

The Inner History of Devices

edited and with an introductory
essay by Sherry Turkle

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Reading the Inner History
of Devices



INNER HISTORY

Sherry Turkle

Thirty years ago, he was holding a TRS-80 home computer and I saw tears in his eyes. “This computer means everything to me,” he said. “It’s where I put my hope.” I began the interview thinking I would learn something about how computer hobbyists were putting their new devices to work. By the end of the interview, my question had changed: What was there about personal computers that offered such deep connection? What did a computer have that offered hope?

Since then, studying people and technology, I have learned to listen attentively at such moments. The stories I hear usually have little to do with the stated purposes of the technology at hand:

“When I listen to my speech synthesizer, I hear it as an inner voice.”

“I wasn’t even sure I had sent that email, until I got your reply. I thought that maybe I had only dreamed sending that message, or fantasized it.”

“Everything that I was interested in and everything that was important to me was on that Web site.”

These three voices, all from this collection, have much in common. They refer to attachments in which technology inhabits the inner life and becomes charged

with personal meaning. One voice is from a memoir, one from the clinical notebooks of a psychoanalyst, and the third from the field notes of an anthropologist, an ethnographer.¹ Without attribution, it would be hard to say which is which.

Here I bring together these three traditions—memoir, clinical practice, and fieldwork or ethnography—through which such voices emerge. Each tradition suggests a way of listening that adds new dimension to our understanding of how technologies affect our relationships and sensibilities. Each illuminates the subjective side of the technological experience, how what we have made is woven into our ways of seeing and being in the world. Together they enable us to read the inner history of devices.

Three Ways of Listening

In general, we treat the memoirist, clinician, and ethnographer as members of different tribes. The first we see as artists; the second we hold to the standards of healers (in America, until recently, psychoanalysts were required to be physicians); the third we call social scientists. We ask the first to make things that are beautiful, the second to be efficacious, and the third to be accurate.

These divisions, however real, can distract from important commonalities. Memoirists show us social forces lived out in personal experience. They do a kind of ethnography in the first person. The clinician has a close view of cultural pressures shared by those who are in treatment and those who are not. And ethnographers collect fragments of memoir from their subjects, approaching, in the words of anthropologist Clifford Geertz, large interpretation and abstract analysis “from the direction of exceedingly extended acquaintances with extremely small matters.”² Indeed, in the 1970s, Geertz memorably described the ethnographer as practiced in the art of conversation.³

Geertz's notion that conversation is at the heart of the ethnographic encounter frames the field of anthropology as interpretive to its core, close to the reflections of memoir and the informed guesswork of the clinical life: "Cultural analysis is (or should be) guessing at meanings, assessing the guesses, and drawing explanatory conclusions from the better guesses, not discovering the Continent of Meaning and mapping out its bodiless landscape."⁴ Indeed, in all three traditions, the work begins with conversation: a conversation with self, a conversation with an other. All three are disciplines of self-reflection. Together they change our understanding of our lives with technology.

When memoirists bring their artistic sensibilities to recollections of technological intimacies, new insights emerge. Similarly, clinicians discover untold stories when they explore their patients' relationships with technical objects—cars, motorbikes, stereos, and most recently computers and virtual worlds. When memoir and clinical sensibilities inform ethnography, they can shape a deep intelligence about technology and the inner life. Put otherwise, the inner history of devices calls for an intimate ethnography. Classical ethnographers are skilled listeners; intimate ethnographers, as the aphorism goes, listen with the third ear.

This kind of ethnographic work is hard to do because people find it difficult to talk about technology in ways that don't follow a standard script. We approach our technologies through a battery of advertising and media narratives; it is hard to think above the din. In contrast, the inner history of devices is about stories not heard unless one begins with quiet. Intimate ethnography takes patience; it makes room for people to discover what is really on their minds; it creates a space for self-reflection.

"All my life I've felt that there was something magical about people who could get into other people's minds and skin, who could take people like me out of our-

selves and then back to ourselves.”⁵ This is memoirist Anne Lamott speaking about literature, but her sentiment could have been directed toward the psychoanalytic enterprise or the work of anthropologists, which begins with a displacement from their own cultures, in order to see it with fresh eyes.

In her essay on those who claim to be addicted to the Internet technical news site Slashdot.org, anthropologist Anita Say Chan immerses herself in a world of unrepentant addicts. This is her cultural displacement. Chan’s informants are telling her something that seems to make little sense. It is not just that they are saying they are addicted and they like it. They are suggesting that in losing control of their behavior, they have come to a better place—politically, socially, and even economically. Chan’s informants have reversed the social meaning of addiction. They struggle to describe why they are happy to be living under compulsion. As students, they are not going to classes; as employees, they are falling down on their jobs. Nevertheless, they insist that Slashdot enhances their lives. Among other things, it increases their political awareness and helps them appreciate their personal learning styles.

The Slashdot addicts are confirmed in their passion; they also find their vulnerability to the site frightening. In her conversations with them, Chan respects their positive feelings and their anxiety. She refrains from making the addicts “feel better” about their choices. (To keep the conversation going she does not say, “Oh well, you’re not talking about ‘real’ addiction—your way of talking is just a turn of phrase.”) That might relieve anxiety and lighten tension for a moment, but it would deny the self-described addicts a context to more fully reflect on their situation. Her informants have to live with ambivalence; Chan does as well.

