RE-THINKING HOME FOR A WIRELESS AGE

by

Angie Hsieh
Bachelor of Arts (First Class Honours),
Simon Fraser University, 2002

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

In the
School of
Communication

SIMON FRASER UNIVERSITY

Spring 2005

APPROVAL

Name: **Angie Hsieh**

Degree: **Master of Arts**

Title of Thesis: **Re-thinking Home for a Wireless Age**

Examining Committee:

Chair: **J. Adam Holbrook**
Adjunct Professor, School of Communication

Dr. Richard Smith
Senior Supervisor
Associate Professor, School of Communication

Dr. Brian Lewis
Supervisor
Professor, School of Communication

Dr. Roman Onufrijchuk
Supervisor
Research Associate, School of Communication

Dr. Maria Bakardjieva
External Examiner
Associate Professor, Faculty of Communication and Culture, University of Calgary

Date Defended/Approved: March 15, 2005

Simon Fraser University

Ethics Approval

The author, whose name appears on the title page of this work, has obtained human research ethics approval from the Simon Fraser University Office of Research Ethics for the research described in this work, or has conducted the research as a member of a project or course approved by the Ethics Office.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for ethics approval and letter of approval is filed with the Office of Research Ethics. Inquiries may be directed to that Office.

Bennett Library
Simon Fraser University
Burnaby, BC, Canada

ABSTRACT

This thesis builds a case for thinking differently about home by exploring the experience of wireless communications technology users. Chapter one explores the theoretical home/non-home dichotomy and argues that additional research and discussion is required to discuss how communication technology has influenced meanings of home. Chapter two examines the recent popularity of wireless communications technologies (mobile phone, laptop, and wireless Internet) and reports on survey and interview findings. The findings demonstrate that wireless communications technology is now an integrated part of daily life and has changed people's relationship to the home. Chapter three examines additional fieldwork findings with theories of mobility and the home to argue that a more flexible conception of home is needed to reflect today's domestic environment. Together, this thesis argues that a dialogue must be opened up to re-think the meaning of home in an increasingly wireless age.

DEDICATION

For my parents, James and Agnes Hsieh,
my brother, Gene Hsieh, and my grandmothers.
Thank you for giving me a home.

ACKNOWLEDGEMENTS

This thesis is the product of my 50+ survey and interview respondents. Thank you for your time, thoughtful responses, and enthusiasm. Thank you to Dr. Kathleen Cumiskey for being a tremendous hostess during my research in New York, to Dr. Maria Bakardjieva for being a fair, but critical thesis examiner, and to Adam Holbrook for chairing my thesis defence.

Thank you to my supervisory committee for your guidance and confidence. To Richard Smith, for giving me the space to learn, and for your unwavering faith in my ability. I am a better person because of you. To Brian Lewis, for asking questions that made me think, and for your confidence in my work. To Roman Onufrijchuk, my friend and mentor. Thank you for all the coffees, long talks, and guidance.

To Marcelo Vieta and Michelle Petrusevich, thank you for being excellent colleagues and even better friends. To my fellow "home" researcher, Mark Ihnat. Thank you for your advice and collaboration. You helped make this journey engaging and fun.

Thank you to Lucie Menkveld and Neena Shahani at the School of Communication for helping me along the way, and to the fabulous Belzberg Library staff.

I had the support of three amazing employers during my graduate degree: Deborah Kirby, Richard Smith, and Branko Zurkovic. Thank you for giving me fun work environments, challenging work, and a flexible schedule!

To my dear friends, Adrienne, Naomi, Venita, Jitka, and Curtis. Thank you for letting me use that "I'm really busy" excuse for two years!

Thank you to the Actons and Schicks – Patricia, Jack, Janice, Jean, Craig, and Marilyn – for helping with my research, asking questions, and your kind support.

My parents and brother respected my choices and always supported my education. Thank you for always being there for me.

Finally, a special thank you to Dan Schick. Thank you for reading multiple thesis drafts, helping me with my research, and being an emotional support during the entire thesis journey.

TABLE OF CONTENTS

INTRODUCTION

As a regular user of a laptop and mobile phone, I had an epiphany one day. While sitting at a coffee shop, connected wirelessly to the Internet, I was paying a credit card bill online when I realized something: I usually did this at home. Further reflection found that my mobile lifestyle was changing how I thought about and interacted with my home. I became curious if wireless technology was having similar effects on other people. This thesis explores how wireless communication technologies are influencing the home. Following an examination of theories and fieldwork data, I propose that a more flexible conception of home is needed to reflect an increasingly connected and mobile lifestyle.

Why think deeply about home in the age of information and wireless connectivity? The home is still evolving, and as technologies continue to enter the home, we need to pause and ask, what's happening to home? Bammer (1992, p. xxxiii) recognizes that the home is in flux: "on all levels, and in all places, it seems 'home' in the traditional sense is either disintegrating or being radically redefined" (p. viii). According to Bammer, two main arguments exist on what to do with home. The first argues that home is a term with such exclusionary baggage that it should be set aside for a better term, while the other argues that home is one of the few remaining ideals in society that we should never give up.

To understand these two arguments, my thesis research began by exploring the home/non-home discourse. These theories remain important, but as technology is a significant component of the home today, this theoretical discourse seemed incomplete.

An examination of historical literature found that Cowan (1983; 1999), Forty (1986), and Rybczynski (1986) discussed how the Industrial Revolution and the adoption of electricity created a "domestic revolution" in the home, changing its physical, social, and technological landscape. Yet while these works provide a good perspective of home up to the early 20th century, the introduction of the telephone, radio, and television introduced a new paradigm to the home. These communication technologies gave people access to the outside world from the privacy of home. The domestication[1] of these technologies has been explored by several scholars, including Silverstone (1994), Spigel (1992; 2001b), Morley (2000), and Fischer (1992), all providing varying perspectives on the effects of the telephone, radio, and television on domestic life. The personal computer and the Internet were introduced to the home in the early 1990s, representing another way to expand interaction with the outside world. Research on how the computer and Internet are being negotiated into the everyday life of the home and family remains active (See: Bakardjieva-Rizova, 2000; Turow & Kavanaugh, 2003; Wellman & Haythornthwaite, 2002).

Today, five communication technologies are arguably core parts of home: the telephone, radio, television, computer, and Internet. This thesis considers three additional communication technologies that appear poised to change the home: the cell phone, laptop computer, and the wireless Internet. These technologies enable unlimited mobile connectivity, inside and outside the house. Activities previously available solely within the home, are now available anywhere and anytime. Phone conversations take place on buses, in cars, in movie theatres, and in classrooms. Coffee shops, public parks, and libraries are populated with laptop users who wirelessly access the Internet to do work, research, banking, shopping, and emails. The result is a lifestyle that

[1] Domestication is taken from Silverstone (1994), defined as the process of bringing an object in from "the wild" and bringing it under control as a member of the household.

encourages mobility and connectivity, not staying at home. This thesis explores what this wireless lifestyle could mean for the home.

Chapter one, "The Home," explores the theories of home by presenting the domestic dichotomy of home/non-home. I review multi-disciplinary literature on the meaning of home from positive and negative perspectives, including philosophy, phenomenology, geography, and psychology. I argue that while the home/non-home dichotomy remains an essential part of the domestic discourse, it is no longer adequate. This chapter also discusses recent research on communication technology in the home and identifies a research gap by arguing that limited scholarly work exists on how communication technology influences the meaning of home.

Chapter two, "The Wireless Life," examines the recent popularity of wireless communication technology. The chapter begins with an overview of wireless technology and presents the fieldwork research plan. Next, the chapter reports on survey and interview findings to demonstrate that wireless technology is now an integrated and essential part of daily life.

Chapter three, "Re-thinking Home," examines additional fieldwork insights and theories of mobility and communications technology to propose a more flexible idea of home. This chapter explores themes of place and space, public and private, and mobility to propose three new ideas for thinking of home in the 21st Century. Together, these three chapters offer a re-examination of home in the context of wireless communication technologies.

Silverstone (1994) comments that discussing home is a challenge because in much current writing, the home "exists to be denied" (p. 25). Home is a contested space, with as many supporters as detractors. Many women view the home as a site of control and oppression; many people have no homes. These are important issues within

the discourse of home, but this thesis cannot address them in the detail deserved. Recognizing these complexities, this thesis explores home within a North American context, and defines home as a person's place of residence and the centre of a person's daily activity. In addition, research findings are based on North American urban culture. Interviews were conducted with people who live in cities, rather than rural environments.

The home remains a celebrated and special place, but the home continues to change. North American society's increasingly connected and mobile lifestyle requires a more flexible conception of home, both theoretically and in everyday life.

CHAPTER ONE: THE HOME

As an English word, "home" has always been problematic to translate into other languages. In North America, while "house" is easily defined as a physical structure, the full meaning of "home" is harder to describe. Translators have complained that it is difficult to find an exact translation for "home," which holds intangible, emotional meanings (Rykwert, 1991). For example, while French uses a different word for "house" (maison), the word for "home" is a proposition (chez moi, my home), not a proper noun (Rykwert, 1991). Similarly, "domus" means "house" in Greek, but "home" falls under the much broader "oikos," which refers to the household and domestic economy (Shapiro, 1998). The closest word to "home" in Classical Latin is "familia," everything under the authority of the household (Birdwell-Pheasant & Lawrence-Zuniga, 1999). Most literature points to the German language as closest to the English meaning of home, "heim" and "heimat," both refer to home.

Perhaps the lack of translatable words for "home" represent the layers of emotive meanings often associated with the home. Yet where did these meanings come from? While the exact origins of the home are difficult to trace, Rybczynski (1986) says dwellings from the 14th Century to the end of the 18th Century remained largely the same. Houses during this period were not "homes" in the contemporary sense, but houses, physical shelters from the elements. The average bourgeois house in Western Europe was more like a public meeting place where people cooked, ate, worked, entertained, and slept. Private rooms with specialized functions, such as bedrooms, dining rooms, or bathrooms, were non-existent. Rybczynski argues that "human inventions" of intimacy, privacy, domesticity, and comfort were the first domestic

innovations, which ultimately transformed the house into a home and represented the first major turning point in the history of home. Until the introduction of these domestic values[2], people had little emotional investment in the house. The introduction of these values changed the house from a public shelter for several people, to an intimate setting for the family.

While the history of home can generally be traced to a specific timeline, defining what home means is more difficult. Home is a powerful concept, but it is also subject to a debate about what it represents. For many, the home represents a source of happiness, privacy, and values, while others view the home as a façade for an oppressive and controlling environment. Bammer (1992) comments that in a semantic sense, "home" is simultaneously the place you've left and the place you're going to, an indeterminate space with contradictory consequences. This semantic sense of home "demythifies the home as provisional and relative...this same quality also creates mythification of home, as an almost universal, utopian site" (p. vii). This contradiction frames a debate on home. This chapter presents the home/non-home dichotomy, framed by a survey of theoretical concepts about home. While the dichotomy remains valuable, this chapter argues that limited research exists on how communications technology influences the meaning of home.

Home

Agnes Heller (1984) says home represents familiarity in our everyday lives, a fixed point from which to proceed and return. "Going home should mean returning to that firm position which we know, to which we are accustomed, where we feel safe, and where our emotional relationships are at their most intense" (p. 239). Geographer Yi-Fu

[2] Rybczynski traces the introduction of these "human inventions" to Dutch culture in the late seventeenth century.

Tuan discusses how having such a fixed position represents the relationship between home and journey (Sopher, 1979). The importance of home is as the starting and finishing point of these journeys. Geographer David Sopher (1979) calls this a "domicentric" view of human experience, one firmly situated around the idea of home. Several scholars, such as Martin Heidegger and Gaston Bachelard have written about home from a domicentric perspective, arguing that home represents a special place in an impersonal world. Despite the varying approaches these scholars take, the message remains the same: as the locus of most lives, the home serves as a protector, refuge, and reflection of the self.

In Martin Heidegger's (1971) "Building, Dwelling, Thinking," he discusses how the home is the physical and material correlate of dwelling because we are predisposed to a way of being in the world; we build because we dwell. This is illustrated in Heidegger's metaphor of the *fourfold* (comprising of earth, sky, divinities, mortals), which, while open to several different interpretations, will be presented as the following: "mortals" refers to humans; "earth" refers to the material substance and context of human lives; "divinities," or "gods," refers to models of what is good for humans; "sky" refers to the range of events that can happen to dwellers, such as weather, misfortune, and all other circumstances.

The way we live or dwell is in the interplay of the fourfold. Dwelling gives presence to this fourfold by giving it presence in things, such as the home and the objects within the home. Heidegger also posits that space is everywhere around mortals, and humans persist through such spaces by dwelling. Thus, when mortals "turn inward to themselves," this connection to the home remains because it has been established from dwelling. Building and the home is therefore what Heidegger terms a "letting dwell."

To exemplify building as a "letting dwell," Heidegger describes a farmhouse in the Black Forest, built from the dwelling of peasants:

> Let us think for a while of a farmhouse in the Black Forest, which was built some two hundred years ago by the dwelling of peasants. Here the self-sufficiency of the power to let earth and heaven, divinities and mortals enter in simple oneness into things, ordered the house...A craft which, itself sprung from dwelling, still uses its tools and frames as things, built the farmhouse. (Heidegger, 1971, p. 157)

While Heidegger makes a connection between dwelling and home, Gaston Bachelard's (1994) focus is on the magic of home, arguing that home is "one of the greatest powers of integration for the thoughts, memories, and dreams of mankind" (p. 6). Originally published in 1964, Bachelard's *The Poetics of Space,* provides a phenomenology of intimate places at home.

According to Bachelard, the house holds a special place for humanity because it serves as the human being's first world and first universe. Thus from the very beginning the house is established as a protector over its inhabitants and becomes a deeper site of meaning for individuals. Further, as one grows up, the space of the house also changes, coming to shape all subsequent knowledge of the larger world. On this basis, Bachelard says the house we were born in is physically inscribed in us, and it is the memory of this house that we return to in our dreams. The childhood house is a permanent fixture: "through this permanent childhood, we maintain the poetry often past. "To inhabit the house we were born in means more than to inhabit it in memory; it means living in this house that is gone, the way we used to dream in it" (p. 16).

House as extension of self

According to Bachelard, the chief benefit of the house is that it provides a site to daydream: "the house shelters day-dreaming, the house protects the dreamer, the house allows one to dream in peace" (1994, p. 5). Without a house to daydream,

Bachelard says one would be a dispersed being. Anthropologists Carsten and Hugh-Jones (1995) extend this idea in their discussion of how house and body are intricately linked and say the house serves to reveal and display as much as it acts to hide and protect. They assert that the house is a prime agent of socialization where body and mind are in a continuous interaction as evidenced by the physical structures, furnishings, social conventions, and mental images of the house intermixed with each other. "House images move in two directions: they are in us as much as we are in them" (Bachelard & Jolas, 1994, p. xxxiii).

