In this chapter, I analyze domestic Internet use, drawing on Actor Network Theory (Callon, 1987; Law, 1987). More specifically, I follow the direction proposed by Cowan (1987), who pioneered an actor-network approach taking the user as its point of departure. Cowan’s (1987) project was to understand the network that holds users and technology together from “the consumption junction, the place and the time at which the consumer makes choices about competing technologies” (p. 263). Cowan believed that this consumer-centered version of an actor-network would help to explain the success or failure of different artefacts. The consumption junction represented for her “the interface where technological diffusion occurs” and also “the place where technologies begin to reorganize social structures” (p. 263).

In a somewhat different development inspired by Actor Network Theory, Gomart and Hennion (1999) elaborate on a “sociology of attachment” through the study of music amateurs and drug users. They introduce the concept of “subject networks” (p. 220), which attempts to capture the ways that “the subject can emerge as she actively submits herself to a collection of constraints” (p. 220). These constraints are imposed by entities found in the local environment, including objects and people, or actants and actors, which link together into a network. Making these networks the object of study, Gomart and Hennion propose, would help analysts move beyond questions like “Who acts?” and “What is the determinant and what the determined?” Instead, analysts can focus on the question, “What happens?” In this way, crude dualisms like those between agency and structure, activity and passivity, and freedom and determination would be overcome and replaced by a more fluid picture of mutual constitution between subjects and the entities of their surrounding world. Further, Gomart and Hennion invoke Foucault’s notion of “dispositif” to define the focus of their analysis as “the tactics and techniques which make possible the emergence of a subject as it enters a ‘dispositif’” (p. 220). Within the “dispositif,” objects represent mediators, not causes. They do not carry inherent qualities but acquire qualities “contingent on the user’s discovery movements” (p. 238).

I believe these ideas can yield interesting results when applied to some of the uncertainties generated by the interaction between users and technologies. Do technologies impose determinations of their own, as suggested by the numerous studies looking for the proverbial social effects of different technological innovations? Do they embody and enact the inten-
tions of those who designed them? Are they neutral tools marshaled by users’ free will toward the achievement of desired results? The various brands of actor-network theorizing quoted above indicate that we could learn more about the interaction between subjects and technologies if we abandoned the search for simple determinations. Technologies and users mutually constitute each other by joining together into heterogeneous networks. According to Actor Network Theory, objects (artefacts) represent networks of both human and nonhuman elements. Subjects, or users, on their part, emerge out of the networking of the various elements in their environment, including technological artefacts (Gomart and Hennion, 1999). Activity and passivity, freedom and determination—all are distributed across the network. They are not an intrinsic property or birthright belonging to any one of its components. Paradoxically, this relativistic approach offers valuable insights into some of the unexpected consequences of technological innovation, as well as into the transformations that subjects undergo as a result of their engagement with technologies.

In the rest of this chapter, I apply this approach to the diffusion of the Internet, a remarkable communication technology that has attracted a vast user population in recent years. I report the results of a study that focused on the integration of the Internet into the everyday lives of ordinary users who connect to it from their homes. My goal is to describe the actor networks that ensure continuation—or in constructivist terms, “stabilization” (Pinch & Bijker, 1987), of use. Tracing the dynamic of these networks, I believe, can help us grasp the Internet’s social fate and significance in depth and detail. This can demonstrate how subjects changed the medium through discovering its potential properties in relation to their specific social circumstances. At the same time, it is possible to trace changes in the subjects themselves as they turn into Internet users, and thus enter new relations and alliances afforded by the technology.

An important outcome of this analysis, as it turns out, is the realization that the search for universal characteristics and effects of the Internet is misguided. Users form a variety of different relationships with the Internet. As a consequence, the effects, or changes, in ways of acting and living, in social relations and social organization that are induced by the Internet are infinitely diverse—but this is not the kind of diversity that should paralyze research. The likelihood of finding the one great impact, the message of the medium in McLuhanist terms, does not render analysis futile. It refocuses attention on the quest for understanding the kinds of relationships and networks that we build with and through this technology. These networks are precisely what define us as subjects, as well as the social world that we inhabit.

