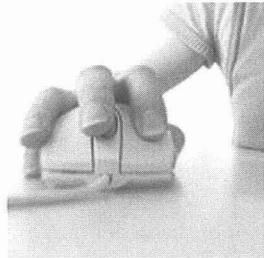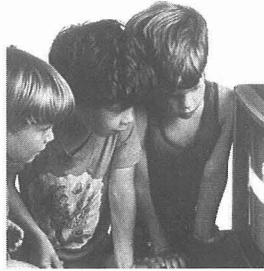# Technobiographies as Stories of Learning

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In her introduction to her 1984 text, *The Second Self*, Sherry Turkle contrasts our study of the computer—an object that exists "betwixt and between," "a new mind that is not yet a mind"—with early studies of the Wild Child of Aveyron, another phenomenon that she argues poses similar questions about the nature of humanity. The Wild Child was a boy of about thirteen who was discovered in 1800 in the Aveyron region of Southern France. To all appearances, he had spent his entire life surviving alone in the wilderness. He could not speak and seemed to make only meaningless utterances. As Turkle suggests, the Wild Child "became the occasion for what has been called 'the forbidden experiment,' the experiment that would reveal what human beings really are beneath the overlay of society and culture" (11).

Turkle argues that, as with our study of the Wild Child whom we wanted to speak to us of our relation with nature, we ask the idea and object of the computer to speak to us about "where we stand in the world of artifact" (12). She writes, "We search for a link between who we are and what we have made, between who we are and what we might create, between who we are and what, through our intimacy with our own creations, we might become" (12).

In the twenty years since Turkle's study was first published, we have only begun to grapple with how people make relationships with digital objects, and what the vicissitudes of those relationships make of the subjects and objects they encompass. In thinking about these questions, I am drawn to an emerging genre of autobiographical narratives, memoirs, and auto-ethnographies, sometimes referred to as "technobiographies" (Henwood, Kennedy and Miller), which describe the use and usefulness of digital objects in complex ways, as both social and affective as well as technical. These technobiographies offer stories about ambivalence and uncertainty in our relations with objects of the digital age. In this essay, I want to consider the question that Turkle suggests about "what, through our intimacy with our creations, we might become." Put another way, I am wondering how we might understand these narratives of the digital subject and object as stories of learning?

In his memoir, *Extra Life*, about "coming of age in cyberspace," David Bennahum writes that "part of the success of digital toys lay in their nature: they were not just toys, but *playmates*" (25). While his acknowledgement of the experience of toys as playmates is, in itself, not particularly remarkable, Bennahum suggests that there is something remarkable about his initial experience of the electronic or digital animation of the object that made it, for him, an active—and surprisingly powerful—social partner in play. Bennahum describes his early interest in the first handheld digital games this way:

> My old toys—Star Trek dolls, plastic guns—were dead things. They didn't move the way these new toys moved, and they weren't smart. These inventions represented a new digital way to play. They played back, reacting to what you did. And in this was something

entirely new: an experience of communication—dialogue—with an inanimate object. We actually played *together*. This would become the singular characteristic of a digital world—machines that felt alive, malleable, responsive, changeable over time. (25)

Like Bennahum, the children in Turkle's study are both excited and disturbed to discover the degree to which digital games seem able to both respond and not respond in unexpected ways. Turkle describes a six-year-old named Laura, who reacts emotionally to the fact that the computer toy, Merlin, is able to repeatedly beat her at tic-tac-toe, and a seven-year-old named Paul, who, when the toy will not allow him to shut it off, enjoys repeatedly "killing" the Speak and Spell by removing its batteries.

In these stories about the use of the digital object, what is curious is that the intended "usefulness" of the machine is not of primary importance. Instead, these children imbue the digital object with their own meanings and uses. Like the children in Turkle's study who become focused on killing and reviving the machine by putting in and taking out its batteries rather than playing the game it offers, there are many other examples of children acting in opposition to a digital game's intended use: stories of children intentionally and repeatedly smashing up their cars in racing games or allowing the *Sims* character they are meant to protect, starve to death.

In this way, the digital object is not simply a tool with a technical or functional use, but also an encounter in which we work through our relation to the outside world. In this sense, these digital objects become sites of curriculum.

The complexity of these relations for adults is beautifully illustrated by Gary Lee Downey in *The Machine in Me*, his 1998 auto-ethnography about living among computer engineers and engineering students. Downey elaborates on the complexity of the negotiation between inside and outside when he suggests that, in order to understand the experiences of computer engineers, "one possible pathway may be to think about each machine as a configuration of agencies—acts of positioning—that are part-human, and of each human as a configuration of agencies that are part-machine" (6).

