

# Domesticating the Personal Computer: The Mainstreaming of a New Technology and the Cultural Management of a Widespread Technophobia, 1964–

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□—*In this essay, discourses on “computer-phobia” and “computer addiction” are used as starting points from which to describe the cultural work involved and marketing strategies used between the 1960s and 1990s in regards to the management of computer fear. These discourses on computer use are approached as examples of what Michel Foucault calls “normalizing” discourses—in this case, discourses which function toward the production, negotiation, and management of people’s developing relationships with this new technology. This essay draws on popular discourses, advertisements, and advice literature from this time period to explore how the personal computer was successfully connected to middle-class family ideals and was transformed from a frightening and distant (Cold) war machine into a socially (and family) “friendly” machine. It is argued here that this management of computer fear made possible the mainstreaming of the personal computer (into the home) and initiated new definitions of “appropriate” and “inappropriate” computer use. This in turn enabled the formation of the particular discourse on “computer addiction” in the 1990s.*

In 1983, Sanford Weinberg, a professor at St. Joseph’s University, tested a large group of business managers and college students who used computers by wiring them up to a galvanic-skin-response measuring device while they worked at their computer terminals. Weinberg found that one-third of these test subjects were what he called “cyberphobic.” Approximately five percent of these people exhibited symp-

oms of classic phobia: nausea, dizziness, cold sweat, and high blood pressure. In an attempt to cure these people of their cyberphobia, Weinberg gradually exposed them to electronic calculators, then electronic games, and eventually simple computer programs. In some cases, people were given computers to take home with them because Weinberg found that cyberphobia was more easily overcome when people used a machine in some place comfortable and private (Rice, 1983). Throughout the 1960s, 70s, and 80s there formed very particular discourses on computer use: fear of computers or “computerphobia,” and its counter-

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part, computer mania or "computer addiction." By the mid-1990s one strand of the discourse on computers that circulated in the mainstream was very particular in its extremity: In June of 1997, news media across the country reported that a mother of three children was taken into police custody and charged with child endangering as a result of her addiction to the Internet. Typical headlines read: *Internet Blamed for Neglect: Police Say Mother Addicted to Web* (*Cincinnati Enquirer*, June 16, 1997) and *Mom Web Addict Allegedly Neglected Kids* (UPI, June 16, 1997). According to news reports, Mrs. Sandra Hacker locked her children in another room so she could use the computer without interruption. The police report describes that the children's room had broken glass and urine on the floor, and child hand prints of feces on the wall. The computer room, on the other hand, was immaculately clean. At present, psychologists assert that such extreme computer addictions are rare, but they are a growing phenomenon (Griffiths, 1995, April; Griffiths, 1995, November; Griffiths, 1997; Young, 1996a, 1996b). Yet, rare or not, from 1995–1997 descriptions of several similar cases of maternal neglect due to Internet addiction have circulated widely in the popular press. During this time, psychologists and Internet users have formed support groups, both online and offline. Dr. Young's studies suggest that Internet Addiction Disorder (IAD) is a bona fide clinically defined addiction, much like substance and gambling addictions. Early studies suggest that women, students, and the elderly may be at risk (Young, 1996b). Symptoms of IAD include a need for more time online to achieve satisfaction, obsessive thinking about the Internet, and 'voluntary or involuntary typ-

ing movements of the fingers, among others (Young, 1996). Young has been at the forefront of the campaign to have IAD recognized by the American Psychiatric Association and included in the next edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSMV), the clinician's resource manual used to diagnose and classify mental illness. Since 1995, several clinics oriented to computer addiction disorders have opened in the United States.

In this essay, I investigate the discourses surrounding the emergence of computers as part of the historical and cultural conditions of possibility for the specific formation of "computer addiction" that emerged in the 1990s. In other words, I map what might be called a "prehistory" of the 1990s concept of "computer addiction," Internet Addiction Disorder, and/or Pathological Computer Use through an investigation into the discourses surrounding the use of computers during the 1960s, 1970s, and 1980s. I investigate these discourses on computer use as examples of what Michel Foucault (1978) described as "normalizing discourses"—in this case, discourses which function toward the production, negotiation, and management of particular "appropriate" and "inappropriate" relationships among (potential) computer users, the new machine, and culturally produced social organizations. According to Foucault, a "normalizing discourse" does not function repressively; that is, the discourses on computer use do not work to limit or inhibit people's otherwise free relationships with this new technology. Rather, it is important to emphasize the relationships that are *established* through any particular power/knowledge relationship—in this case, the knowledge

practices surrounding computers and computer use. Following Foucault, I approach the processes of power/knowledge as productive and as forging connections among otherwise dispersed and heterogeneous elements.

It is in this regard that Stuart Hall's (1986) notion of "articulation" is a useful concept. Hall explains that, in his usage of the term, to "articulate" has a productively ambiguous meaning; the word connotes both "to utter, to speak forth, be articulate," as well as "the connection that *can* make a unity of two different elements, under certain conditions" (p. 48). From this view, the "unity" or coherence of any discursive formation, at any particular time, and in any particular site, is a product of particular cultural and historical articulations. For example, computer technologies have historically been articulated to "masculinity" and/or "patriarchal practices." Because certain strands of feminism have taken this relationship to be a necessary and immutable one, they have taken up an anti-technology stance. Yet, from Hall's standpoint, articulated relationships are not historically necessary. Rather, they are relationships that have been historically established and that can be changed. The fact that they are historically produced, while it does suggest that the connections can be potentially disengaged and transformed, does not suggest that this re-articulation is an easy process. Hall describes such connections as the products of powerful "lines of tendential force" and as "anchored very directly in relations to a number of different forces" (p. 48). According to Hall (1986) the question for analysis is, if no articulation is essential, necessary, or transhistorical, what are the conditions of possibility for any particular articulation or linkage? How

can we "rethink the contingent, the non-necessary, connection between different practices. . . ." Following Hall, and Grossberg (1992), the goal of the cultural critic is to describe "how a set of cultural practices comes to congeal and, for a certain period of time, take on an identity of its own which is capable of existing in different social and cultural contexts" (p. 69). In other words, as Grossberg asserts, "the question is how particular cultural practices, which may have no intrinsic or even apparent connection, are articulated together to construct an apparently new identity" (p. 70). An analytic "mapping" of these practices functions toward an understanding of the historical emergence of a particular "cultural formation," and toward the identification of transformations, deployments, and possible re-articulations to be forged. In this essay, I investigate one significant re-articulation in the history of computers: For many years, from the 1950s to the 1970s, computer technologies were strongly connected to the military (Cold) war machine. Over the course of the 1970s, 80s, and 90s, cultural re-articulations produced eventually accepted linkages to the home, family, business, and pleasure, such that today computer technologies are "naturally" integrated into many people's daily lives.

Put another way, to draw on language from sociological studies of technology, these discourses on computer use function as part of the "stabilizing," "tinkering," and/or "tuning" of computers into—and as part of—existing (contested) social organizations, as they *produce* relationships among various social-technological elements. These notions of the "stabilization," "tinkering," and "tuning" of social-technological processes are useful in

approaching the congealment or "formation" of new media technologies. As Marvin (1988) explains, "[m]edia are not fixed natural objects; they have no natural edges. They are constructed complexes of habits, beliefs, and procedures embedded in elaborate cultural codes of communication" (p. 8). A study of media practices cannot simply isolate media technologies as discrete entities unto themselves. They are not steadfast and timeless objects which move from context to context. Rather, it is necessary to look at the formation and organization of their uses and to the social practices, conflicts, negotiations of power, and authority they illuminate and with which they engage. It is these series of negotiations, adjustments, and configurations to which the terms "tinkering," and "tuning" refer. As Moore (1996) and Marvin (1988) emphasize, technologies do not have uniform trajectories of development, innovation, or use. They are historically produced, and they continually transform and mutate through their attachments to other social-technological practices. Moore explains that social studies of technology have effectively shown that the "stabilization" of any technology is contextually contingent and that different technological organizations achieve different levels of "stabilization" in different situations, what Bijker, et. al. (1987) call "heterogeneous contingency," and what Deleuze and Guattari (1987) might refer to as a process of perpetual "becoming."