Chan creates a safe space for contradictory feelings to coexist, making possible a conversation in which the standard meaning of a word like “addiction” can be

called into question. Geertz said of anthropology that “coherence cannot be the major test of validity for a cultural description.”⁶ Nor can it validate a description of how technology enters the inner life. The ethnographic space has to generate its own kind of coherence. It is, in spirit, similar to the coherence that writers create around themselves, one that leaves room for complexity and contradiction.

Virginia Woolf calls the writer’s space “a room of one’s own.” In its safety and containment, writers open themselves to the kind of reflection, where, as for Chan’s addicts, feelings don’t conform to a predetermined script. In turn, the psychoanalytic tradition needs a space that is “transitional,” a space removed from everyday life; it is a liminal space, located between things.⁷ There, relationships are not based on timeworn hierarchies but develop in new, meaning-filled encounters.⁸ In analysis, transitional space facilitates understanding that can lead to change. The intimate ethnographer creates this kind of space, not to change the lives of informants but to illuminate their experience.

Transitional space is a metaphor that carefully undermines any view of ethnographers as spectators “soaking up” elements of a field setting. Everything about the sponge metaphor is wrong. Ethnography is not a passive practice; understanding the experience of others demands active listening. Nor are ethnographers trying to “get something” out of their subjects through clever questioning. They are trying to create an environment where what is there can emerge.

The Prepared Listener

In social sciences, there is an understandable emphasis on getting permission from subjects—obtaining informed consent to study them. But studying how technology enters the inner life also requires that you give

permission to subjects. People feel permission to speak when they trust a researcher's promise of confidentiality and when they believe they are engaged in a process that will help them make better sense of their own experience. The motivation of the ethnographic subject is not simply to help the field researcher. It is increased self-knowledge. Ethnographers make it more likely that their subjects will achieve this by preparing themselves as listeners. In this, the psychoanalytic tradition has much to teach them, most centrally that effective listening begins with a measure of self-knowledge.

The central element of classical psychoanalytic training is a personal psychoanalysis.⁹ The idea behind this practice is not simply that one learns "how to" by having one done "to you." Rather, self-knowledge is crucial to psychoanalytic practice because analysis does not proceed by providing information but through a shared experience in which the analyst is a catalyst for change. So, for example, it is expected that, in the course of therapy, the patient will develop feelings for the analyst that are the result of unresolved feelings from other relationships, feelings that are known as the transference. Recognizing and analyzing these feelings is a crucial motor in therapy. This is one way that issues of the patient's life are brought into the safe space of the consulting room, not by experiencing them in recollection, but by reliving them in the transference, where they can be analyzed. Transference does more than project the past; it reflects each individual's patterns of connection. As such, it can provide the energy to relate to new objects, people, and situations. Understood most richly, it is the power to invest in life "in one's own way."¹⁰ Beyond the transference, it is also expected that the analyst will develop feelings for the patient, feelings referred to as the counter-transference. The analyst has to be able to understand and use these feelings for the analysis to progress.

In the analytic context, the privileged relationship between therapist and patient has been called a “therapeutic alliance.” It is a working relationship in which both share a set of goals: the patient’s greater self-understanding and, from there, a greater emotional range. The hope is that this increased range will translate into greater resiliency, capacity for joy, fulfillment in work and love. The method is based on the assumption that, with self-knowledge, we are better able to stand back from self-defeating patterns. To the question, “How does one stay open to complexity and levels of meaning that may surprise you?” the psychoanalytic tradition answers, through self-knowledge and new emotional practices. Only then, can one resist shutting down when material becomes threatening or confusing.

Ethnographers, too, need inner preparation. They, too, need to see how individuals invest in life “in one’s own way.” They, too, negotiate a complex range of feelings as they work. Close to people’s intimate experience, they hear difficult things, things that touch close to the bone. Like psychoanalysts, ethnographers need to be present yet able to maintain distance. They need to tolerate ambivalence rather than intervene to make things seem more “coherent” or easy to accept. They need to facilitate conversation, yet maintain the boundary between listener and informant. They need to know which hesitations in conversation indicate deep feeling that should be pursued and they need to know when to stop. Ethnographers, like clinicians, form alliances with their subjects. Ethnographers share the goals of their particular enterprise with their informants, making sure they understand that the researcher is interested in such matters as why someone is attached to a white dialysis machine but dislikes a blue one. These are precisely the sort of matters that anthropologist Aslihan Sanal attends to in her study of dialysis patients awaiting kidney transplants.

Sanal offers her informants something that their attending medical personnel cannot. Oguz, a young Turkish patient, tells Sanal that the kidney specialists around him have an agenda—they want to move him toward a transplant. The psychiatrist sent to speak with him also has an agenda—to reduce resistance to the procedure. As this unfolds, Oguz finds the ethnographer to be the safest interlocutor: “A year ago, I made a suicide attempt and I was taken to the hospital,” he says. “There I visited a psychiatrist, but I did not tell her anything. In dialysis, a psychologist approached me, but I did not say anything. Now I am talking to you.”

