

**The Gendering of a
Communication
Technology:
The Short Life and
Death of Audrey™**

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This chapter examines the gendering of a recent communication technology—3Com's Audrey™, an Internet appliance. Although released with great fanfare in October 2000, a mere five months later, in March 2001, 3Com announced "the end of life" for Audrey™. First, this chapter will describe Audrey™ via its promotional material and reviews, and situate it within an array of Internet appliances catering to the increasing domestication of the Internet. Then, an overview of the gender-technology dynamic as theorized in recent feminist literature will be reviewed, with a specific focus on the gendering of digital technology, including Audrey™, as an exemplar of a new breed of domestic technology. Speculation as to Audrey's™ failure in the marketplace will be followed by a brief survey of the "unintended consequences" of Audrey™, wherein a technology designed for women becomes appropriated by men in perhaps unforeseen ways.

Introducing Audrey™

In a 3Com press release, Audrey™ was described as

"a breakthrough Internet appliance created for the kitchen, living room or 'nerve center' of any home. Audrey, with one-touch access to email, Internet channels, a household calendar, address book and Palm™ HotSync® technology, debuts as the first in 3Com's Ergo® line of lifestyle-centered connected appliances."

Internet appliances, a new addition to the panoply of consumer electronics, are relatively inexpensive, single purpose devices that typically feature a browser and basic email capabilities. International Data Corporation, a telecom industry forecaster, released a study suggesting that by 2004 the Internet appliance market would be worth \$18B (USD), and encompass 90 million shipped units (Ohlson, 1998). Internet appliances thus aim to position themselves as domestic appliances that will find a comfortable niche amongst an array of other familiar appliances, such as

the microwave oven, the toaster, the pasta maker, the food processor, the bread maker, and the cappuccino machine. They are priced lower than standard PCs, although in the same range as video game systems (between \$200-600 USD).

3Com's Audrey™ was introduced into the U.S. consumer market in October 2000, with a suggested retail price of \$499USD. According to Eric Benhamou, Chairman and CEO of 3Com Corporation, "Audrey marks 3Com's entrance into a virtually untapped high-growth consumer market and represents 3Com's strategic focus on providing radical simplicity to the consumer" (Meyerson, 2000). 3Com is the company most famously known for its Palm Pilot, the popular handheld personal digital assistant that features a datebook, calculator, email, and wireless messaging application. Audrey™ was aimed at early adopters, particularly family members who were already avid Palm users. Synchronicity between 3Com products was possible as the Palm could interact with Audrey™ "in order to share their daily schedules with other family members" (CNN.com, October 18, 2000).

Reviewing Audrey™, Perlow (2000) described it as

"fully self-contained ...in an 8-inch color touch-sensitive LCD screen...trapezoidal in shape and comes in a variety of neutral colors, similar to those you would see on cappuccino machines, food processors, blenders, and microwaves. It's patently obvious that 3Com intended Audrey for use in the kitchen or in other areas computers aren't normally designed for. The entire unit is constructed of a strong plastic material, much like you'd see in a good kitchen appliance. Audrey has a detachable wireless infrared keyboard that slides onto the back of the unit for easy storage."

With Audrey™, messages were meant to be composed by hand with a pen, typed on the keyboard, or spoken (no mouse was used). The operating system was the same as the Palm Pilot (the 'HotSync®), enabling users to synchronize the Audrey™ Date Book and Address List data with up to two Palm units using the built-in serial ports. It featured a built-in 56K modem for dial-up Internet access, allowing the user to access their personal Internet service provider (ISP) or link up automatically with AT&T's WorldNet, the proprietary ISP for Audrey™.

Market research (or, as they termed it, "lifestyle research) conducted by 3Com revealed that "people want immediate access to specific information such as news, sports and weather" (Technogadgets, 2000), so Audrey™ came packaged with "preferred" Internet channels provided by

3Com providers (in other words, the content providers paid to be these “preferred” channels—a strategy similar to product placement in the film industry). These Internet channels scrolled across the bottom of the screen and included those provided by ABC (ABCNEWS.com for news), ESPN (ESPN.com for sports), CBS (MarketWatch.com for financial news) and Mr. Showbiz (entertainment and celebrity news). Up to six additional channels were available for selection, “from a growing list of lifestyle-oriented Internet content and e-commerce providers”. Had Audrey™ taken off, other selected channels were to include Beauty.com, Drugstore.com, Wine.com, Food.com, Groceryworks.com, PurpleTie.com (a mobile dry cleaning and laundry service), and TVGrid.Com (a source for television listings) (Ibid). To further encourage online shopping, credit card and shipping information was promoted as kept “securely on file, allowing consumers to order Chinese take-out, purchase sunscreen for a weekend trip or buy a couple of CDs online at the turn of the dial” (ibid).