The 1960s-90s is a significant period on which to reflect because computer technologies were still in the process of "formation" and had yet to be "stabilized" or naturalized into our daily lives. The technology still required much "tinkering" and further reconfigura-

tion to be successfully integrated into U.S. culture. Part and parcel to this "tinkering" of social-technologies is what Woolgar (1991) refers to as the "configuration of users" (p. 89). Woolgar explains that computer users have "configured" relationships to the machine such that only certain forms of access/use are encouraged by the manufacturers and distributors (and, I would add, the broader culture). Woolgar admits that there are no guarantees that some users will not find unexpected and uninvited uses for the machine, but such behavior will be categorized . . . "as bizarre, foreign" (p. 89). Woolgar (1991) demonstrates that "configuring users" to new technologies "relies on established routes of transmitting information: instruction manuals, help lines, books, and other networks set up to keep users in line with intended applications" (p. 89). Following Woolgar, I draw on what can be called "technologies of configuration," such as advice columns, corporate and organizational management literature, advertisements, and printed public dialogue about computers as significant sources of knowledge focused on "configuring users" by providing practical instruction to new users about how to use computers. I will demonstrate how manufacturers, marketers, and users worked to configure (and re-configure) the technologies and themselves for different purposes, and with varying degrees of success. Drawing Moore's (1996) investigation into the production of safer sex practices, my purpose is to describe the collection of processes and practices which functioned to produce what were called "user-friendly" computer systems and which, ultimately, constructed a user's (personal and cultural) relationships to computer technologies.

Toward this end, I describe the industrial, cultural, and political struggles that surrounded the mainstreaming and popularization of the personal computer, including a deliberate and strategic management of a widespread cultural computer-phobia. I draw on the public discourse about computers from the 1960s to the 1990s to explore how computers were initially received into people's lives, how users were "configured," and to trace the proliferation of discourses around the perceived promises and problematics of integrating computers into the workplace and home—specifically, worries about the potential of computers to disrupt or even overturn traditional gender and family relations. I explore how such discourses are complexly articulated to cultural ideals, desires and fears surrounding technology, gender, childhood, and the nuclear family. In sum, I describe the cultural processes at work which transformed computers from cold, distant military war machines and into "friendly" home "appliances," and pay specific attention to what the editors of *Time* magazine called the "irresistible invasion of computers into American homes" ("Machine of the Year," 1983, p. 1). Through specific discursive and cultural strategies, the personal computer was connected to middle class family ideals to counter its reputation as a looming and frightening icon. As I will describe, the management of this previously mentioned daunting computer-phobia during the 1960s, 70s, and 80s, and the eventual cultivation of a culture of computer enthusiasm was crucial for the integration of personal computers into the home, and, ultimately, makes possible the very particular 1990s discourse on computer addiction (and/or "appropriate" or "inappropriate" computer use)

which is strongly connected to ideals surrounding gender and the family. In other words, my purpose is to explore how the discourses on computer use—specifically "computer-phobia" and "computer addiction"—function toward the process of computers "becoming" a (social) technology. But, first, in the next section, in an attempt to denaturalize the current formation of "addictions" surrounding computer technologies, I turn to other media object panics in the history of "new" media technologies, particularly those surrounding the advent of the telegraph, radio, and television, in order to investigate how previous media technologies have been articulated to immanent social and political concerns of the day.

### **"New" Technological and Media Panics**

In the early spring of 1920, in the small northern California community of Contra Costa near San Francisco, there emerged a sudden and seemingly contagious "wave of insanity" (*San Francisco Chronicle*, March 6, 1920). Newspaper headlines screamed of an epidemic: "Ouija Board Seance Drives 7 Insane," "4 Ouija Board Victims Held To Be Insane" (*San Francisco Chronicle*, March 4, 1920); "Ouija Board Drives Two More Insane," (*San Francisco Chronicle*, March 6, 1920); "Ouija Board Drives Policeman to Street Naked," (*San Francisco Examiner*, March 6, 1920), and "Ouija Board Denounced by Prominent Psychologists" (*San Francisco Chronicle*, March 7, 1920). Described as "The Strangest Craze of All" and clinically labeled "Ouijomania," newspaper reporters described the sudden emergence of an international epidemic whereby previously "normal" people were driven insane by overuse of the Ouija board. The newspaper

articles explain that on March 3, 1920, police found seven people entranced with a Ouija board. They hadn't eaten or bathed for days, and the one child of the group, a fifteen-year-old girl, had not attended school for several days due to the Ouija board seances. Of the seven people, the three men were able to prove their sanity, but the women were deemed by mental health authorities to be insane and in need of treatment. Psychologists were forced to consider the question, "Is the ouija board a menace that should be abolished entirely, or [was] it productive of dire mental results only when the operator is of such peculiar mental make-up as to make for easy subjection to the mysteries that appear to result from seeking enlightenment from this thing of wood made by man?" ("Ouija Board Denounced. . .," 1920). Dr. Fred Councilman, superintendent of the State Asylum for the Insane at Stockton [was] said to have "condemned the Ouija board vigorously" (Ibid). The "Ouija-maniacal" condition was said to be very specific and did not refer to the "serious minded employment of the Ouija board as a possible medium of communication from mortals to the spirits, but rather to the highly fanatic impulse under which persons of very impressionable or highly hysterical temperament have acted following a Ouija seance" (*San Francisco Chronicle*, May 16, 1920). E. H. Doane, a San Francisco policeman, was found running naked in the street and was taken to a sanitarium where he was diagnosed with a "temporarily unbalanced from physical and nervous collapse. . . . 'Undoubtedly,' said Dr. Anderson after hearing the details of Policeman Doane's case of mental breakdown, he is a ouijamaniac.'" The wave of insanity was expected to eventually subside,

but in the mean time, it was stated that "Ouijomania" could be disastrous for those with "undeveloped mentality and nervous temperament" ("Ouijomania. . .," May 16, 1920). The frenzy that surrounded the Ouija board is linked with the suspicion and fear that people held toward such supernatural or mystical and non-scientific communications. The panic grew as the Ouija board was believed to be able to disrupt accepted social, professional, and hygienic practices. Certainly, the public and institutional reaction to the seance activities is tied to existing ideals surrounding gender, the family, and ethnicity. Indeed, the board was able to literally strip the policeman of his authority. The case of the Ouija board, provides an interesting comparative case from which to investigate the happenings surrounding the introduction of other new communications media into particular communities.