Why did Oguz speak this way to Sanal? The answers recall how Chan came to hear stories from those who claimed Slashdot addiction. Like Chan, Sanal was nonjudgmental and made her informants feel safe. She moved into their world. She forged an alliance toward understanding. Her essay reminds us that particularly when one works with disadvantaged or ill people, with people one feels one could help, it is natural for ethnographers to have fantasies that they might rescue their informants. But just as clinicians master the countertransference in therapy—feelings toward and aspirations for patients that have the potential to interfere with therapeutic work—ethnographers cultivate respectful reticence. Their subjects are not there to be lectured or reformed. When ethnographers offer informants a space in which to know themselves better, they are offering a great deal.

When Oguz receives his father’s kidney, he becomes depressed. He sees his new situation as worse than being in dialysis. Unguarded with Sanal, Oguz shares his revulsion at being this closely associated with his father, someone he has always disliked. Oguz begins to describe symptoms that point to his identification with his father. Formerly fastidious in his habits, now Oguz does not use soap, will not wash his hands or shave. He says: “I have not washed my hands for

two days. Since the transplant I can no longer wash my hands. . . . If only I knew why . . . maybe I could start playing with soap again.”

Oguz does not understand where his symptoms come from. Sanal has some ideas—she notes that Oguz is taking on his father’s habits, but she shares this with the reader and not with Oguz. Although Sanal is not his therapist, she has borrowed certain tools of the clinician to help her sort through the complexity of this case. In Sanal’s inner history of the dialysis machine, Oguz’s language sometimes sounds like what he might say in a memoir (if he were writing one) and sometimes sounds like what he would say to a therapist (if he were seeing one).

Sanal’s work underscores the complexity of relationships with cutting-edge technologies. When doctors save a life by beginning dialysis or performing a kidney transplant, most patients are grateful for the lifesaving procedure, but alongside these feelings there can also be distress—patients are coping with something radically new. In ambivalent relationships, many feelings coexist without negating each other; intimate ethnography is dedicated to hearing conflicting inner voices.

Psychoanalysis or dynamic psychotherapy (this is psychotherapy done in a psychoanalytic spirit, but not necessarily in the classical, four times a week, “on the couch” method) can be of great use to every ethnographer. There, one learns one’s own limitations, one’s vulnerabilities, when one is most likely to project one’s own feelings onto others. One learns to be a more discerning listener and not to trust the first thing that is said. One learns to pay full attention and the difference between full attention and what usually passes for listening. One learns to let one’s thoughts find new associations. What things mean is often hidden from us, accessible only by indirect routes. One learns to attend to dreams.

These days, the “talk-therapies” of the psychoanalytic tradition are rather out of fashion. As a way to “feel better,” the ostensibly more speedy cognitive therapies and psychopharmacology have taken center stage. As a teacher of ethnography, I could argue for the didactic power of psychoanalysis or dynamic psychotherapy, but these are interventions that only an individual can choose, major financial and emotional investments.¹¹ Professionally, I am committed to something more realistic, something I can do in my classroom: asking ethnography students to read and write memoir. Through memoir, ethnographers learn about their own inner life and how to see the general in the particular. They are better able to hear when their informants struggle to do the same thing.

Studying people and their devices is, quite simply, a privileged way to study people. As William James reminds us, thought and feeling are unified in our apprehension of objects.¹² Technology serves as a Rorschach over a lifetime, a projective screen for our changing and emotionally charged commitments.¹³

Untold Stories

The concerns of inner history are not exotic. For example, one could be interested in life with everyday technologies and be satisfied with reasonable answers: people are vulnerable to “Internet addiction,” patients implanted with internal cardiac defibrillators gain a new lease on life, cell phones enhance connection and communication. Each of these is, in its way, a “company line” on a new technology. And all of these may well be true as far as they go. The essays in this collection go further, offering moments when we learn something that breaks with conventional wisdom. At these moments of new truth, people express themselves in ways that are highly particular, close to idiosyncratic—and often the body is involved.

The anthropologist Anne Pollock studies patients who have been implanted with internal cardiac defibrillators, devices that will shock the heart if it fails. These patients know what they are supposed to feel about their implants. They are supposed to feel grateful. And they do. But they also suffer from their new cyborg status, something signaled by the distinctive diction they use to talk about being shocked and revived: “I died and then. . . .” The experience of receiving multiple, painful shocks, of never knowing when one will be shocked, or what actions will trigger a shock, leads ICD patients to develop rituals to prevent shocks and magical thinking about how they might be warded off.

The historian Michel Foucault wrote of prisoners who learn self-surveillance by internalizing the gaze of their prison guard.¹⁴ Pollock notes that for ICD patients, surveillance “begins by being within.” For them, there is no self that is independent of the device: patient and defibrillator are one.

