. They asked questions like: Could it know, could it learn, could it cheat, is knowing part of cheating? Children took a new world of objects and imposed a new world order, based not on physics but on psychology. In recent years, as children have been confronted with increasingly complex computational objects, that order has been strained to the breaking point. Children will now talk about computers as "just machines" but describe them as sentient and intentional. Children are now in the position of theoretical bricoleurs or tinkerers, "making do" with whatever materials are at hand, "making do" with whatever theory can fit a prevailing circumstance. They cycle through evolution and psychology and resurface ideas about motion in terms of the communication of bits.

My current collection of children's comments about life includes: the robots are in control but not alive, would be alive if they had bodies, are alive because they have bodies, would be alive if they had feelings, are alive the way insects are alive but not the way people are alive; computer creatures are not alive because they are just in the computer, could be alive if they got out of the computer, are alive until you turn off the computer and then they're dead, are not alive because nothing in the computer is real; the animals in a simulation game Sim are not alive but almost-alive, they would be alive if they spoke, they would be alive if they traveled, they're alive but not "real," they're not alive because they don't have bodies, they are alive because they can have babies, would be alive if they got out of the computer and onto America Online. There is a striking heterogeneity of theory here. Different children hold different theories and individual children are able to hold different theories at the same time.

In the short history of how the computer has changed the way we think, it has often been children who have led the way. So, in the

early 1980s, children, prompted by computer toys that spoke, did math, and played tic-tac-toe, disassociated ideas about consciousness from ideas about life, something that historically had not been the case. These children were able to contemplate sentient computers that were not alive, a position that grownups are only now beginning to find comfortable. Today's children are taking things even further; they are pointing the way towards a radical heterogeneity of theory in the presence of computational artifacts that evoke "life."

But children are still faced with the question of what makes people special. Children traditionally have thought about this question by contrasting people with their "nearest neighbors." When children saw people's nearest neighbors as their pets, their dogs and cats, what made people special were their powers of reason. Thus, the Aristotelian definition of man as a "rational animal" made sense for even young children. Today, the question takes a rather different form. Computers, with their activity and interactivity, their powers of speech and reason, have come to be seen as the "nearest neighbors." What people have in contrast to these neighbors are their emotions. One thirteen-year-old said, "When there are the robots that are just as smart as the people, the people will still cook the food, run the restaurants, have the families, I guess they'll still be the only ones who'll go to church." In contrast with the computers, people are not special because they are rational animals, but because they are emotional machines. Or in other terms, "Simulated thinking may be real thinking, but simulated love is never real love."

In my most recent work on digital pets such as the Furbies, which quite precisely express love and ask the child for nurturance (they need to be fed, they need to be amused, they get sick and need to be made well), I see children's attitudes shifting once again. Now, they talk about different kinds of life and different kinds of love: the kind of life that Furbies have and the kind of life that animals and people have, the kind of love that Furbies have and need and the kind of love that people have and need.

You have said that the computer is an evocative object. What do you mean by this?

Writing in his diary in 1832, Ralph Waldo Emerson reflected that "Dreams and beasts are two keys by which we are to find out the secrets of our nature. . . . they are our test objects." Emerson was prescient. Freud and his heirs would measure human rationality against the dream. Darwin and his heirs would insist that we measure human nature against nature itself—the world of the beasts seen as our forbears and kin. If Emerson had lived at the end of the twentieth century, he would surely have seen the computer as a new test object. Like dreams and beasts, the computer stands on the margins. It is a mind that is not yet a mind. It is inanimate yet interactive. It does not think, yet neither is it external to thought. It is an object, ultimately a mechanism, but it behaves, interacts, and seems in a certain sense to know. It confronts us with an uneasy sense of kinship. After all, we too behave, interact, seem to know, and yet are ultimately made of matter and programmed DNA. We think we can think. But can it think? Could it have the capacity to feel? Could it ever be said to be alive?

The computer takes us beyond a world of dreams and beasts, because it enables us to contemplate mental life that exists apart from bodies. It enables us to contemplate dreams that do not need beasts. The computer is an evocative object that causes old boundaries to be renegotiated.

What do you mean by the statement (from *Life on the Screen)* that computers embody postmodern theory and bring it down to earth?

When I first studied programming at Harvard in 1978, the professor introduced the computer to the class by calling it a giant calculator. No matter how complicated a computer might seem, what happened inside it could be mechanically unpacked. Programming, the professor reassured us, was a cut and dried technical activity whose rules were crystal clear.