New media, Marvin (1988) suggests, intrude on existing habits and organizations, and new media provide new platforms on which old groups confront one another. Old habits of transacting between groups are projected onto new technologies that alter, or seem to alter, critical social distances. . . . Old practices are then painfully revised, and group habits are reformed. New practices do not so much flow directly from technologies that inspire them as they are improvised out of old practices that no longer work in new settings. Efforts are launched to restore social equilibrium, and these efforts have significant social risks (p. 5). She argues that the early history of electric media is "less the evolution of technical efficiencies in communication than a series of arenas for negotiating issues crucial to the conduct of social life, among them, who is inside and out-

side, who may speak, who may not, and who has authority and may be believed. . . . For if it is the case, as it is fashionable to assert, that media give shape to the imaginative boundaries of modern communities, then the introduction of new media is a special historical occasion when patterns anchored in older media that have provided the stable currency of social exchange are reexamined, challenged, and defended" (p. 4). Marvin observes that "[w]e are not the first generation to wonder at the rapid and extraordinary shifts in the dimension of the world and the human relationships it contains as a result of new forms of communication, or to be surprised by the changes those shifts occasion in the regular pattern of our lives" (p. 3). From the telegraph, to the telephone, to radio, to television, and now with the advent of the computer, there have been fears about disruptions of accepted cultural patterns and organizations. With each technology, there were hopes about a new world connectedness across space; some people predicted the coming of one common world culture and (therefore) everlasting world peace, while others worried about the changes in social behaviors—including gender and sexual behaviors—that may result from the new forms of communication. For example, with the advent of the telegraph, many people worried that uses of written and spoken language would deteriorate (Marvin, 1988; Douglas, 1991; Shotton, 1991). Marvin suggests that the particular discussions that surrounded the advent of electrical communication in the late-nineteenth century are anchored in broader normative assumptions about the appropriate methods of communication among groups of people, such as those which sur-

rounded appropriate gender and class relations. For example, many people lamented the break-down of traditional gender roles as the telegraph and telephone allowed for courting rituals that did not require face-to-face contact (p. 6).

Technical fears and fears about the psychological effects of the telegraph were also prevalent. In a 1900 *Westminster Review*, Charles Garland expressed his concern about the "incontrovertible fact" that there was spreading a rampant "insanity among telegraphists" (p. 334). He explains that "among the telegraphists there [was] a [. . .] deeply rooted belief that their work [was] productive of mental disease in all its forms, from the more severe and pronounced types which find treatment in an asylum, to those less serious cases . . . [such as] . . . abnormal craving for alcohol" (p. 332). While no complete statistical data could be furnished to test these beliefs, it was still an international belief, according to Garland, that operation of the telegraph caused insanity. "The electrical condition of the atmosphere [was] known to affect abnormally nervous persons, hysterical subjects and the like, producing changes which result in depression or excitement. But no detailed investigation exist[ed] upon the influence of an electrically charged atmosphere upon the normal person" (p. 333). Indeed, it was so that in 1885, of 32 pensions granted to telegraph operators, 20 (62.5 percent) were due to nervous disease (p. 334). Certainly, use of the telegraph was not the only reason that telegraphists had a greater tendency than the general public to "go insane," Garland admits, but, he posited that scientific evidence suggested electricity was undoubtedly a contributing factor (p. 332).

Fears surrounding the telephone, radio, and television also included bio-

technical fears such as worries about contraction of disease from the telephone apparatus, concern about the effect the electrical and sound waves on the human ear, nervous disorders from radio, and the physical and psychological—even “addictive”—effects of television (“Contagion by Telephone,” 1900, p. 172; Spigel, 1992). In addition, there were also great apprehensions about how each of these technologies could disrupt accepted social organizations. Marvin (1988) explains the unsettling effect the telephone produced once it entered the home environment because it disrupted “customary ways of dividing the private person and family from the more public setting of the community” (p. xx). For example, in a partially tongue-in-cheek essay in *Lippincott's* (July, 1909), the author complains about the disturbing invasiveness of the telephone into the home. The author warns of “telephoniitis” which, he said, was “certainly a disease alarmingly on the increase (p. 377). The most unforgivable use to which the telephone was put was as the “transmitter of eleventh-hour invitations” which were annoyingly disruptive to the private sphere of the home, and constituted “invasions to ordinary peace of mind” (p. 377). In addition, public discussions addressed appropriate and inappropriate uses of the telephone in gendered terms, for example, women were said to inappropriately waste the technology on idle gossip while men appropriately used it for serious business purposes (Marvin, 1988; Lubar, 1992).

Spigel (1992) and Douglas (1991) each describe how the incorporation of radio into the home environment was met with an astute concentration on how it could be utilized without distracting women from their neces-

sary domestic responsibilities and without disrupting traditional gender roles. Even while radio was hailed for its “ability to join the nation in democratic harmony through the mass dissemination of culture,” it was also feared as an “instrument of supernatural power that might wreak havoc on the public.” Radio was said to foster isolation and to destroy family and community; people were frightened by the realism of radio such that they screamed at the sound of a lion’s roar; and the mystery and suspicion of radio messages was confirmed and furthered when it was said that messages were being transmitted from Mars to Earth too (Spigel, 1992, p. 3; 27–28). The anxieties around gender and the home are illustrated in a 1931 article from *The Canadian Magazine* entitled, “Women, Radio and the Home” by Marjorie Elliott Wilkins. Wilkins allayed current fears of radio as a domestic distraction and, instead, she demonstrated how radio could actually *increase* women’s household productivity. Wilkins explained that “the radio, if used wisely, could be of tremendous assistance to the housekeeper. But like many other great aids it must employed intelligently.” Because “modern home-making depends on an intense absorption in the task,” she proposed that

the best way to become “keen on” the task of the moment is to get ourselves into the proper mental attitude. Given a gay and diverting thought, even dusting becomes less drab. . . . This where the balanced radio program comes in. If you arrange your radio programs so that it continues to hold your interest even though it is tuned in all day, your day will slip by ever so much more quickly, you will accomplish more, and . . . this satisfied mental attitude reflects itself in our physical well-being. (p. 32)



Wilkins' "balanced radio program" is pictured in a "Radio 'Menu'" which lists specific and desirable programming for each hour throughout the day (e.g., 6:45 am: Health exercise; 9:00 am: Morning melodies; 10:00 am: Home chats, and so on) (p. 32-34). The entrance of the radio into the home was also strategically negotiated in such a way as to maintain traditional gender roles and family organizations even while it was suggested that the radio would make the homemaker even more efficient and productive. Later, similar fears arose with the advent of television. Spigel (1992) draws on popular discourses surrounding the mainstreaming of television to describe the particularly gendered narratives through which television was constructed and installed into domestic space between the years 1948 and 1955. Spigel demonstrates that, like with the radio, concerns about television included that it would disrupt the gendered order of the home by distracting women from their domestic chores and that would encourage promiscuous sexual practices. Similarly to Wilkins' "Radio Menu," NBC Television (1955) assuaged fears that it distracted women from their house duties and linked television to increased efficiency in an advertisement which illustrated how women could schedule their work day in conjunction with the NBC television programming in such a way as to make their day more productive and enjoyable.

In addition, disease and drug metaphors were attached to both television and radio (Douglas, 1991; Mike, 1932; Spigel, 1992). As with computers, a significant body of literature in the 1950s addressed the possibility that people can become addicted to television. The new affliction was said to

"reverse good habits of hygiene, nutrition, and decorum, causing physical, mental, and social disorders" (Spigel, 1992, p. 51). Children were considered to be especially vulnerable to addictive viewing. Viewing afflictions such as "spectatoritis" and "telebugeye" were named as some of the least horrendous effects of uncontrolled television watching while juvenile delinquency and violent behavior stood at the other end of the spectrum. This mirrored the concerns during the 1920s and 1930s with which radio and jazz music were met with Douglas describes the 1922 "radio boom" that swept the United states. . . . [T]he craze was cast, in the pages of the press, as a 'fever' tearing through the population, inflaming all in its path. The fever seemed to come from nowhere, it had a power and a force all its own, and few were immune to its symptoms" (1987, p. xv). Douglas emphasizes the use of the words "sudden," "rapid," "amazing," and "astounding" as frequently used and thus as holding up the metaphor of disease and epidemic (Douglas, 1991, p. xv). As a 1932 "dissertation on radio" declared in *The Sunday Oregonian* newspaper, radio and dance music together formed "The Great American Narcotic: . . . Opium? No! Cocaine? No! The Great American Brain-Killer Is Dance Music." The author, B. Mike, explained that the "dopey-looking dumbbell in the picture is not asleep . . . he's doped. He's under the influence of dance music. . . . [L]istening to dance music you become as immobile as a scarecrow and just as insensible to what is going on around you. . ." Similarly, in "Jazz Just Like Deadly Drug," (circa 1930) modern jazz was compared to opiates. Composer Harry von Tilzer said of jazz that ". . . this so-called music is to the spirit what opium and

cocaine are to the body" (Silver, 1979, p. 170). This produced link between jazz music and drugs was further reinforced when, in the 1930s, the Prince of Wales publicly confessed that he was a "jazz addict" (Silver, 1979, p. 171).