Many ICD patients feel that the device has cheated them of the death they would want, a simple death from a heart attack. One patient is nostalgic for the death he almost had before he received his ICD: “Blacking out on the road, dying like that would be nothing. There would be no pain whatsoever.” Yet ICD patients seem to agree that to remove the defibrillator would be the moral equivalent of suicide. A patient’s wife says: “I don’t think there’s even that option. You cannot be the old you.” Getting an ICD is, for her, nothing short of a “metamorphosis,” like having children. Her husband agrees. “You can’t get rid of kids either.” Becoming cyborg is not a reversible step.

Alicia Kestrell Verlager, blind in one eye and going blind in her second, dreams of herself as cyborg. Few would suspect that this sightless student, dutifully using her computer as a reading machine, believes that prosthetics turn her into a repaired, if flawed, machine. Verlager’s memoir about her prosthetic eyes illustrates

one place the inner history of devices can take us—to people learning to write the story of their own lives. Like Pollock’s subjects, Verlager is aware of the triumphalist narratives that technology offers. They would imply, for example, that medicine and its devices would make her eyes steadily improve. These narratives would put her doctor in the role of “the hero who saves my eyes and me as the brave and scrappy orphan who overcomes blindness.”

But I’ve been miscast, because really, I am already looking forward to the day when we can all acknowledge that my eyes are past saving, and I will no longer have to deal with needles and bright lights and hospitals and the frustrated anger of doctors and family members who cannot accept me as blind and in pain.

Verlager doesn’t want to be at war with a part of herself that is weak and failing. She doesn’t want to “fight” to get better. She prefers to think of her whole imperfect body in the same way she thinks of her grandmother’s 1966 Ford Falcon. “I have a certain loving acceptance that its shortcomings are just part of what it is. I see my body as technology.” She is ready to accept blindness. She has one prosthetic eye; she wants a pair. With the notion of technology as prosthetic, Verlager sees the possibility of stepping aside from her lifelong struggle with her biology. For her, posthumanism is not a theoretical position.¹⁵ It is her nascent identity. Year by year, bit by bit, she adds on new “stuff.” “I have come to think of all my electronic devices as prosthetics much like my eyes,” she says.

First there was my original prosthetic; then my adoption of computers and synthesized speech and the replacement of my second eye with another prosthetic; finally, I add the technological

“tethers” of a cell phone and digital recorder. With these final tethers, I began to visualize all information—speech, text, whatever—as 0s and 1s, which can be converted and catalogued in digital formats.

Verlager’s speech synthesizer becomes an “inner voice,” and she finds herself using and forgetting the computers that have become pieces of herself. She says of them that they “have blurred the boundary between me and not me. I sometimes think of myself as becoming science fiction.”

Other medical technologies induce similar fantasies. Pollock’s ICD patients come to think of themselves and their machines as one. Sanal’s dialysis patient Oguz sees himself as “half robot and half human,” an electronic “thing” that has “exited the human condition.” Zehra, another dialysis patient, feels that her body is no longer her own, that it is being replaced in the cycles of dialysis. During dialysis Zehra tries to sleep but her dreams are mostly recursive, dreams of herself on dialysis. Sanal remarks that “connection to the dialysis machine eroded the boundaries of the ego.”

In Natasha Schüll’s essay on compulsive gambling, we learn that the gambler’s goal is not to win, but to stay connected to the machine. Indeed, one of the gamblers, Julie, confesses that winning can be annoying: “If it’s a moderate day—*win, lose, win, lose*—you keep the same pace. But if you win big, it can prevent you from staying in the zone.”

Another gambler, Isabella, associates her absorption in gambling machines with a televised science fiction program in which characters are sucked into computer screens and from there into computer games. When Isabella plays video poker she feels “inside the machine, in the king and queen turning over, almost hypnotized into *being* that machine.” Images of cyborg coupling run through the community of gamblers. One

of them, an electronics technician named Randall, says:

I get to the point where I no longer realize that my hand is touching the machine, I don't feel it there. I feel connected to the machine when I play, like it's an extension of me, as if physically you couldn't separate me from the machine.

Voice synthesizers, dialysis machines, gambling machines designed to rivet their users—these are, from the start, devices within or close to the body. But everyday communications technologies—such as cell phones—these too become intimate machines that inspire strong, even eroticized attachments. So while public discussions of cell phones stress their convenience and how they make our lives more productive, E. Cabell Hankinson Gathman's memoir takes the narrative in a very different direction.

As a young woman in the final throes of a love affair, Gathman is surprised to find her cell phone a crucial actor in her drama. She sleeps with the phone in her arms, waiting for the ring tone she has set to herald her lover's calls. When they break up, she deletes his phone number within hours but cannot bring herself to delete the special ring tone she programmed to signal his calls. Long after the relationship is over, his ring tone remains. Of course, it is no longer activated by her lover's calls—he no longer calls.

Gathman leaves the ring tone on her phone to be chanced upon:

Whenever I cycled through my store of tones, to change my default or set a tone for a particular contact, there it was. . . . Every time I heard it, it shocked me for a moment with instinctive pleasure, the sense that we shared something, that he wanted to talk to me, before it filtered through

the present and I remembered that he hadn't even called to say he wasn't going to call anymore.