**Research Design**

The specific challenge posed by this research goal was to devise sensitive instruments for capturing the everyday practices in which Internet use is embedded. The methods of data collection included in-depth interviews and site visits to the homes of 20 lower-middle class households with Internet connections in the metropolitan Vancouver area in 1998 and 1999. The research procedure consisted of four complementary and partly overlapping components: first, a structured personal (dialogic) interview in which the central questions invited respondents to produce mininarratives describing how their “domestication” (Silverstone, 1994) of the Internet happened. Second, a tour of the computer and Internet-related space in the respondents’ homes. Third, a tour of the “computer space” constituted by Internet-use practices; that is, the traces of Internet use that, unlike log files, were deliberately saved in respondents’ computers or in their account’s server space. These files were typically bookmarks, address books, mailboxes, folders, and so on. This particular technique allowed me to examine the “electronic artefacts” created by users as they moved in and consciously manipulated the substance of cyberspace. Importantly, on this tour I was guided by my respondents, who would explain the meaning and the importance of the digital artefacts that could be found in their computer’s memory. Fourth, a short group-interview session, where possible, with respondents’ family members in which the latter were asked to discuss the Internet use, in their home.

Respondents were recruited through self-selection. My interview criteria stipulated that these subjects would not have a job related to the design, production, or marketing of technology, content, or services for the Internet; would be paying for their Internet connection out of their own budget;
The Consumption Junction Revisited

and would use the Internet more than three times per week.

Altogether, 20 home visits were carried out. Twenty-two main respondents (11 men and 11 women) and seven additional family members were interviewed. This respondent group included people with different sociodemographic characteristics and in diverse biographical situations. Their experience in using the Internet varied from 1 to 8 years, with the mean being 3 years. Most of the people in the group had a modest household income between CAN$20,000 and $50,000 annually. (The exceptions were three families with income between $50,000 and $100,000, and one family with an income of over $100,000).

In practical terms, that meant that the participants in the study belonged to an economic bracket lower than the comfortable, most often professional, middle class that was commonly associated with domestic computer and Internet use at the time (1998–1999).

The following account focuses on the stories that my respondents told me about their first encounters and early experiences with the Internet. It tracks the ways in which the domestic Internet connection had emerged as a “heterogeneous network” (Callon, 1987, p. 93) of technical, social, discursive, and cognitive elements including equipment, mass-mediated messages, interpersonal relations, and interpretations of the medium’s nature and usefulness. I identify the “actants” who are responsible for the emergence of this network and seek to explain how and why the connections among them arose. I argue that the penetration of the Internet into individual households, seen from the side of the user, represents a generative process of becoming a domestic Internet user. Generally speaking, this process can be mapped out as follows: It takes place in everyday microsettings and draws from public discourses, organizational practices, situated practical reasoning, and the experience of peers. It involves local interpretations of the technology and the discovery of its properties as it proves to afford new relations with entities in the surrounding world. In strategically enacting or submitting to these new relations and action possibilities, users weave different networks and thus different practical definitions of the Internet—some aligned with those anticipated by designers, some unexpected. Through this process, different user-subject types emerge and proliferate.

The Emergence of the Home Internet Connection

Technical Actants

The computer had been the first element to find a place into the future user’s home. It had usually arrived there by way of a productive activity such as work or study. Most of the time, the need to use a computer at home (its relevance) had been explicitly demanded by a certain organization, or the expense of buying one had been justified by the expectation of increased efficiency in an income-yielding activity.

We had the computer already. My wife had bought it for her research; she was doing her master’s at [the university]. (Theodore, 45, parking patroller)

I went into business for myself for a few years. I already had a computer, a 286. It wasn’t good enough for Auto-CAD at that point. So I bought a 486; at that time it was the best and today it is already old and out of date. (Reiner, 62, retired mechanical engineering technician.)

[What were you doing with your computer before you got the Internet?]

Writing letters, word processing. I did some work in security business for a while, I did the basics—selling security products like cameras. So I did bookkeeping and record keeping. (Jane, 35, homemaker)

For another category of people, the desire to own and use a computer had been provoked by public discourses proclaiming the arrival of the information society or the computer age. “When we got the computer first, it was basically for the kids and for us to be upgraded, to be technically upgraded,” Sophie, a 35-year-old nutrition consultant, explained. “To be technically upgraded” was an effort to keep up with computer development—not for the sake of a concrete practical application but, rather, for the purpose of identifying oneself as an adequate member of the computer age. Similarly, Martha, a meatwrapper for Safeway, felt compelled to “upgrade” herself with computer equipment and skills:

I bought a computer because I needed spreadsheets and word processing, and games. Not for work, for a nonprofit group. Because I
was doing bookkeeping for this group and initially I used to go to a neighbor’s place to use their computer. . . . I am not afraid of computers, and I had done a lot of database stuff on a computer in my son’s school when he was grade 5, that means 7 years ago. . . . Because they were looking for volunteers in the school and I thought it would be a great way to stay in the school and keep an eye on him, and get used to using a computer. And I had taken a basic programming course a year or two before that. . . . I thought, in this computer age I better stay in touch. (Martha, 41, meatwrapper)