Transcendence of space

Because "our soul is our abode," Bachelard says there is ground for taking the house as a tool for analysis of the human soul and he demonstrates this in his examination of the wonder behind doors, doorknobs, corners, drawers, wardrobes, and other aspects of home to demonstrate that such banal domestic objects and structures are also the site of values and symbolic meaning (Morley, 2000). Bachelard acknowledges that the house is firstly a geometrical object dominated by straight lines and admits that such a physical structure would generally resist metaphors that welcome the human body and soul. However, when this space is filled with people, everything changes. Inhabited space transcends geometrical space so that that whenever a "house" becomes "home," the dream world beckons. Bachelard thus takes the form of house as reality, and the inhabitation and intimacy within the home as the dream world.

Human geographer J. Douglas Porteous (1976) applies home to the theory of territoriality, which states that the exclusive control of territory provides three benefits to its occupants, which together form a territorial triad: identity, security, and stimulation. The home, says Porteous, provides its inhabitants with all three territorial satisfactions simultaneously. Home is related to identity because it allows the individual or family to

control and personalize their space. This has two effects: First, the personalization of space stimulates the individual (to decorate, to make changes, etc.), and second, because the home "belongs" to them, it induces more effort to defend their space, which achieves security. The concept of security encompasses physical (protective) and psychic security, both obtained at home. Several implicit rituals and protocols exist involving the home and its rooms. For example: knocking before entering, or as an outsider, calling before arriving. Such security measures are important and needed because the home is the site of an individual's most vulnerable activities such as sleeping, grooming, and reproductive behaviour (Porteous, 1976). The interrelation between security and identity is particularly important because it is under conditions of being secure for the personal identity can grow. Under the conditions of "territoriality" theory, the home becomes a vehicle for expressing identity. This idea is supported by psychoanalyst C.G. Jung, who states that the individual's house is an archetypal symbol of the self that reflects how an individual sees themselves, and how they wish to be seen (Porteous, 1976).

The final point of Porteous' territorial triad is stimulation, which is achieved by making, modifying, and defending the home. The level of effort individuals place in identity and security therefore determines the level of stimulation in this triad. Based on his theory of territoriality, Porteous argues that home is a fixed reference point for the structuring of reality. Home, he says, is the nexus of individual and family, and the single core space where an individual spends most of their time. "Because of this [home's] function as the archetypal reference point, it has been suggested that just as self and non-self appear to be basic divisions of psychic space, so the fundamental dichotomy in geographical space is between home and non-home" (Porteous, 1976, p. 386). While Porteous generally regards the home positively, he recognizes this is not always the

case. However, he states that negative feelings are often the result of the transfer from a "felt home" to a "euphemistic home," which by comparison is an empty place devoid of personal meaning[3].

In *House as mirror of self*, Jungian scholar Clare Cooper Marcus (1994) supports Porteous' ideas in her exploration of the deeper meaning of home as a symbol of the self. The psychological nature of people's relationships with their habitats are seen as the "personalization of space," which Cooper Marcus demonstrates by presenting and analysing individual illustrations and stories to help explain why they hold such strong feelings (positive and negative) for home. Cooper Marcus also describes the story of Jung's connection to his home, a tower at Bolligen on Lake Zurich that evolved over a thirty-year span, starting as a roundhouse building in 1923, and culminating as a dwelling town in 1955. Four years after building the roundhouse, Jung added a central structure in 1927, and four years later he added a tower annex as a site for spiritual contemplation. In 1935, Jung added a courtyard to open the house to nature. The final addition came twenty years later in 1955 after the death of Jung's wife when a central tower was added to complete the house. According to Jung, the house changed as his self changed. This home was complete because it now represented his psychic whole.

Csikszsentimihalyi and Rochberg-Halton's (1981) study of 82 families in Chicago also examines the self and home, but with a focus on the objects within the home. The authors found that cultivation was a constant theme in their study, concluding that the meanings of things are realized through an active process of cultivation between the person and the object. Since home is the site of much cultivation, it becomes much more

[3] While Porteous (1976) admits that home may "smother an individual," "become a trap that submerges the ego," or be "the girl's prison and the woman's workhouse" he states that "the same sources, however, remind us that only the traveler who has rejected 'homeliness' by leaving home can fully appreciate the virtues of the hearth. Many have wished to go home to die" (p. 387).

than a shelter: "the home becomes the most powerful sign of the self, of the inhabitant who dwells within" (Csikszentmihalyi & Rochberg-Halton, 1981, p. 123).

The above literature demonstrates the special and celebrated qualities associated with home. But while these qualities remain important characteristics of a "happy home," the discourse is incomplete. First, the majority of "home" literature does not consider the role of technology or communication technology on domestic life, essential parts of today's home. Second, the theories of "home" are matched with an equally ardent group of scholars who argue that the idea of home must stop being an "un-interrogated anchor" (Morley, 2000, p. 3). While the following scholars agree that the home has an influential place in society, they take issue with how the home seems to have privileged status and argue that the activities of home need to be exposed, discussed, and in some cases, changed.

Non-home

To understand much of the critical discourse on the home, it is necessary to understand the basic ideas of the public/private dichotomy, a distinction that registers the separation of institutions from the household (Slater, 1998). The dichotomy originates with the ancient Greeks and Romans, where the public sphere was known as "polis" or "res publica" and was the realm of free association between citizens (free men). It was considered the polis because it was unregulated as opposed to the private sphere of the household and domestic economy, "oikos," which became regarded as the realm of physical reproduction. Within this understanding, public life was considered prestigious while private life was considered to have no real value, existing only to support the "good" public life. This conception of public/private remained free of challenge until the mid-eighteenth century during the Romanticism period when Jean-Jacques Rousseau raised the idea that public life should be governed by the values of

private life. Rousseau's ideas inverted the traditional notions of public/private, enhancing the role and social acceptance of the intimate private realm, and bringing forth the idea that one could not be oneself unless in private (Slater, 1998). Modernity, in some ways, has therefore reversed these values of public and private life that began in ancient Greek and Roman times. The private life of the individual and family are now commonly seen as the main source of authentic values.

As perceptions of public/private began to change, the physical house also began to change. In contrast to medieval times, where the home was a one-room site of various public and private activities, the eighteenth century introduced privacy as a domestic value. This was evident physically with the introduction of walls, doors, and separate rooms, while socially the home became a site for the immediate family and a greater distinction developed between household members and the visiting public (Birdwell-Pheasant & Lawrence-Zuniga, 1999; Rybczynski, 1986; Ward, 1999). This understanding of public/private is generally the same today. The public realm is considered the place of work and the private sphere is the site of one's personal and intimate life.

Sociologist Krishan Kumar (1997) bases his discussion of home on the reversal of values in the public/private dichotomy and argues that the modern family and home is facing impending doom because it has become too private and isolated. He draws from the works of Phillip Ariès and feminist literature to illustrate this argument. What makes a home private, according to Ariès, is its association with the sphere of domesticity, intimacy, and privacy. Ariès describes the evolution of the home in terms of needs. The medieval house was the prime site of work, sociability and family (private and public needs), but today's home is dedicated solely to private family living. Ariès says this drastic change created a large void in the private sphere that places the family and

home in a losing battle against society. In this newfound attempt to protect the home as a private domain, the family was given the impossible task of trying to satisfy all the emotional, social, and public needs of its members that are now restricted to the home (Kumar, 1997). While Ariès ultimately places the blame of this "crisis" to the public sphere and its institutions, he warns that the extreme privatization of the home is a set-up for inevitable doom to the idea of family and home.

Like Ariès, feminist literature[4] on the home senses a similar crisis in the family and private life of home, but for very different reasons. Feminist discourse holds little nostalgia for the past, where women and children were confined at home and cut-off from the public world, arguing that the further the home is privatized, the more likely such confinement will continue.

Kumar states that the conception of the modern home equates to family and hence the fragmentation of the family is also a fragmentation of the home. Thus, Kumar says while the home is celebrated as never before, it is also more vulnerable than ever, arguing that the current condition of the family shows that it is incapable of carrying out its many tasks and argues that the cutting off of the home from the public ream will relegate it to an isolated private sphere that will begin its demise.

While Kumar takes issue with the private, Sennett criticizes how the intimate values of the private world have unwarrantedly invaded the public (Slater, 1998). Sennett (1977) details the erosion of public life and public expression, arguing that an unbalanced personal life and an empty public life have been a long time coming since the formation of a capitalist and urban culture. For Sennett, "public" meant not only a region of social life located apart from the family home, but it also represented an

[4] The feminist discourse on the home is very important to understanding the history of house and home and must be acknowledged. Ann Oakley, Lynn Spigel, Dolores Hayden, Ruth Schwartz-Cowan, and Doreen Massey (among many) have been instrumental in discussing the power conflicts of home.

interaction with a diversity of people. Public life facilitated this interaction and contributed to a vibrant city and public life. Modernity's overinvestment in private life has created a precarious situation. People have become isolated within their private homes and public space has become dead.

In her discussion of the American "model home," Gwendolyn Wright (1991) argues for the need to untangle the North American notion of home, which is "an imposed ideal and a potent, cultural, individual ideal" (p. 221). The home, Wright argues, is an ideal that exists as a deep-rooted concept of fantasy, memory, and cultural norms. It is an imposed ideal that citizens aspire to live up to and has thus become a form of control and constraint, preventing the recognition of problems in our lives and multiplicity of family lives (and incomes) in society.

Anthropologist Mary Douglas (1991) also equates home with control, stating "home starts by bringing some space under control" (p. 290). She is highly critical of the control behind the routines and processes that burden the home, and finds the nostalgia in home discourse surprising. Douglas finds that the home has an unanalyzable source of strength and solidarity and asks: what makes this solidarity possible? To answer her question, Douglas extends philosopher Suzanne Langer's ideas of virtuality, and argues that we should focus on home as an organization of space over time. By taking this approach, Douglas describes a persuasive structure of home, which she likens to a real-time musical composition. Like the notes in a music composition, space in the home is differentiated, parcelled out, and allocated based on different interactions. Further, the regularities at home are rhythmic. For example, in response to severe weather, storm windows, supplies, and extra blankets are ready; the home responds to the changing of seasons annually; and regular activities occur during the morning and evening routines of the household. Douglas also pays particular attention to the importance of storage in

the home, which she says implies the capacity to plan and to anticipate needs, which ultimately becomes another means of bringing the home under control. These rhythms of home mean that home is a "general service utility, an institution whose uses cannot be defined except as a presentation of a general plan for meeting future needs" (p. 294). Douglas compares a home versus a hotel, commenting that while a hotel is efficient, the home is highly inefficient. She wonders how a home manages to demand and receive sacrifices from its members and compares the domestic environment to a type of gift economy, where every activity is part of an ongoing system of exchanges within and between the generations.

Yet it is these aspects of home that mystify Douglas the most and represent tyrannical control over the mind and body of its inhabitants. For example, Douglas says home tyrannizes over tastes: mealtime is for the collective good. It is not to give people what they want, but to avoid giving them what they do not want. Further, home censors speech: home offers slots for certain tones of voice, topics, and language while repressing others. In her attempt to break down the idea of home, Douglas acknowledges that the complexity and confusion related to the operation of a home is what makes it so difficult to execute change. In addition, perception also makes it difficult for change. Persons who devote such effort in maintaining the idea of home appear to believe that they would have a lot to lose if the home were to collapse. According to Douglas, on this basis the home emerges as the result of individual strategies of control executed in the name of the home as a collective, public good. She concludes that the home "is not authoritarian, but it has authority. It is hierarchical but it is not centralized. The best name for this type of organizations is a protohierarchy" (Douglas, 1991, p.305). Similar to Gwendolyn Wright, she believes that the inefficient home she has presented survives only because dwellers celebrate the idea of home as understood in society.

The seminal works of Heidegger and Bachelard are perhaps the most criticized in the discourse of home. Harr and Reed criticize the Heideggarian tradition of phenomenological discourse on the home (of which they include Bachelard and Emmanuel Levinas), saying it is ultimately failed by its masculine premises (Morley, 2000). They argue that the Heidegger discourse on the home is from the perspective of men positioned as beneficiaries of domestic nurturance. For example, Bachelard often compares the home to the idea of mother love, while Levinas states that the woman is a condition of home. Ainly supports this critique, stating that Heidegger built his philosophical house in the black woods at the expense of the feminine (Morley, 2000).

Bachelard's disregard for these issues should be criticized. His explanation for housework involved posing the question: "how can housework be made into a creative activity?" (p. 70) David Sibley argues that Bachelard's "happy phenomenology of the home" offers little recognition of the conflicts of domestic life, most notably issues of oppression, exploitation, and violence discussed in much feminist discourse (Morley, 2000, p.56). Rachel Bowlby adds that Bachelard's analysis of the home is limited in its romanticism. It finds no place for the inevitable presence of the "uncanny[5]" described by Sigmund Freud (Morley, 2000).

Hence, while Bachelard describes the intimacy and magic of home, Freud looks at the uncanny, which he describes as: "that class of the frightening which leads back to what is known of old and long familiar" (Freud, 1955, p. 220). Looking at the uncanny, Freud examines the etymology, history, and usage of the German words *hemlich*

[5] This is a valid critique of Bachelard's overall analysis. However, Bachelard does make some reference to the "uncanny" in his discussion of the dual image of cellar and attic by introducing Jung's "prudent man" and how fears are rationalized to avoid the darkness that prevails the cellar both day and night. See (Bachelard, 1994, pp. 18-20).

(canny/homey) and *unheimlich* (uncanny/unhomey) to demonstrate that the words, while opposites of each other, are also similar.

Heimlich, Freud says, belongs to two sets of ideas, which, while not contradictory, are very different: 1) homey, belonging to the house, friendly, familiar, intimate, comfortable; and 2) concealed, secret, private. Conventional use of the word unheimlich is generally used as the direct opposite to the first meaning of heimlich: 1) unhomey, unfamiliar, uncomfortable, eerie; and 2) unconcealed, unsecret; what is revealed; what is supposed to be kept secret but is inadvertently revealed. Thus, by presenting the varying shades of meaning between heimlich and unheimlich, Freud demonstrates that the two words have overlapping qualities. Heimlich develops until it coincides with its opposite, unheimlich. Freud thus states that unheimlich, the uncanny, is a revelation of what is private, concealed, and hidden. To exemplify his thesis, Freud summarizes and analyzes the story of "The Sandman" by E.T.A Hoffman, which features the protagonist, Nathaniel, encountering the Sandman (a figure who tears eyes out of children), first unknowingly at his childhood home, and then at university where he is ultimately driven to insanity and his death[6]. According to Freud, the story leaves no doubt that the feeling of uncanny is related to the Sandman, which first stemmed from

---

[6] Storyline of Hoffmann's "The Sandman" (from: http://courses.washington.edu/freudlit/Uncanny.Notes.html):
1) Nathaniel, the protagonist, is warned as a child about the Sandman. The eerie Coppelius comes to conduct experiments with Nathaniel's father; N. sees Coppelius and associates him with the sandman. Nathaniel is discovered as he observes Coppelius and his father; Coppelius wants to burn his eyes out, but the father saves him. Nathaniel's father is later killed by an explosion during one of Coppelius's visits.
2) As a student, Nathaniel meets the optician Coppola, from whom he buys a spy-glass. N. falls in love with the automaton Olympia, whom he sees through this glass. Olympia has been produced by Spalanzani (double of the father) and Coppola (the double of Coppelius). N. witnesses as the two fight over the automaton and the eyes are pulled out of the robot's head. Nathaniel falls into a state of insanity.
3) Nathaniel recovers, and he is about to marry his fiancée Clara. They ascend the tower of the town hall and N. sees Coppelius through his spy-glass. He goes insane again and tries to kill Clara. Her brother rescues her, but N. jumps off the tower to his death.

his childhood home and memory. His identification of heimlich/unheimlich with the "Sandman," brings forth two considerations:

1. The uncanny arises due to the return of repressed memory, which recurs.
2. The uncanny is in reality not new or alien, but something that is familiar and long established. The uncanny is anything we experience in adulthood that reminds us of earlier stages of life.