For Gathman, the ring tone becomes part of a mourning process. Others engage in similar rites: for many, deciding how to deal with the voicemail and greeting messages of a deceased family member has become part of the process of saying goodbye. Some people keep these tones and messages but find that having them is more important than listening to them. Erasing them seems intolerable. For others, deleting these messages is part of the ritual of mourning.¹⁶

A moment of mourning is at the heart of Rachel Prentice's essay on digitized bodies. An anthropologist, Prentice studies the Visible Human Project, a computer program that digitally reconstructs a cadaver. Prentice tells us that its images—one of a man, one of a woman—"resemble photographs of people, but the images are strange. Color and shadow are subtly wrong. There are odd marks. They seem to have no context other than the computer screen."¹⁷ To get these images, the bodies had to be specially embalmed, then frozen, scanned, and sectioned into microscopic slices. Then, digital photographs were taken of each shaved-off body section. After it all, the frozen sections were cremated.

Prentice describes an interview with Julie, a forty-six-year-old medical writer. Julie's first response to computer images of the "visible woman" is dispassionate. She shows more interest in the download speed of the program than in the images themselves and claims that she has never seen a dead body. But as Julie focuses on the dead woman's images, her response changes, "The eyes look painfully closed. There's a furrowed brow." Julie imagines that she sees pain on the woman's face, pain caused by something that happened as her body was being manipulated on its way to becoming a program. As the interview progresses, Julie decides that

the violence to the woman occurred before her funeral, “in the casket, before it was decided she would become the visible woman.” Julie assumes there was a funeral with a casket.

The turning point in Julie’s interview comes after the formal interview is over. Prentice tells us that “at the end of the interview, after I have closed my notebook,” Julie, who only a short time ago said she had never seen a dead body, now remembers that she has seen three of her grandparents in death. We owe this powerful second interview to the evocative nature of the Visible Human Project and to the quality of the moment that the ethnographer has created with her subject. Julie begins to talk about a traumatic incident involving her grandmother’s body in her casket, the place that she has put the visible woman at the moment of her pain. At the funeral home, Julie noticed that her grandmother’s lipstick was awry. “Improperly applied lipstick would have upset her grandmother,” says Prentice. “Though she knew that her grandmother was dead, the improperly applied lipstick forced Julie to confront all that attends death: the body lying in front of her no longer had agency. It was at the mercy of strangers,” professional attendants.

Julie’s associations went from the discomfiting exposure of the visible woman to her grandmother’s vulnerability in death. Prentice knows, as she is closing her notebook, that another kind of interview has begun. Julie began her interview with Prentice as a medical writer. She ends it as a granddaughter.

There is an instinctive desire to protect the humanness of those who are vulnerable. The visible woman is shown to us past our ability to protect her. She was turned into a thing that is allowed no modesty. Prentice’s intimate ethnography did not lead to a criticism of technology but to an implicit question about consent: did the human being who became the visible woman really know what was to become of her body, what

it would mean to be turned into a program? She is a human being now used in a new way, splayed out in a virtual world where she is at the disposal of anyone who cares to look. The classical anatomy laboratory is a highly ritualized space. Those who cross its threshold are made to qualify. Bodies on the Internet are just another window on the screen.

Prentice begins her essay by describing her informants as socialized into professional roles that prepare them to view computer images with dispassion—the role from which Julie departed. The meanings of technology are constructed in culture, or as Geertz puts it, “Culture is public because meaning is.”¹⁸ Certain styles of technological attachment become dominant in particular places and times; examining individual relationships with technology can be a window onto larger social forces.

So for example, Schüll’s consideration of video poker addiction leads her to reflect on the 1973 comment by sociologist Daniel Bell that, as individuals moved away from the assembly line and joined the service economy, they would talk to each other more.¹⁹ Thirty-five years later, Schüll reflects that Bell’s theory did not anticipate that today, talking to other people is somehow experienced as exhausting; we happily retreat into worlds where we are content to communicate with machines. Schüll describes gamblers with a pathology, but her account raises a question that confronts us all: what is there about modern community that has so taxed us that we sometimes prefer to reconstitute it through machines?²⁰

Orit Kuritsky-Fox’s memoir tells another story of technology, modern community, and retreat—her recollections reveal television as a window onto social divisions in Israeli society. For secular Israelis, television is a force of social cohesion. When Kuritsky-Fox was growing up, the country was small and the stations few. She describes a television program from her youth in which people moved through mirrors to rooms on the other side—a program so well known to her generation

that twenty years after its broadcast, she can still hold a conversation about it with friends and colleagues. Yet, television also divides. Some sects of orthodox Judaism prohibit television. For the orthodox, admitting that one watches television puts one beyond the pale. In Israel, the society's secular/religious split is played out in a relationship to television. As secular Jews, Kuritsky-Fox and her immediate family watch television. Her grandmother lives with greater contradiction. She is "officially" orthodox; she can be buried in a sanctified cemetery only if television is not a part of her life. Yet, this woman's greatest pleasure is to chat in Yiddish to the TV news anchors as though they were old friends and offer family advice to the characters on soap operas—*Dynasty* and *The Bold and the Beautiful*.