For a third group of users, the acquisition of a computer had been driven by mere curiosity and the ready accessibility of the equipment, even though often in outdated form. Garry, for example, had submitted himself to the call of the object:

My brother had just upgraded his computer. My brother works . . . he is an actuary, so he uses computers all the time. So, he was upgrading and he offered me this computer. He had offered it to me three or four times before and finally I said okay. (Garry, 67, retired naval radio operator)

Although a necessary component for accessing the Internet, the computer needs to be further extended, both technically and conceptually, to transform from a stand-alone machine for record-keeping or word-processing into a communication medium. What prompted respondents to take that step? What made the Internet so attractive to them that they were ready to commit resources and effort to get connected to it?

Despite the fact that the respondents in this study were not information technology professionals, some of them had experienced pressure from their employer or educational institution to hook up to the Internet at home. This pressure had been stronger for those who were taking courses at a college or university. Others had simply arrived at the idea that it would be convenient to transfer files between their office and their home or to do work- or study-oriented research on the Internet from home. Users had seen the home Internet connection as a way to more smoothly blend their work/education and family life spaces, and that it afforded a smoother transition.

The Internet came next because I was in nursing [college program], . . . and they strongly recommended it as a research resource, for looking up all kinds of different things we’d need to do in nursing. . . . I thought I just could use the one [connection] at school to deal with the addresses that were assigned to us at school. . . . But he [husband] said that the reality was that it’s easier to use it from home, from the comfort of my own home, and he was right, because as soon as I was done with classes, I wanted to come home. (Sophie, 35, part-time nutrition consultant)

Certainly, new possibilities for both work and education were opening up in the users’ imagination at the same time as the Internet was entering their homes:

I am looking into taking online courses through the Open Learning Agency. . . . I would like to take a lot of courses online. I like taking courses face-to-face, but sometimes it is a nuisance, you have to catch a bus. I just finished 3 years of business admin at [college] and it was once a week getting to the school. I like the interaction, I like other people, getting the feedback. But at the same time it takes a lot of time getting there, so I’d like to take something online. (Martha)

I include a reference to my web page in my résumé when I send it out for jobs like web programming, web maintenance, anything related to the Internet. More and more businesses are going on the Internet; some of them have nothing to do with computers and the Internet itself, so they need people with this kind of experience. (Patrick, 33, electronic technician)

For another group of users, the decision to connect to the Internet had little to do with practical interest or duty. “The media hype” as one respondent himself put it, the different kinds of discourses spreading excitement about computer networking throughout the culture, had led these people to take interest and want to check “what was really going on.”

Why I wanted to have an account? Because the Internet is something of fashion, there is a lot of talk about the Internet and I can see some business possibilities. The excitement to have
something new was the primary reason.
(Patrick)

In a third type of case, the Internet’s perceived possibilities resonated with a strong personal need.

Then a friend started telling me about the Internet. He had a son in Calgary and another one in Montreal, and he told me how every night he got e-mail letters from them and he would e-mail back. And I said: “How do you do that? How much does it cost you?” And he said: “It doesn’t cost me anything. Would you like to try it?” (John, 73, retired mechanical engineer)

Users such as Garry (quoted above) and Ellen (age 49) had construed the Internet as a solution to acute personal problems. In their case, the communicative function was the one bringing the computer home:

because I had heard—I have had arthritis now since 1992—that there was a site on there on which I could meet people with arthritis. So I said, here is my chance to use the Internet for something that would be useful to me…. I’d seen them, computers, in the library and I was sort of intrigued, but I could never find how they could be of any use to me. I am not into learning something that is not useful. (Garry)

For Ellen, a former editor with a disability making her housebound, the computer had emerged as a potential gateway to the outside world:

My friend came and he said “I’m going to set you up on the Internet, and I’m going to show you how to use it,” and this specific function was different from when I used to work. The main purpose was in order for me to be able to connect to a support group. (Ellen)

So Ellen received an old Macintosh from her friend and connected to the Internet through the local Community Net for free.

Human Intermediaries and Intermediated Humans

Gaining some basic networking knowledge and skills had been a crucial condition for the home Internet connection to stabilize itself as a working domestic technology. My respondents had picked up such knowledge and skills in formal settings such as Internet-related courses or instructional sessions, or within their own homes with the help of more experienced friends and relatives. Notably, however, even when the introduction to the Internet had taken place elsewhere, the “domestication” (Silverstone, 1994) of the medium, its integration into the user’s own system of values, goals and routines, had been actively assisted by a close friend.