Thus, the site of daydream, memory, and the familiar for Bachelard is the site of the unfamiliar, repressed, and uncanny for Freud. Bammer supports this interpretation, insisting that home has always been in some sense unheimlich: "not just the utopian place of safety and shelter for which we supposedly yearn, but also a place of dark secrets, of fear" (Morley, 2000, p. 20).

The above literature offers a counter-argument to the utopic ideals Bachelard and others ascribe to home. While the home/non-home dichotomy represents a discourse that embodies varied interests about home, what all these works assume is the centrality of home in people's lives. But what the literature does not discuss is how technology has or has not altered the experience of home. Today's house is fully fitted with all kinds of technology. One can certainly critique this fact, but this reality should be acknowledged. Rybczynski offers a perspective on the relationship between technology and home:

> The contemporary house, as the French architect Le Corbusier remarked, has become a "machine for living," that is, it has become an environment that is conditioned primarily by technology. Electricity powers pumps, motors, furnaces, air conditioners, toasters, and hair dryers. There are technologies for providing hot and cold water, and for getting rid of it. There are telephone systems and cable television systems; unseen waves carry radio and television signals. The house is also full of automated devices – relays and thermostats – which turn these machines on and off, regulate the heat and cold, or simply open the garage door. Remove technologies from the modern house and most would consider it uninhabitable. Cut off the power that fuels the machine for long enough

> and the dwelling must be evacuated (Rybczynski in Gumpert & Drucker, 1998, p. 425).

As Rybczynski demonstrates, people are now interacting with their homes and the technologies within their homes, a topic the home/non-home dichotomy does not discuss. While much research exists on domestic technology and the home (See: Cowan, 1983; Du Vall, 1988; Forty, 1986; Rybczynski, 1986), limited research exists on communication technology and the home.

Beyond the home/non-home dichotomy

Tim Putnam's research into the meaning of home found that the same basic terms were repeatedly noted: privacy, security, family, intimacy, comfort, and control (Morley, 2000). Putnam correctly alludes that the home/non-home dichotomy is based on the interpretation of these terms. Bachelard, Heidegger, Porteous, and others consider these basic elements of home as the prime reasons people value the domestic sphere. In contrast, Douglas, Kumar, and others see these same constituents as the prime reason why the interactions of home require analysis and change. For example, both sides of the dichotomy agree that control is a common element in the home. But while Bachelard and Porteous see taking control of space as a means of identity and self, Douglas considers it control over the individual for the collective good.

To bridge this dichotomy, Roderick J. Lawrence (1987) suggests a conceptual framework that enables the cultural, socio-demographic, and psychological dimensions of home need to be developed to create a better-informed picture of the home. Lawrence's (1987) proposed framework suggests that the idea of home must be considered a reflection of the cultural and social conventions and values as expressed by individuals' habits, practices, and predispositions at home, a concept most widely attributed to Pierre Bourdieu's notion of habitus, a "system of predispositions inculcated

by the material circumstances of life and by family upbringing" (Birdwell-Pheasant & Lawrence-Zuniga, 1999). Further, Lawrence argues that it is crucial to compare which cultural variables have an impact on the design and use of houses and how these variables function in the domestic realm. Lawrence states that change in the home is partly based on the socio-demographic points of its inhabitants and their social and personal functions, which requires an understanding of the psychology behind inhabitants of home. Ultimately, Lawrence argues that given that the three aforementioned dimensions occur simultaneously within the house, it is important to examine the dialectical tensions between them. He also recognizes that an area of study commonly neglected is in the attitudes and values of residents and practices of domestic life, especially the impact of innovation in domestic technology on the layout and use of home interiors. Sixsmith and Sixsmith also argue that home can be divided into three experiential domains: personal, social, and comfort & security. These three domains may have positive or negative experiences associated with them (Silverstone, 1994).

While bridging this dichotomy is an important step, one should also question its validity. In the context of the contemporary home, both "home" and "non-home" share additional points of critique.

The magic Bachelard ascribes to the home, while widely celebrated, is out of date on many levels. His disdain for the place of technology and architectural progress is obvious, best expressed in the following passage:

> ...a house in a big city lacks cosmicity. For here, where houses are no longer set in natural surroundings, the relationship between house and space becomes an artificial one. Everything about it is mechanical and, on every side, intimate living flees (Bachelard & Jolas, 1994, p. 27).

Bachelard's supporters agree with this point. Anthony Vidler recently suggested that, "the reverie of a maternal, womblike, and stable home...a symptomatic response to

the experience of an unheimlich modernity" (Ockman, 1998, p. 3). Such statements lead one to ask: does modernity obsolesce the home?

Assuming domestic modernity is closely associated with the spike of technological adoption in the home since the early 20th Century, this question may frame a new discussion on home. Yet it seems almost deterministic to think that modernity, even an unheimlich modernity would render the magic of home artificial. The missing component in the discussion of home, technology, and modernity is people. It is people who create home, and it was people that created domestic values of privacy, comfort, and intimacy, which for better or worse, define home. Csikszentmihalyi and Rochberg-Halton's (1981) research found that for many, the home was an individual's own world where they could created a material environment significant to them.

While several of Bachelard's arguments are debateable, his efforts to communicate the magic and poetry of home should be respected. These views represent the type of emotion associated with the home that many people desire, but have trouble achieving. But rather than arguing that the magic of home becomes artificial with the entry of technology and machinery, perhaps it would be more constructive to ask how home can move forward and what people can do to create the home they desire. Freud's discussion of heimlich/unheimlich remains one of the most compelling and accurate interpretations of home. While he was discussed in the non-home tension of this discourse, in some ways Freud represents a middle ground of the dichotomy. Home holds several positive attributes that are valued in society, but if these are not maintained and worked on, home can change into an unheimlich reality. Both possibilities exist.

Studying communication technology and the home

Despite an established and relevant discourse, the home continues to change and writings of home must reflect this. Writing in 1998, Gumpert and Drucker stated: "at the present time, no three inventions have had more impact on the home than the telephone, the radio, and television" (1998, p. 427). This trio represented the first major communication technologies in the home. When the telephone was introduced, home was considered a firmly private domain (Forty, 1986), and these technologies represented a novel new way to connect to the outside world. The more people interacted with these technologies, the more the physical and social layout of the home changed in response. The home's living room became the source of evening entertainment, and the family room was introduced to the home as a more casual setting for home activities (Friedman & Krawitz, 2002). These technologies also reconfigured the home's social environment, transforming the nature of the common and private spaces of home. The telephone, the radio, and televisions were all adopted at unprecedented rates. Spigel (1992) reports that Americans purchased televisions faster than any other home entertainment machine. Between 1948 and 1955, television was installed in almost 70% of American homes, and by 1960 almost 90 percent of Americans had at least one television. Discussing the full impacts of these communication technologies is another thesis, but their significance to the home cannot be overstated.

As Gumpert and Drucker wrote about the television, radio, and telephone, they proposed adding the personal computer and the Internet as the next significant home technologies. Since the mid 1990s, the home computer and Internet have been introduced and adopted at rapid rates, with Internet use reaching 64% (Harwood & Rainie, 2004). Research on this topic is active, but with a focus on issues of information

and community. A good example of current research work in this area is the edited collection, *The Wired Homestead* (Turow & Kavanaugh, 2003), which offers a series of articles focused on communication technology and the home, particularly television, the Internet, and home computers. The book covers a diverse set of issues, including several articles on technology, the home, and family relations, adoption patterns, gender issues, community, Internet sex and violence, and media and children. While this volume does an admirable job discussing these issues, the topic of "wired" technologies and the meaning of home was absent. Barry Wellman and Keith Hampton have contributed extensive information from their two year study (1997-1999) of Netville, a Toronto, Canada, suburban neighbourhood equipped with broadband Internet, "Canada's First Interactive New Home Community" (Hampton & Wellman, 2003, p. 458; Wellman & Haythornthwaite, 2002). However, while the study was based in a domestic setting, the project's focus was the on-line and off-line activities of community-building in Netville. Another article from the *Journal of Family Studies* (Hughes & Hans, 2001) found that the majority of family scientists are not engaged in exploring the role of technology in family life.

While these studies provide valuable research findings, what they appear to take for granted is the meaning of home. Perhaps this is a reflection of home's status as an "un-interrogated anchor" of society. Or, perhaps this is a research gap that should be identified and addressed. The research focus has been placed so much on the domestication of technology into the home that we've overlooked the meaning of home itself. Roger Silverstone alluded to this in his discussion of television, stating that, "although we need to preserve our concern with television as a domestic medium and understand its contribution to that changing and fragmenting domesticity, we should recognize that domesticity is itself problematic" (1994, p. 25).

Limited research work exists on communications technology and the meaning of home, but several inroads have been made. In her book *What's Happening to Home,* New York Times columnist Maggie Jackson (2002) interviewed over 200 people in her study of how home was being lost in the acceleration of the information age: "Home is no longer a haven, it's more akin to a railroad station – a noisy hub of activity that provides food, information, and transportation much more than nurturance" (p. 76). In addition, Flynn's research on the hearth[7] of home argues that the focus of home has shifted from the fireplace, to the radio, to the television, and now, she argues, to the games console. Her focus is on how technology is being integrated into the social and cultural dynamic of the home. Lally (2002) and Bakardjieva (2001; 2000) have both examined the role of computers in domestic life. Bakardjieva's work on the domestication of the Internet examined the motives and uses of the Internet in the daily life in the context of the home. Finally, Gumpert & Drucker have expressed in several publications the importance of how media technology transcend the space of home, arguing that the experience of domestic space is now determined by both the physical environment and the non-physical world of connection (Drucker & Gumpert, 1997; Gumpert & Drucker, 1998). Although inroads have been made, much more research needs to be done – the role of communication technology in everyday life and home life is increasing.

The evolution of home is ongoing, and it is not a time to be complacent about the meaning of home. As people continue to find ways of comfortably integrating the computer and Internet into their daily lives, another set of technology seems poised to take an effect on the meaning of home. Wireless communication technologies are now

[7] Flynn (2003) says that etymologically, hearth is derived from the Latin word for focus. As a focus point, the hearth was once associated within the daily rhythms of domestic life and as a symbol of moral and social order of the household.

staples of people's lives, but how this influences the home remains a less-researched topic.

In addition to presenting seminal works of the home/non-home dichotomy, this chapter argued that writings of home must reflect the changes of home and their inhabitants. The computer and Internet represent two new technologies that have found their own place in today's home. While much research and writing exists on this topic, change continues to happen. Chapter two focuses on one aspect of this change with an examination of wireless communication technology and the home.

CHAPTER TWO: THE WIRELESS LIFE

The mobile phone, laptop, and the wireless Internet have become popular consumer technologies in recent years. More people have cell phones than fixed telephone lines[8] (Rosen, 2004), laptops are now out-selling desktop computers (Kessler, 2005), and studies predict that 100 million people will be using the wireless Internet by 2006 (*A brief history of Wi-Fi*, 2004). A recent study reported that 52% of U.S. households with an Internet network use a wireless Internet network[9] (Harwood & Rainie, 2004), while Chaska, Minnesota, Philadelphia, and many other areas have plans underway to offer city-wide wireless Internet access (*A hotspot for your car*, 2005). The key enabler of these wireless communication technologies is mobility. People have embraced these technologies because it extends their reach, regardless of time or place.

This chapter is about the connections between wireless communications technology and the home. How are wireless technology and the home relevant to each other? As the centre of daily life, home is based on the experiences of one's life. If one's life experiences are changing, the home should and will change, too. A focus should be placed on how the meaning of home is changing, both in the context of wireless technology and on a broader scale. To research this topic, email surveys and interviews were conducted with wireless technology users about people's experiences and feelings of home. Chapter two begins by defining wireless technology and presenting the

[8] According to Rosen (2004), this is true in both the United States and internationally. Rosen also says there are more than one billion cell phone users worldwide. Americans on average, spend about seven hours a month talking on their cell phones.

[9] This study also reported that 32% of Canadian households with a home network use wireless Internet networks, while 43% use Ethernet, and 26% are unsure which technology they use.

research plan. The remainder of the chapter discusses fieldwork findings and demonstrates that people's use of wireless technology has changed their relationship to home.

In 1906, an Atlantic Monthly article on "The House" lamented that mobile transportation technology had turned the home into "the tent, the lodging house, the vestibuled car..." (McLure Scholl in Jackson, 2002, p. 107). The article did not see home and mobility comfortably co-existing. Nearly one hundred years later, we are now in a position to re-visit this statement.

Wireless basics: definitions

This thesis uses "wireless technology" and "wireless communications technology" to refer to mobile phones (or cell phones), laptop computers, and the wireless Internet. Although other wireless technologies exist (for example, the PDA and Blackberry), these three technologies were chosen because they have had the greatest effect on the everyday life of people[10]. While the mobile phone and the laptop computer are relatively established technologies, the wireless Internet is a newer technology and requires further definition. The wireless Internet is better known as Wi-Fi, which stands for wireless fidelity[11]. While the beginnings of Wi-Fi have been traced to the late 1980s, the technology has been in mainstream use for about 5 years (Kessler, 2004). To access the Internet wirelessly, an individual needs a wireless Internet (or Wi-Fi) card, which is inserted into a wireless device, typically a laptop computer. This allows a person to use

[10] Of the three identified technologies, the cell phone and the wireless Internet represent the most powerful technologies. The laptop computer is included in this list because most people access the wireless Internet with a laptop computer. Laptop sales have now outstripped desktop computer sales, largely due to the popularity of wireless Internet access (Kessler, 2004)

[11] The Economist reports that the technical standards that support Wi-Fi are known as "WECA compatible" and "IEEE802.11b." However, branding the technology required a consumer-friendly name. Several names were suggested, including "FlankSpeed" and "DragonFly," and "Wi-Fi." Wi-Fi was chosen because it sounded a bit like hi-fi, and consumers were used to the idea that a CD player from one company would work with an amplifier from another. The idea that Wi-Fi stood for "wireless fidelity" was thought up later. (*A brief history of Wi-Fi*, 2004)

the Internet wirelessly, anywhere a network exists. For example, several public parks in Manhattan provide free Wi-Fi access, and reports indicate that Wi-Fi access on buses cars, trains, and airplanes are in the works (Fleishman, 2004; *A hotspot for your car*, 2005). Wi-Fi "hotspots," or wireless Internet access points (typically in coffee shops, airport lounges, and other well-populated public places), are expected to reach 130,000 locations in 2005 in the United States (Kessler, 2004). The popularity of Wi-Fi has been called "the signal success of the computer industry" (*A brief history of Wi-Fi*, 2004), has caused a rise in laptop computer sales, and changed the way people use the Internet and lead their lives. Together, the mobile phone, laptop, and Wi-Fi have allowed people to be more connected than ever.