It is significant that the link between radio and jazz music, and medical pathology was not merely metaphorical. Popular magazines cited scientific experts regarding the effects of jazz music on the population and warned of its detrimental biological and social influences. The *Literary Digest* (1927, September 3), for example, turned to the experts, and summarized a doctor's report about the biological effects of jazz music, diagnosed as both pleasurable and pathological. The doctor's credibility was foregrounded through a description of his medical credentials: "a specialist, a neuropath." The magazine described the doctor's views regarding the popularity of jazz music:

... humanity seeks its pleasures according to its nervous condition. . . . The gradual decline of the minuet, the lancers, the quadrille, the waltz, and other such obsolete or almost obsolete dances was due, in the opinion of this physician, not to what one ordinarily calls change of taste, but to a purely pathological nervous condition—a general state of nervous fatigue. . . . A healthy, normal animal, whether human or not, is not bored by tranquility, rest, silence. . . . When his nervous health begins to fail he takes to tobacco, to fast motors, to exciting sports; and for those who cannot indulge in such things jazz furnishes the substitute. . . . Thus also with the jazz lover. The more jaded the nerves are the more rapid and rhythmic the beat must be to soothe them. (p. 26)

In a similar vein, a 1920s newspaper article entitled "Radio, Rum, Jazz Blamed for Insanity," Dr. Isham Harris, Superintendent of the Brooklyn

State Hospital for the Insane, stated that radio, rum, and jazz "are responsible for the increase of commitments to insane asylums in the last few years." Dr. Harris pleaded for a campaign to build more hospitals for the insane to accommodate the increasing demand and explained that

[t]he static and late hours attendant on radio listening-in cause mental abnormality. Because of the irritating effect of radio on mental cases, it has been eliminated from all hospitals for the insane. Even phonographs are rarely used. But music provided by stringed orchestral instruments with therapeutic value, is being used with beneficial effect in certain mental cases.

The discourse on jazz music is intricately connected to cultural ideals, desires, and fears surrounding race, gender, sexuality, and generation. The popular press reflected racial attitudes and concerns about the contamination of mainstream white culture by so-called "barbarian" culture in articles such as "Jazz Cannibal," "Triumph of the Jungle," and "Music of the Degenerate." A 1921 issue of *Ladies Home Journal*, for example, reflected both racial and sexual anxieties as it warned of the "sin in syncopation." Jazz, it was said,

originally was the accompaniment of the voodoo dance stimulating the half-crazed barbarian to the vilest deeds. . . . That it has a demoralizing effect upon the human brain has been demonstrated by many scientists. . . . Jazz disorganizes all law and order; it stimulates to extreme deeds, to a breaking away from all rules and conventions; it is harmful and dangerous, and its influence is wholly bad. (p. 16)

The author cited scientific experts who specialized in musico-therapy with the insane, who confirm that, "while regular rhythms and simple tones produce

a quieting effect on the brain of even a violent patient, the effect of jazz on the normal brain produces an atrophied condition on the brain cells . . . until very frequently . . . [listeners] . . . are actually incapable of distinguishing between good and evil, between right and wrong" (p. 17). To clarify and prescribe appropriate and inappropriate dance behaviors, the article was accompanied by drawings of what were perceived to be safe and dangerous dance postures. At this time, the technology of radio and jazz music were both seen to directly effect the brain in such a way as to cause people to act against traditional moral schema and to overturn generally accepted hierarchies. In particular, radio dance and jazz were seen to promote sexual promiscuity, juvenile delinquency, and racial boundary crossings (sexual, social, and cultural).

Certainly, it may be tempting to dismiss telegraphist insanity, jazz addiction, and other conditions as relatively trivial or irrational responses to the advent of new technologies. Yet it is important to emphasize that these warnings of media use pathologies gained legitimacy within some areas of the popular and scientific domains as that of legitimate and verifiable disorders. In a material sense, the effect was that people were dismissed from their jobs, taken into police custody, and, in some cases, institutionalized in sanatoriums. At the same time, these discourses mediated some of our most pressing cultural ideals, fears, and struggles, such as those surrounding technology, gender, race, the private versus the public sphere, among others. It is to these processes surrounding computer technologies that are turned to next—specifically, the gender and family relations surrounding the

mainstreaming of the personal computer, and the management of a broad-based and gendered "computerphobia" which stood as a stumbling block in the mass marketing of the personal computer.

### **Selling the Personal Computer: The Management of Computer-phobia, the Manufacture of Computer-philia**

"Combat negative thoughts, eliminate self-doubts, reduce anxiety—increase your confidence around computers"

—Text from the business card of Michelle Weil, Technology Psychologist (cited in Greenly, 1988, p. 14).

"We are reaching the stage where the problems that we must solve are going to become insoluble without computers. I do not fear computers. I fear the lack of them."  
—Isaac Asimov (cited in *Time*, February 20, 1978, p. 45)

In 1983, *Time* Magazine, instead of choosing a prominent human figure for their traditional and prestigious "Man of the Year" position, hailed the personal computer as "Machine of the Year." Other candidates under consideration for the 1983 honor included conventional global political figures such as Menachem Begin and Margaret Thatcher. The editors explain their reasoning behind this unorthodox decision to honor the computer: "Several human candidates might have represented 1982, but none symbolized the past year more richly, or will be viewed by history as more significant, than a machine: the computer" (p. 1). Through this "Machine of the Year" honor and the addition of a "Computers" section into the magazine, the editors worked to recognize the increasing importance of this new technology to U.S. culture and, in par-

ticular, what *Time* magazine called the "irresistible invasion of computers into American homes" (p. 1). Senior Writer, Frederic Golden, stated that "Computers were once regarded as distant, ominous abstractions, like Big Brother. In 1982 they truly became personalized, brought down to scale, so that people could hold, prod and play with them" (p. 1). But, the rise of the personal computer was not completely "irresistible." As Shotton (1991) explains, popular and academic discourses throughout the 1970s, 1980s, and 1990s suggest that people resisted computer technologies very strongly. Its incorporation into daily life was not the unfolding of inevitable evolutionary historical and technological progress. Nor was it a simple task for computer industrialists to achieve. One major roadblock was the presence of a very strong broad-based and inhibiting cultural computer-phobia that loomed quite large in the early years of computer technologies. Yet, between the 1950s and the 1990s, computers were, in fact, mainstreamed into our economic and social lives in the United States. This section addresses what happened during these years and, in particular, investigates this management of computer phobia and its transformation into what a 1995 special computer technologies issue of *Newsweek* called "Technomania!" I view this transformation from a computer-phobic culture toward one with a broad cultural computer enthusiasm—and the related definitional issues surrounding gender and the family—as key to making possible the very particular formation of, and discourse on, "computer addiction" in the 1990s.