There is no doubt that 3Com was attempting to tap into the growing market for women online. A Pew Internet and American Life study released in 2000 revealed that the fastest growing demographic online was women, with older women constituting the highest number, and with the socio-economic range middle to upper-middle class. The most popular use of the Internet for women, the Pew study found, was e-mail, utilized to keep up with distant family and friends, and serving as an ‘isolation antidote’. The most popular web activities of women included looking for health or medical information, checking out job information, playing games online, and hunting for religious or spiritual information. Men, on the other hand, listed as their favorite web activities looking for news and financial information online, selling and buying stocks online, looking for information about a product or service, participating in online auctions, looking for information about hobbies or interests, seeking political information, and checking sports and information (Pew, 2000).

The Gender-Technology Dynamic

Feminist perspectives on technology have evolved over the last twenty years, but their insistence that social studies of technology instill a sense of the social consequences of technology has remained. Feminist theories and case studies of technologies have been preoccupied with ensuring equitable access to technological know-how in the workplace, educational settings, and in domestic contexts; with debunking the dominant masculinist mythos surrounding technology; and with the creation and practice of environmentally sound communities and technological methods.

As Cockburn and Ormrod point out, feminist historical analyses have underscored several conspicuous components missing from mainstream social studies of technology (Cockburn, Ormrod, 1994, 12-13). They point out that a focus on women can highlight the connections between production and consumption, and production and reproduction. It can also pinpoint the relevant social actors and the gendered assumptions in the design, diffusion, and consumptive stages of a technology's life-cycle. An emphasis on the 'culture' of a technology has been brought centre-stage, and "these studies show that technological change is quite capable of transforming detailed tasks and activities without changing the fundamental asymmetry and inequality of the relation between women and men" (ibid, 13).

Most importantly, feminist analyses of technology have taken an avowedly political stance, with their ongoing concern with the implications of technologies for women, their work, reproduction, and consumption, and in the wider sphere of the feminine domain: nutrition, horticulture, contraception, childbirth, the environment, and equitable educational and workplace sites.

Another significant body of research has looked at how communication technologies have been gendered both through their social uses—which have often been unintended—and their design (Shade, 2002). The telephone is particularly illustrative here, as researchers such as Rakow (1992) and Moyal (1992) have shown how women have used the telephone as a tool of community bonding and family "kin keeping". However, as Martin (1991) has demonstrated in a case study of the roll-out of telephone services in Canada, the original purpose of the telephone, as envisioned by Bell Canada, was as an imperative to meet the business needs of men. The feminization of the telephone became apparent when women were first hired as operators, and then later when a viable culture of the telephone developed for socialization. Telephone technology and design has since changed considerably in order to appeal to the female consumer, reflecting its status as an indispensable domestic artifact, through stylistic trends, including colors (from the plain black telephone to pale hues) to design (the Princess telephone and the cartoon-licensed phones) to technological innovations (push-button to portables) (Lupton, 1993).

One of the focuses of feminist perspectives on technology has been domestic technologies. These technologies, which were considered marginal or not subject to scholarly scrutiny, have become legitimate and vital venues for research, thanks to the pioneering work of Cowan. In *More Work for Mother* (1983), Cowan provides a history, not just of housework, but

of household technologies. Through her concepts of work process (wherein household work is inextricably linked to other household activities) and technological system (wherein each household appliance is part of a system of implements), Cowan demonstrated how the rising industrialization of the 19th and 20th centuries mediated the availability of tools necessary to fulfill domestic duties. Cowan enquired into how social and economic institutions affected the character and availability of the tools with which housework is done, and concluded that new tools and changing technologies created a rising expectation for American consumers. Ironically, the new tools and technologies also created 'more work for mother'—between 1920 and 1960, women found that the new 'labor saving' devices multiplied their workloads. New technologies did not create more leisure time for mother, because 'more' (in terms of cleanliness, a varied cuisine) was expected of her. As well, any semblance of the communality of household chores shifted to an individualized, suburbanized experience. For instance, laundry changed from practices such as neighborhood 'Blue Monday' sessions and the widespread availability of commercial services, to individual home appliance ownership. And, the maintenance of many household technologies was simply not feasible unless there was someone at home full-time to operate them.