This figure of the human intermediary came up in respondent’s accounts initially in the role of someone who precipitated the encounter between the user and the technology. This was the person who “started telling me about the Internet” or insisted that the respondent get connected for the two of them to be able communicate.

At later stages, this person would visit the home of the respondent (new user) and help him or her with setting up the equipment, learning how to use the software, figuring out what sites were worth checking out, and so on. In sum, this person acted as an intermediary between the world of technology and the new user’s personal world. I define the role that this character plays in the building of the home Internet connection as that of the “warm expert” (see Bakardjieva, 2005). The warm expert is an Internet/computer technology expert in the professional sense, or simply in a relative sense compared with the new user. Warm experts typically have two key characteristics: They possess the knowledge needed to operate with a reasonable degree of success in the world of technology, but at the same time, they are part of the users’ life-world and share experiences, interests, and knowledge with them. Taking this position allows the warm expert to mediate between the universal features of the technology and the overwhelmingly diverse content of the medium on the one hand, and the novice user’s concrete local situation, needs, and background on the other.

In Martha’s story, this role had been played by a friend from a remote suburb who had stayed at her house for a few days to help her with her newly purchased computer: “We played on the computer, we just played with it and he used a lot of metaphors.” Subsequently, the correspondence with that same friend would be one of the main streams in the flow of her e-mail. In Theodore’s experience, the warm expert was a cousin (a professional “tech support person”) who traveled like a missionary
across North America and connected his relatives to the Internet. That cousin gave Theodore his first modem and pointed him to a mailing list that would prove to be of great interest to him. John’s more expert friends often walked him through his computer problems on the phone. Sophie and her husband sometimes needed to call as far as California to receive personalized computer help from her husband’s stepfather, a systems analyst.

Sandy hooked up to the Internet from home following the advice of one of her professors. She was planning to drop his course because it required Internet research and she found it impossible to go to the campus computer lab given her part-time job, young child, and family responsibilities:

And he [professor] provided a guy named Stanley who came over and helped me to get hooked up to the Internet. Very nice, very nice guy, and since then Stanley and I have become friends. So we met at the university and he told me what I needed to have and then he said “I’ll come over to your place” because I was confused. And he came, hooked me up and got me the software. (Sandy)

With Stanley’s help, Sandy learned how to use a chat program: “I think I phoned Stanley and he told me—by that time I had Netscape and a connection thing—so Stanley told me to go to this place called www.talkcity.com.” Armed with this knowledge, she went on to discover richer sources of technical help on the network itself:

Quite often, once I had that chat line hooked up, a lot of my help came from people in that chat line, like Roland, who had a computer science degree. And he made it easy. . . . There’s a lot of people online, and if you go into the computer chat rooms, that would do the same thing, you just have to ask for the help and I think asking for the help and knowing where to go for the help is the hardest part online. (Sandy)

At the time we spoke, less than 2 years after her initial introduction to the Internet, Sandy often provided help to other people who wanted to set up their own Internet connections at home. In giving assistance, she drew on what she had learned from Stanley and from her own discoveries:

Lots of people now get me to hook them up to the Internet because they know that I hang out there. One of the first things that I download is a chat line program and I say: “this is where you go for help”—and if they have a Macintosh I will set it up so that they just go in there—in the Macintosh room. And if you go in there and ask for help there are hundreds of people that will help you—they’ll tell you where to go and what to do. Then you form relationships with other people who have computers. [My ISP] has their own software, but I don’t recommend people to use it. . . . That’s how Stanley taught me—“Don’t use [the ISP] software, Sandy, use your own software because you are in control of it.” (Sandy)

These accounts make the relations clearly visible between the human and technical actants who form the home Internet connection. The advice, words, gestures, and even phone number of the warm expert are tightly interwoven with the wire and electronic chips that make the object what it is in the user’s world. Friends, relatives, and, to some degree, helpers encountered in newsgroups and chats taught my respondents not only how to navigate but also what they themselves had discovered that the Internet meant as a communication medium. The same happened later, when some of my respondents had become capable of playing the role of the warm expert for less knowledgeable new users in their social environment.

In many of the user experiences I studied, the home network connection had been composed and stabilized by allying with the intermediated humans that it brought into reach. A remarkable interlocking between the technical and the social networks of users was strengthening and transforming both kinds of networks.

I got online for e-mail. Yes, friends and relatives. . . . I am trying to remember with whom my initial contacts were because now I have a mile-long list of contacts. I have friends in Japan and all over the place. (Martha)

I have a brother who lives in Montreal and who discovered the computer about 2 years ago. He is on the Internet so we communicate regularly back and forth. [And you didn’t use to do that before?]