### *The Irresistible Home Invasion*

Until the late 1950s most computers were large room-sized machines which

required a many people to operate and maintain. By the early 1960s most large businesses, universities, and government agencies used computers for record keeping, billing, and for scientific and statistical experiments. The 1960s saw a proliferation of remarkable predictions as to just what the computer could and could not do. In a special edition of *Fortune Magazine* titled "The Boundless Age," Ray Eppert, president of Burroughs Corp., proclaimed that the computer

has a more beneficial potential for the human race than any other invention in history. . . . It may transform man himself. . . . [I]t seems destined to shine as a powerful instrument for making business more creative and efficient and hence for raising the nations' real income per person, for eliminating a vast amount of drudgery, and for increasing leisure, in short, for measurably expanding (free man's range of choices. (in Bruck, March, 1964, p. 101)

As Lubar (1994) discusses, the public was privy to many displays of the "electronic brains" and their computer genius: the prediction of the 1952 election, the playing of intelligent checkers and chess games, quick and accurate mathematical and statistical calculations. While the political, military, and economic projections brought about tremendous and general enthusiasm for the computerized future, the arrival of computers into the workplace also brought about debates about the effects of automation. Many corporate owners and managers believed the computer would allow them more control and greater productivity. Workers, on the other hand, viewed computerization as a potential threat to the necessity for human labor and/or as a threat to creativity on the job. Lubar (1994) explains that "[t]o many people, the computer had come to represent every-

thing that was wrong with modern life. It became a symbol of a bureaucratic society—an 'IBM society,' some called it—that had no room for individuality" (p. 322). Michael Harrington criticized the "computer age" as a "computerized bureaucracy which 'folds, bends, spindles and mutilates individuals but keeps IBM cards immaculate'" (in Lubar, p. 322).

In the 1960s there were many unanswered questions about just what computers would mean for the structure of society but also for definitions of humanity itself. In the popular press during this time, many articles engage with these fears. For example, in "Is the Computer Running Wild?" Bruck (1964) ponders the predicted ability of scientists to soon build "machines with chemical instead of mechanical brains," machines which will "outperform man" and which will be able to "reproduce themselves." The author asks, "Is man falling behind in a race with machines of his own creation?" Other computer scientists foresaw that, with "enough circuitry hooked up right, it's possible to build computers that have wills of their own" (p. 83) The fear of the Frankenstein scenario in which man's machine offspring overtakes his parent is quite strong. In popular culture, movies such as *2001: A Space Odyssey*, *The Demon Seed*, and *The Andromeda Strain*, in which computers "run wild" independent of their creators, reflected such cultural anxieties about the dangers of computer intelligence. At the same time, in 1964, Bruck gives voice to a growing cultural fear that continues to be linked to computer technologies even to the present day, and that is the fear of a cultural and industrial overreliance on computer technologies: "It is that concentration of power in one place—all heavily dependent on com-

puters for information and with no alternatives—that worries many authorities" (p. 83). This other type of "computer dependency," a broader social and industrial dependence, spurred much discussion and debate. A Naval Affairs Military-Computer expert warns of our tendency to "ascribe an unwarranted wisdom to a computer" (in Bruck, 1964, p. 83). In some cases, experts felt it necessary to assure the public that man is, indeed, superior to his computer creation. *Time* magazine assured its readers that computers were, and always will be, "incapable of exercising independent judgement." The computer is said to have no ability to be creative, no imagination, and thus is "qualitatively inferior to any schoolboy" (1965, April 2, p. 90). Herbert Dreyfuss' well-known treatise *What Computers Can't Do* (1963) is emblematic of this cultural logic and fear of a possible pending human obsolescence.

Certainly, the military and governmental uses of the computer were well established by the 1970s, but, as computers entered the everyday lives of the average person, it was less clear what could or should occur. Many people began to hail the coming of a global village, the breakdown of cultural barriers, and the increase in leisure time. In *The Micro Millennium* (1972), Christopher Evans enthusiastically predicted that personal computers would eradicate communism, end war, reinvigorate capitalism, and eliminate the need for an 8-hour work day. Among some groups, such as the Computer Liberationists, the widespread availability of the personal computer was expected to transfer political power from large corporate and governmental agencies to small, local entities, through computer networks. Thus, Ted Nelson, founder of Computer Liberation,

put forth his dogmatic cry: "Computer Power to the People! Down with Cybercrud!" (1974, p. 3). *U.S. News and World Report* (1973, November 5, p. 45) reported on the new generation of "people-oriented computers" that can be used by everyone to make their lives easier and safer—in banking, bartending, hospitals, education, to aid police hunts, and in score-keeping for bowling. Lubar sees the 1960s fad of computer dating, wherein the computer would match a male and a female based on pre-given descriptions of each, as one way that the perceived coldness, distance, and fear of the computer was tamed, and the computer was somewhat transformed into a more "humanized," more "fun," more relevant tool to be used in people's every day lives. Part of the management of this fear, then, was effected through several activities, such as the advent of computer dating, computer election predictions, and score-keeping for bowling. These everyday uses were, in part, what helped manage the cultural anxieties about cold, distant, and wild computers and that aided in the task of, as *Newsweek* put it in 1970, teaching people "How to Stop Worrying and Love The Computer" (1970, July 27, p. 19). Or, as Ford put it in 1970, the advent of computerized gimmicks such as Vend-A-Friend, a fashion computer, and computerized psychotherapy fostered a sort of man-machine intimacy and allowed many people to finally say, "My machine loves me and I love it" (p. 43).

According to Lubar (1994), while it was *technically* possible to produce a reasonably-priced personal computer starting in 1971, it was not until 1977 that a useful and marketable consumer product emerged—the Apple II. But, of course, the production of a consumer

market was also necessary to its commercial success. The mass-marketing of the personal computer was wrought with difficulties and, as it turns out, the role of the computer hobbyists and enthusiasts was crucial in the popularization of the personal computer (Campbell-Kelly & Aspray, 1996, p. 237). Campbell-Kelly and Aspray (1996) describe the years between 1975 and 1977 as the years during which the microcomputer was "transformed from a hobby machine to a consumer product" (p. 243). In 1976, *Science Digest* reported that over 10,000 enthusiastic computer hobbyists had organized over 20 computer clubs across the country. The California Computer Society had approximately 4,000 members and expected to increase their membership to ten times that amount within one year (Grosswirth, 1976, p. 37). Computer shops such as ComputerLand soon overtook the mail order business; however, by 1977 ComputerLand was established as nationwide chain. During this time, in the mid-1970s, popular men's magazines often featured articles for the do-it-yourselfer which were instructional in how to build, program, and use personal computers at home: "What It's Like to Build and Use Your Own Home Computer" (*Popular Science*, 1977) and "Everyman's Home Computer is Here" (*Popular Mechanics*, 1977). In a 1977 article titled "Home Computer Kits: The Hottest New Angle in America's Newest Hobby," Ivan Berger describes his first experience with the personal computer: "The grin on my face, and the bags beneath my eyes had everyone thinking I'd been on a long round of late-night parties. But it was a six-week computer binge instead" (*Popular Mechanics*, February, p. 99). The sense of euphoria was often described, yet "to

the nonhobbyist, why anyone would have wanted this own computer was a mystery: It was sheer techno-enthusiasm," (Campbell-Kelly, 1996, p. 238). For many hobbyists, computers had "magical" properties. Paul Terrell, founder of the Byte computer shops in 1975, states that his goal was to "bring computer magic to the people. Computers were the most misunderstood creatures in the world, and if everyday people were to appreciate and use them the mystique and magic had to be dispelled" (*Creative Computing*, 1984, November, p. 120). The relatively small segment of the "computer enthusiast" subculture enabled the popularization of the personal computer. And, while, such computerphiles were considered by some to be "eccentric," "obsessive," even "weird," the computer eccentric (even "addict") was, in many ways, useful to science, to industry, and to culture, in the establishment and growth of a wide-spread cultural technoenthusiasm (Shotton, 1991, p. 260). As one popular computing advice essay aptly explained in 1984,

while this level of obsession may be irritating to people who are not heavily involved in computing, Linda admits upon reflection that it's probably a good thing. "Someone needs to be obsessed with computing in order to act as a catalyst to get the rest of the family started," she explains . . . "you need someone who's hooked on computing to get you past the initial frustrations." (Zarley, p. 79)

Scott (1982) also explained how the epidemic of computer enthusiasm spread: ". . . [H]is excitement was infectious. He even taught a friend of mine how to sue his micro, and today she plans to be a programmer! So I began to see the positive sides of his hobby. After all, at least a microcomputer does keep an addict at home (with occa-

sional trips to the computer store, of course!)" (p. 15). By the late 1980s, one type of computer recruitment had a name within the industry, known as the Mom and Dad Factor, it was hoped that parents would bring a computer into the home and proceed to make sure that "home computing spreads" (Keizer, 1989, p. 4).