Research on wireless communications technology, mobility, and the home is a relatively new field. Kakihara and Sorenson (2001) argue that the definition of mobility is too narrow. While mobility is often considered in terms of "human independency from geographic constraints," the authors argue that with the effect of communication technologies, mobility needs to be considered more broadly, as the result of human interactions in spatial, temporal, and contextual settings. This is true, as mobility can now span from a "macro" level, mobility around the community, to a "micro" level, mobility around the home[12].

The majority of social research on wireless technology is related to cell phones, and includes discussions of personal security, health concerns, etiquette, social relations, and family relations[13]. Wi-Fi research to this point has been primarily limited to technical papers and news media publications. Social research specifically on Wi-Fi's

[12] The concepts of "macro mobility" and "micro mobility" are from a written survey response.
[13] Levinson (2004) and Rosen (2004) have written interesting works on the effects of the cell phone on society.

effect on the home is an un-chartered area. Therefore, this thesis places an emphasis on the experiences of Wi-Fi users.

While the functions of the cell phone, laptop, and wireless Internet are not new, what makes it new is mobility and the ability to connect anytime, anywhere. Before wireless technology, people made and waited for phone calls, and used the computer and Internet in the den or computer room. Wireless technology cuts these ties to home, allowing people to do previously home-based activities anywhere. Are these "cut ties" changing the home? What do these new wireless experiences represent, and are they making us re-think the home?

Research plan

To answer these questions, a research plan was developed to examine two areas: 1) personal experiences with wireless communication technology, with a focus on Wi-Fi use; and 2) the connection between wireless technology and the home. Surveys and interviews were chosen as research instruments to explore these areas. A 17-question wireless technology usage survey (see Appendix A) asked where, why, and how often people used wireless technology and Wi-Fi networks. Relevant questions included demographic data and wireless technology usage habits, such as:

- What types of wireless technology do you use?
- What do you use wireless technology for?
- How often to you use wireless (Wi-Fi) Internet networks?
- Where do you use wireless Internet networks?
- How do you access wireless networks?
- Why do you use wireless technologies and/or Wi-Fi networks?

Survey data was tabulated and the findings provided a background context to user experiences of wireless technology and Wi-Fi.

To gain additional insight from the survey findings, I interviewed wireless technology users and non-users to understand their experiences with wireless technology and the home. The interview protocol (see Appendix B) was adapted from the Techno-Experiential Design Assessment (TEDA) methodology, developed in 2001 by Dr. Roman Onufrijchuk at Simon Fraser University. The method is designed to probe the experience of technology use by questioning people about how a technology affects all aspects of one's life. Interview questions were based on TEDA's "vital orientations," eighteen themes that every person experiences in life. The TEDA method proposes that questioning interview subjects around these themes ensures that an individual's experience with technology is discussed in all possible angles. The interview protocol designed for this research used TEDA's eighteen "probes" to study how people use wireless technology throughout their daily life. In addition, the interview protocol asked five supplementary questions focused on the connection between wireless technology and home.

Broad criteria were used to select interview and survey respondents. Individuals were eligible for the surveys and/or interviews if they used one or more wireless communication technology (mobile phone, laptop, and/or Wi-Fi), however over half of the respondents used all three specified technologies. The intent of the research project was not to be statistically significant, but to offer a range of opinions, narratives, and findings worth following-up with a larger scale study.

Surveys were distributed at all interviews, posted to a research website[14], and sent out by email. Interviews were conducted in Vancouver, British Columbia, and New York (Manhattan and Staten Island) with the City University of New York (CUNY),

[14] The survey was posted at my personal research site: http://www.sfu.ca/~achsieh/research

College of Staten Island[15]. Interviews were conducted in groups, ranging from small (3) to large (8)[16]. In addition, three individual interviews were conducted. Since this is an exploratory study, it was determined that the varying group sizes would be acceptable as the main intent was getting interested participants for data acquisition[17].

Interviews were audio taped and transcribed. The TEDA methodology conducts interview data analysis in two ways. One option is to enter interview data into a database and run data queries and cross tabulations to discover findings. Another option is to do a close read of interview data and determine experiential themes of analysis. This research opted to use the latter data analysis option. Since people have different experiences of home the research was not looking for commonalities, but different angles on similar themes. Identifying themes therefore was the better option.

The following survey and interview research findings offer a contribution to the nascent discourse of wireless technology, mobility, and the home.

Wireless technology usage

The wireless technology usage survey was distributed between June and September 2004. 48 surveys were completed, with five surveys incomplete for a total of 43 respondents. As the majority of survey questions were targeted at Wi-Fi users, the following analysis discusses highlights from the survey tabulations, with a focus on Wi-Fi

[15] Having met a professor from CUNY with similar interests, New York became an option for conducting fieldwork outside of Vancouver. As the most cosmopolitan city in North America, it became an interesting possibility to see how New York's wireless technology scene compared to Vancouver's. While the experience was invaluable, respondents from New York were similar, not different, from Vancouver respondents. Research findings will therefore be discussed together.
[16] The TEDA methodology has been applied in several research projects studying wireless communication technologies. In these projects, the TEDA research process interviewed users with group interviews, ranging between three to eight people per group. Given this precedent, interviews for this research project were planned as group interviews.
[17] Methodologically, interviewing subjects in different sized groups was a useful exercise in determining what an ideal interview size would be for this topic and protocol. When the research concluded, it was determined that individual interviews were most effective at probing the topic of wireless technology and the home.

usage patterns. Percentage calculations were rounded to the nearest number, and totals may not equal 100%.

Respondent profile

Overall, 44% of survey respondents were female and 56% were male. 66% of respondents were between 19-30, while 34% were between 31-60.

The age distribution for Wi-Fi users was 65% aged 19-30, and 35% aged 31-49 (0% aged 50-60). The age distribution for non-Wi-Fi users was 64% aged 19-30, and 35% aged 31-60.

What technologies people use

Respondents used the following wireless technologies:

- 17% used only a cell phone
- 9% used only a laptop
- 74% used a cell phone and laptop

Out of all respondents, 67% said they used wireless Internet networks.

Accessing wireless technology

Respondents that used Wi-Fi used it often. 87% of Wi-Fi users said they used wireless Internet networks at least once a week. 66% said they used Wi-Fi Internet networks more than three times a week.

While a few people accessed wireless Internet networks with cell phones or other wireless devices, 82% wirelessly access the Internet with a laptop. Respondents ranged evenly from being Wi-Fi "newbies" to Wi-Fi veterans. 28% had used Wi-Fi for 0-5 months, 24% had used Wi-Fi for 6-11 months, 17% of respondents had used Wi-Fi for 1-2 years, and 31% had been Wi-Fi users for 2 years or more.

One of Wi-Fi's biggest benefits is the ability to access the Internet while mobile, and this was reflected in the survey responses. The majority of respondents used Wi-Fi in more than one location. However, "home" was the most popular location for accessing Wi-Fi networks. 79% said they used Wi-Fi at home a few times a month or more. School (48%), work (31%), coffee shops (34%), and "while mobile" (34%) were also mentioned as Wi-Fi usage locations.

Likes and dislikes of wireless technology

All respondents were asked to list up to three things they liked about wireless technology, and up to three things they disliked about wireless technology[18]. The most common responses to what respondents liked about wireless technology included "convenience," "mobility," "easy access," "work productivity," "flexibility," and "freedom." Common responses to what respondents didn't like about wireless technology included "cost," "speed," "battery power," and "unstable connection." Three survey respondents said they disliked "nothing" about wireless technology. Nearly all respondents (92%) said wireless technology had made a positive difference in their life.

Overall, three main findings emerged from the survey. First, it was interesting how respondents' answers to what they liked about wireless technology were lifestyle-based, while their answers to what they disliked about wireless technology were technical or financial limitations. Perhaps this indicates that as the technology improves and prices drop, wireless usage will increase. Secondly, it was surprising how popular wireless networks were in the home. While respondents appreciated the ability to be mobile anywhere, being more liberated within the home was the most valuable. Finally, the survey results revealed that when people used Wi-Fi, they used it often. Over 60% of

[18] These were asked as two open-ended questions: 1. List up to three reasons why you use wireless technology and/or wireless Internet networks; 2. List up to three things you dislike about wireless technology and/or wireless Internet networks

Wi-Fi users said they used wireless Internet networks 3 times a week or more[19]. This heavy usage is a sign that Wi-Fi represents a productive technology that people are integrating into their life.

Talking about wireless technology, home, and mobility

While the surveys provided a snapshot of wireless technology usage, the interviews gave respondents a forum to talk about their experiences with wireless technology. Twenty-nine people were interviewed[20] for 45-75 minutes. Interview subjects used wireless technology to varying degrees. Almost all respondents used cell phones regularly, and several used laptops and Wi-Fi regularly. A few interview subjects could be considered "techies," early adopters, and heavy users of wireless technology. One interview was conducted with a non-user to gain a perspective of wireless technology experience from an outsider perspective. The non-user was a visiting student from Japan and was therefore exposed to much wireless technology, even though she was not a first-hand user. Based on the TEDA process, all interviews were audio-taped and transcribed, and key themes were extracted in the data analysis.

While discussing experiences of wireless communication technology, four core themes emerged from the data analysis: connectivity and sociability, mobility, ideas of place, and public and private boundaries. The following findings are the stories and feelings of the interview subjects, framed by a thematic analysis. However, it is hoped that the interview subjects' quotes and stories speak for themselves. While home is

[19] Many respondents also expressed that they used wireless technology and the wireless Internet everyday.

[20] As mentioned earlier, interviews were conducted individually and groups. Interviews were conducted with the following: three groups of three, one group of eight, one group of nine, and three individual interviews. The two larger groups were employees of a large communications company in Vancouver. While the group interview sizes were large, it was decided that the opportunity to interview a group of people in the communications industry would be worthwhile.

mentioned often during the following discussion, direct discussion related to ideas of home will be the focus of chapter three.

Connectivity and sociability

Staying connected with family and friends was the number one reason why people used wireless technology. The mobile phone was the main technology people used to maintain their need for connectivity.

> I kind of don't remember what it was like without a cell phone. I left my cell phone at home the other day and I was completely and utterly lost...you just don't realize how incorporated it becomes into your life. And it's for the stupidest things...to call my husband to bring bread on the way home (Louise[21], 30s, uses cell phone, laptop, and wireless Internet).

> I can't imagine living without my cellphone in a lot of ways. I like to make the calls, I don't like to receive the calls, but I couldn't imagine having to look for a pay phone to make the call. It's just outdated...What did people do before all this? How did they make due (Natalie, 20s, uses cell phone, laptop, and Wi-Fi)?

Even for interview subjects that used a cell phone, laptop, and Wi-Fi networks, many felt they were not connected enough. People did not want to be connected less, they want to be connected more[22].

> I think I'll be moving more towards wireless technology and I think it'll stay there. I'll be comfortable being connected (Jeremy, mid-20s, user of cell phone, laptop, and Wi-Fi)

> My goal is to be online all the time, as much as possible...I think it's the future. Not everyone will be doing it, but a lot of us will be. You'll be connected all the time and just like everyone has their phone on, you'll be connected all the time. (Roger, 40, uses cell phone, laptop, and wireless Internet)

---

[21] For privacy reasons, interview subject names have been changed. For a profile of interview respondents, see Appendix C.

[22] A respondent shared an interesting story about youths and the need for connectivity in Japan: "...in Japan, many kids feel pressure to be connected. They feel they have to be connected so they call each other. Sometimes they don't even talk, they just ring and hang up, just to let the other know 'I'm ringing you to let you know I care.'"

> I think more people will be using wireless technology. I think it's going to increase. I mean I'm not there yet, but I know I will be. It's just a matter of time before everyone is busy and you need to get connected and you can't be connected. (Jessica, 20s, uses cell phone and laptop)

Particularly for younger interview subjects, wireless technology is now part of their social lives. Friends feel the need to be virtually connected, even if they are physically next to each other. Two interview respondents discussed how spending time together, physically and virtually, is a new social activity. Being connected and social at two levels.

> My two friends, one will be in the living room, one will be in the bedroom, and they'll talk on their cell phones, or IM [instant message] each other when they're right next to each other with just a wall separating them (Paula, 20s, uses laptop and cell phone).

> I have a laptop, my boyfriend has a laptop, we have three laptops in the house. We go to a friend's house we all bring them, and they'll be on their computers. So there'll be five of us, with five different computers in one room. Two people might be doing something together, but usually we're all doing something different. It's like why do you do it? Well you can, so you do (Natalie, 20s, uses cell phone, laptop, and Wi-Fi).

Yet at the same time, wireless technology let others stay in their social circles without having to physically see people. Many people also admitted that they were less social now that they used wireless technology regularly.

> Wireless technology...has allowed me to be social without being social...the laptop takes care of the need to contact them (Nicole, mid-20s, uses cell phone, laptop, wireless Internet).

While wireless technology has given people new forms of sociality, and taken the feeling of connectivity to a new level, the ironic truth is that for many, the need to be connected is so great, it becomes difficult for people to disconnect. Many interview subjects were passionate about how wireless technology had changed their life for the better. Yet in the same breath, they expressed serious concerns about how their constant connectivity was detrimental the other parts of life. Despite this

acknowledgment, people felt they had to stay connected. Most people chose being connected, even at the expense of other things that were important to them.

> When you come home, you just want to feel disconnected from the world. Like I just want to come home, be with my family, watch Conan O'Brien, and go to sleep at night. But I can't do it because people call and email me (Eva, early 20s, uses cell phone).

> Sometimes I'll just consciously say, enough. If it's a Saturday or a Sunday I'll turn off the computer and cell phone and deal with it on Monday...but then I'm anxious all day, like what am I missing. So it defeats the purpose (Louise).

> Sometimes I'll take my wife out on the town and I'll sneak off to the washroom just to check my voicemail on my cell phone. I know I should probably turn it off, but I also know my clients will get pissed off if they can't get a hold of me. They expect to get a hold of me (Jeremy).

The non-user interviewed expressed that this ongoing need to be connected was the primary reason why she did not want any wireless technology. While she owned a laptop, she "treated it as a desktop" and transported it between Japan and New York. To her, the idea of wanting to be more connected made little sense.

> ...why do you want to be connected? I feel sorry for business people nowadays because no matter where they go...they're always connected and there's no excuse (Akiko).

One interview group admitted that using a wireless Internet network at home had changed the amount of time they spent with family. When asked if using a Wi-Fi network at home influenced family life, they responded:

> Yeah it does. Definitely. Because I find myself when I'm home I'm on the computer doing whatever – shopping - whereas I would probably be socializing, watching TV with the family and everything, but I find myself more concealed in the corner doing my own little thing (Natalie).

> My boyfriend has a computer in the living room and sits on the couch. He's right there next to me, but I don't see him (Paula).

The interviews demonstrated how the feeling of being connected has become a powerful sentiment, particularly with the ubiquity of the mobile phone. While it was expected for people to feel a lack of control in managing their newfound "connected" status, people appeared to handle this differently. While some people were vocal about the need to manage one's connectivity, several people expressed a sense of defeatism. They were connected all the time, and even though they acknowledged that a better balanced was needed, they did not feel this could be accomplished.