So, when her grandmother dies, both she and her granddaughter have to "pass" as nontelelevision watchers, one to be buried, the other to attend the orthodox funeral. Kuritsky-Fox, a television producer, describes her efforts to dress in the style of someone who would never think of watching television. She chooses a long dress, a dowdy look. She knows she should wear pantyhose in summer to complete the effect, but it is a hot day and she dispenses with the hose, something she thinks she can get away with. At the cemetery, Kuritsky-Fox comes to regret omitting the pantyhose.

As I was waiting at the cemetery, the receptionist approached me and asked what I was looking for. I told him that I was there for my grandmother's funeral. He stared at me with dismay. I thought to myself that perhaps the pantyhose had not been dispensable. "Are you religious?" he asked, and I started to mumble. Then, he found a way to cut to the chase: "Do you own a television?" I hesitated for a second and then told him the truth. He gasped, looked into my eyes and asked his next question: "Your grandmother, she didn't watch television, did she?"

The cemetery scene captures the daily identity negotiations in this divided society, here crystallized around a communications technology. There is Kuritsky-Fox's grandmother, television her heart's delight, but whose aversion to television is certified by seven busloads of yeshiva students dressed in black suits that her orthodox sons have sent in as official mourners. There is Kuritsky-Fox's mother, an ardent secularist, for whom lying about television watching would be a betrayal. And there is Kuritsky-Fox herself, who has chosen to live in many cultures, a life resonant with the television program of her youth, in which people go through mirrors to the many rooms on the other side of them.

In the Verlager, Gathman, and Kuritsky-Fox memoirs, technology is central to forging identity, a central theme of this collection's clinical writings, which focus on adolescence and online life. These days, adolescents use life on the screen—social networking, game avatars, personal Web pages, and citizenship in virtual communities—to crystallize identity by imagining the selves they wish to be.²¹ An online avatar can come to feel continuous with the self and so offer the possibility of personal transformation.²²

Psychoanalyst Erik Erikson writes of adolescence as a time of moratorium.²³ Although the term implies a "time out," what Erikson has in mind is not withdrawal. On the contrary, the adolescent moratorium is a time of passionate experimentation, of intense interaction with people and ideas. The moratorium is not on significant experiences but on their consequences. Erikson writes that "the playing adult steps sideward into another reality; the playing child advances forward into new stages of mastery."²⁴ Time in cyberspace reshapes the notion of the moratorium because it may now exist as ongoing activity.

Yet this aspect of online life is scarcely recognized in most narratives about teenagers and the Internet.

Psychiatrist John Hamilton notes that no matter how serious their child's situation, parents of his young male patients come in with another complaint: "I can't get him off the computer." His clinical colleagues share these parents' negative bias, routinely advising them not to let their children on the Internet or, as Hamilton puts it, "tell[ing] them to get a real friend." Hamilton sees things differently. He uses therapy sessions to bolster adolescents' fragile identities.²⁵

In my practice I find that bringing the Internet into the therapy session enables difficult things to be said. The Internet takes a therapist and patient struggling to communicate only with words and offers them color, sound, and mobile avatars. The endless variety of Internet sites makes it possible for young men to find particular places and games that help them work on their inner life. They are even able to find characters to "play" that help them address specific psychological issues.

Many of Hamilton's young male patients have weak or absent fathers. They use the Internet to play the part of masculine superheroes. These superheroes are compelling because they offer images of strong men who do not need the attention of others. Hamilton is able to get his patients to reflect on the costs of their identification with these hypermales. To succeed in the "real" world, his patients need skills the superheroes lack—how to collaborate, share experiences, and understand others. Hamilton describes a patient who learns to question the simple equation of masculinity with aggression and lack of communication by "problem-solv[ing] for avatars in the virtual and tak[ing] what he learns back into the real."

The Internet is also a working material for psychoanalyst Kimberlyn Leary. One of her patients, a talented young woman named Morgan, needs to both criticize

Leary and be reassured that she is there, undamaged, to help her. When Leary goes on a business trip, Morgan, who experiences life in terms of limited resources, is enraged. If Leary has more, she will have less. Morgan writes a hostile email:

Dr. Leary, my capricious shrink. You are the lamest thing going. The only thing that matters to you is your pathetic little writing endeavors. . . . You have no trouble clasp my check in those perfectly slender and inconspicuously manicured talons of yours without having been around for the most needful moments in my recent, unmomentous life. Right now, you are a pale substitute for my symptoms.

Leary responds to the email by focusing on how well Morgan has expressed herself and makes it clear that she is looking forward to talking more, that Morgan's feelings have not shut down their connection. And Leary sees possibility in Morgan's use of the phrase "right now"; it suggests that Morgan's feelings can change. In their next session, therapist and patient work to create a bridge between what Morgan could express in her email (which she says she has forgotten) and what she is able to discuss in person. The analyst and patient return to the image of Leary's "manicured talons," and Morgan admits that she has "always liked" Leary's fingers. "They are so long. I've always thought you probably played the piano and could make beautiful music with those fingers of yours." Email becomes a transitional space that opens new possibilities for communication.