No, we didn’t. I am not a writer. I never wrote letters. Typing is something different than writing. I don’t know why. Probably because you have a spell checker and gram-
mar, if you wish. It is a big reason. I was somebody who never liked writing, writing letters and so on. Once I had the spell checker, the grammar checker, no problem, I felt much more secure. But handwriting is out. The typewriter was tough because you could not correct it. But here, I can correct. So it was a wonderful thing for a person like me. My brother tells me the same thing. So we exchange messages. (Reiner)

And I talk more to my brothers now. . . . If I have a question—like this one-line question—I probably wouldn't write to them. I might phone them, but the chances to get them at home is very unlikely because they are never at home, and then the time difference—they are in Toronto. That way I can just e-mail them and they can answer it whenever they want and it doesn't cost them anything. It is easy. (Jane)

The friend who already had e-mail, the arthritis support group, the son or brother living in a different province: all were connected with wire, electronics, and software to form the user's subjective version of the Internet and its main applications. At the same time, through these mediated relations with other people, the user-subjects were defining their individual self-identity and place in the world.

**Network Strength: User-Technology Relations**

The relations between users and the Internet, and the respective patterns of use, were an upshot of the mutual reinforcement of these interlocking object-, subject-, and social networks. A range of different user–Internet relations could be discerned depending on the strength of these heterogeneous networks and the centrality that the Internet had acquired within them. Some users remained in a strictly instrumental relationship with the Internet. The spectrum of their applications was relatively narrow. They were preoccupied exclusively with the particular goal, which was lying beyond the technology and to which the technology was nothing more than a means. These users demanded “transparency” of the technology in the sense of not having to pay special attention to it. Failure to find such transparency was a source of frustration to them, but these users were unwilling to invest time and money in upgrading either their equipment or their own skills to achieve this transparency. Those who had old computers and low-speed connections were annoyed by these limitations but insisted that the equipment was just fine for their purposes. Put simply, they did not care about the inner workings of the technology.

For another type of user, the relation with the Internet was very intense. These people were deeply interested in the technology and strove toward a transparent understanding of how it worked, but that didn't mean they were preparing for an IT career or becoming computer hobbyists. By means of the Internet, they were pursuing particular interests and goals lying beyond the technology itself—in that sense, the technology represented an object that was mediating access to other components of their subject-network. At the same time, these users devoted considerable time and effort in keeping up with the latest technical developments and obviously found pleasure and some pride in that.

This type of user involved the Internet in a whole range of different activities related to work, leisure, education/learning, socializing, and so on. No matter that most of them derived no material benefits from their computer or Internet use, and their household incomes were modest, they regularly upgraded their equipment and extended the home Internet connection with additional gadgets:

[Why did you buy the scanner?]

To scan pictures to send to family [in Britain]. It cost $150–200. The scanner is only as good as what you need it for. If you want to just capture images, throw them into a GIF file and send them to Europe or put them onto web site. Or you can scan a picture of your family and throw it into a letter to somebody. . . . Mostly for my son. He’s an artist—he draws a lot and I want to get his pictures out there. It’s a sort of self-esteem thing. He can feel really good about his work.

For a third kind of user, the technology of the Internet and the computer in general were exciting for what they were. The practical goals of their Internet use seemed to be overshadowed in importance by how the technology “made them feel,” to evoke Turkle’s (1984) formulation. Here is a short excerpt of the animated explanation that one such
respondent gave me while he was leading me on a
tour of his computer interior:

In fact it is extremely simple to use my
machine, but I have done some tricky things
that other people just haven’t. I can provide
 anybody with very simple little routines to do
what I do. Most of my gimmicks people don’t
use, but I love them. There is nothing on my
screen that I don’t want on my screen now. It
is clean and simple. The beauty of this
program is that [it] will only take about 100K.
(Merlin, 58–year-old unemployed mechanical
engineer)

Merlin was actively and voluntarily losing him-
self in the technology much in the same way ama-
teur musicians and drug addicts were submitting
to their passion (see Gomart & Hennion, 1999). His
intensive preoccupation with reprogramming, cus-
tomizing, and outsmarting the original software
gave him a sense of autonomy and achievement. A
similar relationship had emerged in the case of a
young college student (Larry). Partly disassembled
appliances lay all over Larry’s room. He took plea-
sure in examining what was hidden underneath the
cover just for the challenge of it.