These reassurances captured the essence of the computer in a culture of calculation. Computers were thought to be "transparent" when the users could look beyond the magic to the mechanism. The first personal computers of the 1970s and early 1980s, like the mainframes and minicomputers, required users to know how to issue exact instructions. Someone who knew programming could handle the challenge more easily. By the mid-1980s, increased processing power made it possible to build graphical user interfaces, commonly known by the acronym GUI, which hid the bare machine from its user. The new opaque interfaces—the first popular one on the mass market was the 1984 Macintosh—represented more than a technical change. The Macintosh "desktop" introduced a way of thinking about the computer that put a premium on the manipulation of a surface simulation. The desktop's interactive objects, its dialogue boxes in which the computer "spoke" to its user, pointed toward new kinds of experience in which people did not so much command machines as enter into conversations with them. In personal relationships, we often interact without understanding what is going on within the other person; similarly, when we take things at (inter)face value in the culture of simulation, if a system performs for us, it has all the reality it needs.

In 1980, most computer users who spoke of transparency were referring to a transparency analogous to that of traditional machines, an ability to "open the hood" and poke around. But when users of the Macintosh talked about its transparency, they were talking about seeing their documents and programs represented by attractive and easy-to-interpret icons. They were referring to an ability to make things work without needing to go below the screen surface. Today, the word "transparency" has taken on its Macintosh meaning in both computer talk and colloquial language. In a culture of simulation, when people say that something is transparent, they mean that they can see how to make it work, not that they know how it works. Postmodern theorists have suggested that the search for depth and mechanism is futile, and that it is more realistic to explore the world of shifting surfaces than to embark on a search for origins and structure. Culturally, the computer has served as a carrier object for such

ideas. This does not mean that these ideas are true or valid; it means that they are more easily appropriable because they are embodied in a technology that is present in everyday life.

When Fredric Jameson wrote about the meaning of the postmodern, he included in his characterization of postmodernism the precedence of surface over depth, of simulation over the "real," of play over seriousness—many of the same qualities that characterize our current computer aesthetics. Jameson noted that the postmodern era lacked objects that could represent it. The turbine, smokestack, pipes, and conveyor belts of the late nineteenth and early twentieth centuries had been powerful objects-to-think-with for imagining the nature of industrial modernity. They provided images of mechanical relationships between body and mind, time and space. The postmodern era had no such objects. Jameson suggested that what was needed was a new "aesthetic of cognitive mapping," a new way of spatial thinking that would permit us at least to register the complexities of our world. I believe that in the contemporary computer culture postmodernism has found its objects. They exist in the information and connections of the Internet and the World Wide Web and in the windows, icons, and layers of personal computing. They exist in the creatures on a SimLife computer game and in the simulations of the quantum world that are routinely used in introductory physics courses. All of these are life on the screen. And with these objects, the abstract ideas in Jameson's account of postmodernism become newly accessible, even consumable.

There is a tension between two aspects of how computers influence contemporary culture. On an individual level, computers are able to facilitate pluralism in styles of use. They offer different things to different people; they allow for the growth of different and varied computer cultures. On a larger scale, however, computers now offer an experience resonant with a postmodern aesthetic that (in the language of its theorists) increasingly claims the cultural privilege formerly assumed by modernism. If we think of the computer's pluralism of styles as different styles of seduction, we might say that at

specific historical moments some styles of seduction become increasingly seductive and some start to seem out of date.

People use contact with objects and ideas to keep in touch with their times. They use objects to work through powerful cultural images, to help arrange these images into new and clearer patterns. From this point of view, the holding power of the Apple Macintosh, of simulation games, and of experiences in virtual communities derives from their ability to help us think through postmodernism. With computers we can simulate nature in a program or leave nature aside and build second natures limited only by our powers of imagination and abstraction. The objects on the screen have no simple physical referent. In this sense, life on the screen is without origins and foundation. It is a place where signs taken for reality may substitute for the real. Their aesthetic has to do with manipulation and recombination.

The French anthropologist Claude Lévi-Strauss described the process of theoretical tinkering—bricolage—by which individuals and cultures use the objects around them to develop and assimilate ideas. When I talk about computers as objects-to-think-with, saying for example that Macintosh-style computer interfaces have served as carriers for a way of knowing that depends on simulation and surface representation, I am extending the notion of bricolage to the uncanny (betwixt and between physical and mental) objects of the culture of simulation.

The strong move to put computers in the classroom and to cable them to the Internet has caused considerable debate over their educational value; what is your view?