> I think once you incorporate something into your life and it becomes an everyday necessity, you can never go back. Because then you know the effects of its ability to help you. Even if it hinders you. It's still there. You can't go back (Louise).

In addition, it was interesting how people discussed that they would socialize with friends, connected online together and sitting physically next to each other. Ironically, despite being connected to their friends on two levels, yet did not feel they had spent quality time with their friends.

Mobility

The following interview quotes represent three different people, each with a different experience with mobility, wireless technology, and the home:

> I can do more work outside the home. With my mobile office set-up I try and do most of my work outside the home so that when I get home, in theory I'm not doing work and then hanging out with my wife and child. It's good that way, but on the con side, they're still some things you can't get away from. It bugs my wife. It's not going to make our marriage fall apart but it pisses her off. We're at the video store, the phone rings, and it's a client. She's pissed off (Jeremy).

> I definitely love my wireless. I will never go back to a cord again...It's just mobility. I could take it with me if I feel like going for a snack, I don't have to run up the stairs without the computer, I take it with me. If I want to go outside and sit on my porch, I take it with me. It doesn't stop me. If I want to go into the garage and smoke a cigarette or whatever, it doesn't

> matter. It comes with me. I don't have to stop what I'm doing in order to move around. That's what I love about it (Natalie).

> I really want a wireless network. There's a pier right by my house. And it would be really nice, it's only a block away, and I'm sure everyone else has their networks as well...the signal would still be strong enough. I'd be able to go by the water and just hang out, do my homework. But I don't have the cash for a router yet (Paula).

For Jeremy, an independent contractor, graduate student, and new father, he explained that wireless technology allowed him to balance his life. By having a "mobile office," he has the flexibility and mobility to do his work anywhere he wants, which allows him to take part of the evening off to spend time with his family. Wireless technology empowered him this way. Wireless technology gave him a solution to balance his work, school, and personal life together, even if these lines blurred occasionally. For him, it provided the best situation possible for him and his family, given his busy schedules.

While Jeremy's wireless technology meant he could work outside the home and spend more time with family, Natalie was an enthusiastic fan of using her wireless technology at home. For her, the best part of wireless was being mobile inside her own home. Since she did everything on her laptop, the wireless Internet allowed her the mobility to do the same activities, but from different parts of the house. Interestingly, the idea of mobile wireless technology outside of her home was unappealing:

> I don't take my laptop to a café or anything like that. That's a little bit too much for me. I'm on it 8 hours a day at home, but I wouldn't take it with me to Barnes and Noble [bookstore] or anything.

In contrast, during Paula's interview, she expressed a strong desire several times to have a Wi-Fi network in her home. To her, a Wi-Fi network meant liberation from her desk and the wires running through her living room. The idea of having Internet access while sitting by the water on a pier was a dream that she could not realize due to financial restrictions.

While these three stories have different focuses, what they share is an intense desire for control. People feel empowered that they now have an option where they can work and spend time. It was surprising to listen to people talk about how much more liberating wireless technology (especially Wi-Fi) was for them. Being virtually tied to a desk was more of a burden than originally thought. Another surprising finding was the degree that wireless technology was embedded in people's lives. Many of the interview subjects considered the cell phone, laptop, and Wi-Fi as essential parts of life for them. For Jeremy, his mobile office outfitted with wireless technology was the key to spending time with this family. Natalie spent her entire days on the computer, and leaving her laptop, even to get a snack or smoke a cigarette, seemed too long for her. Paula seemed so intent on having a wireless network, just so she could spend time at a pier by her house.

Nicole and Darren, siblings interviewed together, grew up in a technology-friendly house. Both expressed how important wireless technology was for their home and themselves.

> ...wireless technology. I don't know how I lived without it before (Nicole)!
>
> Wireless technology IS home for us (Darren, 20s, uses cell phone, laptop, and Wi-Fi).

Ideas of place

Interview subjects had different feelings and experiences about how their conception of place was influenced by wireless technology. Many acknowledged that wireless technology had changed how they think about ideas of place. Nicole, a native of Vancouver that moved to Ottawa, in the process of moving to Japan, explained how she used to have extreme cases of homesickness. Wireless technology allowed her to stay connected with friends and family in Vancouver at a meaningful level.

> We have email and video conferencing to stay in touch. I don't miss people here anymore because I have email, and I can even take a tour around the house and eat dinner with them. So now when I come home, I don't feel like I've missed it that much because I see it no matter where I am (Nicole).

At the time of Nicole's interview, her husband was in Japan. She explained how she used wireless technology to keep them closer together:

> Well, my husband is in Japan and now I can see him with my iSight [web cam] and I can talk to him anywhere around the house and I can walk around with the camera and show him the house" (Nicole).

Another interview subject expressed how keeping a separation between home and work was important for him, even though he often conducted work at home. While a physical separation was not always possible, he found that a mental separation was enough to maintain his sense of place.

> When clients call at home, I call those remote sessions. You're neither in their home, or your home. I see it as a meeting of the minds in the ether. I'm still in my home, but my mind is elsewhere (Jeremy).

At the same time, Akiko, the non-user interviewed, lamented the loss of enjoying the physical present. While she acknowledged that being connected had several benefits, she expressed that since people are increasingly connected to several places at the same time, the value of the here and now has been forgotten:

> People bring their cell phone and laptop to school, which means they're connected to the outside world even when they're in the classroom. To me, that takes away the focus and concentration that we create together. Why can't we just focus on what we're doing here and now? But I guess something fundamentally has changed and I don't think we can go back" (Akiko).

Similar to the above discussion on mobility, interview subjects had different feelings about how their perceptions of place had changed. However, many people also expressed indifference, admitting that they had never thought much about the topic. While no distinctive conclusions can be made, it was established that wireless

technology does have the ability to influence conceptions of space. Given the increasing presence of wireless technology in people's lives, the awareness of place and space will likely grow.

Public and private boundaries

In addition to discussions of place, the distinction between public and private was a common theme throughout interviews. For many, while they recognized that public and private boundaries were different, they weren't sure how to respond. For example, public and private, particularly the difficulty of balancing work and home life weighed heavily on Louise, a real estate agent and graduate student. For her, when work and home interests clashed, it was always work that won out.

> I think because I use my laptop and my cell phone for business as well, it's almost intrusive to a point, because it doesn't stop. I have a lot of clients that will call at...nine-thirty at night when I'm done working for the day, but they have problems so they call me on my cell phone because they're able to get me. When I get home I'm done, I don't want to be bothered with work. If you worked in a regular office once you left your office you left your work. You leave your office and you're done. Whereas in my case, I take my business with me 24-7 and it becomes almost to the point where it's intrusive. You don't get that separation of home anymore (Louise).

Louise was troubled that work was becoming an intrusion on her home life, yet she did not offer any ideas to remedy her worries.

Conversely, Jeremy, also a full-time worker and graduate student, had an opposite reaction. For him, since work continues to intrude into his home life, privacy has taken on a renewed importance. Protecting the boundaries of his private life is now a priority.

> I think it [public and private boundaries] will become a more important distinction and become clearer and clearer. Because of that intrusion, if you care about home life, you'll want a barrier around it. You'll want some

> kind of retreat. The value of privacy has skyrocketed since the introduction of wireless technology.

Other interview subjects spoke of how wireless technology enabled them to have a private space within their shared home. One respondent said that a wireless Internet network meant she could finally have a private space of her own at home:

> Before I had to work downstairs in my den, but if I'm in the den I can hear noises and everyone around me. If I want some privacy and some quiet time then I have to go into my room. Before I couldn't do that because I needed the Internet connection. Now I can work anywhere in my own private space (June, 20s, uses cell phone, laptop, and Wi-Fi).

Perhaps because wireless technologies are individual technologies[23], using a laptop or cell phone within the home gives people another sense of personal space within the family home.

Another interview subject took a different approach, because for him, the online world was another place. He lived in the public, the private, and the online, three distinct places of interaction, all available to him with wireless technology.

> I really think the Internet is a place. Your online world is a place, just like your physical home is a place. And it's a place where you hang out with your friends, and hanging out doesn't have to be non-productive. It can be anything (Roger).

While the above respondents defined ideas of how wireless technology had influenced their public and private lives, others simply acknowledged the situation and did not place much concern on the effects.

> If I'm outside on my computer, I'm in my private environment on my computer in a public space, but I also have Internet access wireless, so I have a reverse door going through, so it's a whole public Internet in this private space, when you're in public. It's a wonder you don't explode" (Darren).

[23] "Wired" technologies (the phone, television, desktop computer) tend to be communal. The household shares the use of the technologies. Wireless technologies are often more individual People may have a "family computer," but are less likely to have a "family laptop" or "family cell phone."

However, the most compelling and emotional response to the topic of public and private was from Akiko, the non-user. From her perspective, wireless technology, particularly mobile phones, was ruining her ability to enjoy herself in public. The specialness of the public was being lost. She felt a lack of control in public places because peoples' private lives were constantly invading her personal space in the public.

> When I'm in the public space, I still have my personal space around me, my private space. And I think that cell phones really invade the private space within the public....when I go to see movies and plays...I go to these places to get away from my ordinary life and just because somebody's talking behind me on the phone, it's so living room like. Why bring your ordinary life into that kind of special place? So, mostly everybody stops talking when the movie or whatever happens, but even before I'm annoyed because everyone's talking and I'm like okay, enough is enough. This is a movie theatre.

Chapter two presented survey and interview findings and demonstrated two main points. First, wireless technology use is popular, increasing daily, and is not going away. All interview subjects were asked if wireless technology use was simply a fad. Every person – users, non-users, enthusiasts, and sceptics alike said "no." Second, while a few interview subjects said wireless technology had no effect on home, the large majority said home was now different.

With these two points established, the final chapter of this thesis delves deeper into what the implications of these findings could be for home. Drawing from additional fieldwork insights and literature, chapter three explores what the future home, mobility, and wireless technology represent.

CHAPTER THREE: RE-THINKING HOME

This thesis is building a case for thinking differently about home. Chapter one introduced the discourse of home/non-home and demonstrated that while these theories remain essential to research on the home, they are no longer adequate. Communication technology, wired and wireless, is now an essential part of home and theories of home must recognize this. As Silverstone comments, "All our interiors are not just physical spaces. They are social, economic, cultural, and political spaces. And they are technological spaces" (1994, p. 25). Chapter two presented an overview of three wireless technologies that are predicted to change how people use and think about home. The cell phone, laptop, and wireless Internet are becoming essential parts of people's lives and the implications of these technologies on the home must be discussed. Chapter three brings these ideas together by presenting a new way of looking at home, which respects its established roots, but also acknowledges that change has happened.

Today's home is a complex and different place from its predecessor, and this is certainly not a bad thing, since home holds equal amounts of baggage as it does ideals. Yet it is a unique challenge to introduce change to the idea of home, which is entrenched in North American culture. For many people, saying the home is different would imply that home is worse. This chapter argues that the specialness of home now lies in the contradictions that characterize the home of the 21st Century. These contradictions relate directly to three ideas that have been discussed throughout this thesis: ideas of place and space, public and private boundaries, and mobility. By examining relevant

literature and additional interview findings, chapter three poses three statements about home:

1. Home is a place, a space, and a connector to additional spaces and places
2. Home is private *and* public
3. Home is a physical place, home is a mobile hearth

Csikszsentimihalyi and Rochberg-Halton's research on the meaning of home had one central conclusion:

> The main concerns of people are still largely the same areas that have moved men and women at least since the beginnings of recorded history...meaning, not material possessions is the ultimate goal in their lives, and the fruits of technology that fill the contemporary American home cannot alone provide this (1981, p. 145).

This remains true today. Wireless technology is not the answer to finding meaning in life, but interview findings in chapter two demonstrated that wireless technology can contribute to or constrain people from finding the meaning they desire. Interactions with wireless communications technology means that home is no longer only the physical house that we "hang our hat," and it is no longer solely private. It is a fluid place that represents our core values while also giving people the control to extend their reach from the home. It is private and public. It is a place and a space. The future and meaning of home is in a state of flux on several levels, and technology is certainly not the only factor influencing this change. While the following discussion does not provide all the answers, it offers one piece to the puzzle.

New paths for home

Several scholars have speculated about how communications technology could change people's thinking about place, space, and home. Meyrowitz (1984) suggests that modern society represents a "hunter and gatherer" society in an information age, drawing parallels between modern day developments and the nomadic culture of the

distant past. He described these "hunters and gatherers" as having little sense of boundary and territory, with no sense of place bound to specific physical settings such as homes. Writing in the early 1980s, Meyrowitz predicted that the impact of electronic media would result in a parallel society with a lack of physical boundaries based on informational, rather than physical interaction. Twenty years later, physical interaction remains, but informational interaction is now also an important part of society. At the time of his prediction, Meyrowitz did not consider that a person could experience informational and physical boundaries together. Negotiating ideas of place, space, boundary, and home involves acknowledging that they can co-exist.

In his discussion of television, Silverstone raises several points that remain relevant in the age of wireless technology. First, home is connected to what geographer Bettimer called "horizons of reach," which is defined as "the experience of the lived reciprocity of movement and rest, territory and range, security and adventure..." (Silverstone, 1994, p. 27). To this list, one could perhaps add three oppositions: mobility and home, placelessness and place, public and private. The relationship between home and reach is now infinite through interaction with mass media and wireless technology. However, the domestic has suffered as society has evolved (Silverstone, 1994). As wireless technology becomes an increasing presence in the public and private lives of people, home – the centre of most lives – becomes the primary location to work out the demands of modernity. Silverstone adds that domesticity is the result of a historically defined and constantly shifting relationship between public and private cultures and that home is therefore a relationship concept. Spigel (2001a; 2001b) agrees, stating that historically, people experience different historical styles of domesticity and domestic communication, resulting in several hybrid models of home. Spigel's research cites several examples of hybrid notions of home, most notably: 1) The introduction of

television created the notion of home as a theatre; 2) the introduction of the desktop computer introduced the home office; and 3) the cell phone and laptop resulted in portable work, and a portable home. While Spigel's observations are accurate, home today has several layers. It is more than a hybrid, it is a personal site with the ability to be a theatre, an office, and a portable home simultaneously. Finding a way to balance these options while retaining what is important is the challenge of the 21st Century.

As the complexities of modern life increase, Jackson (2002) argues that society continues to pay little attention to the role of home throughout these developments. Considering the importance of home, it is surprising how often the meaning of home is considered only in afterthought. Jackson's 225 interviews with people about technology, work, and home revealed a disturbing trend. The refuge of home was being lost in a world of "always on" technologies. If this trend continues, Jackson argues that society risks losing a place for the refuge of home. "When the bones of a house are constructed to allow work and home, or outside and inside, how can we keep our home as a refuge" (p. 33)? Her critique is not a desire to return to the home of fifty years ago when the home was the site of much feminine oppression, which remains a critical part of domestic discourse today[24]. Rather, Jackson says several ideas of home are outdated. Home must be redefined for the 21st Century to fit the current age of mobility, connectivity, and wireless technology. Jackson's solution is to create a more flexible idea of home "to preserve the comforts of home without losing the flexibility and freedom the information age potentially gives us" (p. 115). A flexible home requires making the home

[24] Jackson offers interesting statistics on how housework has changed. In recent decades, women have done far less housework than any other point in history. In 1965 women did an average of 30 hours a week. In 1995, this average was 17.5 hours. During the same period, men's contributions to housework rose 240% to a (paltry) 1.7 hours a week. While women remain the primary house workers, these numbers are indicative that the home is not the same as it was forty years ago.

a place for experience, rootedness, learning, and sharing to consider home as a fluid, dynamic place, not just an idea. Home changes as one's life experiences change.