In this way, three types of relationships between
users and Internet technology were emerging from
my observations. To make sense of them, I will
draw on (and adapt) Ihde’s (1990) phenomenology
of human–technology relations. Discussing the dif-
ferent ways in which technology is taken into the
subjective life-world, Ihde defined four types of
relations: embodiment relations, hermeneutic rela-
tions, alterity relations, and background relations
(see Ihde, 1990).

In the embodiment relation expressed by the
formula (I – technology – world (Ihde, 1990,
p. 73), the technology is positioned between the
user and his or her surrounding environment, be-
tween the observer and the observed; between the
doer and the object of his or her action. The refer-
ent of the seeing and the doing is on the other side
of the technological tool or system. In this relation-
ship, the user takes the technology as an extension
of his or her perceptual and actional bodily self. The
instrumental users in my respondent group related
to the computer and the Internet in this way. They
expected the technology to be unobtrusive and not
to divert attention or energy from the referent lying
beyond it. Garry expressed this sentiment through
a common dictum: “I just want the damn thing to
work!” For these users, the world was on the other
side of the technology and lent itself to more or less
successful comprehension and manipulation, de-
pending on how smoothly the technology was
embodied. Interestingly, even the most poorly
equipped and technically uninformed users seemed
to have been able to work out certain routines, even
if they were awkward, for handling Internet tech-
nology, so that it served their purposes without
requiring too much attention itself.

Ihde (1990) points out an essential ambiguity
existing in this relation: it has a necessary “magni-
ﬁcation/reduction structure” (p. 74). Embodiment
relations simultaneously magnify and amplify—and
reduce—what is experienced through them. The
eyes of another person met during an encounter are
different from the eyes of a patient exam-
ined via the instruments of an optometrist. The
person experienced through the telephone is
brought to me across a big distance at the expense
of being reduced to a voice.

The second type of users in my study repre-
sented a relation with technology that could be
described by Ihde’s (1990) “hermeneutic” formal-
ism: I – (technology – world) (see p. 86). Building
on Ihde’s deﬁnition of this relation, I propose that,
in this case, the attention of the user is focused on
the technology—but not for its own sake; rather,
because it has become a critical mediator allowing
the users to relate to the world. These users see the
Internet as deﬁning the world they live in: “the
computer age,” “the network society.” Here is the
place to recall Martha’s remark: “And I took a basic
programming course a year or two before that. I
thought in this computer age, I better stay in touch.”
Staying in touch with a world that they perceived
as highly technological, computerized, and net-
worked was the high stake that people in this cat-
egory had in the Internet. Its importance was not
limited to a single goal or activity.

Alex, a jewelry designer, for example, felt com-
pelled to orient himself to the rising tide of informa-
tion to remain in control of his life. For that
reason, having the Internet connection was essential
to him. In Sandy’s world, information technology
had two quite different faces. Sandy, a telemarketer,
worked in a highly computerized environment and
was an object of technologically mediated monitor-
ing and control throughout her working day. When
she was being trained for this job, Sandy recalled,
she was having nightmares about the computer chasing her down the street. At the time of the interview, this pressure had been relieved (to a great extent thanks to a good trade union at Sandy’s workplace). Nevertheless, Sandy’s relationship with technology at work remained the same: she was the object of it. In contrast, when she was at her computer at home and on the Internet, Sandy felt in charge:

And I have set up this thing called My Yahoo which is through the search engine. I have it all programmed to load up to things that I am interested in—stocks that I own—and it tells me whether the stock is up or down and headline news stories that I am interested in—and it loads those automatically. My chat program, my ICQ, stuff is neatly organized. The work is learning the technology, after that it’s easy to organize. (Sandy)

“Organizing is essential,” as Martha had also stated. A substantial part of Martha’s world of interests and relationships with people was consciously structured into her bookmarks and e-mail folders. Having achieved a good command of Internet technology, Martha felt she could navigate the world outside and order her relations with it in accordance with her needs, values, and priorities. In this process, she was not only extending and enriching the content of her life world, she was reinventing herself. Thus, Martha had gradually become a resource person for many of her friends and relatives. She had done research on film-related jobs in Britain for her aunt, on the Gulf War syndrome for one of her brothers, on Attention Deficit Disorder for her local parent support group, and so on. She was learning that she actually enjoyed doing research and that: “I think I would be really good at researching. That’s why I want to find a job in research. I am good at finding things.”