There is of course every reason to put access to the Internet into all schools. There is no other way to get around the terrible inequities of access if the only children who have computers and Internet access are those whose parents can afford to buy it for them. My concerns about the current way in which educators are discussing "wiring" the schools is that our anxieties about a genuine crisis in

education in our country are displaced onto a discussion about the computer. In the psychoanalytic tradition, a fetish is a displacement; it is a way for an individual to not address a real source of concerns. I do not think it is an exaggeration to say that, in this sense, we are in danger of fetishizing computers and the Internet. We don't want to look at the fundamental inequalities in education, so we fixate on the computer or on the Internet as a panacea.

I believe that we should recast our thinking about computers in schools in terms of the need to develop in our children "readership skills for a culture of simulation." This would take the cultural pervasiveness of simulation as a challenge to develop a new social criticism. This new criticism would discriminate among simulations. It would take as its goal the development of simulations that help their users understand and challenge their model's built-in assumptions.

On one level, high school sophomores playing SimCity for two hours may learn more about city planning than they would pick up from a textbook; but on another level, they may not know how to think about what they are doing. When I interviewed a tenth-grader named Marcia about SimCity, she boasted of her prowess and reels off her "Top ten most useful rules of Sim." Among these, number six grabbed my attention: "Raising taxes always leads to riots."

Marcia seemed to have no language for discriminating between this rule of the game and the rules that operate in a "real" city. She has never programmed a computer. She has never constructed a simulation. She has no language for asking how one might write the game so that increased taxes led to increased productivity and social harmony. And she certainly does not see herself as someone who could change the rules. She does not know how to "read" a simulation. Marcia is like someone who can pronounce the words in a book but doesn't understand what they mean. She does not know how to measure, criticize, or judge what she is learning. Marcia may not need to see the registers on her computer or the changing charges on a computer chip, but she needs to see something. She needs to be working with simulations that teach her about the nature of simulation itself,

that teach her enough about how to build her own that she becomes a literate "reader" of the new medium.

Increasingly, understanding the assumptions that underlie simulation is a key element of political power. People who understand the distortions imposed by simulations are in a position to call for more direct economic and political feedback, new kinds of representation, more channels of information. They may demand greater transparency in their simulations; they may demand that the games we play (particularly the ones we use to make real life decisions) make their underlying models more accessible.

We come to written text with centuries-long habits of readership. At the very least, we have learned to begin with the journalist's traditional questions: who, what, when, where, why, and how. Who wrote these words, what is their message, why were they written, how are they situated in time and place, politically and socially? A central goal for computer education must now be to teach students to interrogate simulations in much the same spirit. The specific questions may be different but the intent is the same: to develop habits of readership appropriate to a culture of simulation.

You have said that you object to the use of the phrase "Internet addiction." Why?

The term addiction is most usefully saved for experiences with substances like heroin, which are always dangerous, always bad, always something to turn away from.

The Internet offers experiences in which people discover things about themselves, good and bad, usually complicated and hard to sort out. People grow and learn and discover good and new potential. People also discover preoccupations and fantasies that they may have never dealt with before and which may be very troubling. If you call the Internet addicting, then you have to call all powerful, evocative experience addicting.

This is very different from saying that the online world is one of "truth and beauty." It simply offers powerful, evocative experience that provokes self-reflection and self-discovery. This is not always positive, it just sometimes is. But it is not an addiction. The term addiction closes down the interesting questions about online life and ourselves that we need to explore. People don't abuse their children "because of" the Internet. When mothers ignore their children because they prefer to spend hours talking on the phone, we never say that the phone "caused" bad parenting, even negligent parenting. The phone is the occasion for expressing a serious problem in the ability to parent. This latter is the problem that needs to be addressed, not the telephone as a technology.

When people use the language of Internet addiction, they are tempted to think of life in cyberspace as insignificant, as escape or meaningless diversion. It is not. Our experiences there are serious play. We belittle them at our risk. Without a deep understanding of the many selves that we express in the virtual, we cannot use our experiences there to enrich the real. If we cultivate our awareness of what stands behind our screen personae, we are more likely to succeed in using virtual experience for personal and social reward.

It is often said that we are at the end of the Freudian century. Freud, after all, was a child of the 19th century; of course, he was carrying the baggage of a very different scientific sensibility than our own. But, from my point of view as an anthropologist of cyberspace, those who make the most of their lives on the Internet, their lives on the screen, are those who can most deeply reflect on the aspects of self which are revealed there. Our need for a practical philosophy of self-knowledge, one that does not shy away from issues of multiplicity, complexity, and ambivalence, that does not shy away from the power of symbolism, from the power of the word, from the power of identity play, has never been greater as we struggle to make meaning from our lives on the screen.