In these clinical accounts, we are far from any standard view of Internet "addiction." The Internet appears as a medium in which people discover things about themselves, good and bad, usually complicated and hard to sort out. For too long, clinicians dismissed their patients' interest in email and in building virtual

identities—on Web sites and computer games—as “just fantasy,” as though that were not central to the business of being a therapist. But life on the screen can be working material for psychotherapy, not something that therapists should discourage as a waste of time.

There is a moment in psychoanalyst Marsha H. Levy-Warren’s essay that illustrates how simple and profound it is to move beyond standard narratives. A patient, Joanie, an unhappy and overweight teenager, spends many hours a day playing a computer fantasy game, often instead of doing her homework. When Levy-Warren asks her why she finds her game so compelling, Joanie’s first answer is the formulaic, “I know I shouldn’t do it, but I just can’t resist.” This is the answer that has led to the many thousands of articles on computer “addiction.” But Levy-Warren pursues the question, “Any sense of what is so irresistible about the game?” And she begins to get another kind of answer. Joanie says: “I really like who I am in it. You know, I created a character. It’s a fantasy game.” An inner history has begun.

By talking about what she can be on the game and cannot be in the rest of life, Joanie is able to consider how she has used her weight to remove herself from competition for male attention. She finds a way to acknowledge her own competitive feelings and her desire to be like her screen character—bold and assertive. “Gradually, her depression lifts,” says Levy-Warren. “She feels closer in the real to the person she plays in the game and plays the game less.” In psychoanalyst Christopher Bollas’s terms, Joanie’s game is revealed as an “adamant quest for a transformative object: a new partner, a different form of work.”²⁶

Collection and Recollection

The essayists in this collection consider devices that come supplied with sanctioned ways of understanding them. The authors take time to go further, often

not knowing what they are looking for. In Nicholas A. Knouf's memoir, a medical device, in its presence and absence, allows him to dream.

Faced with his sister Robin's illness—the gravely debilitating Rett Syndrome that offers no hope, Knouf and his family learn of a technique that offers some. The family moves Robin's limbs rhythmically in crawling and walking movements on a specially built “patterning table.” While Robin lives, Knouf is immersed in the community around the table. After Robin dies, the table's absence opens a reflective space for Knouf to consider how it shaped his life. “With Robin,” says Knouf, “the volunteers, the discredited therapy method, and the patterning table, we had tried to awaken cognition with care, with the soft sheepskin, the men and women gathered around.” But the table has stood in the way of many things: the animating force of Knouf's school work has always been the dream of curing his sister's illness; it takes him a while to find his identity after she and the table are gone.

With loss, Knouf is able to rework the past. Meaning, as Lillian Hellman wrote in her memoir, comes in *pentimento*, in the painter's layering of paint, in his “repentance” as he finds what he wants in the process of repainting. The meaning for Hellman is in “what was there for me once, what is there for me now,” or as Geertz stressed, in the act of interpretation and reinterpretation.²⁷ What will become of this kind of reworking when, in digital culture, people's fantasies shift from telling the story of a life to having a complete record of it?

Computer and Internet pioneer Gordon Bell has immersed himself in the project of creating a full digital life archive. In 1998, he began the process of scanning books, cards, letters, memos, posters, and photographs—even the logos of his coffee mugs and T-shirts—into a digital archive. He then moved on to movies, videotaped lectures, and voice recordings. Faced with the question of how to organize and retrieve this mass of data, Bell began to work with a team from Microsoft.

The MyLifeBits project was born. Bell and his colleague Jim Gemmel describe the process of data collection:

The system records his [Bell's] telephone calls and the programs playing on radio and television. When he is working at his PC, MyLifeBits automatically stores a copy of every Web page he visits and a transcript of every instant message he sends or receives. It also records the files he opens, the songs he plays and the searches he performs. The system even monitors which windows are in the foreground of his screen at any time and how much mouse and keyboard activity is going on. . . .

To obtain a visual record of his day, Bell wears the SenseCam, a camera developed by Microsoft Research that automatically takes pictures when its sensors indicate that the user might want a photograph. For example, if the SenseCam's passive infrared sensor detects a warm body nearby, it photographs the person. If the light level changes significantly—a sign that the user has probably moved in or out of a room and entered a new setting—the camera takes another snapshot.²⁸

What compels the architects of this program is the idea of a complete, digitally accessible life. To be sure, there are medical applications (“your physician would have access to a detailed, ongoing health record, and you would no longer have to rack your brain to answer questions such as ‘When did you first feel this way?’”), but most of all, the authors speak of posterity, of MyLifeBits as a way for people to “tell their life stories to their descendants.”²⁹ But what is it that future generations want to know of our lives?

In the collection *Evocative Objects*, architect Susan Yee describes her visit to the Le Corbusier archive in Paris on the day its materials were digitized.³⁰

Yee began her relationship to Le Corbusier through the physicality of his drawings. The master's original blueprints, sketches, and plans were brought to her in long metal boxes. Le Corbusier's handwritten notes in the margins of his sketches, the traces of his fingerprints, the smudges, the dirt—Yee was thrilled by all of these. One morning, Yee has all of this in her hands, but by the afternoon, she has only digital materials to work with. Yee experiences a loss of connection to Le Corbusier: "It made the drawings feel anonymous," she says. More important, Yee says that the digitized archives made her feel anonymous.