The three respondents whose experiences I have used as an example of the hermeneutic user–technology relation, unlike Garry, whom I quoted earlier, did want to know how the technology worked to be able to effectively connect to the world that it represented and constructed. However, knowing and speaking the language of Internet technology required constantly following new technical developments. Not surprisingly, a big portion of these users’ bookmarks and the newsletters and newsgroups that they subscribed to were technically oriented. In terms of software and hardware, all these people were constantly “upgrading.” An interesting activity–passivity paradox could be observed in the practice of these users: to be able to actively organize and control the world of information to which the Internet was giving them access, they needed to submit to a flood of information about new programs, applications, upgrades, pieces of equipment, and so on.

Finally, by his third type of human–technology relation, the alterity relation, Ihde (1990) seeks to characterize “the positive or presentential senses” in which humans relate to technology as a “quasi-other” (p. 98). In this relation, Ihde observes, technologies emerge as focal entities that may receive the multiple attentions that humans give to the different forms of the other (p. 107). This type of relation resembles what Turkle (1984) meant by her metaphor of the intimate machine: a machine or technology experienced in ways and producing emotional reactions that are typically associated with other human beings. The examples of this kind of relation in my respondent group, Merlin and Larry, were excited by the challenges that technology posed and used it as a testing ground for their own abilities. Their computers and Internet browsers were becoming central components of the subject-networks characterizing their sense of self.

These three human–technology relations are not mutually exclusive. They can coexist within the same personal experience of a user with regard to different technologies, or at different stages of the user’s dealings with the same technology. Which type of relation would prevail—not only for every user but for the various stages through which users progress—is a matter of a biographically and situationally determined constellation of relationships with people, objects, and entities of the immediate surroundings and of the social world beyond the doorstep.

**Amplifications and Reductions**

Different combinations of both possibilities and limitations ensued for the users in these three distinct relations with the Internet. As much as their power for action grew in certain respects, they also had to submit to specific limiting conditions. Ihde’s dichotomy of amplifications versus reductions captures this state of affairs nicely. For users who had taken the Internet in an “embodiment
relation,” the technology provided an extension of their scope of perception and action, but it also imposed limitations on what they could do and how. Theodore (an Ethiopian immigrant to Canada), for example, could gather information about the political life of his native country from Internet sources. However, because Internet protocols did not support the Amharic writing system and he had only a textual web interface, he could not receive material originating in Ethiopia itself. Therefore, he had to create his radio program for the local Ethiopian community, which was his main use of the Internet, drawing exclusively on English-language publications. In this way, his knowledge and understanding of the developments he reported on remained restricted by certain perspectives and agendas.

Don could call a meeting of his voluntary organization’s board of directors by sending the same message to numerous addressees, which was a clear amplification of his communicative efficiency. At the same time, he could not count on reliable feedback about who had actually received and read the message and who had not. On one occasion, when Don decided to rely on e-mail for arranging a meeting, the designated host did not receive the message and everything failed. Without the flexibility of synchronous communication, the affairs of the organization had become captive of the quirks of a technical system.

Vera felt empowered by the possibility of using online sources for the purposes of her research, but she was anxious about the amount of time she found herself forced to spend wading through irrelevant material.

In the case of the hermeneutic relation, the Internet’s role in users’ lives was more pervasive. The discourse of the “computer age,” “the information society,” and concepts like “millions of people going online every day” that stemmed from influential public sources underlay these users’ perception of the medium. The people in this relation dedicated considerable effort to studying and understanding the Internet for the purpose of being able to competently navigate the “information society” in which they believed they were living. Ironically, as the information overload paradox suggests, the more they tried to be active agents in this society, the more they were giving in to technological dictate. For them, everyday Internet use was a field of struggle to achieve a balance between personal autonomy and inevitable compliance with imposed rules. As a result, people were beginning to reflect on the means of representing the world that is inherent in Internet technology and content and the subtle ways in which these means both amplified and reduced personal agency:

Well, I can go to McDonald’s and I can be linked then to Burger King, Wendy’s, etc., etc. . . . But I can go the rest of my life there and never have a nourishing meal, but not even miss it. (Don)

You can go into the American Yahoo! site and you can search a route—how to drive from one city to another by the least amount of miles—it gives you a map. Which is very limiting because it is biased, based on their criteria. On one hand it frees me up because I don’t have to worry which way I go to Florida, but on the other hand, I haven’t learned so much. And I am probably the only nerd who thinks about those things—most of them will print the map and drive to Florida. (Sandy)

In fact, she was not alone. Martha too was critically monitoring her own Internet use. She admitted that initially she was “addicted,” and insisted that now she was trying not to take it too seriously. “I want it to become just a tool like anything else, like using the phone.” She saw the attainment, or restoration, of the embodiment relation, the “technology-as-a-tool” position, as the salvation from the overwhelming experience that was produced by the hermeneutic relation.