The relations between gender, consumption, and technology have been increasingly documented by several scholars, including Oldenziel (1999), Cockburn and Dilic (1994) and Horowitz and Mohun (1998). They have pointed out how, in many instances, technologies that exist in the women's sphere (such as domestic technologies) are oftentimes not considered 'real' technologies. It is assumed that these 'technologies of consumption', as Lubar (1998) refers to them, are to be consumed by women in a passive or prescribed fashion. Cockburn (1997, 364) remarks that technological designers are concerned with "designing the 'affordances,' what actions the machine can perform and the controls that activate them. They do their best to ensure that these are self-evident, 'speak for themselves,' encourage proper behavior, make disobedience or error impossible. The men have to imagine for this purpose the most unintelligent and catastrophe-prone woman".

The gendering of computer systems design and feminist approaches towards computer systems design has also been the focus of a body of research and theory. Haraway has written that:

...we must insist that high technology is for, among other things, the liberation of all women, and therefore usable by women for their self-defined purposes. Feminists must find ways to analyze and design

technologies that effect the lives we all want without major dominations of race, sex, and class. Those goals will sometimes lead to insisting on small, decentralized, personally scaled technologies. Such technologies are not synonymous with soft, female, and easy (Haraway, 1984, 227).

The late Margaret Benston was one of the first to consider how a feminist approach would differ from conventional design processes (Benston, 1989). For Benston, this involved a holistic look at technological systems and society, as well as a critical analysis of the various stakeholders involved in technological design and diffusion. Similar to feminist critics of science, Benston sought to demystify the masculinity underlying technological systems. Greenbaum (1990) and Bodker and Greenbaum (1993) have also analyzed the gender perspectives that underlie the systems development process, which typically ascribes male values (objectivity, impersonality, rationality, power) versus female values (subjectivity, personal feelings, emotions, love) towards 'good system design'.

Suchman and Jordan (1989) have argued that incorporation of the everyday work practices of the users of the technology is imperative in order to design appropriate technologies. In particular, the design of technologies that are sensitive to women's knowledge, concerns and work practices is necessary. For instance, women working in offices may have very different forms of organizational practices and routines that are either hindered or subverted by the technology they use. The introduction of new communications technologies, can, in particular, exacerbate the tensions between management and the clerical sector, which has been typically comprised of a majority of women workers. It is very common for women office workers, as Bravo (1993) has illustrated, to have to cope with new computerized technology that they have not received prior support and consultation about, nor received adequate training on. Clement (1994) has examined how the introduction of computer systems in offices can disempower its female users when they are not consulted on the technology's use and purported applications for the office; and how women office workers 're-empowered' themselves through initiation of an action-oriented research project whose goals were to help office staff assess their needs and ultimately support their own use of computers.

Green, Owen and Pain (1992) have also extended the principles of human-centered systems (HCS) to women who work in office situations, and they have asked "rather than reproducing existing class and gender divisions in the workplace, can human-centered approaches challenge taken for granted assumptions about the ways in which the 'technological' and

'social' or organizational domains are understood, during processes of systems development?" (Pain, et. al., 1993, 16).

The Gendering of Audrey™

"We named it Audrey because we want to emphasize the personal nature of this appliance. We want you to think of her as a member of the family," 3Com President Bruce Claflin told TechTV News (Godoy, 2000).

How, then, was Audrey™ gendered? Romms (2002), in her recent study of a community-based computer network in Amsterdam called the Digitale Stad (Digital City), has theorized the concepts of user-representations, gender-script, and domestication as entry points to describe its gendering through design. These concepts will be used to tease out how Audrey™ was gendered.

When designers conceive a technology, they construct an 'ideal' user for these technologies. Romms differentiates between explicit and implicit user-representations: explicit-user representations are those "in which statements are made of persons, of potential, embodied users or in which target groups are mentioned", whereas implicit user-representations refer to "neutral choices...that contain references to characteristics of users, which imply certain users and not others" (2002, 46). Technological scripts are defined "as the assumptions about the use context that are materialized in the technology, which pre-structure the use of technology....they attribute and delegate specific competencies, actions, and responsibilities to their envisioned users" (ibid, 15). When these scripts reveal gendered patterns, they become gender scripts, which "may emphasize or hide, and reinforce or diminish gender differences and gender inequalities" (ibid, 18). Domestication refers to how technology is incorporated into the everyday patterns of the users, and has been used by feminist scholars to study the ways in which users and families negotiate communication technologies within the household (see, for instance, Gray, 1992).