Indeed, computer games played a crucial role in the strengthening of the computer software industry. Young programmers, who were acutely aware of the necessity of "user-friendly" systems, created games that needed no manuals and that gave "instant feedback" (Campbell-Kelly & Aspray, 1996, p. 250). The production of these games, then, "translated" a more mainstream audience toward the use of the computer. Gottfried (1979), for example, exclaimed that "A Man's Best Friend is His Home Computer." He continues:

Though computers logically have proved themselves indispensable to the business world, [who knew they] . . . would so quickly charm their way into our homes as well. Yet that is exactly what happened. At first they appeal to our mental weakness hand-held calculators alleviated the error-prone monotony of checkbook balancing and receipt tallying . . . then, by a flanking move that was as brilliant as it was unexpected, computers went for the funny bone. Suddenly they weren't just a part of homework drudgery, they were recreation—TV games, electronic toys, and the popular music game, Simon. It was like a sniff of heroin for the computer junkies; and now they're hooked. (Gottfried, 1979, October 13, p. 63)

With the increased use of computer and video games, another discourse emerged that worked to delineate their promises and dangers. On the one hand, computer games were said to increase hand-eye coordination, to aid

in the development of spatial and visual skills, to inspire a child-like creativity, to teach problem-solving skills, to allow the natural release of male energies that would, in other times, be expressed on the war-path, and are useful to train military pilots. On the other hand, critics lodged that computer games decrease creativity, detrimentally demand complete absorption into the playing of the game, encourage values of masculine domination, violence, and consumerism. In 1982, the U.S. Surgeon General, citing that such games "can lead to aberrant behavior in children," warned that "the games are addictive" and that avid, even pathological, computer gaming could be a looming public health hazard ("Surgeon General Sees Danger in Video Games," p. A16).

Yet, even while some people befriended computers very quickly, many people were still intimidated by the new technology. In the 1970s and 1980s, the term "computer phobia" entered both the popular and medicopsychological lexicon. The *Encyclopedia of Phobias, Fears and Anxieties*, a professional reference for clinical psychologists, included the term in its 1986 edition. Drawing on the research of Professor Weinberg described earlier, computer-phobia is defined as

fear, distrust, or hatred of computers. . . Some individuals who are faced with learning to work with computers show symptoms of classic phobia, such as nausea, dizziness, cold sweat, and high blood pressure. Many computer phobics hide their fears because of peer pressure to make efficient use of computers. . . . However, as an ability to type is essential for adaptation to computers, secretaries are less likely to suffer from computer phobia. Individuals who fear computers can overcome their phobia by *gradually* exposing themselves

to electronic calculators, games, and eventually single computer programs. (p. 113)

Throughout the 1980s, computer book titles such as *Overcoming Computer Fear* (1984), *Technostress* (1984), and *Silicon Shock* (1985), and popular articles such as "A Computer Sent Me to Jail!" (Stossier, 1985) and "Terminal Fear: The Office Computer is Not Your Enemy" (Myers, 1983) suggest that, for many people, computers were extremely unpleasant objects and their introduction into some people's lives caused extreme duress. Rather than the public being uncontrollably and inevitably drawn in by the introduction of computer technologies, there was much cultural work involved in the deliberate, if somewhat gradual, exposure of people to computers, and the strategic re-articulation of computer technologies to the home, such that conditions were produced as to allow for the irresistible invasion described by the *Time* editors. In "Home Computers Mean Power," Stine (1981) worked to allay common fears that the rise of computers necessarily results in electronic intimidation and a loss of privacy. Indeed, he predicted that this technology is key to winning greater personal freedom (p. 12). Wallich (1982) asks, "Man and Machine: Making Friends at Last?" and explains that "as more and more people come in contact with computers, 'user-friendly' systems that try to help you work with them will become essential" (p. 27). Quite succinctly, Salsberg, editor of *Personal Computing* overtly states that people must work to overcome their fear of computers because "we are rapidly moving into an awesome information age where hardly anyone will be untouched by computer technology. This being the case, the smart move is to embrace computers as early as you



can. . ." (p. 6). Computer camps for children combined swimming, hiking, and computing, and worked to make computers fun and adventurous. Camps for adults "mixed suntans with software," wherein the relaxed setting of a camp could help soothe the anxieties that overwhelm many adults when confronted with the computer (Elmer-Dewitt, 1983). Books such as *The Whole Earth Catalog* and *Digital Deli* written by people aligned with the computer liberationists offered a "computer culture made easy" and introduced computer lingo and computer culture to the computer technological neophyte (Rogers, 1984, p. 102). Useful guides to buying personal computers were often published in magazines such as *Business Week* ("How to Conquer Fear of Computers," 1982), *Personal Computing* ("Teaching CEOs To Use Personal Computers," 1985), and *Psychology Today* ("Curing Cyberphobia," 1983) which gave advice about how to manage technological change and transform the computerphobe into a confident and competent computer user. In some computer-phobia management seminars, the symbol of success was at the end of the seminar, when a student could successfully print out his/her own "graduation certificate" using the course computer: "Congratulations! You are now computer confident!"

This mass-mediated cultural management of computer-phobia was integral to, if not necessary for, the possibility for mainstreaming of the personal computer. To extend on this work it took to cajole the computer into the home, another dimension of the discourse on computers and computer phobia, that is the particular intersections with which it connects to the discourse on gender and the family, must be explored—specifically, how the "domesti-

cation" of the personal computer relied heavily on very particular ideals and fears about appropriate gender and family relations? Indeed, the organization and disruption of the nuclear family played a significant role in the discourse on computers. Throughout the 1970s and 1980s, the personal computer was successfully re-articulated and connected to middle class family ideals which transformed the familiar and frightening icon into a domesticated friend of the family.