When working in the physical archive, Yee was on a kind of pilgrimage. She did not pause in her work, so completely was she immersed in the touch and feel of Le Corbusier's artifacts. But once the material was on the screen, there was a disconnect. Yee found herself switching screens, moving from the Le Corbusier materials to check her email back at MIT. More than a resource, the digitized archive becomes a state of mind.

MyLifeBits is the ultimate tool for data collection. But what of recollection in the fully archived life? Speaking of photography, Susan Sontag writes that "travel becomes a strategy for accumulating photographs."³¹ In digital culture, does life become a strategy for establishing an archive?³² When we know that everything in our lives is captured, will we begin to live the life we hope to have archived?

The fantasy of a complete record for all time—a kind of immortality—is part of the seduction of digital capture. But memoir, clinical writing, and ethnography are not only about capturing events but about remembering and forgetting, choice and interpretation. The complete digital archive gives equal weight to every person, every change of venue. The digital archive follows chronologies and categories. The human act of remembrance puts events into shifting camps of meaning. When Bell and Gemmell consider the quantity of information on MyLifeBits, they talk about the "pesky

problem of photograph labeling.”³³ The program is going to use face-recognition technology to label most photographs automatically. In reading this, I recall childhood times with my mother in which she wrote funny things, silly poems, or sentimental inscriptions on the backs of family photographs. She liked putting them in a big drawer, so that, in a way, picking a photo out of the drawer, almost at random, was finding a surprise. Moments around the photograph drawer were moments of recollection in laughter, regret, sometimes mourning. Now automated for a steady stream of photographs over a lifetime, photograph labeling is just a technical problem. Bell and Gemmell sum it up by saying that “most of us do not want to be the librarians of our digital archives—we want the computer to be the librarian!”³⁴ In this new context, reviewing your life becomes managing the past. Subtly, attitudes toward one’s own life shift; my mother, happily annotating her messy drawer of snapshots, never saw herself as a librarian.

Of course, the digital archive is only a resource; it remains for us to take its materials as the basis for the deeply felt enterprise of recollection. But one wonders if the mere fact of the archive will not make us feel that the job is already done.

Let me return to 1977 and to the man whose words began this essay, a middle-aged man with a TRS-80 home computer. This was Barry, living in a Boston suburb.³⁵ Barry knows how his TRS-80 works, down to every circuit. When typing a document, he imagines each instruction to the word processing program translated into assembly language and from there to the basic electronics of gates and switches. Whenever possible, Barry programs in assembly language to stay close to the bare machine.

Barry went to college for two years, hoping to be an engineer, then dropped out and went to technical school. He has a job calibrating and repairing electronic equipment for a large research laboratory. He likes his

job because it gives him a chance to work “on a lot of different machines.” But he comes to it with a sense of having failed, of not being “analytical or theoretical”: “I always had a great deal of difficulty with mathematics in college, which is why I never became an engineer. I just could not seem to discipline my mind enough to break mathematics down to its component parts, and then put it all together.”

Five years before I met him, Barry bought a programmable calculator and started “fooling around with it and with numbers the way I had never been able to fool around before.” He says that “it seemed natural to start to work with computers as soon as I could.” To hear him tell it, numbers stopped being “theoretical”; they became concrete, practical, and playful. Barry says that with the computer and calculator, “The numbers are in your fingers. . . . They put mathematics in my hands and I’m good with my hands.” For Barry, what is important about having a computer at home is not what the computer might do, but how it makes him feel.

But what of his tears?

Ever since dropping out of college, Barry has seen himself as limited, constrained. Working with the computer has made him reconsider himself:

I really couldn’t tell you what sort of things I’m going to be doing with my computer in six months. It used to be that I could tell you exactly what I would be thinking about in six months. But the thing with this, with the computer, is that the deeper you get into it, there is no way an individual can say what he’ll be thinking in six months, what I’m going to be doing. But I honestly feel that it’s going to be great. And that’s one hell of a thing.

It was at this point in the interview that I saw tears. Barry’s world had always been divided into people who think they know what they’ll be doing in six months and

people who don't. Barry has crossed this line, and now he has started to call other lines into question, ones that have limited his sense of possibility. In school, his inability to do the kind of mathematics he respected made him lose respect for himself. The calculator and computer gave him mathematics. But more important than the mathematics he has mastered, he has come to see himself as a learner.

There are many stories to tell about people and their devices. We need to hear stories that examine political, economic, and social institutions. Inner history tells other stories. Inner history makes Barry's tears part of an ethnography of the personal computer. Inner history shows technology to be as much an architect of our intimacies as our solitudes. Through it, we see beyond everyday understanding to untold stories about our attachments to objects. We are given a clearer view of how technology touches on the ethical compacts we make with each other, compacts that philosopher Emmanuel Levinas has suggested begin when we look into the face of another human being.³⁶ Each essay in this collection brings us to the question we must ask of every device—does it serve our human purposes?—a question that causes us to reconsider what these are.