At one point in his study, Downey describes the difficulties engineering students are having in accepting this shared agency, because it means "questioning the whole content of engineering knowledge as repeated iterations of submission and control" (158). Students enrolled in a course on technologies of Computer-Assisted Design/Computer-Assisted Manufacturing (CAD/CAM), had expected to gain a sense of mastery, but found instead that they had to enter into an exchange with some other configuration of agencies located within the computer. For each student, gaining access to the technology through its elaborate protocol of "logging in" established a connection between the human and the machine that, in its complexity, exceeded the relation of control and submission the students were expecting. Downey writes:

Without following these steps, the user's agency could not exist, nor would the user itself. In other words, just as these novice humans were beginning to extend their agencies inside the computer to participate in an electronic exchange, so the computer was extending its agencies into their bodies, producing a significant bodily interaction and exchange. (152)

Rosanne Stone uses the notion of *prosthesis* to describe her own experience of the interpenetration of human and machine. In contrast to the common conceptualization of the computer as a tool, discrete and separate from the human who wields it, Stone argues that as prostheses, digital technologies are inseparable from the humans who experience them as extensions of their will and identity. She asks, what happens when a technological prosthesis becomes necessary to one's identity? Where do we stop and where does the technological object begin? Where are our edges?

In trying to make sense of our intimacy with and ambivalence towards the machines that populate our lives, these technobiographical narratives and the strange use of digital objects they illustrate offer two interconnected stories of learning: first, they narrate the ways in which objects become imbued with psychological meaning; second, they tell us about the usefulness of these digital objects in our negotiation of the relationship between inner life and external reality.

For Turkle, the computer, like the Wild Child, is both an "evocative object" and a "marginal object." As with many other cultural icons and objects that exist on the edge of mind—such as the madman and the monster—the computer exists "both within and outside the normal social order […] both within and outside our normal categories of what is alive" (24). Most technobiographies seem to echo the narratives of the children in Turkle's study who experience the computer as a site of subjectivity and have a hard time determining whether or not these digital machines are in fact, alive, and, in the context of digital technologies, what counts as a living thing.

Turkle suggests that computers function as "marginal objects on the boundary between the physical and psychological" (31). In her study, she noticed that children's beliefs about computers *did not* correspond to previous research on the development of their perceptions about animate and inanimate objects. According to Jean Piaget, as quoted by Turkle:

Childhood animism […] is only gradually displaced by new ways of understanding the physical world in terms of physical processes. In time the child learns that the stone falls because of gravity; intentions have nothing to do with it. And so a dichotomy is constructed: physical and psychological properties stand opposed to one another in two great systems. (30)

However, Turkle's extensive interviews with children and adults about their experiences of computers have led her to conclude that the computer is, for most of us, a new kind of object: it is an object that disrupts the dichotomy between the physical and the psychological. The computer is "psychological, yet a thing" (31).

Object relations theorists understand the "evocative object" as an object external to the subject that becomes evocative because we affect it with inner meaning (Bollas). Psychoanalysis uses the idea of "symbolization" to describe how the object is imbued with meanings in such a way that it becomes evocative of new ideas and new worlds. In its most primary form, symbolization allows the infant to use transitional objects to stand in for an experience of union with the mother until the infant is more fully able to accept the reality of separation.

As Donald Winnicott suggests, transitional objects or phenomena are developmentally necessary for the infant to progress to the recognition of external reality and to an experience of the world. Often in the guise of a well-loved teddy bear or blanket—and later in the guise of a digital toy or Sims character—the transitional object is perceived by the child to be both "me" and "not-me": it is never under complete control like an internal object, nor is it outside the child's control as is the external object of the mother. The parent makes an agreement with the baby, Winnicott argues, not to force differentiation between primary creativity and objective perception of the transitional object. The parent must never ask, "[D]id you conceive of this or was it presented to you from without?" (12). This allows for a neutral area of experience in which the child gets to have the illusion that external reality corresponds to her own capacity to create.

Ultimately, the task of parents and educators is disillusionment, and the child's developmental task is that of reality-acceptance, although each of these tasks is interminable. Winnicott writes that the transitional object is what we see of "the infant's journey from the purely subjective to objectivity [...] of this journey of progress toward experiencing" (6). The intermediate area of experience posed by the transitional object "is necessary for the initiation of a relationship between the child and the world" (13). The intermediate area of experience is where we work out the dynamics that become our way of relating to the external world and ourselves, where we learn how to learn and to think, or as Maxine Greene might suggest, to engage in learning as a reordering of the self.

The notion of the transitional object and the process of symbolization both return us to Turkle's observations about the computer as an evocative object, which entices us to explore "who we are and what, through our intimacy with our own creations, we might become" (12). This question about the relations, encounters, and intimacies that constitute learning stands in contrast against more frequently considered questions about "media effects," or the effect of the digital object on the subject. In this way, these technobiographies offer stories of learning that are not easy for educators.

As Alice Pitt argues, object relations is less interested "in what we learn from our encounters with knowledge about the world; rather [...] [it] is curious about what we use knowledge to do" (87). Her remarks suggest that we consider curricular experiences and objects not primarily in terms of their content, "but rather as a method for observing how we experience ourselves in the world" (89). Following Pitt's lead, I ask, how do digital objects allow us to observe our experience in the world? The writers of the memoirs and narratives that constitute technobiographies follow the strange vicissitudes of their relationships with digital objects in order to explore just that. Their stories of learning can broaden our curricular understanding of the use of the digital object, not simply as a tool of transmission, but as an evocative object that can facilitate the working out of reality acceptance and the attachment to new ideas.

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