The recognition of the reductions imposed by the Internet was giving birth to a fourth type of relation having critical questioning as its main characteristic: I call it the critical hermeneutic relation. On the basis of their intense preoccupation with the technology as an interface to a technological world, these users were gaining awareness of the limitations and distortions implicit in this interface, and they were attempting to critically evaluate its place in their lives. The competence that these users achieve with Internet technology, combined with their critical understanding of its inherent amplifications and reductions, allows them to imagine alternative technical and cultural forms. It enables them to disseminate their critical understanding of the technology along with their skills in making
meaningful use of it, as the phenomenon of the warm expert indicates.

The critical hermeneutic relation does not follow automatically in the wake of gaining technical proficiency. It emerges out of hard and broadly informed work toward understanding both the inside workings of the medium and the personal and social consequences of its use. This relation is more likely to occur in users who have a higher level of education, as well as where a user has failed to accomplish a significant personal project because of the medium’s limitations. I contend that the achievement of a critical hermeneutic relation with the Internet should become the conscious goal of media education. Technical instruction centered on “how-to” questions marked the early stage of educating the public about the new technology. At present, a much broader spectrum of critical issues and reflections must be allowed into the agenda. The emergence of the critical user is supported by a “dispositif,” combining notions from media discourses and technical textbooks, the advice of friends, empowering or pleasurable possibilities discovered online, and annoying or debilitating impediments. It can be fostered or forestalled depending on the kind of networks to which the home Internet becomes connected. A conscious and strategic navigation of these networks can turn users into an even more powerful constructive force in the shaping of the Internet.

Final Reflections

The observations reported in this chapter invite the question: What does the microprocess of “becoming a domestic Internet user” and the different human–technology relations that emerge from it, tell us about the rise of the “network society” (Castells, 1996, 2001)? When the social trajectory of Internet technology is traced at the level of everyday life, an unsuspected realm of possibilities—and hence technological indeterminism (see Zuboff, 1988; Feenberg, 1993)—opens up. The universal and predictable technological effects that were envisioned by some commentators turn out to be crude constructs that do not capture the true dynamic of the actor-networks making up the Internet as a technology and the subject as a user. In practice, a person who encounters a technical system such as the Internet faces a wide gamut of possibilities and limitations. Depending on the local situation, the medium can be drawn into a variety of “action collectives” (Gomart & Hennion, 1999). The relation between the Internet and the user can remain instrumental or grow into a more substantive and absorbing attachment. These different relations breed different user practices and, respectively, different sets of opportunities and threats for users as individuals, workers, consumers, and citizens. Awareness of these possibilities and their reflexive navigation can contribute to the emergence of a different “network society.”

The study, on the basis of which these reflections were made, was carried out in 1998 and 1999 (i.e., at an earlier stage of Internet diffusion). At present, I am directing a project similar in its goals and methodology but including a greater number and variety of respondents in Calgary, the city with the highest Internet penetration in Canada. When we asked the question “How did the Internet come into your home?” in 2002–2003, respondents started scratching their heads and asking each other: “No, really why did we want to have it; how did it really happen?” The active decision-making seems to have fallen out of the process. However, this does not mean that the process (of becoming a domestic Internet user) that made the Internet a home fixture is insignificant or inconsequential. The memory of it may have faded away, but its results have become part of the culture and are, in fact, determining of how people use the Internet today.

A focus on the process of becoming an Internet user can also be useful in understanding the social adoption of the medium in different cultural and political contexts. How does the computer and the Internet connection arrive into the home of the ordinary man and woman in a non-Western society, for example? What are the impositions and choices that drive this movement? Who are the “warm experts” in different societies? Who has access to them and who does not? What kinds of user-technology relationships take shape in the social environments that are dominated by different political discourses and daily practices? What usage modes and subjective transformations do these relationships evoke? Answering these questions through intensive ethnographic engagement with users’ experiences in different cultural contexts could give rise to a new sensitivity to the nuances and complexities of Internet use across the globe.
Notes

1. At the time of research 1.40 Canadian dollars equalled one U.S. dollar.
2. This type of relation does not represent a direction of my exploration in what follows. I have included it here for the sake of completeness.
3. Amharic is a language of Ethiopia belonging to the South Ethiopic group of Ethiopian Semitic languages. Amharic employs a modification of the Ethiopic script, which is syllabic rather than alphabetic (see http://www.infoplease.com).
4. See also Wellman, 2001. For a critical version of the sociological analysis of the network society, see Robins and Webster (1999).

References

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