Places and spaces

In 1984, Joshua Meyrowitz published *No Sense of Place*, an examination of how electronic media was changing notions of place, space, and time. Meyrowitz argued that electronic media would obliterate our traditional sense of place, because "what is happening almost anywhere can be happening wherever we are. Yet when we are everywhere, we are also no place in particular" (1984, p. 125). Electronic media created this sense in three ways. First, electronic media dissociated physical and social space. Electronic messages cannot be physically stopped at the door, which has no effect on the information flow of a telephone or radio. Electronic media means situations and behaviours can no longer be determined solely by physical location. Physical space becomes disassociated from social space.

Second, if physical and social spaces are dissociated, Meyrowitz argues that traditional situations and spaces are also being reshaped. For example, prisons were once places of physical and informational confinement. Electronic media allowed many prisoners to have access to the larger society with the privilege of radio, television, the telephone, and the Internet, giving prisoners a virtual entry point to society. While this is not the same as physical entry, the prisoner is no longer completely segregated from society.

Finally, Meyrowitz argues that the effects of dissociation and reshaping have destroyed the specialness of place. While television, radio, and the telephone make private spaces more public, other electronic media such as car stereos and portable music players contribute to more "private" public spaces. These media create a type of

common denominator in places. Places that were once very different are now more similar (and less special) because of electronic media's constant presence.

Meyrowitz's ideas continue to be applied and debated in the context of digital and wireless communication technology. While Massey agrees that place has lost its specialness, she argues that a "new and violent phase of time-space compression" has forced us to rethink our notions of "global," local," and the meaning of "home" (Bammer, 1992). But instead of lamenting the losses of home, Massey recommends reconceptualizing home in "relational terms as the places we inhabit with others in the shifting geography of social relations" (in Bammer, 1992, p. viii). In contrast, Levinson (2004) says that wireless technology has created the opposite effect that Meyrowitz described. Instead of having no sense of place, our sense of place is now everywhere.

Given these ideas, it would be reasonable to equate having "no sense of place" with having no attachment to physical place, but this is false. Meyrowitz himself argues this (albeit twenty years after the publication of "No sense of place"):

> All experience is local...We are always in a place and place is always with us... No matter how sophisticated our technologies are, no matter how much we attempt to multi-task, we cannot be in two places at the same time. The localness of experience is a constant. And the significance of locality persists, even in the face of massive social and technological change (Meyrowitz, 2004).

During the research interviews, respondents were each asked to define what home meant to them. Below is a selection of responses:

> Home is my primary working space...home is where I do everything (Darren).

> Home to me right now is some place where I don't have to sit in front of the computer all day. The place I like to get away from stress, to get away ... a place where I can enjoy myself (Jessica).

> Home is where all my things are. They're scattered right now. It's nowhere right now. It's a place where I have things...it's comfortable, it's space (Nicole).
>
> I probably have a pretty traditional concept. Where you hang your hat. Where you go to sleep at night. Where my wife, child, and cat are. I cook at home. Home is home (Jeremy).
>
> For me home is the place where I feel safe, where I have my friends and family (Danica, 20s, uses cell phone and laptop).
>
> The place that I go after my long day and I can relax, my family is there...a safe place to go (Eva).
>
> Home is definitely for the security. When I think of home I think of my husband. We've developed a home. It doesn't necessarily have to be a house or a specific object. It's just my husband and myself and security (Louise).
>
> Sleep. Where I spend most of my time (John, 20s, uses cell phone, laptop, Wi-Fi)
>
> My home address (Douglas, 20s, uses cell phone, laptop, Wi-Fi).
>
> Just my house, my room, comfort (Akiko).
>
> The place where I sleep at night (Roger).
>
> Your meeting place. No matter what you do, you come back to this one place. Where all your most precious belongings are and you can regroup (Sam, 20s, uses cell phone, laptop, Wi-Fi)

While several factors were attributed to the meaning of home, nearly every interview respondent associated home with a place, a physical site. The attachment to having a place to go home remains strong, despite changing ideas of place. But if home exists as a physical place, it is also increasingly being considered a virtual space.

Shapiro (1998) distinguishes between "place" and "space" as physical and virtual boundaries. While such a distinction was unnecessary before the introduction of

communication media, today it represents an increasingly important division. The home now becomes a physical site for accessing virtual places and spaces.

Some interview subjects alluded to having additional "places" and "spaces" they accessed with the aid of wireless technology.

> I consider my computer to be my own private environment. (Darren)

> I don't think the definition of home changes when you introduce wireless technology. It stays the same, but my home fades in the background and I'm working somewhere else. (Jeremy)

> If I go through a long period of time, more than two days, where I don't have the potential to connect if I want to, then I feel out of touch with my online family. It's definitely an online family. It's definitely a virtual home. (Roger)

These respondents were aware that their understandings of place and space had moved beyond physical sites. For Jeremy, he conducted work from his house, but when he used his wireless technology to do his work, he was mentally no longer in the home, but in a different space. Darren and Roger both expressed how their wireless technologies gave them access to additional places, or in the case of Roger, a virtual home. Rather than thinking of virtual space as a substitute for physical space, these respondents saw wireless technology as adding a new dimension to physical space, leading to an advancement of what sociologist Ray Oldenberg called "third places," the communal public spaces where people interact with friends and strangers (Baker, 2004).

The literature and interviews discussed so far have emphasized how the home is a physical place and a virtual space. The meaning of these domestic places and spaces remain individually driven. As a physical and virtual space, the home has taken on a new role as a connector, or a communication hub to additional people, places, and spaces. People use their cell phones, laptops, and wireless Internet at home. The survey results discussed in chapter two found that respondents used the wireless Internet at home

regularly. People are now always virtually balancing their life through several different places and spaces, which they often connect to from the home. In this context, Gumpert and Drucker (1998) state that home has transformed from being a sanctuary to a communication hub, arguing that media technology and the changing communication landscape must be part of any analysis of space in the home environment.

Meyrowitz (2004) says people now live in a "glocality," which he defines as being inside and outside at the same time. People cannot live in more than one glocality, as each is unique, but influenced by the global world. This is also a good way to conceptualize home. While home remains a physical place of attachment, our experiences of home are no longer purely local, and we are less likely to see our physical surroundings as the source of all experiences. Home has therefore changed from being a bounded place, away from the public world, to being a connector to various spaces and places, a communication hub for people to extend their reach and life experiences, all from the physical comfort and privacy of home. People remain emotionally attached to the physical place of home, yet their experiences inside and outside of home have changed, spanning broader, global, timeless spaces. In these senses, home is now a place, a space, and a connector to additional places and spaces.

Public and private boundaries

Writing in the early 1900s, philosopher Georg Simmel ([1909]1997) observed how the door symbolized both an act of separation and connection because it formed a physical linkage between the space of human beings and the outside, transcending the separation of "inner and outer," the inner representing the private domain of home and the outer symbolizing the public sphere. While Simmel's reflection on the door is now a poetic memory, electronic media and wireless communications technology have changed ideas of public and private boundaries.

Shapiro (1998) states that placement and permeability are two main characteristics of the boundaries of home. Placement involves a "positional change in a boundary" (p. 276) because the introduction of a technology creates a boundary shift, incorporating new activities in the home, while pushing other activities out of the home. For example, interview subjects that were heavy users of wireless technology said they now rarely watched television. If they did want to watch a television program, they would download it and watch it on their laptop, rather than watching it on television. Permeability refers to the relative ease that relevant information, behaviour, or presence leaks across the private boundary of home. In the past, the permeability of information could be physically blocked. Today, the home is a highly permeable place. While the television and radio increased the permeability of home's public and private boundaries, The cell phone, Internet, and wireless Internet as interactive technologies that are bi-directional: wireless technologies bring parts of the outside world into the home while also bringing parts of the home into the outside world (Shapiro, 1998). An increasing movement towards bi-directional technologies represents the possibility that public and private boundaries could be avoided almost altogether.

Historically, other scholars have suggested that traditional ideas of public and private are disappearing due to technology. Sennett's 1978 "The Fall of Public Man" charged that the intimate values of the private world have unwarrantedly invaded the public, pointing to electronic media as a major means the idea of public life has been put to an end[25]. While electronic media in the home increases the information people have access to, it has rendered actual contact unnecessary. Instead, electronic media have become a substitute for public, social interaction. It would be reasonable to assume that Sennet's argument could be extended to the integration of wireless communications

[25] While Sennet argues how electronic media contributes to the fall of public space, he also recognizes that the impulse to withdrawal from public life began long before the application of electronic media.

technology, which continues to distort the separation of public and private space. More recently, architecture critic Paul Goldberger wrote a critique in Metropolis magazine about how cell phone use on city streets had resulted in the isolation and dissolution of place: "The mobile phone renders a public place less public. It turns the boulevardier into a sequestered individual, the flaneur into a figure of privacy. And suddenly, the meaning of the street as a public place has been hugely diminished" (Baker, 2004).

Jean Baudrillard's essay "The Ecstasy of Communication" (1983) offers a more extreme picture of how communication technology could impact home and public life. Baudrillard argues that society has been forced into an "obscene world where an individual's private secrets and public life are one and the same." Under such conditions, Baudrillard says the divisions of public and private dissolve. Media scholar Lynn Spigel (2001b) summarizes Baudrillard's essay, stating that: "the home he describes is no longer a fixed place of origin and personal identity, but a terminal that receives and distributes information" (p. 101). Baudrillard likely wrote his essay with the intent of provocation, which Spigel recognizes, but she remains highly critical of Baudrillard. Spigel asks that the concreteness of everyday life and the history of technological adoption provide models before declaring the end of the public and private sphere. From Spigel's perspective, while communication technologies have certainly changed ideas of public and private space, they have not dissolved. Rather, electronic and digital (and wireless) technology have given us an increasingly contradictory environment where different modes of domesticity exist in emergent, residual, and dominant forms. Spigel says most people now experience a hybrid version of domesticity, drawing on several different "modes" of home.

In the context of wireless communication technology, chapter two's interview responses indicated that public and private boundaries remain important distinctions. For

many, the integration of wireless technology has resulted in a struggle for people to negotiate their public and private needs, particularly the division between home and work.

> I've consciously not gotten work email at home because I don't want it to invade my home, because I know it will. I know I'd be getting up to check my work email and that would probably make my working life easier, but I don't want to cross that line. (Jessica)

> Since there's been an intrusion of people who aren't your friends and family in your life, home has become increasingly sacred. I don't want company over anymore. I'd rather go out to a restaurant with them instead of having them in my home. It's just more noise and commotion. I just want to be at home. Home has become a more sacred place for me, definitely, with the increasing intervention of wireless data in my life. (Jeremy)

> Wireless works better for people [employers] who want you to work more. For me, my home is sacred. I'm not going to be working at home. If I'm going to do it, I might as well stay at work. There's space for everything. Then when I go home it really is home. Wireless can take that away from you. (Jordan, 20s, uses cell phone, laptop, and Wi-Fi)[26]

These interview responses demonstrate that public and private distinctions have not dissolved. These respondents are taking extra effort to ensure they keep certain aspects of home private and separate from the rest of the world. However, the nature of wireless technology means that the home is not 100% blocked from the public world. While these individuals are working hard to protect their private space, they are also screening certain aspects of the public into the home through their wireless technology. Rather than shutting everything out, they are engaging in a constant negotiation of what they choose to let into the home.

This ongoing negotiation between people and their wireless technologies is a reflection of the complexity behind the public and private distinction. Sheller and Urry

[26] Ironically, the majority of interview subjects with this perspective were employees of a communications company that specializes in wireless data services. From their perspective, because they worked so closely with wireless technologies, they did not want to use them outside of work.

(2003) argue that the discourse of public/private fails to capture the fluidity between these two distinctions. The authors examined the effects of mobile technology (specifically transportation and information technology) on ideas of public and private life and determined that "the hybridization of public and private life is occurring in more complex and fluid ways than any regional model of separate spheres can capture" (Sheller & Urry, 2003, p. 108). This is an accurate reflection of people's use of wireless technology. Since people carry wireless technology with them everywhere, they are fluidly transferring through public and private spaces, inside and outside the home. Wireless communications technologies have created "zones of publicity into the once private interior spaces of self and home" (Sheller & Urry, 2003, p. 117).

The interview respondents expressed the importance of privacy, especially as wireless technology increases their availability and reach. Yet the bi-directional nature of wireless communication technology creates a home that remains private, but with zones of publicity. The degree of the "privateness" or "publicness" of home is based on an individual's interactions with their wireless technology (and all media and information technologies). Within these contexts, the home is a private and public place.

A mobile home?

Ideas about the connection between mobility and the home began long before the introduction of wireless communications technology. Transportation advancements and the invention of the automobile created tremendous change in the lives of people. Like wireless technology today, transportation technology created new ways of thinking about space, time, place, privacy, and home. While reflecting on the changes in mobility and transportation, cultural studies theorist Raymond Williams ([1974]1992) noted a paradox within two connected modes of private, domestic life after the industrial revolution: while homes were increasingly privatized, society was also geographically

mobile. According to Williams, "The earlier period of public technology, best exemplified by the railways and city lighting, was being replaced by a kind of technology for which no satisfactory name has yet been found: that which served an at once mobile and home-centred way of living: a form of mobile privatization (p. 16)." Mobile privatisation was conceived to explain television's evolution as a technological and cultural form (Spigel, 2001b; Williams, 1992). Williams pointed to broadcasting, particularly television, as a social form of mobile privatization because television provided a way of allowing individuals to be mobile by linking the family home with the modern industrial city while remaining in the privacy of their homes.

Spigel says that as society and technology progressed, mobile privatisation became inverted with the introduction of portable technologies. By the late 1950s-1960s, most middle-class American homes owned one television set, leading marketing efforts to focus on encouraging the multi-television home. While the first televisions for the home were meant to bring family together in a theatre-like setting, the second television set was based on the new trends of portability and mobile culture (Spigel, 2001b). Portable television sets were sold on the promise that television sets could facilitate bringing the private world into the public realm. The portable television represented an early attempt at having broadcasting interact bi-directionally across the public/private boundary. Lynn Spigel describes the technology as an early example of "privatised mobility," a reverse of Williams' original concept. While portable television did not actualize in a privatized mobility (news reports at the time said few portable televisions were ever physically moved), a technology that actualized Spigel's concept of "privatised mobility" was the Walkman. Dugay (1997) comments that the Walkman's introduction represented a huge change from traditional broadcasting technologies:

> Whereas television and radio took viewing and listening out of the public sphere and deposited them into the domestic sphere, the Walkman went

> one better by allowing private domestic pleasures, now considered to be the providers of the home, and let them loose on the streets (p. 113).