### *1980s: Bringing Home "Baby"*

Campbell-Kelly and Aspray (1996) describe that in 1981 market research indicated that the personal computer was still placed in a space of tension between its existence as a business machine and a tool for the home. Thus, when IBM launched the IBM Personal Computer, it was

ambiguously aimed at both the business and home user. The machine was astutely named the IBM Personal Computer, suggesting that the IBM machine, and the personal computer were synonymous. For the business user, the fact that the machine bore the IBM logo was sufficient to legitimate it inside the corporation. For the home user, however, the market research revealed that although the personal computer was perceived as a good thing, it was also seen as intimidating—and IBM itself was seen as "cold and aloof." (p. 256)

During this time, IBM successfully personalized or humanized their image by the use of a Charlie Chaplin lookalike and a reference to his film *Modern Times* (1936), often said to be a statement about a world that is increasingly technology driven and hostile to the average person. Pankenier (1981) suggests that this ad campaign worked to stand the fear of technology on its head and would help the PC open up a new

technological world of the non-technician. The Tramp, he asserts, with his ever present red rose, has given IBM a human face (p. 54). The IBM PC subsequently became the standard for the industry. IBM strategically positioned itself on the side of the "everyman" through its professed goal of building user-friendly computer systems. Other personal computer manufacturers also worked at "softening their starchy image" by recruiting familiar celebrity endorsers for their products. The goal was to make these slightly intimidating machines seem warmer and more empathic. Apple Computer recruited Dick Cavett; Texas Instruments signed Bill Cosby; Commodore linked itself with William Shatner; and Atari hired Alda as their spokesperson (*Time Magazine*, 1980, July, p. 54). By 1982 there were approximately two million personal and home computers (Faflick, 1982) and by 1986, an Atlantic Institute poll found that compared to Japanese and Germans, Americans were at ease with computers and were comfortable with the idea of being part of a computerized society (Atlantic Institute Poll, 1986). As one popular journal described it, man and machine were "making friends at last" (Wallich, 1982).

Significantly, this friendship was, for the most part, between *men* and their computers, and it was during this time that the term "computer widow" was coined to refer to women like Sylvia Scott, who said she had to vie with a TRS-80 for her husband's attention (p. 14). Faflick describes the problem:

Throughout the nation, thousands of couples who have survived Monday Night Football, jogging and the ERA debates are facing a trickier challenge. The computer that they were told would bring the family together may now be driving them apart. Says San Diego Psychologist Thomas Mc-

Donald: "They're beginning to realize they're losing their spouses to a machine." (Faflick, p. 80)

Similarly, Van Dusen (1983) explained that

Since the Second World War, a succession of strains ranging from birth control pills to increasingly easy divorces has battered the North American family. Now an emerging new factor is putting stress on the nuclear unit: the home computer. Mental health professionals are beginning to see the new electronic member of the family as a threat to the human beings who own it and, in theory, control it . . . "The home computer is being marketed as a man's toy, and the woman's involvement with it is limited to something she can put her recipes on" says psychologist Jason Roth. . . . "Many women fume silently about the intruder, hoping that their computer-obsessed partner will tire of the toy. But in many cases that never happens" . . . Bradley McRae, a Halifax psychologist, said that one woman client's antipathy toward the machine was so intense that she simply refused to dust the terminal, perhaps secretly hoping that it would clog. (p. 57)

Articles such as "The Computer As Rival," "The Real Apple of His Eye: How Families Come Apart in the Face of the Micro Invasion," and "My Husband's Computer Was My Competition" appeared in popular magazines such as *Goodhousekeeping* and *Time*. In her book *Silicon Syndrome: How to Survive a High-Tech Relationship* (1985), Jean Hollands counselled women about how to cope with their husband's neglect as a result of his "computer enthusiasm." Hollands argued that men's brains predispose them to a love of technology, and she offered ways that women can learn to appreciate this masculine trait, and in some cases, "train" their husbands to be good mates. Hilts suggested that women learn to appreciate their husband's affection for the com-

puter as she declared, "How can a wife resist something that makes her husband so happy?" (p. 72). Other articles also suggested that women join in their husbands' hobby or, if they could not join the computer revolution, find some other way to hammer out a peace pact with their mate (Faflick, p. 80). Hiltz and Turoff (1982) warned that computer "addiction" is the source of considerable antagonism from the families of [network] members with terminals at home because members are prone to sneaking off after dinner for a session, rather than talking or helping with the dishes" (p. 112). In some cases, the solution was to move the existing computer terminal into a common or public area of the home: "The Forrests have eased the strain on their relationship by moving the computer from the basement into the kitchen. 'Now,' said Janet Foster, 'we can talk to each other while he is at the computer.'" (Van Dusen, 1983, p. 57).

These same issues—guidance as to how to incorporate computers into the home, where to put the computer (where not to put the computer), generational disputes, and other related discussions—are dispersed throughout the popular literature in articles such as "The Plugged In Family (*Working Woman*, 1984, April, p. 129), "Home Computers and Families: The Empowerment Revolution" (Wakefield, *The Futurist*, 1986, September), and "The Pleasures and Perils of Computing at Home" (1984). Books marketed for a popular audience included titles such as, *Computer-Age Parenting: Learning Together With Your Family Personal Computer* (Scharf, 1984) and *My Personal Computer and other Family Crises* (Schneider, 1984). Several popular articles appeared which "guided" families as to how to bring the computer

into the family (Haiman, 1985; Keizer, 1982; Kindel & Field, 1982; Levine, 1981; Scharf, 1984; Wakefield, 1985; Zarley, 1983). This attention paid to computers and family functioned to re-articulate computers from being either a cold, distant, and feared military machine, or a tool used in isolation by a socially dysfunctional male, and transformed them into socially-friendly and family-friendly machines. Also, in the 1970s the U.S. began to see a significant rise in the divorce rate and increase in female-headed households among middle-class families. Thus, it can also be said that the discourse on computers functions in connection to broader cultural management of struggles around changing roles for women and the reconfiguration of the nuclear family. In 1984, Christopher Zarley asked, "Are computers bringing families together or tearing them apart?" (p. 76). Zarley offered advice for families who wanted to integrate computers into their homes with the least possible disruption. He referred to Professor Jerry Willis who predicted that "the personal computer can bring families together the way no other machine can" (p. 76). Yet, according to Zarley, there was strategy involved:

What happens is that one person buys the computer for a specific purpose, then tries to involve the rest of the family in computing. But that's a bit of a no-win situation: If he succeeds, the computer becomes an object of competition as wife and kids bid for time at the machine; if he doesn't succeed, if he remains the sole user, the family may resent the time he spends with the computer. Thus, getting your family involved is one way to limit the tensions caused by one member of the family spending so much time at the computer. If you can spread your enthusiasm to the rest of your family, you'll be on the way to integrating the computer into the household

and removing the resentment the family might feel toward the new machine. When it comes to getting kids involved, games are a good way to start. (p. 76)

But Zarley counselled it is important not to limit its use to one application. Make it a universal machine. (p. 76-83). Campbell (1986) similarly exhorts the ability of the computer to bring the family together as she described "How my computer has put punch in my marriage! . . . Sitting around the terminal has now replaced watching TV. . . . We still get really excited about it; it's almost like a date. Who would have thought that a machine would make us feel closer? . . . [M]y computer is now like family" (p. 29).

A 1981 issue of *The Saturday Evening Post* includes an article and photo collage, entitled "A Family Computer Album," in which photo captions emphasize the computer as friend of the family, both in terms of friendly interactions with individuals as well as being a friend to the notion or concept of the "family" as a social institution: "When in need of answers or entertainment, families in this Midwest community are finding their computer a friend indeed" (Olsen, p. 71). Indeed, in these photos, the computer functions to bring the family closer together:

Willing to talk or ready to listen, the computer is the Dennis Manhart family's tireless friend. (p. 70)

Members of the Rich Teobald family keep their computer in the dining room where they put in many happy, helpful hours creating their own games to teach reading and math. (p. 71)

Cindy Bauer is drawn into the computer game helping husband Wil and daughters Kristy and Terry. (p. 73)

The article proceeds to describe various individual and family experiences with the introduction of the personal computer into the home: overcoming fear and anxiety, teaching children, adult education, beginning in-home employment. A similar article appeared in *Parents* magazine in July of 1983. Titled "A Computer In the Family," in this piece, "[a] father tells how he and the rest of his family managed to turn the unfriendly newcomer into a responsive, indispensable addition [to the family]" (Levine, p. 53). The opening photograph is of the four members of the Levine family gathered around their family computer which is centered in the photograph. The group is framed by an outline of yet another computer screen. The caption reads, "And computer makes five." The father, James A. Levine discussed the difficult transition his family underwent when he brought home their new "baby," an Apple II Plus computer (p. 54). His wife, Joan, was a "self-confessed computer-phobe" who was able to overcome her inhibitions and eventually learn "the joys of word processing" (p. 57). Levine confessed the worries he had prior to buying the computer but described how he and his family were able to overcome their computer-integration difficulties, in part, as each then learned how to utilize it differently (e.g. games for the children, word processing for Joan, etc. . . .). Eventually, Levine celebrated, for all members of the family got "hooked" on the computer.