Through its user-representations, technological scripts, and overt normalization of domestication, 3Com conceived of Audrey™ in gendered terms. Consider its physical design. Computer design has developed over the years to reflect technological developments, from faster and smaller digitization mechanisms to wireless applications. With the exception of the Barbie computer and the Macintosh IMAC computer (which came in an array of funky colors) the design of the computer has been overtly masculinized, although multimedia products are being increasingly

designed for women, with ideas about female gender incorporated into the process (Spilker and Sorenson, 2000). However, the Audrey™ appliance can be seen as a particular instance where the technology (whose primary purpose is for e-mail and calendaring) has been developed as a specific female consumer item.

Judging by both its price and its promotional material (its gender scripts), Audrey™ was targeted and marketed expressly for upper to middle-class women, and was featured in an array of designer kitchen colors—“ocean, meadow, sunshine, linen and slate”. Advertisements featured Audrey™ as a new home appliance designed for women to keep up with their busy family lives. Indeed, 3Com hired anthropologists to study the “lifestyle habits” of families, and found, not surprisingly, that “families are busy, and both their homes and their schedules are disorganized” (Couzin, 2000). Audrey™ features thus included a Datebook (“keeps all your family’s events in one place”), an Address book, an e-mailer (letting one send “an e-mail in your own handwriting” and providing “instant access to e-mail”), and a Palm synchronizer (“keeps you on top of your family’s busy schedule”).

The marketing of Audrey™ as a domestic appliance was overt, described as “family friendly” and “a product easy enough for the whole family to use (Wagner, 2000). Ad copy boasted “Audrey has the taste for the latest information...a flair for communication...a gift for getting it done”. One print ad appearing in women’s magazines and lifestyle magazines such as *Vanity Fair* showed a refrigerator covered with a bevy of notes and photographs, birthday party invitations, soccer game schedule, prescriptions, magnets, notes (“Hi honey! Sorry I’m running late. Dinner is in the fridge, just pop it in the oven. I’ll be back at 8”), shopping lists, recipes, postcards, and children’s paintings. The ad copy asked, “Audrey, anyone?” followed by the tagline, “Simple sets you free.” (MacArthur, 2000). A spot featured on specialty cable channels “shows a woman whose face is offscreen, looking for a soccer schedule over a cacophony of kids’ voices and a dog barking” (Wasserman, 2000). Says the offscreen (female) voice: “Audrey, anyone?”

Audrey™ was designed, according to 3Com’s advertising copy, as “the digital home assistant with style”. Just as with the various designs the television set has assumed throughout the years to meld into the changing domestic décor (Spigel, 1992), the aesthetics of Audrey™ were carefully considered in relation to its alignment amongst other domestic appliances and its placement within various rooms in a house – kitchen, bedroom, family room.

Audrey™ was a tool designed for the private, domestic sphere—and in this case, intentionally feminized. Similar to other domestic technologies, it was designed with ‘affordances’, and was promoted as a ‘labor saving’ device (think of the washing machine and dishwasher), a family organizer and communicator (e-mail replaces the telephone) and a leisure device (the web-based channels, akin to television and radio soaps, perhaps).

Audrey™ Bites the Dust

The creation of gendered niche products is simply part and parcel of the crazy survival strategies of capitalism, and Audrey™ was no exception. [1] Why, then, despite the growing presence of women online and a fantastic surge in web-based portals designed for women (Shade, 2002), did Audrey™ cease to exist a mere five months after it was introduced into the marketplace? After all, it was even promoted by Oprah herself on her afternoon talk-show, prompting publicity targeting the right demographic of women.

One hypothesis that will be advanced here is that improper attention was paid by 3Com to the technology-gender dynamic. [2] According to 3Com’s website for Audrey™, the product was discontinued because “the market will take longer to develop than originally planned and require additional investment” and due to lower than anticipated sales. The end of 2000 witnessed what many analysts called a ‘dot.com meltdown’, with e-commerce companies either drastically restructuring or going bankrupt. The business-to-consumer market declined precipitously, with lowered share prices, employee lay-offs, and stagnant online sales (*The Economist*, 2001). This slump, not unknown in the dizzying cycle of capitalist markets, was still, for many, a rude awakening in light of the 1990s ebullience of technological utopianism and market populism (Frank, 2000).

Regarding the gender-technology dynamic, one needs to ask whether, in the design process, women were either responsible for the design, or even consulted in the user-design process. Chabaud-Rychter (1994) argues that the design process of technological artefacts needs to involve a constant negotiation between the designers and the users of the products through usability trials. Oftentimes, the marketing arm of the product generalizes the user, and in this case, it could be thought that ‘gender’ was assumed to involve homogeneous characteristics. Reviewing Audrey™, one woman wrote that

...the set-up steps and all the various power cords and cables were carefully explained in a beautifully bound user manual that would look nice on a coffee table. Setting up Audrey was also a breeze.