The introduction of the Walkman was a disruption in the path towards mobile privatisation. Suddenly, people were reversing the trend by bringing their private listening choices into the public domain. Experiences of mobile privatisation and privatized mobility remain today. The television, radio, telephone, and desktop computer remain physical fixtures of most homes, while MP3 players, the laptop computer, the cell phone, and Wi-Fi have replaced the Walkman.

This thesis proposes a third variant on Willams' original concept by introducing the concept "mobile domesticity," the idea that one can feel or be "at home" while mobile. For example, individuals carrying laptop computers carry important parts of their lives with them as digital pictures, documents, books, music – items traditionally located within the physical structure of home. A laptop can now connect wirelessly to the Internet, allowing mobile individuals to extend themselves even further. Now, people can pay bills online at a café and talk with their friends and family anywhere they go. Traditionally home-bound tasks can now be done anywhere. While having a physical home is important, having meaningful objects within the home is equally important. Csikszentmihalyi and Rochberg-Halton's study found that the five most meaning objects in the home were furniture, visual art, photos, books, and the stereo[27]. Three of these objects are now objects that people can take with them while mobile[28]. Since people can now take these meaningful objects with them everywhere, does this make them think they have a mobile home with them? Levinson (2004) alludes to the idea of mobile

---

[27] Csikszentmihalyi and Rochberg-Halton's study remains a valuable academic contribution, but it would be interesting to see the results of the same study conducted today. What would be the most meaningful objects in the home today? The Internet and cell phone are both likely candidates.

[28] Photographs, books and articles, and music are common elements of an individual's laptop computer.

domesticity in his discussion of the cell phone, "...as soon as the cellphone (sic) began hooking into the Internet or offering some of its features...the cellphone became a home away from home for communications, a mobile home or pocket hearth, a travelling medium of media" (p. 53).

Introducing the idea of mobile domesticity to this thesis's interview subjects was met with scepticism:

> It would depend on the individual. Eight years ago when I first left home and I moved into my own space, I lived out of a hockey bag for two years. That was my home. In that case, yeah, my concept of domesticity was very portable. Now I have a mortgage, a family. My home is where I want to spend time...I think mobile domesticity is a good thing for people who don't have roots and don't want to settle down. It's not even applicable to people that do have roots. (Jeremy)

> I think for mobile domesticity to work I think people still have to get comfortable, they have to be cocooned in some space and they feel safe and they can be on the phone, or whatever. If they're on the phone and with the laptop on the street at the same time, if the surrounding is chaotic then you really couldn't relax like you were at home. You could probably do the same thing you want to do at home, but to me I think the relaxation part is lacking. The technical aspect, yes it maybe covers what you could only do at home and you can now do outside, but are you as relaxed. Also, I get offended when people relax when they're outside but feel like they're are at home and on the phone <laughs> because then they forget they're outside and they spill all their secrets to everyone on the bus. That's kinda bad, but that happens. Some people feel too comfortable on the street. Maybe for them this mobile home happens. (Akiko)

> It's definitely a trend. Wherever there's an Internet connection you're at home, right? Then you can connect with all your different people. (Roger)

> I don't associate with it [mobile domesticity] but I could understand it. There's that commercial about that guy going to the airport with a little girl next to him and it looks like he's talking to her but then the guy passes and he's on the phone with his daughter. So, I understand it, I fortunately don't lead a life like that where I won't be home. (Paula)

> I guess it maybe makes you feel like home because I have my cell phone. I have my telephone book, I have something on the go I wouldn't need if I was at home. But no, I don't think that affects me. (Natalie)

Except for one respondent, interview respondents did not see mobile domesticity as a feasible option. While this could be true, it is also possible that that the idea of mobile domesticity was not presented thoroughly enough during each interview[29]. Based on the interview responses, people seemed to think that mobile domesticity was an idea that would take the place of home. In actuality, mobile domesticity was intended to be in addition to the home, "a hearth we can explore and enjoy without clipping or short-circuiting the hearth at home" (Levinson, 2004, p. 47). Another possibility is that the interview respondents were not ready to accept the idea that a person could take their "home" with them. Respondents associated home with a physical place, making mobile domesticity an unfeasible option. Finally, some respondents saw mobile domesticity as applicable to business people or individuals who travel often. For mobile people, mobile domesticity would be more meaningful, as it gave them a connection to their home and family. While North American urban culture is becoming an increasingly mobile, connected society, the majority of people are still physically tied to the home. Mobile domesticity remains a possibility, but further research is required to explore this idea in more detail.

While the idea of mobile domesticity as defined above is uncertain, another type of mobile domesticity emerged during this research: mobility around one's home. Interview respondents found the ability to bring their wireless technology with them around the house incredibly useful and liberating. A survey respondent wrote the following response, when describing why wireless technology had made a positive impact on his life:

---

[29] The interview protocol asks the questions as: "Do you think there is a type of "mobile domesticity" (being "at home" while mobile?) developing in today's society?" During the interviews, respondents were given a quick, 1-2 sentence description of mobile domesticity as a precursor to the question. However, I may have taken for granted that the interview respondents would easily understand the question. The one person that responded positively was also an extremely heavy user of wireless communications technology and likely had a better understanding of the concept.

> ...being able to roam freely around the house or office while staying connected, is freeing in a different way. Having a connected laptop in a meeting means that you can be more productive (multiplexing time), more informed (Google), and more connected (ask someone a question via IM or email). Having a laptop on while you are watching TV or playing games provides richer context for entertainment, multiplexing of leisure activities, and social interaction. Because we have home wireless, my wife and son also are free to work/play online anywhere in the house. This can be annoying as well as liberating, for example when the work environment intersects with someone else's entertainment/leisure environment. (male, 40s, uses cellphone, laptop, and wireless Internet)

Several interview respondents expressed similar feelings, that the ability to take mobile technology with them was freeing for them. Other interview respondents said they "liked home more" with wireless technology, while others shared how they would watch movies on their laptop in bed, or use their laptop to play fitness videos for exercise, even take their wireless technology to the bathroom. In this sense, mobile domesticity was a common theme in several interviews subjects' lives, a mobile home within the home.

Chapter Two's interview findings demonstrated that people associate mobility and wireless technology with daily life. This mobility relates to all the themes discussed in this thesis: place and space, public/private, connectivity, and home. Mobile privatization, privatized mobility, and arguably mobile domesticity all exist in the daily life of all wireless technology users. Interview responses confirmed that an essential aspect of home is having a physical house to act from. But if privatized mobility and forms of mobile domesticity are reality, then people have been taking small parts of home with them for several decades. Home is a physical place, but aspects of home can also be mobile.

Chapter three explored the implications of wireless technology use on the meaning and experience of home. The chapter argued that the specialness of home is in its flexible meaning. An individual can have more than one home. An individual can open

up the home while still keeping it a private refuge. An individual will always have a physical home, but they can now also carry a kind of mobile home everywhere they go. Thinking about the home from a more flexible, broader perspective allows an individual to revalue what the home means to them.

CONCLUSION

During the late 1990s, when the Internet boom was at a high, buzz began building about people living in "smart homes." These smart homes were touted to create a domestic environment serviced by the wonders of Internet networks, digital information, and robotic technology. This perceived future, trumpeted to dramatically change home life, was a resounding flop, forcing companies like Intel and Microsoft to regroup and create a new interpretation of the "smart house" for consumers to reconsider[30]. Horrigan (1986) and Spigel (2001a; Spigel, 2001c) have discussed the history of the "home of tomorrow," which has included the "electric home," "plastic home," "solar home," and more recently, "smart home." While a different "home of tomorrow" is promoted every few years, these future visions rarely become actualized. Why? Because *what these visions have never realized, is that technology is not the driving force of home, people are* (Bell & Kaye, 2002). History demonstrates that when people accept a technology into the home, they have chosen to because it makes a difference in their daily lives.

Today, a significant population has chosen to integrate wireless technology into their daily lives, and this has changed how they think about home. This thesis explored the domestic implications of increased wireless technology use, and argued that we must re-think the home to reflect our increasingly mobile reality.

It remains a challenge to find a meaningful home in the age of wireless technology and "always on" connectivity. But many interview respondents seemed very

[30] Intel recently launched "My Digital Home" (see http://www.mydigitalhome.ca) in Canada, a concept based on wireless Internet technology.

aware that wireless technology could take away what was important to them. While some respondents avoided wireless technology to prevent this potential negativity from happening, others embraced the technology, but expressly said it was under their control. When talking about the future of home, these respondents offered interesting perspectives:

> Home is changing. It will be a place where you're connected with your worldwide family. It makes the home a little bit richer. You're not as confined to your traditional local relationships...home will be less geographically concentrated. (Roger)

> When it [wireless technology] becomes more a part of our lives, the whole world is going to change. We're going to change. It's just going to become a part of our lives...it won't control us, but it will be useful in our lives. (Jack, 20s, uses cell phone, laptop, and wireless Internet)

> Eventually you won't need to leave your house for a lot of things. You can work from home, do a lot of stuff from home that you wouldn't normally do from home. (Natalie)

> I think it's going to make home more meaningful...because you can do those things. Going out for food shopping you don't even have to do anymore in some places. The little things are done for you so you don't need to do them and you can focus on more important things. (Paula)

> Our lives are more complicated by it [wireless technology]. And not so much in a bad way, it just makes us have one more dimension of ourselves. Our accessibility is now more abundant. Our business opportunities become more abundant, the fact that we're able to learn more school wise and do research, anywhere we could be. I think it complicates it a little because it becomes another dimension of us, for better or for worse. (Louise)

Several comments can be made about these statements, but the underlying theme behind them is that while home will remain a physically and emotionally important part of life, wireless technologies will also be present. The future vision these people see is home and wireless technology (and the mobility associated with it) co-existing. How this co-existence between people, the home, and wireless technology plays out, is an individual experience.

Re-thinking home

This research has demonstrated that home is an individual and special place. Yet the idea of home is also a norm that people seem to accept for what it culturally represents. People often feel they need to conform to domestic values established hundreds of years ago. This thesis argued that people do not need to conform to these old ideas of home. We can take our new lifestyle and appropriate what home means for each of us. If every person has a firm understanding of what home means to them, the cultural importance of home will always remain. Re-thinking home will re-position these important values in the 21st century, allowing us to bridge our changing domestic life with the values of home we strive for. Accomplishing this requires opening dialogue about how home is changing. Without such dialogue, the home will remain an ideal, but will lack the meaning it deserves.

APPENDICES

Appendix A: Wireless Technology Usage Survey

Survey: Wireless Technology Use
Estimated completion time: 10 minutes

Guidelines:
Thank you for completing the Wireless Technology Use survey. Your responses will be a valuable contribution to my Master's of Arts thesis on wireless technologies and the home. The following 17-question survey asks about how you use wireless technologies (laptop, cell phone, PDA), and the wireless Internet. Please complete the questionnaire and email your responses to Angie Hsieh (achsieh@sfu.ca)

Your privacy is important and guaranteed. Your name and personal information will be kept confidential and will not be published nor released to any third parties. If you have any questions or concerns, please contact Angie Hsieh, achsieh@sfu.ca, (604) 725-5740

Demographic Information

1. Age:

2. Sex: Male Female

3. Occupation:

4. Educational background (highest level attained)
i. High school
ii. College/Technical Institute
iii. University
iv. Post graduate (Master's, PhD)

5. Marital status
i. Single/Never Married
ii. Married
iii. Divorced/Separated
iv. Widowed

The technologies you use

6. What types of wireless technology do you use? (Circle or place an "X" next to ALL that apply)
i. Cell phone
ii. PDA

iii. Laptop
iv. Other (Please specify):

7. Do you use wireless networks (e.g. Wi-Fi, 802.11 technologies) to connect to the Internet?
i. Yes
ii. No

8. If yes, how long have you been using wireless Internet networks?
i. Less than a month
ii. 1-5 months
iii. 6-11 months
iv. 1-2 years
v. 2 years or more

Accessing and using wireless technology and networks

9. What do you use to connect to wireless networks? (Circle or place an "X" next to ALL that apply)
i. Laptop with wireless card
ii. PDA
iii. Cell phone
iv. Tablet PC
v. Other (please specify):
vi. Not applicable/I don't use wireless networks

10. How do you access wireless networks? (Circle or place an "X" next to ALL that apply)
i. A pay-based Wi-Fi (wireless Internet) provider
ii. Free wireless Internet network at school
iii. Free wireless Internet network at work
iv. Free wireless Internet network at a café or public place
v. Wireless LAN at home
vi. Other (please specify):
vii. Not applicable/I don't use wireless networks

11. What applications do you commonly use with wireless technology (with or without a wireless Internet connection)? (Circle or place an "X" next to ALL that apply)
i. E-mail
ii. Text message (SMS)
iii. Games
iv. Internet browser (e.g. Internet Explorer, Netscape)
v. Word processor (e.g. Microsoft Word)
vi. Other (please specify):

12. How often do you use wireless (wi-fi) Internet networks? (Circle or place an "X" next to your answer)
i. More than 3 times a week

ii. 1-3 times a week
iii. A few times a month
iv. Once every couple months
v. Only connected a few times in my life
vi. Not applicable/I don't use wireless networks

The places you use wireless technology

13. Where and how often do you use wireless Internet networks? In the table below, please indicate how often you use wireless technology in the following places. Place an "X" next to your answers.

PLACE / FREQUENCY	Never	Rarely (less than 1x a month)	Sometimes (a few times a month)	Often (More than once a week)
Home				
School				
Work				
Café				
Airport				
While mobile				

Why you use wireless technologies
The following questions require short answers.

14. List up to three reasons why you use wireless technology and/or wireless Internet networks
i.
ii.
iii.

15. List up to three things you dislike about wireless technology and/or wireless Internet networks
i.
ii.
iii.

16. Has using wireless technology and/or wireless Internet networks made a difference in your life? (Use back page to answer if necessary)
i. If yes, how? Has the difference been positive or negative?
ii. If no, why not?

17. Are you interested in participating in a 90-minute group interview about this topic?
i. No thanks
ii. Yes, you may email or telephone me at:

Appendix B: Interview Protocol

Interview Protocol

Once everyone is seated, introduce the session and distribute and collect the consent forms

- Explain the key points of the session:
- Purpose and description of the consent forms: approved by university ethics, confidentiality guaranteed, interviews audio recorded.
- The length of the session/bathroom breaks
- Purpose of the session: to discuss your experiences, broadly and specifically, with wireless technology and the "mobile lifestyle."
- Their right to refuse to participate at any time
- Who I am (introduction)
- My research goals/background
- Discuss how the information will be used

Interview lead-in:

The following questions probe your experiences with wireless technology and the mobile lifestyle. But I'd like you to pay special attention to the home, and what the mobile lifestyle means for your home.

Ice breaker questions:

1. What comes to mind when I say "home?" [what does home mean for you?]
2. What types of mobile/wireless technology do you use?

A. Wireless Technology and "Others"

This section is concerned with describing wireless technology and the individual's experiences with people, organizations and institutions she/he relates to in everyday life.