A convergent discourse to the public dialogue about computers and the family was the discourse on computers and women. In 1983 Isaac Asimov warned that "the future is rushing toward us, and women must not be caught unprepared. It is going to affect the home

and the family—and it's also going to affect the status of women in general" (p. 65). He predicted that, in its ability to allow women to work from home, "one of the most significant uses for computers [will be], that of finally raising the role of women in the world to full equality with that of men" (p. 66). As Asimov understood the future, since the computer would de-corporealize and de-gender the workplace, and there would be no gendered jobs (p. 67). Also in 1983, a prominent figure in involved with the Moral Majority again linked these two domains but from the other side when he stated that "We are against the women's rights movement, and we are very concerned about the growing menace of home computers" (quoted in Van Gelder, 1983, p. 36). Yet, contrary to earlier predictions, according to Sanders (1986), between 1978 and 1982 the gender gap in computer programming courses widened rather than narrowed. Van Gelder (1985) explained that in high schools, "girls and minority students [were] often relegated to the backseat when it comes to allocating quality and quantity time on school computers. In addition, because computer courses were treated as if they were advanced courses, and were therefore given to those students who were considered to be the best math students (very often males), girls lost out on computer learning" (p. 90). One Wisconsin high school solved problem of scarce computers by reserving them for boys—who needed them for career preparation. Girls also were relegated to the backseat because parents tended to encourage boys to use computers but not girls; boys were aggressive at demanding their time at the computers; boys actually gained social status by being good with computers while girls lost

status; and girls believed that computer classes were not necessary for their futures (Van Gelder, 1985, p. 90). Turkle suggests that "The problem is that too often only the hard style is respected in computer classes. The soft style tends to be seen as just fooling around" (in Van Gelder, 1985, p. 91). In 1984 only 20% of pictures in the major computing magazines were of women or girls, and most of them weren't using a computer but were gazing adoringly at the men who were. In addition, almost all the faces represented were white, and 76% of the articles in the magazines were written by men. This technological stratification across gender became a significant subject of public dialogue throughout the 1980s. Van Gelder expressed her anxieties about a possibly stratified future society,

with a technological elite—those who've gotten the hands-on experience from an early age—that's upper class white and male. No one's going to conspire to make it happen that way; it will be a simple function of no one's having prevented it from happening. The computer world strike me as being comparatively non sexist. What's keeping us out is our own anxiety. It's not a machine damn it, it's the future. (p. 38)

She proceeded to put forth ways that women could learn to use and eventually "fall in love with" their computers.

The import of the computer revolution in the workplace was emphasized in the *Ladies Home Journal* (1983 September). Their special issue on computers told women "How to Get Smart About Computers." The editors of the magazine recruited

experts for clear explanations about how computers work, how to purchase one, and how to train for computer jobs that pay handsomely. So, [they advised,] don't skip to the recipes or the beauty or the

fashion. They're terrific, but they can wait. This is a package you simply can't afford to pass up. You know computers are a fact of life today, making fundamental changes in the way we work, behave and even think. Don't let yourself be left behind. . . . The future can be yours. (p. 65)

For women in 1980s who still struggled to join the computer revolution and who still were afraid of the computer, activities called "Computer Parties" began to emerge. These small women-only get-togethers were offered in large cities like New York and offered women the opportunity to learn about computers "at a low-key . . . class in their own homes or the homes of friends. We're typing to help women overcome their resistance in a non-threatening way" ("A Computer Lesson," 1984, p. 65). They told women to forget the "Tupperware parties" and get involved in the computer revolution. More advice for female technophobes included an emphasized necessity for women to view the computer not as a "tool" (which is masculine), but as "just another machine . . . an *appliance?*" (Van Gelder, 1985, p. 89-91). Hait (1983) describes how her computer attraction turned to passion, as she made a similar move to dis-engage the association of computers with (masculine) tools and machinery, and rearticulated them to the more feminine home appliances: "How did I learn to love my computer? Just the way I learned to use and love my dishwasher, my microwave and my three-speed, five-cycle washing machine. To use it is to love it" (p. 72). Software manufacturers initiated similarly gendered applications such as recipe database programs and dinner-party seating programs: "[M]any a hostess will relievedly clutch this software to her bosom

as she looks to the challenges of the spring social season" (Seligman, 1986, p. 89).

By the late 1980s and early 1990s, women commonly used computers at both work and home (and to work from home). The industry had to respond to the female market, yet they struggled with how to do so. Lewyn reported that in 1990 the nervous "PC Makers, palms sweating, try talking to women" (p. 48). He explained that computer manufacturers began to buy more advertising space in women's magazines as changes in computer buying patterns—due in part to the increased number of women working at home—forced the industry to recognize and address female consumers of computers:

TABLE 1  
AD REVENUES FROM COMPUTER COMPANIES

|                                | 1988    | 1989<br>(Jan.- Sept.) |
|--------------------------------|---------|-----------------------|
| <i>Working Woman Magazine</i>  | 656,150 | 1,037,550             |
| <i>Redbook Magazine</i>        | 90,035  | 217,560               |
| <i>Sassy Magazine</i>          | 37,925  | 71,105                |
| <i>Working Mother Magazine</i> | 34,590  | 57,825                |
| <i>Ladies Home Journal</i>     | 0       | 41,700                |

Data from Publishers Information Bureau  
(Cited in Lewyn, 1990, p. 48).

But, as Lewyn explained, computer companies had a difficult time walking the line between pandering or patronizing female consumers, and ignoring them. *Queme computer*, for example, attempted to appeal to women with pastel colors for the control buttons of its laser printers and the function keys of its computer terminals, but this effort

did not increase sales. Lewyn described that even more blatant gender-based pitches fared even worse. For example, a checkbook balancing and budgeting program originally called "Women's Ware" was re-named "Women's Ware (For Modern Men Too)" at the suggestion of Gloria Steinem, and was then re-packaged so that it looked like a pair of pants on a hanger (p. 48). More recently, Mattel's recent (1997) introduction of computer-literate Barbie functions to further re-articulate computer technologies to appropriate female activity. Ultimately, it is important to note how significant the gendered aspects of computer technologies have influenced, and still influence, its production, distribution, and the "configuring of users."

### Conclusion

The cultural and industrial emphasis on women's attitudes and uses of the computer was key for the "cajoling" of the computer into the hands of women and into the home. As described previously, by the mid-1990s, the discourse

on "normal" and "abnormal," or "appropriate" and "inappropriate" computer use shifts and trouble emerges when it is said that women's newfound love of the computer has transformed into a destructive and threatening obsession, both at work and at home. As Foucault (1972; 1978) explains, designations of "normal" and "abnormal" are tied to institutional requirements at any particular time. This essay described some of the discursive processes such as the production of "computer-philia," which functioned toward the "cajoling" of computers into the hands of women and (therefore) into the home. The current formation of "computer addiction" as a peculiarly female phenomenon, is part of the continued "configuration of users," or "tinkering" of the technology toward potential and eventual "stabilization." That is to say that the current discourse on computer addiction still functions toward social-technological "normalization." The particulars as to *how* this strand of the discourse works are subject for further study. □

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