Sure, there were some over-the-top touches, like the little giggle when you powered up the unit, but the unit looked good in my kitchen next to the phone and answering machine (Hill, 2000).

But, upon further interrogation the reviewer became disenchanted with Audrey™. She found its design awkward: "The user interface was lifeless, while sending e-mail stooped over a kitchen counter was annoying at best, and surfing the Web on a slow and darkened touch screen was about as much fun as doing your taxes. Where was the need for that?" (Hill, 2001).

Was 3Com able to study how women use the Internet in their everyday life, and how they become active users and negotiators of the technology? Studies on how women use e-mail and the web show that they typically use it "instrumentally for activities which range from work, study, personal communication, seeking information, helping their children with homework, to buying and selling goods and services" (Singh, 2001, 397).

But, Audrey™ channels were limited to those with synergistic corporate relationships to 3Com, and the content of these focused on entertainment, sports, news, and various e-commerce shopping activities. Perhaps the content of these could have been perceived by users as frivolous and not beneficial for their everyday needs; after all, if we are to believe the Pew report, women prefer to use the web to access health, medical, religious, spiritual, and job information.

The Resurrection of Audrey™

In an interesting twist, despite the "end of life" inflicted by 3Com, Audrey™ lives. Technological products often create unanticipated and surprising uses, and Audrey™ is no exception, as a spontaneous community of Audrey™ users thrives on the Internet, going beyond its proscribed technological 'affordances'. Their goal: locating Audreys™, hacking Audreys™, updating Audrey™ software. This virtual community is comprised of many websites, including www.audreyhacking.com, and 3COM Audrey - The Unofficial Hack FAQ: Hosted by Chris Russo, aka cokeguy, kneebiter, etc. (URL: <http://www.3rdmoon.com/crusso/audrey/>). Audrey™ is being used for setting up domain name servers, and some users have configured its use as an MP3 player ("For the love of Audrey", 2001). The curious thing is that, judging from the commentary from these websites, these avid Audrey™ users are all men who are tinkering with Audrey™ in their spare time.

Other companies are promoting gendered Internet appliances, such as MailStation, a portable, cordless e-mail messaging unit that plugs into any household telephone outlet. Unlike Audrey™, MailStation only features email, a datebook, and a spellchecker, and is priced considerably lower (\$149USD). It is part of EarthLink, a national Internet Service Provider. Promotional materials on the Web target MailStation to housewives, as the online flash demo script is breathlessly read by a (white) woman:

“What do I love about my MailStation? Let me tell you. I love getting messages from my sister! I love that I can write her back while Emma’s playing dressup! And I love that it’s made staying in touch so absolutely simple. With my cordless Mailstation model I can take it anywhere in my home and stay connected.”

Other communication technologies are also being designed with the female consumer in mind. Samsung has developed the red “Ladyphone” –a cellular telephone that is designed to be opened like a make-up compact, featuring “a biorhythm calculator, a fatness function that calculates a user’s height-to-weight ratio, a calendar for keeping track of your menstrual cycle and a calorie-counting function. Enter an activity (cleaning, dishwashing, cooking, shopping) and the time spent, and the phone works out how many calories have been consumed” (*The Economist*, 2002).

What is disturbing about these technologies is how they target, like many niche consumer products including television genres, a stereotyped vision of an upwardly mobile female commodity audience that is what the commercial media system most wants to attract (Meehan, 2001). Absent from these technological designs (and their promotional material) is any awareness of the potential for women to use these communication technologies to engage in the public sphere, contest political and social life, and participate in civic engagement. Bakardjieva and Smith (2001,81) comment that what is needed is a “democratic counter-project for the shaping of the Internet as a communication medium” which is informed by an “emphatic understanding” of how ordinary users use the Internet in their everyday lives.

Although these alternative political designs will take time, women, and a consideration of gender in design and usage, needs to become an integral component of such a project. This case study of Audrey™ reveals how benign technologies can, through explicit and implicit user representations, technological scripts, and a valorization of domestication, be actually very

political through their reification of gendered roles and their exclusion of politicized agency.

Notes

Many thanks to Barbara Crow for her excellent commentary on drafts of this chapter.

[1] Consider the Gillette Company's Venus razor: four years, \$300 million in development costs, and 50-patents were deployed in order to "revolutionize shaving and revitalize the company". Intense market research – including observing women shaving their legs – led to the Venus razor. It's motto: "Reveal the Goddess in You". See <http://www.gillettevenus.com/home.asp>

[2] I contacted 3Com to inquire about their design and marketing strategy, but they were not able to offer me any information.

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