1. Family
   - Has wireless technology changed your family life?
   - Does it allow more family time?
   - Connections between you and family?
   - Your relationships with immediate family and distant relatives?

2. The kinds of institutions and social codes we have?
   - Has wireless technology changed the way you interacted with: home, work, market, school, community?
   - Etiquette? Interactions in public? Private?
   - Do you spend more or less time at home?
   - Your expectations of the institutions you deal with, such as banks (online banking, service calls)
   - Is there now a "laptop etiquette," or "cell phone etiquette?"

- Is home more or less sacred?

3. Politics (locally, regionally, nationally, internationally)?
   - Does wireless technology affect how politics impact on your life?

4. The economy and money: your personal spending (savings, investment, and money-management power/ability?
   - How have/could your spending or investing habits changed?

5. Has wireless technology made you feel more or less secure in society?
   - Do you fear unsolicited communication?
   - Do you feel empowered by its capabilities?
   - Is privacy and issue? Does home remain a secure domain?

B. Wireless technology and "Things"

This section is concerned with describing the connections (if any) between wireless technology and individual experiences with the structures, technologies, artefacts and material culture she/he relates to in everyday life.

1. Has wireless technology changed anything related to your own body – health, hygiene, comfort, condition, appearance?
   - Is wireless technology a "part of you?" An embedded part of your life?

2. Has the wireless technology/mobile lifestyle changed your eating habits?
   - Do you eat at hotspots?
   - Do you get together with more friends than before, dine out?

3. About what you'd feel about stuff, the things of daily life, appliances, objects, clothing, furniture; environments, hardware and software
   - Do you have more or less "stuff"?
     - Do you have less "stuff" because everything is stored on your laptop? (pictures, newspapers, emails, etc.)
   - Is the laptop or cell phone your personal "hub?"

4. How does it affect the kinds of chores and ordeals you have to deal with? Does it introduce new chores and do away with others? Ease some and complicate others? Which ones?
   - Does it help or hinder daily chores? What are the "chores" you associate with using wireless technology?
5. Would it have any affect on deeper values and beliefs?
   - Does the Wireless technology make you think different about anything?
   - Do you think differently about home and/or work?
   - What does being mobile with your wireless technology mean for you

C. Wireless technology and "Self"

This section is concerned with describing the wireless technology and an individual's sense of self, identity and personal awareness in everyday life.

1. On your sense of being in control, "on top of your game?"
   - Do you feel more or less in control of your life?
   - Is Wireless technology liberating?
   - Are you in control of your tasks? Does it help (or not help) you solve problems?

2. On you preferences (likes and dislikes)?
   - Does wireless technology influence what you like or dislike?
   - Are some activities now more fun?

3. On friendships and relationships, conviviality & companionship
   - Are you more or less social?
   - Do you see your friends more often in person? Less?
   - Business contacts?

4. On playing, exploring or "escaping?"
   - What might you do for fun now?

5. On how you rest, relax and what gives you a sense of well-being?
   - Has wireless technology contributed to your overall quality of life?
   - Do you relax more? Less?

6. On the kinds of things you know, and how you know them: This can include education, media, other sources of information such as books, lectures & seminars, and conversation.
   - Do you gain new knowledge and information differently?

7. What about how you deal with change? Continuity?
   - What could your long-term experiences be?
   - Would you use wireless technology for a long time?
   - Is it just a fad?

8. How might this affect your projects and hobbies?
- How can it contribute to your hobbies?
- Will you try new things?

D. Supplementary interview questions

1. Now that you have wireless technology available to you, is home the same, or different?

2. Has wireless technology changed your experience and perceptions of home?

3. Do you think there is there a type of "mobile domesticity" (being "at home" while mobile?) developing in today's society?

4. Has the availability of the wireless technology/Internet changed the way you feel in your home and the way you think about your home? About yourself?

5. What do you think wireless technology means for our ideas of home? How would you define home?

Appendix C: Interview Respondent Profile

Name	Age	Occupation	Education	Marital status	Technologies Used
Akiko	31	PhD student	Post graduate (Master's)	Single	Non-user of wireless technologies
Danica	19	Student	College	Single	Cell phone, laptop
Darren	21	Student	High school	Single	Cell phone, laptop, Wi-Fi
Eva	20	Student	High school	Single	Cell phone
Jeremy	26	Policy Analyst	University	Married	Cell phone, laptop, Wi-Fi
Jessica	26	Communications officer	University	Single	Cell phone, laptop
John	23	Business Analyst	University	Single	Cell phone, laptop, Wi-Fi
Jordan	25	Business Analyst	University	Single	Cell phone, laptop, Wi-Fi
June	24	Business Analyst	University	Single	Cell phone, laptop, Wi-Fi
Louise	28	Real estate agent	University	Married	Cell phone, laptop, Wi-Fi
Natalie	27	Student	College	Single	Cell phone, laptop, Wi-Fi
Nicole	26	Publications and documents officer	University	Married	Cell phone, laptop, Wi-Fi
Paula	24	Student	High school	Single	Cell phone, laptop
Rodger	40	Web blogger	University	Married	Cell phone, laptop, Wi-Fi
Sam	23	Business Analyst	University	Single	Cell phone, laptop, Wi-Fi

• *Names have been changed to protect the privacy of interview respondents. The above table profiles the respondents quoted in this thesis.*

Appendix D: Fieldwork Lessons

The goal of this research was to provide stories and provoke additional focus on how the meaning of home has changed in response to the domestication of communication and wireless technologies. Conducting research is an on-going learning process, and I learned several fieldwork lessons while conducting the surveys and interviews. The following points should be considered before conducting a similar study:

- Identify a more detailed demographic profile of interview respondents. Grouping respondents based on demographic profile may reveal additional patterns or findings.
- Establish a more focused eligibility criteria. Perhaps choose only regular Wi-Fi users, instead of grouping cell phone, laptop, and Wi-Fi users together.
- Consider examining cell phone usage or Wi-Fi and laptop usage. Each technology could benefit from an individual focus.
- Conduct individual interviews rather than group interviews. As the home is an individual and personal place, it is a topic better suited to individual interviews.
- While the TEDA methodology was useful for structuring interviews, adding supplementary, focused questions on home are required to discuss home with enough depth.

REFERENCES

Bachelard, G., & Jolas, M. (1994). *The poetics of space*. Boston: Beacon Press.

Bakardjieva, M., & Smith, R. (2001). The Internet in everyday life: Computer networking from the standpoint of the domestic user. *New Media & Society, 3*(1), 67-83.

Bakardjieva-Rizova, M. (2000). *The Internet in everyday life: Computer networking from the standpoint of the domestic user.* Unpublished PhD, Simon Fraser University, Burnaby.

Baker, L. (2004). *Urban renewal, the wireless way*. Retrieved December 3, 2004, from http://www.salon.com/tech/feature/2004/11/29/digital_metropolis/index_np.html

Bammer, A. (1992). Editorial. *New Formations, 17*(Summer), vii-xi.

Baudrillard, J. (1983). The ecstasy of communication. In H. Foster (Ed.), *The anti-aesthetic: Essays on postmodern culture* (1st ed.). Port Townsend, Wash.: Bay Press.

Bell, G., & Kaye, J. (2002). A kitchen manifesto. *Gastronomica*, 46-62.

Birdwell-Pheasant, D., & Lawrence-Zuniga, D. (1999). Introduction: Houses and families in Europe. In D. Birdwell-Pheasant & D. Lawrence-Zuniga (Eds.), *House life: Space, place and family in europe* (pp. 432). UK: Routledge.

A brief history of Wi-Fi. (2004). Retrieved July 25, 2004, from http://www.economist.com/science/tq/PrinterFriendly.cfm?Story_ID=2724397

Carsten, J., & Hugh-Jones, S. (Eds.). (1995). *About the house: Levi-Strauss and beyond*. New York: Cambridge Press.

Cooper Marcus, C. (1994). *House as mirror of self: Exploring the deeper meaning of home*. Berkeley, California: Conari Press.

Cowan, R. S. (1983). *More work for mother: The ironies of household technology from the open hearth to the microwave*. New York: Basic Books.

Cowan, R. S. (1999). The industrial revolution in the home. In D. MacKenzie & J. Wajcman (Eds.), *The social shaping of technology* (pp. 281-299). Buckingham; Philadelphia, Pa: Open University Pres.

Csikszentmihalyi, M., & Rochberg-Halton, E. (1981). *The meaning of things: Domestic symbols and the self*. Cambridge, Mass.: University of Chicago Press.

Douglas, M. (1991). The idea of a home: A kind of space. *Social Research, Vol. 58*(No. 1), 287-307.

Drucker, S. J., & Gumpert, G. (1997). *Voices in the street: Explorations in gender, media, and public space*. Cresskill, N.J.: Hampton Press.

Du Gay, P. (1997). *Doing cultural studies: The story of the Sony Walkman*. London ; Thousand Oaks Calif.: Sage in association with The Open University.

Du Vall, N. (1988). *Domestic technology: A chronology of developments*. Boston, Mass.: G.K.Hall & Co.

Fischer, C. S. (1992). *America calling: A social history of the telephone to 1940*. Berkeley: University of California Press.

Fleishman, G. (2004). *Destination Wi-Fi, by rail, bus or boat*. Retrieved February 11, 2005, from http://news.com.com/Destination+Wi-Fi,+by+rail,+bus+or+boat/2100-7351_3-5260617.html?tag=nefd.top

Flynn, B. (2003). Geography of the digital hearth. *Information, Community & Society, 6*(4), 551-576.

Forty, A. (1986). *Objects of desire: Design and society since 1750*. London: Thames and Hudson.

Freud, S. (1955). The uncanny. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (pp. pp. 218-253). UK: The Hogarth Press.

Friedman, A., & Krawitz, D. (2002). *Peeking through the keyhole: The evolution of North American homes*: McGill-Queen's University Press.

Gumpert, G., & Drucker, S. J. (1998). The mediated home in the global village. *Communication Research, 25*(4), 422-439.

Hampton, K. N., & Wellman, B. (2003). Examining community in the digital neighborhood: Early results from Canada's wired suburb. In J. Turow & A. L. Kavanaugh (Eds.), *The wired homestead: An MIT press sourcebook on the Internet and the family*: MIT Press.

Harwood, P., & Rainie, L. (2004). *People who use the Internet away from home and work*: Pew Internet & American Life Project.

Heidegger, M. (1971). Building, dwelling, thinking (A. Hofstader, Trans.). In *Poetry, language, thought* (pp. 141-159). New York: HarpersCollins Publishers Inc.

Heller, A. (1984). *Everyday life*. London ; Boston: Routledge & Kegan Paul.

Horrigan, B. (1986). The home of tomorrow, 1927-1945. In J. J. Corn (Ed.), *Imagining tomorrow: History, technology, and the American future* (pp. 137-163). Cambridge: The MIT Press.

A hotspot for your car. (2005). Retrieved January 6, 2005, from http://online.wsj.com

Hughes, R., & Hans, J. D. (2001). Computers, the Internet, and families: A review of the role new technology play in family life. *Journal of Family Issues, 22*(6), 778-792.

Jackson, M. (2002). *What's happening to home? Balancing work, life, and refuge in the information age*. Notre Dame, IN: Sorin Books.

Kessler, M. (2004, February 18). *Wi-Fi changes virtually everything*. Retrieved May 15, 2004, from http://www.usatoday.com/tech/webguide/internetlife/2004-02-18-wifi_x.htm

Kessler, M. (2005). *Roaring laptop sales boost PC market*. Retrieved January 23, 2005, from http://www.usatoday.com/tech/news/2005-01-23-laptop_x.htm

Kumar, K. (1997). Home: The promise and predicament of private life at the end of the twentieth century. In J. Weintraub & K. Kumar (Eds.), *Public and private in*

thought and practice: Perspectives on a grand dichotomy (pp. 204-236). Chicago: University of Chicago Press.

Lally, E. (2002). *At home with computers*: Berg Pub Ltd.

Lawrence, R. J. (1987). What makes a house a home? *Environment and Behavior, Vol. 19*(No. 2), 154-168.

Levinson, P. (2004). *Cellphone: The story of the world's most mobile medium and how it has transformed everything!* New York: Palgrave Macmillan.

Meyrowitz, J. (1984). *No sense of place: The impact of electronic media on social behavior*. New York: Oxford University Press.

Meyrowitz, J. (2004). *The rise of glocality: New senses of place and identify in the global village.* Paper presented at the The Global and the Local in Mobile Communication, Budapest.

Morley, D. (2000). *Home territories: media, mobility and identity*. London: Routledge.

Ockman, J. (1998). The poetics of space (book review). *Harvard Design Magazine, 6*.

Porteous, J. D. (1976). Home: The territorial core. *Geographical Review, Vol. 66*(No. 4), pp. 383-390.

Rosen, C. (2004). *Our cell phones, ourselves*. Retrieved September 12, 2004, from http://www.thenewatlantis.com/archive/6/rosen.htm

Rybczynski, W. (1986). *Home: A short history of an idea*. New York: Viking.

Rykwert, J. (1991). House and home. *Social Research, Vol. 58*(Issue 1), pp. 51-63.

Sennett, R. (1977). *The fall of public man: The forces eroding public life and burdening the modern psyche with roles it cannot perform*. New York: Knopf.

Shapiro, S. (1998). Place and spaces: The historical interaction of technology, home, and privacy. *The Information Society, 14*, 275-284.

Sheller, M., & Urry, J. (2003). Mobile transformations of 'public' and 'private' life. *Theory, Culture & Society, 20*(3), 107-125.

Silverstone, R. (1994). *Television and everyday life*. London ; New York: Routledge.

Simmel, G. (1997). Bridge and door. In N. Leach (Ed.), *Rethinking architecture: A reader in cultural theory*. London: Routledge.

Slater, D. (1998). Public/private. In C. Jenks (Ed.), *Core sociological dichotomies* (pp. 138-150). UK: Sage Publications.

Sopher, D. E. (1979). The landscape of home: Myth, experience, social meaning. In D. W. Meinig (Ed.), *The interpretation of ordinary landscapes* (pp. pp. 129-149). New York: Oxford University Press.

Spigel, L. (1992). *Make room for TV: Television and the family ideal in postwar America*. Chicago: University of Chicago Press.

Spigel, L. (2001a). Media homes: Then and now. *International Journal of Cultural studies, 4(4)*, 385-411.

Spigel, L. (2001b). *Welcome to the dreamhouse: Popular media and postwar suburbs*. Durham, NC: Duke University Press.

Spigel, L. (2001c). Yesterday's future, tomorrow's home. *Emergences, 11*, 29-49.

Turow, J., & Kavanaugh, A. L. (Eds.). (2003). *The Wired Homestead: An MIT Press Sourcebook on the Internet and the Family*: MIT Press.

Ward, P. (1999). *History of domestic space: Privacy and the Canadian home.* Vancouver: UBC Press.

Wellman, B., & Haythornthwaite, C. A. (2002). *The Internet in everyday life*. Oxford, UK ; Malden, MA: Blackwell Pub.

Williams, R. (1992). *Television: Technology and cultural form*. Hanover, NH: Wesleyan University Press ; University Press of New England.

Wright, G. (1991). Prescribing the model home. *Social Research, Vol. 58*(Issue 1), p. 213-226.